

Global Project Task Force (GPTF) Fifth Meeting

IMO, LONDON, 3-6 FEB 2004

Proceedings

Global Ballast Water
Management Programme





Global Project Task Force (GPTF) Fifth Meeting

London, United Kingdom: 3–6 February 2004

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The Global Ballast Water Management Programme (GloBallast) is a cooperative initiative of the Global Environment Facility (GEF), United Nations Development Programme (UNDP) and International Maritime Organization (IMO) to assist developing countries to reduce the transfer of harmful organisms in ships' ballast water.

The opinions expressed in this document are not necessarily those of GEF, UNDP or IMO.

Contents

Opening Statement	2
Provisional Agenda.....	4
Briefing Papers and Submissions.....	7
Agenda Item 2: PCU Progress Report	9
Agenda Item 3: Country Status Reports.....	62
Brazil	62
China.....	72
India.....	83
Islamic Republic of Iran.....	90
South Africa	96
Ukraine.....	103
Agenda Item 4: NGO / Industry Information Papers	116
Friends of the Earth International (FOEI).....	116
IUCN.....	123
Agenda Item 5: Ballast Water Risk Assessments.....	125
Agenda Item 6: Port Biological Baseline Surveys	128
Agenda Item 7: Ballast Water Management Capacity Building Package	132
Agenda Item 8(a): CME – Implementation of the Generic CME System	169
Agenda Item 8(b): CME – Ballast Water Sampling.....	171
Agenda Item 9: Regional Cooperation & Replication.....	192
Agenda Item 10: Implementation of MTE Recommendations and Preparation for Final Evaluation.....	195
Agenda Item 11: Global Aquatic Invasive Species Information System (GAISIS)	200
Agenda Item 12: Global TV Documentary	202
Agenda Item 13: Resourcing & Financing.....	204
Agenda Item 14: GloBallast <i>Partnerships</i>	206
Appendix 1: List of Participants	
Appendix 2: Minutes of the Meeting	

Opening Statement

By Mr. E. E. Mitropoulos

Secretary General, International Maritime Organization

Distinguished delegates, ladies and gentlemen...

It is a pleasure for me to welcome you to the 5th Meeting of the Global Project Task Force of the GloBallast Programme.

I am sure you will agree with me that, in order to be successful in addressing the problems caused by invasive species carried in ballast water, we ought first to develop a clear understanding of the impact these invasive species have on the coastal and marine environment. Your Programme has been particularly successful in this regard. In addition to raising awareness of the problems associated with this particular activity, other activities, including port baseline surveys and ballast water risk assessments, have also been successfully completed. As a result, standardized techniques for port surveys and an innovative, modular risk assessment methodology have been developed and are now available for implementation worldwide.

One of the development objectives of the GloBallast Programme was to prepare the Pilot Countries to accept the International Convention for the Control and Management of Ships' Ballast Water and Sediments which I am hopeful the ad hoc Conference will adopt next week, and I was particularly pleased to see the positive role played by your delegations in the Marine Environment Protection Committee and in its Ballast Water Working Group over the recent years. It was also encouraging to see the number of Ballast Water Working Group members increasing more than threefold during the last four years (a clear indication of the interest your work has generated) and I have no doubt that your work and efforts at the regional level have significantly contributed to encouraging development. I would like to take this opportunity to invite the countries now embarking on the regional component of their National Workplans to focus on the adoption of realistic regional Strategic Action Plans and the establishment of Regional Task Forces as useful mechanisms to implement these plans.

The award to GloBallast of the Queen's Golden Jubilee Medal for its significant contribution to the advancement of protection of the marine environment has filled us all with pride and satisfaction. The prestigious distinction and the Queen's congratulations is a clear confirmation of the success of GloBallast and a much-deserved recognition of the efforts made by all of you and your countries. My warm sincere congratulations for this outstanding achievement are the least I can do.

As you know, IMO's involvement in issues related to ballast water began 15 years ago, in 1988, when Canada first reported on invasive marine species in the Great Lakes. This was followed soon afterwards by similar reports from other countries. Since then, the Organization has been working, through the development and adoption of recommendatory measures, towards the formulation of legally binding provisions on ballast water management, including guidelines for their effective implementation as well as or guidance on safety aspects of ballast water exchange at sea. The Conference here at IMO next week aims to establish an effective international ballast water management regime which will fill the gap in the current legislation for the protection of the marine environment. I look forward to your support to ensure the draft Convention is successfully adopted and subsequently widely and effectively implemented.

The number and complexity of tasks ahead to implement the global ballast water management regime under development calls for a strong capacity-building effort. As shipping is an international industry, training and capacity building will be most effective through standardized courses, delivered worldwide in a consistent manner. I am pleased to note that the standardized capacity-building package developed under the UN Train-Sea-Coast Programme has already been successfully validated in two Pilot Countries. I hope the delivery of the programme will continue in the remaining countries

and that this will lead to a long-term strategy for capacity building in ballast water control and management.

For the GloBallast Programme, the adoption of a new Convention will mark a shift of focus towards assisting countries to implement its provisions. As requested by the Marine Environment Protection Committee, the IMO Secretariat, together with GEF and UNDP, are currently exploring the possible roads ahead to continue the successful activities initiated in the year 2000. The new phase will aim to replicate the best practices from the pilot phase and gain the maximum benefit from the six centres of excellence established during the last four years. I take this opportunity to pay tribute to UNDP for their vision and constant support all these years and to express my sincere hope that we will continue benefiting from their fruitful and harmonious co-operation.

Your involvement in this Programme will place you at the forefront of the general effort to implement the provisions of the new Convention and I take this opportunity to thank you for your commitment and dedication to date and urge you to continue in the same way in the future.

In closing, I would like to thank the Programme Coordination Unit for its excellent performance and hard work and to wish your Task Force Meeting every success over the coming four days. Rest assured that IMO will remain committed to supporting the implementation of the international global ballast water management regime we have been building for some time and will continue to take the lead in addressing this and any other related challenges.

Thank you.

Provisional Agenda

Monday, 2 February: Conference Room 681, IMO HQs

Bilateral meetings PCU/Pilot Countries

Tuesday, 3 February: Conference Room 4, IMO HQs

Opening Addresses

Administrative matters

1. Adoption of the Agenda
2. PCU Progress Report
3. Country Status Reports, progress to date and forthcoming activities, including plans for six months extension.
 - a. Brazil
 - b. China
 - c. India

Wednesday, 4 February: Conference Room 4, IMO HQs

3. Country Status Reports, progress to date and forthcoming activities, including plans for six months extension (continued).
 - d. Islamic Republic of Iran
 - e. South Africa
 - f. Ukraine
4. NGO/Industry Information Papers Regarding Transfer of IAS In Ships' Ballast Water.
5. Risk Assessment
6. Port Biological Baseline Surveys
7. BWM Capacity Building Package and The Long Term Strategy

Thursday, 5 February: Conference Room 4, IMO HQs

8. Compliance Monitoring & Enforcement
 - a. Implementation Of The Generic CME System
 - b. Ballast Water Sampling
9. Regional Cooperation & Replication
10. Implementation of Mid Term Evaluation Recommendations and Preparation for Final Evaluation

Friday, 6 February: Conference Room 4, IMO HQs

11. Global Aquatic Invasive Species Information System (GAISIS)
12. TV Documentary
13. Resourcing & Financing
14. GloBallast Partnerships
15. Other Business

Briefing Papers and Submissions

Agenda Item 2: PCU Progress Report

For the period of 1 November 2002 to 31 December 2003.

General Comments

During the reporting period, the PCU achieved most of the objectives assigned by the 4th GPTF meeting and outlined in the revised Project Implementation Plan (PIP).

As per the previous year, some activities were delayed due to a number of factors outside of the PCU's control, including:

- Internal IMO administrative procedures.
- Limited PCU human resources.
- A continuing surge in demand for services from external clients both in developing regions currently covered by the programme and in new regions.

Despite the constraints above the implementation process progressed substantially and the programme was awarded the Queen's Golden Jubilee Medal for significant contribution to the advancement of protection of the marine environment. The prestigious distinction offered by the Institute of Marine Engineering, Science and Technology is a confirmation of the success of GloBallast and a much-deserved recognition of the efforts made by the six participating countries. The Medal is exhibited in IMO's foyer on the 2nd floor.

Programme Coordination Unit

Programme Management

The PCU continued to manage the programme in accordance with the set of internal guidelines agreed in 2001.

Operative meetings of the PCU staff were held periodically for workload planning.

The 3rd UNDP/GEF Project Implementation Review (PIR) combined with the 3rd GEF Annual Programme Review (APR) was completed in August. It found that progress towards development objectives is excellent, and that the level of achievement of immediate objectives has been in general highly satisfactory. A copy of the PIR is attached to this briefing paper, in Annex 1.

Recommendations arising from the external, independent Mid-Term Evaluation (MTE) as presented at the 4th GPTF, were progressed during 2003 and will be reported separately under Agenda Item 10.

Human Resources

The temporary Administrative Assistant Mr Leonard Webster left the PCU to pursue career objectives in late 2003, and a temp followed by Ms Eileen Kee were engaged to replace him.

The Chief Technical Adviser was appointed to a permanent position within the IMO Secretariat, as Head, Office of Ballast Water Management, and as such will assume full-time responsibility from 1 March 2004. The nexus between the GloBallast PCU and the IMO Office for Ballast Water Management (OBWM), including the division and demarcation of workload and responsibilities between the two, human resourcing arrangements to fill gaps in the PCU generated by this change, and changes to PCU reporting and management arrangements are as follows:

- The OBWM will provide backstopping for the further implementation of GloBallast. Subject to his availability the Head of the Office will directly contribute and support the completion of GloBallast activities focusing in particular on capacity building, CME and regional replication.
- The Technical Adviser will be promoted to Chief Technical Adviser assuming full responsibility for the overall management and coordination of the implementation of the GloBallast programme.
- A suitable professional (P4 level) will be urgently recruited to fill the gap in PCU human resources for the remaining period.

The PCU workload remains at excessive levels and further options need to be explored to address this.

Communication, Awareness & Information Clearing House

The two new posters developed by the PCU in 2002 ('Ten Most Unwanted' and 'BW Stowaways – What can be done?') were translated into French and Spanish in 2003 and are ready for printing and distribution to French and Spanish-speaking areas of the world in 2004 (subject to PCU workload).

The PCU, with funding support from the Global Invasive Species Programme (GISP) and the United Nations Environment Programme (UNEP), developed a new poster and flyer entitled 'Preventing Pests in Paradise', developed specifically for the 10th World Parks Congress in Durban, September 2003. These awareness materials explore the relationship between aquatic invasive species and marine protected areas, and 10,000 copies have been distributed globally (English only).

All awareness materials continued to be made available globally as PDF files on the GloBallast website.

Procurement, cataloguing and archiving of publications for the IMO Library Ballast Water Collection continued to be expanded significantly. This is still achieved using PCU staff resources and there is a need to internalise this function within the IMO library itself.

A further four issues of Ballast Water News were produced (one per quarter). Global hardcopy circulation was increased from 15,000 to 16,500 in response to increasing demand, along with posting on the GloBallast web site (<http://globallast.imo.org/newsletter>). The PCU entered into a partnership with the World Conservation Union (IUCN), for the co-production of the newsletter with IUCN contributing 16% of costs and content (= 2 of 12 pages) for each issue. Significant positive feedback to the newsletter continued to be received from a variety of stakeholders, including positive coverage in the primary shipping industry newspaper, Lloyd's List.

The PCU continued to actively procure and distribute reports, publications and other documents on ballast water and invasive marine species to all Pilot Countries, to assist them with building-up in-country library resources.

The GloBallast website continued to receive significant hits (over 85,000 per month). Membership of the GloBallast E-Forum increased to 299 members globally, although use of the E-Forum by Pilot Countries remained at a very poor level.

Development of a Country Profiles Database, to be accessible on the website, and which will allow users to rapidly obtain information on ballast water arrangements and requirements in any country in the world, began.

Publication of the GloBallast Monograph Series continued, with a further 5 reports being published.

PCU staff continued to give lectures and presentations at a variety of events, many by invitation and fully funded by the event organizers.

The PCU received a second commitment of funding from sponsors for the TV Documentary, as well as continued expression of interest in a partnership from BBC Natural History Unit and an unsolicited approach from Jean Michel Cousteau at Ocean Futures Foundation to work together on such a documentary (see agenda item 12)

PCU Travel

During the reporting period, PCU staff undertook significant duty travel in order to fulfil workplan objectives. This included:

- Facilitating BW treatment standards workshop in Washington DC, USA (US funded);
- Attending 1st regional workshop for Africa in Saldanha, South Africa;
- Co-Chairing the ICES/IOC/IMO Working Group on BW in Vancouver, Canada;
- Convening the 1st BW sampling and IAS surveys & monitoring workshops in Brazil;
- Presenting at a Baltic ports and oil industry conference in Gothenburg, Sweden (Sweden funded);
- Attending Train-X course validation workshop in Rio de Janeiro, Brazil;
- Presenting at High Seas workshop in Cairns, Australia (Australia funded);
- Presenting at 10th World Parks Congress in Durban, South Africa;
- Convening 1st Risk Assessment workshop in Melbourne, Australia;
- Presenting at Adriatic-Ionian regional BW initiative in Portoroz, Slovenia;
- Attending 2nd regional BW meeting for ROPME Sea Area in Tehran, I.R. Iran;
- Attending 2nd regional BW meeting for East Asia, Dalian in P.R. China;
- Attending and presenting at 2003 Global Conference on Oceans, Coasts and Islands in Paris, France; and
- Attending port survey replication planning meeting in Mombasa, Kenya.

The PCU continued the policy of inviting CFPs, CFP-As and/or other Pilot Country representatives to represent the programme at various international meetings where this was equitable/geographically efficient/ beneficial. This included:

- Scientific representatives from China and Ukraine attending the 3rd International Marine Bio-Invasions Conference in California, USA;
- Representatives from India and I.R. of Iran attending and presenting at the 12th International AIS Conference in Canada;

- The CFP-A for South Africa attending meetings of both the Benguela and Guinea Currents LME projects in Namibia and Nigeria respectively;
- The CFP-A for Brazil attending and presenting at a workshop on ballast water and IAS for the west coast of South America (Panama to Chile) convened by CPPS in Panama;
- Both the CFP and CFP-A for South Africa co-representing the programme at the 10th World Parks Congress in South Africa;
- A scientific representative from India attending the BioNET regional taxonomic workshop in Bangladesh;
- Representatives from Ukraine attending and presenting at the IOC Pacem in Maribus conference in Kiev;
- The representative of CPF and the CFP Assistant of Brazil attended and presented at the XXVIII session of the Working Group no. 6 on Environment of MERCOSUL, Montevideo, Uruguay;
- The CFP-A for China attending and presenting at the East Asian Seas Congress in Malaysia.

In-country Coordination Arrangements

In-country co-ordination arrangements, including CFPs, CFP-As and CPTFs appear to be functioning effectively. It is now necessary to increase regional replication of these arrangements.

Global Coordination Agreements

The GPTF remains the primary forum for global co-ordination of the programme. Arrangements for the 5th GPTF meeting were completed by the PCU. A formal invitation to organize the terminal GPTF in Ukraine has been received from the Deputy Minister of Transport of this country and the participants are kindly requested to decide upon this proposal.

Risk Assessment & Port Biological Baseline Surveys

A major technical activity was completed last quarter, this being the ballast water risk assessments for each demonstration site. This has resulted in the development of an innovative, modular risk assessment methodology that can be adopted and applied by any port in the world; the generation of comprehensive ballast water risk profiles for the six demonstration sites; and the establishment of fully operational risk assessment systems and trained teams in each Pilot Country. The results for each site are published in separate reports under the GloBallast Monograph Series. Several other countries and regions have already sought permission to adopt and adapt the GloBallast approach to BW risk assessment, including NE Canada, Adriatic sub-region and Japan.

In the first week of September, an international workshop was held in Melbourne, Australia, with generous sponsorship from New Zealand and Australia, to review the GloBallast risk assessments, compare with other approaches, and generate recommendations for risk assessment guidelines under the new Convention. More details are contained in the Briefing Paper for agenda item 5.

With regard to the Port Baseline Surveys, each country needs to complete and submit their final reports for publication by the PCU under the GloBallast Monograph Series. The PCU has provided a standard report format to all countries, which should be followed.

An international workshop on invasive aquatic species surveys and monitoring in port areas was held in Brazil in April 2003.

Globally, many more ports, countries and regions are planning and implementing port biological baseline surveys and ongoing monitoring programmes, using the standard CRIMP Protocols as promoted by GloBallast, thus creating comprehensive global coverage of surveys and monitoring, comprising a major building-block to addressing the BW problem. These include 35 ports in Australia, 15 ports in New Zealand, a number of sites in the USA, the 6 GloBallast sites, several additional GloBallast replication sites, and plans for networks of ports and sites throughout the Mediterranean and Baltic Seas, as well as several ports in the Pacific Islands.

Further details are provided in the Briefing Paper for agenda items 5 & 6.

Ballast Water Management Measures

In accordance with the decision adopted during the 4th GPTF meeting the TSC Course Development Unit in Brazil was tasked to develop the training package with direct support from the TSC Central Support Unit in New York. PCU and the CFP's Office in Brazil provided the course developers with reports and information on the outcome of the other GloBallast activities to reflect the best practices and lessons learned during the implementation process.

Subject Matter Experts (SME) were identified in consultation with the CFP's office in Brazil and where expertise was insufficient, international experts were requested to provide the missing technical inputs. To ensure the necessary quality throughout the package and consistency with IMO recommendations an international expert was recruited to oversee and peer review the technical content of the modules. Before the first delivery in Brazil the whole package was reviewed by the Chairman of IMO's Marine Environment Protection Committee to ensure that shipping related aspects had been properly addressed.

The course was delivered for the first time in Rio de Janeiro Brazil from 12 to 16 May 2003 and was attended by 20 participants from various organisations involved in ballast water management and control in Brazil. The first delivery was also attended by representatives from Iran, South Africa and Ukraine, who were nominated by their CFPs as coordinators of future deliveries in their respective countries. A second delivery and validation took place in Tehran, Iran in December 2003.

The capacity building package was developed in accordance with the latest draft of the Convention and a Long Term Strategy for Capacity Building was prepared by PCU for discussion by the 5th GPTF under agenda item 7. Further details are provided in the Briefing Paper for agenda item 7.

The six Pilot Countries are beginning to implement basic ballast water management measures, as clearly described in the IMO Guidelines (A.868(20)), some are developing national policies and management plans, and some are undertaking R&D of ballast water treatment technologies. Further details are provided in the Country Status Reports under agenda item 3.

The PCU convened the 2nd International Ballast Water Treatment R&D Symposium in London in July, entering into a new partnership with the Institute of Marine Engineering, Science and Technology (IMarEST), to handle organizational matters, as well as securing sponsorship from the US National Science Foundation, UK Maritime & Coastguard Agency and the University of Newcastle Upon Tyne to publish the symposium proceedings. As per the 1st Symposium held in 2001,

it was hailed as a success in bringing stakeholders up-to-date with latest developments in ballast water treatment technologies and catalysing a more coordinated global R&D effort. More than 230 people attended and a total of 35 technical papers were presented over three days (and 20 more papers were unable to be accepted due to time constraints). Overall, there has been a significant increase in R&D (the 1st Symposium received 26 papers) and good progress has been made in moving closer to viable, practical, effective solutions.

The web-based database version of the Global Ballast Water Treatment R&D Directory continued to be updated by the PCU throughout the year – and it could be timely to publish an update of the hard-copy version in 2004 (subject to PCU workload).

Compliance, Monitoring and Enforcement

Significant progress has been made so far to assist countries in developing their own specific CME systems by providing extensive information and support, developing a generic CME system and associated capacity building materials and by preparing standardised guidelines for ballast water sampling. As the final draft of the Ballast Water Convention is now available it is suggested to embark on the preparation of specific CME systems tailored to the needs and characteristics of each Pilot Country. CFPs are requested to identify, as a matter of priority, suitable experts in their respective countries to undertake the preparation of the specific CME Systems. In order to allow for further fruitful exchange of information among the Pilot Countries, and to ensure a standardised approach to CME, it is also suggested to organise a Ballast Water Compliance Monitoring and Enforcement Workshop with the participation of experts from the six GloBallast countries and specialists from countries with advanced experience in CME systems in June 2004. Further details are provided in the Briefing Paper for agenda item 8a.

An international workshop on ballast water sampling, with some relevance to CME, was held in Brazil in April 2003. Further details are provided in the Briefing Paper for agenda item 8b.

Legislation and Regulations

The legislative review project was successfully completed and the Final Report has been published in 2002 as part of the GloBallast Monograph Series. At least four Pilot Countries have, and continue to use, the findings and the conclusions of the report in their national endeavours to prepare for the implementation of the Convention.

Regional Cooperation and Replication

Three Pilot Countries are in a very advanced stage of regional replication with regional SAPs adopted, Regional Task Forces established and operational and short-term programmes of action agreed. Their experience was widely disseminated to all the participants in the GloBallast project and among other countries in the respective regions.

South Africa has adopted an original and pragmatic approach towards regional replication and while preparing for the formal adoption of the SAP by the COP to Nairobi Convention, initiated the implementation of Port Base-line activities at regional level in Mombasa, Kenya.

Brazil and India developed workplans for the implementation of their regional activities and it is hoped that regional SAPs and RTFs will become operational during the first half of 2004. Further details are provided in the Briefing Paper for agenda item 9.

Resources and Financing

In accordance with the Project Implementation Plan (PIP), the PCU has been seeking supplementary sources of support and funds for the programme. At the 3rd GPTF the PCU had secured approximately US\$ 630,000 worth of additional funding and support-in-kind from the IMO Technical Cooperation Fund, the UN Division of Ocean Affairs and Law of the Sea, the Government of Singapore and the shipping industry and other sources, as outlined under agenda item 11 of the 3rd GPTF meeting.

At the end of the year 2002, an additional US\$ 150,000 had been secured by the PCU from US State Department, Regional Clean Sea Organization (RECSO), IMO and from various other sources including shipping and oil industries and third party countries interested in ballast water related issues. This was reported to the 4th GPTF under agenda item 12.

In 2003, the following additional co-financing has been leveraged:

- US\$66K from IMO – salary and emoluments of the CTA for the extended period of the project.
- US\$5K from IMO – support for the 2nd R&D Symposium.
- US\$3.6K from various sponsors to publish the 2nd R&D Symposium proceedings.
- US\$60K from various sources for international experts to travel, attend and present at meetings, seminars, conferences and workshops organized by GloBallast.
- US\$60K from Australia and \$10K from NZ to organize the 1st International Ballast Water Risk Assessment Workshop hosted and sponsored by the Australian Government.
- US\$10K worth of free labour from interns/MSc student placements within PCU.
- US\$5K worth of images and graphics provided free by various suppliers.
- US\$20K from IUCN – contribution to the production of Ballast Water News.
- US\$6K from GISP & UNEP – contribution to the joint poster “Preventing pests”.
- US\$60K support from various sources for PCU and Pilot Country travel to meetings, seminars, conferences, etc.
- Re-offer of US\$200,000 from Vela Shipping (Saudi Aramco) for the GloBallast TV Documentary (not accepted to date).

Further details are provided in the Briefing Paper for agenda item 13.

Project Expenditure and Budget

During the reporting period country expenditure remained significantly underspent whereas certain budget lines at the global level are now exhausted. A number of reallocations have been made during the Revision E of the project document and budget (attached as Annex 2) to accommodate the production of the Newsletter, publication of the Monograph Series and extension of the programme by six months.

The figures available to date have shown that the planned disbursements are slightly above US\$5.75 million and the actual disbursements approximately US\$ 5.2 million, which gives a timing of disbursement of about 90%, meaning that the project is still underspent. It should be noted that significant resources have been allocated for the last six months to ensure successful completion of all the activities.

It is necessary to emphasize the need for the country teams to re-assess their timetables and expedite the implementation of the in-country activities.

The PCU will provide a more accurate reflection of the project expenditure in March 2004 after receiving the audited figures for year 2003. A final re-phasing of the total budget for the period until September 2004, including the proposals made during this GPTF meeting, will be carried out by PCU when this information becomes available from the Financial Services Section of IMO.

GloBallast *Partnerships*

The Discussion Paper on GloBallast *Advanced* presented at the 3rd GPTF and reviewed by countries and other stakeholders since was developed into a UNDP-GEF Concept Paper, re-titled GloBallast *Partnerships* (based on stakeholder consultation) and submitted to UNDP and GEF for consideration. This issue will be discussed in detail under agenda item 14.

Annex 1

UNDP ANNUAL PROJECT REPORT (APR) UNDP/GEF PROJECT IMPLEMENTATION REPORT (PIR) 2003

OFFICIAL TITLE:	Removal of Barriers to the Effective Implementation of Ballast Water Control and Management Measures in Developing Countries (GloBallast)		
UNDP PROJECT NUMBER:	GLO/99/G31	GEF PROJECT NUMBER:	2197
DATE OF REPORT:	3 September 2003	Date of Last APR:	31 July 2002

1. BASIC PROJECT IDENTIFIERS - Please enter all date (DD/MMM/YEAR)	
COUNTRY	New York
FOCAL AREA	International Waters
OPERATIONAL PROGRAMME	10: Contaminants
DATE OF ENTRY IN WP	05-MAY-1999
PRODOC SIGNATURE DATE	01-FEB-2000
DURATION (MONTHS)	36 months (extended by 12 months, now 48 months)

1.1 BRIEF PROJECT DESCRIPTION - Please limit to maximum 100 words.

The long term objective of this project is to assist developing countries in reducing the transfer of harmful organisms in ship's ballast water. The project will increase the extent to which ships calling on developing country ports adhere to the, at present, voluntary international Guidelines of the International Maritime Organization (IMO), and will assist these developing countries in the development of programmes necessary to implement an anticipated ballast water convention. Effective, country based Pilot Demonstration Sites at specified ports within six developing nations, representative of each global development region, will be supported. The sites are Brazil/port of Sepetiba, China/port of Dalian, India/port of Mumbai(Bombay), Iran/Kharg Island Terminal, South Africa/port of Saldanha, and Ukraine/port of Odessa. Regional involvement will be effected through Regional Task Forces.

1.2 BASIC FINANCIAL DATA - Please present all financial values in millions (e.g. 3,502,000 = 3.502)

<i>Funding Source</i>		<i>Institution Name (Acronym, if any)</i>	<i>Proposed Financing</i>	<i>Actual Financing</i>
A. GEF FUNDING			7.392	4.691
B. CO-FINANCING	UNDP (TRAC)			
	UN AGENCY	International Maritime Organization (IMO) – CTA salary and benefits for the first 6 months of the project extension.		0.066
	GOVERNMENT (CASH)			
	GOVERNMENT (IN-KIND)	Brazil; South Africa; China; India; Iran; Ukraine – including the first six months of the project extension.	0.155:0.380 : 0.920 0.900: 0.145: 0.300	3.267*
	BILATERAL DONORS			-
	MULTILATERAL DONORS			-
	REGIONAL BANKS			-
	NON-GOVERNMENTAL ORG.			-
PRIVATE SECTOR			-	
OTHER (See Section 7)				0.260
TOTAL CO FINANCING			2.800	3.593
TOTAL FUNDING (A+B)			10.192	8.284

*Pilot countries have increased their in-kind contribution beyond the initial commitment by extending the project by 12 months.

2. PROJECT PERFORMANCE			
SRF Goal (*):	Environmentally sustainable development to reduce human poverty		
SRF Sub Goal (*):			
Strategic Area of Support (*):			
(*) The UNDP Country Office will fill out these fields			
2.1 DEVELOPMENT OBJECTIVE - Please rate each objective, not each individual indicator.			
<i>Development Objective</i>	<i>Actual Level Achieved (please provide brief description)</i>	<i>2002 Rating</i>	<i>2003 Rating</i>
1. Assist developing countries to reduce the transfer of harmful organisms from ship's ballast water.	<p><i>Indicators (Include Target Value & Time Frame)</i></p> <p>25% of vessels calling at the established demonstration sites requested to provide documentary evidence of their ballast water management measures and inspected accordingly by the end of the year 2002.</p>	HS	HS
2. Assist developing countries to implement the current IMO voluntary guidelines on ballast water management.	National Ballast Water Management Plans (NBWMP) and specific regulations to increase the adherence to the IMO guidelines for the control and management of ballast water prepared in all Pilot Countries by the end of year 2002.	HS	HS

2.1 DEVELOPMENT OBJECTIVE - Please rate each objective, not each individual indicator.			
<i>Development Objective</i>	<i>Indicators (Include Target Value & Time Frame)</i>	<i>Actual Level Achieved (please provide brief description)</i>	<i>2002 Rating</i>
3. Assist developing countries to prepare for the implementation of the anticipated IMO ballast water Convention when it comes into force.	Begin implementation of the anticipated IMO Convention initiated in all pilot countries by end of year 2002.	For external global reasons way beyond the control of the GloBallast Programme, adoption of the new Convention by IMO member States is now scheduled for early 2004. However, the activities described under 2 above place all six Pilot Countries in an advanced state of preparation for the implementation of the new Convention, once it is adopted internationally.	S
			HS
OVERALL RATING			HS

2.1.1 DEVELOPMENT OBJECTIVE ASSUMPTIONS & RISKS	
DO #	Risk (measured as the probability that the assumption will not hold)
	Assumption
1.	There is a political willingness of the participating countries to follow through on commitments undertaken to successfully implement the project. This in turn depends on changing economic, political and social conditions at the individual country level. For this project, the political factor appears to introduce a moderate risk at the time of project design, which became minimal as a consequence of the awareness-raising campaign.
1.	As each participating country becomes increasingly aware of the economic, environmental and human health threats that are presented by the unchecked transfer of ballast water, their commitment will grow and lead to a sustainable effort.
2.	The pilot projects will lend themselves to replication at the regional and global level. This assumption rests on the willingness and capacity of the IMO to use its global standing to help create and maintain the envisioned regional task forces and take a strong lead in bringing about replication of project results, on the interest/commitment of the other countries in the respective regions as well as on the possibility of further finance from GEF for the regional replication phase.
3.	The IMO ballast water Convention would be adopted in 2003 (now 2004).
3.	Adoption of the IMO ballast water Convention will provide a framework for the sustainability of project activities both at IMO headquarters, within the participating countries and globally.
3.	Upon adoption of the IMO ballast water Convention the IMO Secretariat will ensure that there is expertise on this issue within the Secretariat. In addition, the IMO Integrated Technical Cooperation Programme will assist developing countries to implement the new Convention.
	2003 - assumption did not hold. 2004 - L
	L
	L

2.2 IMMEDIATE OBJECTIVES - Please rate each objective, not each individual indicator.				
#	Immediate Objective	Indicators (Include Target Value & Time Frame)	Actual Level Achieved (Please provide brief description)	
			2002 Rating	
			2003 Rating	
1.	Establish a Programme Coordination Unit (PCU) and a Global information & Communication Network at IMO.	PCU established and operational by end of June 2000.	100%. PCU human resource levels vs. workload is unbalanced and requires review.	HS
2.	Establish and support a Lead Agency, Country Focal Point (CFP) and multi-sectoral Country Project Task Force (CPTF) in each country.	Lead Agency and CFP designated and functioning effectively by July 2000. CFP Assistants engaged and operational by August 2000. CPTF (inter-ministerial and multi-sectoral) formed and functioning effectively.	100%. All countries fully functional. 100%. All countries fully functional. 100%. All countries fully functional.	HS
3.	Establish and support a Global Project Task Force (GPTF) to review the programmes and advise the general directions of action.	GPTF established and operational by July 2000. Project Implementation Plan reviewed and approved by August 2000.	100%. GPTF established and fully functional annual meetings held regularly. 100% Three reviews of the Project Implementation Plan approved and implemented since August 2000.	HS
4.	Develop and implement communication, education and awareness-raising programmes and activities about ballast water threats and solutions at the port, national and regional level for each demonstration site. Programme identity established by August 2000 and dedicated web- site operational by end of year 2001. Awareness materials produced and disseminated globally by end of 2002.	Programme identity established by August 2000 and dedicated web- site operational by end of year 2001. Awareness materials produced and disseminated globally by end of 2002.	100%. Programme identity applied throughout communication and awareness campaign. Five posters produced (20,000 global distribution), two brochures produced (20,000 global distribution), web-site developed further (average of 85,317 hits on web site per month), E-Forum launched, 13 issues of Ballast Water News published (15,000 global distribution), R&D Directory updated, publication of Monograph Series well under way, all materials available on web-site, numerous seminars and lectures delivered (both by PCU and Pilot Country reps), information clearing house function reviewed, communication materials translated/adapted by Pilot Countries, country-specific materials developed, exhibit developed for WSSD.	HS

5.	<p>Undertake an initial risk assessment and information gap filling exercise at each demonstration site to provide a clear understanding of the level and types of risks of introductions that each port faces, as well as the most sensitive resources and values that might be threatened, and the management responses required.</p>	<p>All levels of management and relevant stakeholders have a clear understanding of the level and types of risks of introductions that each demonstration site faces, as well as an inventory of the most sensitive resources and values that might be threatened, by October 2000.</p> <p>Baseline port biota surveys completed for each demonstration site by October 2002.</p>	<p>90%. Risks posed by ballast water discharges assessed in all Pilot Countries. Risk Assessment teams established and trained now available for regional replication. International workshop for the development of standardized risk assessment techniques for use globally sponsored and hosted by Australia in September 2003 with the participation of representatives of the six Pilot Countries.</p> <p>100%. Training, capacity building, planning and field sampling completed for all Pilot Countries (some twice – winter and summer surveys). Standardized port survey techniques for use globally developed. Most countries allocating national resources to continue long-term monitoring and replicate at additional ports. Local expertise available for regional replication.</p> <p>Feeds from other activities.</p>	S	HS
6.	<p>Develop and implement generic and country/port specific plans, with defined ballast water management measures, to increase compliance with IMO guidelines and protect identified, country specific most sensitive values at risk.</p>	<p>Information gaps identified and activities defined to fill gaps by March 2002.</p> <p>IMO guidelines and ICS/INTERTANKO models widely promulgated by December 2000.</p> <p>Training packages developed and validated with system in place for ongoing delivery in March 2003.</p> <p>Legislative Reviews completed and recommendations for efficient implementation finalized by November 2001.</p> <p>Guidelines on elements to be considered when drafting ballast water management legislation developed by December 2001.</p> <p>Global R&D Symposium held and ballast water treatment standards developed by March 2001.</p>	<p>100% Completed. Hard copy distributed at all meetings, seminars, conferences and workshops held/attended by PCU and Pilot Countries. Available in Arabic, Chinese, French, English, Portuguese, Russian and Spanish on the GloBallast web site.</p> <p>80%. Training Package developed and validated during its first delivery in Brazil. Adaptation and further deliveries under way in remaining Pilot Countries.</p> <p>100% Report published.</p> <p>100% Contained in above report.</p> <p>100% 1st Symposium held and hailed as a success. 2nd R&D Symposium sponsored by UK, US and IMO held in conjunction with the 49th session of MEPC and attended by more than 230 participants from around the world.</p>	S	HS

7.	Develop and implement generic and country/port specific compliance monitoring and enforcement systems to ensure maximum practicable compliance with IMO guidelines.	Compliance monitoring and enforcement arrangements in place and operating for each demonstration site by October 2002.	60% Scoping study completed. Fuller project re-scheduled pending finalisation of text of new Convention. Basic training materials included in the package developed jointly with Train-Sea-Coast.	PS	S
8.	Where appropriate, establish and support Regional Project Task Forces to increase regional awareness and cooperation and foster replication of programme results across each region.	GloBallast outputs employed by other regional countries by the end of year 2002.	80% Regional conferences held in Black Sea, Baltic Sea, ROPME Sea Area (The Gulf), East Asia and Southern Africa progressing regional action plans and initiating regional cooperation and replication. Extensive use of GloBallast materials regionally. Cooperative links made with APEC, Caspian Sea Environment Programme, Black Sea Environment Programme/Istanbul Commission, Mediterranean Action Programme, ROPME, HELCOM, SPREP, PEMSEA, IUCN Regional Programmes and other regional bodies, joint projects developed/planned. Increasing interest from IUCN, UNEP Regional Seas Programme and other regional organizations to partner with GloBallast for the regional replication phase.	HS	HS
		A formalized communication system through identified lead agencies in place and functioning at regional level.	70% Fully Functional at national/PCU levels, regional aspect under development.	S	S
		GloBallast regions are an increasingly forceful and effective presence in international/IMO fora where ballast water issues are being discussed and policy formulated by end of year 2002.	100% Pilot Countries have significantly increased activity at IMO.	HS	HS
		Additional countries and regions express interest to become parties to GloBallast project by end of year 2002.	100% PCU is overwhelmed with such requests.	HS	HS

9.	Identify and secure opportunities for self-financing of the programme during its lifetime and for the sustainable continuation of IMO, Global, regional and national efforts to implement IMO ballast water management provisions.	<p>Potential in-country resource and financing mechanisms identified by end of year 2002.</p> <p>Identification of specific interested donors by end of year 2002.</p> <p>Specific commitments of IMO to continuing port project work by March 2003.</p>	<p>60% Some countries have already allocated additional resources from national sources, primarily for replication of GloBallast activities at additional ports within the country. Alternative financing mechanisms expected to be put in place after the adoption of the Convention.</p> <p>Significant sponsorship and finance secured for ongoing activities. Growing number of donors identified for the regional replication phase.</p> <p>100% Permanent position (Head – Office of Ballast Water Management) appointed in IMO Secretariat.</p> <p>Ballast water included as a thematic priority in 2004/06 IMO Integrated Technical Cooperation Programme.</p>	S	HS
OVERALL RATING			S	HS	

2.2.1 IMMEDIATE OBJECTIVE ASSUMPTIONS & RISKS		
IO #	Assumption	Risk (measured as the probability that the assumption will not hold)
1.	Specialized expertise continues to be available in IMO after project completion Global information resource centre located in IMO to assist developing countries will be maintained after the lifetime of the project.	L L
2.	Commitment of the Pilot Countries to implement specific measures to address the transfer of invasive species in ships' ballast water. Government support continues. Trained staff maintained by the lead agency.	L M M
3.	The interest and support of shipping industry and relevant NGO's continues	L
4.	Commitment of pilot states governments to conserve habitat and biodiversity and to protect their most sensitive resources and values, which might be at risk.	L
5.	Commitment of IMO and its member states to adopt the ballast water convention by 2004. Pilot countries willing and able to ratify the anticipated Ballast Water Convention. Support from the Train-Sea-Coast to deliver and disseminate the GloBallast training package. Willingness of Governments to initiate legal procedures for the adoption and implementation of the anticipated ballast water convention. Increased interest of the international R&D community towards development of alternative ballast water treatment methods.	L L L M L
6.	Willingness of pilot countries to develop compliance monitoring and enforcement systems.	L
7.	Willingness of pilot countries in the six pilot regions to enhance regional cooperation and replicate the results achieved in the GloBallast project. Increasing presence of developing countries in IMO/International fora where ballast water management policy is formulated.	L L
8.	Sustainable financing mechanisms established in all the six pilot countries to generate sufficient income to support implementation of ballast water management and control measures. Increase support from donor countries and relevant organizations with an interest in ballast water management and control.	M M

3. IMPLEMENTATION ISSUES

Please list three main challenges experienced during implementation. Please describe adaptation approaches or remedial action either already taken or planned to solve them

1. The global, multi-cultural nature of the project, involving a large variety of institutional systems and countries at different stages of development, has proved a major challenge. GloBallast has sought to harmonise different approaches through standardized templates and models, facilitating maximum communications with and between countries, and including capacity building and institutional strengthening elements in all Programme activities.
2. The Programme continues to demand significant efforts from the PCU in terms of coping with unrealistic workloads and extensive travel around the world. Maximum possible use has been made of consultants and Pilot Country personnel to try and alleviate these challenges but the expertise in this particular field is still very scarce.
3. Due to external circumstances there have been some delays in certain components and outputs (e.g. Compliance Monitoring and Enforcement). To address this situation the project was extended by 12 months and a number of activities were re-designed based on the anticipated text of the Convention. Further extension by at least 6 months is contemplated to cover the Compliance Monitoring and Enforcement component in particular.

4. LESSONS LEARNED/GOOD PRACTICE

Please describe briefly the key lessons and examples of good practice that have resulted from project implementation during the year. .

1. Communication in all of its forms and using all mediums has proven a key contributor to the GloBallast, and is one of most important elements of such global technical cooperation/development assistance programmes. Workplans and budgets should reflect this. When multiple parties are involved, clear communication guidelines and procedures must be developed and implemented.
2. There is a natural tendency for recipient countries to slip into accepting programme support as a substitute rather than a supplement to their own efforts. To avoid this the requirement for country-contributions to be explicitly outlined in all projects and activities carried out under the programme needs to be continuously reinforced, along with the benefits that the Pilot Countries will receive through their own investments. As a result of the GloBallast Programme Brazil, China, India and South Africa have committed additional investments in ballast water activities.
3. The project represents a unique and model example of GEF assistance being used during the development stages of an international Convention related to GEF aims and objectives. Through GEF's intervention recipient countries gained ownership of the Convention and it is expected that the ratification/implementation period will be substantially reduced.

5. SYNERGIES, DEMONSTRATION AND CATALYTIC EFFECTS

5.1 Have there been any interactions/synergies with similar projects in the country/region during project preparation and/or implementation?

1. The GloBallast PCU is frequently requested to provide expert advice, guidance, templates and models by other bodies involved in the issue, including IMO's own MEPC Ballast Water Working Group, the International Council for the Exploration of the Seas (ICES), International Council for the Exploration of the Mediterranean Sea (CIESM), Asia Pacific Economic Cooperation (APEC), the EU MARTOB Project, Nordic Council of Ministers, World Conservation Union (IUCN), Global Invasive Species Programme (GISP), the Australian Ballast Water Treatment Consortium (ABWTC), Fisheries and Oceans Canada and others. As a result standardised methodologies developed through GloBallast activities are being adopted by other groups around the world, GloBallast activities are being replicated by these groups, and synergies and greater cooperation, collaboration, communication and coordination is occurring between these groups.
2. Productive, cooperative relationships have been established with 'sister' GEF-IW projects and various regional programmes (e.g. PEMSEA, CEP, BSEP, SPREP, HELCOM, GEF Baltic Sea Regional Project, MAP etc).
3. Due in part to the 1st International Ballast Water Treatment Symposium held by GloBallast at IMO in London 2001, several other international symposia and conferences have been organized and convened by other parties, including Singapore and several events in Europe. More recently the GloBallast unit in India successfully

organized an R&D Symposium in the National Institute of Oceanography of Goa. The proceedings of this event have been distributed to the other five Pilot Countries as a model of good practice.

4. Cooperative links established with sister projects (mainly “LME” type) conducted with the inclusion of Ballast Water related activities in their workplans (e.g. GCLME, YSLME and more recently BCLME).

5.2 Describe efforts to disseminate lessons and transferring knowledge that have had or are expected to have demonstration and replication effects.

1. Lessons are disseminated and knowledge is transferred through all elements of the GloBallast communication campaign and information clearing house mechanism. These include web site, E-Forum and several directories and databases, a quarterly newsletter, seminars, conferences and workshops, publication and distribution of conventional awareness materials (posters, brochures) and a Monograph Series.

2. As a result of the intensive knowledge management policy a large number of stakeholders gained access to information generated by GloBallast project in the Pilot Countries. Relevant information is currently being used at regional and global level and technical and scientific outputs from GloBallast are used as a basis for international standards established under the global regulatory regime.

5.3 How has the project contributed to bringing about policy or legislation changes in the country, changes in the Implementing Agency or other donor strategies- or private business practices- to give stronger emphasis to global environment issues?

1. All Pilot Countries have now completed the foundation activities necessary for developing national policies, strategies and legislation, including designation of Lead Agencies and establishment of institutional and management arrangements, communication and awareness campaigns, port biological baseline surveys and ballast water risk assessments. All countries have completed legislative reviews and have identified the best way forward for developing and implementing national ballast water legislation and regulations after the adoption of the Ballast Water Convention.

2. Pilot Countries have significantly increased activity at IMO fora and MEPC Ballast Water Working Group and participate actively in the negotiations of the anticipated Convention.

3. Due in part to the efforts of GloBallast the Nordic Council of Minister’s, North Sea Ministers Conference and OSPAR members have all adopted ballast water resolutions, and Norway and Belgium have proceeded with national BW legislation.

4. A number of newly established GEF projects have included ballast water related activities in their project documents and workplans.

5. IMO included a robust component linked to Ballast Water Management in its Integrated Technical Cooperation Plan and Budget for 2004-2005 biennium.

6. PARTNERSHIP STRATEGIES
Please mention any partnerships/strategic collaboration agreements established with other institutions, civil society organizations or the business community in order to achieve project objectives. If the project works with a private –for profit- organization, please also respond to questions on Annex I at the end of this questionnaire.

(only items which are new since the last PIR are listed)

1. A proposal for partnership was put forward and circulated during the WSSD in Johannesburg in September 2002.

2. Collaboration with IUCN materialized in concrete partnership for the production of GloBallast Newsletter, which is currently co-sponsored by IUCN.

3. Partnership with UNEP Regional Seas Programme is currently negotiated with a potential contribution of US\$500,000 from UNEP sources.

4. Strategic collaboration with oil and shipping industry in the ROPME Sea Area materialized in organizing a high level Conference on Ballast Water Management and Control in the Gulf region fully sponsored by the Regional Clean Sea Organization (RECSO).

7. RESOURCES LEVERAGED

Apart from the co-financing contributions reflected in the budget, how has the project mobilized additional financial resources for either addressing global environmental concerns or financing baseline activities during implementation? Please indicate the amounts and sources of leveraged resources.

(only items which are new since the last PIR are listed)

1. US\$66K from IMO – salary and emoluments of the CTA for the extended period of the project.
2. US\$5K from IMO – support for the 2nd R&D Symposium.
3. US\$30K from IMarEST to organize logistics for the 2nd R&D Symposium.
4. US\$3.6K from various sponsors to publish the 2nd R&D Symposium proceedings.
5. US\$60K from various sources for international experts to travel, attend and present at meetings, seminars, conferences and workshops organized by GloBallast.
6. US\$60K from Australia to organize the 1st International Ballast Water Risk Assessment Workshop hosted and sponsored by the Australian Government.
7. US\$10K worth of free labour from interns/MSc student placements within PCU.
8. US\$5K worth of images and graphics provided free by various suppliers.
9. US\$20K from IUCN – contribution to the production of Ballast Water News.
10. US\$6K from GISP 8 UNEP – contribution to the joint poster “Preventing pests”.
11. US\$60K support from various sources for PCU and Pilot Country travel to meetings, seminars, conferences, etc.
12. US\$200K – 2nd offer from Vela Shipping for a TV Documentary subject to acceptance by IMO.

8. SOFT ASSISTANCE

Soft assistance contributes to the outcome and/or outputs. This section aims to identify activities or issues conducted not envisaged in the workplan yet with concrete results ensuring progress toward the outcome. This section of the PIR/APR contributes to the CO reporting section on “advocacy and policy dialogue” and allows the country office and the project to work in the same direction in advocacy and dialogue. If soft assistance is not an issue for the project or too sensitive to address this section can be left empty

Other GEF IW projects have included or consider including invasive species and ballast water in their activities – PEMSEA, CEP, BSEB, HELCOM, SPREP, MAP etc.

Although not included in the initial workplan the following activities have complemented the general outcome of the project and contributed to environmentally sustainable development of the maritime transportation and international trade:

- contribution to the work of Marine Environment Protection Committee (MEPC) of IMO by submitting technical documents which have been circulated to 162 Member States of IMO and by providing direct secretarial support during the meetings (at MEPC 47 GloBallast contributed five official documents on various ballast water management issues).
- Lectures to various universities and education institutions (e.g. WMU, Institute of Maritime Studies of Antwerp, Belgium, University of Plymouth, UK)
- Expert support and assistance provided to specialized agencies and organizations (e.g. Biodiversity Convention, IUCN, GISP, ICES, etc.) to coordinate in an integrated manner the ballast water issue with the global effort to address the problem of invasive species.
- Cooperation with specialized institutions from other countries (e.g. Netherlands, Norway, US, etc.) to ensure continuation of the general effort towards minimization of the transfer of harmful organisms in ships’ ballast water.

9. MONITORING AND EVALUATION		
<i>Type of Report</i>	<i>Date (DD-MMM-YR)</i>	<i>Report Available / Comments</i>
<i>Field Visits</i>	Brazil: February, April & May 2003, China: September & October 2002, South Africa: August 2002 & March 2003	GloBallast PCU files – IMO. Field visits undertaken in conjunction with other in-country activities for cost effectiveness. Mission reports available.
<i>Annual Project Review</i>	31 July 2002	Report available.
<i>Tripartite Review</i>	Previous: Oct. 2002 Next: Jan. 2004	Minutes of the meeting available
<i>Mid-Term Evaluation</i>	Aug.-Nov. 2002	MTE Report published and circulated for implementation.
<i>Final Evaluation</i>	-	-

Note: Regular monitoring through CFPs monthly reports; reports available in GloBallast PCU archive in IMO.

10. FINANCIAL INFORMATION- From project start-up to date of this report.	
<i>Cumulative planned disbursement (\$millions)</i>	6,085,417
<i>Cumulative actual disbursement (\$millions)</i>	4,690,967
<i>Timing of disbursements (percentage of planned vs. actual expenditures)</i>	77%
<i>Date/Period of First Disbursement</i>	January 2000

11. PROCUREMENT DATA

Note: For projects or project components executed by UNOPS this section *must not* be filled in - data will be provided by UNOPS headquarters-.

Please report the US\$ value (*in Thousands*) of UNDP/GEF Payments to Supplying Countries for Procurement in GEF Donor Countries. Please enter Project expenditure from project start up to the date of this report into the matrix against the donor country supplying the personnel, sub-contract, equipment and training to the project. Please report only on contracts over US\$ 2000.

Supplying Country (only donor countries)	Personnel (in US\$)	Sub-contracts (in US\$)	Equipment (in US\$)	Training (in US\$)	Total (in US\$)
Australia	148.0	260.3		3.3	411.6
Canada	24.2			10.0	34.2
Germany	38.6				38.6
Japan	22.2				22.2
Netherlands			20.0		20.0
Norway	6.3				6.3
Russian Federation	26.1				26.1
Sweden	4.5				4.5
United Kingdom	122.3	238.8	82.6	23.9	467.6
USA	17.6				17.6
IMO-United Kingdom		5.0			5.0
UN - Switzerland			3.0		3.0
TOTAL	409.8	504.1	105.6	37.2	1,056.7

12. AUDIT REQUIREMENTS FOR GOVERNMENT AND NGO EXECUTED PROJECTS

The UN Board of Auditors has established that an annual audit is necessary for all Nationally Executed and NGO Executed GEF projects, whose expenditures for the calendar year (January - December) exceed \$20,000. Expenditures below that amount are subject to normal UNDP audit procedures, which is once in the project's lifetime.

According to the above regulations, please indicate:

- For which calendar year's expenditures, an audited financial statements have been issued;
For year 2000, 2001 and 2002 by external auditors.
- Which will be next calendar year for which an audit will next occur:
Year 2003 in March 2004.
- Date of Submission to HQ UNDP Office of Audit and Performance Review, National Execution Audit Section:
Year 2003 within the deadline set by UNDP

- If the report has not been received from the Government or NGO, please comment on actions taken by the Country Office to ensure compliance.
N/A

- If the Audit Report contains negative comments, please indicate what actions have been taken by the Government or NGO.
N/A

13. NGO INVOLVEMENT

PLEASE ENTER THE FOLLOWING INFORMATION INTO THE TABLE BELOW FOR EACH NGO INVOLVED IN THE PROJECT:

- Full Name: Please list the full name of the NGO.
- Acronym: The official initials of the NGO's name.
- Type: Please refer to PIR instructions for "Type" classification.
- Role: Please refer to PIR instructions for "Role" classifications.
- Activity: Brief description of services provided by NGO.
- \$ Value: USD \$ value (*in Thousands*) of contracted project services assigned to NGO (if applicable).

Full Name (Do not give acronym only!)	Acronym	Type	Project Stage	Role	Activity	\$ Value of contracted services
GloBallast has continued to work with all NGO's as listed in the previous PIR.						

PLEASE INDICATE FACTORS THAT HAVE FACILITATED OR CONTRIBUTED TO NGO INVOLVEMENT:

One of the facilitating factors was the PCU determination to invite participation from the largest extent of stakeholders and ensure complete transparency of the work carried out.

Most of the international NGOs involved in GloBallast project have been granted observer status in International Maritime Organization and are, therefore familiar with the latest developments regarding ballast water management and control. Their direct involvement in the previous work increased the interest for the project and facilitated participation in the GPTF and various activities implemented.

PLEASE INDICATE FACTORS THAT HAVE CONSTRAINED NGO INVOLVEMENT:

Although there is growing interest for the ballast water topic, the international NGOs in particular, were not able to respond in all the cases to the GloBallast requests due to their limited human and financial resources and time constraints.

It has been noted that in the participating countries there is a tendency to underestimate the potential of local NGOs and to attempt to do the work with the limited resources available in the governmental sector. Remedial action is currently engaged by PCU in this respect by building capacity in all Pilot Countries and by promoting local NGOs and academia.

Appendix 1

Private Sector Involvement in UNDP-GEF Projects under Implementation

As part of the PIR process it is important to ascertain the degree to which UNDP-GEF projects work with private (for-profit) companies beyond that of the traditional sub-contracting relationship. This refers to companies, which contribute to a project as opposed to receive financing from it.

A. If the project is benefiting from such private sector resources please answer the following five questions for each company involved in the project.

N/A

B. If the project has not involved companies but could benefit from their resources please explain, given sufficient resources, what could be potentially done within the project to develop such partnerships.

It is expected that after the adoption of the International Convention for the Management and Control of Ships' Ballast Water and Sediments the interest of shipping companies and classification societies increases significantly and the direct involvement of the private sector expand accordingly. PCU will explore and promote such partnership in due course.

A Donor Conference organized together with the experts from relevant International Funding Institutions (IFIs) towards the end of the project could significantly assist in this effort.

Annex 2

UNITED NATIONS DEVELOPMENT PROGRAMME

Global Project with participation of the governments of:
Brazil, China, India, Iran, South Africa, Ukraine

Project Number: GLO/99/G31/E/1G/19

Project Title:

Removal of Barriers to the Effective Implementation of Ballast Water Control and Management Measures in Developing Countries

Project Short Title:

Global Ballast Water Management Programme (GloBallast)

The project document for this project (signed 2 February 2000) is hereby reviewed to reflect:

1. The actual year-end expenditure for 2002. Project inputs have been re-phased to 2003 and 2004, accordingly.
2. The amendments made to the Project Implementation Plan (PIP) and the project budget to reflect the extension of the duration covered by the project until 31 August 2004, and the changes made to the "Revised Indicative Workplan" (June 2002); (the revised PIP, is provided as Attachment 1).
3. The revision of the project budget to correspond with the revised PIP (see budget in Attachment 1).

Budget lines: 11.01, 11.51, 11.53, 16.02, 21.01, 21.02, 21.05, 21.07, 21.08, 21.09, 21.10, 21.11, 32.02, 32.05, 32.07, 32.08, 32.09, 32.11, 32.12, 41.01, 42.01, 51.01 and 52.01 decreased and funds redistributed among budget lines: 11.02, 11.52, 13.01, 15.01, 16.01, 21.03, 21.04, 21.06, 32.03, 32.04, 32.06 and 53.01, to cover anticipated needs and extension of the project by 6 months.

Current Budget (D)	US\$ 6,720,000
Revised Budget (E)	US\$ 6,720,000
Net increase/decrease	US\$ 0
Current AOS (D)	US\$ 672,000
Revised AOS (E)	US\$ 672,000
Net increase/decrease	US\$ 0

On behalf of:	Signature	Date	Name/Title
UNDP	_____	_____	Andrew Hudson Principal Technical Adviser International Waters
IMO	_____	_____	Koji Sekimizu Director Marine Environment Division



Project Implementation Plan (PIP)

(October 2003)



**A cooperative initiative of
the Global Environment Facility, the United Nations Development Programme and the
International Maritime Organization.**

TABLE OF CONTENTS

1. Introduction & Background	36
2. Development Objectives	36
3. Immediate Objectives.....	37
4. Programme Components, Outputs and Activities	37
5. Workplan	54
6. Budget & Budget Notes	56

1 Introduction & Background

A full description of the GEF/UNDP/IMO project ‘Removal of Barriers to the Effective Implementation of Ballast Water Control and Management Measures in Developing Countries’ (hereafter referred to by its short-title of ‘Global Ballast Water Management Programme’) is contained in the UNDP Project Document GLO/99/G31/A/1G/19. That document outlines the following elements of the project:

- A. Context;
- B. Strategy;
- C. Development Objectives; Immediate Objectives; Outputs and Activities;
- D. Inputs;
- E. Risks and Prior Obligations;
- F. Institutional Framework, Coordination and Administration;
- G. Monitoring, Reporting and Evaluation;
- H. Legal Context;
- I. Work Plan; and
- J. Budget

It was endorsed by the six pilot countries (Brazil, China, India, Iran, South Africa and Ukraine), approved by the GEF Council and signed by UNDP and IMO in 1999.

With the establishment of the Programme Coordination Unit (PCU) at IMO and the commencement of project execution, one of the first tasks of the PCU has been to review the Project Document and to develop from it a practical Project Implementation Plan (PIP). The PIP is based on the Project Document but updates the Outputs and Activities components of section C and sections I. Workplan and J. Budget. The other sections of the original Project Document are not repeated in the PIP. The Project Document should be referred to in relation to those sections.

The PIP is intended to improve programme delivery by streamlining and rationalising implementation as far as possible. The original Project Document is found to be too complex and repetitive for day-to-day implementation purposes of the PCU and Country Project Task Forces (CPTFs). Some components and activities present significant opportunities for streamlining (e.g. the original Project Document repeats the establishment of in-country Lead Agencies and Country Focal Points in both Activities 1.A.5 and 1.B1, whereas the PIP rolls these into a single Activity 1.B.1. Original Activities 1.B.2, 2.1 and 2.2 have been integrated to form part of a new Component 2).

Some of the proposed activities required reconsideration from a technical perspective, and other activities that are essential to the success of the programme were not included in the original Project Document (e.g. risk assessment and port baseline surveys). The PIP requires a re-allocation of budget to accommodate these updates, whilst staying within the overall original budget and programme design.

2 Development Objectives

The broad development objectives of the programme are:

In the long-term:

- To assist developing countries to reduce the transfer of harmful organisms from ships’ ballast water.

In the nearer term:

- To increase adherence by these countries to the current IMO *voluntary* guidelines on ballast water management, and

- To assist these countries to prepare for the implementation of the IMO *mandatory* regime when it comes into force.

3 Immediate Objectives

In order to achieve the broad development objectives, the programme has a number of Immediate Objectives, which are reflected in the programme Components and linked to specific Outputs and Activities. These are:

- Objective 1: Establish effective programme coordination, management and support mechanisms at the national, regional and global levels.
 - Objective 1.A: Establish a Programme Coordination Unit (PCU) and a Global Information & Communication Network at IMO.
 - Objective 1.B: Establish and support a Lead Agency, Country Focal Point and multi-sectoral Country Project Task Force (CPTF) in each country.
 - Objective 1.C: Establish and support a Global Project Task Force to review the programme and to advise the general directions to be followed.
- Objective 2: Develop and implement communication, education and awareness-raising programmes and activities about ballast water threats and solutions at the port, national and regional level, for each demonstration site.
- Objective 3: Undertake an initial risk assessment and information gap filling exercise at each demonstration site to provide a clearer understanding of the level and types of risks of introductions that each port faces, as well as the most sensitive resources and values that might be threatened, and the management responses required.
- Objective 4: Develop and implement generic and country/port specific plans, with defined ballast water management measures, to increase compliance with IMO guidelines and protect identified, country specific most sensitive values at risk.
- Objective 5: Develop and implement generic and country/port specific compliance monitoring and enforcement programmes, to increase compliance with IMO guidelines and protect identified, country specific most sensitive values at risk.
- Objective 6: Where appropriate, establish and support Regional Project Task Forces to increase regional awareness and cooperation and eventual replication of programme results across each region.
- Objective 7: Identify and secure opportunities for self-financing of the programme during its lifetime and for the sustainable continuation of IMO, Global, regional and national efforts to implement IMO ballast water management provisions.

4 Programme Components, Outputs and Activities

In order to achieve the seven Immediate Objectives, the programme is divided into seven equivalent Components, each with a set of Outputs and Activities, as described below and the following Summary Tables.

Component 1: Programme Coordination & Management

No programme can be effective without coordination and management mechanisms. For this programme, coordination and management mechanisms are divided into 3 sub-components; 1.A: Programme Coordination Unit, 1.B: In-Country Coordination Arrangements and 1.C: Global Coordination Arrangements.

Sub-component 1.A: Programme Coordination Unit

The first step towards implementing the programme is to create an IMO based Programme Coordination Unit (PCU). The PCU will ensure effective programme coordination and support (information, communications, expert assistance, program implementation capacity and evaluation and assessment) and bring cohesiveness and consistency to programme implementation through the establishment of a global support system.

This sub-component, among other things, creates within the IMO in London a PCU comprised of two (2) professionals, an Associate Program Officer (provided a donor can be found), requisite administrative and technical support and backstopping support from the permanent staff of the IMO. The work of the PCU is supported by the programme over the four years of the programme on a declining basis. It is particularly important that IMO be centrally involved as they create for the programme, as noted by the GEF STAP review, access to officials and programs in countries where many ships are registered, such as Panama, Liberia, and Norway, whose positions, along with classification societies, will be crucial for the development of future regulations.

While the IMO is committed to assisting in co-financing the creation of an effective PCU and to endeavour to sustain that presence after programme completion, development and implementation of pilot programs at the country and port level, are not part of IMO's mandate. Without the GEF intervention, the needs outlined in this programme proposal will not be met. The relationship between IMO regular activities and the GEF/UNDP/IMO programme appears as in Annex II of the initial Project Document.

Sub-component 1.B: In-Country Coordination Arrangements

Work undertaken during the PDF-B phase of the programme (GLO97/G41) found that no country's single agency had been given or had assumed lead responsibility for work related to the ballast water issue. Without delegation or assumption of leadership on the part of any specific agency, it is impossible to address the issue effectively or at all. One of the priority recommended barrier removal activities is the creation of a Lead Agency in each pilot country that has overall responsibility for development of the port-specific and country-specific strategies that are the principal objective of this programme. The Lead Agency, through a Country Focal Point (CFP), would be responsible for the creation and convening of the necessary inter-ministerial and multi-sectoral Country Project Task Force (CPTF) and would also be responsible for the development and implementation of the necessary informational, educational and participation activities that are key to programme success. Provision of GEF resources would enable recruitment of a CFP Assistant in each country to assist in the coordination and implementation of programme activities.

Sub-component 1.C: Global Coordination Arrangements

The Global Project Task Force (GPTF) will be the highest advisory body of the project. This will comprise representatives of GEF, UNDP, IMO and the six participating countries. The shipping industry, environmental NGOs and possible other parties that are able to contribute to the programme in a meaningful way will also be invited. The GPTF will meet once a year, and be hosted either by IMO or one of the pilot countries. The PCU will act as the Secretariat to the GPTF.

Component 2: Communication, Education and Awareness Raising

The most significant barrier to action on ballast water transfer has been identified within the PDF-B process, and by other observers, as the lack of awareness about the existence and potentially catastrophic consequences of the introduction of unwanted organisms. Without adequate information on the actual and potential seriousness of impacts, actions to remediate the problem will not be taken.

The PCU will assume an important role in the activities related to this component through the coordination and communication of real-life case studies that demonstrate the threats and impacts

posed by introduced marine species. These case studies will be as relevant as possible to the six demonstration sites. They will be undertaken by consultants on contract to the PCU, with significant input and support from each CFP/CPTF. Communication of the case studies to all stakeholders will receive highest priority.

The participating countries are likely to have few if any education and awareness raising materials to address or describe problems associated with unchecked ballast water releases. Increasingly, however, there is a growing body of case studies, research, control programs, and public education and information programs that have been and continue to be developed in countries such as Argentina, Australia, Canada, Israel, New Zealand, Brazil and the United States. The PCU will make maximum use of existing case studies and public information and education programmes to generate generic communication, education and awareness raising materials, for use by the pilot countries and others, and will be able to 'tailor' materials to meet country-specific needs

In addition, each pilot country should develop a country/port specific communication workplan. This will be done through a country communication workshop, to be held in each pilot country early in the programme. These workshops will be assisted by the PCU (in particular the Technical Adviser, who has primary responsibility for communication matters in the PCU), and involve the CFP and relevant members of the CPTF, as well as national authorities on communication, education, public participation and community consultation.

Significant resources will be made available by the programme for the implementation of each country's communication workplan. In addition, the Information/Communication Network established by the PCU under Activity 1.A.3 will play a major part in Component 2 as well.

Component 3: Risk Assessment.

After communication, education and awareness raising, the next foundation for the programme at the port/country level is to conduct port-specific Ballast Water Risk Assessments for each demonstration site. This is important for establishing the level and types of risks of introductions that a particular port faces, as well as the most sensitive resources and values that might be threatened. These will differ from site to site, and will determine the types of management responses that are required.

The current IMO ballast water management guidelines offer states significant flexibility in determining the nature and extent of their programmes. This flexibility is warranted given that nations are still experimenting with approaches. A pilot country may wish to apply its programme uniformly to all vessels, which visit, or it may wish to attempt to assess the relative risk of vessels to valuable resources and apply the programme selectively to those which are deemed of highest risk.

The uniform application option offers the advantages of simplified programme administration in that there are no "judgement calls" to be made or justified by the host country/port regarding which vessels must participate and which need not. In addition, the system requires substantially less information management demands. Finally, it offers more protection from unanticipated invaders, and overall protection is not dependent upon the quality of a decision support system, which may not be complete. The primary disadvantages of this approach are: 1) additional overall cost to vessels which otherwise might not need to take action, and 2) more vessels will be involved in undertaking the measures, and therefore the host country/port will need to monitor compliance from a greater number of vessels.

Some nations are experimenting with systems to allow more selective applicability based upon voyage-specific risk assessments because this approach offers to reduce the numbers of vessels subject to ballast water controls and monitoring. The prospect of reducing the numbers of ships to which the program applies is especially attractive to nations that wish to eliminate introductions of target organisms such as toxic dinoflagellates. More rigorous measures can be justified on ships deemed to be of 'high risk' if fewer restrictions are placed on low risk vessels. However, this approach places commensurate information technology and management burdens on the host

country/port and its effectiveness depends on the quality of the information supporting it. The approach may also leave the country/port vulnerable to unknown risks from non-target organisms.

For countries/ports, which choose the selective approach, it will be essential that each demonstration site establish an organized means of evaluating the potential risk posed by each vessel entering their port, through a Decision Support System (DSS). Only in this way can they take the most appropriate decision regarding any required action concerning that vessels' ballast water discharge. The DSS is a management system that provides a mechanism for assessing all available information relating to individual vessels and their individual management of ballast water so that, based upon assessed risk, the appropriate course of action can be taken.

Before a pilot country decides on whether to adopt the 'blanket' (i.e. all vessels) approach or to target specific, identified high risk vessels only, a general, first-past risk assessment should be carried out. This should look at shipping arrival patterns and identify the source ports from which ballast water is imported. Once these are identified, source port/discharge port environmental comparisons should be carried out to give a preliminary indication of overall risk. This will greatly assist the government to assess which approach to take. The programme will support these initial, 'first-past' risk assessments as a consultancy on contract to the PCU. The CFP/CPTF, including the local port and shipping industry, will play a key role in providing data on shipping movements, source ports, ballast water management patterns, and coastal and marine resources and environmental conditions. The PCU consultant, in conducting the risk assessment in each pilot country, will identify country counterpart(s) and include them in the study process as part of the capacity building objectives of the programme, so as to allow each country to undertake its own risk assessments in future.

It is also necessary to conduct baseline port biota surveys in each demonstration site. This is vital for assessing existing natural conditions and the presence or absence of introduced marine species. Such surveys are fundamental to the programme. The programme will support initial baseline surveys in each port, through provision of an expert to assist in survey design and to provide in-country training, and through provision of US\$50K per demonstration site. The PCU will also provide standardised port survey protocols, including for data management. Actual in-country work should be undertaken by the in-country marine science community (a member of the CPTF). Once the initial baseline surveys are conducted with programme support, they should be conducted on an ongoing basis, as a long-term biological monitoring programme for the port. This will allow any existing introductions to be tracked and managed and any new introductions to be detected and responded to. This ongoing effort will have to be resourced in-country.

All outputs of Component 3 will be vital for identifying information gaps and defining and clarifying the nature of the threats posed by ballast water introductions and the most sensitive resources and values at risk at each demonstration site. This component is therefore vital to shaping the development of each country's response to the issue.

Component 4: Ballast Water Management Measures

The essence of this programme is twofold. First it is intended to result in the development of generic, developing country based, ballast water management measures which can be adopted in other countries. Second, and to the extent possible, the programme will facilitate the development of country and port specific measures, including national legislation, to achieve effective ballast water management consistent with IMO provisions. Work undertaken in the PDF-B phase of the programme and a review of existing ballast water control programs is indicative of the overall strategy that should form the basis for programme development. Ballast water management measures should seek to avoid the adverse economic, environmental, and human health impacts of unwanted, introduced marine species. Such measures should make provision to avoid unwanted introductions by minimizing their risk of entry, establishment, and spread in country receiving waters while simultaneously minimizing impediments to trade.

Development and implementation of the actual ballast water management measures that are necessary to minimise the risk of introduced marine species constitutes the ‘backbone’ of the programme at each demonstration site. It is these measures that will produce the practical benefits of the programme, in order to achieve the near-term development objectives of the programme:

- Increase adherence by countries to the current IMO *voluntary* guidelines on ballast water management, and
- To assist countries to prepare for the implementation of the IMO *mandatory* regime when it comes into force.

Ballast water management measures that are developed and implemented at each demonstration site should therefore initially be consistent with the IMO voluntary guidelines (A.868(20)) and eventually adopt the provisions of the IMO mandatory regime as it comes into being. Fortunately, the IMO voluntary guidelines already contain recommended ballast water management measures, and these are supported by Model Shipboard Ballast Water Management Plans already developed by industry. There is no need to develop new measures. What is required is to adapt these measures to local situations and develop activities to implement these measures at each demonstration site effectively. It is of paramount importance that nothing is developed or implemented that is inconsistent with the standardised IMO regime, and that activities are coordinated across all demonstration sites.

To this end, the programme contains a number of activities. These include broad distribution and communication of the current IMO voluntary guidelines and other existing templates and models to all stakeholders (Activity 4.1), and the development and delivery of education and training packages to Lead Agency, port and shipping personnel on how to implement these (Activity 4.2). This will make use of the UN Train-X decentralized course development and sharing system to help participating countries create and adapt course packages which, together, will form a targeted education and training programme.

This component also includes resourcing for a review of existing legislation and regulations relating to ballast water in each pilot country, providing recommendations on what each country needs to do to implement any necessary regulatory changes (Activity 4.3).

In addition, under Component 4 the programme will sponsor a Global Research and Development Symposium (Activity 4.4). This is because existing ballast water management and control methods do not currently provide adequate protection from marine introductions, even when fully implemented. Research and development (R&D) of new ballast water treatment technologies is urgently required. There are currently a range of R&D projects underway by various groups around the World. These are often not well coordinated and some duplication may be occurring. They may also be focussed on conditions prevailing in developed rather than developing countries. An important objective of the programme is to act as a central coordination point, clearing house and knowledge broker for such research, and to ensure that at least some of this R&D is targeted towards the needs of developing countries. The R&D symposium will bring leading authorities on ballast water R&D together, along with pilot country representatives; to review current state of knowledge, enhance networking, communication and cooperation between R&D groups and the programme participants, encourage R&D groups to establish R&D projects in partnership with the pilot countries, establish PCU as central coordination point, clearing house and knowledge broker, help shape R&D agenda to suit developing countries’ needs and communicate outcomes to all stakeholders.

Finally, the National Workplans developed under Activity 1.B.4 will include provision for the implementation of country/port specific ballast water management measures.

Component 5: Compliance Monitoring and Enforcement

Effective implementation of country/port specific ballast water management measures is not possible without compliance monitoring and enforcement (CME) systems.

It is essential that, as each country assesses what it deems to be the most appropriate array of control options, effective CME is established to accomplish two objectives. First, monitoring will be important for each country to measure the extent of compliance with the established requirements. Without monitoring to inform of successful compliance, replication of programme results may not be warranted. Second, country-specific compliance monitoring can serve as an important research tool that can be used to assess the relative efficacy of ballast water management options in a variety of situations, as represented by the six demonstration sites. Thus effective monitoring can both inform and form the ongoing effort to minimize the global risks associated with the ballast water transfer of organisms.

Fortunately, the existing IMO guidelines and related templates and models such as the ICS/INTERTANKO model shipboard ballast water management plan already provide some of the basic components of a compliance monitoring system. In addition, many countries such as Australia, Canada, the EU, New Zealand and the USA already have well developed compliance monitoring systems. The programme will utilise these to develop generic CME systems based on the existing IMO guidelines and the draft Convention currently being developed by the IMO Marine Environment Protection Committee. However, each country will have to assume responsibility for resourcing and financing CME activities after the adoption of the anticipated Convention.

Component 6: Regional Cooperation & Replication

The countries and ports that have chosen to participate in the programme are taking an important first step to facilitate local and national compliance with the current IMO guidelines and expected new international legal instrument. Ports are competitive and it is possible that a port participating in the programme will enact certain requirements that will make other regional ports more attractive to shippers. Regional or Sub-Regional initiatives will be necessary to minimize the possibility that participating ports will be penalized in any way for their programme participation. Further, the programmes that will be developed in each of the six participating countries and ports should to the extent possible be replicated across the region. The formation of the Regional Project Task Forces (RPTFs) is intended to facilitate this process.

Component 7: Resources and Financing

This programme is intended to provide the resources necessary to catalyse national, regional and global action in response to the ballast water issue. It will run for a set time only. Each country and region will have to assume responsibility for resourcing its ballast management arrangements progressively as the programme proceeds, and over the longer term when the programme is completed. A Donor conference is scheduled towards the completion of the programme to establish the benchmarks and medium and long term strategies regarding Ballast Water Management and Control.

This will be progressed through two Activities, Activity 7.1: National Resourcing and Financing and Activity 7.2: Global Donor Conference. The former will focus on breaking dependence on donors and will review the opportunities for self-financing of programme components and future ballast water management arrangements at the national level, on an ongoing basis, pinpointing the potential economic sources and mechanisms. These will be based on the principles of user-pays and polluter pays. The latter will comprise a donor conference using the on-going GEF programme as leverage for the creation of necessary additional donors and the securing of loans, and confirm IMO's support for the continuation of post-programme activity from its regular budget.

Summary Tables – Revised Programme Components, Outputs and Activities (October 2003)

COMPONENT 1: PROGRAMME COORDINATION & MANAGEMENT

No programme can be effective without coordination and management mechanisms. For this programme, coordination and management mechanisms are divided into 3 sub-components; 1.A: Programme Coordination Unit, 1.B: In-Country Coordination Arrangements and 1.C: Global Coordination Arrangements.

Sub-component 1.A: Programme Coordination Unit

The first step towards implementing the programme is to create an IMO based Programme Coordination Unit (PCU) to bring cohesiveness and consistency to programme implementation through the establishment of a global support system.

	Success Criteria:	Partners	Budget (US\$K)	Budget Notes
<p>Outputs:</p> <ul style="list-style-type: none"> Programme coordination and management mechanism established and functioning; Effective coordination between and among all stakeholders. Programme performance improves over time with input from evaluation and review. <p>Activities:</p> <p><i>Activity 1.A.1: Human Resources:</i> Recruit and hire PCU staff:</p> <ul style="list-style-type: none"> Chief Technical Advisor (CTA) Technical Advisor (TA) Programme Assistant (PA) Necessary outsourced services 	<ul style="list-style-type: none"> PCU established and operational . Info/Comms Network established and functioning. Programme evaluation and review procedures operating. 		CTA: 448 TA: 230 PA: 337 S Trm Cnsltnts: 111 Total: 1,126	Paid Salary/benefits. Now being paid by IMO ex prog. Budget. Salary/benefits. Salary/benefits. Outsourced support as required.
<p><i>Activity 1.A.2: Hardware</i> Organise physical hardware and set-up office at IMO and at each demonstration site.</p>	IMO/PCU, with CFP & UNDP support.		Hardware: 55 Total: 55	PCU & field IT, Comms, Furniture etc
<p><i>Activity 1.A.3: Information and Communication Network (Info/Comms).</i> Develop the information and communication mechanisms necessary for effective programme implementation and replication, including communications and data transfer within and among all stakeholders.</p> <ul style="list-style-type: none"> Web site/web links/databases/internet communications groups. Quarterly newsletter. Library collection and bibliographies. 	PCU/IMO with CFP, CPTF & RPTF support.	Other governments and institutions (esp. Australia, USA and EU), Industry, NGO's.	Web / Internet: 5 Newsletter: 160 Docs purchase: 10 Other costs: 5 Total: 180	IMO costs to establish. Compilation, design, layout, printing and distribution, 4/yr x 4.5 yrs. For library collection. Outsourced support/hardware/database and web site development.

Activities:	Responsible Parties	Partners	Budget (US\$K)	Budget Notes
<i>Activity 1.A.4: PCU Travel</i> Provide resources to enable PCU staff to travel to demonstration sites and other destinations as part of programme coordination role, including attending CPTF /RPTF and other meetings.	PCU		Travel: 173 Total: 173	Airfares, DSA etc over 4.5 yrs.
<i>Activity 1.A.5: Programme Evaluation and Review.</i> Establish the mechanisms necessary for assessing the successes and areas for improvement as the programme progresses. Arrange annual programme review visit. <ul style="list-style-type: none"> Communicate review outcomes for programme implementation. 	IMO, UNDP, consultants		Eval. missions: 138 Total: 138	Programme review visits to each country/yr for 4.5 yrs.

Sub-component 1.B: In-Country Coordination Arrangements

Successful implementation of the programme is vitally dependent on effective in-country coordination arrangements. Without a Lead Agency, Country Focal Point, multi-sectoral Country Project Task Force and other institutional arrangements in each country, the demonstration sites cannot succeed. In-country parties are responsible for developing and implementing country work plans and supporting regional activities.

Outputs:	Success Criteria:			
<ul style="list-style-type: none"> In-country arrangements established and functioning in each country. 	<ul style="list-style-type: none"> Lead Agency and CFP designated and functioning effectively in each country. CFP Assistant engaged and functioning effectively in each country. CPTF formed and functioning effectively in each country. 			
Activities:	Responsible Parties:	Partners	Budget (US\$K)	Budget notes
<i>Activity 1.B.1: Establish Lead Agency and Country Focal Point (CFP)</i> Designate Lead Agency and CFP from that agency in each country.	Country governments with PCU and UNDP support.		Nil	Country governments to cover costs.
<i>Activity 1.B.2: Support CPTF and CFP Assistant</i> Hire and deploy CFP Assistant in each country. <ul style="list-style-type: none"> Each CFP's to nominate shortlist to PCU. PCU/IMO select/engage. Lead Agency to house Programme to support CPTF and CFP Assistant's activities. 	PCU with CFP, IMO and UNDP support.		Support: 728 Total: 728	Salary, office hardware and support for each CFP Assistant and general CPTF support for 4.5 yrs.
<i>Activity 1.B.3: Support CPTF Meetings</i> <ul style="list-style-type: none"> Form CPTF in each country. Should be inter-ministerial and cross-sectoral in nature, meet at the call of the Lead Agency and chaired by the CFP or senior representative of the Lead Agency as appropriate. Responsible for programme development, implementation and oversight in each country. Hold meetings. PCU to support meetings. 	CFP to coordinate with PCU support. CPTF's to include all relevant government, industry and NGO groups (refer PCU CPTF Guidelines).	IMO, UNDP Country Offices, CPTF members.	CPTF mtngs: 94 Total: 94	Basic meeting costs.

Activities:	Responsible Parties:	Partners	Budget (US\$K)	Budget notes
<p><i>Activity 1.B.4: National Workplans</i> Develop and implement a National Workplan for in-country implementation of each of the relevant activities under Components 2 to 7 below.</p>	<p>CPTF – develop and implement PCU – provide template and support.</p>	<p>CPTF members.</p>	<p>Dev & imp w/plans: 541 Total: 541</p>	<p>Support CPTF to develop & implement w/plans</p>

Component 1.C Global Coordination Arrangements

The Global Project Task Force (GPTF) will be the highest advisory body of the project. This will comprise representatives of GEF, UNDP, IMO and the six participating countries. The shipping industry, environmental NGOs and possible other parties that are able to contribute to the programme in a meaningful way will also be invited.

<p>Outputs:</p> <ul style="list-style-type: none"> GPTF formed and functioning effectively. 	<p>Success Criteria:</p> <ul style="list-style-type: none"> Programme is effectively advised and assisted by the GPTF. 			
<p>Activities:</p> <p><i>Activity 1.C.1: Global Project Task Force (GPTF).</i> Establish and run GPTF to formulate and review the programme and advise the general directions to be followed. Seek advice from scientific and technical advisory groups as required.</p> <ul style="list-style-type: none"> Form GPTF and advisory groups. Organize and hold meetings Communicate GPTF outcomes for programme implementation. 	<p>Responsible Parties: PCU - Secretariat. comprises CFPs, UNDP, IMO, Industry, NGOs, Sponsors.</p>	<p>Partners Industry NGO's Sponsors</p>	<p>Budget (US\$K) GPTF meetings: 327 Total: 327</p>	<p>Budget notes 1 meeting/year for 4 years plus 1 terminal meeting. Travel & meeting costs and correspondence groups as required.</p>

COMPONENT 2: COMMUNICATION, EDUCATION AND AWARENESS RAISING (CEAR)

Work undertaken during the preparatory phase of the programme resulted in a finding that information about the dangers of ballast water transfers was poor to non-existent in many countries, and constituted a major barrier to action. This lack of information and low level of general awareness of the issue is seen as an extremely important, early priority of the programme to address. One of the priority recommended barrier removal activities is the development of communication, education and awareness raising activities in each pilot country. Accordingly, the following Activities are included in the programme to address communication, education and awareness raising.

Success Criteria:		Partners	Budget (US\$K)	Budget notes
Outputs:	<ul style="list-style-type: none"> Level of awareness about the ballast water issue, its impacts and potential solutions is raised amongst all stakeholders in participating countries, resulting in increased commitment to implementing the programme and addressing the issue in general 	<ul style="list-style-type: none"> Programme identity established Case studies completed and communicated to stakeholders. Generic communication materials produced. Country communication workshops held and workplans developed. Country communication workplans implemented. 	Design/develop: 3 Total: 3	Materials to be developed and produced professionally using external supplier(s).
Activities:				
<i>Activity 2.1: Programme Identity</i>	Design and implement programme identity, including logo, stationary and standards for application.	PCU, external suppliers.		
<i>Activity 2.2: Generic Communication, Education and Awareness Raising Materials</i>	PCU to produce a range of generic communication, education and awareness raising materials for use by PCU, IMO and in countries, in suitable languages. <ul style="list-style-type: none"> Standardised slide presentations. Programme brochure. Educational posters, pamphlets and other products. TV documentary. 	Industry, IMO-MEPC, Australia, EU, US, other countries with relevant experience.	Develop/produce: 133 Total: 3	Materials to be developed and produced professionally using external supplier(s) where necessary. Maximum use to be made of existing materials, outputs of Activity 2.2. and internal/IMO expertise and facilities.
<i>Activity 2.3: Case Studies.</i>	Review and prepare case studies demonstrating the economic, environmental and public health dangers of ballast water introductions (focused on/relevant to demonstration sites). <ul style="list-style-type: none"> Carry out case studies. Communicate to all stakeholders. 	PCU – manage. Consultants – carry out. CFP – assist.	Total: 133 Contracts: 27 Total: 27	Fees/travel to research, prep & communicate case studies, ongoing.
<i>Activity 2.4: Country Communication Workshops & Workplans</i>	Workshop in each country to develop national communication workplans, including strategies and activities for education and awareness raising and community participation. <ul style="list-style-type: none"> Plan workshops. Hold workshops - develop National Communication Workplans. Include utilisation of outputs of Activity 2.3. 	CFP/CPTF with PCU support.	Workshops: 30 Total: 30	In-country workshop costs.

Activities:	Responsible Parties:	Partners	Budget (US\$K)	Budget notes
Activity 2.5: <i>Implement National Communication Workplans.</i> Implement the activities contained in the workplans.	CFP/CPTF with PCU support.	Industry, NGOs, community groups.	Implementation: 411 Total: 411	Countries to develop National budgets within their Workplans

COMPONENT 3: RISK ASSESSMENT

After communication, education and awareness raising, the next foundation for the programme at the port/country level is to conduct port-specific Ballast Water Risk Assessments for each demonstration site. This is important for establishing the level and types of risks of introductions that a particular port faces, as well as the most sensitive resources and values that might be threatened. These will differ from site to site, and will determine the types of management responses that are required.

It is also necessary to conduct port biota surveys in each demonstration site. This is vital for assessing existing natural conditions and the presence or absence of introduced marine species. Such surveys are fundamental to the programme, and should be conducted on an ongoing basis, as a long-term biological monitoring programme for the port. This will allow any existing introductions to be tracked and managed and any new introductions to be detected and responded to.

Accordingly, the following Activities are included in the programme to address risk assessment.

<p>Outputs:</p> <ul style="list-style-type: none"> All levels of management and all stakeholders have a clearer understanding of the level and types of risks of introductions that each port faces, as well as the most sensitive resources and values that might be threatened, and the management responses required. 	<p>Success Criteria:</p> <ul style="list-style-type: none"> Risk assessment completed for each demonstration site. Baseline port biota surveys completed for each demonstration site. System in place for future surveys. Information gaps identified and activities defined to fill gaps.
<p>Activities</p> <p>Activity 3.1: <i>Ballast Water Risk Assessment</i></p> <p>Review existing information regarding the quantity, quality and sources of current ballast water discharges at each demonstration site and use source port/discharge port environmental comparisons to determine the existing and potential threats on the economy, environment, and human health. Include training/capacity building of country counterparts.</p> <ul style="list-style-type: none"> Determine/agree optimum risk assessment methodology and adopt standard protocol. Undertake risk assessment. Communicate findings to stakeholders. 	<p>Responsible Parties</p> <p>PCU – manage. GPTF Adv. Groups – advise. Consultants – undertake. CFPs/CPTF’s and industry – assist/support.</p> <p>Partners</p> <p>IMO/UNDP Country Offices/WHO/FAO</p> <p>Budget (US\$K)</p> <p>PCU contracts: 385 Total: 385</p> <p>Budget notes</p> <p>Fees, travel and costs to undertake the risk assessments, including training and capacity building of country counterparts.</p>

Activities	Responsible Parties	Partners	Budget (US\$K)	Budget notes
<p><i>Activity 3.2: Port Baseline Surveys</i> Undertake review of existing data on native biodiversity and introductions at each site and implement long-term port survey programme to detect introductions.</p> <ul style="list-style-type: none"> • Determine/agree optimum port survey methodology and adopt standard protocol. • Undertake port surveys – inc. training of in-country marine science capability. • Communicate findings to stakeholders. 	<p>PCU – manage. GPTF Sci. Adv. Group – advice. Consultant – training/advice. In-country marine science community – implement. CFP/CPTF – support.</p>	<p>Countries with port survey experience (e.g. Australia, USA).</p>	<p>Contracts: 100 1st surveys: 420 Total: 520</p>	<p>To set-up survey protocols and train/advise in-country survey teams. Includes travel to countries. 70K per port, includes field sampling, analysis, archiving and reporting. Additional funds required for future annual surveys (should be an ongoing programme).</p>
<p><i>Activity 3.3: Information Gap Filling</i> Use outputs of Activities 3.1 and 3.2 and ongoing review of all activities to ascertain existing information gaps at each site and define the activities needed to fill those gaps.</p>	<p>PCU with CPF/CPTF support.</p>	<p>IMO/UNDP Country Offices</p>	<p>Nil</p>	<p>No explicit costs, part of general, ongoing PCU, CFP and CPTF activities.</p>
<p><i>Activity 3.4: International Port Surveys Workshop</i> Build on GloBallast Port Surveys to develop regional/global survey and early warning system.</p>	<p>PCU with host country support.</p>	<p>Other countries advanced in surveys..</p>	<p>30</p>	<p>Travel and workshop costs.</p>

COMPONENT 4: BALLAST WATER MANAGEMENT (BWM)

Development and implementation of the actual ballast water management measures that are necessary to minimise the risk of translocation of harmful aquatic organisms constitutes the ‘backbone’ of the programme at each demonstration site. It is these measures that will produce the practical benefits of the programme, in order to achieve the near-term development objectives of the programme:

- To increase adherence by countries to the current IMO *voluntary* guidelines on ballast water management, and
- To assist countries to prepare for the implementation of the IMO *mandatory* regime when it comes into force.

Ballast water management measures that are developed and implemented at each demonstration site should therefore initially be consistent with the IMO voluntary guidelines (A.868(20)) and eventually adopt the provisions of the IMO mandatory regime as it comes into being. Fortunately, the IMO voluntary guidelines already contain recommended ballast water management measures, and these are supported by a Model Shipboard Ballast Water Management Plan already developed by industry. There is no need to develop new measures. What is required is to adapt these measures to local situations and develop activities to implement these measures at each demonstration site effectively. It is of paramount importance that nothing is developed or implemented that is inconsistent with the standardised IMO regime, and that activities are coordinated across all demonstration sites.

Outputs:	Success Criteria:	Responsible Parties	Partners	Budget (US\$K)	Budget notes:
<ul style="list-style-type: none"> • Effective ballast water management measures are implemented at each demonstration site to reduce the transfer of aquatic organisms in ballast water, consistent with IMO guidelines and standards. 	<ul style="list-style-type: none"> • IMO guidelines & industry models widely promulgated. • Education and training packages developed and delivered, with system for ongoing delivery. • Legislation reviews completed for each country and recommendations considered. • Global R&D Symposium held. 	PCU – manage.. CPTF's – promulgate.	Industry.	Translations: 4 Total: 4	Outsourced. Postage etc.
<p><i>Activity 4.1: Translate/disseminate IMO Voluntary Guidelines & ICS/INTERTANKO Model</i></p> <p>Enhance use of existing guidelines and model at the demonstration sites:</p> <p><i>Activity 4.2: Education and Training Packages</i></p> <p>Develop and deliver generic and adaptable course packages for targeted education and training of ship operators, masters and crews, port authorities, lead agencies and other parties, on the ballast water issue in general and on the practical implementation of the IMO guidelines and the anticipated Convention.</p> <ul style="list-style-type: none"> • Develop package, considering UN TRAIN-X methodology and in-country maritime training institutions. • Deliver training courses in each country and validate. • Ongoing delivery by national/regional training units. 		PCU – manage. Consultant – develop. Country training institutes – deliver. WMU, IMA, CPTF/CPTF – support.	Industry.	Dev T-X methods: 48 Crse dev wkshp: 172 Nat training: 231 Total: 451	Contract fees/travel. Run wkshp. Deliver 1 st training courses in each country. Additional resources required for ongoing delivery of training courses.

Activities:	Responsible Parties	Partners	Budget (US\$K)	Budget notes:
<p><i>Activity 4.3: Legislation and Regulations</i> Review existing domestic legislation and regulations relating to ballast water and recommend any changes necessary for the implementation of the IMO voluntary guidelines.</p> <ul style="list-style-type: none"> • Consultant to review existing legislation. • CPTF's to consider/ implement recommendations. 	PCU – manage. Consultants – undertake. CPTF – implement.		Local cnslntrts: 114 Advice/coordn: 30 Total: 144	Fees/travel. Fees/travel.
<p><i>Activity 4.4 Global R&D Symposium</i> Hold a Global symposium to bring together leading authorities on ballast water treatment R&D;</p> <ul style="list-style-type: none"> • review current state of knowledge, • enhance networking, communication and cooperation between R&D groups, • establish PCU as central coordination point, clearing house and knowledge broker, • help shape R&D agenda to suit developing countries' needs and • communicate outcomes to all stakeholders. 	PCU – plan and hold workshop	R&D community. Industry. Country governments.	Symposium: 0* Total: 0	Travel and holding of 1 st symposium. Co-sponsors to be found for subsequent symposiums.
<p><i>Activity 4.5: National Ballast Water Management Plans</i> Assist each pilot country to develop a National Ballast Water Management Plan</p> <ul style="list-style-type: none"> • develop template and provide to countries • use template to develop National plans • get plans approved by government implement plans	PCU & consultant – develop template and assist countries to use it. CFP Assistants/ CPTF's - develop plans etc			Implementation of the plans to be a National responsibility.

* (Costs distributed among the other activities)

COMPONENT 5: COMPLIANCE MONITORING AND ENFORCEMENT (CME)

Effective implementation of ballast water management measures under the IMO guidelines is not possible without compliance monitoring and enforcement systems.

Success Criteria:		Partners	Budget (US\$K)	Budget notes:
Outputs:	<ul style="list-style-type: none"> Generic Compliance Monitoring and Enforcement Systems developed. 			
Activities:	<ul style="list-style-type: none"> Pilot countries prepared to adapt generic CME systems after adoption of the anticipated Convention. 			
Responsible Parties		Industry.	Contracts: 60	Fees/travel to develop system.
Activity 5.1: Develop generic CME Systems.	<ul style="list-style-type: none"> Consultant to adapt relevant components of IMO guidelines and other standardised protocols to develop compliance, monitoring and enforcement system. 		Total: 60	
Activity 5.2: Ballast Water Sampling Equipment	<ul style="list-style-type: none"> Purchase ballast water sampling equipment for use in compliance monitoring at each site. 	Industry. Countries with relevant experience – Australia, Canada, EU, New Zealand and USA,	Equipment: 84	Equipment.
Activity 5.3: In-country CME Personnel & Training	<ul style="list-style-type: none"> Lead agency to designate compliance monitoring and enforcement officials for placement at the demonstration sites, PCU to coordinate training of these personnel in the CME system and use of ballast water sampling equipment by organizing international workshops. 		Total: 84	
Activity 5.4: Adapt and Implement CME Systems in each pilot country	<ul style="list-style-type: none"> Support Lead Agency to implement compliance, monitoring and enforcement system at each site after the adoption of the anticipated Convention. 		Training costs: 354	Funds for initial training in each country. Countries to resource thereafter.
Activity 5.5: International Ballast Water Sampling Workshop	<ul style="list-style-type: none"> Review and establish international standards for ballast water sampling equipment and methods and train GloBallast Pilot Countries in these techniques for implementation in home countries and regions. 	Countries advanced in BW sampling.	Total: 354	20K is available per country to initiate this.
			Total: 120	
			Workshop: 40	Travel and workshop costs.
			Total: 40	

COMPONENT 6: REGIONAL REPLICATION

A key objective of the programme is to replicate successes at each demonstration site throughout each region represented by these sites. Creation of effective and active Regional Project Task Forces will help to reduce the extent to which competing ports in the region may adopt the lowest common denominator in regard to ballast water controls to lure business away from pilot demonstration sites. Regional Project Task Forces are instrumental in efforts to replicate programme results beyond the participating countries.

<p>Outputs:</p> <ul style="list-style-type: none"> • Creation of a regional support base for the work of the programme. • Increased likelihood of regional cooperation on the ballast water issue. • Creation of mechanisms to ensure regional level replication of programme demonstration site results. • Facilitated process of regional level involvement in the implementation of IMO ballast water related provisions. • Creation of an ongoing, ballast water related communications capacity at the regional level. <p>Activities:</p> <p><i>Activity 6.1 Form Regional Project Task Forces</i> Create as appropriate and in cooperation with participating countries, six regional or sub-Regional Project Task Forces (RPTFs) to support and learn from the experience of the participating countries and ports.</p> <p><i>Activity 6.2. RPTF Meetings and Study Tours</i> Provide for RPTF meetings and ensure effective communications between RPTF and the programme</p>	<p>Success Criteria:</p> <ul style="list-style-type: none"> • Demonstration sites are protected against competing regional ports abiding by poor to no ballast water management practices. • Programme outputs employed by other regional countries. • A formalized communications system through identified lead agencies is in place and functioning at the regional level. • Programme regions are an increasingly forceful and effective presence in international/IMO fora where the ballast water issue is being discussed and policy formulated.
	<p>Responsible Parties</p> <p>PCU/Participating Countries (Lead Agencies)/GEF Focal Points</p>
	<p>Partners</p> <p>Governments in regional countries</p>
	<p>Budget (US\$K)</p> <p>Travel: 139</p> <p>Total: 139</p>
	<p>Budget notes:</p> <p>Travel to initiate RPTFs.</p>
	<p>Governments in regional countries</p>
	<p>PCU/Participating Countries (Lead Agencies)/GEF Focal Points/Port Officials</p>
	<p>Study tours and meetings</p>
	<p>Total: 434</p>
	<p>Total: 434</p>

COMPONENT 7: RESOURCES AND FINANCING

In addition budgetary resources provided through GEF and the participating countries for 4 years, a vital objective of the programme is to identify and secure opportunities for self-financing of the programme during its life-time and for the sustainable continuation of IMO, Global, regional and national efforts to implement IMO ballast water management provisions into the future, beyond the life of the programme.

	Success Criteria:				
Outputs:	<ul style="list-style-type: none"> Potential in-country resource and financing mechanisms identified. Identification of specific interested donors. Active participation of a broad array of donors at the donor conference. Active participation of developing countries from all regions. Specific commitments of donors (including IMO) to continuing post programme work. 	Responsible Parties	Partners	Budget (US\$K)	Budget notes
<p>Activities:</p> <p><i>Activity 7.1: National Resourcing and Financing</i> Review the opportunities for self-financing of programme components and future ballast water management arrangements at the national level on an ongoing basis, pinpointing the potential economic sources and mechanisms. Based on the principles of user-pays and polluter pays, consider potential for port fees/shipping levies.</p>	<ul style="list-style-type: none"> Potential in-country resource and financing mechanisms identified. Identification of specific interested donors. Active participation of a broad array of donors at the donor conference. Active participation of developing countries from all regions. Specific commitments of donors (including IMO) to continuing post programme work. 	PCU – advise. Lead Agency/CPTF – support and implement.	Industry, IMO, UNDP, WB, Regional Development Banks, National and International Donors.	In country staff time	
<p><i>Activity 7.2: Donor Conference</i> Hold Donor conference of all relevant stakeholders, including potential donors, to consider the future of GloBallast, based on the GloBallast Advanced concept, and identify resourcing and financing options.</p>	PCU	Industry, IMO, UNDP, WB, Regional Development Banks, National and International donors.	Donor Conf: 50 Total: 50	Costs of the conference.	

Acronyms in this Table: APR = Annual Project Review. BW = Ballast Water. BWM = BW Management. CEAR = Communication, Education & Awareness Raising. CFP = Country Focal Point. CME = Compliance Monitoring & Enforcement. CPTF = Country Project Task Force. DSA = Daily Subsistence Allowance. GPTF = Global Project Task Force. PCU = Programme Coordination Unit. RPTF = Regional Project Task Force(s). TPR = Tripartite Review

REVISED INDICATIVE FOUR YEAR WORKPLAN (October 2003)

		2000												2001											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
PERSONNEL																									
Chief Technical Advisor	1.A.1																								
Technical Adviser	1.A.1																								
Consultancies: Short-term; Miscellaneous	1.A.1																								
Consultancies: Info/Comms Network	1.A.3																								
Consultancies: Develop Train-X methodology	4.2																								
Administrative Assistant	1.A.1																								
MONITORING AND EVALUATION																									
Evaluation: TPR, APR missions	1.A.5																								
PCU travel and DSA	1.A.4																								
Travel to establish RPTFs	6.1																								
Travel, Donor Conference	7.1																								
CONTRACTS																									
Prepare Case Studies	2.3																								
Develop & implement National Workplans	1.B.4																								
Support CPTFs including hiring of assistants	1.B.2																								
Programme Identity & CEAR Materials	2.1/2.																								
Implement National Comms Workplans	2.5																								
Conduct Risk Assessments	3.1																								
Coordinate Port Baseline Surveys	3.2																								
Conduct Legislation/Regulation Reviews	4.3																								
Develop CME Systems	5.1																								
Implement CME Systems	5.4																								
In-country CME Personnel & Training	5.3																								
BWM Train-X course development workshop	4.2																								
Deliver In-country BWM Training (Train-X)	4.2																								
MEETINGS																									
CPTF	1.B.3																								
GPTF	1.C.1																								
Country Communication Workshops	2.4																								
R&D Symposium	4.6																								
RPTF	6.2																								
Donor Conf.	7.2																								
Int. Port Survey Workshop	3.4																								
Int. BW Sampling Workshop	5.5																								
EQUIPMENT																									
Expendable Equipment (PCU)	1.A.2																								
BW Sampling Equipment	5.2																								
MISCELLANEOUS																									
Miscellaneous & Sundries																									
Reporting Costs																									

Project Title Removal of Barriers to the Effective Implementation of Ballast Water Control and Management Measures in Developing Countries
(GloBallast)

Project Number: GLO/99/G31/E/1G/19

Revised Programme Budget (US\$), October 2003

Budget Line	Description/Activity	Act. No.	Total	2000	2001	2002	2003	2004
	PERSONNEL							
	International Experts							
11.01	Chief Technical Advisor	I.A.1	448,231	134,484	121,731	164,585	27,431	0
11.02	Technical Adviser	I.A.1	230,000				120,000	110,000
	Consultants							
11.51	Consultancies: Short-term; Miscellaneous	I.A.1	111,301	37,572	29,062	4,667	25,000	15,000
11.52	Consultancies: Info/Comms Network	I.A.3	179,789	21,344	42,317	22,093	54,000	40,035
11.53	Consultancies: Develop BWM Train-X methodology	4.2	48,293			33,293	15,000	0
	Administrative support personnel							
13.01	Administrative Assistant	I.A.1	337,057	23,904	58,012	80,141	100,000	75,000
	Monitoring and evaluation							
15.01	Evaluation: TPR, APR missions	I.A.5	138,469	46	1,938	86,485	0	50,000
	Mission costs							
16.01	PCU travel and DSA	I.A.4	172,598	42,867	50,993	23,738	25,000	30,000
16.02	Travel to establish RPTF's	6.1	139,246	27,979	61,755	4,512	20,000	25,000
16.03	Travel, Donor Conference	7.1						
	SUB-TOTAL PERSONNEL		1,804,984	288,196	365,808	419,514	386,431	345,035
	CONTRACTS							
21.01	Prepare Case Studies	2.3	26,700		26,700	0	0	0
21.02	Support to develop & implement National Workplans	I.B.4	541,081		4,686	36,395	250,000	250,000
21.03	Support for CPTFs including hiring assistants	I.B.2	727,814	72,394	163,313	176,797	180,310	135,000
21.04	Develop Programme Identity & CEAR Materials	2.1/2.2	135,651	19,236	39,125	62,290	10,000	5,000
21.05	Implement National Communication Workplans	2.5	411,334		61,530	149,804	150,000	50,000
21.06	Conduct Risk Assessments	3.1	385,081	294	13,934	320,853	50,000	0
21.07	Coordinate Port Baseline Surveys	3.2	519,725		281,224	203,501	35,000	0
21.08	Conduct Legislation/Regulation Reviews	4.3	133,601		65,335	58,266	10,000	0
21.09	Reprint IMO BWM Guidelines	4.1	3,962		812	3,150	0	0
21.10	Develop CME Systems	5.1	60,000			0	20,000	40,000
21.11	Implement CME Systems	5.4	120,037			37	40,000	80,000
21.88	Prior year savings		-23774		-13,986	-9,788		
	SUB-TOTAL CONTRACTS COMPONENT		3,041,212	91,924	642,673	1,001,305	745,310	560,000

Budget Line	Description/Activity	Act. No.	Total	2000	2001	2002	2003	2004
	TRAINING/MEETINGS							
	Training							
32.01	In-country CME Personnel & Training	5.3	354,241	0	109,212	5,029	80,000	160,000
32.02	Course Development Workshop – BWM Train-X	4.2	172,426	34,285		19,141	119,000	0
32.03	Deliver In-country Training - BWM Train-X	4.2	231,096	29,268		21,828	90,000	90,000
	Meetings							
32.04	CPTF	1.B.3	93,699	1,703	33,832	28,164	18,000	12,000
32.05	GPTF	1.C.1	326,566	3,300	105,683	117,583	0	100,000
32.06	Country Communication Workshops	2.4	30,022		30,022	0	0	0
32.07	Global R&D Symposium	4.4	0			0	0	0
32.08	RPPTF	6.2	433,843		28,146	105,697	200,000	100,000
32.09	Donor Conference	7.2	50,000				0	50,000
32.10	International Port Survey Workshop	3.4	30,000			0	30,000	0
32.11	International Ballast Water Sampling Workshop	5.5	40,000			0	40,000	0
32.12	Prior year savings (TP Development)		-109,000			-109,000		
32.88	SUB-TOTAL TRAINING/MEETINGS		1,652,893	68,556	306,895	188,442	577,000	512,000
	EQUIPMENT							
41.01	Expendable Equipment (PCU)	1.A.2	54,664	52,664		0	1,000	1,000
42.01	BW Sampling Equipment	5.2	83,527	4,935	23,091	-4,499	20,000	40,000
	SUBTOTAL EQUIPMENT		138,191	57,599	23,091	-4,499	21,000	41,000
	MISCELLANEOUS							
51.01	Sundries		30,571	229	2,697	12,645	5,000	10,000
52.01	Reporting costs		20,501	322	179	0	10,000	10,000
53.01	Miscellaneous		31,648		10,258	8,350	6,000	7,040
	SUB-TOTAL MISCELLANEOUS		82,720	551	13,134	20,995	21,000	27,040
	TOTAL:		6,720,000	506,826	1,351,601	1,625,757	1,750,741	1,485,075
	Executing Agency support 10%		672,000	50,683	135,160	162,576	175,074	148,508
	GRAND TOTAL		7,392,000	557,509	1,486,761	1,788,333	1,925,815	1,633,583
Revised								

Acronyms in this Table: APR = Annual Project Review. BW = Ballast Water. BWM = BW Management. CEAR = Communication, Education & Awareness Raising. CFP = Country Focal Point. CME = Compliance Monitoring & Enforcement. CPTF = Country Project Task Force. DSA = Daily Subsistence Allowance. GPTF = Global Project Task Force. PCU = Programme Coordination Unit. RPPTF = Regional Project Task Force(s). TPR = Tripartite Review

REVISED BUDGET NOTES (New Budget Lines on right hand side)

Activity 1.A.1: Human Resources	US\$ 1,009,000	
Covers salary, benefits, travel for PCU, necessary administrative/secretarial personnel, and international short-term consultancies. The CTA absorbs nearly half the amount in salary and benefits alone.		
a) Salary for CTA	US\$ 448,231	11.01
b) Salary for TA	US\$ 230,000	11.02
c) Salary for Administrative Assistant	US\$ 337,057	13.01
d) Salary and travel for short-term consultants who will assist the CTA to get the programme off the ground	US\$ 111,301	11.51
Activity 1.A.2: Hardware	US\$ 54,664	41.01
Cost of IT equipment, office fittings and supplies, telephones etc in PCU and field offices.		
Activity 1.A.3: Info/Comms Network	US\$ 179,789	11.52
Costs to establish web-site, global information clearing-house and communication system, including hardware and contracting in of consultant(s), plus production of quarterly newsletter and procurement of publications for library collection.		
Activity 1.A.4: PCU Travel	US\$ 172,598	16.01
Airfares, daily subsistence allowance and other travel costs for PCU travel throughout the programme.		
Activity 1.A.5: Programme Evaluation & Review	US\$ 138,469	15.01
Travel and other costs for UNDP, IMO etc for tripartite and annual programme evaluations and reviews.		
Activity 1.B.1: Establish Lead Agencies and CFP's	In-country cost	
Activity 1.B.2: Support CPTF's and CFP Assistants	US\$ 727,814	21.03
Salary, benefits, travel and other costs for CFP Assistant in each pilot country at UN local staff level plus general support CPTF activities.		
Activity 1.B.3: CPTF Meetings	US\$ 93,699	32.05
Funds to support basic meeting costs for CPTFs in each country, 10 meetings over 4.5 years for 6 pilot countries.		
Activity 1.B.4: Develop & Implement National Workplans	US\$ 541,081	21.02
Funds to assist each CPTF in developing and implementing its National Workplan for the programme. It should be noted that the National Workplans will be implementing many of the activities under programme components 2 to 7, which have separate budgets, so total resources available for National Workplan implementation are significantly greater than the funds available under Activity 1.B.4 alone.		

Activity 1.C.1: Global Project Task Force	US\$ 326,566	32.06
Travel, DSA and other costs for holding GPTF meetings, based on \$50,000 per meeting and 1 meeting per year for 4.5 years, plus an additional terminal meeting in August 2004.		
Activity 2.1: Programme Identity	US\$ 3,000	21.04
Costs of engaging external suppliers to develop programme logo, stationary and standards for application.		
Activity 2.2: Comm., Education & Awareness Raising Materials	US\$ 132,651	21.04
Costs of producing a range of communication, education and awareness raising materials for use by PCU, IMO and pilot countries in suitable formats and languages, including standard slide presentations, brochures, educational posters, pamphlets and other products. To be developed and produced professionally using external suppliers but utilising existing materials from countries that are advanced in this area.		
Activity 2.3: Case Studies	US\$26,700	21.01
Contract fees for consultant to research and compile case studies demonstrating the economic, ecological and human health impacts of ballast water introductions plus costs of publishing and communicating the case studies to all stakeholders in the pilot countries.		
Activity 2.4: Country Communication Workshops	US\$ 30,022	32.07
Funds per country to hold national workshops to develop National Communication Workplans, including in-country strategies and activities for education and awareness raising and public participation.		
Activity 2.5: Implement National Communication Workplans	US\$ 411,334	21.05
Approximately \$70,000 per country to assist with implementing the workplans developed from activity 2.4. (Covers various publications included in GloBallast Monograph Series)		
Activity 3.1: Ballast Water Risk Assessment	US\$ 385,081	21.06
Consultancy fees and costs to undertake a ballast water risk assessment for each demonstration site (\$50,000 per port). Each CPTF to support this task through provision of data and information.		
Activity 3.2: Port Baseline Surveys	US\$ 519,725	21.07
\$100,000 consultancy fees and costs to design and coordinate the surveys and provide in-country training. \$419,725 to support in-country marine science community to undertake biota surveys at each demonstration site.		
Activity 3.3: International Port Survey Workshop.	US\$ 30,000	32.11
Workshop costs.		

Activity 3.3: Information Gap Filling	No explicit cost.	
Most activities under the programme will identify information gaps as a matter of course and the PCU with support from the CPTFs will undertake ongoing review of all activities to ascertain these and define activities needed to fill these gaps.		
Activity 4.1: Translate/Disseminate IMO Guidelines	US\$ 3,962	21.09
The major focus of the programme is on assisting the pilot countries to implement the IMO ballast water management guidelines. In order to do this, the guidelines must be made widely available. Costs of translating the guidelines and distributing them.		
Activity 4.2: BWM Education and Training Packages	US\$ 451,815	
It is necessary to train Lead Agency, port and shipping personnel in each pilot country in ballast water management, consistent with the IMO guidelines. This training has three components:		
Consultant to develop generic package, using TRAIN-X methodology	\$48,293	11.53
Hold workshops to finalise course package:	\$172,426	32.03
Deliver initial training course in each country and validate:	\$231,096	32.04
Ongoing training to be in-country responsibility.		
Activity 4.3: Legislation and Regulations	US\$ 133,601	21.08
\$25,000 per country for in-country consultants/institutions to review all existing national and local legislation and regulations relating to ballast water and recommend any changes required to mandate national ballast water management arrangements developed under the programme. \$30,000 for expert advice and coordination on contract to PCU.		
Activity 4.4: Global R&D Symposium	US\$ 0*	32.08
Costs of holding the symposium, inc. travel and DSA. *The costs of the Symposium were split among other budget lines		
Activity 5.1: Develop CME Systems	US\$ 60,000	21.10
Consultant fees and costs to adapt relevant components of IMO guidelines and other standard protocols to develop compliance monitoring and enforcement (CME) generic system.		
Activity 5.2: Ballast Water Sampling Equipment	US\$ 83,527	42.01
\$10,000 per country to purchase standard ballast water sampling equipment for use in CME activities and other costs relating to CME.		
Activity 5.3: In-Country CME Personnel and Training	US\$ 354,241	32.02
To train CME personnel designated by Lead Agency/port authorities in CME procedures and use of BW sampling equipment.		

<p>Activity 5.4: Implement CME Systems \$20,000 per country to assist with implementing CME systems.</p>	<p>US\$ 120,037</p>	<p>21.11</p>
<p>Activity 5.5: International Ballast Water Sampling Workshop Workshop costs to review and establish standards fro BW sampling equipment and methods and train GloBallast Pilot Countries.</p>	<p>US\$ 40,000</p>	<p>32.12</p>
<p>Activity 6.1: Form Regional Project Task Forces Travel to establish RPTFs.</p>	<p>US\$ 139,246</p>	<p>16.02</p>
<p>Activity 6.2: RPTF Meetings and Study Tours Travel and other costs to hold RPTF meetings and for study tours by personnel from neighbouring countries to the initial demonstration sites.</p>	<p>US\$ 433,843</p>	<p>32.09</p>
<p>Activity 7.2: Donor Conference Travel and other costs to hold conference.</p>	<p>US\$ 50,000</p>	<p>32.10</p>

Agenda Item 3: Country Status Reports

For the period of 1 November 2002 to 31 December 2003.

Brazil

General Comments

The GloBallast Programme has been implemented successfully in accordance with the National Workplan approved by the GloBallast Programme Coordination Unit (PCU). For the reported period there was significant progress in achieving the goals of the activities.

In 2003 three major international events were convened in Brazil, the “1st International Workshop on Guidelines and Standards for Ballast Water Sampling” was held in Rio de Janeiro, from 7 to 11 April; the “1st International Workshop on Guidelines and Standards for Invasive Aquatic Species Surveys and Monitoring” was held in Arraial do Cabo, from 13 to 17 April; and the Course on Ballast Water Management was held in Rio de Janeiro, from 12 to 16 May.

CFP Office

A new Country Focal Point was assigned in January 2003. Mrs. Marijane Vieira Lisboa assumed the post as Secretary for Environmental Quality in Human Settlements (SQA) of the Ministry of Environment (MMA) in place of Mrs. Regina Elena Crespo Gualda. Nevertheless since the beginning of the project there were no significant changes in the MMA staff for GloBallast issues, who are completely familiarized with the project.

In general, day-to-day work is on a proper level and 2003 represented a clear link between GloBallast and the activities of MMA, when a real institutionalisation for the Programme happened, with the presence of Federal Level for most of the activities (planning and executing). Moreover, there was the establishment of a bond between the importance of GloBallast for the country regarding a visible and concrete problem: the Golden Mussel Invasion. It represented a real quality jump. The participation of the CFP in the Convention discussions and in the Diplomatic Conference showed another turn.

All financial reporting transactions have been done regularly every month and the imprest account is functioning in a proper balance.

Human Resources

Consultants were used when technical and/or specific services were requested. This need was more significant in the Port Biota Baseline Survey in which a consultant was contracted to coordinate the task performed by the 42 taxonomists/specialists involved in the identification of 1,796 samples.

Communication / Awareness Raising Activities

The distribution of the three GloBallast posters translated into Portuguese, and printed in 2001, continues to several stakeholders and concerned persons that request this material through the national website. These posters were also sent to other Spanish and Portuguese speaking countries.

The national website (<http://www.mma.gov.br/aguadelaastro/>), on line since August 2002, is constantly renewed to include the latest project activities, receiving texts and documents, and the most updated version of the draft Convention on BWM.

The video on ballast water management was released in January 2003 in three languages: Portuguese, English and Spanish. This awareness video of 13 minutes presents the ballast water problems and GloBallast activities in Brazil. Images were registered at the ports of Sepetiba and Rio de Janeiro; Itaipu Hydroelectric Plant (golden mussel incrustation problem); Institute Admiral Paulo Moreira of Marine Studies (IEAPM) (activities of port biota survey samples fine sorting); M/V Leblon; Guanabara Bay (*Charybdis hellerii* crab); and Federal University of Rio de Janeiro (UFRJ) (microscopic species identification).

In late 2002 the Ministry of Environment launched a national competition to develop new posters with Brazilian-specific perspectives, to raise awareness on ballast water issues. Advertisements were placed in national media, generating significant interest and many high quality responses. On March 21st, 2003 the Deputy Minister for the Ministry of Environment, presented an award of US\$ 1,700 provided by the GloBallast Programme divided across the first 3 places. The winning poster was printed in June 2003 and is being distributed widely throughout the country.

The following events were attended and lectures presented:

- II Brazilian Seminar on Ballast Water organized by Institute Admiral Paulo Moreira of Marine Studies (IEAPM) in Arraial do Cabo (Rio de Janeiro State) (November 11th to 13th, 2002).
- II Brazilian Congress on Crustaceans organized by Brazilian Society of Carcinology in São Pedro (São Paulo State) (November 14th, 2002).
- ECOBRASIL 2003 organized by “Portos e Navios” magazine in Rio de Janeiro (August 1st, 2003).
- 1st Seminar on Marine Environment of Espírito Santo State organized by “Padnaval Consultoria” in Vitória (Espírito Santo State) (August 6th, 2003).

Papers were presented at the 4th Seminar on Marine Environment organized by Brazilian Society of Naval Engineering (SOBENA) at Rio de Janeiro (November 19th to 21st, 2003) by Dr. Andrea de O. R. Junqueira on “*Ballast water risk assessment*” and Mrs. Julieta S. V. da Silva on “*Evolution of ballast water treatment strategies*”.

Articles were prepared for the Maritime Review (quarterly publication edited by the Directorate of Ports and Coasts-DPC and published in Portuguese and English): Vol. 10 No. 4 regarding GloBallast activities; Vol. 11 No. 2 regarding the two international workshops convened in Brazil and the training package; and Vol. 11 No. 3 regarding the Plan of Action of the Southeast Pacific (PASP) meeting in Panama.

Articles were also prepared for Ballast Water News: issue 12 regarding the Golden Mussel invasion and the poster award; issue 14 regarding the Plan of Action of Southeast Pacific (PASP) meeting in Panama; and issue 14 regarding the SGT-6 meeting in Montevideo.

Currently an Atlas of Phytoplankton from Sepetiba Bay is under final preparation using the graphic layout already concluded.

CFP Travel

The MMA officer designated to accompany the Programme undertook the following official travel:

- Coordinate CPTF meetings (Rio de Janeiro, December 2002 and October 2003).
- Visited the port of Ponta Ubu to become familiarized with the ballast water management procedures adopted by the terminal and discuss the further activities forecast (Anchieta, Espírito Santo State, December 2002).
- Took part in various meetings with environmental and maritime Argentinean authorities and with experts on the golden mussel at La Plata Museum jointly with Dr. Flavio Fernandes (Buenos Aires, February 2003).
- Took part in the opening session of the 1st International Workshop on Standards & Guidelines for Ballast Water Sampling (Rio de Janeiro, April 2003).
- Attend the 1st International Workshop on Standards & Guidelines for Invasive Aquatic Species Surveys & Monitoring (Arraial do Cabo, Rio de Janeiro State, April 2003).
- Took part in the Course on Ballast Water Management organized by the TRAIN-SEA-COAST Programme (Rio de Janeiro, May 2003).
- Attended and presented at 1st Meeting of South American Experts on the Golden Mussel organized by Itaipu Hydroelectric Plant jointly with Dr. Flavio Fernandes (Foz do Iguaçu, Paraná State, July 2003).
- Attended the IMO Marine Environment Protection Committee (MEPC) 49th session (London, UK, July 2003).
- Attended 2nd R&D Symposium on Ballast Water Treatment jointly with Dr. Luciano Fernandes and Mrs. Julieta Silva (London, UK, July 2003)
- Attended and presented at the Brazilian Association of Energy Generators (ABRAGE) Third Technical Meeting jointly with Dr. Flavio Fernandes (Belo Horizonte, Minas Gerais State, September 2003).
- Took part in the XXVIII Meeting of MERCOSUR's Working Sub Group N. 6 (SGT-6) "Environment" and met Uruguayan marine authorities (Montevideo, Uruguay, December 2003).

In-Country Coordination Arrangements

Three CPTF meetings were held in the reported period. All these meetings serve to present to the CPTF members the Programme's progress and to debate and consider plans for forthcoming activities. The key areas of discussion were:

- Considerations of legal aspects involved with ballast water management (see *Legislation and Regulations* below) - Rio de Janeiro, December 11th, 2002.
- A possible implementation of the Decision Support System for invasive aquatic species, and the main responsible institutions - Brasília, May 26th, 2003.

- The development of a ballast water sampling program conducted in the port of Sepetiba under a voluntary scheme - Rio de Janeiro, October 21st, 2003.

Global Coordination Arrangements

During the 49th session of the IMO/MEPC, held from 14 to 18 July 2003, discussions within the Ballast Water Working Group (BWWG) on the size range of viable organisms and their concentrations related to the Ballast Water Performance Standard occurred, without reaching a consensus. The Brazilian delegation asked the Chairman of the BWWG if it would be possible to carry out further discussions on this matter through the establishment of an informal working group, in order to present other alternatives in relation to Regulation D-2 for consideration by the Diplomatic Conference. The Chairman asked whether the Brazilian delegation would volunteer to coordinate that Group, to which the Brazilian representative responded positively. The work of coordinating the Informal Working Group (encompassing Brazil, Japan and Argentina) was carried out by the Ministry of Environment, and its findings were presented in BWM/CONF/INF.2 for the Diplomatic Conference.

Risk Assessment

Following the ballast water risk assessment (BWRA) activity carried out for the port of Sepetiba during 2002, a project ‘wrap-up’ visit was subsequently made by one of the consultants on 13 and 14 March 2003, in which an updated version of the database and the draft User Guide was delivered. The final report was reviewed with the URS Australia Pty Ltd consultants and members of the BWRA team. Three members of the BWRA team attended and presented at 1st International Workshop of Ballast Water Risk Assessment held in Melbourne from 22 to 26 September 2003.

Maps of species concentrations were prepared in ArcView GIS based on the data provided in the compilation of existing information and previous studies on the distribution of biota in Sepetiba Bay. These maps covering microorganisms, phytoplankton, zooplankton ichthyoplankton, phytobenthos, zoobenthos (hard and unconsolidated substrates) and nekton were added as new layers in the BWRA system.

The port survey of Sepetiba Bay was carried out in November-December 2001. The sampling design included 45 sampling sites. All sites were visited with success, except for one of the control sites (Sino Headland – Sampling Site Code BRRJSBOBSIRO) due to operational constraints. All samples taken from the hard and soft bottom substrates were sorted, first in the field and later in the laboratory. Cores taken for the analysis of dinoflagellate cysts were properly handled (kept cool and in the dark) and immediately shipped for analysis, which included germination of cysts. Sampling and analysis of plankton and fish were also carried out as planned. The phytoplankton study was complemented (in-country contribution) with a second survey that was carried out in April 2002.

The fine sorting of the material collected from the soft and hard substrates generated a total of 2,037 samples that required study by taxonomists for precise identification. Some taxonomic groups were selected for this analysis, the criteria being those that include a history of introduction and invasion worldwide. Therefore, 1,796 samples have been analyzed by specialists, which represents 88% of the material sampled in the hard and soft bottom substrates. All samples taken for the analysis of cysts have been studied. The same is true for the phytoplankton, zooplankton and fish. Specialists from different institutions were involved in the analysis of the biota of Sepetiba Bay:

Bahia State: University of Feira de Santana.

Rio de Janeiro State: National Museum and Biology Institute from the Federal University of Rio de Janeiro-UFRJ, Federal Rural University of Rio de Janeiro-UFRRJ, Botanic Garden of Rio de Janeiro-JBRJ, Santa Úrsula University and Institute Admiral Paulo Moreira of Marine Studies-IEAPM.

São Paulo State: Museum of Zoology and Marine Biology Centre from the University of São Paulo-USP, Mackensie University, Botanic Institute of São Paulo and Institute of Biosciences, Letters and Exact Sciences-IBILCE from Paulista State University-UNESP.

Paraná State: Department of Zoology from the Federal University of Paraná-UFPR.

Rio Grande do Sul State: Department of Oceanography from Rio Grande Federal University Foundation-FURG.

Ballast Water Management Measures

The ballast water reporting forms had been collected from arriving ships by the National Agency for Sanitary Surveillance (ANVISA) officers since June 2000 on a voluntary basis. Completion and submission of this form became mandatory after January 2001 due to Resolution 17, a national regulation established by ANVISA for all vessels that claim Free Pratique (reviewed in November 2001 as Resolution 217).

Compliance, Monitoring and Enforcement

In accordance to the outcomes of the CPTF meeting held in October 2003, a project to conduct a ballast water sampling program, under a voluntary scheme, in the port of Sepetiba will be developed and submitted to the PCU.

Capacity Building Activities

The first delivery and validation of the training package “Ballast Water Management - an Introductory Course” was held in Rio de Janeiro from 12 to 16 May 2003. This course was developed in cooperation with the TRAIN-SEA-COAST (TSC) Programme Brasil, established at Rio Grande Federal University Foundation (FURG), jointly with the Programme’s Central Support Unit, located at the Division for Ocean Affairs and the Law of the Sea (DOALOS), UN headquarters in New York. In Brazil the TSC Programme receives support from the Interministerial Commission for Marine Resources (CIRM).

Twenty participants from different backgrounds, mainly at the operative level, attended the course, which received very positive comments from participants and observers. A second delivery is being considered in Brazil due to the high interest demonstrated by several stakeholders.

This multi-module training course, prepared according to the UN Train-X methodology, which includes a Trainees and an Instructors Guide is being adapted for further deliveries in the other five GloBallast Pilot Countries. The South American countries have been indicating training activity as a priority in the implementation of a regional action plan.

Legislation and Regulations

A CPTF meeting was convened on December 11th, 2002 with the main focus on discussion of national and international legal aspects associated with the ballast water theme. The meeting included representatives from the main government institutions related to the project. The Local Legal Consultant responsible for the legislation review made a presentation at the meeting.

Regional Cooperation and Replication

A presentation of GloBallast activities was done during the XI Ordinary Meeting of Operational Cooperative Network of Maritime Authorities covering South America, Cuba, Mexico and Panama (ROCRAM) held in Rio de Janeiro on December 18th, 2002.

At the request of the Regional Technical Coordinator of the Plan of Action of the Southeast Pacific (PASP) for technical cooperation, with the participation of a representative from GloBallast, the Country Focal Point Assistant of Brazil was designated to lecture and to participate in the “*Meeting of experts on the impact of the introduction of alien species in the Southeast Pacific. Ballast Water Problem*”. The Permanent Commission for the South Pacific (CPPS) – comprising Colombia, Ecuador, Peru and Chile – is implementing the PASP with Panama. The meeting was accomplished in the ambit of this Plan between the 9 and 11 July 2003, in the city of Panama.

The CFP-A’s presentation was performed on the first day of the meeting regarding the main aspects of the IMO Resolution A.868(20), the description of the project components and activities, and the project proposal for GloBallast *Partnerships* presented in the document MEPC 49/2/6.

The XXVIII Meeting of the Working Sub Group N. 6 (SGT-6), “Environment” was held in Montevideo, from December 1 to 3, 2003, with the presence of delegations from Argentina, Brazil, Paraguay, Uruguay and Chile (Chile as an observer).

The Brazilian Delegation made a presentation on the GloBallast Programme, with special attention to the regional cooperation component, stressing the importance of the SGT-6 as an adequate mechanism for the implementation of a Program with a Regional Ambit, for ships’ ballast water management and control. Brazil reaffirmed the importance of generating a regional cooperation framework, in order to obtain GEF funds, for the GloBallast second phase, from year 2005 on. Within this component the subject of control of golden mussel dispersal arises as a priority to be addressed within this second stage.

The Brazilian Delegation made a proposal for a meeting in Brazil/Uruguay early in 2004, for the adoption of the Regional Strategic Action Plan, to which the SGT-6 Member States, its associates and other South American countries will be invited.

Resources and Financing

The two international workshops held in Brazil, organized by the PCU, were supported by the Brazilian financial contribution of R\$ 23,600 (USD 8,100) from the Federal Ministry of Environment (MMA), Aliança Navegação e Logística Ltd, International Marine Paints, National Union of Shipping Companies (Syndarma), Petrobras Transport S.A. - Transpetro and the National Health Surveillance Agency (ANVISA).

These events also benefited from the support of the Brazilian Navy, Directorate of Ports and Coasts (DPC), Rio de Janeiro State Port Authority (CDRJ) and the Botanic Gardens of Rio de Janeiro (JBRJ). The National School of Tropical Botany (ENBT) and the Admiral Paulo Moreira Marine Research Institute (IEAPM) provided the venues.

The National Council for Scientific and Technological Development (CNPq), foundation linked to the Ministry of Science and Technology (MCT) for support of the Brazilian research, approved resources of R\$ 109,905.10 (USD 38,500), under the Water Resources Sectorial Fund (CT-Hidro), for the project “Development of control measures for the golden mussel dispersion in the Alto Rio Paraguay basin”. The project will be carried out in partnership with the Brazilian Agricultural Research Corporation (EMBRAPA/Pantanal), Technological Centre of Minas Gerais State (CETEC-MG) and the Federal University of Mato Grosso (UFMT).

The Foundation of Science and Technology (FUNCITEC), financial organization of Santa Catarina State, approved funds of R\$ 9,250 (USD 3,200) for a project to be developed by Vale do Itajaí University (UNIVALI) that will inventory the ballast water discharged at the port of Itajaí, identifying quantities and sources. This project will be the theme of a Master of Science dissertation.

Country-specific Activities

Under Component 1.B.4, from National Workplan funding, it was requested and approved to support two projects:

- A study on the “Introduction and Impacts of Golden Mussel, *Limnoperna fortunei* in Brazil” whose aim is to support the establishment of procedures to control the spread of the Golden Mussel through the Brazilian rivers. The scientific staff to develop this project is formed by researchers from: Institute Admiral Paulo Moreira of Marine Studies (IEAPM), Fluminense Federal University (UFF), Pontifical Catholic University of Rio Grande do Sul (PUC-RS), Brazilian Agricultural Research Corporation (EMBRAPA/Pantanal), Federal University of Mato Grosso (UFMT) and State University of Maringá (UEM). This project also has the collaboration of researchers from scientific institutions from Argentina (Gustavo Alberto Darrigran - UNLP), Uruguay and Paraguay.
- A Seminar will be convened in March 2004 to discuss the project outcomes. A final report should be concluded in April 2004 and will be produced in Portuguese, Spanish and English.

The book “*Ballast water and bioinvasion in Brazil*”, composed of 14 chapters (below) and written by 27 Brazilian researchers, will be released in early April with 2000 copies in Portuguese and 500 copies in English.

- Ballast water and bioinvasion
- The GloBallast Programme in Brazil
- Evaluation of organism survival in ballast water treated with chlorine
- Probable ways of invasion of *Limnoperna fortunei* (Dunker, 1857) (Mollusca, Bivalvia, Mytilidae) into the Patos Lagoon basin, Rio Grande do Sul State, and new records of invasion in Brazil through the Paraná and Paraguay river basins
- Historical overview and mapping of the invasion of *Corbicula* species from Southeastern Asia in South America (Mollusca, Bivalvia, Veneroidea, Corbiculidae)
- Introduction of exotic decapod crustaceans in Brazil: an ecological roulette
- Introduction of macroalgae in the marine environment: negative impacts and controlling factors
- Exotic seaweeds in Brazil with emphasis on introductions aiming at mariculture
- Aquatic bio invasions by zooplanktonic organisms: a brief review
- A study of the population structure of the exotic bivalve *Isognomon bicolor* (C. B. Adams, 1845) (Bivalvia, Isognomonidae) at Ponta da Fortaleza in Arraial do Cabo, Rio de Janeiro State
- Ship hulls and rigs as vectors for introduction of exotic species
- Present world distribution of the mussel *Perna perna*: a recent case of bioinvasion
- Defensive chemistry as invasion facilitator for exotic marine species
- The use of molecular markers in tracking bioinvasion

Following the recommendations from the 1st International Workshop on Invasive Aquatic Species (IAS) Surveys & Monitoring, the initiative was taken to submit a proposal to PCU to develop a

national AIS information system. Brazil undertook the responsibility to draft standards and specifications for this system, which should be linked with other Pilot Countries and other similar systems, such as NIMPIS (Australia), NEMESIS (USA) and Kleipeda (Baltic), and be part of a globally coordinated AIS information system.

Other/Miscellaneous

National Task Force for Golden Mussel

Following a CFP request to PCU to approach a supposed Golden Mussel (*Limnoperna Fortunei*) invasion in Brazil and amalgamate all the information available, the results of the Project confirmed the problem and the wide range of the dispersion (Argentina, Brazil, Bolivia and Paraguay), pointing out the need of the involvement of the highest staff of MMA to control it. The response of MMA to the problem was the establishment of a National Task Force to Control the Invasion, with the mission to prepare a Plan of Action, inter alia, to standardizing the procedures to control the Chinese Mussel. The National Task Force for the Golden Mussel includes representatives from the sanitary, sanitation, maritime, electrical, transport and environmental sectors. The Task Force has 6 months (up to June/2004) to present its results.

Budget Revision

The in-country budget was revised in order to allow the extensions of the Programme. The table below shows under column “Review 1” the amended figures presented during the 3rd GPTF meeting and under column “Review 2” the proposed budget for the 5th GPTF meeting.

The last budget re-allocation of US\$ 33,000 was done according to PCU advice in order to continue to publish Ballast Water News, to organize the 6th GPTF (final) and to allow the PCU to continue to operate until September 2004.

Reviewed in-country budget

Activity	Budget (USD\$)		
	N W P	Review 1	Review 2
1.B.2: Support CPTF and CFP Assistant	110,000	110,000	110,000
1.B.3: Support CPTF Meetings	24,000	12,000	12,000
1.B.4: Develop/Implement National Workplans	110,000	110,000	100,000
2.4: Country Communication Workshops	20,000	3,067	3,067
2.5: Implement Country Communication Workplans	90,000	84,933	84,933
3.1: Ballast Water Risk Assessment	4,000	4,000	2,558
3.2: Port Baseline Surveys	67,000	67,000	77,000
4.2: Education and Training Packages	30,000	30,000	30,000
4.3: Legislation and Regulations	25,000	25,000	25,212
5.2: Ballast Water Sampling Equipment	10,000	10,000	10,000
5.3: CME Personnel and Training	80,000	40,000	24,100
5.4: Implement CME Systems	40,000	40,000	24,100
6.1: Form Regional Programme Task Forces	10,000	10,000	10,030
6.2: RPTF Meetings and Study Tours	90,000	90,000	90,000
Total	710,000	636,000	603,000

Note: NWP - Values established in the National Workplan developed in November 2000

Global Ballast Water Management Programme – Brazil

Country Status Report Summary Table – November 2002 to 31 December 2003

(Only country relevant activities shown – Global activities covered in PCU Status Report)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (Brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
1. Coordination & Management	1.B.1	In Country	Establish Lead Agency & CFP	Completed.		
	1.B.2	21.03	Support CPTF & CFP Assistant	On-going.	110,000	75,107
	1.B.3	32.05	Hold CPTF Meetings	On-going.	12,000	2,625
	1.B.4	21.02	Develop & implement National Workplan	Concluded.	8,000	8,000
	1.B.4 (x)	21.02	Country specific activities	Progressed: Golden Mussel project; book on BW and bio invasions.	92,000	24,971
2. Communication	2.4	32.07	In-country communication workshops and plan	Concluded.	3,067	3,067
	2.5	21.05	Implement country communication plan	Progressed with posters, website, video, etc.	84,933	32,208
3. Risk Assessment	3.1	21.06	Carry out ballast water risk assessments	Concluded.	2,558	2,558
	3.2	21.07	Carry out Port Baseline Surveys	Approximately 90% completed.	77,000	65,305
4. Ballast Water Management Measures	4.1	21.09	Translate / promulgate IMO Guidelines	IMO Assembly Resolution A.868(20) translated to Portuguese		
	4.2	11.53	Assist PCU to develop/deliver BW training package (UN Train-X)	Course delivered in May 2003.	30,000	477
		32.03				
	32.04					
	4.3	21.08	Conduct National legislative review	Concluded.	25,212	25,212
4.5	In Country	Develop National BW management policy, strategy and plan				
5. Compliance Enforcement & Monitoring	5.2	42.01	Ballast water sampling equipment	Prototype kit purchased.	10,000	1,763
	5.3	32.02	In-country CME personnel & training	Pending.	24,100	0
			Implement compliance, enforcement and monitoring arrangements	Pending.	24,100	0
	6.1	16.02	Form RPTFs	On-going.	10,030	10,030
6.2	32.09	RPTF Meetings & Study Tours	Regional workshop should be held in April/May.	90,000	2,215	
7. Resourcing & Financing	7.1	In Country	Develop and implement in-country arrangements for the long-term, ongoing resourcing and financing of ballast water management activities			

Summary of monthly expenses by budget line

Activity	Jan/03	Feb/03	Mar/03	Apr/03	May/03	Jun/03	Jul/03	Ago/03	Sep/03	Oct/03	Nov/03	Dec/03	Total
1.B.2	1,370.81	2,409.03	209.51	1,961.00	8,604.25	2,434.19	1,665.06	1,551.43	1,574.31	1,992.13	1,390.85	1,592.95	26,755.52
1.B.3	222.52	-	-	-	-	-	-	-	-	574.72	289.73	-	1,086.97
1.B.4	4,995.18	2,304.99	972.05	2,140.42	1,002.20	2,211.91	2,112.65	6,196.31	885.27	-	254.35	-	23,075.33
2.4	-	-	-	-	-	-	-	-	-	-	-	-	0.00
2.5	856.73	773.02	1,569.13	580.44	-	762.74	1,553.62	455.55	140.59	220.05	-	152.33	7,064.20
3.1	-	-	158.40	-	-	-	-	842.97	-	-	-	-	1,001.37
3.2	-	1,359.99	298.30	951.88	53.54	522.43	1,453.77	1,857.90	2,217.20	2,241.36	1,780.50	1,670.48	14,407.35
4.2	-	-	38.81	178.73	-	-	-	-	-	-	-	-	217.54
4.3	-	-	-	-	-	-	-	-	-	-	-	-	0.00
5.2	-	-	-	1,240.07	-	522.43	-	-	-	-	-	-	1,762.50
5.3	-	-	-	-	-	-	-	-	-	-	-	-	0.00
5.4	-	-	-	-	-	-	-	-	-	-	-	-	0.00
6.1	-	2,532.90	-	-	327.96	-	-	-	-	-	2,327.86	1,568.02	6,756.74
6.2	-	-	-	-	-	-	2,047.87	-	-	-	-	-	2,047.87
Total	7,445.24	9,379.93	3,246.20	7,052.54	9,987.95	6,453.70	8,832.97	10,904.16	4,817.37	5,028.26	6,043.29	4,983.78	84,175.39

Summary of annual expenses by budget line (2001 - 2003)

Activity	2001	2002	2003	Total
1.B.2	25,988.69	22,362.30	26,755.52	75,106.51
1.B.3	-	1,538.46	1,086.97	2,625.43
1.B.4	8,000.00	1,896.03	23,075.33	32,971.36
2.4	3,067.38	-	-	3,067.38
2.5	10,131.18	15,012.56	7,064.20	32,207.94
3.1	812.92	743.89	1,001.37	2,558.18
3.2	43,081.93	7,815.99	14,407.35	65,305.27
4.2	-	259.63	217.54	477.17
4.3	14,924.50	10,287.98	-	25,212.48
5.2	-	-	1,762.50	1,762.50
5.3	-	-	-	-
5.4	-	-	-	-
6.1	3,272.85	-	6,756.74	10,029.59
6.2	-	166.68	2,047.87	2,214.55
Total	109,279.45	60,083.52	84,175.39	253,538.36

China

General Comments

The Activities were continued successfully in this reporting period in accordance with China's National Workplan under the GloBallast Programme. The implementation of the Workplan was focused on the following activities,

- Completion of the Ballast Water Risk Assessment;
- Completion of the Final Report of the Port Biological Baseline Survey of Dalian;
- Regional Co-operation;
- Country specific activities (1B4a, b and c); and
- Continuation of the Communication and Awareness Raising Campaign.

The goals of the above-mentioned activities have been achieved. Details of the activities will be described in the relevant sections of this report. The GloBallast Programme in China has achieved more than expected. The success of the GloBallast in China has drawn attention of the relevant Ministries and Authorities. At the Meeting held by the Ministry of Foreign Affairs for Co-operation between China and ASEAN Countries (Ten Plus One) in August 2003, an introduction of the GloBallast Programme was submitted to the meeting and some activities including holding regional training seminars, were proposed to be included in the future co-operation plan. In addition, the CFP-A attended the International Conference on the Sustainable Development of the Seas of East Asia, which was held 8-11 December 2003 in Malaysia, and delivered a presentation on the Ballast Water Issue and Relevant Activities in China.

China was attacked by SARS in the first half of 2003. Although some meetings were postponed, the other activities, especially those carried out in Dalian were not influenced. All the members of the GloBallast Teams were well and healthy. The postponed meetings, such as the 7th and 8th Communicative Seminar under Activity 2.5, were held later.

The Lead Agency, China MSA continued to provide in-kind support for the implementation of the Programme. Contacts were kept with the relevant organisations on the progress of the Programme and development of the International Convention.

A table showing the percentage of completion for the activities is attached to this report.

CFP Office

Because of re-allocation of responsibilities of the leading members of this Administration, Mr. Zheng Heping, who served as CFP from June 2002 to December 2003, was no longer responsible for matters related to the marine environment. China informed IMO that Mr. Xu Guoyi, Deputy Director-General of China Maritime Safety Administration, has taken the responsibility as the Country Focal Point for GloBallast Programme in China since 15 December 2003. The GloBallast Team thank Mr. Zheng Heping for his contribution during the period of his office as China's CFP of GloBallast Programme.

The day-to-day management of the Programme in the country is conducted by the CFP Assistant, including

- Contact and co-ordination with CPTF members and relevant organizations;
- Completion of the Ballast Water Risk Assessment;
- Co-ordination of the ongoing activities;

- Regional cooperation, including the preparation of the 1st and 2nd East Asia Regional Meetings;
- Preparation of the Financial Reports for checking and approval by CFP and the Financial Division of China MSA before submitting to PCU.

The Imprest Account of GloBallast China encountered some difficulties in 2003 in receiving replenishment from IMO. Because the routing via the Standard Charter Bank in London was for transfer of UK Sterling, the Imprest Account could not receive the replenishment transferred in US Dollars from IMO in early 2003, although the transfer was repeated twice. Later the CFP-A consulted the Headquarters of the local bank and provided the correct routing for transfer of US Dollars and UK Sterling. The replenishment was successfully received in September 2003. Despite the above-mentioned difficulties, implementation of the activities under the GloBallast Programme was not affected.

Human Resources

In addition to the change of CFP mentioned above, some members of the CPTF were also changed because of re-assignment of their duties. The updated list of CPTF Members with their contact details is attached to this report.

Two consultants from the Marine Environment Monitoring Centre of the State Oceanic Administration were invited for completion of the BWRA and updating the environmental data. They also provided red tide information and laboratory support for Activity 1B4a carried out for red tide monitoring and establishment of the red tide information providing system to Ships.

The Liaoning MSA and Dalian Maritime University provided support in human resources implementation of the activities, including preparation of the 2nd East Asia Regional Meeting.

No specific difficulties were encountered in this aspect in 2003.

Communication/Awareness Raising Activities

The implementation of the Communication Plan continued in 2003. The following work has been completed in this reporting period:

- Dissemination of brochures;
1,400 copies of IMO Resolution A.868(20) “Guidelines for the control and management of ships’ ballast water to minimize the transfer of harmful aquatic organisms and pathogens” in English and Chinese had been disseminated to the shipping industry and relevant Authorities in 2003. And by the end of the year, all 6,400 copies of the brochure had been disseminated.
- The web-site <http://www.globallast-china.org> was updated;
- A poster for BWRA was made;
- The 7th and 8th Communicative Seminars were held on 6 and 8 January 2004 in Fuzhou and Guangzhou respectively in the south of the country. 120 participants from relevant authorities and organizations attended the seminars, some of the participants were from local governments;
- CFP made a presentation on Ballast Water Management at the high level meeting held by the Ministry of Foreign Affairs.

It is suggested that a brochure of the International Convention for the Control and Management of Ships’ Ballast Water and Sediments in both English and Chinese be printed for dissemination to the

relevant authorities and the shipping industry. This has been included in the revised National Workplan under Activity 2.5.

CFP Travel

Travel organised and undertaken under the GloBallast Programme is summarised as follows.

- CFP-A carried out co-ordination for the activities under the GloBallast Programme both in Beijing and Dalian, and travelled three times between Beijing and Dalian in January, August, October for completion of BWRA and preparation and implementation of country specific activities and regional co-operation.
- Mr. Zheng Heping, the CFP, and CFP-A travelled to Dalian in November 2003 and hosted the 2nd East Asia Regional Meeting on Cooperation of Ballast Water Management, which was held in Dalian 6-7 November 2003. The Meeting was a great success.
- Ms Xu Xiaoman from Liaoning MSA travelled from China to USA in March 2003 and attended the 2nd International Conference on Biological Invasions. She collected the necessary information to provide to PCU.
- Mr. Jiang Yuewen and Mr. Wang Lijun from the Marine Environment Monitoring Center travelled from Beijing to Brazil in April 2003 and attended both the International Workshop for Port Biological Baseline Survey and the Training Seminar for Ballast Water Sampling. Mr. Ji Shan from Liaoning MSA attended the later Seminar too. They undertook the preparatory work for the related activities in the country on their return.
- CFP-A together with Ms Xu Xiaoman and Mr. Liu Yan travelled to Melbourne, Australia, and attended the 1st International Workshop on Ballast Water Risk Assessment 21-27 September 2003. They made presentations on the BWRA carried out in China.
- CFP-A travelled from Beijing to Kuala Lumpur, Malaysia in December and attended the International Conference on the Sustainable Development of the Seas of East Asia. He delivered a presentation on the Ballast Water Issue and Relevant Activities in China at the Workshop on Maritime Transport under the Conference on 7 December 2003.
- Mr. Dang Kun travelled to Iran and attended the 2nd Delivery of the Training Package 11-18 December 2003.
- CFP-A travelled from Beijing to Fuzhou and Guangzhou for the 7th and 8th Communicative Seminars, which were held on 6 and 8 January 2004 respectively.
- The CFP-A Office also arranged the international travels of the 6 representatives from DPR Korea, Philippines and Vietnam to travel to Dalian to attend the 2nd Regional Meeting.

The purposes of the above missions were realised. It is expected that in 2004, there will be some arrangement for travel of the CPTF members to implement ongoing activities and attend the CPTF Meetings.

In-Country Co-ordination Arrangements

One CPTF Meeting was held 17-18 March 2003. The Implementation Teams of Ballast Water Risk Assessment and Port Baseline Survey reported the results and achievements to the Meeting. A demonstration on the BWRA database and software was made on the 2nd day of the meeting. The CPTF expressed its satisfaction of the activities, which had been completed. CFP-A reported the outcomes of the 4th GPTF Meeting and the 1st Regional Workshop on Ballast Water Management,

which were held in Beijing late October and early November 2002. Mr. Christopher Clark, the software expert from URS Australia attended the 2nd day's meeting and exchanged views with some CPTF Members.

In addition to the CPTF Meeting, three small group consultations between the Lead Agency and related Authorities were held to obtain necessary information for the activities. Information exchange between CPTF Members has been maintained through telephone, e-mail and fax. Although most CPTF Members were very busy with their duties in relevant organisations, they tried their utmost to be present in CPTF Meeting and consultations and provided information and assistance as far as they could.

Global Coordination Arrangements

China MSA hosted the 4th GPTF Meeting 28-30 October 2002. After the 4th GPTF Meeting, CFP reported the outcome of the meeting to the Administration and CPTF Members.

Risk Assessment

The ballast water risk assessment was carried out in Dalian in 2002 with the help of URS Australia. The system consists of the following parts:

- Shipping data of 3,200 ballast water reporting forms collected from ships visiting Dalian;
- Environmental and some biological information and data of Dalian and the ports, which have major trade with Dalian, were collected and overlaid on the electronic chart of Dalian by using GIS; and
- The assessment software, which analyzes and compares the information and data by similarity.

While most of the work for the Ballast Water Risk Assessment was done in 2002, the Assessment was completed in March 2003 with the updated software available in China. The BWRA was demonstrated at the above-mentioned CPTF Meeting. Presentations on the database, GIS and general management of the BWRA were delivered at the 1st International Workshop on Ballast Water Risk Assessment 21-27 September 2003. The Final Report of BWRA China has been submitted to PCU for approval and printing.

Collection of IMO BW Reporting Forms continued in 2003. Dalian continued to update the database with the collected shipping data. Although there were some changes in the leading members of Liaoning MSA, the key members of the BWRA Team are still in their posts and the database and assessment software is well managed.

Apart from Dalian, the Hebei MSA has collected 6,000 IMO BW Reporting Forms in the Port of Qinhuangdao, another major port in the Bohai Sea, during the past three years. Considering all those collected in Qinhuangdao are paper forms, it is suggested in the revised National Workplan that the GloBallast provides about US\$3,000 from the National Budget to support a database to be established in Qinhuangdao.

Ballast Water Management Measures

The Quarantine Form has been adapted to include the information required in the IMO Guidelines. Ships of COSCO and China Shipping Com. are taking precautionary measures when loading ballast water and conducting ballast water exchange to meet the coastal and port States. COSCO is taking the lead in developing a ship-specific Ballast Water Management Plan. The adoption of the new

International Convention will surely push forward the national legislation on ballast water management to meet the requirements of the Convention.

Compliance, Monitoring and Enforcement

Ships are required to make ballast water declaration to the Quarantine and Maritime Authorities in most major ports. Some samplings were conducted for research purposes. Requirements will become mandatory under the national legislation or entry into force of the international convention to which China is a Party.

A set of sampling equipment has been purchased recently. The sampling manual provided at the Brazilian Workshop has been translated into Chinese. Training of the sampling team will be carried out in March 2004. Then the MSA will carry out some samplings on ships for monitoring purposes.

Capacity Building Activities

The implementation team for Port Biological Baseline Survey was trained using the standard IAS Survey Protocols developed by CRIMP, Australia. The team carried out the Port Biological Baseline Survey in Dalian successfully in accordance with the Protocol. The key members of the team are capable of replication of the survey in other ports. They can provide assistance in this field if needed.

The implementation team for Ballast Water Risk Assessment was trained by the URS consultants to establish the database of ballast water and ships information, and to operate the GIS system and the assessment software. They can provide assistance in replication of the BWRA in other ports, especially in establishing the database in the major ports as the first step.

The Provincial MSAs are carrying out long-term professional training of computer, English and legislation for the staff. This will raise the qualification of personnel and provide more human resources for future activities in different ports.

Under the GloBallast Programme, professional training will be carried out by using the Training Package provided by PCU. The Dalian Maritime University is organising the adaptation and translation of the Training Package and the first delivery of the Training Package will take place in May 2004. After the 1st delivery of the Training Package, the training will be replicated in other places in the country with the participation of the Government authorities and the industry.

Legislation and Regulations

The MARPOL related national Regulations for Prevention of Pollution from Ships, promulgated by the State Council, are under amendment. A general Article for ballast water management will be included in the Regulations. The adoption of the new International Convention will push forward the process of the development of the Provisional Regulations for Ships' Ballast Water Management at the Ministerial level, which is still under consideration of the Administration. GloBallast will propose model regulations based on the Legislative Review, which was completed in 2001 under the National Workplan.

Regional Cooperation and Replication

The 1st East Asia Regional Workshop on Ballast Water Control and Management was held in Beijing from 31 October to 2 November 2002. In addition to China, representatives from DPR Korea, Japan, the Republic of Korea, the Philippines, Singapore and Vietnam attended the workshop. Representatives from IMO acted as coordinators at the workshop. The participating countries

exchanged information on the status of the ballast water management and prepared the Draft Regional Action Plan for adoption at the 2nd Regional Meeting to be held in 2003.

The 2nd East Asia Regional Meeting for Cooperation on Ballast Water Management was held 6-7 November 2003 in Dalian, China. Representatives from above-mentioned countries attended the meeting. In addition to exchange of information, the Meeting adopted the Regional Action Plan for East Asia to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens in Ships' Ballast Water. The Meeting also agreed to establish the Regional Task Force (RTF), which consists of representatives from each of the participating countries. The Resolution adopted at the Meeting stresses the necessity and importance of regional cooperation in ballast water management and implementation of the new Convention.

At the Maritime Transport Workshop under the International Conference on the Sustainable Development of the Seas of East Asia, which was held 8-11 December 2003 in Malaysia, the CFP-A made a presentation "Ballast Water Issue and Relevant Activities in China". The presentation stressed the importance of Regional Co-operation and the key activities proposed in the Regional Action Plan.

Resources and Financing

The Government continued its in-kind support for operation of the CFP Office and activities under the National Workplan, including:

RMB16,000 (about US\$2000) for collecting and analysing ballast water reports in the ports of the Bohai Sea;

RMB20000 (about US\$2,500) for holding the 7th and 8th Communicative Seminars in Fuzhou and Guangzhou in the south of China;

RMB30,000 (about US\$3,800) for operation of CFP Office and CPTF.

Country-specific Activities

Activity 1B4a - Research into the possible carriage of red tide organisms by ships' ballast water and red tide information providing system to captains is taking place in this reporting period. The Implementation Team has completed the investigation on the red tide in the Bohai Sea and laboratory analysis of collected samples. The Red Tide Monitoring System is being established in Dalian. The Team submitted a progress report of Activity 1B4a in May 2003. The inclusion of the red tide message in the transmission of navigation notice to mariners is under progress.

Activity 1B4b - Research on the impact of chemical treatment of ballast water, which started in late 2002, is continuing in 2003. Experiments on chlorine compounds and other chemicals were carried out in this reporting period. The team submitted its Progress Report in May 2003 and delivered a presentation at the 2nd International R&D Workshop on Ballast Water Treatment, which was held in IMO July 2003.

Activity 1B4c – Development of ballast water treatment method by using heat and electrolysis, which started at the end of 2002, is still going on. Experiments for testing the designed configuration have been carried out. The team submitted its Progress Report in May 2003 and delivered a presentation at the 2nd International R&D Workshop on Ballast Water Treatment, which was held in IMO July 2003.

The three above-mentioned activities will submit progress reports at the end of February 2004 and will submit final reports early August 2004.

Summary of Implementation Status of the GloBallast Activities in China

Activity	Status	% of Completion
Development of National Workplan and establishment of CPTF	Completed in late 2000.	100%
Case Study (2.3)	Completed in 2001.	100%
Communicative, awareness raising (2.5)	The following has been completed: <ol style="list-style-type: none"> 1. Dissemination of 6400 copies of IMO Resolution A.868 (20); 2. Eight communicative seminars (total 8); 3. 1st and 2nd BW News; 4. Web-site http://globallast-china.org; 5. Communicative TV Programme transmitted nationwide. 	90%
Ballast Water Risk Assessment (3.1)	Completed in 2003.	100%
Port Baseline Survey (3.2)	Completed in 2002.	100%
Training (professional) (4.2)	Training Package is under adaptation and translation.	30%
Legislative Review (4.3)	Completed in 2001.	100%
Compliance Monitoring and Enforcement activities, including ballast water sampling (5.2)	Sampling equipment purchased.	20%
Regional Cooperation (6.1)	1 st and 2 nd Regional Meeting held, RAP adopted.	90%
Country-specific activities under National Workplan, not covered by Global PIP. <ol style="list-style-type: none"> a) Red tide information to captains. b) Research on the impact of Chemical treatment of ballast water. c) Development of new BW treatment Device (heating and electrolysing combination) 	All three activities are being implemented. To be completed in 2004.	60%

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Global Ballast Water Management Programme – China
Country Status Report Summary Table – November 2002 to 31 December 2003
(Only country relevant activities shown – Global activities covered in PCU Status Report)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
1. Coordination & Management	1.B.1	In Country	Establish Lead Agency & CFP	Completed in 2000		
	1.B.2	21.03	Support CPTF & CFP Assistant	Routine operation	110,000	44,353
	1.B.3	32.05	Hold CPTF Meetings	5 CPTF Meetings have been held	25,000	9,642
	1.B.4	21.02	Develop & implement National Workplan	Completed in 2000	1,000	850
	1.B.4 (x)	21.02	Country specific activities	1B4a, 1B4b and 1B4c are ongoing	115,000	71,040
2. Communication	2.4	32.07	In-country communication workshops and plan	Completed in 2000		
	2.5	21.05	Implement country communication plan	90% of the Workplan has been completed	75,000	57,530
3. Risk Assessment	3.1	21.06	Carry out ballast water risk assessments	Completed in 2003	10,300	10,100
	3.2	21.07	Carry out Port Baseline Surveys	Completed in 2002	60,000	58,000
4. Ballast Water Management Measures	4.1	21.09	Translate / promulgate IMO Guidelines	6,400 copies of IMO Guidelines (Chinese/English) have been disseminated nationwide.		Included in Activity 2.5
	4.2	11.53	Assist PCU to develop/deliver BW training package (UN Train-X)	On-going	30,000	
		32.03		Completed in 2001	19,400	14,100
	4.3	21.08	Conduct national legislative review	On-going		
	4.5	In Country	Develop national BW management policy, strategy and plan	On-going		
5. Compliance Enforcement & Monitoring	5.2	42.01	Ballast water sampling equipment	Purchased	10,000	9,637
	5.3	32.02	In-country CME personnel & training	On-going	30,000	
	5.4	21.11	Implement compliance, enforcement and monitoring arrangements	On-going	50,000	
6. Regional Activities	6.1	16.02	Form RPTFs	Establishment of RPTF agreed by the countries	10,000	
	6.2	32.09	RPTF Meetings & Study Tours	The 1 st and 2 nd Regional Meetings have been held	90,000	23,910
7. Resourcing & Financing	7.1	In Country	Develop and implement in-country arrangements for the long-term, ongoing resourcing and financing of ballast water management activities	On-going		

India

General Comments

The GloBallast Programme has been implemented successfully in India in accordance with the National Workplan approved by the PCU. Director General of Shipping (Ministry of Shipping) is the administrative body responsible for implementation of GloBallast Programme in India. The Chief Surveyor with the Government of India is the Country Focal Point of the programme. The CFP and CFP-A each manage their own day-to-day administrative requirements.

In general we have made significant progress in achieving some broader objectives of the programme by carrying out the following activities:

- Completion of the Risk Assessment activity.
- The report of the second port base line survey is ready, however in light of the recent email received from Mr Raaymakers, a consolidated single report will be submitted.
- Visited four countries under Regional Replication and this activity is now in the second stage, representatives will be invited for the Regional Workshop which will be held in Goa during March 2004.
- Awareness-raising using indigenous posters, GloBallast Website, conducting workshops to introduce the GloBallast Programme and its various related activities, publishing articles, media information releases on the programme have been among activities which promoted significant progress in generating interest in the invasive species issue.

In the absence of strict guidelines for ballast water sampling this activity could not take place.

CFP Office

Due to voluntary retirement taken by the previous CFP, India appointed its new CFP in August 2003. Mr Ajoy Chatterjee, Chief Surveyor with the Government of India, has been appointed CFP of GloBallast Programme in India.

The day to day management of the programme include communications and networking with PCU, CPTF members national and international consultants, various individuals and organisations involved in activities of the programme.

All the financial transactions are carried out meticulously by CFP and CFP-A.

Human Resources

A new D.G. Shipping was assigned in February 2003. Mr. G.S. Sahni is the Director General for Shipping. Similarly, Mr Ajoy Chatterjee took over as CFP since August 2003.

A web design consultant continues to work with the CFP-A to maintain and update the website.

Contract was given to perform data entry in preparation for the ballast water risk assessment activity.

CFP-A, and scientists from NIO attended 1st International Workshop on Guidelines and Standards for Ballast Water Sampling at Rio de Janeiro, Brazil.

Mr. T. Narayana attended the Train-X training course on Ballast Water Management in Tehran, Iran.

In general, so far based on needs and approval of PCU we have been using consultants for activities of the project like awareness raising, port biota Survey, BW risk assessment, legislative review with no difficulties as such.

Communication/Awareness Raising Activities

These activities were carried out by distributing both GloBallast posters and indigenous posters (National Language - Hindi). The distribution was to all Ports, Shipping companies and maritime institutions.

To spread the message of the issue to various stakeholders, diverse activities were carried out and these are:

- Awareness presentation was made to Kandla and Manglore port, Jawaharlal Nehru Port, Tolani Maritime Institute, T.S. Chankya Maritime Institute and Shipping Corporation of India.
- Prepared poster and Exhibited in the "INMARCO" (International Marine Conference & Exhibition from 21 - 23 November 2002 (cassettes, brochures distribution).
- 25 minute broadcast given by CFP-A on "All India Radio" under programme called "Science World".
- Article given in magazine called "Shipping Today" by CFP-A.
- Calendar produced for 2003 and was published by Honourable Prime Minister of India.
- Seasons Greetings calendar produced for year 2004.
- Lecture by CFP-A to SNTD college students and Faculty on the occasion of "Water Conservation Week". Also lecture was given to lecturers and professors of universities and colleges of Goa.
- Web site launched www.globallastwaterindia.com and is active.
- Fisherwomen of Maharashtra were also briefed about the threat of Marine bioinvasion.
- Release of booklet on ballast water (Marathi) by Hands of Honourable Minister of State for Shipping.

CFP Travel

Travel both national and international undertaken by CFP since December 2002 is as follows:

- CFP and CFP-A travelled to Kandla, Kolkata to give presentation on Ballast Water Management and threats.
- CFP-A travelled to Talegaon, Manglore to give presentation on Ballast Water Management and threats.
- CFP attended East Asia Regional Ballast Water Management and Control workshop in China.
- CFP, CFP-A and other task force members visited Maldives, Sri Lanka, Bangladesh and Thailand. The purpose of the visit was to raise awareness in the region, increase adherence to IMO Guidelines and develop support for the new IMO convention. Also to provide them with technical assistance, capacity building and institutional strengthening and to initiate formation of Regional Task Force for implementation of the plan.
- CFP also travelled to IMO, London to attend 49th MEPC Meeting where an information paper on ballast water was submitted.
- MEPC meeting in July along with 2nd R & D Symposium was also attended by CFP. The purpose of attending the symposium was to get information about emerging technologies that

can be adapted for Ballast Water Treatment. It was important to attend since it was a stepping stone to canvas the technologies being developed. The lessons learnt can be useful during development.

- CFP attended 1st International Risk Assessment workshop in Australia to enable, for the first time, port and shipping managers and marine scientists from around the world to present and discuss methods and outcomes of Ballast Water Risk Assessments (BWRA), to compare lessons learned, and to lay plans and make recommendations for progressing use of consistent and effective ballast water risk management at the international level.

In-Country Coordination Arrangements

Since December, two CPTF meetings were conducted during October 2003 and January 2004 respectively in Mumbai and Goa. The progress of the project was presented and the objective of the meeting was to discuss the reallocation of funds for the extended period, future plans, policy to encourage ports to do port surveys and risk assessment, electronic ballast water reporting form, also to discuss the draft Convention and to discuss the agenda of the Diplomatic Conference and delivery of the Train-X modular course.

Global Coordination Arrangements

GPTF related activity includes the processing of GPTF documents and preparation for participation in the 5th GPTF meeting, to be held at IMO, London.

Risk Assessment

The IMO ballast water reporting forms are collected on a monthly basis from the JNP/MPT demonstration site. The other major ports are also providing the BWR forms. All the appropriate data was gathered and synthesized before the third (19-20 Feb) visit of the consultant.

The CFP-A and NIO counterparts were involved in the task and the data was entered in the right format into the appropriate software and processed into the final Risk Assessment output. This process constituted the training for the CFP-A & NIO scientists, so that the capacity now exists in-country for the replication of this activity at other major ports.

In the second visit the database was updated, complete GIS mapping of port and resources was done. Collation and entering of port shipping records was done.

Port Environment Data assembly and environmental similarity analysis was done during the second visit. A review of the bioregions was also done. A seminar was held at the Director-General's office to review BWRA activity and to discuss initial results.

Final training was on the Ballast Water Risk Assessment System operation. India was provided with a database containing all port environmental and risk species data. Consultant provided the BWRA user guide during this visit.

CFP attended the 1st International Risk Assessment workshop in Australia.

Ballast Water Management Measures

The majority of ports are collecting Ballast Water Reporting Forms. Voluntary ballast water guidelines are being adopted by Indian ships sailing in international waters.

Compliance, Monitoring and Enforcement

This activity is included as a forthcoming task of the project. Port needs to put in place infrastructure and will commence as soon as a CME system is developed by PCU.

Capacity Building Activities.

Dr Anil represented GloBallast at the 12th International Conference on Aquatic Invasive Species, Canada.

Dr Raghukumar presented a paper on “Marine Invasive Alien Species through ships’ ballast water: Implications for taxonomy” at Sac-Net Workshop in Dhaka, Bangladesh.

The risk assessment consultant provided the country with a database containing all port environmental and risk species data and a Ballast Water Risk Assessment user guide during this visit.

The CFP-A and scientists from NIO attended the workshop in Brazil.

Forthcoming activity – Mr. T. Narayana visited Tehran, Iran, and attended the workshop on the UN Train-X package developed by PCU. An education and training programme for 45 individuals including personnel from ports, training institutes, shipmasters, crew and shipping companies will be organised in May 2004.

Legislation and Regulations

The Indian Merchant Shipping Act has recently been amended to incorporate all the annexes of MARPOL and also the effects of aquatic invasive species through ships’ ballast water. However, the rules for ballast water management will be framed after the adaptation and ratification of the convention.

Regional Cooperation and Replication

The CFP, CFP-A and other task force members visited Maldives, Sri Lanka, Bangladesh and Thailand. The purpose of the visit was to raise awareness in the region, increase adherence to IMO Guidelines, develop support for the new IMO convention and to provide them with technical assistance, capacity building and institutional strengthening and to initiate formation of a Regional Task Force for implementation of the Regional Action Plan.

The 1st International Regional Workshop will be held from 11-12th March 2004 to establish a regional coordination mechanism.

We also propose to undertake a regional replication initiative in port base line survey in Sri Lanka subsequent to the workshop in March 2004 in Goa.

Resources and Financing

CPTF members unanimously desire that the matter of in-kind contributions, which was initially signed by the Government of India, should be released for the purpose of our long-term commitment towards addressing the issue of Invasive Aquatic Species in ballast water and sediment.

Country-specific Activities

Electronic Ballast Water reporting forms following the IMO format are to be taken up to facilitate easier compilation of data.

Other/Miscellaneous

A suggestion has been received by the PCU to facilitate the regional replication effort in Kenya.

Global Ballast Water Management Programme – India
Country Status Report Summary Table – November 2002 to 31 December 2003
(Only country relevant activities shown – Global activities covered in PCU Status Report)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (Brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
1. Coordination & Management	1.B.1	In Country	Establish Lead Agency & CFP	Members of the Lead Agency are D.G.Shipping, Chief Surveyor, J.S Ports, Shipping and Environment, Director NIO.		
	1.B.2	21.03	Support CPTF & CFP Assistant	Members from Maritime Institutes, Ports, Maritime Administration, Scientific Institutes, NGOs and CFP/ CFP-A forms CPTF, Salary of CFP-A paid, CFP & CFP-A travel.	110000	90528
	1.B.3	32.05	Hold CPTF Meetings	Two CPTF meetings conducted.	15000	10692
	1.B.4	21.02	Develop & implement National Workplan	Six awareness presentations made.	26000	16533
	1.B.4 (x)	21.02	Country specific activities			
2. Communication	2.4	32.07	In-country communication workshops and plan		10000	4203
	2.5	21.05	Implement country communication plan	Awareness-raising presentation made, participated in Exhibition, web site launched, articles in shipping magazines. Published book on ballast water, calendars and indigenous posters. Poster translated in regional language.	90000	77721
3. Risk Assessment	3.1	21.06	Carry out ballast water risk assessments	Consultant visited India twice. Report on risk assessment ready for publishing.	3000	2564
	3.2	21.07	Carry out Port Baseline Surveys	Third port baseline survey conducted and the draft of second report ready for onward transmission to PCU.	125000	119458
4. Ballast Water Management Measures	4.1	21.09	Translate / promulgate IMO Guidelines			
	4.2	11.53 32.03 32.04	Assist PCU to develop/deliver BW training package (UN Train-X)	Representative from India attended the Train-X course in Tehran, Iran. Workshop will be organised in May 2004 to validate modular ballast water management capacity building course.	30000	6971

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (Brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
	4.3	21.08	Conduct national legislative review		25000	14872
	4.5	In Country	Develop national BW management policy, strategy and plan			
5. Compliance Enforcement & Monitoring	5.2	42.01	Ballast water sampling equipment	Attended 1 st International Workshop on Guidelines and Standards for Ballast Water Sampling at Rio de Janeiro, Brazil	10000	Nil
	5.3	32.02	In-country CME personnel & training		40000	8116
	5.4	21.11	Implement compliance, enforcement and monitoring arrangements		40000	38
6. Regional Activities	6.1	16.02	Form RPTFs	Visited four countries under Regional Replication and this activity is now in the second stage.	90000	17317
	6.2	32.09	RPTF Meetings & Study Tours	Representatives will be invited for the Regional Workshop which will be held in Goa during March 2004.	10000	4856
7. Resourcing & Financing	7.1	In Country	Develop and implement in-country arrangements for the long-term, ongoing resourcing and financing of ballast water management activities			

Islamic Republic of Iran

General Comments

Fortunately, considerable progress has been made to achieve the objectives of the projects within the framework of the National Work Plan in the above period of time. The risk assessment program was completed with the last visit of the project consultants in February 2003, making Iran the first country to present the final project risk assessment report.

The regional cooperation, which is one of the core activities of the project, was established successfully through the constant efforts of PCU, ROPME and I.R. Iran. Provisions of the Regional Action Plan were finalized, the Regional Project Task Force was set up and Lead Agencies for the project activities were identified and adopted by the high-ranking officials of the regional countries (ROPME Sea Area).

In view of the fact that the Ports and Shipping Organization is the Lead Agency of the GloBallast Programme in I.R. Iran, the report of all of the measures undertaken by national stakeholders initially have to be provided to the Country Focal Point(CFP) for consideration. Then the CFP communicates the same to the Ports and Shipping Organization's Managing Director and Deputy Minister of Roads and Transportation. In this way, the minister and higher authorities become aware of the relevant essential issues of the project. This process enables crucial decisions to be taken.

As an example, given the damage done to the marine living resources of the Caspian Sea as a consequence of the introduction of the Comb Jelly Fish, a committee composed of all national stakeholders was formed to cope effectively and rapidly with the negative implications of the species. The activities of the committee are directly overseen by the Presidency Office and regular reports of the relevant activities of the committee are provided to this office.

CFP Office

Financial reports of the related project activities are provided to the PCU through the CFP and PSO Financial Department. Currently there is no difficulty with procuring the budget necessary for the project activities.

Human resources

So far, based on needs and approval of PCU, we have been using consultants for activities of the project like development of the national work plan, awareness raising activities, port biota survey, ballast water risk assessment, legislative review and regional cooperation with no difficulties. To date, there has been no dramatic change in the GloBallast team. The only change came most recently. Since Dr. Vahid Yavari, GloBallast CFP-A has become seriously involved and busy in the University of Maritime Sciences and Technology of Khoramshar, and in the light of his new responsibility in this university, he was unable to continue his cooperation with the project. Therefore Eng. Ahmad Parhizi, Head of the Search & Rescue and Marine Environment Protection Department of the PSO, who is totally familiar with the project activities, was deemed the most appropriate alternative for Dr. Vahid Yavari by the CFP. Therefore, from the beginning of November 2003 until the end of the project life-time he will have an honorary cooperation with the project.

Communication/Awareness Raising Activities

It is of paramount importance to raise the awareness of those involved in the maritime sectors on the ballast water issue. Various activities of the projects have been delivered in the form of one or two-

day seminars. As a result of these seminars awareness raising in relation to the ballast water related problems was successfully carried out.

In order to further enhance familiarity over the issue of Ballast Water and its associate problems to the marine environment, new Arabic posters and brochures were prepared and distributed among the states bordering the ROPME Sea Area region.

Respective ballast water activities were presented in the seminar organized by the RECSO, 16-18 December 2002, which the regional states and stakeholders attended.

Scientific papers prepared by the GloBallast team were accepted in the 3rd International Conference on Marine Pollution Response, to be held in April 2004 by Saudi Arabia. Also, articles presented to the 2nd Ballast Water Conference to be held in May 2004 in Singapore have been accepted.

We have had media information releases on GloBallast Programme in general and other activities such as port baseline survey, legislative review and regional cooperation. Presentations have been made on the GloBallast Programme and ballast water management to various regional organizations (ROPME, RECSO and MEMAC) and to stakeholders and decision makers in the ROPME Sea Area Member States.

CFP Travel

Travel undertaken by CFP office since November 2002 is as follows:

- CFP travelled to Canada to attend the 12th International Conference on Aquatic Invasive Species.
- CFP-A travelled to Brazil to take part in the 1st Port Baseline Survey Workshop.
- CFP-A along with Mr. Keivan Rad travelled to England to participate in 2nd R&D Conference.
- Mr. Ahmad Parhizi, a member of the Iranian GloBallast Project Team and CPTF coordinator, travelled to Brazil to attend the First Ballast Water Sampling Workshop and the Introductory Course on Ballast Water Management.

In-Country Coordination Arrangements

Two meetings of the CPTF were held at the cost of Ports and Shipping Organization to present different GloBallast measures. In these meetings such issues as regional cooperation and delivery of the Introductory Course on Ballast Water Management were considered.

In order to achieve preparedness to attend Diplomatic Conference for adoption of Ballast Water Conference in February 2004, several meetings have been held so far with the participation of the experts from various national stakeholders where provisions of the draft Ballast Water Convention were carefully reviewed and debated.

Global Coordination Arrangements

The Iranian delegation actively participated in the MEPC 49 Meeting, particularly in the Ballast Water Working Group providing I.R. Iran's views on the draft Ballast Water Convention.

The Iranian GloBallast Team representatives have participated in the four GPTF meetings held to date. Based on the National Workplan and timeline of various activities a report was prepared on the forthcoming tasks of the programme, discussed in the CPTF meeting and finalized for presentation at the GPTF.

Risk Assessment

The first visit by the Risk Assessment Programme consultants in May 2002 was followed by another two-week visit in December 2002 to finalize the ballast water risk assessment programme.

One of the core activities was to conduct an initial first-pass BWRA for each Demonstration Site to maximize certainty while seeking cost-effectiveness and a relatively simple, widely applicable system semi-quantitative approach was followed using widely-supported computer software. The semi-quantitative method aims to minimize subjectivity by using as much quantitative data as possible. To identify the risk in ballast tank discharges with respect to a Demonstration Site's current pattern of trade. Unlike a fully quantitative approach, it doesn't attempt to predict the specific risk posed by each intended tank discharge of individual vessels, nor the level of certainty attached to such predictions. However, by helping the Demonstration Site to determine its riskiest trading routes, exploring the semi-quantitative BWRA provides a coherent method for identifying which ballast water sources deserve more vessel monitoring and management efforts than others.

This capacity-building activity commenced in January 2002, with Meridian GIS Pty Ltd (Meridian) contracted to the Programme Coordination Unit (PCU) to provide BWRA training and software. Under the terms of reference, the consultants worked closely with their counterparts in a project team co-managed by Meridian and PSO for completing all required tasks. These tasks required two in-country visits by consultants (in May and December 2002) to install the BWRA software and provide 'hands-on' instruction and guidance. Most of the data collection tasks were undertaken before, between and during these visits with gap-filling work undertaken by the consultants prior to a short project wrap-up visit in February 2003.

The first step was to collect data from IMO Ballast Water Reporting Forms (BWRFs) to identify the source port from which ballast water is imported to the Demonstration Site. For those periods when BWRFs were not collected or were incomplete, gap-filling data were extracted from the port shipping records held in Khark Island by PSO. These records also helped establish which next ports of call may have been the destination port for any ballast water taken up at Khark Island.

A multivariate procedure was then used to identify the environmental similarity between the Demonstration Site and each of its ballast water source and demonstration ports. Comparing port-to-port environmental similarity provides relative measures of the risk of organism survival, establishment and potential spread. This is the basis of the 'environmental matching' method and it facilitates estimating the risk of ballast water introduction when the range and types of potentially harmful species that couldn't be introduced from a particular source port are poorly known.

Another objective of the BWRA Activity was to identify 'high-risk' species that may be transferred to or from the Demonstration Site. The customized Access database therefore contained tables interfaces for storing and managing the names, distribution and other information on risk species. Thus taxonomic details, bioregional distribution, native/introduced status and level of threat assigned to a species were stored in the database for display, review and update as well as for the BWRA analysis. For the purpose of the BWRA and its 'first-pass' assessment, a risk species was considered to be a introduced, cryptogenic or native species that might pose a threat to marine ecological, social and commercial resources and values if successfully transferred to or from a Demonstration Site.

During each visit the consultants worked alongside their Pilot Country counterparts to provide skills-transfer of the capacity building objectives of the programme, with the project team divided into three groups. Group A mapped the port and its resources using ArcView GIS. This group included counterparts from I.R. Iran's National Cartographic Center (Tehran) who provided much of the required GIS data in digital form. Group B was responsible for managing the customized access supplied by the consultants, and entering, checking and managing the ballast water discharge data, as recorded on the BWRFs voluntarily submit by arriving ships and/or derived from the port's shipping records. Group B used the database to identify ballast water source and destination ports, and is designed for ongoing input and management of BWRFs. Group A undertook the environmental

matching and risk species components of the A activity using the PRIMER package to perform the multivariate analyses for determining the environmental distances between Khark Island and its source and destination ports.

The various BW discharge, environmental matching and risk species data described above were then processed by the database with other risk factors, including voyage duration and tank size, to provide a preliminary indication of:

- The relative overall risk posed by each ballast water source port,
- Which destination ports appeared most at risk from any ballast water uplifted at the Demonstration Site.

This was achieved using a project standard approach, although the database also facilitates instant modifications of the calculations for exploratory and demonstration purposes. The GloBallast BWRA adopted a ‘whole-of-port’ approach to compare the subject port (Demonstration Site) with all of its ballast water source and destination ports. The project therefore established in Tehran an integrated database and a geographic information system (GIS) that manages and displays:

- Ballast water data obtained from arriving ship BWRFs and port shipping records;
- Information on the Demonstration Site’s navigational, physical and environmental conditions and aquatic resources;
- Port-to-port environmental matching data;
- Risk species data; and
- Risk coefficients and graphical categories of risk for ballast water discharges.

The results, which were graphically displayed on user-friendly GIS port and world maps as well as in output tables, help determine the types of management responses. Project output also includes a trained country risk assessment team and operational BWRA system and User Guide for use as a demonstration tool in the region of the Khark Island, which is in the ROPME Sea Area (RSA).

Thus the BWRA activity and its exploratory/demonstration software provide a foundation enabling the regional promulgation of further ballast water management activities by I.R. Iran.

The main objectives of the BWRA Activity were successfully completed during the course of this project over a 13 month period and therefore places the Islamic Republic of Iran in strong position to provide assistance, technical advice, guidance and encouragement to other port States of the ROPME Sea Area.

Ballast Water Management Measures

Currently Ballast Water Reporting Forms (BWRFs) are collected in Khark Port, Bandar Abbas Port and Imam Khomeini Port by the Ports and Shipping Organization personnel. The ballast water risk assessment programme will be implemented to identify the source port of the ships calling on Khark Island Port. In this process, BWRFs are used to identify the amount of ballast water discharged in the port and verify whether or not ballast water exchange has been conducted.

Considering the regional cooperation programme in the RSA, it is intended that BWRFs will be collected, in a joint measure, by experts of other countries. Following this, the risk assessment programme will be implemented.

In this connection, Introductory Course on Ballast Water Management was successfully delivered in I.R. Iran for the first time, following the delivery of the same training course in Rio, Brazil. The course was attended by representatives from all national stakeholders, observers from China and India as well as the course developers from Train-Sea-Coast, Brazil.

Compliance Monitoring and Enforcement

Following the first Ships' Ballast Water Sampling Workshop in Brazil, the PSO experts underwent initial training on various ballast water sampling techniques. In view of the fact that there is currently no internationally recognized ballast water sampling technique, international guidelines to be used for ships' ballast water sampling are awaited.

Taking into account the adoption and implementation of the Ballast Water convention and the importance of the CME related issues, all measures already undertaken aim at making the personnel of the Port and Shipping Organization, as the maritime Lead Agency in I.R. Iran, prepared to implement the requirements of the convention.

Capacity Building Activities

Considering our close connection with the University of Maritime Science and Technology of Khoramshar, a number of postgraduate students are passing their traineeship period in the Safety and Maritime Protection Department, and their thesis is on the ballast water management and problem resulting from introduction of invasive marine species.

The experts of the Ports and Shipping Organization have achieved familiarity with the implications of the introduction of the marine invasive species and how to deal with them through undergoing various training courses in this respect.

Legislation and Regulation

Following a comprehensive review of the national legislation and regulation by the legal consultant of the Ports and Shipping Organization on the basis of the advice and recommendations provided by the international legal consultant of the GloBallast programme and after adoption of the ballast water convention and I.R. Iran's accession to the convention, all necessary arrangements will be made to ensure full implementation of the requirements of the convention.

Regional Cooperation and Replication

After the 1st Regional Conference on Ballast Water Management and Control in the ROPME Sea Area in June 2002 where the Regional Action Plan (RAP) was endorsed, required follow-up actions were taken by PCU, ROPME and PSO leading to the adoption of the RAP in the ROPME Ministerial Council, highest ranking decision making body within the ROPME. Approval of the RAP by the ROPME Ministerial Council represents remarkable progress toward enhanced regional cooperation on ballast water management.

With the RAP approved by the Ministerial Council of the ROPME, a two-day high-level conference was held in 21-22 October in Tehran with the participation of the high ranking officials from RSA countries, PCU and ROPME. The outcome of the conference was as follows:

- Adoption of TOR of the Regional Project Task Force (RPTF)
- Identification of Lead Agencies for GloBallast activities
- Nomination of the RPTF members
- Adoption of the Short-term Programme Activities

The outcome of the conference obviously reveals a significant success in the GloBallast programme. In addition, it was agreed at the above conference, that the Ballast Water Management Training Course would be delivered in June 2004 and a Regional Communication Workshop be held in either

UAE or Bahrain. The above conference paves the way for the accession of Persian Gulf States to the Ballast Water Convention.

Resource and Financing

As the programme proceeds, the IR of Iran CPTF will seek to identify, evaluate and implement long term in-country resourcing and financing arrangements for its National ballast water management programmes. Consideration may be given to a levy on shipping visiting Iranian ports, linked to the legislation and regulations referred to above. This approach has been applied successfully in some jurisdictions already. Consultation with the shipping industry would be required. Considering the successful establishment of regional cooperation, I.R. Iran intends to convene a regional seminar with the purpose of encouraging all regional stakeholders involvement in procuring the financial resources required for the rest of the project life-time.

Country-specific Activities

Taking into account the problems caused by the introduction of the Comb Jelly Fish in the Caspian Sea and, as a result, damages to the marine living resource, a national committee was established to deal with the problem. Subsequently financial resources required were provided by the government of I.R. Iran.

Presently, GloBallast project team is exploring different possible approaches to control the species through introduction of a predator species that can feed on Comb Jelly Fish. Accordingly, necessary coordination arrangements are being made to carry out a thorough assessment of the possible consequences of the introduction of the new predator species with regional states of the Caspian Sea using the comments of international consultants in this relation.

Other/Miscellaneous

Presenting papers on ballast water management issue to the international conferences is among follow-up measures that are pursued by the GloBallast team. In addition, there are negotiations and discussions underway in RSA regarding the implementation of the highly significant Port Baseline Survey and Risk Assessment Projects in the region.

South Africa

General Comments

Good progress has been made during this period on national and regional projects.

CFP Office

The GloBallast office in South Africa has recently moved from Marine & Coastal Management to within the offices of the Global Invasive Species Program (GISP), under the National Botanical Institute (NBI), located in the Kirstenbosch Gardens. GISP/NBI are providing support for the CFP-A including office space, IT support, fax, email etc.

New contact details for Lynn Jackson and Adnan Awad are as follows:

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Country Focal Point Assistant (CFP-A)

Mr. Adnan Awad
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Postal Address:

GloBallast Programme c/o GISP
National Botanical Institute - Kirstenbosch
Private Bag X7
Claremont 7735

Website: www.ballastwater-sa.org

Human Resources

- The initial Communications Officer reached the end of her contract, which was not renewed.
- A new Communications Officer was contracted for a period of six months, beginning January 2004.
- A consultant was engaged to develop the Ballast Water Management Plan for the Port of Saldanha.
- A consultant was engaged to develop a case study based on the phytoplankton species *Aureococcus anophagefferens*.
- A consultant was engaged to aid in the standardisation process for the evaluation/testing of a ballast water treatment technology.
- A consultant was engaged to implement the outreach project for schools and communities.

Communication/Awareness Raising Activities

The Communications Work Plan continues to guide the activities related to awareness raising and education. The first Communications Officer has completed her contract with GloBallast, and a new Communications Officer has been contracted. The areas of recent significant progress include:

- Redesign of the GloBallast website located at www.ballastwater-sa.org.

- Initiation of a Community Outreach project for the Saldanha area. This project aims to increase awareness of the marine alien species issue in areas that have been difficult to reach thus far, such as port and coastal communities and schools.
- Revisions, reproduction and circulation of the South African poster for ballast water management.
- The CFP-A has written several articles on the Programme and marine IAS issues that have been published in local journals.
- The CFP-A has attended and given presentations at several conferences and workshops around the region.
- The CFP-A has worked with a representative from the National Ports Authority (NPA) to include GloBallast and marine IAS issues in several national and international publications coordinated through NPA.
- The CFP-A attended the IUCN World Parks Congress in Durban to support the PCU activities.
- Awareness raising at the regional level through dissemination of Programme materials, including East and West Africa, Zambia, and the Western Indian Ocean Islands.
- Links and partnerships with other programs and institutions (e.g. GISP, IUCN, UNEP, BCLME, GCLME).

CFP Travel

- The CFP travelled to London to participate in the MEPC 49 meeting.
- The CFP-A travelled twice to Angola to participate in, and present at project planning meetings for the BCLME Program.
- The CFP-A travelled to Pretoria to participate in meetings for the invasive species branch of the Environmental sector of NEPAD.
- The CFP-A travelled to Brazil to participate in, and present at, the Port Survey Workshop and the Ballast Water Sampling Workshop.
- The CFP-A travelled to Nigeria to participate in, and present at, the planning meeting for the GCLME Program.
- The CFP-A travelled to London to attend the MEPC 49 meeting and the 2nd R&D Symposium.
- The CFP-A travelled twice to Mombasa, Kenya for planning meetings associated with the proposed Mombasa port survey activity.
- The CFP-A travelled to Durban and Richard's Bay to participate in the IUCN World Parks Congress, and assess the work done for the port survey of Richard's Bay.
- The CFP-A travelled to Melbourne and Hobart, Australia to participate in, and present at, the Ballast Water Risk Assessment Workshop and associated activities.

In-Country Coordination Arrangements

The 4th CPTF meeting was held in Saldanha Bay on November 20, 2003 immediately preceding a workshop to help develop a Ballast Water Management Plan for Port of Saldanha. The meeting focussed on accomplishments over the past year, the plan for the remaining activities and budget, and the process to develop a port ballast water management plan for Saldanha.

Global Coordination Arrangements

- The CFP and CFP-A travelled to Beijing China to participate in and present at the 4th GPTF meeting.
- The CFP and CFP-A made arrangements to participate at the 5th GPTF meeting to be held in London on February 3-6, 2004.

Risk Assessment

The port survey and risk assessment activities have been completed for Saldanha Bay, with the exception of some ongoing taxonomy work. The port survey data was presented at a workshop in Brazil, where significant progress was made on producing an IMO sponsored set of port survey protocols. A catalogue was published through the GloBallast Programme, summarizing the phytoplankton species found in the Saldanha Survey, and presenting all data in a format design as an identification catalogue. This catalogue has been circulated globally for use in phytoplankton species identifications.

In the meantime the protocols that governed the Saldanha survey have been applied to further surveys at the ports of Richard's Bay and Coega. These surveys have been an initiative of the National Ports Authority (NPA), under the Environment Division. The GloBallast Programme has been managing the Coega survey for the NPA, and has provided technical assistance for the Richard's Bay survey.

The ballast water risk assessment activity for Saldanha was concluded by hosting a third and final visit from the Australian organization that coordinated it. This final visit updated the system for application to local ports, with the most up-to-date global port and shipping information available. The Saldanha risk assessment is therefore complete, and was presented at the 1st International Ballast Water Risk Assessment Workshop in Melbourne Australia, which aimed to help standardize a global approach to ballast water risk assessment methodology. The programme will be working with the NPA to organize a national NPA workshop for replication of this activity, and related issues, at all major South African ports, and to start integrating risk assessment into port-level ballast water management.

Ballast Water Management Measures

A project has been initiated to develop a ballast water management plan for Saldanha Bay, in accordance with the Draft National Policy and developing IMO Convention. This management plan outlines the specific measures and responsibilities involved in comprehensive port-level ballast water management. The process of drafting this plan has involved full stakeholder participation, including a workshop held in Saldanha in November 2003. The Draft Ballast Water Management Plan for the Port of Saldanha is due for release in February 2004.

Compliance Monitoring and Enforcement

Compliance monitoring and enforcement (CME) issues have been incorporated and discussed within the context of the developing Saldanha Ballast Water Management Plan.

Capacity Building Activities.

The GloBallast Programme has been developing a global training package through the Train-Sea-Coast network, using the UN TRAIN-X methodology. This package was developed in Brazil, with some involvement from the South African office. The package has been validated in Brazil and delivered to all GloBallast countries. In South Africa work is ongoing to adapt the content of the

modules to local conditions. A national validation of the training package has been scheduled for March 8-10, 2004. The planning for this course has been ongoing.

A planning workshop was held in Mombasa, Kenya for the pending Mombasa port survey. This 5-day workshop involved the training of a team of scientists and divers from Mombasa in the protocols associated with the port survey process. An assessment was also carried out of further capacity building needs at the relevant Mombasa-based institutions. This planning workshop is also serving as the planning platform for an associated Regional Port Survey Training Workshop to be held in association with the field component of the Mombasa port survey. This training workshop will be co-hosted by IUCN, and attended by representatives from the countries of the Southern and Eastern African region, including the Island nations of the Western Indian Ocean.

Legislation and Regulations

The South African Draft National Policy on ballast water management was developed and circulated for comment. The document has since been finalized and submitted to the Department of Environmental Affairs & Tourism (DEA&T) for consideration for adoption as a departmental policy.

The Marine Environment Protection Committee (MEPC) of the IMO decided at the last meeting (MEPC 49) in July 2003, to proceed with a diplomatic conference in February 2004 to consider adoption of the new IMO Ballast Water Convention. This will deliver the legal backing and international standardization necessary for full implementation of GloBallast goals and objectives. All work being carried out in South Africa has been accomplished in consideration of the developing convention.

Regional Cooperation and Replication

The GloBallast Programme convened the first meeting of the Southeast African Regional Task Force (RTF) in March 2003. The meeting was attended by representatives from the Ministries of Environment and Transport from each of the countries included in the region (Angola, Namibia, South Africa, Mozambique, Tanzania, Kenya, Madagascar, Mauritius, Seychelles and Comoros), as well as observers from Ghana and Zambia. The IMO East African office, UNEP and IUCN were also represented at the meeting.

The RTF was able to produce content for a draft Regional Strategic Action Plan (SAP). The SAP has now been finalised by GloBallast South Africa, and will guide the activities to be undertaken throughout the region. The first activity, which is already in its planning stages, is a port survey for the Port of Mombasa, Kenya. The survey will also be used as an opportunity to host a training workshop for representatives from all other countries of the region in port survey planning and methodologies.

The GloBallast Programme has also been playing an active role in planning activities under other regional projects or initiatives. The Benguela Current Large Marine Ecosystem (BCLME) and the Guinea Current Large Marine Ecosystem (GCLME) programs have welcomed GloBallast involvement and support with regards to ballast water and marine alien species issues. The programme has also been participating in planning activities under the environmental arm of NEPAD, the New Partnership for African Development.

Several countries within the region have already made progress with plans for furthering ballast water management. Requests to GloBallast South Africa have been received from Namibia, Mauritius and Seychelles to convene and aid in the facilitation of meetings to formalise national task forces, and initiate national work plans. Invitations have also been sent to all countries of the region to participate in the upcoming validation of the GloBallast training course.

Resources and Financing

The past year has seen the beginning of some successful national-level replication of GloBallast activities. The NPA has taken the initiative to fund ongoing port surveys at the South African commercial ports. The NPA is also taking on the leadership role in the ballast water risk assessment process. The bearing of these costs by this national institution demonstrates a major step forward in the longevity and ongoing success of ballast water management measures in South Africa.

The programme has been working with a local water-treatment company to help support development of a potential ship-board ballast water treatment technology. The commitment by this company to developing and testing this system also demonstrates a positive contribution from a national resource.

Seeking such in-kind support for the Programme's goals will be essential over the coming months. The GloBallast Programme will be aiming to increase the roles and commitments from DEA&T, SAMSA, NPA and the shipping industry, as the upcoming period will involve training in and implementation of port-specific measures related to all these stakeholders.

Country-specific Activities

The Programme has initiated a project to assess the nature of a phytoplankton species that has been causing impacts in Saldanha Bay over recent years. The species, *Aureococcus anophagefferens*, has bloomed over recent years causing major losses to the mariculture industry within the bay. It is suspected that the species was introduced via ballast water. This project is using genetic techniques to decipher the species' origin, and build a case study around it, demonstrating and quantifying the socio-economic impact.

The Programme has initiated a project aiming to evaluate proposed local ballast water treatment facilities using standardized testing protocols. A consultant was engaged to facilitate and oversee an initial test for a local ballast water treatment system, using the artemia-based protocols produced by Dr. M. Voigt from Germany. This treatment system demonstrated high effectiveness on bacteria and the living artemia organisms, but only medium effectiveness on the resting cyst stages. Therefore a second round of tests will be necessary on an improved system, before the Programme will continue with an evaluation of a scaled up version using a more comprehensive approach. The second round of tests is being funded by the developer of the technology. Under this project any local system demonstrating high success using this artemia-based evaluation may be further evaluated using developing international protocols, to be incorporated under the new IMO Convention.

The Programme has developed a proposal for a new project aiming to test ballast tank sampling equipment and methodologies, as developed at the 1st International Ballast Water Sampling Workshop held in Brazil in 2003. This project will also seek to identify phytoplanktonic organisms from the ballast tanks and demonstrate the changes in this planktonic community over the period of a short voyage between Saldanha Bay and Richard's Bay. Samples will be taken from a similar voyage between New Zealand and Australia, and all samples will be analyzed in the labs of the University of Tasmania. This project is designed with co-sponsorship, and as a collaboration between GloBallast – South Africa, the Cawthron Institute in New Zealand, and the University of Tasmania in Australia.

Other/Miscellaneous

GloBallast – South Africa helped support the PCU at the World Park's Congress of IUCN, held in Durban, South Africa. A new poster and leaflet were produced for this event, designed by the PCU and printed in South Africa. The poster and leaflets were distributed at the Congress, and a presentation was given by the PCU.

**Global Ballast Water Management Programme – South Africa
Country Status Report Summary Table – November 2002 to 31 December 2004**
(Only country relevant activities shown – Global activities covered in PCU Status Report)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
1. Coordination & Management	1.B.1	In Country	Establish Lead Agency & CFP	DEA & T Lead Agency for the project and Dr.L.Jackson as CFP		
	1.B.2	21.03	Support CPTF & CFP Assistant	Adnan Awad appointed as CFP Assistant: CPTF established	101,000	102,977
	1.B.3	32.05	Hold CPTF Meetings	4 CPTF meetings held – costs mainly covered elsewhere	2,000	78
	1.B.4	21.02	Dev & implement Nat.Workplan	National Workshop held	2,000	1,655
	1.B.4 (x)	21.02	Country specific activities	Aureococcus study underway; testing of treatment technologies Other proposals not approved by CTA.	123,000	12,976
2. Communication	2.4	32.07	In-country communication workshops and plan	Held in conjunction with national workshop	0	0
	2.5	21.05	Implement country communication plan	Many ongoing activities, including schools education project and community outreach.	110,000	39,896
3. Risk Assessment	3.1	21.06	Carry out ballast water risk assessments	Risk assessment for Saldanha completed	15,000	7,495
	3.2	21.07	Carry out Port Baseline Surveys	Port survey completed except for some taxonomic work	50,000	36,297
4. Ballast Water Management Measures	4.1	21.09	Translate / promulgate IMO Guidelines	Not done	0	0
	4.2	11.53 32.03	Assist PCU to develop/deliver BW training package (UN Train-X)	First delivery of training undertaken in March, 2004 – see under CME training	0	0
	4.3	21.08	Conduct National legislative review	Completed	20,000	18,220
	4.5	In Country	Develop National BW management policy, strategy and plan	Draft policy in place, as well as draft ballast water management plan for Saldanha (final invoice still due)	20,000	8,256
	5.2	42.01	Ballast water sampling equipment	Not purchased	10,000	0
5. Compliance Enforcement & Monitoring	5.3	32.02	In-country CME personnel & training	First training course delivered in March, 2004	50,000	24,726
	5.4	21.11	Implement CME arrangements	No progress	10,000	0

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
6. Regional Activities	6.1	16.02	Form RPTFs	Various awareness-raising activities in the region undertaken RPTF meeting held in March, 2003; RAP adopted; Mombasa Port Survey planned for August, 2004	13,000	13,102
	6.2	32.09	RPTF Meetings & Study Tours		0	56,188
7. Resourcing & Financing	7.1	In Country	Develop and implement in-country arrangements for the long-term, ongoing resourcing and financing of BW management activities	Study of existing levies in planning stage	3,000	0

Ukraine

General Comments

During the reported period CFP and CFP-A with the help of consultants made significant progress in achieving Programme objectives in Ukraine. It is even possible to say that this period was the most productive and this demanded more efforts and time. In this time the GloBallast Team in Ukraine finalized such important components of the National Workplan, as biological port baseline survey and risk assessment. We have trained and prepared lecturers and established the Odessa DS Monograph Series, started producing the 2nd TV documentary, held a series of awareness raising seminars and updated our web-site.

The Ministry of Transport of Ukraine and the State Department of Marine and Inland Water Transport continues to support Programme implementation, clearly understanding the interdependence of marine environment and shipping safety problems. For the last period:

- Two sectoral meetings for the specialists of maritime and inland water transport on the issues of environmental protection were held in May and August 2003. They were held just after the 2nd and 4th National Awareness raising Seminars;
- Creation of the National Information Invasive Aquatic Species (NIAS) System were added by the Ministry of Transport of Ukraine to the State Programme on the Protection and Rehabilitation of the Azov and Black Sea Environment;
- Collection and processing of the Ballast Water Reporting Forms data from ships entering Ukrainian ports continues (Order No. 62 by 2001 of the State Department of Maritime and Inland Water Transport);
- New institution designated to act as the GloBallast Lead Agency in Ukraine established: Information and Analytical Centre for Shipping Safety.

In general, day-to-day work of the Demonstration Site is properly organized. There is good general understanding and support from the interested government bodies.

CFP Office

According to the orders of the Ministry of Transport of Ukraine (No. 787, 8.11.2002) and of the State Department of Marine and Inland Water Transport (No. 3, 9.01.2003) Information and Analytical Centre for Shipping Safety is designated as the Lead Agency responsible for GloBallast Programme implementation in Ukraine. Head of this Centre is the present CFP for Ukraine.

It should be noted that the relatively young government system of Ukraine is still suffering from continuous reorganization. Zones of responsibility and authorities are redistributed. In such an environment it is quite difficult to provide well-planned and sustainable work. Sufficient work is much dependant on the energy and competency of those people who, as it is popular to say now, are working in the “team”.

Human Resources

For the reported period there were no changes in Odessa DS team and CPTF of Ukraine. However, it became obvious that the current CPTF structure doesn't correspond with the tasks of Programme implementation. That is why some changes of membership have been made in the CPTF composition and this improves its efficiency.

As previously, awareness raising and translation consultants were mostly required to realize programme tasks. Additionally we used special consultant-lecturers during our awareness raising seminars and to deliver lectures at educational institutions. Consultant's contract was signed with specialists for the development of Ballast Water Exchange Electronic Monitoring System (BWEEMS). Services of local BWRA consultants were also used. We also succeeded in employing a talented photo designer to develop advertising materials.

Now we signed contracts with local consultants for microbiological research in Odessa port, a consultant to produce a new TV documentary, specialists for development and adaptation of training modules for shore personnel and ships' crews.

Communication/Awareness Raising Activities

This component has been dominating during last period:

GloBallast information posters in English and Ukrainian, issues of Ballast Water News and other awareness materials produced by PCU and Odessa DS are being disseminated among interested organizations and persons. Links with the libraries of marine colleges and universities are established.

From 2003 we established the Odessa GloBallast Russian Monograph Series. These monographs contain material from conferences, meetings and seminars held in Ukraine, as well as the most interesting material from Programme activities. For the present time four monographs are published and another two are being printed. Two other monographs will be prepared by 1st April. Our monographs are posted free of charge to interested organizations and specialists. Their number is increasing.

Four scientific and practical seminars on ballast water management were held during 2003:

- 1st – for specialists of secondary and high marine educational institutions (March 2003). Each participant was provided with material ready to use in teaching;
- 2nd – for sea merchant port authorities: port control inspectors and port ecologists (May 2003);
- 3rd – for specialists of shipping companies, agents and expeditors and forwarding companies, classification societies, cargo bureaus (June 2003);
- 4th – for scientists related to marine biology, ecology, public health and shipping (August 2003).

The National Scientific and Practical Symposium followed the 4th Seminar. It was totally devoted to the scientists and jointly organized by the Odessa DS and Institute of Biology of Southern Seas. Proceedings of these seminars and symposium are published as separate Monographs of Odessa GloBallast DS Series. Information about these awareness raising activities was submitted to PCU to be included into BW News No 15.

A set of GloBallast information materials is being submitted to the libraries of high marine and scientific institutions.

An article “Curbing Ballast Water – Problem of Legislation and Economy” published in daily maritime newspaper “Seamen of Ukraine”, No. 20(284), May 21, 2003.

An article “Problem of invasive species transfer with ships' BW in ports of Ukraine” published in newspaper “Dockers of Odessa”, No. 24(2442), June 11, 2003.

GloBallast information report presented at the International Symposium “Quality and Environment 2003”, Kiev, 17-18 April 2003.

GloBallast information reports presented at the 3rd National Conference “Shipping of Ukraine – Innovation of Fleet, Ports and Cargo Handling”, Theodosia, Ukraine, 22-23 May 2003.

Biological port baseline survey results presented at the 3rd International Conference on Marine Bioinvasions, La Jolla, USA, 16-19 March 2003.

GloBallast presentations delivered at the Scientific Conference of Aquatic Bioinvasions “Evolution of Marine Ecosystems Impacted by Introducers and Artificial Mortality of Fauna”, Azov, Russian Federation, 15-18 June 2003.

Presentations on GloBallast activities given at the International Pacem in Maribus Conference, Kiev, 27-31 October, 2003. GloBallast presentation obtained the 1st Certificate for the best oral presentation at the Conference. GloBallast awareness materials disseminated among conference participants.

Two reports on GloBallast programme recent activities in Ukraine and in general presented at the 5th International Symposium “The Black Sea Ecological Problems”, Odessa, 30-31 October 2003.

Report on PBS results in Odessa port presented to the students at Black Sea Day celebration in Odessa Port, Odessa, 31 October 2003.

Report “Actual Issues of Solution of the Problem of Transfer of Unwanted Marine Species and Pathogens with Ships’ Ballast Water at International and Regional Level” presented at the Scientific and Practical Seminar “Perspectives of Shipbuilding and Ship Repair Development in Ukraine”, Nikolayev, Ukraine, 18-19 November 2003.

Results of the Biological Port Baseline Survey in Odessa Port presented at the International Seminar in Rio-de-Janeiro, Brazil, April 2003.

Results of BWRA in Odessa Port were presented at the 1st International Seminar on BWRA, Melbourne, Australia, September 2003.

Three special typical lectures on ballast water control and management were developed to achieve more awareness raising. These lectures are tailored for ships’ crews, cadets and students of marine educational institutions and also for pupils of secondary schools and lycees. All lectures delivered during 2002-2003 have been assessed by the administrations of these institutions as useful and up-to-date.

For the New Year 2004 we developed and produced wall-combined, table and pocket calendars with logos, pictures and texts reflecting GloBallast Programme activities. Around 1,500 copies of these materials have been distributed among leading institutions and organizations in Ukraine and Black Sea countries.

Two new TV documentary films about the Programme and the problem as a whole are scheduled for the summer. Now intensive shooting is being carried out.

Odessa DS web site is continuously being improved and updated.

This work has brought results: interest in the Programme and awareness raising has increased significantly in Ukraine.

CFP Travel

CFP, CFP-A administrative and other local consultants' travel at Programme expense was necessary for:

- participating in national and international events on shipping, ecology, marine biology connected to the Programme;
- participating in Programme events (seminars, panel, CPTF meeting);
- meetings in the Ministry of Transport and State Department for:
 1. approval of changes to the National Workplan;
 2. setting up the work of the new Lead Agency;
 3. preparation and approval of the new orders about the Lead Agency and CFP;
 4. preparation for the 2nd Black Sea Conference;
 5. participation in the 5th GPTF meeting and Diplomatic Conference.
- other work under the Programme.

In-Country Coordination Arrangements

From personal experience we may conclude that CPTF meeting in its full constitution is not always necessary. It is more efficient to invite to the meeting persons who are particularly involved in the issues brought for consideration. And there were plenty of such meetings to discuss plans and results of work. We hold the full CPTF meeting once a year.

The 6th CPTF of Ukraine meeting was held in Odessa in December 2002. In the first day of the meeting representatives from the Ministry of Transport and State Department of Maritime and Inland Water Transport, CPTF members, IMO BWRA consultants, invited representatives from other ports of Ukraine, scientific and educational institutions, mass media were present (in total 30 persons).

The meeting agenda included:

- Information about GloBallast Programme activities and implementation of the National Workplan of Ukraine in 2002
- Discussion of IMO MEPC 48 meeting proceedings with regard to the draft ballast water convention
- Discussion of the preliminary results of biological port baseline survey in Odessa Port
- Discussion of the results of BWRA in Odessa Port
- Discussion of the proceedings of independent Mid-Term Evaluation of GloBallast Programme

The meeting concluded that CPTF activities on GloBallast Programme carried out at that time are satisfied.

Meeting's proceedings and protocol were processed and published in the Russian Odessa DS Monograph No. 2.

The next, 7th, CPTF meeting of Ukraine will be held just after GPTF 5 meeting to consider and discuss the recent activities of the last stage of programme realization; proceedings of the 2nd Black Sea Conference and the IMO Diplomatic Conference.

Global Coordination Arrangements

Throughout the reported period we appreciated the support of the PCU. Their participation in our work is undeniably very often decisive. But for more efficient work in the future we would suggest more self-dependence for the demonstration sites. They should have the right to find their own way to solve the programme tasks. And the rest time should be used to resolve more important strategic issues.

Due to the fact that the GloBallast Programme activities for the period of its implementation till 2004 have obtained high assessment at the international and national level, Ministry of Transport of Ukraine made a decision to propose the 6th GPTF meeting in Ukraine. Relevant proposal has been forwarded to PCU.

Risk Assessment

Risk Assessment for the Odessa Port was finalized in February 2003.

Electronic Ballast Water Risk Assessment system is installed at Environment Protection Division in Odessa Port and is supported by the members of the National BWRA Team working in this division. Back-up copy of the database and all supporting software is stored at the Lead Agency. Results of Ballast Water Risk Assessment were presented to the participants of the 6th CPTF of Ukraine meeting and were recommended to be used in the other ports of Ukraine and Black Sea Region.

Information on ballast water discharges was analysed for the period of November 1999 till July 2002. Maximum volume and frequency of ballast water transportation into Odessa port was registered from Bulgarian coast and Adriatic Sea. Maximum environmental similarity was registered between Odessa port and ports that are situated on the same latitude. Mediterranean Sea species present the biggest threat for the Black Sea. The Relative Overall Risk coefficient for Odessa Port is the highest with such ports as Constanta, Illichevsk, Trieste, Galaz, Mangalia, Midia, Ravenna, Kerch, and Varna.

Port	ROR
Constanta (Black Sea)	0,88
Illichevsk (Black Sea)	0,80
Trieste (Mediterranean Sea)	0,81
Galaz (Black Sea)	0,75
Mangalia (Black Sea)	0,75
Midia (Black Sea)	0,74
Ravenna (Mediterranean Sea)	0,74
Kerch (Black Sea)	0,72
Varna (Black Sea)	0,69
TOTAL: Black Sea – 78% , Mediterranean Sea – 22%	

Final results have been presented at the 1st International Workshop on Ballast Water Risk Assessment in September 2003, Melbourne, Australia.

Ballast Water Management Measures

The most important issue for us at the moment is the implementation of the new BW convention. We will do our best to prepare till the end of the year a Programme of Activities for our government. Unfortunately, many proposals on the implementation of the IMO Guidelines prepared by the Local Legislative Consultant are old now and can't be used anymore without re-drafting.

In February we plan to use the help of the National Transport University of Ukraine to develop such programme. In addition to this we may report about the following:

- Order of State Department of Marine and Inland Water Transport to implement IMO Resolution A.868 (20) (in force from 2001);
- Amendment to the Merchant Marine Code (developed and submitted on consideration to the Ministry of Transport of Ukraine and Ukrainian parliament);
- Proposals to amend National Rules of Protection of the Territorial Sea and Internal Sea Waters prepared and forwarded to the Cabinet of Ministers of Ukraine.

Compliance, Monitoring and Enforcement

Establishing the CME system in Ukraine is connected with some difficulties. First of all it is necessary to designate governmental authorities that have relevant potential to implement such, new for them, conventional provisions. Based on our current legislation such system may be hardly created. Relevant amendments will be needed in the national legislation to achieve the workability of such system.

But today the system of Ballast Water Reporting forms collection and processing is working in Ukraine (sea ports and Shipping Safety Inspectorate). Also the system of controlling ballast exchange for ships from international voyages is working.

Taking into account the geography of the Black Sea (semi-closed and without ex-territorial waters) the 2nd Black Sea Conference in Constanta, January 2004 agreed to prepare proposals on development of regional agreement on ballast water for the Black Sea.

Capacity Building Activities

Such activities include:

- CPTF members obtained enough experience in organizing different seminars, conferences, and meetings on the ballast water issue. Now they have practical skills on development and presentation of reports, lectures and presentations for different audiences. Lead Agency staff was trained in web-design and is supporting and updating the Odessa DS web site.
- Experience and knowledge gained at Port Baseline Survey in Odessa port by the specialists of the Institute of Biology of Southern Seas, Institute of Transport Medicine and Ukrainian Scientific Centre of Marine Ecology with participation of CSIRO consultants will be replicated through future research.
- Development of BW Risk Assessment methodology and its practical application during BWRA in Odessa port have been carried out with the help from URS consultants. Odessa port personnel shared its experience during 2003 with the specialists from other Ukrainian ports at the seminars. Lead Agency staff also trained in the BWRA methodology.
- At present time the model educational and training courses are being adapted. As the adaptation proceeds, relevant parts will be added to the educational programmes of the Ukrainian institutions, starting from 2004-2005. At the same time, according to the decisions made at the 2nd Black Sea Conference, these programmes will be adapted in the countries of the region.

Legislation and Regulations

As it was noted before, many provisions of the Legislative Review 2001 need to be re-drafted.

The structure of national legislation we plan to discuss at the 7th CPTF of Ukraine meeting. Without compromise on such principal questions as BW exchange in special sea areas and principles on ships' control procedures we will not move further. However, many of the low level documents we already developed. These are instructions for ships' crews and Port State Control, training and educational programmes for ship and shore personnel, etc.

Final decision on the structure of the new national legislative acts is planned to be made after the adoption of the anticipated BW convention.

Regional Cooperation and Replication

Last week the 2nd Black Sea Conference on Ballast Water Control and Management was held in Constanta, Romania. Representatives of maritime administrations approved the Terms of Reference of the Regional Task Force and agreed the Short-Term Plan to implement the Regional Action Plan 2001. It was also decided:

- to establish a national Country Task Force in each Black Sea country;
- Focal Points from each country to present a report in their countries with information about the programme and the problem;
- to create the Regional Aquatic Invasive Species Information System (RAISIS);
- to exchange experience on port baseline surveys in all Black Sea countries;
- to prepare proposals to the governments of Black Sea countries about regional agreement on ballast water management;
- to forward adopted training programmes on BW management adopted in Ukraine for use in the Black Sea countries.

Performance of Programme activities in the nearest future as well as further development of Odessa Demonstration Site depend on strong links of our site with the Black Sea maritime administrations. Regional and national initiatives on ballast water management must be efficient and convincing. And, accordingly, as far as effective will be searches of the interested organizations and, the main thing, sources of financing.

Resources and Financing

Ministry of Transport and State Department of Marine and Inland Water Transport provide support for a number of GloBallast activities. The following activities implemented during the reported period are worth mentioning:

- Processing and translation of the materials from the 1st Black Sea Conference on ballast water control and management into English and Russian.
- Support for the BWRA consultants.
- Web-site support and updating.
- Travel arrangements and organization of participation of Ukrainian delegates in the 1st International Workshop on Guidelines and Standards for BW Sampling and 1st International Workshop on Guidelines and Standards for Invasive Aquatic Species Surveys and Monitoring, Brazil, April 7-17 2003.
- Travel arrangements and organization of participation of Ukrainian representative in the 3rd International Conference on Marine Bioinvasions, La Jolla, USA, March, 2003.

- Travel arrangements and organization of participation of Ukrainian delegates in the 2nd R&D Symposium, London, July 2003.
- Organization of travel for the Odessa DS representatives in various international seminars and conferences.
- Dissemination of awareness raising materials and TV documentary.
- Organization of postal delivery of Odessa DS Monographs.
- Organization of the Special Panel of Experts meeting (arranging the meeting, preparing and translation of protocol), December 2002.
- Support of Odessa DS day-to-day activities.
- Support for the biological baseline survey in Odessa Port.
- Organizational support of four awareness raising seminars on ballast water management.
- Organization and holding of the National Scientific and Practical Symposium on Aquatic Introduced Species (Odessa, Ukraine, August 2003).
- Preparation of publications in mass media.
- Preparation of Odessa GloBallast DS Monograph Series issues No. 1-7.

Real perspectives to support the ballast water control and management system from the industry we don't see. The only exception is state institutions and bodies of the Ministry of Transport, bodies of the ecological control and scientific institutions of the National Academy of Sciences.

Country-specific Activities

Special meeting of experts to assess proposed technological solutions on ballast water treatment was held in December 2002 in Odessa. In accordance with the conclusion of the expert group, the technology chosen was based on hydrodynamic cavitations in combination with filtration. A ballast water treatment installation based on this technology will be produced.

Technical specification of the installation was prepared in 2003.

Project was presented at the 2nd Ballast Water Treatment R&D Symposium in July 2003. Final pilot installation will be produced and tests are scheduled for June 2004.

At the same time special local consultant is developing the Protocol of Trials based on so called biological testing of different objects, recommendations and best practices of leading American, German and Australian specialists on the assessment of the treatment efficacy presented at the 2nd R&D Symposium.

Another country specific activity in Ukraine is the Ballast Water Exchange Electronic Monitoring System (BWEEMS) project. This system allows the ship-owner and master to manage ballast water exchange with a computer avoiding unnecessary risks for the ships and crew. The development of a special pilot installation was organized, which not only allows test of efficacy and reliability of BWEEMS software system but also demonstrates the rationale of this method to relevant audiences. Such a pilot stand is already produced.

Other/Miscellaneous

Unfortunately, there is no place in the model form of Country Status Report for the Biological Port Baseline Survey.

This activity was finalized in 2002.

Results of Odessa Biological Port Baseline Survey were presented in Brazil in April 2003 at the 1st International Workshop on Guidelines & Standards for IAS Surveys & Monitoring.

The survey showed that biological diversity of Odessa Port consists of 548 species, 29 of them are introduced, and 19 species were registered in the Black Sea for the first time.

A full Report of the Biological Baseline Survey in Odessa Port (Russian and English versions) is placed on our web site and will also be published in the monograph series.

Results of the port baseline survey were reflected in a visual guide on Black Sea introduced species: full-colour large-scale poster with all currently known exotic aquatic organisms of the Black Sea. Full laboratory and demonstration collections of introduced species discovered during this survey in Odessa Port are also prepared. One of them is stored in Odessa DS and the other at the Institute of Biology of Southern Seas.

In addition to these results, in the middle of February 2004 Microbiological Survey of Odessa Port water area and ballast water of ships calling at our port from different parts of the World will start. This survey will be carried out by the I.I. Mechnikov Anti-Pest Scientific and Research Institute (Ministry of Public Health) situated in Odessa.

As was already mentioned here, last year was the most fruitful. We may state that results achieved in the programme implementation for the last year have laid a solid foundation for further work in the framework of the GloBallast Programme. At the same time, it is necessary to recognize that efficiency of the further work on implementation of Conventions in a high degree depends upon the extent of the institutional and financial support of the Program.

Global Ballast Water Management Programme – Ukraine
Country Status Report Summary Table – November 2002 to 31 December 2003
(Only country relevant activities shown – Global activities covered in PCU Status Report)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
1. Coordination & Management	1.B.1	In Country	Establish Lead Agency & CFP	Since November 2002 Information and Analytical Centre for Shipping Safety is designated as the Lead Agency.		
	1.B.2	21.03	Support CPTF & CFP Assistant	CFP-A salary, CFP travel.	112,500	93,615 (83%)
	1.B.3	32.05	Hold CPTF Meetings	The 6 th CPTF of Ukraine meeting was held in Odessa in December 2002.	13,500	9,535 (71%)
	1.B.4	21.02	Develop & Implement National Workplan	NWP has been amended in a view of Programme extension till Sep 2004.	142,000	55,951 (39%)
	1.B.4 (b)	21.02	National/Regional Co-ordination Centre – Black Sea Centre for Information & Training on BW Management	Implementation of Regional Communication Workplan.	65,000	17,749 (27%)
	1.B.4 (c)	21.02	Institutional strengthening of marine laboratory facilities in Odessa	Strengthening laboratory facilities of Anti-Pest Research Institute (APRI) needed to establish monitoring of pathogens in Odessa Port.	34,000	25,000 (74%)
	1.B.4 (d)	21.02	Ballast water treatment technology	Special meeting of experts to assess proposed technological solutions on ballast water treatment was held in December 2002 in Odessa. The installation based on hydrodynamic cavitations in combination with filtration is under construction. Protocol of Trials of treatment installation is under development. Pilot stand installation of Ballast Water Exchange Electronic Monitoring System produced.	43,000	13,201 (31%)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
2. Communication	2.4	32.07	In-country communication workshops and plan	National Communication Workplan developed as in-kind support. In 2003 four National Awareness Raising Seminars on BWM held in Odessa. Odessa GloBallast Russian Monograph Series established in 2003, 4 monographs already issued. Lectures on BWM delivered in a number of educational institutions for students and pupils. Reports on GloBallast activities presented in a number of conferences, seminars, and workshops. Odessa DS web site updated. Wall-combined, table and pocket calendars with logos, pictures and texts reflecting GloBallast Programme activities produced before 2004. Two new TV documentary films about the Programme and the problem in a whole are scheduled for the summer 2004.	0	0
	2.5	21.05	Implement country communication plan	Risk Assessment for the Odessa Port was finalized in February 2003. Electronic BW Risk Assessment system is installed at Environment Protection Division in Odessa Port. Final results have been presented at the 1 st International Workshop on Ballast Water Risk Assessment in September 2003, Melbourne, Australia. Results of Ballast Water Risk Assessment were presented to the participants of the 6 th CPTF meeting and were recommended to be used in the other ports of Ukraine and Black Sea Region.	98,666	54,463 (65%)
3. Risk Assessment						
	3.1	21.06	Carry out ballast water risk assessments		7,667	7,581 (99%)

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
	3.2	21.07	Carry out Port Baseline Surveys	<p>This activity was finalized in 2002.</p> <p>Results of Odessa Biological PBS presented at the 1st International Workshop on Guidelines & Standards for IAS Surveys & Monitoring in April 2003, Brazil.</p> <p>Full-colour large-scale poster with all currently known exotic aquatic organisms of the Black Sea produced.</p> <p>Laboratory and demonstration collections of introduced species of Odessa Port prepared.</p> <p>Full Odessa PBS Report available at http://www.globallast.od.ua/library/port.asp and will also be published in the monograph series.</p> <p>Microbiological/Pathogenic Survey of Odessa Port water area and ships' ballast water of ships starts in February 2004.</p>	50,000	46,984 (94%)
4. Ballast Water Management Measures	4.1	21.09	Translate / promulgate IMO Guidelines	IMO Guidelines and BW Convention will be translated, printed as Monograph and distributed.	3,667	200 (5%)
	4.2	11.53 32.03 32.04	Assist PCU to develop/deliver BW training package (UN Train-X)	Ukraine's representative participated in first delivery and validation of the training package following the Train-X methodology in May 2003, Rio de Janeiro, Brazil. Course packages translated into Russian and will be adapted.	18,000	5,887 (33%)
	4.3	21.08	Conduct National legislative review	<p>Review of national legislation conducted and presented at the Malmo Workshop in 2001.</p> <p>Many provisions of the Legislative Review 2001 need to be re-drafted.</p> <p>Legislative Review Report translated into Russian and will be published as part of Odessa Monograph Series.</p>	15,600	15,545 (99%)
	4.5	In Country	Develop National BW management policy, strategy and plan	<p>The structure of national legislation will be discussed at the 7th CPTF of Ukraine meeting.</p> <p>Many initial documents (instructions for ships' crews and Port State Control, training and educational programmes for ship and shore personnel, etc.) developed.</p>		

Workplan Component	Activity No.	Budget Line	Activity	Progress to Date (brief description)	Planned Country Budget (US\$)	Actual Country Expenditure to date (US\$)
5. Compliance Enforcement & Monitoring	5.2	42.01	Ballast water sampling equipment	Governmental authorities with relevant potential to implement new provisions of BW Convention should be designated after the Convention is signed.	10,000	823 (8%)
	5.3	32.02	In-country CME personnel & training		39,400	0 (0%)
	5.4	21.11	Implement compliance, enforcement and monitoring arrangements		25,000	0 (0%)
6. Regional Activities	6.1	16.02	Form RPTFs	In 2001 CFP-A and IMO consultant travelled to all Black Sea countries to initiate the 1 st Black Sea Conference and RPTF meeting. 2 nd Black Sea Conference on BW Control and Management held in Constanta, Romania, 28-30 January 2004. RPTF TOR and Short-Term Plan to implement the Regional Action Plan of 2001 agreed. PBS seminars and other activities in each Black Sea country scheduled for 2004.	10,000	10,000 (100%)
	6.2	32.09	RPTF Meetings & Study Tours		90,000	82,868 (92%)
7. Resourcing & Financing	7.1	In Country	Develop and implement in-country arrangements for the long-term, ongoing resourcing and financing of ballast water management activities	Creation of the Information Invasive Aquatic Species (IAS) System was added by the Ministry of Transport of Ukraine to the State Programme on the Protection and Rehabilitation of the Azov and Black Sea Environment.		

Agenda Item 4: NGO / Industry Information Papers

Friends of the Earth International (FOEI)

Shipping Futures

How to achieve an environmentally sustainable maritime industry?

By Roger Lankester
CEng – Oceans Division

Introduction

Sustainable development has been the key global objective since the Rio Earth Summit held in 1992 and last year reaffirmed in Johannesburg. As a result a number of important initiatives have been undertaken at the International Maritime Organisation as a response to UNCED Agenda 21 Chapter 17, in particular a convention on anti-foulings, the revisions to the requirements for PSSA's, the forthcoming convention on ballast water etc. Yet there remains a continuing inventory of shipping accidents, operational discharges etc. that have led to pollution of the marine environment.

As a result of the follow up to Rio a project called White water to Blue water, led by the US and the UK is being implemented for the Caribbean along with a whole range of local partners from industry, NGO's, Regional bodies and the states comprising the Caribbean Region.

White water to Blue water is a project that takes a more holistic vision for land/sea interaction, incorporating concepts of spatial sea use planning coupled to Integrated Coastal Management. It perhaps signals a possible vision for the future that will ask new questions about how the maritime industry will develop given the imperative of sustainability.

The US has made a prediction that maritime transportation will triple in the next 20 or so years. In addition UNCED Agenda 21 concluded that by the year 2025 70% of the worlds population would live within the coastal zone. Whether or not these predictions are realised may be a matter of conjecture but certainly the future environmental pressure on the coastal marine zone will dramatically increase given the greater influence of WTO, the new markets opening up due to the political changes of the last decade and sea level rise as a result of global warming.

How can the maritime industry meet the challenge of responding to these market forces in a sustainable way?

Where are we now?

The current approach to environmental protection is reactive. This is not a sustainable practice. Although it might be argued that it is a way of minimising spurious cost to the shipping industry in financial terms it has in effect meant the environment pays the environmental price. Typical is:

- **Shipping accidents.** Whether due to navigational error, failure of the hull structure in heavy weather or other human error in the design, classification or operation of a ship. As a consequence of accidents like the Exxon Valdez, Sea Empress, Erika, Prestige etc. action at IMO has resulted. Single hull tankers are being phased out in preference to double hull designs, strengthening of the forward bulk head in bulk carriers, VTS schemes to improve navigational safety, all assist in reducing marine pollution. However, the statistics still allege that on average one bulk carrier sinks somewhere in the world every week. With up to 10,000 tonnes of often high density bunker fuel on board one would have expected the revisions to MARPOL Annex 1 to already have required bunker fuel tanks to be double skinned. Yet only now is it being considered at IMO. Too much reliance is placed on the OPRC convention that is essentially damage limitation in terms of pollution of the sea, although emergency measures will always be needed.
- **Operational discharges.** As anybody who has come across oiled sea birds or been covered in crude oil whilst on the beach will know tank cleaning and slop over board pumping still takes place against all the principles and regulations of IMO. Is this because such regulations are administered by Flag States with Port States having the impossible task of being the pollution prevention police force? or is it due to ports still not having inclusive charging for waste discharge to reception facilities ashore? or is it the rapid turn round of ships in port and minimal crewing levels with no time to discharge wastes ashore the culprit? Whatever the cause the burden is being carried by the coastal environment. Each player in the cycle blames the other. Ships blame the port, the port blames the ship, the ship owner blames the charter party agreement he is forced to sign by voracious cargo owners.
- **Ballast water discharges and alien species.** Again reactive action in terms of regulation by IMO. UNEP have described the introduction of alien species as second only to habitat destruction in threatening global biodiversity. The discharge of non-indigenous aquatic species with ballast water is the most significant vector of introduction in the marine environment. Currently 15 Billion tonnes of ballast water is discharged from ships globally with each ships ballast tanks containing on average 3000 different species of aquatic plant or animal. The effects are now well known and include the zebra mussel into US waters and the comb jelly fish into the Black Sea. Many other examples can be found in the scientific literature.
- **Anti-foulings.** Quite clearly the benefits in terms of fuel efficiency of a smooth hull are obvious. What is not so obvious is why a biocidal approach to hull anti-fouling was considered at all for the coatings selected for the purpose. TBT is very effective indeed but it was described by eco-toxicologists as "the most toxic substance ever to have been deliberately introduced into the marine environment". It should therefore have been no surprise that it killed a whole range of non-target marine species. Yet the burden of proof was placed on marine scientists to show irrefutable harm rather than the coatings industry to prove non-harm prior to a convention being considered. The exact opposite of the approach for sustainable development.
- **Air pollution.** Modern marine diesel engine manufacturers claim to be able to design propulsion systems that will burn almost anything. Often high density fuel oils that are to all intents and purposes sludges remaining after processing of crude oil into its many petro-chemical components. Again the environmental effects were largely ignored initially with the noxious fumes from combustion released directly to the environment. We know better now with low sulphur fuels being required and flue scrubbers and other novel "bolt ons" to reduce noxious exhaust. However, the continuing reliance on non-renewable hydrocarbon fuels remains a major impediment to sustainable development of the shipping industry.
- **Habitat Loss.** Although pollution, especially from a shipping accident, results in habitat damage and degradation, recovery can occur albeit not necessarily to its original state. This is

not so for the coastal infrastructure essential to the maritime transport industry. Ports, harbours and specialist terminals have been constructed on some of the most important coastal marine habitat such as salt marsh, mangrove and coral reef. Estuaries, because of the shelter from adverse weather they provide, have been attractive locations for maritime infrastructure but are the least desirable from a nature conservation viewpoint. Because of the important habitat they comprise and the necessity for constant dredging to maintain access for the ever larger classes of ship using them, estuaries are least suitable locations for ports and harbours from an environmental viewpoint.

Can it remain this way?

Although WTO has many flaws in the way it is developing, global trade will no doubt increase. If the objectives of providing developing states with the improved living standards their populations desire are to be realised then development must be environmentally sustainable.

With 95% of world trade dependant on maritime transportation in one form or another a massive increase will occur over the next 25 years. If the US prediction is likely what will shipping activity look like?

- Ships three times the size?
- Ships three times the speed?
- Three times the number of ships?

These questions are deliberately put in a simplistic and somewhat emotive form to highlight the potential consequences for the environment unless positive action is taken as a matter of urgency to plan on a global scale for the expansion of shipping activity.

If action is solely motivated by the immediacy of free market forces then the expectation must be that pollution will increase, more marine accidents occur and an acceleration in the consumption of non-renewable fuels and the pollution resulting there from.

Principle 15 - The Precautionary Approach of UNCED Agenda 21 is paramount in the attainment of environmental sustainability. The application of this principle may be applied to an individual activity or project using Environmental Assessment as the technical means to define the consequences and to arrive at the parameters for sustainability. In this context we are considering the development of a global industry. Pre-emptive rather than reactive decision making is essential to sustainable development of the maritime industry.

However, there must be a baseline defining sustainability from non-sustainability. This may be defined technically using computer simulations and modelling or it may be more subjective based on stakeholder analysis. Given the conflicting demands, which are bound to arise during the process it may seem an impossible task but it is clear that the tools and the means are available, all that is missing is the will and who is to take the lead.

Just as a simple example the political changes of the last decade have caused new markets to open up, new sources of raw materials especially from developing states and new centres of manufacturing. As yet we are only at the start of experiencing the vast manufacturing power of China, India and other states of the Pacific Basin. The oil reserves of the Caspian Sea are in the early stages of exploitation. What effect might this have on some of the navigational pinch points. The Malacca Strait, The Dover Strait, The Strait of Gibraltar, The Strait of Marmara etc. are all likely to experience a massive increase in vessel traffic. VTS schemes are vital to safe navigation but at what point will transiting capacity exceed acceptable safety and environmental risk and other or additional measures required? Some form of analysis is required to advise pre-emptive action.

Shedding crocodile tears after the event is no longer an option.

What can be done?

IMO has already concluded a number of new conventions, updated existing ones and issued advice notices to the maritime industry as a result of the Rio Earth Summit and sadly as a result of shipping accidents, all of which contribute towards environmental sustainability. But these are all reactive not pro-active as required to fulfil the precautionary approach. To cross the threshold of the baseline between non-sustainability to sustainability requires a vision of where we think the maritime industry will be in 25 years time.

Ship design. A holistic approach is essential adopting a cradle to grave design process. The use of materials that minimise environmental effects in their manufacture and use should be preferred with re-cycled materials at the top of the list. This of course may mean lowering the permissible structural stresses for hull girder design leading to thicker plating but his sort of compromise illustrates that incorporating sustainability as an integral design limit state will require such extra costs to be internalised. Reducing the reliance on ballast water for stability is a further environmental parameter balanced against the cost of fitting treatment equipment. A re-cycling inventory should be prepared at the design stage.

Ultimately alternative fuels for propulsion must be found both to reduce dependency on non-renewables and to eliminate air pollution. Fuel cells are perhaps an obvious technology but as yet the large systems required to power ships are not available. However, proposals for the electric ship have been presented at technical meetings of the IMarEST. Gas powered turbine generators with electric propulsion systems signal a potential way forward.

New advanced coatings for ballast tanks and the internal ship structure can be used to minimise corrosion to give the hull structure an extended safe operating life. Similarly external hull coatings below water line might offer a non-toxic low friction surface both preventing fouling and improving fuel efficiency.

Operational management. The objective should be towards a zero emission ship with adequate all inclusive waste reception facilities and port-to-port reporting systems. In addition to identification transponders remote sensing real time telemetry allowing monitoring of the environmental status of the ship by coastal states should become mandatory. Such systems are already available.

Congested shipping lanes, especially narrow straights and channels, may ultimately require a traffic control system as with air traffic control. This may allow an increased volume of traffic to transit safely. However, such an approach requires further research and risk assessment before implementation.

Spatial sea and coastal planning. Habitat loss due to the demand for more and bigger port infrastructure may well be the most serious environmental threat as a result of the expansion in maritime transportation, particularly developing states that have some of the worlds most important habitat. Habitat banking or the recreation of compensatory habitat offer a mitigation strategy but has limited application in developing states and does not obviate the need for dredging deep water channels. Other options may be to construct floating offshore berthing facilities for intercontinental shipping (hub ports) with onward distribution by the short sea trade using smaller ships capable of discharging cargo at existing community harbours. Trans-boundary planning is essential in these circumstances to provide the optimum locations for environmental and navigational safety parameters. Additionally a global inventory of harbours of refuge is needed for ships in distress.

Charter party agreements. These are at the heart of the free market forces that determine the price of maritime transportation but do they take account of the environmental cost? All weather agreements clearly do not offer a ships master sufficient operational flexibility to take prudent action in extreme conditions. Therefore charter party agreements may already have the risk of marine pollution intrinsic to the way the ship is operated. This undoubtedly allows market access to poor quality tonnage as the

environmentally responsible owner would never accept such onerous conditions. Charter party agreements must be drafted to reward environmentally sustainable shipping.

To attain environmental sustainability on a global scale in one or two decades time requires planning for it to have already begun, at present it can only be seen in a fragmented form. The obvious question to arise is who should take the lead? IMO can only act on the consensus of member states. What is crucial are coherent global environmental policies from influential NGOs representing aspects of the maritime industry such as ICS, INTERTANKO, INTERCARGO, IAPH and of course BIMCO.

The challenge is there I hope I can persuade you to respond positively.

Ballast Water Futures What Do We Do Now?

By the year 2012 it is estimated that transport of goods by sea will have doubled and in 20 years tripled.

How will this increasing demand be met? Three times the number of ships? Three times the size of ships? Or three times the speed of ships? Or a combination of all three?

The current approach to ballast water management and the techniques applied to mitigate the introduction of invasive species is largely based on previous experience and knowledge.

Are these techniques and management strategies sufficiently robust to meet the challenge of these rapidly increasing vectors for harmful and unwanted introductions?

At the same time that shipping activity increases so is the environmental conditions changing both naturally and artificially. Global warming raises sea temperature, increases rainfall and therefore brackish conditions at run-off points. Anthropogenic activity such as sea defences, ports and harbours and other coastal structures create hard substrate providing new habitat for alien invaders from ballast water discharges to become established.

Although a range of management tools has been developed only one appears to satisfy the precautionary approach as shipping increases into the foreseeable future i.e. almost zero biological material in the ballast water excluded from discharge by an IMO approved process or equipment.

However, the surge in maritime transportation will largely be met by existing ships and those built prior to the coming into force of the IMO Ballast Water Convention. These ships will be dependant predominantly on a Risk Assessment approach until if or when the option of exclusion of biological material in the ballast water becomes globally mandatory for all ships.

The current draft of the convention places substantial barriers to random sampling of ships ballast water by right of a port state and any such sampling cannot be used as a reason to detain the ship or to prevent it discharging its ballast water in port. In these circumstances alternative discharge zones and mid-ocean exchange will be required. Does any possible limitations in sampling invalidate a Risk Assessment strategy?

But even taking these existing precautions the risk of alien introductions remains. Therefore these measures may be insufficiently robust to provide protection to marine resources that demand an absolute approach given the predicted expansion in global shipping.

Also as shipping expands so will more ports and terminals to load and unload cargo be constructed creating new locations for ballast water take up and discharge with artificial habitat created assisting the potential for establishment of new aquatic species.

So far the work of IMO and the GloBallast project have concentrated on ships and port infrastructure only largely in isolation to other coastal development matters. Given that there is sufficient uncertainty about the likelihood that a species discharged with ballast water will not become established then this may be the over-riding reason that a port should not be built in a particular location unless zero discharges of ballast water can be guaranteed.

The multiple uses of the marine environment are demanding that a system of marine Spatial Planning is becoming essential so that maritime activities are undertaken where environmental sustainability is not at unacceptable risk.

However, for shipping UNCLOS confers certain rights of innocent passage, presumably including operational practices not precluded by some form of IMO globally binding convention or protocol on flag states.

GloBallast has made an enormous impression regarding the knowledge of the subject of ballast water management in its broadest sense. Capacity for understanding the problems and to some degree the solutions is probably at the cutting edge of expertise.

Is the current draft IMO Convention sufficiently robust to allow the deployment of expertise acquired by the GloBallast pilot countries to have a substantial impact on mitigating the risk of alien, unwanted, harmful or invasive aquatic species discharged with ships ballast water becoming an environmental hazard?

The World Conservation Union (IUCN)

By Cato ten Hallers-Tjabbes

Following up on the IUCN information paper at the 4th Global Project Task Force Meeting that had ecosystem protection from invasive species as a key issue, we highlight a few issues that surfaced during the process of developing policies for ballast water management and what might be done. The issues are related to different perspectives, being:

- (1) Ecosystem perspective,
- (2) Ballast water management perspective,
- (3) Scientific understanding and
- (4) Societal perspective

Ecosystem perspective:

Ecosystems may be particularly vulnerable to alien invasion due to specific conditions, whether or not caused by human use. Understanding what can influence or enhance the susceptibility of coastal ecosystem to the establishment of invasive species can assist in risk assessment and recognising a need for specific care or measures that may be required. Stressed ecosystems are likely to be more vulnerable, while other factors may play a role too. Asking scientists of long-standing expertise and experience in field investigations for their 'hidden' wisdom and judgement can help to create better understanding and more optimal regional protective policies. Such understanding can then be used in raising awareness and education.

Ballast water management perspective:

Evaluation

At present the development of an appropriate evaluation of ballast water management & treatment is lagging behind the state of initiatives in treatment technology, as for instance was illustrated at last year's R&D Symposium at IMO. Yet it is crucial to evaluate treatment systems in a way that is representative for what might happen in a natural system.

Status of microbes

The fate of microbes in ballast water and the consequences for marine ecosystems when ballast water is discharged needs to be better understood along side the attention given to human pathogens.

Potential adverse effects of ballast water treatment approaches

One of the options that have been proposed for secondary treatment of ballast water is the use of chemicals (or biocides). Seen the amounts of ballast water, yearly discharged, the specific conditions of ballast water tanks, and the predominance of discharge of ballast water in coastal systems, an informed debate on this rather unresolved issue appears appropriate, in particular in view of coastal marine ecosystems. Such informed debate may well be linked to stimulating awareness, in a similar manner as earlier awareness has been stimulated on the environmental consequences of antifouling for ships (ten Hallers-Tjabbes, 2002, 2003).

Scientific understanding and development of standards for ballast water management:

Standards for ballast water to be discharged are a crucial tool in proper ballast water management. The state of scientific knowledge was up to par to be used in development of representative standards for organisms above a certain size limit of animal and plant planktonic organisms. For microbes (bacteria and viruses), in particular those that are not human pathogens, the understanding appears to be not up to meeting the requirements for setting such standard. An inventory of what is known at present and what more would be needed for developing standards for microbes, as well as how to generate such knowledge and feed it into the process of developing ballast water management evaluation standards, appears to be a way forward. Awareness of the place microbes have in marine ecosystems can then be stimulated.

Societal perspective:

Innovation in support of environmental policies

During the process of developing policies for harmful anti-fouling for ships, in response to the political will to decide on progressive environmental policies innovative industries rapidly responded by developing environmentally less harmful anti-fouling systems. The innovative actions created a context for effective implementation of a ban on organotins, and as such supported the development of the policy process to phase out organotins from anti-fouling systems for ships.

Similar signals can be seen emerging in ballast water treatment. Several industries took up the challenge to develop treatment methods, thereby responding to developments in marine environmental policies, as set out within IMO, and many more innovative initiatives are to be expected in the future. By acting innovative, the relevant industries show potential to support an environmentally safer route towards ballast water management (MEPC 49/2/13). Stimulating awareness of such development can support building linkages, coalitions and networks in ballast water management based on mutual benefit, maybe in particular for coastal and port States.

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Agenda Item 5: Risk Assessment

Background

A major technical activity under the GloBallast Project Implementation Plan (PIP) was completed in 2003, this being the ballast water risk assessments for each demonstration site.

Risk assessment is a basic first-step for any country contemplating a formal system to manage the transfer and introduction of harmful organisms in ships' ballast water. In order to assess the risk of ballast mediated invasions and begin to design a management regime for any given port, it is necessary to first understand the nature of the problem, and define basic parameters such as the volumes of ballast water received and exported, the frequency of ballast discharge and uptake events, and the locations where ballast water is received from (source ports) and exported to (destination ports).

In determining the nature and extent of their ballast water management measures, port States may wish to assess the relative risk posed by particular trading routes/and or vessels. A risk-based 'selective' approach could be attractive to developing countries, that may not have sufficient resources to target every single vessel calling at their ports, and which therefore need to prioritise their regulatory efforts.

Having identified the source ports/voyage routes that present the highest risk, Pilot Countries are now in a more enlightened position from which to develop management measures. One option might include, seeking to enter into 'twin-port' arrangements with authorities at the 'high priority' source ports, so as to develop cooperative management measures and mutually reduce the bio-invasion threat.

Outcomes & Benefits

As a result of the GloBallast risk assessment exercise, the world now has:

- An innovative, modular risk assessment methodology that has been applied and demonstrated at six broadly spread, and therefore globally representative demonstration sites, and which can be adopted and applied by any port in the world; and
- A huge data-set of shipping, environmental and risk species data for a set of more than 350 ports around the world, helping to fill a very large data gap in the existing global knowledge base.

Each Pilot Country now has:

- A fully operational database for the management and analysis of IMO Ballast Water Reporting Forms and other relevant data in all of their ports;

- An extremely comprehensive understanding of the nature and patterns of ballast water operations at their Demonstration Site;
- A Geographic Information System for the storage, management, analysis and presentation of information, including port resource maps and other layers;
- A sound indication of relative risks posed by the discharge of ballast water from each port their Demonstration Site trades with, providing an informed basis for management (including ‘port twinning’);
- A fully operational risk assessment programme combining the various elements of the system; and
- A trained risk assessment team capable of continuing to run the system and replicate assessments at additional ports, both within their country and their region.

The exercise has proven extremely useful in giving relevant personnel from each country an in-depth involvement in the issue, creating increased awareness and building technical capacity and institutional structures to begin to address the ballast water problem in an organized, structured way.

Details of the risk assessment methodology and all of the information generated are available in the final reports, published under the GloBallast Monograph Series.

Completion of this activity represents a major, practical and highly useful and beneficial achievement of the GloBallast Programme.

National, Regional & Global Replication

Of the six Pilot Countries, South Africa, through its National Ports Authority and using its own resources, is proceeding with replicating the risk assessment at additional ports in the country.

At the regional level, those GloBallast Pilot Regions that have developed Regional Strategic Action Plans (SAPs), have included replication of risk assessments as a core activity. The IMO Integrated Technical Cooperation Programme (ITCP) for 2004/05 has allocated funding (limited) to support GloBallast-type risk assessments at two additional ports in some regions.

Of their own initiative and using their own resources, several other countries and regions have already sought permission to review/use/adopt/adapt the GloBallast approach to ballast water risk assessment, including NE Canada, Adriatic sub-region and Japan.

The results from these additional studies will add other important and currently un-represented regions to the broad and diverse coverage already established through the six GloBallast demonstration sites, filling important gaps and making a significant contribution to the global understanding of this major problem. This also represents effective ‘catalyzing’ of action and leveraging of resources from other groups by GloBallast, and the development of ‘best practice’ methods by GloBallast, being accepted and applied by other parties, including both developing and ‘developed’ countries.

International Workshop & Guidelines

In the first week of September 2003, an international workshop was held in Melbourne, Australia, with generous sponsorship from New Zealand (NZ) and Australia, to review the GloBallast risk

assessments and compare with other approaches (e.g. NZ Shipping Explorer, Australian Decision Support System and Norwegian EMBLA). The workshop represented a significant financial contribution by Australia and NZ to GloBallast and was considered to be highly successful. Outcomes included the generation of recommendations for risk assessment guidelines under the new Convention, development of which is being lead by Norway.

Action Required

It should be noted that the risk assessment results presented in the final reports are only a ‘snap-shot’ in time, and the assessment should be re-run for any one demonstration site every few years, to account for changing trading patterns.

The utility and value of the GloBallast risk assessments can only be maintained if each Pilot Country continues to collect IMO Ballast Water Reporting Forms from arriving ships, enter these into their purpose-built databases and continues to house, maintain and operate the system that has been provided by GloBallast, as well as maintain a trained risk assessment team.

Each country therefore needs to ensure that arrangements are in place for the above, on an ongoing, long-term basis, and to further develop the risk assessment system, including replication at additional ports within the country.

Each Pilot Country should also seek to enter into ‘twin-port’ arrangements with authorities at their ‘high risk’ source ports, as identified by their risk assessments, so as to develop cooperative management measures to address the risk ‘at the source port’ and mutually reduce the bio-invasion threat.

The PCU should enter into discussions with the IMO Technical Cooperation Division (TCD) to develop a procedure for mobilising and managing the ITCP funds allocated for ballast water TC activities in each region. This could comprise establishing the PCU as TCD’s ‘Implementation Agent’ for ballast water activities and utilising the expertise now established in the Pilot Countries as experts/consultants.

The PCU should continue to make the risk assessment methodology, data and results available to other parties to review/use/adopt/adapt.

Agenda Item 6: Port Biological Baseline Surveys

Background

Both the IMO ballast water Guidelines (A.868 (20)) and the draft International Convention for the Control and Management of Ships' Ballast Water and Sediments, include the principle of addressing the problem of the transfer of invasive aquatic species (IAS) in ballast water by preventing the uptake of organisms at the source port (section 9.1.1 of A.868 (20) and Regulation C-2 of the draft Convention).

This approach is consistent with modern principles of best-practice environmental management, where efforts are directed at preventing rather than curing environmental problems, and to addressing them as close to the source as possible, rather than at the 'end-of-the-pipe'.

Given the complexities and constraints of shipboard treatment and management, avoiding the uptake of harmful organisms in the first place, is a much more effective and efficient approach.

It is not possible to manage and control invasive aquatic species (IAS) unless you know *what they are* and *where they are*. Both A.868(20) (sections 8.2.2 and 10) and the draft Convention (Regulation C-2) recommend that port States should undertake biological surveys and monitoring in their ports, and alert shipping and other interested parties to 'outbreaks' of harmful aquatic organisms and areas or times to be avoided in taking on ballast.

This can help to minimise the uptake and transfer of organisms.

The results of such surveys and monitoring are also vital for the control and containment of any IAS that are detected in the port and to understanding impacts and invasion processes.

The Need for Standards and Guidelines

It is highly desirable that IAS surveys are conducted according to standardised, uniform methods. This helps to ensure quality control and a basic minimum standard, and allow inter-comparability of data.

Such standardisation is extremely important when dealing with global activities such as shipping and the trans-boundary movement of species, which require a high level of international cooperation and coordination.

During the development of the new IMO ballast water Convention, a need has been identified for international guidelines and standards for surveys and monitoring of invasive aquatic species in ports and coastal areas.

The Australian Centre for Research on Introduced Marine Pests (CRIMP) developed standard IAS survey protocols in 1996. These have been well tried and tested, with 35 Australian ports surveyed since 1996. The protocols were revised and republished in 2001 (Hewitt & Martin 2001).

It is vital that survey results are fed into national, regional and global databases, and that these are linked to communication and reporting systems that allow the international shipping industry and government agencies to be alerted to outbreaks of harmful species. This will assist appropriate and timely management action.

The GloBallast Port Surveys

As part of its objective of assisting developing countries to implement the IMO Guidelines and to prepare for the new Convention, GloBallast has supported each of its six Pilot Countries to conduct biological baseline surveys and ongoing monitoring programmes for IAS.

In 2001 GloBallast selected the CRIMP Protocols for application at its six Demonstration Sites, on a trial basis. This included a training programme to establish national IAS survey teams, and the provision of technical advice, assistance and funds to design and conduct baseline surveys.

All six Pilot Countries now have fully trained port survey teams that are familiar with planning and conducting ports surveys. In accordance with the CRIMP Protocols, field sampling has been completed in all countries, in some cases in both summer and winter, sample identification, analysis and reporting is very well advanced, and most countries have completed draft final reports.

Outcomes & Benefits

The establishment of biological baselines and IAS survey capabilities at six major ports in the main developing regions of the world, represents a major step forward in the global effort to address IAS. It is important that the momentum generated to date is capitalized, through long-term monitoring at the existing sites and replication at additional sites around the world.

The CRIMP Protocols have also been adopted/adapted for UK ports and the New Zealand Ministry of Fisheries for a comprehensive series of surveys around New Zealand. They are also being applied at locations in the US, and considered for use by groups in the Baltic, Mediterranean and East Asian Seas.

When the initial GloBallast surveys are linked with the surveys being conducted or planned in other countries and regions, they provide an important building block for a much-needed global monitoring and early-warning system. It also provides vital data on the global distribution of pest species, which supports, *inter alia* the risk assessments discussed under item 5.

Details of the port survey methodology and all of the information generated at each site is available in the final reports, currently being prepared for publishing under the GloBallast Monograph Series.

The exercise has proven extremely useful in giving relevant personnel from each country an in-depth involvement in the issue, creating increased awareness and building technical capacity and institutional structures to begin to address the ballast water problem in an organized, structured way. Completion of this activity represents a major, practical and highly useful and beneficial achievement of the GloBallast Programme.

International Workshop & Guidelines

In April 2003 the PCU, with support from the Government of Brazil, convened the *1st International Workshop on Guidelines & Standards for Aquatic Invasive Species Surveys & Monitoring* in Brazil.

The Workshop, which brought together port survey experts from the 6 GloBallast Pilot Countries, Australia, New Zealand, UK, the Baltic Region, the Black Sea and Caspian Regions, the Mediterranean and others, reviewed the current state of play globally, and developed recommendations for *International Guidelines and Standards for Surveys & Monitoring of Invasive Aquatic Species in Port Areas*.

In 2004 the PCU, with support from technical experts, will use the outcomes of this Workshop to develop the *International Guidelines and Standards* further.

National, Regional & Global Replication

Of the six Pilot Countries South Africa, through its National Ports Authority and using its own resources, is proceeding with replicating the port surveys at additional ports in the country.

At the regional level, South Africa is well advanced with assisting Kenya to replicate a port survey at Mombasa, and in East Asia Vietnam has requested assistance to carry out such a survey. Those GloBallast Pilot Regions that have developed Regional Strategic Action Plans (SAPs), have included replication of port surveys as a core activity. The IMO Integrated Technical Cooperation Programme (ITCP) for 2004/05 has allocated funding (limited) to support GloBallast-type port surveys at two additional ports in some regions.

Globally, of their own initiative many more ports, countries and regions are planning/implementing port biological baseline surveys and ongoing monitoring programmes, using the standard CRIMP Protocols as promoted by GloBallast, thus creating a comprehensive global coverage of surveys and monitoring, comprising a major building-block to addressing the ballast water problem. These include 35 ports in Australia, 15 ports in New Zealand, a number of sites in the USA, the 6 GloBallast sites, several additional GloBallast replication sites, and plans for networks of ports and sites throughout the Mediterranean and Baltic Seas, as well as several ports in the Pacific Islands.

The results from these additional studies will add other important and currently un-represented regions to the broad and diverse coverage already established through the six GloBallast demonstration sites, filling important gaps and making a significant contribution to the global understanding of this major problem. This also represents effective 'catalyzing' of action and leveraging of resources from other groups by GloBallast, and the promotion of 'best practice' methods by GloBallast, being accepted and applied by other parties, including both developing and 'developed' countries.

Action Required

Each country needs to complete and submit their final reports for publication by the PCU under the GloBallast Monograph Series. The PCU has provided a standard report format to all countries, which should be followed.

It should be noted that the port survey results presented in the final reports are only a ‘snap-shot’ in time, and the surveys should be periodically re-done, or longer-term, less-intensive ‘passive’ monitoring should be implemented, at each demonstration site, to account for changes over time and the possibility of new invasions occurring at any time.

Each country therefore needs to ensure that arrangements are in place for the above, on an ongoing, long-term basis, including replication at additional ports within the country.

The PCU should enter into discussions with the IMO Technical Cooperation Division (TCD) to develop a procedure for mobilising and managing the ITCP funds allocated for ballast water Technical Cooperation activities in each region. This could comprise establishing the PCU as TCD’s ‘Implementation Agent’ for ballast water activities and utilising the expertise now established in the Pilot Countries as experts/consultants.

The PCU, with support from technical experts, will use the outcomes of the International Workshop to develop the *International Guidelines and Standards* further.

The PCU should continue to make the port survey methodology, data and results available to other parties to review/use/adapt/adopt.

Agenda Item 7: Ballast Water Management Capacity Building Package

Background

Activity 4.2 of the Project Implementation Plan provides for the development and delivery of training packages using the UN Train-X decentralised course development and sharing system. The initial delivery of the training package will serve as validation of the course and the validated course packages will be sent to training units in each Pilot Country for adaptation according to the Train-X methodology and subsequent national/regional delivery.

The capacity building package should include instructions on the application of ballast water and sediment management procedures and maintenance of appropriate records and logs in accordance with the IMO Guidelines and the draft text of the Ballast Water Convention (BWC). The governments of the six Pilot Countries should be encouraged to ensure that their marine training and educational organisations include these instructions in their syllabus and specific training requirements will be incorporated in the certification procedures.

Activity Description

During the 2nd GPTF Meeting in December 2000, general consensus was reached on the need for such training and the members of the task force identified the TRAIN-SEA-COAST (TSC) Programme as most appropriate to coordinate the development of the training package. UNDP has recommended TSC as the best qualified programme for this purpose as it combines the technical knowledge on coastal zone management with the necessary pedagogical skills in Train-X methodology.

Expected benefits of the partnership between the GloBallast Programme and TSC global training network as a vehicle to address GloBallast related capacity building priorities include:

- High quality training standards for the development and delivery of the capacity building package at various locations.
- Standardized approach to the training needs of the six Pilot Countries consistent with the provisions of IMO Guidelines and requirements of the future Convention.
- Local capacity building for developing, adapting and delivering the training package.
- Participation in the Train-X sharing network and possible dissemination of the GloBallast concepts worldwide.

- Active and direct cooperation between different GloBallast activities and their training components.
- Pooling resources available under the two GEF projects.
- Cost-effectiveness in the short and long terms.

The Capacity Building Project was approved in mid-2001 and the CFPs in Brazil and South Africa were advised to contact the TSC course developing units in their countries and initiate the training package development. The estimated budget for course development was \$109,000. The remaining US\$173,000 was allocated for validation, adaptation of the courses and delivery of the training package. It was agreed that the course will be prepared jointly by TSC/Brazil located in the Federal University of Rio Grande and TSC/Benguela Current located in the University of Western Cape in Cape Town, South Africa.

In April 2002 a Coordination meeting was organized by Train-Sea-Coast, Central Support Unit (TSC/CSU) in collaboration with GloBallast PCU. The objectives of the meeting were as follows:

- (i) To discuss the preliminary Training Needs Analysis (TNA) undertaken by TSC/Brazil and TSC/Benguela Current, in preparation of the Coordination Meeting.
- (ii) To undertake the final design and development of the Ballast Water Management Training Package (BWMTP).
- (iii) To assign follow-up responsibilities to each Course Development Unit.
- (iv) To select subject-matter experts to assist each CDU, and agree on their TORs.
- (v) To select international experts to review the final draft of the course, and agree on their TORs.
- (vi) To draft a work schedule for each CDU up to the validation of the course.
- (vii) To agree on a reporting system.
- (viii) To finalize administrative arrangements needed for the completion of the training package, including the two validations in Brazil and South Africa, respectively.

Due to the inability of TSC Benguela Current to progress the development of their respective modules, the PCU proposed to the 4th GPTF meeting that an emergency solution be adopted to develop modules 1-5, initially assigned for TSC/Benguela Current, through the cooperative efforts of TSC Brazil and TSC CSU in New York assisted by international experts as appropriate.

In accordance with the decision adopted during the 4th GPTF meeting the TSC Course Developing Unit in Brazil was tasked to develop the training package with direct support from the TSC Central Support Unit in New York. PCU and the CFP's Office in Brazil provided the course developers with reports and information on the outcome of the other GloBallast activities to reflect the best practices and lessons learned during the implementation process.

Subject Matter Experts (SME) were identified in consultation with the CFP's office in Brazil and where expertise was insufficient international experts were requested to provide the missing technical inputs. To ensure the necessary quality throughout the package and consistency with IMO recommendations an international expert was recruited to oversee and peer review the technical content of the modules. Before the first delivery in Brazil the whole package was reviewed by the Chairman of IMO's Marine Environment Protection Committee to ensure that shipping related aspects had been properly addressed.

It should be noted that the timely completion of the package would not have been possible without the dedicated support and direct contribution of the former coordinator of Train-Sea-Coast, Ms Stella

Vallejo, who reviewed the package from a pedagogical point of view and developed the modules on National Strategies and Regional Cooperation.

The course was delivered for the first time in Rio de Janeiro Brazil from 12 to 16 May 2003 and was attended by 20 participants from various organisations involved in ballast water management and control in Brazil. The first delivery was also attended by representatives from Iran, South Africa and Ukraine, who were nominated by their CFPs as coordinators of future deliveries in their respective countries. The course was delivered in Portuguese with simultaneous translation into English. An evaluation, meeting was organised after the first delivery with the participation of TSC-CSU, TSC Brazil, CFP's office in Brazil, international consultant/expert, observers from the other Pilot Countries and PCU.

A Validation Report was prepared under the direct coordination of Ms Stella Vallejo with contributions from the evaluation panel, instructors and SME. The Report is attached (Annex 2) for easy reference. The recommendations of the Validation Report were thoroughly addressed by the Course Developers and the package was amended accordingly. The package was further reviewed by the PCU and additional recommendations were made to the coordinator of the course and to the course developers. Although this process proved to be extensively time consuming it had the benefit of being reviewed from different perspectives ensuring that both the technical and pedagogical aspects were properly addressed. The validated package was consolidated in a CD format and distributed to all the Pilot Countries.

Due to the large numbers of recommendations and to the complexity of the subject it was decided to organise a second validation on the occasion of the 2nd delivery of the package in Iran from 11 to 18 December 2003. In this respect Ms Stella Vallejo and Dr Enir Reis from TSC Brazil were recruited as consultants. It should be noted that Ms Vallejo was hired by TSC CSU as an additional in-kind contribution to the implementation of the capacity building project.

The second validation was preceded by a one-day instructor training seminar, which was very well received by the Iranian team and by the training experts invited from China and India to observe the proceedings.

The course was delivered in Tehran at the Ports and Shipping Organization Training Centre and was attended by 30 participants, carefully selected by the Country Focal Point in consultation with the two pedagogical experts. The course was delivered in Persian with simultaneous translation into English. The 2nd course delivery was successfully validated and a validation report was prepared by the two consultants.

Among other recommendations the validation report identified the need to develop a set of guidelines and procedures to conduct further validations/evaluations and to prepare a standard "instructor's profile" to assist future deliveries in the remaining Pilot Countries. The experience of the first two deliveries suggested that the course was ideally shared by 2-3 instructors who need to have the knowledge of subject matter experts and should undertake appropriate training in Train-X methodology.

The next delivery is scheduled in South Africa from 8-11 March 2004. It should be noted that significant interest in the capacity building package has been expressed by neighbouring countries in at least three pilot regions, which are currently contemplating the possibility of regional deliveries as part of their regional SAPs.

Action Required

The following action is required for the further implementation of the Capacity Building component:

- CFPs of China, India and Ukraine, through their CPTFs, are requested to identify as a matter of priority the appropriate training institutions and experts for the adaptation and delivery of the training course and advise on the most appropriate timing.
- CFPs of China, India and Ukraine to select trainees for the first delivery in accordance with the methodology provided in the Capacity Building Package (CBP).
- CFPs, through their CFP Assistants to select the most appropriate instructors in accordance with the standard “Instructor’s Profile” developed by the capacity building consultants and to assess the need for specialized Train-X methodology training courses.
- Pilot Countries to explore the possibility of organizing regional deliveries of the CBP as part of their regional Strategic Action Plans and make proposals in this respect as appropriate.
- CFPs to review the attached Long Term Capacity Building Strategy (LTCBS) proposal, to discuss the document in their CPTFs and provide inputs and comments for PCU by 31 March 2004.
- CFPs through their CPTFs to advise relevant agencies in charge of maritime education and training to include ballast water management and control procedures in their syllabus.

Annex 1:

GloBallast / IMO

Long Term Capacity Building Strategy

The need for a capacity building strategy on management and control of ships' ballast water emerged from the conclusions drawn after the first two deliveries of the GloBallast Introductory Course and from the need to ensure a smooth and timely implementation of the Ballast Water Convention.

This document is a first draft of an outline for a long-term strategy to ensure the continuation of the capacity building process beyond the lifespan of the GloBallast project and GEF's intervention. It presents a blueprint for the implementation of GloBallast/IMO's capacity building initiative to prevent, minimise and ultimately eliminate the risks arising from the transfer of harmful aquatic organisms in ships' ballast water.

Background

Problem Addressed

Global shipping moves over 90% of the world's commodities, and transfers around 10 billion tonnes of ballast water across the globe each year. While ballast water is essential to the safe operation of ships, it also poses a serious environmental threat as literally thousands of marine species of microbes, plants and animals are carried globally in ships' ballast tanks. When discharged into new environments these species may become invasive, severely disrupt the native ecology and have serious impacts on the economy and human health. The global economic impacts of invasive marine species have not been quantified but are likely to be in the order of tens of billions of US dollars a year.

The introduction of harmful aquatic organisms and pathogens to new environments has been identified as one of the four greatest threats to the World's oceans and the transfer of invasive aquatic species in ships' ballast water is perhaps the biggest environmental challenge facing the global shipping industry this century. To address this issue IMO has developed the draft text of an International Convention and became the Executing Agency of a global project for ballast water management and control (GloBallast).

International Response

The problem of Invasive Aquatic Species (IAS) in ships' ballast water has escalated during the last two decades to a point where it has triggered international concern and required international concerted action. Key international instruments establishing obligations for the prevention of transfer of IAS include:

- The 1982 United Nations Convention on the Law of the Sea (UNCLOS) that requires States to take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from intentional or accidental introduction of species, alien or new, to a particular part of the marine environment;
- The Rio Declaration on Environment and Development and Agenda 21: Programme of Action for Sustainable Development which were endorsed by the international community at the 1992 United Nations Conference on Environment and Development. Chapter 17 of Agenda 21 deals with the protection of oceans and coastal areas and in its section 17.30 provides that States should assess the need for additional measures to address degradation of the marine environment considering the adoption of appropriate rules on ballast water discharge to prevent the spread of non-indigenous organisms;

- The 1992 Convention on Biological Diversity (CBD), adopted at the same time as Agenda 21, requires Contracting Parties to prevent the introduction of those alien species which threaten ecosystems, habitats or species;
- The Plan of Implementation adopted by the World Summit on Sustainable Development held in Johannesburg in 2002 urges the International Maritime Organization to finalize the anticipated International Convention for the Control and Management of Ships' Ballast Water and Sediments; and
- The Ballast Water Convention itself requires each Party to give full and complete effect to its provisions in order to prevent, minimise and ultimately eliminate the transfer of harmful aquatic organisms and pathogens in ships' ballast water and sediments.

Having such a broad international basis for action in place the next step is to create the necessary institutional capacity and to develop the human resources to implement the Ballast Water Convention.

The Need for Training

The need for training was first identified during the PDF Block B phase of GloBallast and subsequently introduced in the project document among other activities to overcome the barriers to the effective implementation of ballast water control and management measures. The initial training needs assessment conducted together with Train-Sea-Coast (TSC) experts and the experience accumulated during the course development process and the first two deliveries revealed that:

- There are very few trained ballast water managers properly qualified to address issues such as:
 - a. Institutional arrangements,
 - b. Multi stakeholder involvement,
 - c. Risk assessment,
 - d. Compliance monitoring and enforcement,
 - e. Ship-port interface,
 - f. Information management and
 - g. Incursion management.

(The very limited number of experts with basic knowledge in the above given areas of competence is grouped in four-five countries with extensive experience in ballast water management and virtually inexistent in developing countries);

- There are few, if any, capacity building initiatives on ballast water management that could be used as models and replicated in developing countries/regions;
- There are vast differences in the levels of skills of the target populations (administrators, port personnel, seafarers, etc), which correspond to an equally large difference in their education levels and backgrounds;
- If the seafaring community training needs are traditionally regulated through the International Maritime Organization's International Convention on Standards of Training, Certification and Watch Keeping for Seafarers (STCW), in this particular case there is an increasing need to address the training needs of the rest of the personnel involved in ballast water management and control activities in a harmonised and consistent manner;
- There is a strong need to train managers particularly on cross cutting issues such as multi-sector and private sector involvement and the development of innovative financing options.

The above findings call for a capacity building strategy that could ensure basic knowledge and skills on ballast water management and control as well as change attitudes towards a global problem with catastrophic and, in most cases, irreversible consequences.

Overall Purpose of the Capacity Building Strategy

The overall goal of the GloBallast/IMO capacity building strategy is to enhance each nation's capacity to pursue sustainable and equitable development through maximising opportunities offered in marine and coastal areas. The intent of the strategy is to create local capacity through specialised training of personnel and to strengthen a country's capacity to effectively advise and implement sustained actions to prevent, minimise and ultimately eliminate risk to the environment, human health, property and resources arising from the transfer of harmful aquatic organisms and pathogens in ships' ballast water. Training would also contribute to the creation of an enabling environment to promote innovative ballast water management alternative technologies and to the implementation of the key principles embodied in the Ballast Water Convention.

The capacity building strategy is focussed on human resources development through education and training based on actual needs. It is based on institutional and infrastructure development and the creation of a favourable enabling policy environment. The strategy involves local/regional institutions, aims to integrate indigenous knowledge and intends to become sustainable over time.

Recognising that capacity building for oceans and coastal areas is a cross-cutting issue addressed under different initiatives, the strategy aims at reducing gaps and harmonizing efforts around the world. The strategy also recognises the need to build broad-based partnerships to mobilise technical and financial resources to advise the outcomes above and promotes partnerships among donors, among private and public institutions and extensive involvement of the relevant NGOs.

The GloBallast/IMO capacity building strategy is directly responsive to the principles of the World Summit on Sustainable Development and reflects the key principles and requirements of the IMO International Convention for the Control and Management of Ships' Ballast Water and Sediments.

Objectives and Scope

The immediate objectives of the capacity building strategy include:

- Providing a forum for learning and discussions of best practices and alternative methods for ballast water management and control;
- Sharing experiences between participants from different countries/regions, thus setting the basis for successful replication of lessons learned and 'south-south' cooperation on ballast water management and control;
- Strengthening the understanding of the linkages between transfer of Invasive Aquatic Species and the integrity of the marine environment and coastal areas;
- Strengthening the understanding of interconnection between ballast water management and other government related policies (e.g. integrated coastal management, sustainable economic development, biosecurity, etc); and
- Increasing the capacity of countries to involve various stakeholders and the opportunities for public-private partnerships.

The GloBallast/IMO strategy has a global scope and aims to ensure a standardised approach towards ballast water management and control. However, for the time being it is only implemented through the demonstration sites established in the six GloBallast Pilot Countries (i.e. Brazil, China, India, Iran, South Africa and Ukraine). It is hoped that current coverage will be extended through the combined efforts of IMO, UNDP and GEF during the next phase of the GloBallast project.

The primary target population envisaged by the strategy comprises personnel directly involved in ballast water management and control (i.e. administrators, port personnel and seafarers). The secondary target population includes decision-makers at national and local level, private sector, financial institutions, regional organisations and policy makers responsible for the implementation of the Ballast Water Convention. A stepwise approach is used to address the multiple tasks required under the strategy: from the development and delivery of the training package to the management of training and the evaluation of its impact on the effective implementation of the Convention.

Training Approach

Methodologically the GloBallast/IMO strategy is based on the UN Train-X approach for course design and delivery through cooperative training networks. Train-X methodology ensures that high pedagogical and technical standards are attained and arrangements for cooperation among the training centres are established. Training materials, experience and personnel may be shared for the benefit of all members of the network, which not only avoids duplication of efforts, but is also cost-effective. The methodology proved to be particularly efficient for courses that are intended to be delivered many times and in different parts of the world.

According to Train-X methodology the courses are developed jointly by teams of pedagogic and technical experts and the outcome is a standard capacity building package consisting of:

- (i) A manual for the trainees;
- (ii) A manual for the instructors; and
- (iii) Key reports on the course development and the subsequent capacity building process.

This facilitates sharing and adaptation of the materials by other members of the network and ensures that the quality standards are maintained regardless of how many times the course is delivered at different locations.

This approach to training has proved effective throughout the experience of eight training programmes hosted by seven UN organisations having partners in over 100 countries worldwide.

As IMO had very limited experience in Train-X methodology, GloBallast joined force with the Train-Sea-Coast programme of the UN Division for Ocean Affairs and the Law of the Sea to develop a comprehensive training package on ballast water management and to initiate the capacity building process as required by relevant IMO instruments. The partnership established between the two GEF sister projects above proved to be a success, with TSC being instrumental in assisting throughout the course development and during the first two deliveries in Brazil and Islamic Republic of Iran.

It is anticipated that, based on the progress made during the life span of GloBallast with regard to training and capacity building, IMO may wish to consider establishing its own network to support implementation of instruments involving flag States port and coastal State institutions.

A possible “Train-Port-Ship” network could benefit from the existing network of maritime training centres established in accordance with provisions of the STCW Convention and complement these centres providing specialised training for port personnel and administrators.

Operationally the GloBallast/IMO strategy relies on resources currently allocated under the GloBallast project, on IMO’s provisions for technical cooperation related to the implementation of the Ballast Water Convention and on the continuation of the GEF/UNDP/IMO cooperative initiative to assist developing countries in their efforts to comply with the requirements of the instrument. Identifying alternative resources involving private sector and regional funding mechanisms is also part of the strategy and countries participating in the process are strongly encouraged to adopt an incremental approach and explore all the possibilities to ensure long term sustainability of the strategy.

Key Elements of the Strategy

The GloBallast/IMO Capacity Building Strategy includes the following key elements:

(i) Assessment

- A thorough assessment of the target populations and their needs for training at national/regional level;
- An examination of the existing infrastructure for training in each country/region leading to the identification of potential partners for the adaptation and delivery of the package and to the establishment of possible regional mechanisms for capacity building and training of personnel involved in ballast water management and control in major regions of the world.

(ii) Development and Implementation

- A comprehensive training package providing an introduction to ballast water management has been developed and validated according to the Train-X methodology and generally accepted international standards for training;
- Subsequent adaptation of the training package using the Train-X recommended approach for adaptation;
- Accompanying operational arrangements for the management of the capacity building process and the establishment of the anticipated network of training centres.

(iii) Monitoring and Evaluation

- A support and monitoring unit to ensure correct implementation of (ii) above;
- An evaluation mechanism to ensure the efficient and effective operation of the GloBallast/IMO strategy as well as the evaluation of the impact of the capacity building process on the implementation of the Ballast Water Convention;
- Periodic reviews and updates of the strategy with support from TSC and direct contribution from the national/regional partners.

Assessment

The global scope of this strategy calls for effective institutional arrangements that facilitate multiple cost-effective deliveries in as many countries/regions as appropriate. Potential partners in these arrangements include primarily maritime training centres around the world but do not exclude other specialized education institutions, GEF sister projects, TSC units, governmental institutions dealing with ballast water management or the private sector. The most important criteria for the selection of the partners should be:

- Technical and pedagogic excellence;
- Commitment to the principles of the Ballast Water Convention;
- Availability of human resources and infrastructure for training; and
- Networking capabilities.

Development

Usually the package comes in a modular format and its development requires a minimum of two course developers, properly trained in Train-X methodology, and as many subject-matter experts (SMEs) as the specificity of the various modules require. The course developers are pedagogic experts who write the course with direct support from the SMEs with technical expertise in various fields of knowledge. As a minimum the SMEs should cover port operation aspects, on board management of ships and advanced expertise on transfer and introduction of invasive aquatic species. It is particularly

important that the final package is material-dependent as opposed to the traditional training courses, which are heavily dependent on individual instructors.

Implementation

The delivery of the package requires instructors trained in the Train-X methodology. Ideally the instructors should be SMEs in the topics covered by the course.

The relatively high number of deliveries required for a uniform implementation of the Ballast Water Convention suggests the need for regional teams of instructors prepared for multiple deliveries in their respective regions.

Based on the experience accumulated during the first two deliveries it is believed that teams of three instructors with expertise in port operations, shipboard management and biology of invasive aquatic species could successfully deliver the package. It is recommended that the instructors should be recruited, if available, from the respective regions. Participants from adjacent countries should be invited to observe the deliveries to facilitate North-South knowledge transfer and South-South knowledge sharing.

Periodic Instructor Training Courses will be organised with support from TSC, which has agreed to continue the mutually beneficial partnership with GloBallast.

The TSC Programme will continue to provide pedagogic support and to train additional course developers and instructors as required. TSC will also continue to provide support for further adaptation of the package, as new regions embark on capacity building activities.

The adaptation of the course should ideally be prepared jointly by the course developers who participated in the development of the master course and SMEs familiar with the particular circumstances of each country/region where the package will be delivered. Adaptation of the standard capacity building package to different regions is an essential part of this strategy and the following principles need to be carefully observed:

- The material to be adapted should be in its final validated version;
- Adaptation changes should be justified and properly documented by the local SMEs and should not apply to the training technique (since the latter has been successfully validated);
- Decisions for adaptation should not be taken with the view to improving the quality of the existing package since it has been successfully validated. When significant upgrading of the package becomes necessary this should be done in consultation with the original course developers and SMEs;
- Adapt only what must be adapted and always for a good reason that is properly documented.

As a general rule if the standard capacity building package meets local job and target population needs (marginal differences may be acceptable) the package should be implemented as it is.

When it is decided to significantly upgrade the package and add new training material the following rules should be applied:

- The sequencing of the new training material with the original package should be done without upsetting the latter;
- If only part of a module is modified the original structure of the module, the respective training techniques and media should be retained;
- Developmental testing and a new validation should be undertaken in case of substantial modification and extensive new training material.

Major decisions regarding the package and the operational arrangements will be taken by a Capacity Building Coordination Committee, which will include all the key players involved in the process together with the funding organisations and other donor agencies.

Monitoring

Ensuring that the highest pedagogical and technical standards are attained during the course development process is of the utmost importance and will allow a smooth and successful validation. This has been done through extensive communication among GloBallast PCU, course developers and SMEs. The same detailed quality control procedures apply for the adaptation of the course to ensure that the original standards of the validated course are maintained through subsequent regional adaptations and that the integrity of the original standard package is preserved. The adaptation should be made under the close supervision of the original course developers, or if this is not possible under the supervision of other experienced course developers, who will submit Adaptation Reports to GloBallast/IMO.

Monitoring the implementation of the package is an important component of the capacity building strategy and requires clear reporting procedures and effective records maintenance. The purpose is to ensure that the courses have been properly implemented and to facilitate post training evaluation.

The records should comprise, as a minimum, a report made by the administrators of the course (usually the Country Focal Point or another person appointed by him/her), which will include detailed information on the number of trainees, their background, place and dates of implementation, duration and cost of delivery per trainee. The report will also provide detailed information on the facilities and resources used during the implementation focusing on: instructors, premises, equipment and training aids.

The administrator of the course will also report on how the training was received (trainees opinion, questionnaires) and on the learning level (tests). Finally, the administrator will provide his own opinions and make recommendations for improvement as appropriate.

Evaluation

Evaluation is another integral part of the capacity building strategy and is essential to determine the costs and benefits of the training and to check whether available resources were used efficiently. In addition, evaluation facilitates the identification of possible shortcomings and subsequent remedial action.

For the purpose of this strategy, and the benefit of other possible end users (e.g. ports, shipping companies, line managers, funding agencies, etc), these types of evaluation are critical:

- (i) Evaluation of the learning level based on the reactions of the participants (classroom reactions and opinion questionnaires). This, together with the evaluation of knowledge and skills acquired (test results), gives a clear indication of the immediate impact of each individual delivery. To ensure maximum accuracy the opinion and evaluation questionnaires should be anonymous. Providing the opportunity to send their inputs electronically to a database available to all the trainees usually enhances the level of objectivity.
- (ii) Evaluation of the capacity building process (i.e. costs, resources used, schedule, methods) and of outputs (number of trainees, training materials, reports) is usually done after completion of the delivery and submission of the reports and provides a summary of all the results of technical and managerial activities carried out during the process. It involves analysis of time commitments, product quality, productivity and acceptability of the product.

- (iii) Evaluation of training effects on job performance provides the opportunity to determine if, once returned to their jobs, the performance of the trainees has improved to the required standard stated in the objective of the training package.

There are several evaluation techniques available to this effect and one of the most effective appeared to be the establishment of a “help desk” on the GloBallast website where ports, shipping companies, line managers and other beneficiaries can forward their opinions, port training evaluations and ask specific questions regarding the capacity building process.

As a consequence of the evaluation process the strategy should be subject to periodic review. The objective is to discuss progress and experiences and to ensure consistency in the capacity building effort at global level, while at the same time maintaining the Train-X standards. Critical milestones for reviews may include: adaptations at regional level, every ten deliveries of the package, amendments to the Ballast Water Convention and other relevant situations as may be required by the Convention.

The organisation of the review process should be coordinated by GloBallast/IMO with contributions from all the key players involved including selected areas of the package.

Financial Mechanisms and Funding

The implementation of this capacity building strategy involves significant financial commitments from IMO, donors, other external sources and the recipient countries. Fundraising is therefore an essential component of the strategy.

Financial scenarios for the implementation of this strategy are suggested in accordance with three levels of estimated funding:

- (i) Minimum; this initial phase is currently financed through the GloBallast project and has benefited from substantial in kind support from the TSC Programme. The initial budget has allowed the development of the capacity building package and two validations/deliveries in Brazil and Iran. The remaining funds will be further used for deliveries in China, India, South Africa and Ukraine.
- (ii) Intermediate phase includes additional activities that could be implemented if further funding becomes available. It is anticipated that after the adoption of the Ballast Water Convention, IMO will increase its allocations for ballast water related activities and additional countries/regions will benefit from the implementation of the capacity building package. It is also anticipated that GEF will continue its support for a more complex phase of GloBallast where the assistance for the implementation of the Convention will be channelled towards developing countries using a regional/ecosystem based approach. This will involve mainly regional deliveries through previously established mechanisms.
- (iii) Regular phase is designed under the assumption that funding is no longer a limiting factor and the capacity building activities have become self sustainable and incorporated in the national policies of the participating countries. Under this scenario the Convention will be ratified by a sufficient number of countries to enter into force and ballast water management will become part of the curriculum of maritime education and a regular training activity.

Annex 2: GloBallast / Train Sea Coast Programme First Validation and Revision Report

Course Title: Ballast Water Management

By Stella Maris Vallejo, Pedagogic Consultant

With contributions from subject-matter experts, instructors and regional observers

Introduction and background

The validation of the Ballast Water Management course was carried out in Rio de Janeiro, Brazil from 12-16 May 2003. The validation is based on the TRAIN-X methodology. The course was developed by TSC/Brazil, one of the training units of the TRAIN-SEA-COAST Programme with the assistance of a team of subject-matter experts who collaborated in drafting different modules. Two international experts, one on ballast water management and another on shipping matters reviewed the training package before validation.

This is the first of two validations planned for this course. The second validation will take place in another of the six GloBallast demonstration sites after the necessary revisions are incorporated. Subsequent deliveries will take place in the four remaining GloBallast demonstration sites. After the initial delivery at the six GloBallast demonstration sites, it is expected that this course will be delivered worldwide.

This report summarizes the results of the validation delivery and is submitted in compliance with the TRAIN-X requirements for (Standard Training Package) STP development.

The IMO/GEF/UNDP GloBallast project attaches great importance to this course, which aims to be regarded as the main introductory training package on Ballast Water

Management. Since it is planned for the course to be delivered shortly in other GloBallast sites, observers from the demonstration projects in Iran, Ukraine and South Africa were also present at the validation. Mr. Denis Paterson, the main subject-matter expert as well as course reviewer and instructor, was also present during the entire delivery of the course. Mr. Dandu Pughiuc, CTA of the GloBallast project also participated in the validation.

After the validation a meeting was organized to discuss follow-up and an implementation plan. Mr. Dandu Pughiuc (GloBallast, IMO), Mr. Alexandre Leal Neto (GloBallast, Brazil), Mr. Denis Paterson (Consultant), Mr. Simon Pearson (Cape Technikon, South Africa), Ahmad Parhizi (GloBallast, Iran), Mrs. Enir Girondi Reis and Mrs. Marli Bergesch (TSC/Brazil) and the consultant participated at the meeting. Further to this meeting and during the initiation of the revisions, the composition of the reviewing team was adjusted (e.g. the GloBallast Programme Coordination Unit took more responsibilities in the reviewing process). Currently, most of the modules have been reviewed.

The opinions, comments and suggestions of subject-matter experts, instructors, regional observers and the TSC/Brazil team of course developers, have been formally incorporated in this report (see list of instructors and observers in *Appendix 1*).

Overall comments and assessment of the course

- The course received very positive comments from participants and observers and is considered a timely contribution to BWM worldwide. In the specific case of Brazil, observers consider the course to be quite adequate to be delivered in other Latin American countries.
- Due to its introductory level, the course should be re-titled as “Introductory Course on Ballast Water Management”, or similar.
- In order to ensure proper use of this STP, and to maintain appropriate records of its delivery, it is suggested that a “Copyright statement” needs to be inserted at the beginning of the course (© International Maritime Organization).
- Provided that it is acknowledged that this is an *introductory* course, all the content and the training techniques are appropriate.
- The participants were each given a **Trainee Guide** with a comprehensive set of materials – well indexed and structured. This is the first training package that provides in a single document comprehensive, well-structured materials and key documentation on BWM. Minor adjustments, mostly of an editorial nature, are necessary to produce a final master copy.
- More in-depth revisions are needed regarding the **Instructors Guide**, to level up with the quality of the Trainees Guide.
- This course is not specific to any country in particular, and its use is worldwide.
- The course is a very constructive opportunity to meet a variety of different stakeholders and build up a network, which, for healthy future co-operation in the workplace, would be most beneficial.
- The course has been based on a very detailed Training Needs Analysis (TNA). A team of subject matter and pedagogic experts met to undertake the curriculum design as well as the design of the modules.

Validation and Revision

Procedures Used

The validation delivery was closely monitored by the subject-matter experts, regional observers, the TSC/Brazil team and the consultant. During the delivery of each module, the team took extensive notes on the successes or difficulties encountered by participants or by the instructors, including e.g. sequencing of activities, use of training materials, testing and specific reactions on the part of the participants.

A validation questionnaire, which was completed at the end of the course and analysed by TSC/Brazil, is attached as ***Appendix 2***. Results of individual and group tests are tabulated within the report.

All instructors and observers received a list of key questions and issues to be considered during the validation. On the basis of this list (included as ***Appendix 3***) they provided very useful comments and suggestions. All participants meet the validation criterion of 80/80.

Participants

The course was attended by 20 participants (see list of participants in ***Appendix 4***). They composed a very heterogeneous group in terms of knowledge, age and experience as well as previous contact with

the subject of the course. As a whole, the participants had different backgrounds and appeared to be at the operative level (e.g. a few individuals having port-related responsibilities such as pilotage). The majority of them did not have (or had never had) responsibilities related to policy making and had not been in a top management position.

A number of the key stakeholders such as shipping agents and peak organizations representing importers/exporters were not present. The participants chosen were not representative of the target population this course was initially aimed at. The fact that one of the participants significantly influenced the selection of the course participants could only be construed as a negative influence on the course. Situations where a trainee is also an instructor should also be avoided.

Interactions during the class

Participants' reactions/interactions were very good, being genuinely interested and participative. There were lots of questions, lots of discussion, especially about the Brazilian B.W.M. model. The participants differed from those who "heard about the issues" for the first time and those who had already had some exposure to the subject and had individual opinions on various questions. A group of participants could not disengage themselves from their official positions and did not act as trainees. There was a predominance of interventions from the scientific-oriented participants, who maintained long exchanges of information regarding their individual projects. At the beginning of the course, these groupings inhibit interactions among all the participants.

Thus, due to the unusual characteristics of the participants, the "warm-up" time to get the group acting in a cohesive manner took more time than usual for this type of course. However, once the participants felt comfortable with each other and with the instructors, a very positive dialogue and reactions were attained. This actually says something quite positive about the course in light of the subject matter, which can be quite 'dry'.

The group geared themselves quite well into the rest of the course and interacted increasingly; they also seemed to engage with the material very constructively. The interaction between the instructors and the participants, in the main, seemed to be good and there was plenty of opportunity to ask clarifying questions from the floor.

It is not clear whether the majority of the participants will be involved in the future in activities related to ballast water management, with the exception of those currently working in the scientific side of BWM, including health/sanitation issues.

Suggestions for future deliveries:

- The selection of participants should be kept under the control of the course manager.
- There should be a good balance of interests/stakeholders and participants being at similar levels, in order to maximize the benefits of the course.
- The state of advancement of a country on BW management is a fundamental consideration in determining both those that should attend a course as well as the level at which the course should be pitched (policy or operational level).
- Prior to the course, instructors should be briefed on the students; their levels, their knowledge, their backgrounds etc.

Conditions of Administration of the Course

The development and the delivery of modules were not always done by the same individual (See table 1 below). Likewise, not all the modules were developed by subject-matter experts in ballast water management or related issues due to the lack of expertise associated with this fairly new topic. This is the case of modules 1, 2, 3, 4 and 5. The text of all modules, however was reviewed by Mr. Denis

Paterson (international ballast water expert) and Mr. Michael H. Julian (international shipping expert), before the validation.

The instructor manual was prepared by pedagogic experts, namely: Modules 1,6,7,8,9,and 10 by Enir Girondi Reis/Marli Bergesch from TSC/Brazil; and Modules 1,2,4, and 5 by Stella Maris Vallejo. Mr. Robson Calixto was solely responsible for the preparation and delivery of Module 3.

Modules	Experts	Instructors
1	Stella Maris Vallejo, consultant	Enir Girondi Reis, TSC/Brazil
2	Stella Maris Vallejo, consultant	Stella Maris Vallejo, consultant
3	Robson Calixto, Ministry of Environment, Brazil	Robson Calixto, Ministry of Environment, Brazil
4	Stella Maris Vallejo, consultant	Stella Maris Vallejo, consultant
5	Roger Lankester, consultant	Paulo Mayer, Center of Environmental Studies, Brazil
6	Geert Prange, consultant, Brazil	Geert Prange, P & B Naval and Industrial Consultancy; Carlos Roberto Soares, Federal University of Parana
7	Sergio Zorovich, consultant, Brazil	Geert Prange, P & B Naval and Industrial Consultancy; Carlos Roberto Soares, Federal University of Parana
8	Sergio Zorovich, consultant, Brazil	Geert Prange, P & B Naval and Industrial Consultancy; Carlos Roberto Soares, Federal University of Parana
9	Denis Paterson, consultant	Denis Paterson, consultant
10	Maria Celia Villac, consultant, Brazil Andrea Junqueira, consultant, Brazil	Andrea Junqueira, Federal University of Rio de Janeiro

Table 1

The instructors were selected on the basis of their subject-matter expertise, language and/or familiarity with the TRAIN-X course delivery techniques. All instructors expressed that the instructor manual is quite comprehensive and easy to understand. It gave appropriate guidance on how to deliver each module and the majority of instructors followed it as closely as possible.

All Portuguese-speaking and non-Portuguese speaking instructors that were not subject-matter experts expressed having difficulties in delivering their module(s).

Most of the instructors closely followed the lesson plan and instructor's guide prepared for each module. All necessary materials were available during the validation. Specific departures from the lessons plans or the use of teaching aids will be discussed on a module-by-module basis and are incorporated in the following sections of this report.

Suggestions for future deliveries:

Due to the novelty of ballast water management issues and the challenge posed by the subsequent deliveries of this course, the availability of instructors specialized in BWM presents a veritable dilemma. The experience of this validation provided extremely useful lessons:

- The modules have to be delivered by experts in BWM and related fields, and also, preferably, knowledgeable in TRAIN-X methodology.
- This is strictly related to two other questions: first, SMEs may not be available; and second, SMEs may not be able to deliver the module(s) in the TRAIN-X methodology. The solution is to provide a short course to subject-matter experts on how to deliver the modules. This will help in harmonizing procedures and ensure that they do not deviate from the lesson plan nor the specific instructions provided in the instructor's manual.
- The second option (SMEs and instructor jointly delivering a module) is not acceptable.
- Language proved not to be a barrier in the delivery of modules, provided there is simultaneous interpretation and training materials (e.g. PowerPoint) are presented in both languages. Though it is preferable to have native speakers, when not available, a subject-matter expert working in another language is preferable.
- More activities should be organized where the participants should make increasing use of the training materials contained in the Trainee Manual.

Test Results

Each module had a mastery test. This consisted in individual and/or group tests. The following table shows the number of participants who met or failed to meet the objectives for each module.

Module No.	No. Of Participants Achieved Objectives (80%)	No. Of Participants Did Not Achieve Objectives (<80%)	Percent successful (80% & >)
1. Introduction to BW Management (No test required)	---	---	---
2. Development of a National Strategy	15	5	75%
3. National Situation - Brazil (No test required)	---	---	---
4. Regional cooperation in BW Management	16	4	80%
5. Development of a Port BW Management Plan	16	4	80%
6. Ships BW Management Planning	---	---	---
7. Ship-port BW Management Arrangements	17	3	85%
8. BWM Records	17	---	100%
9. Compliance Monitoring and Enforcement	14	2	87.5%
10. Post Invasion Management	16	---	100%

Individual results:

NAME	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	Average
Alice TAKEDA	---	90	---	90	80	--	100	100	100	80	91.4
Cesario NETO	---	60	---	-	50	--	80	100	100	-	55.7
Douglas SIQUEIRA MEDEIROS	---	100	---	75	100	--	100	100	70	100	90.0
Durvalino FERREIRA	---	80	---	80	50	--	50	100	-	-	51.4
Eliezer JUNIOR	---	50	---	75	80	--	100	100	80	100	83.5
Fernando DE OLIVEIRA	---	90	---	80	80	--	100	100	100	80	90.0
Gabriel CATTAN	---	85	---	100	80	--	100	100	100	100	95.0
Guilherme de ANDRADE	---	-	---	80	100	--	100	100	-	80	65.7
Janete PAULO	---	70	---	80	80	--	100	100	100	100	90.0
Joao COSTA DIAS	---	85	---	80	50	--	50	100	-	-	52.1
Jose EULLER BRAGA	---	-	---	60	50	--	50	100	50	-	44.2
Juliao MONTEIRO	---	80	---	80	80	--	80	100	80	80	82.8
Luciano FERNANDEZ	---	80	---	85	80	--	100	100	-	100	77.8
Marestela SCHNEIDER	---	100	---	95	80	--	100	100	100	100	96.4
Marcia de OLIVEIRA	---	80	---	85	80	--	100	100	70	100	87.8
Maria Cristina MANSUR	---	70	---	95	80	--	100	100	50	100	85.0
Olivio PALHETA GOMES	---	90	---	90	100	--	100	100	100	100	97.1
Ricardo MAIA	---	80	---	80	100	--	100	100	100	80	91.4
Robson CALIXTO	---	70	---	80	80	--	80	100	80	100	84.2
Uira CARVALHO	---	80	---	70	100	--	80	100	100	100	90.0

Individual results for Module 6 will be incorporated at a later stage. Considering the overall results of the tests it is assumed that the 80/80 criterion has been met.

Suggestions for revision and future deliveries:

- The tests need to be reviewed, if needed, in line with revisions/additions incorporated to modules and the Instructors' Guide. If possible, a trial should be made for each test to check for inconsistencies, unclear headings, complete information, etc.
- Many of the questions were too 'direct' and many students just copied the answer from their manuals. In future, a maximum of one question per module should be able to be answered this way and other questions should require students to apply the knowledge they have gained.
- Instructors did not take sufficient time to discuss test results and provide feedback to the participants. This should be taken care of in the next deliveries.
- Those who will sponsor and send their employees on this course may well wish to hear how their "participant(s)" have performed.
- A follow-up questionnaire should be sent to the Sponsor/Employer after the participants have attended the course to ensure that the course is achieving its objective(s).

Participant	Modules passed										Number of modules failed	Average score for course
	1	2	3	4	5	6	7	8	9	10		
Takeda	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	91.1
Neto	-	N	-	-	N	-	Y	Y	Y	-	2 (2 Abs.)	55.7
Siqueira	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	90.0
Ferreira	-	Y	-	Y	N	-	Y	Y	-	-	1 (2 Abs)	51.4
Junior	-	N	-	Y	Y	-	Y	Y	Y	Y	None	83.5
Oliveira	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	90.0
Catan	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	95.0
Andrade	-	-	-	Y	Y	-	Y	Y	-	Y	None (1 Abs)	65.7
Paulo	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	90.0
Costa Dias	-	Y	-	Y	Y	-	Y	Y	-	-	None (2 Abs)	52.1
Braga	-	-	-	N	N	-	N	Y	N	-	4 (2 Abs)	44.2
Monteiro	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	82.8
Fernandez	-	Y	-	Y	Y	-	Y	Y	-	Y	(1 Abs)	77.8
Schneider	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	96.4
Oliveira	-	Y	-	Y	Y	-	Y	-	Y	Y	1	87.8
Mansur	-	N	-	Y	Y	-	Y	N	Y	Y	2	85.0
Palheta Gomes	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	97.1
Maia	-	Y	-	Y	Y	-	Y	Y	Y	Y	None	91.4
Calixto	-	N	-	Y	Y	-	Y	Y	Y	Y	1	84.2
Carvalho	-	Y	-	N	Y	-	Y	Y	Y	Y	1	90.0

Delivery of the Modules

The management of the learning by the various instructors ranged from very good to satisfactory. Each instructor showed real commitment and interest in the subject matter and made a big effort in their presentation, use of language, voice tone and use of the training material.

There were two moments when some discomfort between the instructor and the trainees was perceived. First, when the instructor of Module 3 presented information of a personal character and second during Module 6 when the instructor made some observations of a political character regarding the present situation of the port system in Brazil. Another instructor (Module 5) seemed to ignore the data being shown on the Power Point slides and became more involved with open discussion.

Suggestions for revision and future deliveries:

- This validation showed that some modules need more focus on a lecture-based mode (e.g. M9 Compliance Monitoring and Enforcement), others require a discussion-based mode (e.g. M3 National situation); and for some the instructor may need to use an exercise-based mode (e.g. M8 BWM Records).
- The benefit of participation by the trainees should be weighed carefully against staying with the course objectives.
- In line with the above, most modules should restrict the discussions (e.g. and interaction between trainees); this suggestion is based on the fact that ballast water management is a new subject and that trainees **need** to have information that has not been available on a systematic and organized way, up to this course.

- The modules should be presented within a context so the trainees realize the importance of the module, and the links with other modules – it is not enough just referencing the links, as most instructors did, it is necessary to **explain** the links.
- The instructor's guide should include a previously designed framework to guide discussions, for those issues that are expected to raise discussion, not just let them happen. Discussions should have a clear purpose, and a wrap-up comment. Avoid lengthy discussions; trainees lose interest. Some questions to the participants from the instructor would also give immediate feedback and open up lively interaction!
- Instructors and course developers should act harmoniously, to avoid giving conflicting instructions to trainees. This should be solved by training instructors.

Practical Work During the Class

The practical exercises were well structured and got participants into useful debate tackling issues with interest, commitment and having obviously engaged with the course material constructively. Exercises were well received by the participants.

The exercises done in small groups were particularly important for engaging all the members of each group. The fact that the rapporteur from each group changed according to the nature of the subjects was an indication of good participation of all the components of the groups. In the case of some exercises, there was not enough time (e.g. final exercise for Module 5).

However, considering the introductory nature of this course, in a subject area, which is very new to the majority of participants, the ratio between the provision of basic information and the practical application of concepts should be weighed carefully. The time used for some exercises could have been better devoted to providing more information and/or generating more discussion. This particularly applied to Modules 1,3 and 4 where the time could have been better used going into a bit more detail, hammering home the key issues and ensuring that they really understood the key points, by quick questions of the whole group.

Suggestions for revision and future deliveries:

- Overall, it is recommended less time for practical work during this course. This could be achieved by not using work groups so much and instead, generating questions and responses to issues put before them. Module 9 was an example of very little practical work time with a class-wide question/answer approach more widely used along with one exercise for the whole class (the BWM Reporting Form with the incorrect entries).
- Another possibility would be to select a few but well inter-related group exercises that have continuity throughout the course and serve as examples on how to deal with key issues.
- A major simulation exercise, running throughout the course and leading to the development of a BWM strategy could also be successfully used.
- The changing of the working groups from time to time also worked very well.

Visual Materials

Both participants and instructors greatly valued the visual materials. The course developers had made an enormous effort in their design and preparation. The Power Point slides were good, clear and informative. In particular, the PowerPoint in the two languages was considered a *masterpiece* prepared by TSC/Brazil.

Suggestions for revision and future deliveries:

- It is advisable to begin the course with some visual explanations of such matters as bulk carriers, tankers, ballast tanks, D.B. tanks, ports (harbours, etc.) – a visual index.

- It would be good to have handouts for each particular Power Point presentation;
- It may be sensible to position the digital projector in such a place that the instructor does not obstruct the slide, e.g. elevate the projector or use “back projection”.
- Videos are really helpful as the visual image remains in the mind far longer than the written word.
- For Power Point presentation in two languages, prepare them in totally different colours (they were similar when projected) as, at times, the instructor found it difficult to pick up the English quickly.
- The Instructor’s Guide does not correspond with the Power Point presentations. The sequence of slides and activities should be revised.

Revisions (on a module by module basis)

General comments from instructors and observers

Not all the changes to the modules were reported. Most of the instructors had sent their revisions over the original text. Then, each of the reviewers incorporates specific changes as the process advance. The following comments and suggestions are of a general nature. Note that some modules more than others, capture the attention of the reviewers. Three questions in particular were highlighted by three of the commentators:

- *With regard to the overall design of the course* and considering the cross-section of participants, which is enormously difficult to keep everyone’s interest alert throughout the 5-day course, it was suggested to put together a trial course consisting of:
 - a. A generic module for everyone – all stakeholders
 - b. A division into 2 groups – the port state controllers
– the ship operators

A further generic module(s) in order to address the compliance with an actual set of scenarios when entering various ports utilizing a B.W.M plan and relevant documentation, e.g. simulation:
- *With regard to the dynamics of the course*, two instructors highlighted the following issues:
 - a. The compatibility between the content of the material and the activities in the class; and
 - b. The necessity of having a closing module at the end of the course.
- *With regard to the former*, a number of questions were posed about the role(s) of the material:
 - a. They should be used beforehand to prepare for the delivery of a certain Module,
 - b. They should be used during the class by the participants and the instructors, and
 - c. They should be used again after the training as a source for consultation.

This should be clearly emphasized at the beginning of the course.

With regard to the latter, one of the instructors questioned the need for a closing module to cement and unify all the previous modules and wrap content and activities of the entire course. What should this consist of? This has to be addressed by all the reviewers. In this regard, simulation exercises have been used with great success in similar training sessions, where the different actors (the participants) identify themselves with different roles while playing simulated situations that they will later face in their own countries. This type of exercise could commence in Module 2 and advance up to the end of the course.

*Overall suggestions for revision and future deliveries of each module:*Module 1: Introduction to Ballast Water Management

This module is very important since it sets up the scene and gives the participants a good introduction to the subject, and in particular, open the door for the discussion of Module 2. The content of the module is very good, but the presentation did not reflect the content in its entirety. Suggestions include the re-organization of the module on the following criteria:

- a. What is the problem to solve? (Management of ballast water);
 - b. GloBallast Programme (one of the global responses to the problem)
 - c. The TRAIN-X method: the importance of training (avoid detailed description of the methodology).
 - d. Plus a video to wrap up the module.
- The module could be enhanced by including a glossary and where possible a pictorial glossary (refer Appendix I of Module 10).
 - A case history would enhance the focus of what this whole topic is tackling and the implications.
 - A generalized description of what type of video is recommended for use in other GloBallast countries and elsewhere should be prepared.

Module 2 – National Strategy

This module is the heart and soul of the course. In terms of content is a good module, however, it is too itemized which make it at times too repetitive. At the moment, is too heavy. It may create confusion in the participants. The dynamic of the delivery should be changed. These are the major suggestions given by the instructors/observers:

- Stress in the Trainees Guide that the planning framework proposed is a *suggested approach* (based not only on experiences in the area of BWM, but also in addressing *similar* issues in many similar situations).
- Replace the terminology *Competent Authority* (proved unpopular and confusing) for the term *Lead Agency* proved to be the most commonly used and to me seems far more meaningful and descriptive of their role.
- Describe the Task Force or **similar body** such as a Committee, Working Group or whatever is appropriate in the country where the package is being delivered.
- The module should make it clear that the National Strategy covers a **whole range of issues** relevant to BWM and was *not* just the BWM regime itself (that is, the Port state's operational requirements re BWM). Issues such as research and development, funding, legislation, regional considerations etc, etc., are also very much part of the National Strategy. (This issue could be readily addressed by a bit of additional explanatory text with appropriate emphasis and a couple of countries strategies being circulated for information and to demonstrate the point re the broad-ranging nature of their contents).
- The current sense of “a model” national strategy should be neither the conclusion of the group nor the starting point of the module. (to avoid resistance from the participants).
- An example of a National strategy should be incorporated in the Trainees' Guide as an appendix to Module 2.
- The power point presentation should be simplified.
- The Instructors Guide should contain a list of “Key issues for discussion”.
- The associated exercise/test should be geared to provide roles to the participants so they can identify themselves in the process and how they join it in different capacities (simulation exercise). This could be either topic – host country, e.g. Brazil; or hypothetical, e.g. State ‘X’.

This could then allow the instructor, either to help a single country (assuming all participants were involved only in this single country), or using a hypothetical state ('X'), giving the possibility of every participant to engage with the principles.

Module 3: National Situation

This module is very necessary and is best situated at this point in the course. It did not comply with the general guidelines provided for the preparation of the materials and has to be rewritten. Overall suggestions include:

- A basic outline should be prepared regarding the content of the presentation in order to have consistent, comparable presentations in every country.
- Since this module does not have an Instructors' Guide, for future deliveries it is recommended to attach to the basic outline, a few key points regarding its presentation and associated materials.

Module 4: Regional Cooperation in BWM

This Module is specifically important for certain areas, e.g. Persian Gulf and may have lower significance in other regions but nevertheless should be taken into consideration in all future deliveries. The following suggestions have been made regarding this module:

- Stress in the Trainee Guide that *regional considerations are an essential component of any national plan*. Just a bit of a change to the text should fix this.
- The Iranian example given during this module was excellent and added very much to it. Accordingly the module should incorporate this in more detail as a prime example of both how to go about it and the results that can be achieved.
- Replace the existing case study by using an example that is not concerned with BWM just to emphasize that regional strategic planning is relevant in many fields.
- The Instructors Guide should contain a list of "Key issues for discussion".
- Refer more extensively to the provisions of the Convention Article 13, Regulations A-4, B-3, C-1, C-2.

Module 5: Development of Port a BWM plan

This module needs some rewriting to better describe the role and operation of the port. Many parts of the module duplicate other modules. Suggestions include:

- It would be better if the concept of BWM for ports was discussed in the context of the existing environmental plans that most ports now have.
- Section (v) of the module, "Risk Analysis", relates to several modules and its location here may be reconsidered.
- In the English text, Figure 1 is incorrect. The connector between "Organisms in their Native Environment" and "Ballast Water (and Organisms) Discharged", should not have an arrow on the latter box.
- Use separate checklist as a removable appendix.

Module 6: Ship BWM Pan

Changes required to this module are minimum:

- The reactions of the participants give clear indication that many of them are not acquainted with **ships**, but only with the problem of ballast water. Thus, the module needs a short section on naval architecture.

Module 7: Ships/Port operation

Minimum revisions to this Module have been suggested:

- Emphasize the very important issue of timing of communications.
- All items related to conditions imposed by the port state should be written in conditional terms, due to the fact that there are not as yet specific norms.
- Use separate checklist as a removable appendix.
- Add references as in Module 4.

Module 8: BWM Records

Few additions to this Module were suggested:

- Add an example of a classification society, including its aims, composition, etc.
- Add an example of different types of registration.
- Add references.

Module 9: Compliance Monitoring and Enforcement

The difficulty with this module as part of an introductory package is the level of detail that it goes into. The instructor made an assessment of the level of the students in their agencies and hence their likely interest in the CME issue, I adjusted his presentation overall, and kept it at a more general ‘for information’ level. Few additions have been recommended:

- The module needs to formally incorporate in it the examination of the BWM Reporting Form. This exercise was not originally planned for but worked quite well in improving their understanding of CME. It could be even expanded further into some other records.
- Would be good to have own “local” subject specialist.

Module 10: Incursion Management

No changes to the text of the Trainees Guide are necessary. Notes and Index of aliens are (?) good. Appendix II p. 28 of English version could be enhanced to give a greater resource of information through contact (Internet) details.

Other issues

Opinion Questionnaire - This form was circulated at the end of the course. If the intention is to provide a comprehensive feedback on the course, the present text is too limited. The participants did not have any opportunity to provide feed back into each of the modules, whether regarding their content or the mode of delivery. Suggestions include:

- The opinion questionnaire should be changed and expanded.
- Undertaking a middle course evaluation (oral or written) is recommended. This is useful in terms of capturing the reactions on time, and not at the end of the course when the first modules are too far away in their memories.
- **Text of English Manual** – The English version of the manual should be fully edited.
- **References in the Manual** – Several references in the Manual are incorrect; most, but not all, are because of the changes to the draft Convention. This will have to be adjusted to the results of the MEPC meetings. It may be necessary to incorporate a statement at the commencement of the document re this. It will however be necessary to do a full review of the references.

- **Operational arrangements**

- Collect tests regularly after trainees have complete them
- Arrange for one course developer to always be present in class along with the instructor
- Determine one course manager only for the whole period to be responsible for all activities
- Revise the activities daily. Trainees should be informed of any changes in advance.
- Determine one person to hand out and collect the list of presence.

Follow-up and Implementation Plan

The assignment of modules for revision to the Trainee Guide as well as the Instructor’s Guide is as follows:

Module	Changes Required	Responsible person (Technical)	Responsible person (Pedagogic)	Notes
1	YES	Reis-Bergesch	Reis-Bergesch	With comments from Junqueira, Costa Fernandes, Villac and the trainees
2	YES	Vallejo-Pughiuc	Reis-Bergesch	
3	YES	Costa Fernandez	Reis-Bergesch	
4	YES	Vallejo-Pughiuc		
5	YES	Pughiuc-Raaymakers	Reis	
6	YES	Pughiuc-Raaymakers-Parhizi	Reis	
7	YES	Pughiuc-Raaymakers-Parhizi	Reis	
8	YES	Prange	Reis	
9	NO			
10	NO			

The final master copy of the course should be ready for the end of August when copies will be distributed to the other five Pilot Countries.

Follow-up adaptations into other GloBallast Demonstration sites

For such a well-designed and beneficial course, it would be a pity if there were no plan made for its adaptation to other GloBallast sites. This important issue is strictly related to the maintenance of the highest standards in the next deliveries of the course. This is of the utmost importance for the GloBallast Programme, which intends to use this course as the official introductory training package on Ballast Water Management and to offer the package to IMO to serve as the basis for future Model Courses required under the STCW Convention.

The TRAIN-SEA-COAST Programme, as part of the TRAIN-X family was called upon to provide assistance in the development and delivery of this course in order to ensure the highest technical and pedagogic standards. Adaptation is part and parcel of the TRAIN-X methodology. Thus, it is proposed that the 5 remaining adaptations to the GloBallast sites be done following the TRAIN-X approach (**See Appendix 5**) to ensure that after 5 more deliveries the final training package will keep the original technical and pedagogic standards while reflecting with accuracy the key issues and different problems faced at each GloBallast site.

It is highly recommended that potential instructors receive a two-day crash course on the TRAIN-X delivery techniques before the second validation delivery to ensure a smooth validation and smooth takeover and future deliveries of the course.

Acknowledgement

Grateful thanks are due to the entire TSC/Brazil course development team, to all the consultants and the instructors that contributed to the successful validation of this course. It has been a great pleasure to work with all of you. My appreciation also goes to the GloBallast Programme Co-ordination Unit, for their support throughout the development and delivery of the course.

Stella Maris Vallejo
Pedagogic Consultant

Appendix 1: List of Instructors and Observers

Course on Ballast Water Management 12 - 16 May 2003, Rio de Janeiro

No.	Name / Address	Academic Background	Institution	Position	Phone / Fax / Email
1	Stella Maris Vallejo 270 Bronxville Rd. Bronxville, NY 10708 UNITED STATES OF AMERICA	MSc Marine Affairs MSc Geography		Pedagogic Consultant	Phone: +1 914 771-4042 Email: stellamarisv@msn.com
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Appendix 2: Opinion Questionnaire

Course on Ballast Water Management 12 - 16 May 2003, Rio de Janeiro

The contents of this course were:	Uninteresting				02	16	Very interesting
	Too difficult				15	02	Too easy
	Of no use				06	12	Very useful

The issues included in this course are related to your professional activity.	Not at all			07		11	Completely

Were all modules necessary?	Is there any module that is not necessary? If positive, name it.	Are there any other issues that should become part of this course? If positive, name them.
<u>Yes - 16 trainees</u>	No – 09 trainees	<u>See comments on the next pages</u>

Question	Insufficient	Sufficient	Excessive
The time period planned for each module was:	02	17	
The number of instructors was:	02	17	

The course corresponded to your expectations.	Agree completely	08	09			02	Disagree completely
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Comments: (See below)

With regard to the instructors:

- a. Excessive interventions of Mr. Prange, inhibiting the participation of the trainees and in turn, making Mr. Soares feel insecure.
- b. In some occasions, Mr. Prange was deviated from the subject.
- c. Mr. Soares provided too much attention to the Port of Paranagua.
- d. Mr. Soares should not have been express that he ignored the subject area.
- e. Personal opinions and official statements regarding official competence and attributions should be avoided. (2)
- f. The modules should be delivered by subject matter experts. (2)
- g. Extensive debates during the presentations should not be permitted to avoid in the lost of control of the class.
- h. It would be better to have more specialists for each module.

With regard to the content:

- a. In some occasions, the texts focused on issues that do not have as yet the consensus of the IMO, and they are contrary to the Brazilian position.
- b. Sometimes, the modules concerning the national strategy did not correspond to the political and normative structure of Brazil, including processes and terminology that are not used in the country. Observation: this course has a general character and is not directed exclusively to the Brazilian context nor of any other country.
- c. Provide details on the IMO Draft Convention and the Brazilian experiences in BWM.
- d. Give more emphasis to port risk assessment.
- e. Review the use of the word “port” as it is used when it refers to the “area of the”.
- f. Port/port authority/and for the authorities having responsibilities in the port’.
- g. Either clarify how the Brazilian ports function or delete the subject.
- h. At the beginning of the course and through an illustrated glossary, provide information on the species related to BWM as well as the terminology used by ship people.
- i. Review the concept of exotic invasive species, as well as the term ‘ballast’ and ‘deballast’, consulting the Navy.
- j. When the concept of ballast water is discussed, in particular mention which area the major groups contained (e. virus, bacteria, etc.).
- k. Mention the Brazilian species.
- l. More examples of cases of invasion.
- m. Exclude the section on the Golden Mussel.
- n. Emphasize the introduction of organisms via incrustation on the ship
- o. Discuss the management of exotic species waste.
- p. Re-evaluate the need for Module 10, which could be incorporated to another module because the invasion and establishment of species and the plans are events that are not directly related to the BW management plan itself, and the actors involves will not be the same. Transfer Module 10 to Module 1.
- q. Some references in the text are not included in the bibliographic references (Reis & Bergesch, 2001; Bushman e Newton, 2000).

- r. More attention to IMO, MARPOL Resolutions.
- s. Lack of information regarding the research in the North/Northeast region regarding ballast water.
- t. Recommendation: deliver the course in other regions of Brazil, South America and the GloBallast demonstration sites.
- u. Discuss the broad effect of ballast water on estuaries and freshwater systems, with emphasis on the awareness of river basin authorities.
- v. Add a technical module on potential solutions to the problem with participation of the industrial/productive sector.
- w. Module 2 should be totally revised (opinion of 1 participant).
- x. Focus on sampling.

With regard to the delivery:

- a. Too much emphasis on the golden mussel, obscured the main subject of the course.
- b. Absence of decision-makers at the highest level of government.
- c. In general, the initial explanations of the practical exercises were not clear.
- d. Need of videos presenting actions and/or strategies to combat invasive species.

Appendix 3: Key Questions / Issues for the Validation of the Course

Observers Reactions

Please provide your comments/suggestions on the following items:

- Content of the modules – materials for the participants (Trainee Guide)
- Delivery of the material – use of the instructor guide
- Visual materials
- Participants reactions during the delivery
- Practical work during the class
- Interaction during the class
- Testing
- Revisions suggested for each module (Trainee Guide and Instructor Guide)

Instructors Reactions

Please provide your comments/suggestions on all items above plus:

- Did you feel comfortable with the Instructors Guide?
- Did you experience difficulties in delivering this module(s)?
- How did you feel regarding the participant's reactions? Questions? Attitudes?

Appendix 4: List of Participants

No	Participants	Profession	Organization	Position	Phone / Fax / Email
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Appendix 5: Adaptation and Delivery Of The Course To Different Regions

Adaptation of the master course (STP) to different regions is a crucial step in the TRAIN-X methodology. When adapting an imported STP, a number of *principles* should be followed, namely:

- The material to be adapted should be in its final validated version.
- Adaptation changes should all be justified from the subject-matter point of view, no than of the training technique (since the latter has been validated).
- Decisions for adaptation should not be taken with a view to improving the quality of the existing material since, this has been validated.
- A training package should always be implemented unchanged when similar trainees need to acquire similar skills in a similar environment.
- Adapt only what must be adapted, and always for a good reason.

Procedure:

Before deciding on the adaptation, and through the examination of the original course development phase reports, course developers should:

- *Identify* a training need with a broadly similar target population.
- *Examine* whether the job or tasks covered by the course imported are the same or similar to those covered in their region (through a Development of the Curriculum Session (DACUM session)).
- *Establish* if the population to be trained has similar characteristics and prerequisites.

If the STP meets local job and target population requirements (marginal differences may be acceptable), the STP can be implemented as it is.

When differences are sufficiently significant to indicate the need for adaptation, course developers together with subject-matter experts should review the training material (from the point of view of their contents), to identify the parts which can and which cannot be applied as they are in the original STP. Minor or major modifications, as the case will indicate, should be undertaken.

Minor modifications

When local tasks are all or mostly covered, CDs and SMEs should make necessary adaptations in the technical matter only (e.g. job aids, training aids, trainee material, including exercises and tests). There should be no interference with the learning sequence of the STP, nor with the training techniques and media already chosen and validated.

In particular, the SME will be asked to check:

- That the local equipment are the same or should be changed;
- That the technical terminology used is appropriate or whether some vocabulary should be changed;
- That sub-task, procedures, working methods are the same or need modifying, to suit local conditions.

No developmental testing is required and the adapted version of the STP can go forward to a validation delivery under normal conditions.

Important modifications of the STP

Important modifications are incorporated when tasks for which training is required are not covered in the existing material, and when the characteristics of the local target population differ from those outlined in the imported STP. Where the local level is lower, some new training material will probably have to be developed, but should it be higher, some of the existing material may have to be eliminated.

To this effect, the course developers together with the SMEs should organize a DACUM session and undertake a full population analysis. The new or complementary material has to be developed and introduced according to normal procedures.

Key issues to consider are:

- The sequencing of the new training material into the existing course structure should be done without upsetting the latter.
- If only part of a module is modified, it is important to retain the existing structure of the module and the same training techniques and media.
- Developmental testing must be undertaken for the substantially modified or new material.

When the adapted version of the STP has been completed, it can then go for the validation delivery.

Agenda Item 8(a): Compliance Monitoring & Enforcement - Implementation of the Generic CME System

Background

Compliance Monitoring and Enforcement (CME) is one of the key components of the GloBallast Programme. Under the initial assumptions by 2001/2002 the new international Convention was supposed to have been adopted and participating countries could commence CME activities based on the position of the envisaged Convention. Now that the Diplomatic Conference for the adoption of the Convention has been re-scheduled for early 2004 the CME component has had to be restructured. Although some countries found it difficult to enforce the existing IMO Ballast Water Guidelines (A868(20)) prior to the adoption of a new Convention, it was felt useful to initiate, at an early stage, the development of a set of measures to ensure CME of country/port specific ballast water management arrangements. The initial measures could then be assembled in a CME system, which will help to determine the extent of compliance with both the new Convention and country specific ballast water management requirements.

Because of the importance of this component and its association with the rest of the activities of the GloBallast Programme a 'Scoping Study' was commissioned to provide advice on what constitutes a CME system, the key steps to design it and details on how this may be achieved.

The Pilot Countries were briefed on the outcome of the Scoping Study at the 3rd GPTF in January 2002 under agenda item 9. The study was distributed to all the participants and the Pilot Countries were invited to comment and adapt the suggested approaches to their needs and national requirements.

During the 4th GPTF in October 2002 the PCU presented a paper on this subject reminding the participants that the 3rd GPTF recommended using the final draft of the Convention, as agreed by MEPC 48, to develop a generic CME System that could be tailored by each Pilot Country to its needs. As MEPC 48 could not finalize the text of the Convention, and the Diplomatic Conference was moved to early 2004, the PCU recommended that this activity be rescheduled for the second part of 2003 after MEPC 49.

The PCU also informed the participants about the initiative taken by South Africa to develop a national policy before embarking on the development of a Compliance Monitoring and Enforcement System. A very initial draft of the policy document developed by South Africa was circulated to the participants for their information. Pilot Countries were advised to assess the need to undertake similar approaches and to inform the PCU accordingly. No further information in this respect has been received by PCU so far.

The Compliance Monitoring and Enforcement topic was further reviewed during the preparation of the GloBallast capacity building package when a number of subject matter experts contributed to the

compilation of a module dedicated to CME. The module provides the definition of a CME System and explains why CME is essential to all ballast water management regimes. It also identifies the key relevant reports and data, the process of verifying the information and the use of mitigation measures. Finally, the module explains the need for enforcement, the types of penalties and sanctions and how to apply them. After two deliveries of the capacity building package in Brazil and Iran, it is believed that the CME module provides a sound basis for the development of country specific CME systems.

As requested by the 4th GPTF, in April 2003 the PCU organised the 1st International Workshop on Ballast Water Sampling to assist efforts towards the development of country specific CME systems and to provide a set of standardised procedures in this respect. More extensive information on the workshop and its outcome has been provided through briefing paper 8(b).

Proposed Course of Action to Finalise the CME Component

Significant progress has been made so far to assist countries in developing their own specific CME systems by providing extensive information and support, developing a generic CME system and associated capacity building materials and by preparing standardised guidelines for ballast water sampling. As the final draft of the Ballast Water Convention is now available, it is suggested to embark on the preparation of specific CME systems tailored to the needs and characteristics of each Pilot Country. In order to allow for further fruitful exchange of information among the Pilot Countries, and to ensure a standardised approach to CME, it is also suggested to organise a Ballast Water Compliance Monitoring and Enforcement Workshop with the participation of experts from the six GloBallast countries and specialists from countries with advanced experience in CME systems in June 2004.

Action Required

The Task Force is invited to comment on the proposals indicated in paragraph 8 and provide suggestions on the most appropriate venue for the workshop and other organisational aspects related to the successful completion of the CME component.

CFPs are requested to identify, as a matter of priority, suitable experts in their respective countries to undertake the preparation of the specific CME Systems and represent their respective countries at the BWCME Workshop. A generic set of TOR for this particular activity will be provided by PCU to ensure consistency and a standardised approach.

The PCU is requested to identify suitable international experts with relevant experience in CME, to organise the BWCME Workshop and circulate the outcome as appropriate.

Agenda Item 8(b): Compliance Monitoring & Enforcement – Ballast Water Sampling

Background

Ballast water sampling may be carried out for a number of useful purposes, including:

- To better understand the physics, chemistry and biology of ballast water (scientific research).
- To identify potentially harmful species carried in ballast water (hazard identification/risk assessment).
- To assess compliance with open-ocean ballast water exchange requirements (compliance monitoring and enforcement).
- To assess the effectiveness of alternative ballast water treatment methods (ballast water treatment R&D / effectiveness testing).

Ballast water sampling equipment and methods have been in a phase of development in recent years, with different countries and parties around the world trialing different approaches, and a number of documents relevant to ballast water sampling are now available. These include:

- A practical manual on ballast water sampling published by the Cawthron Institute in New Zealand in 1997.
- A review of ballast water sampling methods published by the Centre for Research on Introduced Marine Pests (CRIMP) in Australia in 1998.
- An international calibration exercise for ballast water sampling conducted under the EU Concerted Action Programme on ballast water in 1999.
- A report from the ballast water sampling Correspondence Group established by the MEPC-BWWG in 2000.
- Sampling methods used by individual scientific institutions such as the Smithsonian Environmental Research Centre (SERC) in the USA.
- Sampling methods used by various regulatory agencies such as the US Coast Guard and similar agencies in other countries.

In addition, one of the many areas in which the GEF/UNDP/IMO Global Ballast Water Management Programme (GloBallast) is providing technical assistance to developing countries, is the sampling of ships' ballast water. In 2002, one of the GloBallast Pilot Countries, Brazil, initiated an experimental ballast water sampling programme at nine ports in the country, through its National Health Surveillance Authority (ANVISA) and with support from the Admiral Paulo Moreira Marine Research Institute (IEAPM), aimed at assessing the presence of pathogens in ballast water (refer MEPC 48/2/11). As a result, Brazil has developed significant expertise in ballast water sampling and provided an ideal demonstration site on this issue for the other GloBallast Pilot Countries and other interested parties.

In developing the draft International Convention for the Management and Control of Ships' Ballast Water and Sediments, the Marine Environment Protection Committee (MEPC), through the Ballast Water Working Group (BWWG), has identified ballast water sampling as an important technical issue that needs to be addressed in the Convention. MEPC has instructed the BWWG to develop the necessary technical guidelines, in support of the Convention, on ballast water sampling (refer MEPC 49/2/3 - 3.1.4, MEPC 48/21 - 2.29.4, MEPC 48/2/11, MEPC 47/20 - 2.21.4, MEPC 47/2 - 6.1 and 6.2, MEPC 47/2/11, MEPC 46/3 - 2.3.1 and 3.2.12 to 3.2.15, MEPC 45/20 2.11.3.1, MEPC 45/2/7 and MEPC 45/2 - 2.1.4 and 8.3).

In order to develop international guidelines and standards for ballast water sampling required by MEPC, it is necessary to review these various approaches and other relevant activities.

International Workshop

Considering the above, and in order to assist both the GloBallast Pilot Countries and the MEPC-BWWG with the issue of ballast water sampling, the PCU, with support from the Government of Brazil, convened the *1st International Workshop on Guidelines & Standards for Ballast Water Sampling* in Rio de Janeiro, Brazil from 7 to 11 April 2003.

Workshop objectives

The objectives of this Workshop were:

- To review ballast water sampling activities undertaken by various entities around the world to date, and to allow discussion and debate comparing methods and results.
- To initiate greater global coordination and cooperation on this issue, including sharing of expertise, experiences and data.
- To review the various ballast water sampling guidelines and standards that are currently available and adapt them into draft international guidelines and standards, for use by the GloBallast Pilot Countries and consideration by MEPC, in the context of the new Convention.
- To provide practical training to the delegates from the GloBallast Pilot Countries in standardised ballast water sampling methods, to allow them to purchase the necessary equipment and develop and implement ballast water sampling programmes on return to their home countries.

Workshop outputs

The Workshop generated the following outputs:

- A *Workshop Report* containing papers presented and outlining workshop results and recommendations for further action, in relation to the above objectives. The full report is available from the GloBallast web site (<http://globallast.imo.org/publications>)
- The structure and main items for inclusion in draft *International Guidelines and Standards for Ballast Water Sampling* (attached as Annex 2), for consideration by MEPC in the context of the new Convention.
- *Trained personnel* from each of the GloBallast Pilot Countries who can plan and commence ballast water sampling programmes on return to their countries, according to international standards.

Workshop participants

The Workshop was attended by three ‘trainees’ from each GloBallast Pilot Country, a number of additional delegates from the host-country Brazil, including ballast water sampling experts, and both trainees and experts from a large number of other countries. In total, there were 42 participants from 20 countries.

The range of expertise assembled to act as presenters, instructors and facilitators was comprehensive and included many internationally recognised experts in the field of ballast water sampling, including Dr Stephan Gollasch (Germany), Dr Flavio de Costa Fernandes (Brazil), Dr Maria Celia Vilac (Brazil), Mr Matej David (Slovenia), Dr Muzaffer Feyzioglu (Turkey), Mr Tim Dodgshun (NZ), Dr Chad Hewitt (NZ), Mr John Hamer (UK), Ms Silvia Rondon (Columbia), Ms Nicole Mays (USA) and Mr Don Reid (Canada). Support provided by many of these experts was funded by their respective institutions and represented significant support for the workshop from their countries.

By design, the Workshop participants comprised an extremely diverse group of people, including individuals with no previous experience what-so-ever with ballast water sampling to world authorities on the issue, people from the shipping, port, scientific and governmental sectors and people from countries of differing environmental, economic and socio-political conditions. A full participants list is contained in the Workshop Report (<http://globallast.imo.org/publications>).

Workshop structure & programme

Prior to the Workshop, the PCU contracted a consultant, Dr Stephan Gollasch (Germany) to:

- Undertake a global review of ballast water sampling programmes to date.
- Plan, prepare and coordinate the practical equipment and ship-board demonstration activities for the workshop.

The Workshop was convened by the PCU Technical Adviser, with specialist sampling advice from the consultant and additional expert advice and support from Dr Flavio de Costa Fernandes (Brazi), Mr Matej David (Slovenia), Mr Tim Dodgshun (NZ), Dr Chad Hewitt (NZ) and Mr John Hamer (UK). Support provided by several of these experts was funded by their respective institutions and represented significant support for the Workshop from their countries.

The Workshop proceeded according to a five-day programme. The first two days involved presentation of background papers by international experts, outlining ballast water sampling activities undertaken by various entities around the world, and allowing discussion and debate comparing methods and results. Time was also dedicated to classroom demonstrations and hands-on familiarisation with different types of ballast water sampling equipment.

On the 3rd day a practical demonstration of the various types of sampling methods and equipment was undertaken aboard a Brazilian Navy tanker, at the Nitiroi Naval Base, Rio de Janeiro. Types of sampling equipment demonstrated included various plankton nets, water samplers and pumps. The shipboard sampling was followed up with analysis of samples and identification of biota in the laboratory.

The remaining days of the Workshop were spent in four working groups, ‘brain-storming’ a set of prescribed questions and tasks, in order to develop the structure and key components for the draft *International Guidelines and Standards for Ballast Water Sampling*. Each working group contained around 10 people selected to provide a mix of expertise and broad geographical representation in each group, with a nominated facilitator. The Working group sessions were programmed over the Thursday and Friday.

On the Thursday, the groups were tasked with a set of questions designed to establish first principles and basic concepts, define strategic objectives and identify main subject areas requiring detailed technical development. Working group questions included:

- The need for guidelines and standards and their objectives,
- The importance of defining the purpose of ballast water sampling,
- The issue of representativeness, efficiency and effectiveness of sampling,
- Ship design modifications and improvements to facilitate sampling,
- The concept of standard ballast water sampling kits on-board ships, and
- How to address these issues in guidelines and standards

On the Friday, the working groups were provided with a suggested structure for the draft International Guidelines and Standards for Ballast Water Sampling (Annex 2), which had been developed overnight by the PCU and technical advisers, based on the Thursday Working Group recommendations, the background papers and the pre-workshop review undertaken by the consultant.

The suggested structure divides the draft guidelines into two main parts: main document and technical annexes. Two groups were asked to identify the main issues requiring detailed technical development in each section of the main body of the suggested structure, while the other two groups were asked to undertake a similar analysis of the proposed technical annexes.

The full Working Group instructions are contained in the Workshop Report (<http://globallast.imo.org/publications>).

Workshop results & recommendations

Background papers

The papers presented at the Workshop are included in full in the Workshop Report (<http://globallast.imo.org/publications>). The background papers were considered most useful in 'setting the scene' and providing basic background information, as many of the 'trainees' had very limited previous experience with the issue. Together, the collection of papers provide an extremely useful information resource, presenting an overview of most of the major ballast water sampling programmes undertaken globally to date. Topics covered include:

- International reviews and inter-calibrations of ballast water sampling.
- Examples of national approaches to the issue, including Australia, Brazil, Columbia, Germany, Mexico, New Zealand, Slovenia, Turkey and USA.
- Special considerations such as sampling for pathogens, sampling for ballast tank sediments, sampling as part of ballast water treatment effectiveness testing and genetic probes and rapid diagnostic techniques.
- Post-sampling issues such as sample handling, preservation, treatment and analysis.

Some general points that were drawn from the papers, as identified during questions and discussion times, were as follows:

- Ballast water sampling programmes are carried out for various purposes by a number of research groups across many countries using a wide variety of methods and equipment.
- There already exists a wealth of detailed technical information on this issue, including the EU comparison study, the CRIMP review, the Cawthron Manual and the German sampling method plus practical experience from sampling programmes in countries such as Brazil, Columbia, Slovenia and Turkey and the UK.

- It is important to clearly define the objectives and purpose before proceeding with any sampling programme. Different objectives and purposes may require very different approaches, and sampling methods and equipment should be selected to meet the defined objectives and purpose. e.g.:
 - A sampling programme carried out by scientists to provide a general understanding of the physics, chemistry and biology of ballast water needs to adopt a range of methods applied in a variety of shipboard situations and which measure a range of parameters; whereas
 - A sampling programme carried out by Port State Control inspectors to assess compliance by arriving ships with ballast water exchange at sea, needs to adopt methods that are simple, portable, rapid and applicable at the port of ballast discharge, and which measure limited, simple parameters that are indicators of ballast water exchange, such as salinity and presence/absence of oceanic vs coastal species; whereas
 - A sampling programme carried out to assess the effectiveness of a developing ballast water treatment technology, needs to sample at least before and after, and possibly during, the treatment process, ideally using an ‘in-line’ approach, and which measures parameters that are indicators of treatment effectiveness, including the achieved reduction/neutralisation in organisms.
- In recognition of these differences, it is important that any international guidelines and standards for ballast water sampling are clearly organized so as to facilitate selection of sampling designs, methods and equipment that meet the defined objectives and purpose.
- There is a clear need for inter-calibration and standardisation of sampling equipment and methods, although even after international inter-calibration exercises, individual research groups often revert to ‘old familiar’ methods rather than adapt to inter-calibrated, standardised approaches.
- The issue of sample representativeness is a major limiting factor for ballast water sampling, in relation to all sampling objectives and purposes.
- Ballast water sampling methods for the purposes of general scientific research and hazard analysis/risk assessment (e.g. to identify potentially harmful species carried in ballast water) are well developed and there is a wealth of data available in the literature on the physics, chemistry and biology of ballast water.
- Ballast water sampling methods for the purposes of compliance monitoring and enforcement and to assess the effectiveness of alternative ballast water treatment methods, are in an early stage of development, and are in particular need of validation, inter-calibration and standardisation.
- There is a lack of technical guidance for sampling of micro-organisms (including pathogens) in ballast water.
- There is a global need for ongoing, regular review of developments with ballast water sampling, including cost-benefit analysis and comparison of different sampling techniques. Such ongoing review could be effected through biennial convening of the international ballast water sampling workshop.

Shipboard sampling practical demonstration

The shipboard sampling practical demonstration took place on-board the Brazilian Navy tanker on Wednesday 9 April 2003. It proved highly effective in demonstrating the practical issues confronting ship-sampling teams and in familiarising the ‘trainees’ with a wide range of sampling equipment.

Working Group results

The Working Groups proved effective at yielding a wealth of information in response to the questions asked and tasks set. The full Working Group instructions/questions and their responses are contained in the Workshop Report (http://globallast.imo.org/publications/BWsampling_report).

Thursday Working Group Results

Annex 1 presents the responses of all four groups to the questions posed to them on the Thursday. An analysis of Annex 1 clearly shows that there was a high degree of agreement between the four working groups in their responses to the six questions. All groups unanimously agreed that:

- There is as definite need for international guidelines and standards for ballast water sampling.
- It is essential to define the purpose of any ballast water sampling programme, as this will significantly affect the sampling approach, methods and equipment adopted.
- The main purposes for ballast water sampling are:
 - Scientific research
 - Risk Assessment
 - Compliance monitoring
 - Testing of BW treatment
 - Raising awareness.
- Any international guidelines should be structured according to the purpose of the sampling.
- The issue of sample representative-ness is of key importance, and must be addressed in any international guidelines and standards.
- There are a number of ship design improvements that are necessary to facilitate ballast water sampling.

Three of the four groups agreed that ships should carry a standard ballast water sampling kit, specifically for the purpose of compliance monitoring.

The Thursday Working Group responses provide sound guidance on the issues that need to be addressed in any international guidelines and standards for ballast water sampling. Using the Thursday Working Group recommendations, the background papers and the pre-workshop reviews undertaken by the consultant, the PCU and expert advisers developed a suggested structure for the draft International Guidelines and Standards for Ballast Water Sampling (Annex 2), for consideration by the Working Groups the following day.

Friday Working Group Results

The full Friday Working Group instructions/questions are contained in the Workshop Report (<http://globallast.imo.org/publications>).

Two groups were asked to insert the main issues that need to be addressed under each section of the main document of the guidelines, and two groups were asked to do the same for the proposed technical annexes to the guidelines.

The responses of the groups are inserted in each section of the proposed structure for the draft guidelines in Annex 2, which:

- Establishes an overall framework and structure for international guidelines and standards for ballast water sampling,
- Outlines the main sections that such guidelines should be divided into,
- Lists the main issues that need to be addressed in each section, and

- Identifies the main existing sources of detailed technical information that can be used to ‘flesh-out’ each section of the guidelines.

The outputs of this exercise therefore provide a comprehensive foundation upon which the full text of international guidelines and standards for ballast water sampling can be rapidly developed.

Follow-up by GloBallast

The PCU, with support from technical experts, used the outcomes of this Workshop to develop the text and input more detailed technical information for possible use as draft international guidelines and standards for ballast water sampling. Finalisation of these guidelines is now being lead by Germany under the auspices of MEPC / BWWG. This represents a major technical contribution of GloBallast to the Convention development process.

Action Required

At this GPTF meeting, the PCU and Pilot countries need to consider and decide how ballast water sampling should best be progressed, if at all, in the Pilot Countries in the time remaining to the programme, considering the outcomes and findings of the Workshop.

Annex 1

1st International Workshop on Guidelines & Standards for Ballast Water Sampling, Rio de Janeiro, Brazil 7-11 April 2003 Thursday Working Group Outcomes

Working Group Questions	Working Group Answers			
	WG 1	WG 2	WG 3	WG 4
<p>1. Is there a need for international guidelines and standards / what should be objectives and main subject areas included in the guidelines.</p>	<p><u>Yes.</u> Standardisation needed to allow inter-comparison of results. Guidelines need two main sections: a) sampling for scientific purposes and b) for compliance testing. Even with a), scientists are likely to continue using equipment/methods they are used to. The guidelines under b) should include recommendations from the ship perspective, including not causing undue delay.</p> <p>Objectives of sampling:</p> <ul style="list-style-type: none"> • Risk assessment, hazard analysis (statistic). • Awareness, capacity building, training purposes. • Verification of BW management/treatment systems (efficiency, effectiveness). <p>What if sampling proves non-compliance? Need contingency plan (reception facilities, chemical treatment as emergency measure, discharge in certain port areas)</p>	<p><u>Yes.</u> Objectives of sampling: <ul style="list-style-type: none"> • Scientific research • Risk Assessment • Compliance monitoring • Testing of BW treatment. • Raising awareness. For the provisions of the IMO Convention, focus on: <ul style="list-style-type: none"> • Compliance monitoring • Testing of BW treatment. Main subject areas: <ul style="list-style-type: none"> • Standardisation • Practicability • Representativeness • Comparativeness (relate to the standard of the Convention) • Quality control • International acceptance • Operable by all countries </p>	<p><u>Yes.</u> Standardisation needed to allow inter-comparison of results. Guidelines should be recommended minimum procedures. Objectives of sampling: <ul style="list-style-type: none"> • Scientific research • Risk Assessment • Compliance monitoring. • Testing of BW treatment. • Support developing IMO convention. Main subject areas: <ul style="list-style-type: none"> • Procedural approach (protocol) to sampling, accessing & boarding vessels (as annex or separate document). • 'Hello' to 'Goodbye' coverage. • Technical aspects. • Sampling point access. • Equipment standardisation (explicite) • Volumes to be sampled (minimums) • Sample handling • Collection, preservation, labelling. • Parameters to be specified. </p>	<p><u>Yes.</u> For scientific research (biology of ballast water communities) should be recommended guidelines, not standards. Objectives of sampling: <ul style="list-style-type: none"> • Scientific research • Risk Assessment • Compliance monitoring. • Testing of BW treatment. </p>

Working Group Answers			
Working Group Questions	WG 1	WG 2	WG 3
2. Importance of defining the purpose of BWS.	<p><u>Essential.</u> Implies certain sampling approach, methods and equipment.</p>	<p><u>Essential.</u></p>	<p><u>Very important.</u> Guidelines for sampling for scientific and regulatory purposes should be mandatory, while, sampling for awareness raising purposes should not be tied to strict guidelines.</p>
3. Sample representativeness.	<p><u>Of key importance.</u> Representativeness is important for science and crucial for compliance testing. Compliance testing has to be representative for legal reasons. The consequence matters.</p> <p>It is scientifically proven that BW sampling studies are an underestimate - far from being representative.</p> <p>No way to sample the whole ship so selection of ballast tank(s) for sampling is critical (sample all types?).</p> <ul style="list-style-type: none"> • Select tanks based on risk assessment (e.g. origin of BW, target species). • Identify critical areas that are likely to contain species of concern within a ship or tank. • Modelling could be used to identify the most representative tanks for sampling. <p>Identify most representative methods (by the knowledge today this may be access via manhole and sampling using nets).</p> <p>Sampling personnel need to be independent from the ship.</p>	<p><u>Important</u> Representativeness affected by whether sampling done in-tank, in-line or at point of discharge.</p>	<p><u>Obviously important.</u> First level should be the representativeness of the ship. Tanks may contain water from different origins. Guidelines should aid in selection of tank(s) to be sampled. Sampler have freedom to select the tank</p> <p>Second level is representativeness of the tank (two types.) Access determines one type. Where samples are taken determines the other.</p> <p>Third level is representativeness of the actual sample. Replications of samples (implications for statistical analysis). Volume to be sampled.</p> <p>Fourth level is representativeness of the analysis. Has to be practical with respect to time and cost (management constraints)</p>
			<p><u>Imperative.</u> Intrinsic to specifying methodology.</p> <p><u>Depends on definition of representativeness.</u> Affected by the objectives of the sampling, parameters of evaluation and management standards selected.</p> <p>Management primarily interested in representing risk (realised or potential) rather than ecological representation of the ballast community.</p>

Working Group Answers			
Working Group Questions	WG 1	WG 2	WG 3
<p>4. <i>Ship design improvements to facilitate BWS.</i></p>	<p><u>Yes.</u> (especially new ships)</p> <ul style="list-style-type: none"> • Ease/enable sampling access. • Provide power supply. • Enable representative sampling at the discharge point. <p>Plus retrofit existing ships.</p>	<p><u>Yes.</u></p> <ul style="list-style-type: none"> • In-line samples or integrator. • In-tank collection system (top, middle and bottom). • Net access not required. 	<p><u>Yes.</u> Would also make life easier for the captain and crew.</p> <ul style="list-style-type: none"> • Problem of existing ships. • Need for close consultation with working mariners. • Improvements begin with awareness of ongoing need for sampling access. • In-line taps with de-ballasting pipe. • Reduction in obstructions below access hatches.
<p>5. <i>Standard shipboard ballast water sampling kit.</i></p>	<p><u>Yes.</u></p> <ul style="list-style-type: none"> • Use to be restricted to sampling for compliance monitoring purposes. • Guidelines are needed on how to use the sampling equipment. • May be legal implications if no proper maintenance of onboard sampling kit. • All ships (no matter what type and age) need to have an identical/most appropriate sampling kit (for sampling at discharge point, a tap is required and a tool to concentrate the water). • Scientific sampling kit should not be required onboard as objectives and methods of scientific studies vary to a large extent. 	<p><u>Yes.</u></p> <ul style="list-style-type: none"> • For compliance monitoring. • A standard ballast water sampling kit would facilitate crews compliance monitoring and overcome problems with compliance of the same ship in different ports. 	<p><u>Resounding Yes.</u></p> <ul style="list-style-type: none"> • Issues of access • Issues of efficiency (time) • Issues of accuracy (representativeness) <p>For new ships:</p> <ul style="list-style-type: none"> • In-line ports (ballast pump) • Sample points plumbed in tanks with pumps • Recommend numerical simulation models to identify appropriate locations for in-tank plumbed sample ports. <p>For existing ships:</p> <ul style="list-style-type: none"> • Easier access • More comprehensive access
			<p><u>Yes.</u></p> <ul style="list-style-type: none"> • For compliance monitoring. • To increase transparency and consistency of sampling and time efficiency. • Standard contents depend on the sampling methods which depend on standards. • It should provide a suite of tools to enable accurate, efficient and timely sampling

Working Group Questions	Working Group Answers		
	WG 1	WG 2	WG 3
6. <i>Other major issues.</i>	Any international BW sampling guidelines and standards should be reviewed and updated regularly (e.g. to account for developing technology)	Port baseline and information exchange is required to support internationally standardised BW sampling efforts.	There are some existing protocols for sample volumes and replicates.
			WG 4 The following should be considered further: <ul style="list-style-type: none"> • The utility of ballast water sampling to support or validate risk assessment. • Comparison of different methods for biases. • Comparison of source, in-tank and discharge waters

Annex 2

**Overall framework and structure for:
INTERNATIONAL GUIDELINES AND STANDARDS FOR
BALLAST WATER SAMPLING**

including:

- main sections that such guidelines should be divided into,
- main issues that need to be addressed in each section, and
- existing sources of detailed technical information that can be used to ‘flesh-out’ each section of the guidelines.

as developed by the
1st International Workshop on Guidelines & Standards for Ballast Water Sampling
Rio de Janeiro, Brazil 7-11 April 2003

Normal text = main sections of the guidelines.

Text in [square brackets] = suggested text for inclusion in each section.

Text in [*square brackets and italics*] = main issues that need to be developed further in each section, including possible sources of detailed technical information to fill these sections.

1. INTRODUCTION & BACKGROUND

To be developed:

[The IMO Secretariat / GloBallast PCU will develop appropriate text, including outlining the background to ballast water sampling, links to the IMO BW Convention, and the process of development of these guidelines and standards]

2. OBJECTIVES OF THE GUIDELINES & STANDARDS

Suggested text:

[The objectives of these guidelines and standards are:

- To provide IMO member States and other parties with practical, technical guidance on how to plan for and undertake ballast water sampling programmes, for various purposes.
- To provide IMO member States and other parties with a suite of standard ballast water sampling equipment, methods and procedures for application to various purposes.
- To]

3. DEFINING THE PURPOSE OF THE SAMPLING

Suggested text:

[Defining the purpose of any ballast water sampling programme is absolutely essential before proceeding with any other action, as the sampling approach, design, methods and equipment selected are totally related to the purpose of the sampling. For example:

- a sampling programme carried out by scientists to provide a general understanding of the physics, chemistry and biology of ballast water needs to adopt a range of methods applied in a variety of shipboard situations and which measure a range of parameters; whereas
- a sampling programme carried out by Port State Control inspectors to assess compliance by arriving ships with ballast water exchange at sea, needs to adopt methods that are simple, portable, rapid and applicable at the port of ballast discharge, and which measure limited, simple parameters that are indicators of ballast exchange, such as salinity and presence/absence of oceanic vs coastal species; whereas
- a sampling programme carried out to assess the effectiveness of a developing ballast water treatment technology, needs to sample at least before and after, and possibly during, the treatment process, ideally using an ‘in-line ‘ approach, and which measures parameters that are indicators of treatment effectiveness, including the achieved reduction/neutralisation in organisms.

In recognition of these differences, it is important that these guidelines and standards for ballast water sampling are clearly organized so as to facilitate selection of sampling designs, methods and equipment that meet the defined objectives and purpose. Under these guidelines, the following five purposes for ballast water sampling are used:

- 1) **Scientific research** - to better understand the physics, chemistry and biology of ballast water.
- 2) **Hazard identification /risk assessment** - to identify potentially harmful species carried in ballast water.
- 3) **Compliance monitoring and enforcement** - to assess compliance of a ship with open-ocean ballast water exchange requirements.
- 4) **Ballast water treatment R&D / effectiveness testing** - to assess the effectiveness of alternative ballast water treatment methods.
- 5) **Education and raising awareness** – to familiarise port and ship personnel, researchers, government officials, students and others with the ballast water issue through practical ship-board sampling activities and analysis of samples.

It should be noted that these definitions of ‘purposes’ for ballast water sampling are somewhat arbitrary, all of these sampling purposes support management decision making in various ways, some of the purposes are closely linked and cross over, and some ballast water sampling programmes may be undertaken for more than one purpose simultaneously.

To assist in the selection of appropriate sampling approaches, designs, methods and equipment, section 5 of these guidelines provides information relating to each of these five sampling purposes, with links to the relevant technical annexes]

4. REPRESENTATIVE-NESS OF SAMPLES & SAMPLING EFFICIENCY

Suggested text:

[The issue of sample representative-ness or sampling efficiency is a major limiting factor for ballast water sampling, in relation to all sampling purposes and objectives.

When you consider that a sample of a few litres or even a few millilitres may be used as an indicator for possibly tens of thousands of tonnes of ballast water on a ship, the lack of representative-ness and

the extremely low degree of sampling efficiency is clear. For example, when sampling for the presence or absence of a particular organism of concern (target species), if the sample which has been drawn from a tank is found to be free of that species, this does not necessarily mean that the rest of that tank or the ship's other ballast tanks are also free of that species. The problem of Type II errors is a major issue in relation to sampling efficiency.

The level of representative-ness required depends on the objective and purpose of the sampling programme, and is affected by whether sampling is done in-tank, in-line or at point of discharge.

This issue is of particular concern when sampling is undertaken for the purpose of compliance monitoring and enforcement. Compliance sampling has to be representative for legal reasons, and also depends on management standards selected.

There is considerable scope to improve sampling efficiency through ship design improvements as outlined in Annex VII]

Additional issues to be developed:

[It is scientifically proven that BW sampling studies are an underestimate - far from being representative. No way to sample the whole ship so selection of ballast tank(s) for sampling is critical (sample all types?).

- *Select tanks based on risk assessment (e.g. origin of BW, target species).*
- *Identify critical areas that are likely to contain species of concern within a ship or tank.*
- *Modelling could be used to identify the most representative tanks for sampling.*

Identify most representative methods (by the knowledge today this may be access via manhole and sampling using nets).

Sampling personnel need to be independent from the ship.

The issue of sample representative-ness should be addressed at different levels:

- *First level should be the representative-ness of the ship. Tanks may contain water from different origins. Guidelines should aid in selection of tank(s) to be sampled.*
- *Second level is representative-ness of the tank (two types.) Access determines one type. Where samples are taken determines the other.*
- *Third level is representative-ness of the actual sample. Replications of samples (implications for statistical analysis). Volume to be sampled.*
- *Fourth level is representative-ness of the analysis. Has to be practical with respect to time and cost (management constraints).*

Design of the ballast water sampling programme should address each of these levels so as to achieve the optimum degree of representative-ness and sampling efficiency in relation to the purpose and objectives of the sampling]

5. SAMPLING CONSIDERATIONS BASED ON THE PURPOSE OF THE SAMPLING

5.1 Sampling for scientific research

Suggested text:

[Sampling ballast water for the purpose of general scientific research, such as understanding the physics, chemistry and/or biology of ballast tanks, whether for purely academic reasons or to support management decision making, is perhaps the most flexible and variable form of ballast water sampling. A number of options from the full range of sampling approaches, methods and equipment listed in the Technical Annexes may be suitable, depending on the precise objectives of the scientific research.

Given the wide range of potential research objectives, the variety of sampling methods and equipment available and the existence of an extremely large pool of scientific expertise around the world, these guidelines are not prescriptive or restrictive. Scientists should select the optimum sampling methods and equipment to suit their specific research objectives, considering the advantages and disadvantages of each method as outlined in the technical annexes.

Perhaps the most significant issue in relation to ballast water sampling for the purpose of scientific research, is to ensure some sort of inter-calibration and standardisation of methods and equipment between groups that are conducting similar research, so as to allow cross-comparison of results.

Additional issues to be developed:

[Add text on inter-calibration procedures. Potential source of info - EUCA study – Gollasch et al]

[Select methods from Technical Annexes I to VI]

5.2 Sampling for risk assessment / hazard analysis

Suggested text:

[It may be argued that sampling for risk assessment / hazard analysis purposes, primarily to identify potentially harmful species carried in ballast water, is a form of scientific research. However, it is a more narrowly defined purpose with clear links to management, and is therefore treated as a specific sampling purpose in these guidelines.

Sampling for risk assessment / hazard analysis may also be connected with sampling for compliance monitoring and enforcement purposes, especially if the latter is based on indicator species (see 5.3 below).

Perhaps the most significant issue in relation to ballast water sampling for risk assessment / hazard analysis purposes, is sample representative-ness.

Sampling methods and equipment outlined in Technical Annexes I and III to VI provide the best options for this purpose. Sampling via sounding pipes (Annex II), may not be ideal for this purpose, as it suffers from low representative-ness. If the sampling party is most concerned about the actual input of introduced species into a receiving port, rather than what is inside the ballast tanks, then sampling at the point of discharge may be the best option (Technical Annex IV).]

[Select methods from Technical Annexes I to VI]

5.3 Sampling for compliance monitoring and enforcement

[Currently, the only operational procedure available to ships to minimize the transfer of aquatic organisms is ballast water exchange at sea, as recommended in the IMO ballast water Guidelines (A.868(20) and provided for in the draft IMO ballast water Convention. Sampling to monitor and enforce compliance with ballast water management measures is therefore currently limited to assessing compliance with ballast exchange, and this section of the guidelines addresses this issue only.

Eventually, as alternative ballast water management measures and treatment systems are approved and accepted by IMO and national jurisdictions, it will be necessary to develop procedures to assess compliance of these systems with the agreed standards. However, as alternative ballast water treatment systems are developmental at this stage, these guidelines do not cover compliance sampling for such systems, although many of the sampling methods in the Technical Annexes will be relevant.

A sampling programme carried out by Port State Control inspectors to assess compliance by arriving ships with ballast water exchange at sea, needs to adopt methods that are simple, portable, rapid and applicable at the port of ballast discharge, and which measure limited, simple parameters that are indicators of ballast exchange.

In terms of assessing compliance of ships with ballast water exchange requirements, sampling the ballast water on arriving ships, either for physical/chemical parameters or presence/absence of coastal and oceanic 'indicator' species, is part of the compliance monitoring 'tool box.'

The physical and chemical parameters of ballast water (e.g. pH, salinity, turbidity, organic content etc) may show whether it is open ocean water, indicating exchange has occurred, or port or coastal water, indicating exchange has not occurred. The US Coast Guard has developed a very simple, rapid sampling method that allows boarding officers to measure the salinity of ballast water and verify if exchange was conducted (refer Technical Annex VIII).

The presence/absence of coastal and oceanic species in the ballast water may also be taken as an indicator of whether the ballast is of coastal or oceanic origin, and therefore, whether or not exchange has been conducted. The Vancouver Port Corporation has developed a sampling method based on this approach (refer Technical Annex IX).

Both of these approaches suffer many limitations and qualifications, including the major constraint of sampling efficiency / representative-ness, and the assumptions that certain salinity levels and indicator species are indeed coastal and oceanic. Compliance sampling based on indicator species is also limited by the time frames and taxonomic expertise required for sample analysis.

More effective methods of assessing compliance with ballast exchange requirements would involve in-line samplers and electronic monitoring systems being fitted to vessels. Such a system would take data on ballast water parameters such as water levels, temperature, salinity and pressure, plus operational data such as starting/stopping of pumps, ships' positions (GPS) and dates and times, from automatic sensors located throughout the ships' ballast and other operational systems. The data would be recorded in a central processor (including potentially the ship's voyage data recorder), and transmitted to shore-based offices. This would eliminate the need for paper-based ballast water reporting forms and the scope for recording and reporting errors and irregularities. Such an approach is conceptual and developmental at this stage. Some of the in-line sampling methods in Technical Annex III are relevant.

It should be noted that if sampling indicates non-compliance with ballast exchange requirements, there must be a contingency plan (e.g. reception facilities, chemical treatment as emergency measure, discharge in certain port areas).]

[Select methods from Technical Annexes VIII and IX)]

5.4 Sampling for ballast water treatment R&D / effectiveness testing

Suggested text:

[As outlined above, eventually, as alternative ballast water management measures and treatment systems are approved and accepted by IMO and national jurisdictions, it will be necessary to develop procedures to assess compliance of these systems with the agreed standards.

In the meantime, there are over 50 research groups world-wide undertake R&D of alternative ballast water treatment systems, and all are using various sampling methods to assess the effectiveness of their systems.

A sampling programme carried out to assess the effectiveness of a developing ballast water treatment technology, needs to sample at least before and after, and possibly during, the treatment process, ideally using an ‘in-line ‘ approach, and which measures parameters that are indicators of treatment effectiveness, including the achieved reduction/neutralisation in organisms.

Most importantly, the sampling approach will be determined by the ballast water treatment standard that the system is being assessed against.

Other extremely important issues in relation to this type of sampling are experimental design, including adequate replication to achieve acceptable statistical rigour, and adopting internationally standardised test protocols, so as to allow direct and meaningful cross-comparisons of tests of different systems.

This issue is somewhat outside of the scope of these guidelines, with ballast water treatment standards and test protocols being set under the draft Convention. In line sampling techniques as outlined in Technical Annex III are relevant this purpose.]

5.5 Sampling for the purpose of education and raising awareness

Suggested text:

[Shipboard ballast water sampling might be undertaken to familiarise port and ship personnel, researchers, government officials, students and others with the ballast water issue through practical sampling activities and analysis of samples. This might be undertaken as a stand –alone activity, or as part of a more focussed activity with other objectives, such as scientific research or risk assessment. No particular methods are prescribed for this purpose, except to note that sampling ballast tanks via manholes (Technical Annex I) probably provides the best access and views for ‘trainees’.]

6. PLANNING AND UNDERTAKING A SAMPLING TRIP

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

6.1 Occupational health and safety

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

6.2 Pre-sampling communications (including with authorities, ship agent and ship).

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

6.3 On-site procedures

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

6.4 Boarding the ship

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

6.5 Ship-board procedures

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

6.6 Leaving the ship

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

7. SAMPLE IDENTIFICATION, LABELLING AND RECORDING

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

8. SAMPLE PRESERVATION, HANDLING AND STORAGE

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

9. SAMPLE ANALYSIS AND REPORTING

[relevant sections of the Cawthron Manual and German Sampling Method are suitable for adaptation as the basis for this section].

TECHNICAL ANNEXES

[relevant sections of the Cawthron Manual, German Sampling Method and other existing documents are suitable for adaptation as the basis for each Technical Annex]

TECHNICAL ANNEX I: SAMPLING BALLAST TANKS VIA MANHOLES

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX II: SAMPLING BALLAST TANKS VIA SOUNDING PIPES

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX III: SAMPLING FROM BALLAST PUMP / PIPING SYSTEM (IN-LINE SAMPLING)

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX IV: SAMPLING BALLAST WATER AT DISCHARGE POINT

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX V: SAMPLING BALLAST TANK SEDIMENTS

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX VI: SAMPLING FOR MICRO-ORGANISMS

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX VII: THE USCG BWE COMPLIANCE SAMPLING METHOD

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX VIII: THE VANCOUVER PORT BWE COMPLIANCE SAMPLING METHOD

Equipment *[list]*

Methods *[list]*

Advantages *[list]*

Disadvantages *[list]*

Suitable for *[list sampling purposes]*

Special considerations *[list]*

TECHNICAL ANNEX VIX: RECOMMENDED SHIP-DESIGN IMPROVEMENTS TO FACILITATE BALLAST WATER SAMPLING

[list]

TECHNICAL ANNEX X: RECOMMENDED STANDARD BALLAST WATER SAMPLING KIT FOR CARRIAGE ON-BOARD SHIPS

[list]

FIGURES

[add]

Various ship types showing ballast tank layouts and sampling points

Diagrams of all equipment types, with dimensions / technical specifications

Photos of various equipment types

[Other figures?]

Agenda Item 9: Regional Cooperation & Replication

Background

Part of the overall strategy of GloBallast Programme is to use the experience and lessons learned in the initial demonstration sites located in the six Pilot Countries to replicate the most successful activities at regional level as the programme develops. This has been effected in part through the adoption of regional Strategic Action Plans (SAPs) and the establishment of Regional Task Forces (RTFs) to provide a formal framework for regional cooperation. In pursuing this objective the Pilot Countries were encouraged to use the existing regional mechanisms and to avoid creating unnecessary parallel regional structures.

Being common to all the six regions, the regional replication component had a higher priority for the regions that, due to economic, geographic, oceanographic and/or ecological conditions were more vulnerable to the introduction of invasive aquatic species (IAS). In view of the above, and due to the fact that well established regional cooperation networks were available in the Black Sea and ROPME Sea Area (RSA) it was agreed to launch the GloBallast regional activities in these two semi-enclosed seas.

Extensive information on the implementation of the regional component in these two regions has been provided during the 3rd and 4th GPTF Meetings and the reports of this series of conferences are available as GloBallast Monographs.

Similar activities leading to the adoption of regional SAPs were successfully conducted in China and South Africa in November 2002 and March 2003 respectively.

The meeting in China was attended by representatives from the Democratic People's Republic of Korea, Japan, the Republic of Korea, the Philippines, Singapore and Vietnam and recommended the adoption of the proposed SAP, as amended, and the development of cooperative activities to address ballast water related issues in conjunction with adjacent regions that may be IAS donors to the East Asian Seas Region. It should be noted that Japan, the Republic of Korea and Singapore funded their participation from their own resources. The final report of this meeting is also available in the GloBallast Monograph Series. A 2nd workshop attended by the same countries, plus representatives of the Partnerships in Environmental Management for the Sea of East Asia (PEMSEA), was organised in November 2003 to formally adopt the SAP and agree on the TOR of the newly established RTF. The meeting adopted a Resolution, which recommends strengthening collaboration with relevant bodies of Asia-Pacific Economic Cooperation (APEC) and encourages further efforts to include Brunei Darussalam, Cambodia, Indonesia, Malaysia, Russian Federation and Thailand in future Regional Task Force meetings.

South Africa organised its first regional workshop in March 2003 in conjunction with one of the regular meetings of the Nairobi Convention Focal Points. The workshop, attended by delegates from Angola, Comoros, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia, Seychelles, Tanzania, Zambia and regional/international relevant organisations from the region, had extensive discussions regarding the regional SAP. A final document incorporating the comments and the

feedback of the participants will be submitted for final consideration and adoption to the next Conference of the Parties to the Nairobi Convention. It should be noted that in parallel with the formal adoption of the SAP the participating countries agreed to embark on specific regional activities. The first step in replicating the experience achieved in South Africa is to conduct a port baseline survey in Mombasa, Kenya. A preparatory meeting in this respect took place in December 2003 with the actual survey scheduled for June 2004.

The regional component was successfully progressed in the ROPME Sea Area by holding a High Level Conference for the formal adoption of the SAP, establishment of an RTF and adoption of an immediate programme of action. Of particular importance was the support of ROPME, which was instrumental in the adoption of the SAP at ministerial level and offered to further coordinate the future activities at regional level. The direct support and the dedicated commitment of ROPME towards progressing GloBallast type activities in the region is, perhaps, one of the most illustrative examples of successful regional replication of our programme.

A regional meeting for the establishment of an RTF for the Black Sea and for the adoption of a short-term plan of action has been recently conducted in Constanta, Romania with the participation of all the Black Sea countries (i.e. Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine) and the generous support of the host country. More detailed information will be available from our colleagues from Ukraine, who came directly from this meeting.

The series of bilateral meetings in South Asia continued and an RTF meeting is scheduled in India for March 2004. It is hoped that the regional SAP for South Asia will be formally adopted by: Bangladesh, India, the Maldives, Malaysia, Sri Lanka and Thailand.

A number of ad-hoc regional activities have been undertaken in South America including participation and direct support in meetings dedicated to ballast water issues in Panama (the Permanent Commission for the South Pacific (CPPS) Meeting of July 2003) and in Uruguay (the MERCOSUL Group 6 Meeting of December 2003).

The PCU continues to nurture cooperative links with various other regional bodies and sister GEF-IW projects, including the Caspian Environment Programme (CEP), Partnerships for Environmental Management in the Seas of East Asia (PEMSEA), the Helsinki Commission (HELCOM), the South Pacific Regional Environment Programme (SPREP), Asia-Pacific Economic Cooperation (APEC), Regional Cooperation Among Maritime Authorities of South America (ROCRAM) and the Mediterranean Action Plan (MAP). Consistent with the principle of “the tool in the toolbox”, GloBallast invited new regions developing strategies for integrated coastal management, in particular projects involved in large marine ecosystems, to include ballast water as a topic in their regional policies and to take advantage of the “ready-made tool” offered by the project to address marine invasive species transferred by ships. Particularly encouraging responses were received from a number of GEF sister projects, including Benguela Current Project (BCLME) and Guinea Current Large Marine Ecosystem (GCLME), which incorporated GloBallast type activities in their implementation plans and entered in specific partnerships with our programme.

Although the PCU managed to secure funds for a regional workshop in West Africa this activity has not materialised due to an extremely busy timetable during the reporting period.

Action Required

Pilot Countries that have adopted Regional SAPs are encouraged to embark on replication of their experience at regional level through short-term programmes of action.

Pilot Countries that have not adopted regional SAPs are urged to organise their regional meetings as a matter of urgency and formally establish their RTFs and adopt short-term programmes of action.

The PCU, with support from IMO, will continue to assist the replication of GloBallast experience at regional level and to identify new regions willing to become partners in GloBallast's implementation.

Agenda Item 10: Implementation of MTE Recommendations and Preparation for Final Evaluation

Background

All GPTF members were briefed on the findings and recommendations of the external, independent Mid Term Evaluation of the GloBallast Programme by the evaluators at the 4th GPTF, and the final MTE report was published in 2003.

Since then, the PCU and Pilot Countries have been working to implement the MTE recommendations, as outlined below.

Current Status

MTE RECOMMENDATION	RESPONSE TO DATE / STATUS
1 Improvements to existing project administration & coordination	
1.A GPTF inter-sessional input to project	<p>The GPTF has not engaged in ‘round robin’ feedback processes, teleconferences and inter-sessional reviews pertaining to policy and direction. This is primarily because the policy and direction set in the revised PIP at GPTF 4 was adequate and all parties have focussed on implementation of project activities.</p> <p>As always, the PCU has engaged and consulted continuously with Pilot Countries, IMO, UNDP-GEF and other GPTF members and stakeholders on a one-to-one basis, especially in relation to proposals for future activities.</p>
1.B Improved international liaison and communications between CFPs and CFP-As.	<p>The PCU has endeavoured to encourage individual Pilot Countries to communicate directly with each other on all activities, and has established and maintains a special E-forum on the GloBallast web-site with a section for the exclusive, confidential use of Pilot Countries. However, use has been extremely low.</p> <p>Pilot Countries still often route queries to other Pilot Countries through the PCU, despite now having well-established relationships with each other.</p>

<p>1.B (cont.) Improved international liaison and communications between CFPs and CFP-As.</p>	<p>The PCU has requested Pilot Countries to submit all awareness and other materials and reports to the PCU for placing on the web site, and to send them directly to other Pilot Countries, and most have done this.</p> <p>Pilot Countries do bring their materials to workshops and meetings for display and distribution to other countries.</p> <p>With support and guidance from the PCU and project consultants, Pilot Countries have communicated effectively and shared experiences and data with each other on the Port Baseline Surveys, Risk Assessments, BW Sampling and BWM Capacity Building package. Personnel from various countries have participated in several such activities in other Pilot Countries.</p> <p>CFPs and CFP-As have met and discussed various matters when meeting at common workshops.</p> <p>A special session for closed discussions between Pilot Countries only, has been established on the agenda of the GPTF since the 3rd meeting.</p> <p>Liaison, communication and sharing of experiences between Pilot Countries could still be improved, however.</p>
<p>1.C Finalisation of case studies</p>	<p>These are being progressed and are scheduled for production and circulation in the 1st half of 2004. However, the PCU remains overwhelmed with an entirely unrealistic workload, and despite this problem being clearly identified since the 2nd GPTF meeting, it still has not been addressed through the recruitment of additional human resources.</p> <p>In fact this problem may well be exacerbated further with diversion of the CTA to full-time internal IMO duties as Head, Ballast Water Management Office from 1 March 2004.</p>
<p>1.D Additional resources for programme and Convention</p>	<p>To address the problem of insufficient human resources, IMO in consultation with UNDP and PCU has decided to recruit a suitable short-term consultant for the extended period of the programme. PCU will make proposals for the re-allocation of funds to implement this decision.</p>
<p>2 Rationalisation of activities / delays from inappropriate project design</p>	
<p>2.A Targeted awareness (political level)</p>	<p>Despite this recommendation persisting in the final MTE report, the PCU maintains that the programme and Pilot Countries have actually been highly effective at targeting the political level and key decision makers. This is manifested by:</p> <ul style="list-style-type: none"> • Prime Ministerial and/or Ministerial involvement in all countries, • Progressing of national ballast water policies, laws, regulations and/or other initiatives in all countries, • Active engagement by all six countries in Convention negotiations at IMO, and in the Diplomatic Conference for the adoption of the Convention, • The intention of all six countries to adopt and implement the Convention.

<p>2.A (cont.) Targeted awareness (political level)</p>	<p>In fact, GloBallast has successfully achieved similar results in many more than just the six Pilot Countries, through its global awareness efforts and regional activities.</p> <p>Production of the case studies and ongoing and increasingly sophisticated communication activities in the Pilot Countries will no doubt improve this situation even further.</p> <p>The proposed Global TV Documentary (Agenda Item 12) will have a major benefit here too, generating mass public awareness, which in many societies translates into political awareness and action.</p>
<p>2.B Engagement of missing stakeholders</p>	<p>From the beginning of the programme the PCU provided the Pilot Countries with standard guidelines for the establishment of National Task Forces and the running of Task Force meetings, including clear inclusion of all relevant sectors, ministries and stakeholders. By and large, stakeholder engagement has been nothing short of exemplary in all Pilot Countries.</p> <p>Letters updating the Pilot Countries on the status of the Convention and the need for timely adoption of the instrument have been sent from IMO on a number of occasions. The active involvement of Pilot Countries in the development of the Convention is a confirmation of the effective dialog conducted during the last period.</p>
<p>2.C Review of risk assessment</p>	<p>This recommendation has been fully addressed and the risk assessments have been a major success for GloBallast. Refer briefing paper for agenda item 6 for details.</p> <p>Each Pilot Country needs to ensure that the necessary arrangements are in place to house, maintain and continue to operate the system in each country on an ongoing, sustainable basis.</p>
<p>2.D Strengthening regional replication</p>	<p>Three Pilot Countries are in a very advanced stage of regional replication with regional SAPs adopted, Regional Task Forces established and operational and short-term programmes of action agreed.</p> <p>Their experience was widely disseminated to the rest of the participants. South Africa has adopted a very pragmatic approach towards regional replication and, while preparing for the formal adoption of the SAP by the COP to Nairobi Convention, started the implementation of Port Base-line activities at regional level.</p> <p>Brazil and India developed workplans for the implementation of their regional activities and it is hoped that regional SAPs and RTFs will become operational during the first half of 2004.</p>
<p>2.E Review possible financial mechanisms</p>	<p>No progress has been made on this recommendation to date, and resources need to be found to carry out a consultancy / research project in the remaining time available.</p>

<p>2.F Review of sustainable institutional arrangements</p>	<p>The PCU is of the view that this has been fully addressed through activity 4.3 – Legislative Review. The full report of this activity, published as GloBallast Monograph Series No. 1 – provides an extremely comprehensive and thorough review of legislative and institutional arrangements in not only the Pilot Countries, but in several other ‘model’ countries as well.</p> <p>It makes clear, concrete and complete recommendations regarding the arrangements necessary in each Pilot Country to both implement the IMO Guidelines and the new Convention. This report is further supported by individual consultancy reports for each country.</p>
<p>3 Rationalisations of projects activities constrained by the absence of an agreed Convention</p>	
<p>3.A Review of CME component</p>	<p>Significant progress has been made so far to assist countries in developing their own specific CME systems by providing extensive information and support, developing a generic CME system and associated capacity building materials and by preparing standardised guidelines for ballast water sampling. As the final draft of the Ballast Water Convention is now available it is suggested to embark on the preparation of specific CME systems tailored to the needs and characteristics of each Pilot Country. CFPs are requested to identify, as a matter of priority, suitable experts in their respective countries to undertake the preparation of the specific CME Systems. In order to allow for further fruitful exchange of information among the Pilot Countries, and to ensure a standardised approach to CME, it is also suggested to organise a Ballast Water Compliance Monitoring and Enforcement Workshop with the participation of experts from the six GloBallast countries and specialists from countries with advanced experience in CME systems in June 2004.</p>
<p>3.B Review of training needs</p>	<p>In accordance with the decision adopted during the 4th GPTF meeting the TSC Course Development Unit in Brazil was tasked to develop the training package with direct support from the TSC Central Support Unit in New York. PCU and the CFP’s Office in Brazil provided the course developers with reports and information on the outcome of the other GloBallast activities to reflect the best practices and lessons learned during the implementation process.</p> <p>Subject Matter Experts (SME) were identified in consultation with the CFP’s office in Brazil and where expertise was insufficient international experts were requested to provide the missing technical inputs. To ensure the necessary quality throughout the package and consistency with IMO recommendations an international expert was recruited to oversee and peer review the technical content of the modules. Before the first delivery in Brazil the whole package was reviewed by the Chairman of IMO’s Marine Environment Protection Committee to ensure that shipping related aspects had been properly addressed.</p>

<p>3.B (cont.) Review of training needs</p>	<p>The course was delivered for the first time in Rio de Janeiro Brazil from 12 to 16 May 2003 and was attended by 20 participants from various organisations involved in ballast water management and control in Brazil. The first delivery was also attended by representatives from Iran, South Africa and Ukraine, who were nominated by their CFPs as coordinators of future deliveries in their respective countries. A second delivery and validation took place in Tehran, Iran in December 2003.</p> <p>The capacity building package was developed in accordance with the latest draft of the Convention and a Long Term Capacity Building Strategy was prepared by PCU for adoption by the 5th GPTF.</p>
<p>3.C Review of BW plans</p>	<p>As the final text of the Convention became available the countries were advised to initiate the preparation of their National Ballast Water Management Plans. Two countries, South Africa and Ukraine, have in particular progressed this activity by organising national workshops and/ or consultations with key stakeholders. The results of their work will be shared with the rest of the Pilot Countries, which in turn are also urged to embark on this particular activity.</p>
<p>4 Re-scheduling of Convention, full regional replication and follow-up phase</p>	<p>After a review of the level of implementation and a realistic evaluation of what can be achieved in the remaining time frame it was decided to extend the lifespan of the programme by six months to September 2004. In the light of the requirements of the last draft of the Ballast Water Convention it became apparent that the vast majority of the objectives included in the project document and Project Implementation Plan (PIP) will be successfully achieved in the new timeframe subject to appropriate allocation of human resources.</p> <p>Based on MTE recommendations regarding a follow-up project phase, PCU reviewed the Concept Paper on continuation of GloBallast activities and submitted the final document to GEF Secretariat in September 2003. Details regarding this activity are provided in the briefing paper for agenda item 9.</p>

Action Required

- The PCU and Pilot Countries need to devise and agree plans and activities to address outstanding MTE recommendations.
- Plans need to be made for the Final Evaluation.

Agenda Item 11: Global Aquatic Invasive Species Information System (GAISIS)

Background

At the *1st International Workshop on Invasive Aquatic Species Surveys and Monitoring* convened in Brazil in April last year, one of many recommendations was that GloBallast should work with others to progress some form of globally co-ordinated, aquatic invasive species information system, and that the results of the GloBallast port biological baseline surveys should be linked with data from similar activities world-wide as part of this system.

In order to progress this matter, one of the GloBallast Pilot Countries - Brazil, has taken the initiative to submit a proposal to develop standards and specifications for such a system, as a first step.

The basic concept is that once the standards and specifications are finalized and agreed, each of the six GloBallast Pilot Countries can, proceed with establishing a National Aquatic Invasive Species Information System (NAISIS), as the nucleus for a Regional Aquatic Invasive Species Information System (RAISIS) in each region they represent. Ultimately, all should be linked with each other and other similar systems, such as CSIRO-NIMPIS, SERC-NEMESIS and Kleipeda-Baltic databases, to form the Global Aquatic Invasive Species Information System (GAISIS) (see schematic attached).

We hope to base this as much as possible on the existing database structures and formats established by NIMPIS, NEMESIS, Baltic etc, and those groups will be providing as much assistance as possible. CSIRO has already offered to provide the NIMPIS structure free-of-charge.

It is suggested that a global workshop on databases and information systems should be held in one of the Pilot Countries in early 2004, as part of this process.

Brazil proceeded with this work during December, January and February and the draft standards and specification are scheduled to be presented next by Brazil under this agenda item.

Action Required

- Countries are invited to have relevant experts review the draft standards and specifications as presented by Brazil and return comments to the PCU by 30 April 2004.
- Brazil will then take on these comments (plus those from other stakeholders) to finalise the standards and specifications.
- It is important that the plans and proposals for national databases and information systems, contained in some of your National Workplans, are co-ordinated and standardized as part of a

compatible global system. This initiative by Brazil is therefore an important one and the other Pilot Countries are encouraged to proceed with developing their NAISIS / RAISIS set ups, according to the final standards and specifications.

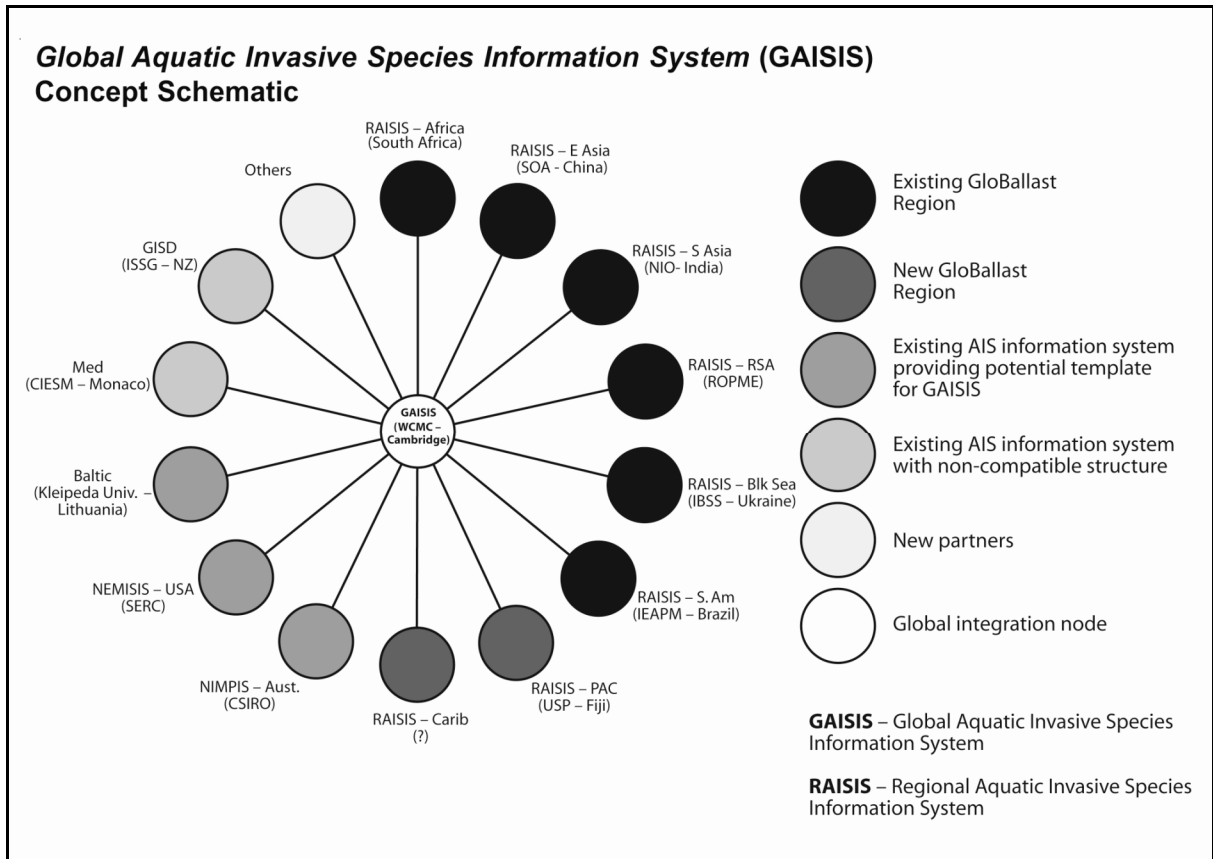


Figure 1. Global Aquatic Invasive Species Information System (GAISIS) Concept Schematic

Agenda Item 12: Global TV Documentary

Background

All GPTF members were briefed on the Global TV Documentary proposal at the 4th GPTF, at which it was reported that the IMO Senior Management Committee decided that, due to the shifting of the Diplomatic Conference to the beginning of 2004 and other reasons, they considered that it may not be appropriate to embark on such an endeavour at that time.

At the meeting some Pilot Countries, UNDP and FOEI questioned the authority of IMO, as only one partner in GloBallast, to unilaterally decide the fate of individual GloBallast activities, especially when the activity does not involve any use of IMO funds and when the PCU had successfully leveraged more than US\$600K from sponsors for the activity. However, the activity was not progressed further.

Current Status

Since the 4th GPTF meeting, some of the sponsors have re-approached the PCU with a second offer of funds:

- US\$200K from Vela Shipping (Saudi Aramco) – ready to sign
- US\$100K from Wallenius Line

There also remains the prospect of US\$100K from the UNDP Film Unit, and the Global Invasive Species Programme (GISP) is also a potential partner.

The BBC Natural History Unit has also re-approached the PCU and again re-iterated its interest in becoming a partner in this production. BBC is offering free access to archive footage such as that used in the superlative and definitive oceans documentary 'Blue Planet' with David Attenborough, and free broadcasting through its extensive global network.

In addition, the famous underwater explorer and film maker Jean-Michel Cousteau, son of Jacques Cousteau and President of Ocean Futures Society, has written to the PCU seeking to collaborate on such an activity. Partnering with a combination of the BBC Natural History Unit and Cousteau, would bring an unprecedented degree of kudos and pedigree to this GloBallast activity.

Given the above, the anticipated adoption of the Convention and the major achievements of GloBallast as the current phase comes to an end, this seems to be an ideal time to re-launch the global TV documentary project, and to promote the issue and GloBallast to the world audience through the most effective of all mass media – global television. To turn these sorts of offers of support away a second time would be a lost opportunity.

GloBallast will still need to make a 'seed' allocation of only \$200K for this activity, representing a potential leveraging ratio of 3:1.

Action Required

The GPTF is invited to consider and decide whether to allocate US\$200K from the project budget as seed funding for this activity and to instruct the PCU to proceed with it.

Agenda Item 13: Resourcing & Financing

Background

In accordance with the requirements of the Project Implementation Plan (PIP), the PCU has been seeking supplementary sources of support and funds for the programme.

At the 3rd GPTF the PCU had secured approximately US\$630,000 worth of additional funding and support-in-kind from the IMO Technical Cooperation Fund, the UN Division of Ocean Affairs and Law of the Sea, the Government of Singapore and the shipping industry and other sources, as outlined under agenda item 11 of the 3rd GPTF meeting.

At the end of the year 2002, an additional US\$ 150,000 had been secured by the PCU from US State Department, Regional Clean Sea Organization (RECSCO), IMO and from various other sources including shipping and oil industries and third party countries interested in ballast water related issues. This was reported to the 4th GPTF under agenda item 12.

Progress

Since the 4th GPTF, the following additional co-financing has been secured to date:

- US\$190K from IMO – salary and emoluments of the CTA for the extended period of the project.
- US\$5K from IMO – support for the 2nd R&D Symposium.
- US\$3.6K from various sponsors to publish the 2nd R&D Symposium proceedings.
- US\$60K from various sources for international experts to travel, attend and present at meetings, seminars, conferences and workshops organized by GloBallast.
- US\$60K from Australia and \$10K from NZ to organize the 1st International Ballast Water Risk Assessment Workshop hosted and sponsored by the Australian Government.
- US\$10K worth of free labour from interns/MSc student placements within PCU.
- US\$5K worth of images and graphics provided free by various suppliers.
- US\$20K from IUCN – contribution to the production of Ballast Water News.
- US\$6K from GISP & UNEP – contribution to the joint poster “Preventing pests”.

- US\$60K support from various sources for PCU and Pilot Country travel to meetings, seminars, conferences, etc.
- Re-offer of US\$200,000 from Vela Shipping (Saudi Aramco), \$100,000 from Wallenus Line and significant support-in-kind from BBC Natural History Unit and Cousteau for the GloBallast TV Documentary (not accepted to date).

The status of in-country self-financing issues including funds allocated at national level for GloBallast type activities (e.g. additional port surveys, R&D projects, etc.) is to be reported by the Pilot Countries.

Prospects

As fundraising became an essential component of GloBallast strategy, the PCU is currently working with relevant organizations to develop further funding proposals and will continue to explore new possibilities to approach potential donors

Donor Conference

US\$ 50K have been allocated for a Donor Conference towards the end of the project (tentatively in July 2004). In order to maximise the output of this event it is proposed to approach, with support and expert advice from UNDP/GEF, one of the International Funding Institutions or a specialized fundraising consultant to assist in the preparation and to facilitate the Conference.

Action Required

The following action is required for the further implementation of the Resourcing and Financing component:

- Delegates are invited to note the information provided in this document.
- CFPs are invited to provide comments and suggestions regarding paragraph 8 above.

Agenda Item 14: GloBallast *Partnerships*

Background

A draft Discussion Paper regarding the continuation of GloBallast activities after the completion of the pilot phase was circulated during the 3rd GPTF. The participants commented on the draft and the UNDP/GEF representative suggested that a review of the paper be undertaken by the independent evaluators appointed to carry out the mid term review of the project.

Based on the initial discussion paper and comments provided during the 3rd GPTF, the PCU developed a standard Concept Paper using a standard template provided by UNDP/GEF. The Concept Paper was circulated one week before the 4th GPTF and the participants were invited to comment on it as appropriate. A timetable for the submission of the Concept to GEF Secretariat by February 2003 was suggested during the 4th GPTF when PCU explained the procedure used by GEF to approve projects of this size. PCU also advised on the need to identify suitable consultants to further develop the Concept (if approved) into a formal Project Document.

Extensive discussions on how the regional replication phase will be implemented and what the role of the Pilot Countries will be took place during the 4th GPTF meeting. The PCU referred to the widely accepted principle that the problem of invasive species calls for concerted action at the regional level. Efforts made in isolation do not solve the problem and the already scarce resources are wasted on unilateral action with limited benefits for the coastal and marine environment. It was explained that the scenario proposed for the replication phase would include a regional Strategic Action Plan (SAP) as a general framework, a Regional Task Force (RTF) and a regional officer hosted by one of the existing regional mechanisms to undertake the day-to-day implementation of the plan. The new phase would focus on the dissemination of the lessons learnt and on capacity building at regional level using the expertise already created in the six Pilot Countries. The PCU further referred to the intention to invite additional regions to join GloBallast, subject to clear commitments from the respective countries and subject to securing additional funds from alternative sources and donors.

The 4th GPTF meeting acknowledged the interest of the Pilot Countries in the regional replication phase of GloBallast and requested the PCU to consolidate all the comments and suggestions by the participants in a final draft of the Concept Paper to be submitted to UNDP by the end of 2003.

Although a consolidated draft was submitted to the UNDP as agreed, due to delays in the remittance of new contributions to the GEF trust fund, the GEF Secretariat had to put a temporary hold on all new Concepts submitted in the pipeline. Under the circumstances, a new target for submission of the Concept was set up in consultation with IMO for August/September 2003. This allowed IMO to develop a strategic vision on ballast water management activities for the coming five years and to request IMO Member States' views in this respect. A paper summarising the work done so far by GloBallast and the proposed activities under the next phase of the programme was submitted to 49th Session of the Marine Environment Protection Committee. The Member States received the document with interest, acknowledged the substantial contribution of GloBallast, and requested IMO Secretariat to approach GEF and other donors and to explore the possibility of continuing the activities initiated during the pilot phase. In response, PCU reviewed the Concept Paper renamed "GloBallast

Partnerships” based on the increased interest of other organisations in joining forces with IMO, and submitted the final version to UNDP/GEF in September 2003. The overall objective of the new phase is to promote the development and implementation of long-term, regionally coordinated, measures to minimise the adverse impacts of invasive aquatic species transferred in ships’ ballast water. GloBallast Partnerships provides a programmatic framework for the sustainable replication of pilot phase successes and best practices, ensuring that maximum benefits accrue from the six centres-of-excellence established in the pilot phase.

After reviewing the Concept Paper, GEF Secretariat was of the view that further discussions on policy issues may be needed before the final approval of the proposal. It was felt that evaluation of the work done under the pilot phase of GloBallast needs to be properly digested in the light of the provisions and requests for assistance incorporated in the Ballast Water Convention. GEF Secretariat recommended initiating a tripartite dialogue with IMO and UNDP leading to a common understanding of possible roads ahead.

A first round of tripartite discussions on the reasons behind the preference for an ecosystem/regional approach for the next phase of GloBallast is tentatively scheduled for the end of February 2004. In support of the position expressed in GloBallast Partnerships Concept Paper, and as a basis for further discussions, in December 2003 the PCU prepared a paper explaining the rationale for achieving national reforms through an integrated large marine ecosystem approach attached as Annex to this briefing paper for easy referral.

Action Required

Pilot Countries are invited to note the above information and provide comments as appropriate.

Annex: GloBallast Partnerships

GloBallast Partnerships - Rationale for achieving national reforms through a large marine ecosystem (LME) approach and the strategic need for the continuation of GEF intervention on ballast water control and management

The rationale for the adopting the large marine ecosystem (LME) approach, to achieving the necessary long-term reforms needed at the national level to effectively address the transfer of harmful aquatic organisms and pathogens in ships' ballast water and sediments, can be divided into a number of elements, as follows: (1) Country drivenness and building on achievements to date, (2) National reforms & efficient and effective use of GEF resources, (3) Co-financing and (4) Transboundary nature of the issue. Each of these is elaborated further below:

Country drivenness & building on achievements to date

As outlined in the original Project Document, the design of the GloBallast pilot phase, while working initially at the national level through six demonstration sites, as a core objective explicitly provides for the establishment towards the end of the project, of Regional Project Task Forces (RPTFs) to enable regional cooperation and eventual replication of project successes across each respective LME.

GloBallast has been highly successful in achieving this objective, with RPTFs formed and even regional Strategic Action Plans (SAPs) on ballast water control and management developed/adopted involving more than 40 countries, covering the following regions: the Black Sea, the ROPME Sea Area, East Asia, Eastern Baltic and Southern and Eastern Africa. By the end of 2003 the remaining two GloBallast pilot regions (South America and South Asia) will reach similar agreements, increasing the number of countries committed to regional cooperation to 50+ (depending how many are included in the South American arrangements).

The Regional SAPs are designed to facilitate the rapid implementation of the forthcoming *International Convention on the Control and Management of Ships' Ballast Water and Sediments* (BWC) currently being developed at IMO, thereby ensuring the most needed international standardisation and uniformity. The fact that all of these countries have signed on to the RPTFs and Regional SAPs, is a very strong indication of "country drivenness" for taking an LME approach in relation to ballast water/ Invasive Aquatic Species (IAS) issues.

The GloBallast pilot phase has also been assisting the Mediterranean Action Plan (MAP), the Permanent Commission of the South Pacific (CPPS) and the South Pacific Regional Environment Programme (SPREP) to develop regional strategies and activities on ballast water/IAS control and management, and has had preliminary inquiries from the Caribbean Environment Programme (CEP) seeking advise and assistance. This brings more countries to the list that have demonstrated "country drivenness" for taking an LME approach in relation to ballast water/ IAS issues.

In addition, GloBallast is currently assisting GEF International Waters "sister projects" that are focused on LMEs, to frame their strategies and activities on ballast water/IAS control and management (including Benguela Current LME, Gulf of Guinea LME, Humboldt LME and Yellow Sea LME).

As a consequence of the determination of the countries involved and the wide consensus that acting together at the LME level could better serve GEF strategic priorities to address one of the two largest threats to world's oceans, GloBallast *Partnerships* builds on the achievements to date and focuses on regional cooperation. It aims to replicate the activities carried out in the Pilot Countries and to progress regional partnerships, based on existing regional structures, frameworks and programmes in all the main LMEs of the world (e.g. Regional Environmental Conventions, Regional Seas Programmes, sister projects, etc.).

As GloBallast draws to a close, it would be a tragedy if the highly successful achievement of the regional cooperation objective of the original Project Document, was now lost by abandoning the LME approach. There is a critical need to maintain the unprecedented momentum of concerted international action that has been created by GloBallast so far and the worldwide network of experts and specialists joining their efforts to properly address the ballast water/IAS issue.

In fact the ultimate objective of achieving genuine reforms embedded in national policies is common to both “ecosystem” and “country level” approaches with the former allowing for harmonized implementation and more effective use of the already limited resources.

National reforms & efficient and effective use of GEF resources

Given the fact that there are over 162 IMO member States, the provision of assistance directly to individual countries to effect reforms at the national level, would require significantly more resources and management effort than might be available to date.

During the GloBallast pilot phase, just over US\$7 million has been provided to assist six countries. This has been very effective at implementing the necessary reforms at the national level. China and Ukraine have already taken legislative action on ballast water management and control. South Africa is currently considering new policy on ballast water and bio-security and in Iran the issue is being addressed at the highest level by the Cabinet of the President. Brazil and India are contemplating similar measures after the adoption of the international Convention in February 2004. All the six countries have been highly successful in creating awareness, establishing institutional arrangements, reviewing and preparing legislative and policy structures, building technical capacity and securing in-country co-financing. The Global Project Task Force reports provide details on the above achievements.

However, the provision of a similar funding for the next phase, if used for direct national-level activities of the kind that have proven effective to date, would only cover another six countries, with similar, significant management demands on the implementing and executing agencies.

In order to maximize the cost-effectiveness of the GEF intervention, a mechanism is required to generate a significant multiplier effect, where the funds available can be deployed for the benefit of far more than just six individual countries. The replication of initial demonstration sites and pilot activities through cooperative regional arrangements, as initiated by the GloBallast pilot phase, provides a very powerful multiplier mechanism. By taking the regional LME approach proposed in the GloBallast Partnerships Concept Paper, more than 130 developing countries will be able to benefit from the GEF intervention, and achieve the national-level reforms required.

The LME-level arrangements initiated by the GloBallast pilot phase are already proving effective at generating the necessary reforms at the national level in non-pilot countries. By being part of the RPTFs and Regional SAPs, additional countries in each region are following the approach ‘demonstrated’ in the pilot countries and are already designating lead agencies, forming national task forces, undertaking awareness programmes, reviewing their legislation and undertaking technical activities using templates and standard methods generated by GloBallast, mostly with their own resources and funds. This is the whole idea behind the demonstration site approach embodied in the original Project Document. GloBallast *Partnerships* will build on this momentum and ensure a much more rapid, cost-effective and efficient implementation of national-level reforms across a significantly larger number of countries.

Co-financing

Another significant advantage of the LME approach is that it carries a much higher attraction for co-financing and cooperation with other donors and programmes, than a direct individual country

approach could. For example, as a result of WSSD, UNEP is receiving funding from Nordic donors for activities to enhance its Regional Seas programme. GloBallast is working with UNEP to try and secure some of these funds to undertake GloBallast-type activities in three LMEs as covered by PERSGA, SE Pacific (west coast of South America) and Wider Caribbean. A draft project proposal has been developed together with UNEP that will be submitted to their respective donors. If secured, this would be presented as co-financing in the GEF Project Doc for GloBallast *Partnerships*.

In terms of other regions, SPREP has secured IMO funds from the Integrated Technical Cooperation Fund to develop a regional ballast water/IAS plan in 2004, the Mediterranean Action Plan is already proceeding with a regional IAS plan (which includes cooperation with GloBallast), HELCOM and the GEF Baltic Sea Regional project have placed the issue high on their agenda, and there are ongoing negotiations with the USA/UK/Netherlands 'White Water to Blue Water' programme about including ballast water activities in their LME-level work plans. This all represents significant co-financing for GloBallast *Partnerships*.

The fact that other organizations, donors and countries are already adopting a regional LME as opposed to a direct national approach to the ballast water/IAS issue, suggests that it might be most effective if all donors took the same approach, to maximize scope for co-financing, ensure efficient use of donor funds, synergy of efforts and uniform implementation of the global Convention.

The transboundary nature of the issue

One of the reasons that countries are requesting and have so readily adopted an ecosystem approach to the ballast water/IAS issue, is the transboundary nature of both the shipping industry and the invasive species issue. Countries clearly recognise that no one port or even one country can take action to address this issue alone. This is particularly the case for countries that share enclosed or semi-enclosed seas.

As an international industry, shipping must cross-jurisdictional borders in carrying out trade. If different jurisdictions (countries) have different sets of laws and regulations governing shipping, or if they are at different stages of implementing even a uniform system (as may occur via a direct national approach), compliance becomes extremely difficult if not impossible, and the effectiveness of the regulatory regime becomes limited. Additionally, if ports/countries act in isolation of each other, there arises the danger of unfair economic competition between ports, if some have a less stringent management regime than others. Furthermore, countries taking firm measures to address the issue in isolation, for example by imposing ballast water exchange, may cause additional stress to the environment of their neighbours as increased quantities of ballast will be discharged in their territorial waters. Effective management of shipping and ports, including environmental issues such as ballast water and IAS, requires not only a single, uniform, regulatory regime, but harmonized implementation of the regime by individual States.

Similarly, invasive aquatic species do not respect national maritime borders drawn on maps. Once introduced to a new port, they may be dispersed by currents and tides to neighbouring ports and countries, especially in enclosed or semi-enclosed regional seas. This complexity of the issue requires joint efforts from the shipping industry, coastal states, environmental agencies and port authorities as it directly affects not only the marine environment but the whole ecosystem of a region including its biodiversity, economy, health, etc. GloBallast *Partnerships* will need to work with the Global Invasive Species Program, with the existing Regional Seas programmes and LMEs, the CBD Secretariat and many others to ensure an INTEGRATED and COHERENT approach to invasive species. Working only at the direct national level will not achieve this.

GloBallast has achieved to date an exemplary level of sustainability and has stimulated significant contributions (in funds and in kind) from the Pilot Countries, which are committed to continue and increase their support during the regional implementation phase. The establishment of the RPTFs in the six initial regions has created an enormous potential for replicability and the direct involvement of

the key stakeholders, both at national and regional level, is a guaranty for further sustainability. Abandoning the significant achievements of GloBallast pilot phase, including country-driven Regional Task Forces and Regional SAPs covering over 100 countries and support for other LME initiatives covering an additional 70 countries, will not only put at jeopardy the GEF investment to-date, but will significantly impact on the entry-into-force and implementation period of the new ballast water Convention with unpredictable consequences for World's oceans and their biodiversity.

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Appendix 2: Minutes of the Meeting

Monday 2 February 2004

Conference Room 681, IMO HQ

Bilateral meetings were held between PCU and the Pilot Countries regarding current operational and administrative matters.

Tuesday 3 February 2004

Conference Room 4, IMO HQ

The opening session was addressed by:

- Mr E E Mitropoulos, Secretary-General, IMO;
- Mr Andrew Hudson, Principal Technical Advisor, International Waters and POPs, United Nations Development Programme, Global Environment Facility; and
- Mr Dandu Pughiuc, Chief Technical Adviser, GloBallast, IMO.

Under administrative matters the participants agreed for Mr Hudson to chair the meeting (with Mr Jean-Claude Sainlos for the first half day). A secretariat coordinated by the PCU Principal Administrative Assistant and supported by the Administrative Assistant was established for the duration of the meeting.

In his address Mr Andrew Hudson commended GloBallast for the IMarEST Queen's Jubilee Award and the Programme's critical role in catalysing action for adoption of the Convention. He stated that he has every confidence in GloBallast and will work with GloBallast as a team to conceptualise for the future phase.

Agenda Item 1: Adoption of the Agenda

The representative of Friends of the Earth International (FOEI) proposed adding a specific item to the agenda for the discussion of the link between GloBallast and the International Convention for the Control and Management of Ships' Ballast Water and Sediments. It was decided that this should be discussed under Agenda item 4 and also Agenda item 15 Other Business.

The agenda was adopted with the above change.

Agenda Item 2: PCU Progress Report

A progress report was presented by the PCU covering the period 31 October 2002 to 31 December 2003. This is contained in Briefing Paper GPTF 5/2. The PCU was congratulated for the amount achieved during this short time.

The PCU stressed that GloBallast should avoid taking on new activities and focus on finishing the current workplan.

It was discussed how countries might finance implementation of the new Convention. South Africa had already presented documents on National Policy at GPTF 4 and Monograph Series No. 1 contains a full section of guidelines for member States to include the Convention and ensure legislation. South Africa supported by other countries requested that a review be undertaken at global level to assess

existing duties, levies worldwide and other financing mechanisms used by other countries. A consultant would be recruited to review this issue.

The Chairman urged all countries to sign and ratify the Convention as soon as possible and take necessary action as far as national legislation is concerned.

The UNDP/GEF representative asked whether the GloBallast E-Forum was widely used by the Pilot Countries, whether the E-Forum was facilitated and if national-level E-Forums had been set up in any Pilot Countries. Use of the E-Forum by the Pilot Countries was extremely low, some stated this was because of language issues. India made the most use of the Forum, perhaps reflecting the comprehensive awareness-raising campaign and focus on information technology in that country. The E-Forum is facilitated and administered by the PCU. No countries had established national-level E-Forums and this was not now seen as a priority. It was agreed that all countries would make greater efforts to join the E-Forum and to ensure they nominate members of the restricted Pilot Country Forum to the PCU. It was agreed that the E-Forum should be used more and the PCU will attempt to facilitate this.

The PCU drew attention to the Project Implementation Report (PIR) and the latest revision to the project in Annexes 1 and 2 of the briefing paper. UNDP/GEF stated that the PIR format changes constantly, and is a self-reporting assessment mechanism for the Programme. It is reviewed by UNDP and GEF. It highlighted successes and achievements of GloBallast as well as lessons on effective sustainability. PCU stated it incorporates input from Pilot Countries as provided through monthly and financial reports.

The FOEI representative asked whether the PIR or other reviews assessed whether the original Project objective of “removing barriers” was being achieved.

The PCU stated that one of the main “barriers” identified in the original Project Document was a mass lack of awareness, and that very significant progress had been made in removing this barrier (although communication and awareness will always remain a priority). Other “barriers” were being removed through increased participation by developing countries in the Convention process, and more globally co-ordinated and directed research and development efforts.

India stated that a factor in any lack of involvement by countries in BWWG at MEPC was not due to lack of interest but the number of pressing issues at MEPC together with small delegations.

Agenda Item 3: Country Status Reports

All six Pilot Countries prepared high quality PowerPoint presentations and introduced their reports in accordance with the template provided by the PCU. Extensive discussions and exchanges of information took place among the Pilot Countries with regard to the implementation of the various activities. The Country Status Reports are contained in the 5th GPTF Meeting Report under Agenda Item 3.

Among other things, Brazil stated that the port sector was responsive due to the Golden Mussel problem and recommends a need for reception facilities and is coordinating with maritime and health authorities. Brazil is also developing a new Biosecurity Act and the CFP is trying to include ballast water issues in it. The Golden Mussel is a core of Brazil’s Regional Action Plan but other species would be considered. The Golden Mussel invasion could have been prevented by ballast water exchange as it is a freshwater species. Brazil has achieved a high level of ministerial involvement and produced a wide range of awareness materials. A regional meeting was envisaged for April/May and the training package deliveries to Uruguay, Paraguay and Argentina were planned as first activities of Regional Strategic Action Plan.

China reported on an additional Ministry of Foreign Affairs Group proposal (of US\$60,000) to fund regional activities of GloBallast. There had been some difficulties in imprest replenishment due to US\$ being transferred instead of £ Sterling. Plans for producing 100 training packages and delivering training to 50 participants were outlined. Extensive progress in regional activities was noted and the Terms of Reference for the Regional Project Task Force had been agreed. The PCU supported China's proposal to establish of the BWRA database in other regional ports. China plans to undertake ballast water sampling of ships in port and equipment needed would follow guidelines of the previous workshop in Brazil. The in-country contribution to continue activities after GloBallast was impressive and the BWRP Database and people to maintain and replicate this in other ports of the region had been established.

India reported on their consideration of the use of reception facilities for ballast water and sediments. FOEI stated that control of ballast water was important to fisherman where it included toxic algal blooms and drew attention to ships being scrapped always being in ballast. India answered that the high courts (supreme) were well informed and insisted upon the guidelines for ship scrapping being followed and the highest standards of environmental procedures.

India informed that training was being developed with Module 6, 7 and 8 of Train-X as a guideline and would possibly develop along the lines of an IMO model course in anticipation of amendment to STCW Code requiring a Ballast Water Model Course.

Wednesday 4 February 2004

Conference Room 4, IMO Headquarters

Agenda Item 3: Country Status Reports Continued

Iran emphasized the success of its regional cooperation in the ROPME Sea Area; it was agreed that Iraq should be encouraged to become involved. Funding through the ROPME mechanism would assist the regional replication. 2nd delivery of the ballast water training course had been excellent. Ukraine asked for information on the introduction of Bero in the Caspian to control Mnemiopsis and were informed that caution was being used to ensure it would not become another nuisance species for Caspian, although it had been quite successful when introduced in Black Sea.

South Africa stated they would incorporate the e-forum in their national web site and informed they have engaged a part-time Communications Officer. A CD of awareness-raising materials had been produced. South Africa reported on the Port Survey planning in Mombasa and the planned port survey replications to be carried out through the National Ports Authority (NPA). Training was planned for 30 participants: 20 national and 10 regional training institutes and the possibility of Port Survey training being developed as a separate module was raised. The possibility of the project being extended until 31 December (instead of 31 August 2004) was suggested. The use of sampling of ships' ballast water was considered as a useful tool in risk management rather than in routine testing for CME purposes. The BWMP for Saldanha would be distributed to other countries. The Convention currently was focussed on ship rather than coastal management.

Ukraine stated that test equipment for ballast water treatment through cavitation and filtration had been constructed and would be tested in 2004. Ballast water exchange was unsuitable for the Black Sea as an enclosed sea. BWRP were completed and it was noted that 80% of ships did not perform action reported. A system using process sensors in ships ballast water system pumps (black box) and using NAVTEX to relay this information via Inmarsat to port had been developed. The US Coastguard had subsequently decided to follow this. Regional activities were advanced and the 2nd

Regional Conference in Black Sea had taken place the previous week. Training had been incorporated in national framework.

Agenda Item 4: NGO/Industry information papers regarding transfer of IAS in ships' ballast water. Also considering Relationship between GloBallast and the Convention.

IUCN asked the Pilot Countries and PCU to provide feedback on what affects the vulnerability of ecosystems to bio-invasions, on the response of local areas to invasions and on scientific understanding with regard to microbes that were not human pathogens. IUCN cautioned on the use of chemicals such as chlorine and stated that whilst some chemicals used in treatment (such as peroxide ozone) were considered short lived they were still active for some days. Brazil stated that human pathogens are of concern to World Health Organisation (WHO). PCU stated that human health had been considered but that animal health in the form of fish disease and parasites was also of importance. China was researching the use of chlorine compounds and other chemicals, which was an economical and effective treatment although effects or secondary pollution were a concern. Fish farms already used chlorine to control bacteria in China. IUCN drew attention to the new Convention that states the treatment should not have more adverse effects. Brazil had presented a paper on chlorine and its side effects at the 2nd R & D Symposium last year.

FOEI presented a paper showing that by 2012 maritime transportation would have doubled and in 20 years it will have trebled. Much growth was anticipated in India and China. Several approaches to avoiding damage through ballast water were suggested:

- Ship design - ships not requiring ballast water.
- Operational management - as GloBallast was involved in.
- Spatial Sea and Coastal Planning.

The FOEI stated that 2009 + 3 years, when the Convention would be in force globally, transport by sea would have doubled and the regulations D1 and D2 date of 3 years after entry into force would be when shipping would have tripled. It was stressed that coastal planning effects on ballast water management was important and it was necessary to assist in ensuring the Convention would be helpful in breaking down barriers. Pilot Countries would assist in reviewing Convention and it was agreed that it was better to have a basic Convention that could be improved rather than a "blank space". Brazil stated legal position would be better with a more robust Convention. The area where the Convention was deemed contrary to GloBallast was in using sampling for CME, which was better for risk assessment. South Africa observed that capacity in six Pilot Countries meant they were able to go beyond what is provided for in the Convention. The Convention would stimulate innovations.

Agenda Item 5: Risk Assessment

The PCU presented a paper on this subject informing that this activity had been completed 100%, and it remains for Pilot Countries to ensure measures are in place to maintain the system. Other countries and regions, including Japan, Eastern Canada and the Adriatic were looking at using the method.

GEF requested how the tools for Risk Assessment were available and were informed that the methodology is in the reports and software and hardware is off the shelf. Some consultancy companies had approached GloBallast requesting the methodology and data. Many countries would like to use consultants to run risk assessment on their behalf. Because the methodology and data was owned by IMO, it could be provided to governments who could then employ consultants.

South Africa had used the Risk Assessment information for a case study of *Aureaccocus*. Whilst Risk Assessment was not envisaged as an enforcement tool but rather for management it was suggested that where random verification was required, ships from areas of high risk might be checked.

Information from varied sources had been used in the Risk Assessments. FOEI suggested environmental impact considerations might be taken into account when building a new port.

Thursday 5 February 2004

Conference Room 4, IMO HQ

Agenda Item 6: Port Biological Baseline Surveys

The PCU presented a paper on this subject and reported that it was largely completed. Countries need to submit their final reports to the PCU for publication as soon as possible.

There was interest in replicating port baseline surveys in each region and it was discussed that funding might be secured for some through the ITCP. Regional Strategic Action Plans (SAPs) had already identified these activities although it was again emphasized that planned activities (workplan) for 2004 needed to be completed as priorities, before creating new activities. ITCP funding might be used to bridge the gap between current phase and the next.

The problem of sample identification and taxonomy was raised again and the PCU advised that it was continuing to provide Pilot Countries with taxonomic keys and references and that the recent baseline report on the Census of Marine Life, the Global Taxonomy Initiative and BioNET International should all be used by the Pilot Countries to assist their taxonomic efforts. The PCU was also compiling a list of taxonomic expertise from the Australian Port Survey Programme.

Agenda Item 7: BWM Capacity Building Package and the Long Term Strategy

The PCU presented a paper on this subject and urged Pilot Countries to review their long-term capacity building strategy and to provide comment to PCU by the end of March, to enable GloBallast to prepare a proposal to IMO to incorporate it in its workplan.

All countries planned to have delivered the first delivery of the course by the end of 2004.

GISP could incorporate the course as long as it remained intact.

Although GEF noted that Train-Sea-Coast resources were stretched it was considered important for refinement of the course to have independent evaluation. The final training course would incorporate improvements noted in study/evaluation reports, then would be submitted to IMO as a Model Course.

Iran stated that the “trainers training” was an important component and noted the awareness raising aspect of the training package.

Agenda Item 8a: Compliance Monitoring & Enforcement - Implementation of the generic CME system

The PCU presented a paper on this subject. It was agreed that “monitoring” is of the compliance of the ship with IMO guidelines until entry into force of the Convention. Whilst sampling on board could be undertaken, there are serious limitations to using sampling to monitor compliance. Paper based audits, tests for salinity and inline and online submissions direct to port were amongst methods being used and developed.

China drew attention to the Tokyo and Paris MoUs on port State control which inspect compliance of conventions that are effective or in regulations. China suggested the new Convention should be on the agenda at the Ministerial Meeting of Paris and Tokyo MoUs next year.

South Africa proposed a Workshop on CME to bring together experts and study practices. Many countries supported this to examine tools, methods and guidelines. The PCU recommended that the Workshop be held early and that a consultant be engaged in each country to review national actions to develop CME arrangements, in light of the CME Scoping Study already distributed.

India noted that action could always be taken through quarantine regulations. The PCU noted that the Guidelines A.868(20) enabled countries to implement national legislation and enforce it.

FOEI stated that a mandatory requirement of entry into port could be the mandatory filling and submission of Ballast Water Reporting Forms and also the Ballast Water Management Plan. Monitoring could detect if the info on forms was correct.

Agenda Item 8b: Compliance Monitoring & Enforcement – Ballast Water Sampling

The PCU presented a paper on this and noted that ballast water sampling was no longer considered a particularly useful tool for CME, due to inherent limitations in sampling efficiency and representativeness, delays etc.

However, it was stated that ballast water sampling programmes were considered useful to assist general understanding of the biology of ballast water, for hazard analysis and risk assessment and for general monitoring and awareness.

PCU requested that countries wishing to undertake ballast water sampling should define their intentions and then send a project proposal and budget, together with a list of equipment they wish to purchase to PCU for review. This should follow the standard format for the Country Project Proposal.

The Chairman introduced an insert into the agenda to discuss extension of the project beyond August 2004.

Extension of the project beyond August 2004

GEF stated that the remaining workplan was substantial and invited Pilot Countries to consider an extension from end August to end December 2004. All the Pilot Countries supported the extension until end December 2004 and Brazil recommended end March 2005. The PCU would investigate budget reallocations. Final figures for expenditure to date will be available in March. Initial preference would be for extension of the project till end December 2004.

Agenda Item 9: Regional Cooperation and Replication

The PCU presented a paper on this and welcomed representatives from IMO's Technical Co-operation Division to the Meeting.

Nearly all the Pilot Countries had made significant progress in Regional Cooperation having held Regional Meetings, established Regional Project Task Forces (RPTFs) and adopted Short Term Action Plans (STAPs).

IMO's Technical Co-operation staff informed that workshops were planned in Latin America and the Caribbean and requested a demonstration from PCU and Brazil on Brazilian and regional ballast water activities.

The ITCP 2004-2005 was following new thematic priorities and IMO's Technical Co-operation was preparing Programme Implementation Documents (PIDs) and requested the input of PCU and Pilot Countries offices. IMO's Technical Co-operation staff and the PCU would discuss the process of securing funding for GloBallast-type activities.

GEF involvement in regional meetings would be further encouraged.

Agenda Item 10: Implementation of Mid Term Evaluation recommendations and preparation for final evaluation

The PCU presented a paper on this subject outlining action that had been taken to implement the MTE recommendations.

Some of the recommendations were complex to achieve.

Recommendation 2B - Political awareness had been raised at the highest level in all Pilot Countries. There had been difficulty in involving some specific Ministries and organizations such as the Department of Health and the Convention on Biological Diversity Secretariat. It was noted that the CBD Secretariat and other nature conservation organizations and NGOs were always invited to CPTF meetings. Ballast Water News had been produced in partnership with IUCN for the last year.

Recommendation 2E – South Africa agreed to coordinate the survey to review funding mechanisms.

Recommendation 2F – Pilot countries to review arrangements in light of new Convention.

Recommendation 3B – South Africa welcomed the Training Package as an introductory course but noted there were additional training needs. To arrange port survey in a training format and identify new Modules to assist in long term capacity building strategy.

It was agreed that the future of R&D seminars was important and whilst GloBallast might not fund this, interest could be stimulated for a third R&D Symposium (with IMarEST) possibly in 2005.

GEF stated that PDF-B funds could be utilized for some activities.

Friday, 6 February 2004

Conference Room 4, IMO HQ

Agenda Item 11: Global Aquatic Invasive Species Information System (GAISIS)

The PCU and Brazil presented a paper on the proposed system.

The system would link national databases into regional input and make it possible to query global information using preset criteria, terms and XML. The end user would be the global community.

There will be a requirement for port State to alert re. outbreaks, the shipping industry could then view location of outbreaks through the database. It will assist scientists in better understanding what is happening with species globally and it is planned to connect it to global information already available on native and invasive species and marine biodiversity (i.e. Census of Marine Life).

Brazil had begun initial plans for a national database and would prepare standards and specifications for the system following a global workshop planned in the USA this year. The draft specification will

be circulated to all countries to provide comments to PCU and Brazil. Final specification will then be distributed to the Pilot Countries to send proposal to the PCU, according to the standard template, for their national database to link in. Each Pilot Country needs to secure their own funding to continue the systems once established. The term “aquatic” was used to include freshwater species.

Agenda Item 12: TV Documentary

The PCU presented a paper on this subject. The documentary would engender support of the countries for phase 2 and would have a voice over rather than a presenter. The plan provides for it to be produced in each language.

All countries supported the TV Documentary but several requested if costs could be reduced. It was emphasized by PCU that a broadcast quality production, where GloBallast was in control, required a minimum budget of US\$500,000 with US\$200,000 from GloBallast and that additional sponsorship was being sought.

South Africa requested that “This is one of a range of vectors” be included. Ukraine stated that a diver in their region could be used for underwater footage – having obtained a Ukraine prize for filming. China preferred the use of subtitles and noted visits to Pilot Countries and relevant filming will take place during the remaining time for the project.

Local crews will be used in filming where available. The documentary would be available for schools etc and FOEI suggested it could be used as the introduction to the training package.

UNDP-GEF stated that the subsequent sale of DVD and video products through the BBC, IMO and country shops could be used to put into a trust fund for the future of GloBallast. The UNDP Film Unit has worked with the BBC on similar initiatives. PCU to investigate the possible mechanisms for revenue generation and sharing to recover all costs, if not more, and to share with the Task Force the financial model for this.

The PCU was instructed to proceed with this activity, including the allocation of US\$200,000 from the Project budget.

Agenda Item 13: Resourcing & Financing

The PCU presented a paper on this subject. Although initially a global donor conference was budgeted for it now seems more effective to organize national donor conferences with UNDP and IMO attendance to assist.

The funds raised would be used for phases one and two, to make permanent the GloBallast activities in each country and identify sustainability strategies. Funds raised in a Pilot Country would remain available for use by that country.

A global review of ballast water management funding mechanisms should be undertaken and South Africa will coordinate this. Regional funding for SAPS is needed and regional organizations should be invited to investigate mechanisms for this funding. Other regions could also be stimulated to undertake similar activities to GloBallast as had occurred in the Mediterranean and Baltic.

Each Pilot Country to provide suggestions to PCU by March for needs and preferences for donor activities nationally.

Agenda Item 14: GloBallast Partnerships

The PCU presented a paper on this subject and Pilot Countries had previously received a copy of the Concept Paper, GEF presented the GEF Project Cycle.

GEF stated that it might have been preferred to consider it as regional capacity building using centres of excellence as vehicles, through regional mechanisms for national policies to implement ballast water management and control. The Concept Paper to be revised and re-submitted in June. The PDF-B can then be submitted with budget, terms of reference.

The final evaluation needed to have been started by July at the latest and a survey of GEF and the implementing agency will provide lessons regarding the design of project which can be fed into the design of the new project. The final evaluation is a required component of the GEF proposal to Council.

The PCU encouraged Pilot Countries to invite national GEF Operational Focal Points (OFPs) (as possible missing stakeholders) to their CPTF meetings, or to visit and brief their GEF OFPs, to raise awareness of ballast water activities and enable support of the next phase.

Agenda Item 15: Other business

IUCN requested, and offered to share, information on microbes, bacteria, moulds and yeasts in the sea/ballast water.

Ukraine offered to host the 6th and final GPTF at the end November/early December which was unanimously supported. The PCU suggested it would cover “Reflections and Directions”.

Iran offered to host the CME Workshop in May/June which was also unanimously supported.

The Pilot Countries all expressed their gratitude to the Chief Technical Adviser for leadership, friendship and excellence in establishing links between countries and wished him luck in his new function as Head of the Office of Ballast Water Management. The Chief Technical Adviser stated he was honoured to become part of the IMO Secretariat but had mixed feelings on leaving the Project. He emphasized he had never felt alone and mentioned the important part played by the support of all involved including Matthew Baker and Leonard Webster.

The Technical Adviser received the support of all the Pilot Countries in taking on the role of the Chief Technical Adviser. He stressed that the GloBallast family would not be losing Mr Pughiuc as it was simply an administrative change, and GloBallast would continue as a family.

GEF stated that the project was considered to be a GEF Flagship Project and therefore outstanding. Invasive species are the second most important threat to biodiversity and GloBallast worked very clearly at all levels from top to bottom. Design, adequate financing and country commitment is exceptional and the project works well through hardworking and vast strength of the project team. The UNDP-GEF representative is proud to be associated with project and looked forward to the next meeting.



More Information?

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