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Implementation of the Ballast Water Management Convention in the UK Overseas Territories

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Contents

Executive Summary.....	1
1 Introduction	3
2 Methods.....	5
3 The Convention.....	7
3.1 Policy Framework for Ballast Water Management.....	7
3.2 Requirements under the Ballast Water Management Convention.....	7
3.3 Articles	10
3.3.1 General obligations.....	10
3.3.2 Application	10
3.4 Summary of Party requirements.....	13
3.5 Extension of Conventions and Transposition into OT Legislature	18
4 Overseas Territories’ Convention requirements	23
4.1 Flag state Overseas Territories	25
4.2 Overseas Territories without shipping.....	25
5 UK Overseas Territories review.....	28
5.1 British Antarctic Territory	29
5.2 Wider Caribbean Region	34
5.3 Anguilla	36
5.4 British Virgin Islands.....	41
5.5 Cayman Islands	45
5.6 Montserrat.....	49
5.7 Bermuda.....	52
5.8 Turks and Caicos Islands	55
5.9 Akrotiri and Dhekelia	58
5.10 Gibraltar	61
5.11 British Indian Ocean Territory.....	65
5.12 South Atlantic.....	68
5.13 Ascension Island.....	69
5.14 Saint Helena	74
5.15 Tristan da Cunha	78
5.16 Falkland Islands	82
5.17 South Georgia and the South Sandwich Islands	85
5.18 Pitcairn Islands.....	88

6	Overseas Territories implementation requirements and capacity.....	91
6.1	Lead Agencies and Task Force.....	91
6.2	Information gathering and communication.....	91
6.3	Legislation	92
7	Conclusion.....	95
	Acknowledgments.....	98
	References	99
	Contacts	100

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Executive Summary

- Ballast water has been identified as a major route for the introduction of non-native species and pathogens, especially in the marine environment.
- Non-native species and pathogens can have serious environmental, social and economic impacts, especially on small island ecosystems and economies.
- Implementation of actions to manage the ballast water pathway is considered an essential step in protecting sensitive aquatic ecosystems and associated services from impacts caused by non-native species, in addition to limiting the spread of harmful human pathogens.
- This Report presents information regarding the Ballast Water Management Convention's (BWMC) applicability to the UK Overseas Territories (OTs).
- The BWMC and associated framework offers what is likely to be the most effective and comprehensive means of managing introductions of non-native species and pathogens via ballast water.
- An assessment of the OTs capacity to implement the BWMC, should it be of strategic importance to the OT administrations, is presented in this report.
- Guidance on the decision-making process is presented to aid OTs in deciding on the most appropriate course of action in relation to implementation of the BWMC.
- Stakeholders were identified within the OTs, UK Government Departments, and international organisations. These were then approached for information regarding OT's capacity, political will, and the availability of support for BWMC implementation.
- A review of OT marine biodiversity and ecosystem policy (specific to the ballast water introduction pathway) was also undertaken as part of this report. This included an assessment of local strategic action plans, maritime ordinance and policy, the activities of regional working groups, and associated maritime practice.

- Although it was not definitively confirmed at the administration level, most of the OTs are not currently working towards the implementation of the BWMC or other ballast water policy, although ballast water is identified as a major threat in many associated action plans.
- In many cases there is currently limited capacity regarding ballast water management in the OTs, suggesting that implementation under the current situation would be difficult.
- Gibraltar, The Cayman Islands and British Antarctic Territory do have policy in place which is in-line with the BWMC and provide some management of the pathway. It was not definitively confirmed whether these territories would request full extension of the convention.
- Bermuda, Cayman Islands and Gibraltar all have comparatively large shipping fleets. It is likely that they will need to make provision for the certification of any international shipping under their flag.
- The BWMC could provide increased protection for the OTs exposed to the ballast water introduction pathway. However, any decision to implement should be based on a cost/benefit analysis.
- To allow the OT administrations to make an informed decision regarding the implementation of future ballast water management policy, the UK Government should increase engagement (following the enactment of domestic legislation) and ensure that the OT administrations are provided with sufficient support, both in term of technical expertise and resourcing.

1 Introduction

The Convention for Biological Diversity and The EU Alien Species Regulation (Reg. (EU) No 1143/2014) endorses a tiered approach for the control of invasive non-native species (INNS): 1) prevention of introduction; 2) early detection and management; and 3) eradication. Viable management or eradication programmes for invasive non-native species populations are challenging to implement. This is particularly true for aquatic organisms; and even more so for marine species. Therefore, prevention of new introductions is deemed to be the most realistic and primary strategy for the mitigation of this globally increasing issue.

Shipping is frequently cited as one of the primary introduction pathways for marine non-native species. The uptake and discharge of ballast water between isolated marine habitats allows for organisms, normally separated by environmental or geographical barriers, to be transferred to a naïve location wherein the species does not naturally occur. The number of organisms contained within a ballast tank varies, but it is estimated that, globally, up to 7000 species are in transit each day (as reported by Gollasch, Minchin, & David, 2015). A small number of these species may be physiologically adapted to the environmental conditions of the habitat into which they are introduced such that a viable and reproducing population is formed. Some of these established populations may occupy ecological niches, causing knock-on effects to other species or trophic levels within their new ecosystem. Competition with native species for resources, interbreeding, disease introductions, habitat damage, and impacts on nutrient cycling are all possible consequences following establishment of the non-native species and may negatively impact the resilience of the ecosystem under pressure. Unfortunately, recognising or predicting ecological damage is not always simple, and once impacts are observed, it is often the case that the original stable state of the ecosystem has been irreversibly altered. Invasive species also cause significant economic and social impacts, with the potential to destabilise small economies.

In addition to the introduction of non-native species, there is growing evidence pointing towards ballast water as a pathway resulting in the global spread of pathogens. This can cause local outbreaks, leading to illness and in rare cases fatalities.

Following the formal recognition of the ballast water pathway at the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992, the International Maritime Organisation (IMO) drafted the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWMC) with the express aim of reducing the number of non-native species and pathogens being translocated by the global shipping fleet. The Convention, which enters into force in September 2017, requires all vessels (excluding military) which use ballast water and

operate between the waters of one or more Party to the Convention to manage their ballast and associated sediment in a manner conducive to the aims of the Convention. Ships must: 1) prepare and follow an approved ballast water management plan; 2) keep a record of ballast water operations; and 3) perform ballast operations to meet the standard as defined under the Convention. In practice, this will require vessels to be fitted with an approved ballast water treatment system and ensure that ballast water can be discharged in a manner which minimises the risk of viable introductions.

Small island ecosystems are particularly vulnerable to the impacts of invasive non-native species and pathogens. Critically, small islands may not have the relevant resources or expertise in-country to effectively mitigate or manage the threat. In 2016 the International Union for Conservation of Nature issued a call, The Honolulu Challenge, for greater action on addressing invasive species. This included improved enforcement of measures to address priority invasion pathways. The UK Government, which is committed to working in partnership with the UK Overseas Territories to support them in meeting international obligations for biodiversity conservation, responded to the challenge and committed significant funding toward the development of comprehensive biosecurity. Supporting the Territories in averting potential threats arising from invasive species entering through the ballast water pathway was identified as a priority as part of the biosecurity component of this work.

This project aimed to review the requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments specifically in Overseas Territories. The initial stage of the project was to identify, where possible, and engage with, the responsible authority that would be tasked with the implementation and delivery of the Convention, and to determine what progress, if any, has been made toward managing the ballast water pathway, what is still required to be completed, and where gaps may lie in the OTs current capacity to implement. This is a report detailing progress towards these actions.

As part of the work undertaken, attempts were made to also engage the wider stakeholder group for each Overseas Territory. There was an attempt to identify any local and regional policy addressing the pathway, and any principles or measures contained in the Convention into Territories' legal frameworks. Information has been presented on any implementation progress to date.

2 Methods

The first stage of this project was to review the text of the Convention itself and ensure that any amendments, guidance, resolutions, circulars, or technical documents issued following its adoption (2004) were identified and available. The International Maritime Organisation leads the Convention and has the responsibility to ensure that information is shared effectively to all member states. This creates a significant amount of literature. Most of the documents were downloaded from IMO's online document and resources database (IMODOCS - <https://docs.imo.org/>). The system works through a search engine based on various user defined fields. Documents directly linked to the Convention were easy to retrieve. Peripheral documents were more challenging to identify, but were found using keywords related to the Convention, its amendment process, and the associated guidelines. Approximately 400 Convention specific documents were downloaded through the IMODOCS database. Around 10% of these are relevant to implementation at this point. It should be noted however, that amendments and guidelines are in the process of being debated by IMO's Marine Environment Protection Committee (MEPC). It is likely that significant amendments to the Convention will occur following entry into force in September 2017.

The next step was to undertake a review of relevant policy and identify contacts within the OTs and UK government. Cefas and project collaborators provided many potential contacts in addition to those identified through internet searches. It was challenging to find stakeholders relevant to the consideration of ballast water in areas where little progress with the pathway has been made to date. The Maritime Coastguard Agency (MCA) UK Policy lead kindly provided a list of OT contacts used for generic MCA correspondence, particularly stakeholders within the Red Ensign Group. All the identified contacts were then categorised as either being in a position of Government (both OT or UK based), environmental research/management, or within the maritime industry.

The OT Foreign and Commonwealth Office (FCO) Desk Officers and Department for Transport advisors were informed of the intentions of the project and passed a copy of the contacts list for comment/update. A small number of the Desk Officers provided additional information relevant to their posting.

A total of 44 individuals or departments, excluding those from UK Government, were contacted (see OT specific sections and contacts list for summaries). Contacts received an introduction email, a list of questions (dependent on their category) and a background summary. If replies were received, information was incorporated with that gathered during the literature review.

Further questions were provided either through email correspondence or phone calls, but the standard information addressed was:

- Locally applicable laws, agreements, policies or plans addressing the management and control of marine non-native species.
- Occurrence of ballast water operations being performed within the territories waters.
- Estimated total vessel tonnage performing ballast water operations.
- Capacity to perform ship-board compliance inspections.
- The ballast water introduction pathway as a significant risk to regional marine habitats.
- Local action and capacity towards the BWMC.
- Organisation expectations and responsibilities.
- Work programmes (including research, horizon scanning, risk assessment and monitoring) currently underway which relate to the ballast water introduction pathway.

3 The Convention

3.1 Policy Framework for Ballast Water Management

There is a large amount of global policy in place to address the introduction of non-native species. Various unilateral and regional agreements, alongside national action plans exist to encourage consistent approaches and regional collaboration towards introduction pathways and biosecurity management. Although there are varying degrees of direct consideration towards the ballast water introduction pathway the BWMC now exists to provide a unified international framework for its mitigation. Upon accession to the Convention a Party will need to have legislation prepared to address the requirements.

3.2 Requirements under the Ballast Water Management Convention

Parties to the Convention will benefit from its implementation in many ways. Increased protection of the marine habitats and biodiversity of their waters through the reduction, and ultimately elimination of ballast water mediated non-native species introductions (including pathogens) is the primary objective of the Convention. This is supported by: 1) the standardisation of enforcement measures that can be imposed on foreign vessels entering the ports or offshore terminals under their jurisdiction; 2) having an active role/consultation in the proposition of amendments to the Convention; 3) benefiting from the information sharing and capacity building network set up under the terms of the Convention (GEF-UNDP-IMO, 2009).

The BWMC (2009 Ed.) contains 22 Articles and five Regulation sections (table 1). There are two Appendices which provide the format and requirements for Ballast Water Management Certificates and the Ballast Water Management record Book. There are currently 16 guidelines (Table 2), numerous circulars and resolutions also in place to support the BWMC. Several of the regulations need to be met by all stakeholders including vessel owners and operators, Party Administrations and authorised bodies, and IMO.

Table 1. List of Regulations and Articles constituting the BMWC.

Regulation Sections	Regulation	Description
General Provisions	A-1	Definitions
	A-2	General applicability
	A-3	Exceptions
	A-4	Exemptions
	A-5	Equivalent compliance
Management and Control Requirements for Ships	B-1	BWM plan
	B-2	BWM record book
	B-3	BWM for ships
	B-4	BW exchange
	B-5	Sediment management
	B-6	Duties of officer and crew
Special Requirements in Certain Areas	C-1	Additional measures
	C-2	Warnings concerning BW uptake in certain areas and related flag State measures
	C-3	Communication of information
Standards for Ballast Water Management	D-1	BW exchange standard
	D-2	BW performance standard
	D-3	Approval requirements for BWM systems
	D-4	Prototype BW treatment technologies
	D-5	Review of standards by the Organization
Survey and certification Requirements for Ballast Water Management	E-1	Surveys
	E-2	Issuance or endorsement of a Certificate
	E-3	Issuance or endorsement of a Certificate by another Party
	E-4	Form of the Certificate
	E-5	Duration and validity of the Certificate

Table 2. Resolutions and their status under the BWMC.

Resolution	Title	Status
MEPC.152(55)	Guidelines for sediment reception facilities (G1)	
MEPC.173(58)	Guidelines for ballast water sampling (G2)	
MEPC.123(53)	Guidelines for ballast water management equivalent compliance (G3)	
MEPC.127(53)	Guidelines for ballast water management and development of ballast water management plans (G4)	
MEPC.153(55)	Guidelines for ballast water reception facilities (G5)	
MEPC.124(53)	Guidelines for ballast water exchange (G6)	
MEPC.162(56)	Guidelines for risk assessment under regulation A-4 of the BWM Convention (G7)	
MEPC.174(58)	Guidelines for approval of ballast water management systems (G8)	Revokes MEPC.125(53)
MEPC.169(57)	Procedure for approval of ballast water management systems that make use of active substances (G9)	Revokes MEPC.126(53)
MEPC.140(54)	Guidelines for approval and oversight of prototype ballast water treatment technology programmes (G10)	
MEPC.149(55)	Guidelines for ballast water exchange design and construction standards (G11)	
MEPC.209(63)	2012 Guidelines on design and construction to facilitate sediment control on ships (G12)	Revokes MEPC.150(55)
MEPC.161(56)	Guidelines for additional measures regarding ballast water management including emergency situations (G13)	
MEPC.151(55)	Guidelines on designation of areas for ballast water exchange (G14)	
MEPC.252(67)	Guidelines for port State control under the BWM Convention	
MEPC.163(56)	Guidelines for ballast water exchange in the Antarctic treaty area	

3.3 Articles

3.3.1 General obligations

Article 2 instructs Parties to undertake full and complete effect to the provisions of the Convention and its annexes, with the aim of preventing and ultimately eliminating the introduction of marine non-native species through the ballast water pathway. Provision is made for Parties to independently, or in collaboration, take increased management action to prevent ballast water transfer. This is to be achieved through ballast water management/treatment, and associated enforcement activities. Any additional actions should be consistent with international law and should not result in more damage to the environment than they prevent.

3.3.2 Application

The BWMC applies to all vessels, either flying the flag of a Party or operating under the authority of a Party, other than: 1) ships not designed to use ballast water; 2) warships or Naval auxiliary vessels; 3) vessels only on non-commercial voyages; and 4) vessels with permanent sealed ballast. It is at the prerogative of the Party to determine the applicability of the Convention to any vessels which operate exclusively in its own waters. There is also the provision for exemptions for those vessels that move exclusively between 2 set points provided there is no risk posed to either point by the vessel and any ballast activities it may undertake.

Each Party shall ensure that vessels operating under its authority comply with the Convention's regulations to *"remove, render harmless or avoid the uptake or discharge of harmful aquatic organisms and pathogens within ballast water and sediments"* using *"mechanical, physical, chemical and biological processes, either singularly or in combination"* (IMO definition). Essentially, this requires vessels to implement ballast water management plans whereby no contaminated ballast water is transferred between distinct locations. Vessels will either need to be constructed with integral ballast water treatment systems or need to retrofit their ballast water systems to include approved treatment mechanisms to sterilise ballast prior to discharge. There is scope within the Convention to allow interim ballast water exchange until the deadline for the commissioning of treatment systems. Ultimately, all vessels will have ballast water treatment systems and the intent is that there will be no exchanges as part of a ballast water management plan.

The Convention contains regulations (importantly B-3, B-4, D-1 and D-2) which describe the standards to be met upon entry into force and beyond. Ballast water exchange must be of at least 95% volumetric exchange and occur 200 nautical miles from the nearest land (50 nm if unable to do so), and in water of at least 200 meters depth. Treatment systems must ensure that the number of viable

organisms released is below the standard described by D-2. The D-2 standard is based around the number of viable organisms and the number of colonies of human pathogens present in the treated ballast water. Parties to the Convention must develop national policies for ballast water management in the ports and waters under its jurisdiction.

The 71st meeting of the MEPC, held in July 2017, agreed on the adoption of a revised schedule for the compliance with the D-2 standard. Although not formally adopted, the new schedule is likely to be in effect by 2019, and will ensure that all applicable vessels are effectively managing ballast by 2024. This date is considerably later than expected, and is in response to the delayed ratification and a result of the decision to couple the deadline for compliance with D-2 to a vessel's International Oil and Pollution Prevention (IOPP) renewal survey. By undertaking the IOPP renewal earlier than required (as close as possible to the Convention's entry into force) ship owners are able to delay compliance by five years. With the adoption of the new compliance schedule, this can be further extended until 2024. Up to seven years after entry into force.

Sediment reception

Parties must ensure that specific ports under their jurisdiction have facilities in place to enable the reception of sediment removed from ballast tanks. Such facilities must not cause undue delay to vessels, or result in any additional harm to the environment.

Scientific and technical research and monitoring

Parties should endeavour to enable scientific and technical research on the management of ballast water. Monitoring of the effects of ballast water management in their waters is also required. This should also include the impacts of treatment systems on the environment as well as the impacts of organisms known to have been introduced by the ballast water pathway. Each Party should ensure that the scientific and technical data gathered is freely available to other Parties.

Survey and certification

Parties must ensure, through survey and certification that vessels operating under their authority are in accordance with the survey and certification requirements of the Convention (section E).

Port State controller officers should be enabled to inspect vessels for ballast water management compliance. The guidelines for port state control endorse a four-stage inspection process with the level of detail required being on a risk based system: 1) a simple documentation review and interview with the crew member responsible for the operation of the system and/or management plan; 2) a more detailed inspection where the operation of the system is compared to the ballast water

management plan and the indicators as defined within the type approval certificate; 3) a sample of ballast water is taken and analysed using indicative tools to insure that the vessel is meeting the D-2 standard; 4) as 3, but requiring more detailed analysis for the verification of the D-2 standard.

The general requirements for port state control overarch the BWMC and other IMO instruments i.e. the International Convention for the Prevention of Pollution from Ships (MARPOL). There are also regional Memorandums of Understanding (MoUs) which aim to reduce the amount of substandard shipping by standardising inspection procedures and training.

Violations

Parties should transpose the Convention into their legal framework and work to discourage violations to the Convention's requirements through the establishment of adequate sanctions. All Parties are obliged to report violations within their jurisdiction to the flag administration of the offending vessel. The Party (administration) of any vessel found to have violated the requirements of the Convention is to investigate and take action in accordance with its laws, even if the offence has occurred outside of its waters.

In the event of non-compliance being detected, the Party in whose port or waters the vessel is operating can take action to caution, detain or exclude the vessel. Action can be taken to ensure that ballast is discharged safely and without threat to the environment, human health properties or resources.

Parties may also collaborate in the investigation of alleged violations i.e. a Party may inspect a ship entering its jurisdiction upon request, and with sufficient evidence, by any other Party. Port state authorities shall, in addition to the authorising Party, inform the next port of call and provide all relevant information of the violation.

Technical assistance, co-operation and regional co-operation

Parties are encouraged to provide technical support to any other Party that requests assistance with training, technology, initiating research programmes, and effectual implementation of the Convention. Regional agreements and cooperation should be utilised to ensure the harmonisation of procedures and practices within a given geographical area, particularly enclosed and semi-enclosed seas.

Communication

Parties shall inform the IMO, and other Parties where appropriate, of 1) requirements and procedures relating to the implementation of the Convention; 2) locations of sediment and ballast water reception

facilities; and 3) requirements for information from a ship which is unable to comply with the Convention. It is IMO's responsibility to ensure this information is disseminated to other Parties. This is achieved in part through the online resources: Global Integrated Shipping Information System (GISIS) and IMODOCS.

If a port state control cannot act to ensure the rectification of a violation (under any IMO instrument) or detain the vessel in question, they will notify the next port of call of the details of the violation. This allows for prioritised inspection and control at the next port of call. Databases of vessel inspections are kept by the secretariats of the various MoUs (i.e. UK is a signatory to the Paris MoU and the THETIS database) and are generally available online.

3.4 Summary of Party requirements

The Annex to the Convention provides five sections detailing the specifics of each regulation in relation to the implementation of the articles. Generally, these regulations pertain directly to vessels (and operators) under the Convention, as it is them, by the basic principles of the Convention, that have the responsibility to carry out ballast water management. However, several of the regulations detail the specific roles, in addition to the introduction of legislation, for the Party administrations or the bodies they authorise to act on their behalf. These regulations include the following:

Exemptions

Regulation A-4 allows for specific vessels operating within the jurisdiction of a Party to be exempt from the Convention. Such exemptions remove the requirement for the vessel to undertake ballast water management or treatment, but can only be granted to vessels on an individual basis which operate exclusively between specific ports or locations. The process for granting exemptions is based on a risk assessment and has been addressed by the IMO's 'Guidelines for risk assessment under regulation A-4 of the BWM Convention (G7)'. The guideline describes three different assessment methods:

- Environmental matching – considers the differences in environmental parameters between regions to estimate the likelihood that organisms transferred from one location will be able to survive in a recipient location. IMO initially suggested the use of the Large Marine Ecosystem (LME) concept (there are 66 LMEs Globally); however, such classifications were not designated based on the likelihood of non-native species introduction so are not necessarily the most robust method of assessment. The ability to define the specific environmental conditions which are indicative of a species ability to establish is also challenging. The key data required for this method is: the origin of the ballast water in

question; the biogeographic region of the locations in question; and the yearly range of environmental parameters (David et al. 2015). In certain cases this would require the parameters of each location being assessed at a fine scale, should the locations fall within the same biogeographic region, as local events i.e. run-off, rainfall etc. may impact an individual location's parameters.

- High-risk scenario: the abiotic parameters of the donor and recipient locations overlap
 - Low-risk scenario: the abiotic parameters of the donor and recipient locations do not overlap
- Species' biogeographic risk assessment – compares the distribution of species which occur in both locations. The overlapping of populations may suggest that the environmental conditions in each location are similar enough to allow the establishment of a species currently present in only one of the locations. This approach can also be used to identify high risk species. Data required is: species invasion records from both locations; identification of species which have been transferred and established in other locations and the environmental parameters of the invaded locations; and, a priority list of the species within the donor location which have the potential to become invasive.
 - High-risk scenario: The recipient location contains non-native species whose native range includes the donor location. The donor and recipient locations contain non-native species whose source is from other biogeographic regions.
 - Moderate to high-risk scenario: the recipient location contains non-native species whose native range includes the donor's biogeographic region.
- Species-specific risk identification – this is based on the potential “invasiveness” of a species. The G7 guideline suggests the consideration of a wide range of criteria for this determination of high risk species:
 - Evidence that the species has been introduced and established elsewhere;
 - Demonstrated impacts on environment, economy, human health, properties or resources;
 - The capacity of the species to act as an ecosystem engineer;
 - Current distribution within biogeographical regions;
 - Likelihood of ballast water transfer.

This method is challenging as there is a lack of available species data and the determination of what makes an organism “invasive” is often subjective, and has a degree of uncertainty. Essentially this

approach characterises the physiological limitations of a species and compares them against the environment into which they may be introduced. The data required to enable a species-specific risk assessment should include: details on the biogeographic region of donor and recipient locations; the presence of all species in the donor location not present in the recipient location; the presence of all risk species in the recipient location; the difference between risk species between the donor and recipient locations and the biogeographical area; life history information of the risk species and the physiological tolerances of each life stage; and, a definition of the species' habitat requirements and the availability of such habitats at the recipient location. When considering species-specific risk assessment, the likelihood of an individual member of the species surviving the act of ballast uptake and discharge, their survival rate in transit, and the probability of establishment are all factors which may affect the overall risk of a species invasiveness.

- High-risk species can be considered as:
 - A species likely to be invasive;
 - Present in the donor location or it's biogeographical region;
 - Likely to be transferred by ballast water, and;
 - Likely to establish.

A Party may undertake the risk assessment themselves or request that the vessel's operator/owner are responsible for completion of the assessment. Either way, once levels of risk and uncertainty are assessed, the Party takes the decision whether to grant an exemption. The levels of risk that a Party is willing to accept is at their prerogative, but it is recommended that the exemption process is peer reviewed by an independent third Party to ensure that the environment is not placed at risk. Although Parties are under no obligation to grant exemptions to the Convention within their waters, they must define a process and offer them. A Party could, however, define a prohibitively complex risk assessment process to sidestep exemptions.

Management and control requirements

Section B of the Annex to the Convention details the requirements for the management and control of ballast water and sediment that vessels must undertake. Generally, the requirements here are levied against the owners and operators of vessels covered by the Convention. Regulation B-1 details the requirement for ballast water management plans to be in place on every vessel under the Convention. Each plan is specific to a vessel and includes a detailed description of the actions to be taken to implement the Convention requirements and practices. Party administrations, or in some

cases class society¹, must approve the Ballast Water Management Plan before the ship is considered fit to sail.

Additional measures

Regulation C-1 provides information for special requirements in certain areas. Parties may, individually or jointly with other Parties, implement measures to prevent, reduce or eliminate the transfer of non-native species in ballast water in addition to those described by the Convention. The IMO have issued the G13 guidelines to provide detailed advice for the assessment of the need for additional measures and the procedure for implementation. Depending on the measure(s) being implemented the Party administration must inform the IMO or, in certain situations seeks formal approval from the IMO.

Warning systems

Regulation C-2 details the requirement for Parties to ensure that information related to the identification of high risk uptake locations i.e. local outbreaks of harmful organisms or pathogens, is communicated effectively to the vessels operating in their jurisdiction. The Party shall also notify the IMO and potentially affected coastal states.

Approval requirements for management systems

Regulation D-3 in combination with the G8 and G9 guidelines provide the testing and approval requirements for ballast water management systems. The approval of a model (type) of system rests on the administrations of the Parties to the Convention. A system must be tested, by the manufacturer, to ensure it meets the performance standard (reg. D-2) following the guidelines relevant to its design (i.e. use of an active substance or not). This information is then submitted to a Party administration (or authorised body) for quality assessment in accordance with the latest IMO guidance and methodologies. Once satisfied the Party administration can submit the dossier to the IMO for the issuance of a type approval certificate.

Certification

Vessels undertaking ballast water treatment to meet the D-2 standard must be issued with a ballast water management certificate before being put into service. This is undertaken under the authority of Party administrations, and consists of a survey to ensure that the ballast water management plan is consistent with the (type approved) system which has been installed on the vessel and meets the

¹ Non-governmental organization that establishes and maintains technical standards for the construction and operation of ships.

requirements of the Convention. Certificates can be issued to a vessel by Parties other than the vessel's flag state; however, no certificate shall be issued to a vessel entitled to fly the flag of a state not Party to the Convention. Vessels wishing to call at ports or locations of Parties to the Convention, but registered under a non-Party flag will still be required to meet the requirements. Under this circumstance, as it will not be possible to issue a ballast water management certificate Party, a Statement of Compliance will need to be issued by an authorised surveyor or Party administration.

3.5 Extension of Conventions and Transposition into OT Legislature

The FCO is the lead Department within the UK Government for coordination of OT policy, although, several other UK departments also have a role in discharging the UK's responsibilities to the territories. The FCO aims to provide consistency and improvements in the governance, environmental protection and security, sustainable economic development and the management of international obligations, treaties and Conventions. The FCO OT Directorate coordinates arrangements for all OTs other than Gibraltar and the Sovereign Base Areas. The Department for International Development (DFID) supports St Helena, Montserrat and Pitcairn more closely, due to their ongoing budget deficits. There is generally less involvement with the more prosperous OTs other than supporting the implementation of international treaties and Conventions.

The Maritime and Coastguard Agency (MCA) is the policy lead (under the authority of the Department for Transport (DfT)) for the implementation of the Ballast Water Management Convention within the UK. The UK has not yet ratified the Convention. However, it is the intention of the UK to fully implement the requirements of the Convention in line with the decisions of the International Maritime Organisation. MCA is currently working with Department for Transport policy lawyers and economists to prepare the legislation that will allow accession to the Convention. It is the aim of the UK government to complete this process as swiftly as due and proper process allows. However, it is unlikely that the consultation process will be completed prior to the entry into force of the Convention on 8th September 2017.

Until the UK legislative framework is in place, the UK will make interim arrangements to ensure that UK vessels within scope of the Convention will still be able to travel and trade in the waters of Parties, by issuing Statements of Compliance to eligible vessels. It is likely that this can be extended to any OT (Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Falkland Islands, Gibraltar, Montserrat, St Helena and the Turks & Caicos Islands) vessels registered under the Red Ensign and wishing to trade internationally, provided applicable vessels have been equipped with type approved treatment systems or have an interim ballast water management plan, facilitating ballast water exchange. It should be noted that meeting the exchange standards of the Convention (Reg. B-4) is the responsibility of ship owners/operators; they will need to be compliant (in line with the revised implementation schedule, Reg. B-3) if they do not wish to be sanctioned under the legal framework of the countries Party to the Convention where they make port, and their own flag administration. It is expected that any Statements of Compliance issued by the UK Authority will be replaced with the correct International Ballast Water Management Certificates upon the successful transposition of the Convention into UK law.

The OTs do not have the authority to become signatories to International Conventions or Treaties, unless specifically authorised by the UK Government. The UK must extend the territorial scope of its ratification of treaties to include them. The preferred UK practice is to declare on ratification which of the Overseas Territories will be included in a multilateral treaty. This will be formalised through their inclusion in the instrument of ratification. However, this may not always be possible where OTs do not have the necessary legislation in place to support extension at the point of UK ratification; in such cases, there is provision in most international instruments for extending the scope of ratification at a later date.

The United Nations Convention on the Law of the Sea (UNCLOS) and under international law, the ships registered under the flag of the OTs are British Ships (i.e. entitled to fly the Red Ensign). However, the UK has devolved, to the OTs:

- The authority for IMO matters; and
- The implementation of the duties, obligations and responsibilities of a flag state under international conventions that have been extended to individual OTs (Table 3), relating to the performance and safety of ships registered within these administrations, including Port State Control (2011-2017, The Red Ensign Group).

Table 3 – Summary of IMO Conventions extended to at least one OT by UK ratification (IMO, 2017).

	British Antarctic Territory	Anguilla	British Virgin Islands	Cayman Islands	Montserrat	Bermuda	Turks and Caicos Islands	Akrotiri and Dhekelia	Gibraltar	British Indian Ocean Territory	Ascension Island	Saint Helena	Tristan da Cunha	Falkland Islands	South Georgia and the South Sandwich Islands	Pitcairn Islands
International Convention for the Safety of Life at Sea (SOLAS)		x	x	x	x	x	x		x			x		x		
International Convention for the Prevention of Pollution from Ships (MARPOL)			x	x		x			x					x		
International Convention for Safe Containers (CSC)						x										
Nairobi International Convention on the Removal of Wrecks				x					x							
International Convention on Load Lines (LL)				x		x	x		x			x		x		
International Convention on Tonnage Measurement of Ships			x	x		x			x					x		
The Convention on Limitation of Liability for Maritime Claims (LLMC)				x					x							
International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)				x		x			x							
International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWMC)																

In the case of the Ballast Water Management Convention, formal consultation between the OTs and UK Government regarding the possible extension has not yet begun, and it is not clear whether the domestic legislation would be suitable for direct transposition to the OTs. However, the OTs are receiving information via the Red Ensign Group and as part of the wider consultation process on the UK legislative framework. The OTs may formally request that the Convention is extended to them. Before the Convention can be extended, the MCA will work with the requesting OTs to ensure the required enabling legislation and administrative arrangements are in place to enable the OTs to meet their obligations under the Convention (figure 1). At this point in time, HMG has not yet received any formal indication from the OTs that they are considering requesting the extension of the Convention.

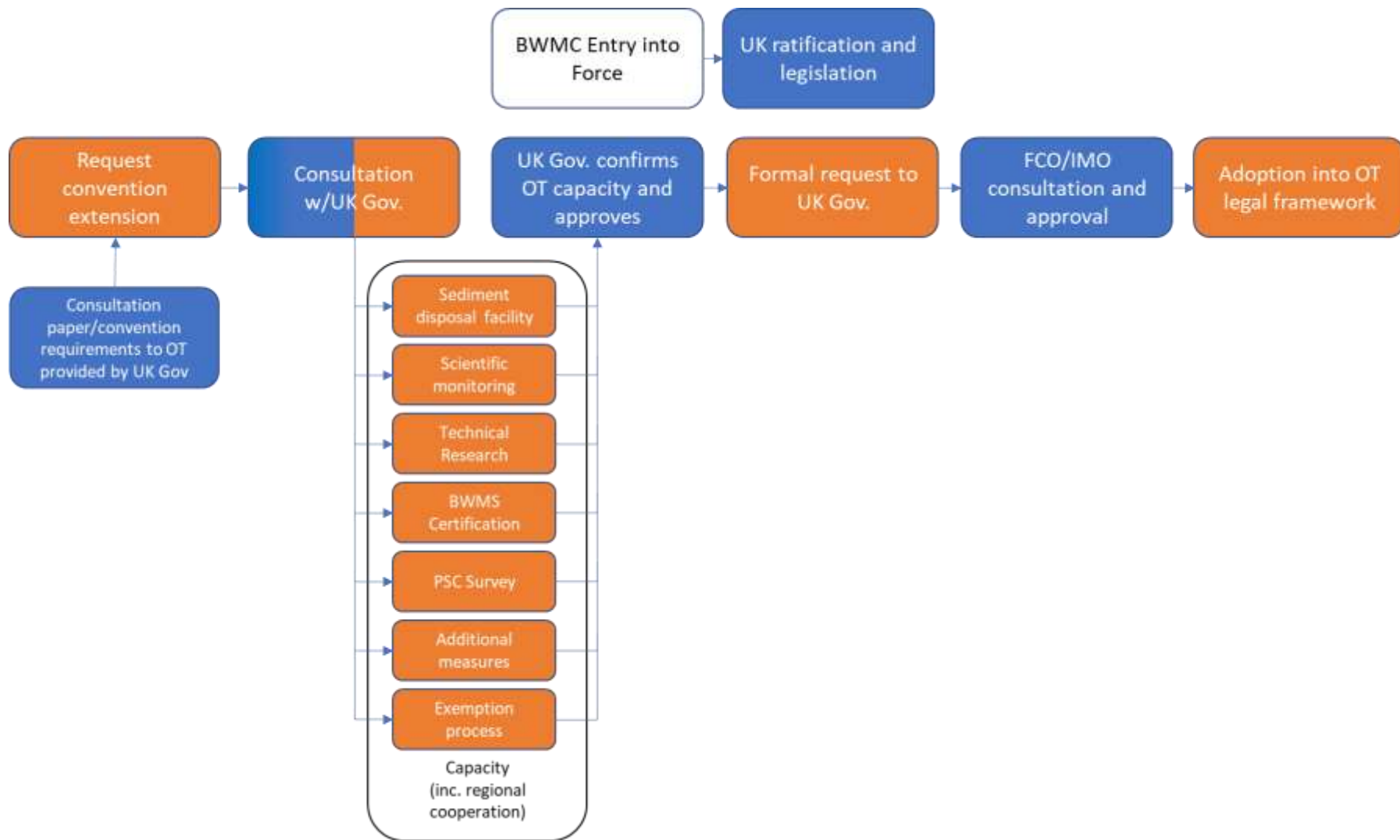


Figure 1 - Summary process for extension of BWMC to the OTs. Orange boxes indicate roles led by the OT requesting extension. Blue boxes indicate the role should be led by UK Gov. Note that UK ratification and implementation is likely to occur independently of the extension to the OTs.

4 Overseas Territories' Convention requirements

The requirements of the BWMC apply to all international shipping which utilises ballast water and operates in the waters of at least one country that is Party to the Convention. If an OT has international shipping operating in its waters, the Convention would provide the internationally agreed framework for ensuring that all vessels are acting to safeguard the marine environment in the manner defined by the Convention. Critically it would equip the OT to perform ballast water management compliance inspections, as part of their port state control, and press for legal action against ship owners and operators performing non-compliant ballast water operations in their waters.

Parties, and by extension OTs, can either ratify to the Convention or not. By ratifying to the Convention, the Party agrees to adhere to its requirements and gains the benefit of the support of the framework of the convention in relation to protecting relevant environments from invasions and from the introduction of human pathogens. Those Parties that do not ratify, do not gain the benefits of the framework of the Convention, but are still required to ensure that vessels registered to them operate in accordance with Convention. If a Party does not ratify then they are still free to implement biosecurity measures at their own discretion. Parties that do ratify need to meet all the requirements of the Convention, but there are degrees of freedom to the extent to which this is done, for example, the Convention does not specify the number, or percentage, of ships that need to be inspected.

As of the 31st of December 2016, the shipping registries of the Overseas Territories had 1,416 vessels (over 100 gross tons) under their authority. These vessels accounted for 19 million total gross tons (GT) registered as part of the Red Ensign Group. Of these vessels 508 (16.9 million GT) are registered as trading (carrying cargo or passengers for commercial purposes; Table 4). The entire Red Ensign fleet (UK + OTs + Crown dependencies) currently includes 1,298 trading vessels. The Red Ensign Group (2011-2016) clarifies the OTs constitutional status as:

Under the Merchant Shipping (Categorisation of Registries of Relevant British Possessions) Order 2003, the ship registers of Bermuda, British Virgin Islands, Cayman Islands, Gibraltar and the Isle of Man have been given Category 1 status, permitting them to register international trading fleets unlimited tonnage, type and length, because the UK's ratification of certain international conventions has been extended to these jurisdictions. In each case, the UK is the State Party to these conventions and remains ultimately responsible as a matter of international law for the discharge of treaty obligations by relevant REG members.

The same Order makes provision for Category 2 registers for Anguilla, Falkland Islands, Guernsey, Jersey, Montserrat, St Helena and the Turks and Caicos Islands to operate a Category 2 register prevents the registration of passenger ships or of other ships of more than 150 tons. However, there is an exemption which allows the registration of domestic passenger ships, pleasure vessels between 150 and 400 tons and ships of special local importance, provided that arrangements are in force for such ships to be surveyed and inspected by reference to the standards set out in UK safety and pollution regulations.

Both Category 1 and Category 2 shipping registers operate with significant autonomy. Each register is responsible for the registration and adherence to international safety and environmental standards of their individual fleets

Table 4 - Summary of OT flag vessels (Red Ensign) registered as trading (DfT, 2017)

Overseas Territory	Merchant Shipping Order (2008) Category ²	Number of trading vessels	Total gross tonnage (millions)
Anguilla	2	>0	>0
Ascension Island	n/a ³	n/a	n/a
Bermuda	1	145	10.6
British Antarctic Territory	n/a	n/a	n/a
British Indian Ocean Territory	n/a	n/a	n/a
British Virgin Islands	1	3	1
Cayman Islands	1	134	3.9
Falkland Islands	2	1	>0
Gibraltar	1	224	2.4
Montserrat	2	0	0
Pitcairn Islands	n/a	n/a	n/a
South Georgia and the South Sandwich Islands	n/a	n/a	n/a
Sovereign Base Area	n/a	n/a	n/a
St Helena	2	0	0
Tristan da Cunha	n/a	n/a	n/a
Turks & Caicos Islands	2	0	0

² **From Red Ensign Group:** **Category 1** administrations operate large international registers and may register ships of unlimited tonnage, type and length. **Category 2** administrations can register commercial ships of up to 150 gross tons (GT) and pleasure vessels, that is, those not operated commercially of up to 400 GT (pleasure vessels, by definition, refer to ships used for sport or pleasure, which are not operated commercially).

³ n/a = OT not operating a shipping registry

4.1 Flag state Overseas Territories

The administration of any OT which operates as a flag state (i.e. maintaining a shipping registry) for vessels/operators which intend to trade internationally, particularly with a country Party to the convention, will need to instruct the owners of applicable vessels to install an IMO approved and certified ballast water management system, and to generally operate in compliance with the Convention⁴. Ships must undergo an initial survey by the administration or a delegated organisation (i.e. a classification society, other flag administration or certifying administration) following installation of a system. Once the inspection is completed according to the IMO guidelines, an internationally recognised certification can be issued. For ships whose flag has acceded to the Convention, this will be in the form of an International Ballast Water Management Certificate. Ships registered under a flag for which the Convention does not yet apply, but that will enter the waters and Ports of a Party who has ratified the Convention, will be issued a BWM Statement of Compliance.

The UK's current policy is to delegate the issue of Statements of Compliance to its recognised organisations. Once the legal framework is in place, and the UK is enforcing the Convention, the recognised organisations will be able to issue International Ballast Water Certificates under the framework of the Convention. It is likely that a similar situation would exist for the flag OTs.

4.2 Overseas Territories without shipping

The OTs which do not operate Shipping Registries have no vessels under their authority and, therefore, no obligations to ensure vessel certification or compliance under the Convention. These OT's (and potentially those with flagged vessels only operating between the high seas and their own domestic waters) are, therefore, under no international obligation to accede to the Convention. However, the internationally agreed framework of the Convention would provide a robust level of pathway management intended for international cooperation. Hypothetically, the Convention would not apply if a vessel from a non-Party country was operating in the waters of another non-Party; however, this is unlikely to be a common occurrence and not consistent with good biosecurity practices. Although vessels certified under the Convention are expected to consistently act in its spirit, it is worth noting that the absence of specific legislation in an OT's jurisdiction could make compliance enforcement under the Convention's framework challenging to manage.

⁴ A few of the OTs have issued notices to this effect – see OT specific sections 5.1 to 5.18.

As part of a robust biosecurity strategy, the OTs without a shipping fleet, may still wish to write the Convention, or at least a ballast water management policy in the spirit of the Convention, into national law. This would compel visiting vessels to comply with the obligations under the Convention or similar ordinance.

It is, however, acknowledged, that some of the OTs only receive limited shipping. Indeed, ballast water operations may be extremely limited in their waters. In such a situation, the OT administration should make the decision to request extension, or draft other more suitable policy, following a pathway risk assessment.

Figure 2 shows a summary of the decision process which could be employed by the OTs.

The second phase of the GEF-UNDP-IMO GloBallast project produced many technical guidelines to assist with implementation of the Convention in addition to those included in the Convention text itself. One of the guidelines (Monograph 17, GEF-UNDP-IMO GloBallast Partnerships and IOI, 2009) provides a rapid status assessment framework for determining ballast water issues within individual countries. It is acknowledged by the GloBallast project secretariat that the data requirements for comprehensive assessment are significant, and may take years to fully determine. However, a rapid status assessment utilising existing data may provide sufficient information to identify gaps and kick-start implementation. A status assessment, even one following the rapid framework, is outside the scope of this project, but should be considered for progression in collaboration with the designated lead authority of the OT in question.

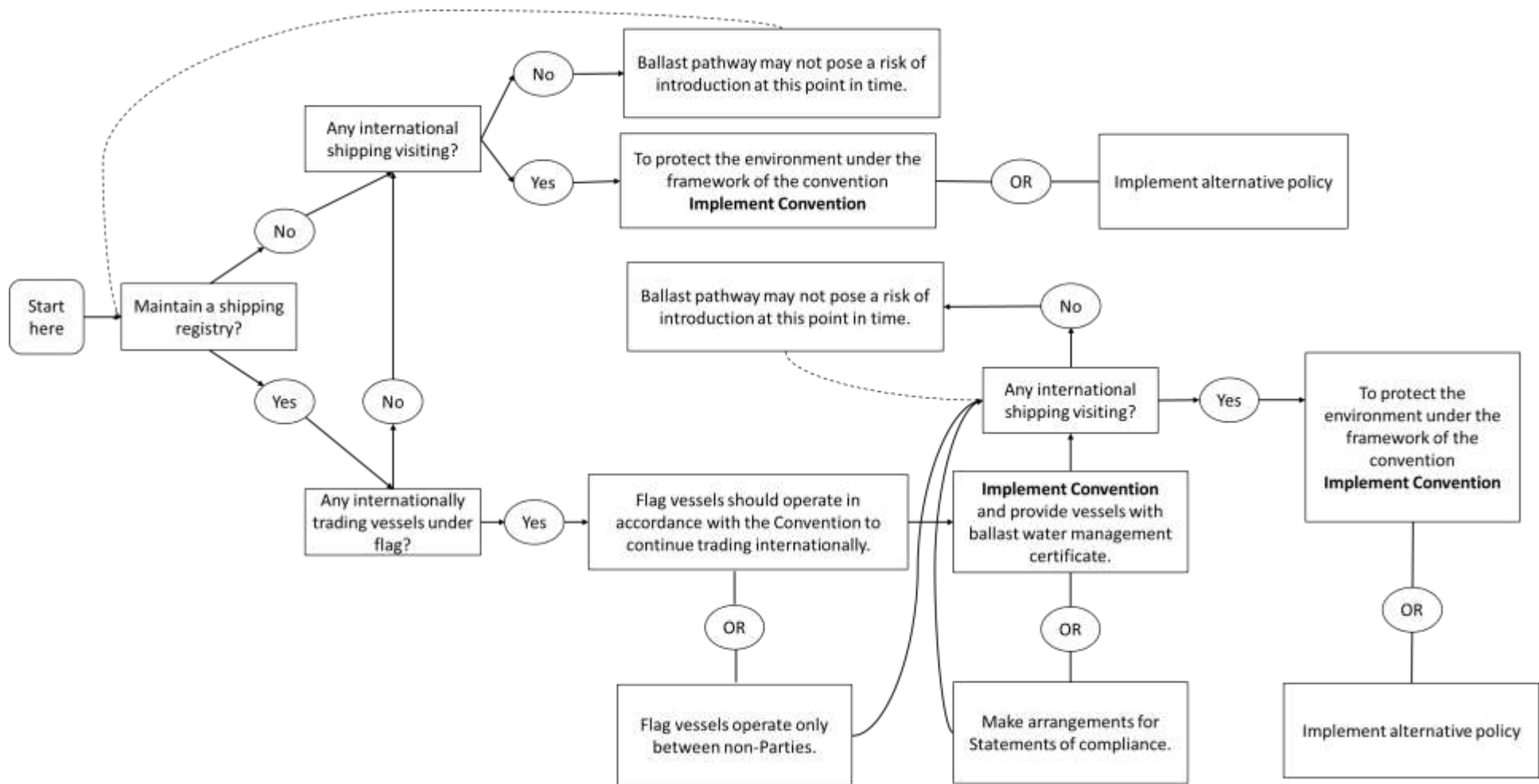


Figure 2 – Advisory decision process for the implementation of the BWMC in the UK OTs. Final decision to implement would ultimately be based on a cost/benefit review, which includes consideration of the relative risk posed by the pathway. Although alternative controls can be developed it should be noted that this would be without the framework and support network of the convention. Arrowed lines show the direction of decision making. Dotted lines show the situations where a policy decision is not necessarily required until the specific situation changes. Plain lines indicate that parallel policy decisions are possible at this stage.

5 UK Overseas Territories review

This section details the attempts made to evaluate the capacity of the individual OTs to implement the BWMC.

The objectives of this exercise were:

1. Engage with the ballast water management stakeholders (if any) in each Overseas Territory;
2. Identify any local and/or regional policy addressing the ballast water introduction pathway;
3. Summarise any progress made by each OT to reduce the risk of ballast water mediated introduction, including local policy, ordinance and legislation;
4. Identify the critical requirements for future OT BWMC implementation or ongoing compliance;
5. Summarise the gaps and future needs to implementation.

Stakeholder engagement was undertaken through email and teleconferencing. OT contacts were initially approached with an introduction and a request for specific information. Responses were followed up as required and are detailed in the OT specific summaries below.

5.1 British Antarctic Territory

The British Antarctic Territory (BAT) is a wedge shape sector of Antarctica comprising the region south of 60°S latitude and between longitudes 20°W and 80°W extending to the South Pole. It has no indigenous population and is administered from London. The only permanent presence is that of the British Antarctic Survey and the Antarctic Heritage Trust.

Members of the Antarctic Treaty Secretariat (Dr. Reinke, Executive Secretary; and José María Acero, Assistant Executive Secretary) were the primary contacts. Following correspondence, Mr. Acero provided a detailed account of the progress made within the Treaty Area. Stuart Doubleday (BAT Administrator, FCO) also made contact following brief correspondence with Julie Coleman (BAT Administration, FCO). A teleconference with Mr. Doubleday occurred on the 31/3/2017. His opinion was, like that of the Antarctic Treaty Secretariat, that the Convention is likely to be raised at the upcoming Treaty meetings. He agreed to continue dialogue with Cefas should any additional measures be implemented.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Yes. Information obtained from the Antarctic Treaty Secretariat suggest that the topic of ballast water management within the Treaty Area continues to be carefully considered. The 'Committee of Environmental Protection' and the 'Antarctic Treaty Consultative Meetings' have both been significantly involved in effectively moving this forward.
Are there regional strategies in place addressing the ballast water pathway?	In 2005 'The Council of Managers of National Antarctic Programs' (COMNAP) and 'The International Association of Antarctica Tour Operators' (IAATO) conducted surveys on ballast water practices in the Antarctic Treaty Area (Information Paper 121 and 83) (<i>see joint research</i>). Following Information Paper 121, the United Kingdom submitted the 'Practical Guidelines for Ballast Water Exchange in the Antarctic Treaty Area' to the Antarctic Treaty Consultative Meeting in 2006 which lead to the adoption of an interim ballast water regional management plan (Resolution 3 (2006)) under the Antarctic Treaty framework. This was subsequently adopted in 2007 under Article 13 of the BWMC by the IMO as Resolution MEPC.163(56) and compelled

	<p>all vessels covered by Article 3 of the BWMC to carry out the regional Ballast Water Management Plan as described by the UK paper.</p> <p>The guidelines have been used since their adoption and the Antarctic Treaty Consultative Meetings have considered them within other adopted instruments, such as the Guidelines for Environmental Impact Assessment in Antarctica and the Manual on Non-native Species in Antarctica (2016). The IMO International Code for Ships Operating in Polar Waters (the Polar Code) entered into force on 1st January 2017 as amendments to the International Convention for the Prevention of Pollution from Ships, the International Convention for the Safety of life at Sea and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers. Paragraph 4.1 of the Code states:</p> <p style="text-align: center;"><i>Until the International Convention for the Control and Management of Ships' Ballast Water and Sediments enters into force, the ballast water management provisions of the ballast water exchange standard, set out in regulation D-1, or the ballast water performance standard, set out in regulation D-2 of the Convention should be considered as appropriate. The provisions of the Guidelines for ballast water exchange in the Antarctic treaty area (resolution MEPC.163(56)) should be taken into consideration along with other relevant guidelines developed by the Organization.</i></p> <p>The International Convention for the Prevention of Pollution from Ships (MARPOL) is a widely-accepted instrument and offers a legally binding framework to contracting Parties. The stakeholders which currently operate within the Treaty Area appear to be adhering to the provisions of the Convention, either under the amendments to MARPOL or the regional policies which have been adopted, and are likely to continue to do so regardless of the extension of the BWMC.</p>
Are there local policies or guidance in place	See above.

addressing the ballast water pathway?	<p>All vessels visiting BAT must request permission through the FCO by the submission of an Expedition Permit. The application process includes environmental risk assessments following the relevant Polar Region guidelines.</p> <p>The British Antarctic Survey and other operators have organisational biosecurity protocols in place.</p>
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	Yes. The British Antarctic Survey (BAS) have a number of ongoing project to assess marine biodiversity within the Antarctic region and the Southern Ocean.
Has any joint scientific and/or technical research on ballast water management occurred?	Yes. Surveys determined the practices of 65 vessels operated by National Antarctic research programs and members of IAATO between 2005-2006. Although the risk of non-native species introduction from these vessels was minimal, as few of the vessels surveyed had operational requirements to discharge ballast within the Treaty Area. The small number of vessels that did perform ballast discharge operations did so only with water sourced from within the region.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	<p>Yes. The Antarctic Treaty Secretariat supports a communication network for the regions contracting Parties.</p> <p>BAS also make data available through the UK Polar Data Centre.</p> <p>As shipping South of 60°S is generally regulated by a small number of operators, communication of warnings concerning high risk uptake are expected to be possible.</p>
Has a formal request for extension of the Convention (authoritative notification) occurred?	No
Has there been any interest from OT	No. Stuart Doubleday indicated that the biosecurity measures currently in place are functioning well.

stakeholders in regarding extension of the Convention?	
Is there evidence that drafting into local legislation is underway?	No.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	The interim measures currently in place appear to be robust and accepted by the region's stakeholders and are succeeding in reducing the risk posed by the ballast water pathway. Upon entry into force ballast bearing vessels (depending on their Flag and operational requirements) may still need ballast water treatment systems fitted.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	None known.
Is there capacity for Port State Control inspections and sampling?	No. But this is probably not necessary. How, if at all, the signatory countries to the Antarctic Treaty would address the implementation of the Convention is not clear. The BWMC entry into force will be a topic of discussion at upcoming Antarctic Treaty Consultative Meetings and by the Committee of Environmental Protection. Adherence to the regional operational procedures currently in place suggests that compliance with the BWMC in the treaty area would not be difficult to achieve. It does not seem likely that the implementation of the Convention would result in in-Territory inspections, as there is no infrastructure in place to facilitate this.

Key points

- Visibility of ballast water operations
- BWMC written into regional and local legislation
- Monitoring programmes in place to assess introductions of non-natives via ballast water
- Logistical difficulties, lack of personnel/infrastructure
- Lack of testing facilities
- Unlikely to request extension of the Convention but existing measures are good
- Further discussion will occur at the Antarctic Treaty meetings

5.2 Wider Caribbean Region

United Nations Environment Programme – Caribbean Regional Coordinating Unit

The 'Regional Marine Pollution Emergency, Information and Training Centre (RAC/REMPEITC-Caribe)' is the regional coordinating organisation for the United Nations Environmental Programme (UNEP) in the Caribbean (GEF-UNEP-IMO GloBallast Partnership Programme). Although broad in its scope (pollution), the RAC/REMPEITC-Caribe has worked to assess regional capabilities (CABI, 2006) and develop regional and multilateral action plans for the management of ballast water in the Wider Caribbean Region (WCR; as defined by the Cartagena Convention, 1983). The report 'National and Regional Capacities and Experiences on Marine Invasive Species, Including Ballast Waters, Management Programmes in the Wider Caribbean Region – a Compilation of Current Information (CABI, 2006)' was the synthesis of a large programme of work to review the current invasion status of marine ecosystems within the WCR and to determine the ability of the applicable countries to carry out control actions to prevent the ballast mediated introduction of marine non-native species. At point of publication only St. Kitts and Nevis had ratified the BWMC. Since the CABI (2006) report was published: Antigua and Barbuda, Barbados, France (French Caribbean), Mexico, Netherlands (Caribbean Netherlands), Panama, and St. Lucia have now acceded to the Convention (IMO, 2017).

The work determined that increased awareness in all WCR countries at policy, planning, implementation, and research levels was required. Other WCR countries should consider acceding to the Convention to further access to funding, advice and support. Capacity building at national and regional levels should be a priority; this was supported by the formation of a Regional Task Force (chaired by Jamaica). Infrastructure within the region was lacking and required significant upgrading to accommodate non-native species and ballast water work. This programme fed into the draft and subsequent adoption of the 'Regional Strategic Action Plan to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens in Ships' Ballast Water and Sediments'.

The Action Plan has 9 primary objectives for the implementation of the strategy. Although the Action Plan has facilitated the expansion in capacity, coordination, and legislature within the WCR, the OTs do not appear to have benefited greatly from the programme. This is likely to be due to the lack of awareness or requirement of the Convention within the Caribbean OTs.

Regional Task Force Wider Caribbean Region – Jamaican Maritime Organisation (chair)

One of the objectives of the REMPEITC action plan was to product a uniform policy and legal framework for a regional implementation of the BWMC. This also required the formation of a regional task force. Chaired by Jamaica’s Maritime Organisation. The Action Plan has been adopted and progress, albeit slow, has been occurring within the region. From the information gathered it does not appear that the Caribbean OTs have been actively involved with the ongoing work within the region.

Caribbean Port State Control Memorandum of Understanding

Port State Control is internationally recognised as an effective tool for the management and reduction in the use of sub-standard vessels operating in other jurisdictions. The Control Officers have the remit to inspect the condition of vessels, including their compliance with internationally agreed Conventions (such as those addressing safety at sea or pollution). The competency of the crew, and health and safety procedures are also assessed. Within the Caribbean there is a regional agreement in place to harmonize the approaches to the inspection and certification process within the region. The MoU has 14 member states, which includes all the UK OTs. The Caribbean MoU secretariat maintains a database of vessel inspections, deviations and detentions searchable by flag, vessel or location of inspection. This information is accessible by MoU members and provides a system for the communication of vessel risk.

5.3 Anguilla

As far as could be determined there is limited shipping traffic calling at the Island that would fall under the requirement of the Convention. Although, there is suitable policy in place to facilitate the adoption of the Convention or ballast water management policy, the available resources and capacity to do so appears to be limited.

There is good knowledge of the invasive non-native species issue, although there are currently no management or control programmes in place. The capacity for compliance monitoring, either by Port Authority and/or laboratory support appears to be minimal.

Initially the Permanent Secretary of the Department of the Environment (Karim Hodge) was contacted; however, he no longer worked for the Department. Kafi Gumbs (Head of Fisheries and Marine Resources) provided some correspondence and forwarded on the request to his colleagues: Sherman Williams, Stuart Wynne, and Travis Carty. The director of the Department of the Environment (Calvin Andre Samuel) was also contacted.

Mr. Gumbs did also respond directly to the request. Although he did not provide much specific information, he indicated that there is confusion within Anguilla's government departments about which has the directive to implement the Convention should it be required.

The Superintendent of Ports, Mr. Rawle Hazell also replied to questioning. His response contained limited additional information, but he did indicate that Anguilla does not have the capacity to implement key provisions of the Convention.

The information below was, for the most part, collated from literature review.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Anguilla has awareness of the risk posed by non-native species and there is a number of supporting management plans and strategies. Notably Anguilla is signatory to the St George's Declaration of Principles for Environmental Sustainability in the (The Organisation of Eastern Caribbean States) OECS. The framework within the strategy provides priority principles for the development of local environmental management strategies. However, the references to

	<p>non-natives are generally generic, with no direct reference to the ballast water introduction pathway evident.</p> <p>The country is a 2nd partner within the framework of the GEF-UNEP-IMO GloBallast Partnership Programme. GloBallast aims to raise awareness and offer training for the implementation of the Convention.</p>
<p>Are there regional strategies in place addressing the ballast water pathway?</p>	<p>Anguilla falls under the scope of the GEF-UNEP-IMO GloBallast Partnership Programme and the Regional Strategy to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens in Ships' Ballast Water and Sediments developed by the RAC/REMPEITC-Caribe. However, it is not clear what progress has been made by Anguilla towards the action plan objectives. Representatives of Anguilla do not appear to have attended the training programmes provided by RAC/REMPEITC-Caribe. Anguilla does not appear to have been represented at the working group meetings.</p> <p>Anguilla is an observer State (non-participating at this time) under the Caribbean Memorandum of Understanding on Port State Control. This agreement aims to ensure that vessels inspections are carried out in a consistent manner and that safety, security and environmental protection is maintained. Although ballast water is not included in the text of the agreement, entry into force may prompt its inclusion and increase the consistency of inspection procedures across the network.</p>
<p>Are there local policies or guidance in place addressing the ballast water pathway?</p>	<p>There appears to be no specific ordinance in place which addresses or regulate the ballast water pathway or ballast water operations.</p> <p>The Anguilla Environmental Charter (UK/OT agreement, 2001) commits both governments to ensuring the protection and restoration of key habitats, species and landscape features through legislation and appropriate management structures and mechanisms including a protected areas policy, and attempt the control and eradication of invasive species. This includes assistance with the</p>

	<p>effective implementation of obligations under the Multilateral Environmental agreements already extended to Anguilla and work towards the extension of other applicable regional and international environmental treaties and agreements.</p> <p>Anguilla's National Environmental Management Strategy and Action Plan (2005-2009) endorses the continued monitoring and control programmes for pests, diseases and invasive species. However, this activity lays with the Department of Agriculture, suggesting that it is generally terrestrial in scope.</p>
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	<p>Yes, but limited.</p> <p>The Anguilla Department of Fisheries and Marine Resources has had monitoring projects funded in the past through the Overseas Territories Environmental Programme. For example, a baseline survey of Anguilla's marine parks Wynne S. (2007). There is a possibility that such programmes could detect non-native species introduced by the ballast water pathway.</p> <p>No programmes specific to the monitoring of marine non-native species could be identified.</p>
Has any joint scientific and/or technical research on ballast water management occurred?	None identified.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	<p>The Caribbean MoU secretariat maintain a database of inspections, detentions and detected deficiencies. Should the BWMC be included in the MoU agreement, this system would enable rapid regional communication.</p> <p>Warnings of high risk uptake locations could be disseminated through the RAC/REMPEITC-Caribe or by the Regional Task Force chair.</p>
Has a formal request for extension of the	No (Provided by the FCO Treaty Dept. 2017).

Convention (authoritative notification) occurred?	
Has there been any interest from OT stakeholders in regarding extension of the Convention?	Not specifically. The Anguilla Government's Department of the Environment voiced concern that there is no clear directive as to which Governmental Department would have the responsibility to implement the Convention. Questions were forwarded to HM Customs and the Port Authority; however, no response was received. Should the Convention be adopted within Anguilla, it is logical that the Port Authority would be responsible for compliance inspections.
Is there evidence that drafting into local legislation is underway?	No. The lack of awareness, feedback and formal request to the FCO suggests that this process is not underway.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	Unclear. This will be dependent upon the number of ballast water operations being performed within Anguilla's waters. Automatic Identification System data suggests there are a significant number of vessels within Anguilla's waters; and although most of these are vessels to which the Convention would not apply, large cargo vessels do call at the main freight port. Visibility of the operations being performed within Anguilla's waters is, without the input of the Port Authority, unknown at this time.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	None known.
Is there capacity for Port State Control inspections and sampling?	Uncertain. The Port Authority are available for inspections and Anguilla is an observing member of the Caribbean MoU so is likely to have the capacity for compliance checks. There are, however, no laboratory facilities which could provide detailed compliance analysis. PSC officers could rely on the accessible tools which are available to the industry for indicative compliance assessment.

Key points:

- Good local and regional awareness of the Convention.
- It is unclear what actions have been undertaken in relation to implementing plans.
- No local legislation in place in relation to implementation.
- No clear monitoring in place.
- There are mechanisms in place, for example in relation to communication, which could aid with implementation.
- Minimal visibility of ballast operations.
- Unclear on capacity for enforcement.

5.4 British Virgin Islands

Joseph Smith Abbott (Deputy Permanent Secretary, Ministry of Natural Resources and Labour) provided some correspondence as well as a great deal of additional contacts in the territory.

Captain Raman Bala, Virgin Island Shipping Registry also replied. He stated that the Shipping Registry would encourage the accession of the British Virgin Islands (BVI) to the Convention, but stated the decision to do so sits with departments in the Government such as the Ministry of Natural Resources and Labour, Department of Fisheries and Natural Parks Trust. He also asked for further advice on some minor implementation matters. This is encouraging and suggests that stakeholders are looking for further consultation and continued engagement with UK departments.

The BVI Port Authority was also approached. No reply was received at time of writing.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	<p>Yes. There is clear awareness of the ballast water pathway and the Convention both within the Virgin Islands Shipping Registry (VISR) and The Ministry of Natural Resources and Labour. The territory is signatory to the St George’s Declaration of Principles for Environmental Sustainability in the OECS and The Convention for Biological Diversity.</p> <p>The British Virgin Islands are signatory to the Regional Strategy to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens in Ships’ Ballast Water and Sediments developed by the RAC/REMPEITC-Caribe.</p> <p>Some segments of the shipping industry are aware that as of September 2017 new management requirements may apply.</p>
Are there regional strategies in place addressing the ballast water pathway?	The British Virgin Islands fall under the scope of the GEF-UNEP-IMO GloBallast Partnership Programme; however, it is not clear whether any progress against the action plan objectives has been made.
Are there local policies or guidance in place	Currently there is no specific ordinance in place addressing the ballast water pathway or management operations. There is no maritime specific legislation in place within BVI for the control and

The Ballast Water Management Convention in the UK Overseas Territories

<p>addressing the ballast water pathway?</p>	<p>management of marine non-natives, or specifically related to ballast water management. The draft environmental bill may address such deficiencies.</p> <p>The BVI Conservation and Fisheries Department are currently working with the BVI National Parks Trust to designate and protect marine protected areas.</p> <p>The BVI Environmental Charter (UK agreement, 2001) commits both governments to ensure the protection and restoration of key habitats, species and landscape features through legislation and appropriate management structures and mechanisms including a protected areas policy, and attempt the control and eradication of invasive species. This includes assistance with the effective implementation of obligations under the Multilateral Environmental agreements already extended to Anguilla and work towards the extension of other applicable regional and international environmental treaties and agreements.</p>
<p>Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?</p>	<p>Monitoring of lionfish provides a suitable model, which was previously applied for future invasions and their monitoring. National Park Trust Wardens and Marine Biologists may provide a layer of ongoing monitoring.</p>
<p>Has any joint scientific and/or technical research on ballast water management occurred?</p>	<p>None identified.</p>
<p>Are effective information sharing tools currently available? i.e. warnings, inspections etc.</p>	<p>The Caribbean MoU secretariat maintain a database of inspections, detentions and detected deficiencies. Should the BWMC be included in the MoU agreement, this system would enable rapid regional communication.</p>

	Warnings of high risk uptake locations could be disseminated through the RAC/REMPEITC-Caribe or by the Regional Task Force chair.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	The VISR have expressed an interest in acceding to the Convention as they would like to certify vessels under their authority with ballast water management certification. There are numerous ballast water operations performed each year. The Department for Natural Resources and Labour advised that the BVI are interested in acceding to the Convention.
Is there evidence that drafting into local legislation is underway?	None known.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	The ballast water pathway is likely to be of high risk in the BVI. There are approximately 150 vessels calling at the BVI each year. Both general cargo and tank ships perform ballast water operations. Cruise ships do make port but ballast activity is minimal. The BVI have expressed an interest in acceding to the Convention.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	None known. Although a regional assessment took place in October 2016. There is an emergent strategy at the regional level being produced by Royal Society for the Protection of Birds (RSPB).
Is there capacity for Port State Control inspections and sampling?	The BVI have several Port Control Officers trained under the Paris Memorandum of Understanding. The Paris MoU is in place (27 participating maritime Administrations) to implement a consistent approach to inspections and ensure that vessels meet safety, security

	<p>and environmental standards. The BVI therefore has the capacity to perform inspections under the Convention. The capacity for sampling and analysis, however, is lacking.</p> <p>The Convention also requires sediment reception facilities in port as well as scientific and technical research on ballast water management and monitoring of the effects of BWM in the territory. There is no provision for sampling and testing of ballast water on board ships. This may pose serious challenges for ballast water management under the Convention for the BVI.</p>
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Key points:

- Clear local understanding of the BWMC.
- Unclear on regional engagement.
- No local ordinance in place.
- No clear monitoring in place.
- There are mechanisms in place, for example in relation to communication, which could aid with implementation.
- Unclear on capacity for enforcement, although some may exist in relation to ship inspections.

5.5 Cayman Islands

Gina Ebanks-Petrie (Director, Department for Environment); Peter Southgate (Advisor, Maritime Policy & Legislation Cayman Islands Shipping Registry); Joel Walton (Cayman Islands Shipping Registry); and Clement Reid the Port Authority of the Cayman Islands were contacted. Caroline Brown (Desk Officer, FCO) advised on contacts and offered some basic information.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	<p>Yes. There is clear awareness of the ballast water pathway and the Convention within the Maritime Authority of the Cayman Islands (MACI). MACI has requested an internal consultation prior to drafting amendments to the Merchant Shipping (Marine Pollution) Law to include the provisions of the Convention. The Department of the Environment is also aware of the pathway and is working on a Risk Assessment.</p> <p>The Cayman Islands are a signatory to the St George’s Declaration of Principles for Environmental Sustainability in the OECS and the Convention for Biological Diversity.</p> <p>The Cayman Islands (UK) are signatory to the Regional Strategy to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens in Ships’ Ballast Water and Sediments coordinated by the RAC/REMPEITC-Caribe.</p>
Are there regional strategies in place addressing the ballast water pathway?	<p>The Cayman Islands fall under the scope of the GEF-UNEP-IMO GloBallast Partnership Programme and the Regional Strategy to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens in Ships’ Ballast Water and Sediments developed by the RAC/REMPEITC-Caribe. However, it is not clear what progress has been made by towards the action plan objectives. Representatives do not appear to have attended the training programmes provided by RAC/REMPEITC-Caribe. There are apparently no measures currently in place to begin the process of meeting the requirements of the Convention.</p>

	<p>The Cayman Islands are full signatories to the Caribbean MoU on Port State Control. This agreement aims to ensure that vessel inspections are carried out in a consistent manner and that safety, security and environmental protection is maintained. Although ballast water has not yet been included in the text of the agreement, the entry into force may prompt its inclusion and increase the consistency of inspection procedures across the network.</p>
<p>Are there local policies or guidance in place addressing the ballast water pathway?</p>	<p>In principle, Yes. The National Conservation Law (2013) has specific provisions regarding the introduction of non-native species into the Cayman Islands. The Law makes it an offence in Law to knowingly introduce non-natives. It has been acknowledged that this Law may not provide an effective framework for the introduction of non-natives through ballast water.</p> <p>The Department of Environment addressed the ballast water pathway in the 2009 National Biodiversity Action Plan and suggested that controls be put in place to better manage the pathway. This included the proposed policy to prohibit the discharge of ballast water in Cayman Island waters.</p> <p>The 2011 Port Regulations and 1999 Port Authority Law also give the power of inspection for any person under the authority of the administration, and give provision for the creation of regulations prescribing the ballast discharge or uptake.</p> <p>The Maritime Authority of the Cayman Islands issued a guidance note to the owners, managers, masters and recognised authorities of vessels registered under the Cayman flag instructing them to ensure compliance with D-1 upon entry into force, and D-2 no later than the first IOPP renewal survey (if an existing ship) following entry into force or upon entry into force (if a ship with keel laying date after entry into force). The guidance states that the Convention has not yet been extended to the territory and that vessels should contact their class society for inspection and the issuance of Statements of</p>

	Compliance. It is not clear if the discharge of ballast water in Cayman Island waters is currently prohibited or actively controlled.
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	The Department of Environment has undertaken water quality monitoring in limited Port location which included bacterial pathogens. Benthic monitoring and fish biomass surveys may identify introduced non-native species.
Has any joint scientific and/or technical research on ballast water management occurred?	None known.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	The Caribbean MoU secretariat maintain a database of inspections, detentions and detected deficiencies. Should the BWMC be included in the MoU agreement, this system would enable rapid regional communication. Warnings of high risk uptake locations could be disseminated through the RAC/REMPEITC-Caribe or by the Regional Task Force chair.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No, although considering the presence of trading vessels in the Cayman shipping fleet accession is likely.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	None received.
Is there evidence that drafting into local legislation is underway?	None known.
Is there evidence that implementation of the Convention will offer	Yes. Ballast water operations do occur in the Cayman Islands. The Cayman Island's National Conservation Law aims to increase the level of protection offered to the marine habitats. As there appears to be

increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	no ordinance currently in place to control ballast water operations within Cayman waters, this Law may provide a mechanism to implement the Convention or aspects of it and vastly decrease the vulnerability of the marine ecosystem to introductions through this pathway.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	There is a Risk Assessment currently underway, led by the Department of Environment. Shipping is reported to primarily originate within areas of similar biota; whether this could be considered the same risk area (as per IMO decision) is unclear and would require further clarification and research.
Is there capacity for Port State Control inspections and sampling?	Yes. Port State Control Officers based in George Town carry out inspections of foreign vessels on a risk based process.

Key points:

- Clear local understanding of the BWMC.
- Unclear on the progress of actions under regional agreements.
- Some local ordinance in place in principle.
- No clear monitoring in place.
- There are mechanisms in place, for example in relation to communication, which could aid with implementation.
- Minimal visibility of ballast operations.
- Port State Control exist which could aid in implementation.

5.6 Montserrat

Daphne Cassell (Ministry of Agriculture, Trade, Lands, Housing and Environment) and Joseph O’Garro (Port Authority) were contacted. Correspondence with Mr. O’Garro including the forwarding to colleagues within the Maritime Administration occurred. Unfortunately, no specific information was received by time of writing this report.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	<p>Yes. Montserrat is a signatory to the St. George’s Declaration of Principles for Environmental Sustainability in the Eastern Caribbean States. This has obligations to avoid or minimise the introduction of non-native species.</p> <p>Also, signatory to the Regional Strategy to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens in Ships’ Ballast Water and Sediments.</p>
Are there regional strategies in place addressing the ballast water pathway?	<p>Yes. In principle. Montserrat sits within the same strategic region as the other Caribbean OTs. Although this provides a framework for the implementation of the Convention it is not clear if any progress has been made towards meeting the objectives of the regional strategy.</p> <p>Montserrat is signatory to the Caribbean Port State Control MoU.</p>
Are there local policies or guidance in place addressing the ballast water pathway?	<p>None known.</p> <p>Conservation, Environmental Management and Heritage Act allows for non-native species control. Uk/Montserrat Environmental charter has non-native species principle.</p> <p>The Port Authority Act (2013) makes provision for the boarding of visiting vessels, for ‘inspection, licencing, registration and certification of ships...’.</p>
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	None Known.

Has any joint scientific and/or technical research on ballast water management occurred?	No.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	The Caribbean MoU secretariat maintain a database of inspections, detentions and detected deficiencies. Should the BWMC be included in the MoU agreement, this system would enable rapid regional communication. Warnings of high risk uptake locations could be disseminated through the RAC/REMPEITC-Caribe or by the Regional Task Force chair.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	No.
Is there evidence that drafting into local legislation is underway?	None known.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	Uncertain. It is not clear whether ballast operations occur within the waters of Montserrat.
Have horizon scanning and/or risk assessment exercises been conducted	None known.

to identify potential ballast water introductions?	
Is there capacity for Port State Control inspections and sampling?	Unlikely. Montserrat has very limited Port Control facilities.

Key points:

- General understanding of the BWMC.
- Unclear on regional engagement.
- Unclear on how local policy/legislation may aid with implementation.
- Unclear on ballast water activities in the area.
- No clear monitoring in place.
- Limited capacity in relation to enforcement, with limited Port Control Facilities.

5.7 Bermuda

Andrew Pettit (Director, Government of Bermuda (Department of Environment and Natural Resources)), Scott Simmons (Director of Marine & Port Services), Capt. Pat Nawaratne (Chief Surveyor Bermuda Shipping and Maritime Authority) were contacted. Mr. Simmons and Mr. Pettit forwarded the enquiry on to colleagues. Alison Copeland (Biodiversity Officer) advised that she would complete the questions in collaboration with the head of pollution control (Dr. Geoff Smith). Unfortunately, at time of writing nothing had been received.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	The current policy has reference to controlling ballast water. It is not entirely clear if this is referring specifically to pollution.
Are there regional strategies in place addressing the ballast water pathway?	Bermuda is under the scope of the GEF-UNEP-IMO GloBallast Partnership Programme and the Regional Strategic Action Plan to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens in Ships' Ballast Water and Sediments Wider Caribbean Region. The capabilities and experiences assessment (CABI, 2006) concluded that Bermuda was one of the more capable countries within the wider Caribbean region. Signatory of the Caribbean Port State Control MoU.
Are there local policies or guidance in place addressing the ballast water pathway?	Yes. The Environmental Policy for Ships instructs vessels that they must not discharge any ballast water within Bermuda's territorial waters (other than to preserve the safety of the ship, environment and life). The 2003 Biodiversity Action Plan has 30 activities aimed at combating non-native species. This includes the adoption/awareness of relevant international Conventions.
Is there evidence of active environmental (marine) monitoring programmes	Yes. For example: benthic community mapping (Bermuda Institute of Ocean Sciences) has the potential to detect ballast water introduced species.

capable of detecting ballast water introduced species?	
Has any joint scientific and/or technical research on ballast water management occurred?	None known.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	See information for other Caribbean OTs.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No, although considering the presence of trading vessels in the Bermudan shipping fleet accession is likely.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	None known.
Is there evidence that drafting into local legislation is underway?	None known.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	The current environmental policy for ships in Bermuda's waters does not allow for any ballast water discharge. It is unlikely that the implementation of the Convention would offer any greater level of protection to the marine habitats of the territory.

Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	Not known.
Is there capacity for Port State Control inspections and sampling?	Yes.

Key points:

- Some awareness of the Convention on a national scale.
- Good regional engagement.
- Local ordinance in place.
- Some related monitoring in place.
- There are mechanisms in place, for example in relation to communication, which could aid with implementation.
- Port State Control exist which could aid in implementation. Capacity unclear.

5.8 Turks and Caicos Islands

Henry Wilson (Department of Environment and Maritime Affairs) forwarded the initial communication to Dr. John Claydon (Department of Environment and Coastal Resources). Andy Robinson (Ports Authority) was also contacted. No response had been received at time of writing report.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Yes. Awareness has been raised through the Regional Organisation. RAC/REPEITC -Caribe - the Regional Coordinating Organisation for the wider Caribbean.
Are there regional strategies in place addressing the ballast water pathway?	Yes. REPEITC implements international Conventions created to reduce pollution from ships. They hold specific Conventions on Ballast Water Management, with the aim of helping countries establish ballast water management policies specifically to reduce the introductions of non-natives.
Are there local policies or guidance in place addressing the ballast water pathway?	UK/Turks and Caicos environmental charter has non-native species actions. Wildlife and Biodiversity Bill Turks and Caicos Islands Marine Pollution Ordinance and Subsidiary Legislation. Chapter 10.11 (Discharge Regulation for Large Ships) Regulations- Section 59.8. Local Ballast exchange - Authorises uncontaminated ballast water exchange in the marine environment of the Islands. However, this is likely to be intended for pollution control as opposed to prevention of non-native species.
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	None Known.
Has any joint scientific and/or technical research	None Known.

on ballast water management occurred?	
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	<p>The Caribbean MoU secretariat maintain a database of inspections, detentions and detected deficiencies. Should the BWMC be included in the MoU agreement, this system would enable rapid regional communication.</p> <p>Warnings of high risk uptake locations could be disseminated through the RAC/REMPEITC-Caribe or by the Regional Task Force chair.</p>
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	None known.
Is there evidence that drafting into local legislation is underway?	None known.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	Yes. There are 3 international ports in the Turks and Caicos Islands which dock cargo ships.
Have horizon scanning and/or risk assessment exercises been conducted	None known.

to identify potential ballast water introductions?	
Is there capacity for Port State Control inspections and sampling?	None known.

Key points:

- Good regional and local understanding.
- Some relevant local policies in place.
- Unclear on monitoring programmes.
- There are mechanisms in place, for example in relation to communication, which could aid with implementation.
- Unclear on capacity in relation to enforcement.

5.9 Akrotiri and Dhekelia

The Sovereign Base Areas (SBA) of Akrotiri and Dhekelia, is a British overseas territory on the Island of Cyprus and allows for a UK military presence at a strategic point in the Eastern Mediterranean. British territorial status extends to 3 nm of the coastal waters.

Nicolas Andrews-Gauvain (Environmental Advisor, Overseas Environmental Team) and The Sovereign Base Areas Administration were contacted. Neither had responded at time of writing. The information below was collated from literature review only. Should the SBA contacts have responded the Republic of Cyprus' Department of Merchant Shipping would have been contacted for their current policies.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	<p>In Cyprus overall – Yes.</p> <p>Specific to the Sovereign Base Area – Not known.</p> <p>Cyprus is part of the Regional BWM Task Force, under the United Nations Environment Plans Mediterranean Action Plan (UNEP/MAP) to support the implementation of the BWMC; coherent compliance and enforcement with the Convention; supporting the activities under GloBallast Partnership Project, and; International knowledge sharing and collaboration (REMPEC/WG.29/11).</p>
Are there regional strategies in place addressing the ballast water pathway?	<p>The Mediterranean Strategy on Ships' Ballast Water Management (UNEP(DEPI)/MED IG 20/8) – considers all relevant international, regional and sub-regional instruments and mechanisms, as well as all relevant Mediterranean action plans, policies and decisions. Offers harmonised procedures for the implementation of the Convention; and procedures for a regional compliance monitoring and enforcement system.</p>
Are there local policies or guidance in place addressing the ballast water pathway?	<p>Yes. The Cyprus Department of Merchant Shipping issued a circular note to the owners, managers, masters and recognised authorities of vessels registered under the Cyprus flag instructing them to ensure compliance with D-1 upon entry into force, and D-2 no later than the first IOPP (existing ships) renewal survey following entry into force, or</p>

	<p>upon entry into force (if keel laying date after entry into force). The circular makes it clear that the Republic of Cyprus is not a state Party to the Convention at this time, although it is working towards accession. Once in force all flag vessels will require a Class Statement of Compliance issued after survey by the Recognised Authority (organisations recognised by Cyprus for other maritime Conventions).</p> <p>It is not clear how the accession of Cyprus to the BWMC will impact the Sovereign Base Areas, but it is likely that visiting vessels would be required to meet the requirements of the Convention*. No information was received from the MoD or FCO regarding this territory.</p> <p>The costal lagoons of the SBA are priority habitat NATURA 2000.</p> <p>*Military and auxiliary vessels are excluded from the Convention.</p>
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	SBA – None known.
Has any joint scientific and/or technical research on ballast water management occurred?	SBA - None known.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	<p>Cyprus – REMPC acts as the regional coordinating body for capacity building and regional cooperation to prevent pollution at sea. This has been extended to include the BWMC. It provides focal points for emergency reports and can disseminate information to the member Parties and IMO rapidly.</p> <p>SBA - None known.</p>
Has a formal request for extension of the	No.

Convention (authoritative notification) occurred?	
Has there been any interest from OT stakeholders in regarding extension of the Convention?	No.
Is there evidence that drafting into local legislation is underway?	None known. Considered to be Unlikely.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	Within Cyprus – yes. SBA – not known.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	Not known.
Is there capacity for Port State Control inspections and sampling?	Not known.

Key points:

- Good visibility of the Convention, at both the regional and national level.
- Progress has been made in accession to the Convention by the Republic of Cyprus.
- Unclear if there are any specific requirements in relation to the Sovereign Base Area and implementation
- Capacity in relation to implementation is unknown.

5.10 Gibraltar

Richard Montado (Maritime Administrator, Gibraltar Maritime Administration); Captain Roy Stanwick (Captain of the Port, Gibraltar Port Authority) and the Department of the Environment and Climate Change were contacted. None had responded, at time of writing, despite reminder emails. The information below was collated from literature review only.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Yes, Gibraltar has a high level of awareness regarding the Convention.
Are there regional strategies in place addressing the ballast water pathway?	Yes. In the Mediterranean there is a multi-regional strategy for ballast water management in place, coordinated by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC). The strategy (UNEP(DEPI)/MED IG 20/8) is voluntary (for the industry) and acts as an interim arrangement until the Convention enters into force or a vessel is in a position to meet the D-2 standard. It requests that vessels entering the waters of the Mediterranean Sea undertake exchange before entering the region and meet the requirements of the D-1 standard when performing ballast operations.
Are there local policies or guidance in place addressing the ballast water pathway?	Yes. The Maritime Administration of Gibraltar (GMA) issued a Guidance document following the conditions for the Convention's ratification being met in September 2016. The guidance clarifies the requirement to meet the D-2 standard in line with the draft amendments (A.1088 (28)) to reg. B-3 i.e. existing vessels must be compliant with D-2 by their first MARPOL annex I International Oil and Pollution Prevention (IOPP) renewal survey after entry in to force. Although there is no legal basis to prohibit, the GMA does not support the principle of de-harmonisation of IOPP renewal due dates in order to postpone the installation of treatment systems; the guidance provides further clarification.

Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	Yes. Although ballast pathway specific monitoring programmes are not being implemented there are considerable efforts in place to capture information on the introduction and spread of non-natives. This was identified in a recent Monitoring Programme strategy, under the Water Framework Directive (2008/56/EC), for Gibraltar's territorial waters (Department of the Environment & Climate Change, 2015).
Has any joint scientific and/or technical research on ballast water management occurred?	No.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	No.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	Not specifically although the Monitoring Programme strategy, under the Water Framework Directive (2008/56/EC) includes a target to transpose the Convention into law and enforce the provisions. Although no formal request has been made to UK government at this time, Gibraltar does appear to be preparing for full compliance under the Convention. Whether specific local legislation is currently in draft could not be established, but there are significant provisions, supported by Maritime Legislation already in place meaning there is a high likelihood that Gibraltar will implement the Convention. Gibraltar is generally self-governing and is, therefore, unlikely to request assistance in this process.
Is there evidence that drafting into local legislation is underway?	Yes.

<p>Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?</p>	<p>Yes.</p>
<p>Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?</p>	<p>None known.</p>
<p>Is there capacity for Port State Control inspections and sampling?</p>	<p>Yes. The GMA have made provisions for Port State controllers to survey vessels to: 1) confirm that applicable vessels have a valid Certificate or Statement of Compliance; 2) inspect the ballast water record book; and, 3) (in some circumstances) sample ballast water.</p> <p>The inspection procedure is described as a four-stage inspection:</p> <p><i>1. Initial Inspection – The following is verified: BWM Certificate or Statement of Compliance, Procedure on board according to management plan, Type approval Certificate for Ballast Water Management Systems (BWMS), BWM record book and ensuring that an officer has been nominated for ballast water management on board the ship and to be responsible for the BWMS, and that the officer has been trained and knows how to operate it.</i></p> <p><i>2. More Detailed Inspection – When a ship does not carry a valid Certificate or there are clear grounds for believing that items checked during an initial inspection are not complied with. The following is verified: BWMS has been operated adequately according to the management plan, Duties of the Designated Officer, Record keeping on board.</i></p>

	<p><i>3. Sampling – To identify whether the ship is meeting the ballast water management performance standard described in regulation D-2, or whether detailed analysis is necessary to ascertain compliance.</i></p> <p><i>4. Detailed Analysis – To verify compliance with the D-2 standard.</i></p>
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Key Points

- BWMC is specifically written and regional policies and there is evidence of it being written into local policies.
- The Port State Controllers have made provisions to inspect and survey vessels.
- No direct monitoring efforts on introductions of non-natives via ballast water.
- Interest in improving ballast water biosecurity.

5.11 British Indian Ocean Territory

Helen Stevens (Environmental Officer) was contacted through email and spoken with directly via telephone. Ms. Stevens advised that she would provide further information. At time of writing, no further communications had been received.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Yes. The pathway is well recognised. There are currently US vessels stationed in Diego Garcia and a UK patrol ship operates in the region. There is also a Singapore flagged Cargo resupply vessel and survey support ships visiting the territory.
Are there regional strategies in place addressing the ballast water pathway?	None known.
Are there local policies or guidance in place addressing the ballast water pathway?	Large Marine Protected Zone; Interim Conservation Framework (2014) aims to enhance biodiversity etc., mentions INNS but nothing specific to the Convention. The Chagos Archipelago Trust Conservation and Management Plan does specifically mention the introduction of non-natives into Diego Garcia, by the ballast water pathway.
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	No marine introductions were detected when marine habitats were surveyed by IUCN.
Has any joint scientific and/or technical research on ballast water management occurred?	None known.

Are effective information sharing tools currently available? i.e. warnings, inspections etc.	None known.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	No. The Convention is unlikely to be achievable within British Indian Ocean Territory (BIOT).
Is there evidence that drafting into local legislation is underway?	Yes, but the nature of the legislation is unclear. The BIOT biosecurity officer advised that drafting of a relevant ordinance was underway, but further communication did not occur.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	No. Accession to the Convention is unlikely to offer any greater environmental protection than the implementation of local policy. The visiting vessels are either military (potentially excluded) or from flag states which are expected to enact the requirements of the Convention and therefore be practicing ballast water management.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	None known.

Is there capacity for Port State Control inspections and sampling?	Yes. Diego Garcia is military manned. Should inspections be required it is highly likely that capacity could be achieved. Laboratory testing is less likely, but indicative assessment using common tools would be possible.
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Key points:

- Clear local understanding of the BWMC.
- Unclear on regional engagement.
- Some local ordinance in place in principle.
- No clear monitoring in place.
- Unlikely to accede to the Convention.
- Minimal visibility of ballast operations.
- Potential capacity for port inspections.

5.12 South Atlantic

A South Atlantic Invasive Species Strategy (Shine and Stringer, 2010) was commissioned through the European Commission's European Development Fund. Led by St. Helena under management of the RSPB the project aimed to increase the capacity to reduce non-native species impact within the South Atlantic UK OTs. The Strategy has defined broad objectives for addressing regional non-native species issues and aims to guide further work and increase regional awareness. The Strategy is not marine specific, but does make direct reference to the ballast water pathway, and goes on to recommend lobbying UK Government for adoption of international policies on pathway management. It identifies general weaknesses, all of which bare relevance to the implementation of the BWMC, including:

- lack of awareness and understanding of the impacts of invasive species;
- insufficient baseline data, trained personnel, quarantine facilities and other equipment;
- weak networking, coordination and collaboration;
- inadequate legislation, regulations, cross-sectoral policies and enforcement, linked to low capacity and legislative backlog;
- competing priorities between different sectors;
- conflicts between local communities and external agencies, arising from poor communication and a lack of understanding of respective viewpoints;
- shortage of information on best practices for management; and
- restricted funding opportunities.

5.13 Ascension Island

Initially Carl Thomas of The Marine, Plant and Transportation Service (Ascension Island Government) was approached. This identified Andrew Airnes (Biosecurity Officer) and Dr. Judith Brown (Director of Fisheries) who responded to the questions. Following some correspondence with Mr. Airnes and Dr. Brown, Harbour Master Kitty George was approached for information regarding ballast water operational procedures. A message from the Solicitor General (Walter Scott) for all South Atlantic OTs was also received and further questions forwarded. No reply from Ms. George or Mr. Scott has yet been received.

No authority responsible for BWMC compliance inspections has yet been designated within Ascension; however, it is most likely that it would fall under the roles of the Harbour Master’s office. With no registered vessels Ascension Island is unlikely to have a requirement for the issuing of ballast water management system certification. However, it would be a positive step if Ascension had a framework to ensure that visiting vessels undertaking ballast operations were compliant with the Convention.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	A comprehensive biosecurity review carried out by AIG Biosecurity (O’Connor, 2016) identified the ballast water introduction pathway as a significant risk to the aquatic ecosystems of Ascension Island. The Convention was referenced by the review and a recommendation was made to employ warranted biosecurity officers for compliance checks. Section 4.5.2 of O’Connor (2016) comments on the requirement to meet the ballast water exchange (D-1) standard, but does not make clear that this is only an interim measure until the treatment system performance standard (D-2) is fully phased in. The implementation schedule for the total application of the D-2 standard is currently being debated by the IMO’s Maritime Environmental Protection Committee, but is likely to be no later than 2020. Formal amendments to the Convention to clarify the schedule are expected following entry into force.
Are there regional strategies in place	Key Action C8 of the South Atlantic Invasive Species Strategy and Action Plan (Shine and Stringer, 2010) dictates that the regional OTs act to lobby UK Government to adopt robust instruments for the

addressing the ballast water pathway?	management of marine pathways. Ballast water and logically the Convention is specifically cited as a priority for this lobby.
Are there local policies or guidance in place addressing the ballast water pathway?	<p>Although not specially mentioning the Convention, regulation of ballast water operations, under the authority of the Harbour Master, has been addressed by the Harbours Ordinance, CAP A17. There is provision within this order for the Harbour Board (Harbour Master; Officer in command of the Ascension police; Director of Operations; or, the Conservation Officer) to inspect vessels for general suitability and competence. This may provide the legislative remit to inspect vessels for compliance, but it is unlikely this would be sufficient legislation for the Convention to be formally extended.</p> <p>The Director of Conservation and Fisheries advised that CAP A17 is due for review and requested some assistance with ballast water biosecurity policy. It was indicated that although funding and personnel is a limiting factor, changes to the ordinance with the aim of reduce vulnerability towards the ballast water pathway are being considered.</p> <p>Andrew Airnes, Biosecurity Officer Ascension Island, advised that Ascension Island waters are due to be formally designated a Marine Protected Area (MPA) in 2017 and will, at this point, fall under the regulatory framework as described by ‘CAP A20 National Protected Areas Ordinance’. This has clear scope to restrict activities, including the ‘prevention of pollution, harmful matter, or other harmful or disturbing effects’ which are ‘harmful to the ecology’ of the Protected Area. Scope to sanction offences in relation to the Ordinance exists, but whether off shore ballast operations could be policed is not clear. As with the Harbour Ordinance, it is not clear whether this legislation would be considered sufficient to enable the extension of the Convention to Ascension.</p> <p>The vessel RMS St. Helena visits the Island approximately every three weeks and is probably the most likely vector for introduction of non-native species. The vessel appears to have good procedures in place</p>

	<p>for the control of oil pollution, garbage, and sewage. The vessels' operators also actively work towards reducing environmental impact. Critically, the operator of RMS St. Helena are aware of the BMWC and are actively working to ensure that ballast water is not discharged in a location where it did not originate. Her general route is between Cape Town, South Africa and St. Helena (with stops at Ascension). The RMS St. Helena is a UK flag vessel so is likely to require a ballast water treatment system retro fit. There is a possibility that an exemption could be granted, however, this vessel has deviated from this route e.g. for maintenance in the past. Although Party to the BMWC it is currently unclear how South Africa will enact the provisions of the Convention.</p>
<p>Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?</p>	<p>Inshore and pelagic marine monitoring programmes are ongoing within Ascension and the South Atlantic and although none are specifically targeting the ballast water introduction pathway, they have the potential to detect marine non-native species introduced through this route. As with monitoring of this type, there is a level of training in the morphological identification of horizon or high-risk species required. Detecting non-native species will also be dependent upon the sampling methodology and choice of locations. There have been several biodiversity and fisheries projects within Ascension Island's waters, for example the 'Ascension Island Marine Sustainability project', funded through Defra's Darwin Initiative. As with most biodiversity based monitoring programmes, it is unlikely that these are focused around ports.</p>
<p>Has any joint scientific and/or technical research on ballast water management occurred?</p>	<p>Not known.</p>
<p>Are effective information sharing tools currently available? i.e. warnings, inspections etc.</p>	<p>Unlikely. The South Atlantic Invasive Species Action Plan suggests that communication is poor in the region and results in reduced access to existing scientific and technical expertise. At the time of writing there was no dedicated mechanism to disseminate</p>

	<p>information on invasive species. The Action Plan has key objectives which includes increased communications capacity in this area. The Great Britain Non-Native Species Secretariat (GBNNS) aim to keep the OTs and Crown Dependencies informed of GB developments. This mechanism is unlikely to be useful for the dissemination of information under the BWMC.</p> <p>General warnings could be relayed to mariners, IMO and other Parties through the Harbour Master and Port Authority.</p>
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	Yes, but only as a request for further clarification. It is not likely that Ascension has the capacity to implement.
Is there evidence that drafting into local legislation is underway?	Whilst there has been little direct work towards the implementation of the Convention, there is apparently awareness at the law-making level, i.e. Solicitor General. The Solicitor General's office was approached; however, no reply was received. No formal request to the Foreign and Commonwealth Office's Treaty Directorate has been made for extension of the BWMC.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	O'Connor (2016) reports that there is no visibility on the level of ballast water management on Ascension making this a difficult question to answer at this time. Cruise vessels do visit the Island to land visitors, but it is unlikely that in-Port ballast operations are required for this purpose.

Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	None known.
Is there capacity for Port State Control inspections and sampling?	Uncertain. What form compliance inspections may take is not clear, but the Island is unlikely to have the capacity to undertake anything beyond record book, ballast water plan and certification audit. Indicative sampling and testing of ballast may be possible using the portable tools currently available to the maritime industry, but more in-depth analysis is unlikely without resulting in undue delay to vessels.

Key points

- Minimal visibility of ballast operations. Particularly offshore.
- Logistical difficulties, lack of personnel.
- BWMC not specifically written into local legislation.
- Lack of testing facilities.
- No direct monitoring efforts.
- Unlikely to request extension of the Convention, but interest in improving ballast water biosecurity.

5.14 Saint Helena

Derek Henry (Environment and Natural Resources Directorate, St. Helena Government) and Julie Balchin (Biosecurity Officer, Saint Helena Port Authority) were contacted. Neither had responded, despite reminder emails, at the time of writing this report. The information below was collated from literature review only.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	<p>Yes. There is extensive St. Helena environmental policy which considers INNS:</p> <ul style="list-style-type: none"> • Environmental Management Plan (ensuring sustainable Marine habitats, INNS's are discussed, but no mention of ballast water) • St. Helena Marine Management Plan and Biosecurity Major Incident Plan (BWM is mentioned but ongoing actions are not specified) • Scope within the St. Helena Environmental protection ordinance for vessel inspection (pollution events, ballast not specified). • Signatory to Convention on Biological Diversity
Are there regional strategies in place addressing the ballast water pathway?	<p>Yes. Key Action C8 of the South Atlantic Invasive Species Strategy and Action Plan (Shine and Stringer, 2010) dictates that the regional OTs act to lobby UK Government to adopt robust instruments for the management of marine pathways. Ballast water and logically the Convention is specifically cited as a priority for this lobby.</p>
Are there local policies or guidance in place addressing the ballast water pathway?	<p>Yes. The risk posed by the ballast water introduction pathway is clearly recognised within the territory, most recently in the St. Helena Marine Management Plan (2016).</p> <p>There are several additional biosecurity plans in place, including a contingency plan for a major biosecurity incident. This gives an emergency response protocol for marine invasive species introduction and references the 2015 Harbour Ordinance enabling the Harbour Master to give direction regarding the use of ballast. The</p>

	<p>Environmental Management Division are listed as the coordinating department in this (emergency) event. Routine operations within harbour waters are under the authority of the Harbour Master. The Environmental Protection ordinance also gives power to stop, detain, board and search vessels for control and enforcement.</p> <p>Importantly there is a biosecurity protocol for cargo vessels, cruise ships and visiting yachts which provides clear guidelines for visiting vessels to manage ballast water in accordance with Regulation B-4 of the BWMC. Vessels should also avoid exchange at night, due to diurnal plankton movement, and avoid obvious algae blooms.</p> <p>Provision for the inspection of Ballast Water Management Plans and Ballast Water Record Books is also given.</p>
<p>Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?</p>	<p>None known.</p>
<p>Has any joint scientific and/or technical research on ballast water management occurred?</p>	<p>None known.</p>
<p>Are effective information sharing tools currently available? i.e. warnings, inspections etc.</p>	<p>Unlikely. The South Atlantic Invasive Species Action Plan suggests that communication is poor in the region and results in reduced access to existing scientific and technical expertise. At time of writing there was no dedicated mechanism to disseminate information on invasive species. The Action Plan has key objects which includes increased communications capacity in this area. The GBNNSS aim to keep the OTs and Crown Dependencies informed of GB developments. This mechanism is unlikely to be useful for the dissemination of information under the BWMC.</p> <p>General warnings could be relayed to mariners, IMO and other Parties through the Harbour Master and Port Authority.</p>

Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	Not specifically. Although the adoption of environmental instruments is inherent within the South Atlantic Invasive Species Strategy.
Is there evidence that drafting into local legislation is underway?	Not specific to the BWMC. However, St. Helena has ballast water management policy and ordinance in place, which, providing it is being policed, should provide increased biosecurity against the pathway.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	Yes. The adoption and enforcement of the Convention would increase the protection currently offered by the biosecurity plan for visiting vessels, and give the territory powers to formally address violations with a vessel's flag state or IMO.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	A small surveillance priority list of 'hull fouling' non-native species was drawn up as part of St. Helena's biosecurity policy draft. It should be noted that this list includes some species that are highly likely to be transported within ballast water. Indeed, the list includes one of the indicator microbes, <i>Vibrio cholerae</i> , specifically stated in the performance standard of the BWMC.
Is there capacity for Port State Control inspections and sampling?	Uncertain. Ordinance is in place giving the Harbour Master authority to inspect vessels. Record book and ballast water management plan are specifically mentioned. Ballast water treatment system certification audit would be logical, but this would only be necessary if the territory adopted the Convention or wrote specific ordinance to allow the discharge of treated ballast within harbour limits.

	Indicative sampling and testing of ballast may be possible using the portable tools currently available to the maritime industry, but more in-depth analysis is unlikely without resulting in undue delay to vessels.
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Key Points

- Minimal visibility of ballast operations. Particularly offshore.
- Logistical difficulties, lack of personnel.
- Lack of testing facilities.
- No direct monitoring efforts.
- Unlikely to request extension of the Convention, but interest in improving ballast water biosecurity.

5.15 Tristan da Cunha

Initial contact was made with Katrine Herian (Biosecurity Officer) and James Glass (Director of Fisheries). A generic email was also sent to Tristan da Cunha Agriculture and Natural Resources requesting further advice. Ms. Herian provided information compiled in collaboration with Mr. Glass.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Yes. It is referred to in a draft protocol ‘Biosecurity Protocol for the Marine Environment’ which states that “Cargo ships and cruise ships must comply with international agreements, such as the International Maritime Organisation Ballast Water Management Convention”.
Are there regional strategies in place addressing the ballast water pathway?	There are limited regulations currently in place to address the management and control of marine non-native species in Tristan da Cunha (TdC). Section 3. (1). (e). of ‘The Conservation of Native Organisms and Natural Habitats Ordinance, 2006’ prohibits the importation of any organism not native to TdC.
Are there local policies or guidance in place addressing the ballast water pathway?	‘Biosecurity Tristan da Cunha – A policy for all members of the Tristan community 2016’ was developed in 2016 and, although this has not been widely adopted, is supported by the draft protocols: 1) ‘Biosecurity Measures for Visiting Vessels’; and, 2) ‘Biosecurity Protocol for the Marine Environment’. Copies of these orders were not provided, but the latter specifies that “Cargo ships and cruise ships must comply with international agreements, such as the International Maritime Organisation Ballast Water Management Convention”. Both protocols, however, still require review and adoption at the time of writing this report. This may not provide sufficient legislature to fully implement the Convention in TdC law, but may provide sufficient pressure on vessels equipped with ballast water treatment systems to adhere to their requirements under the Convention when in TdC waters. Communications with the Conservation Policy Officer and the Fisheries Department suggest that implementation capacity for the biosecurity protocols is lacking at this time.

<p>Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?</p>	<p>There have been a small number of targeted monitoring programmes in TdC, but these have been in specific response to event with a high risk of pollution or non-native introductions i.e. the accidental grounding of MV Oliva and an oil production platform.</p>
<p>Has any joint scientific and/or technical research on ballast water management occurred?</p>	<p>TdC is included in the South Atlantic Invasive Species Strategy and Action Plan (Shine and Stringer, 2010). This addresses non-native species introductions, and acknowledges the limited resources of the South Atlantic OTs and the need for “strengthening and implementing the necessary legislation”. A small surveillance priority list of ‘hull fouling’ non-native species was drawn up as part of St. Helena’s biosecurity policy draft. This list includes some species that are likely to be transported within ballast water. Indeed, the list includes one of the indicator microbes, <i>Vibrio cholerae</i>, specifically stated in the performance standard of the BWMC. While useful in the context of Convention compliance monitoring, it is unlikely that the scope of the policy would be useful for this microbe.</p>
<p>Are effective information sharing tools currently available? i.e. warnings, inspections etc.</p>	<p>None known.</p>
<p>Has a formal request for extension of the Convention (authoritative notification) occurred?</p>	<p>No.</p>
<p>Has there been any interest from OT stakeholders in regarding extension of the Convention?</p>	<p>No.</p>

<p>Is there evidence that drafting into local legislation is underway?</p>	<p>The 'Biodiversity Action Plan for the Tristan da Cunha Islands 2012-16 is under review for 2017 and beyond. Shipping is cited as a main threat to biodiversity, as is the introduction of non-native species; however, ballast water and the BWMC are not specifically mentioned or addressed. Objective 5.4. aims to maintain marine biodiversity at its current level. Sub objective 5.4.3 aims to develop contingency plans for marine non-native introductions; however, it was acknowledged by the Conservation Policy Officer that this action can only be addressed should priority funding become available.</p>
<p>Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?</p>	<p>Yes. It is highly likely that offshore ballast water operations are occurring within TdC's Exclusive Economic Zone (EEZ). There are approximately 40+ vessels passing within 10 miles of TdC monthly. The presence of oil slicks also raises the possibility that tank flushing is occurring, although this could potentially be due to poorly maintained vessels. Cargo ships do make port, and offload at TdC. Ballast uptake is the most common operation whilst in port; however, back loading of cargo does occur which may require ballast discharge. In such events, it is likely that residual ballast water taken on outside the TdC EEZ may be released, although this would be much diluted.</p>
<p>Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?</p>	<p>None known. A small surveillance priority list of 'hull fouling' non-native species was drawn up as part of St. Helena's biosecurity policy draft but there is no subsequent list for non-native species associated with ballast water.</p>
<p>Is there capacity for Port State Control inspections and sampling?</p>	<p>No agency has been identified to lead compliance monitoring and sampling is not underway. The risk of such operations is currently unknown. More information is required to understand the current capacity of TdC to implement the Convention's requirements. Funding is required to undertake sampling and inspections.</p>

Key points

- Need assistance with the review of biosecurity protocols and their implementation.
- Funding and people an issue.
- Visibility of operations.
- Risk of release from heavily diluted ballast.
- Review of priority species.
- Lack of ballast water policy implementation.
- Lack of resource for compliance monitoring and other provisions.

5.16 Falkland Islands

James Ross (Biosecurity Officer, Department of Agriculture), Nick Rendell (Environmental Officer, Environmental Planning Department), and Chris Locke (Marine Officer / Harbour Master, Fisheries Department) provided a summary following a stakeholder meeting.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	<p>Yes. But has not been specifically identified as a threat to the Falkland Islands. Key stakeholders are aware.</p> <p>There are many vessels present in the Falkland Island's EEZ, most do not perform ballast water operations (fishing vessels, cruise ships, private yachts). However, some cargo and tanker vessels do carry out ballast water operations in Falkland Island waters. This is likely to increase if the oil industry moves on to the extraction phase.</p>
Are there regional strategies in place addressing the ballast water pathway?	<p>Yes. Key Action C8 of the South Atlantic Invasive Species Strategy and Action Plan (Shine and Stringer, 2010) dictates that the regional OTs act to lobby UK Government to adopt robust instruments for the management of marine pathways. Ballast water is specifically cited as a priority for this lobby.</p>
Are there local policies or guidance in place addressing the ballast water pathway?	<p>There is currently minimal local legislative control over ballast operations. However, the Maritime Harbours Bill is currently under draft and will be complete by the end of 2017. This could form a primary framework for secondary marine non-native management legislation.</p> <p>Falkland Islands Ports and Harbour Information (2017) does state that vessels are required to flush tanks prior to arrival in accordance with IMO guidelines. Presentation of ballast water management plans may also be required. This ordinance was not mentioned by the representatives of the Falkland Islands, suggesting that it is yet to be adopted or not being followed.</p> <p>The Falkland Island Biodiversity Strategy (2016-2020) recognises invasive species as a threat to the sustainability of the Falkland</p>

	habitats and acknowledges that prevention of introductions is the primary method of mitigating invasive risk. A measurable outcome in line with the Aichi Targets (Convention on Biological Diversity) of the strategy is that no new non-native species become established.
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	A collaborative project between Falkland Island Government, the Shallow Marine Surveys Group, and Premiere Oil has been set up to establish baseline species, and identify any new species in Stanley Harbour by use of settlement plates. Now in its third year plates are photographed monthly, and subject to DNA analysis of whole plate assemblage to identify cryptic species.
Has any joint scientific and/or technical research on ballast water management occurred?	None known.
Are effective information sharing tools currently available? i.e. warnings, inspections etc.	See comments for other South Atlantic territories.
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	None known.
Is there evidence that drafting into local legislation is underway?	Some. New policy is being prepared, but it is unlikely that this will lead to accession to and implementation of the Convention.

<p>Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?</p>	<p>Yes. Ballast operations do occur. The better control of such operations is likely to reduce the risk of non-native introduction by this route.</p>
<p>Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?</p>	<p>There have been some project based risk assessments and surveys for projects such as the Temporary Dock Facility (TDF) and the Roll On Roll Off (RORO) dock at Mare Harbour. The Shallow Marine Surveys Group have conducted limited surveys to identify marine invasive species.</p>
<p>Is there capacity for Port State Control inspections and sampling?</p>	<p>Yes, but probably limited. Documentation audit is most probable.</p>

Key Points

- Minimal visibility of ballast operations. Particularly offshore.
- Logistical difficulties, lack of personnel.
- BWMC not specifically written into local legislation.
- Lack of testing facilities.
- No direct monitoring efforts.
- Unlikely to request extension of the Convention, but interest in improving ballast water biosecurity.

5.17 South Georgia and the South Sandwich Islands

Jennifer Lee (Environmental Officer, Government of South Georgia & South Sandwich Islands) was contacted, but had not replied at the time of writing. The information below was collated from literature review only.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Partially. There is considerable attention on the risk of introduction posed by visiting vessels, but reference to ballast water is rare.
Are there regional strategies in place addressing the ballast water pathway?	Signatory to the Convention on Biological Diversity. British Antarctic Survey address South Georgia & South Sandwich Islands (SGSSI) in their biosecurity handbook (2015). The document references the interim regional ballast water management plan for Antarctica (see British Antarctic Territory). SGSSI is on the limit of the area under the guidelines, so any such ballast management within SGSSI would appear to be voluntary and unmanaged.
Are there local policies or guidance in place addressing the ballast water pathway?	Yes. The SGSSI Biodiversity Action Plan has target specific to the identification and prioritisation of introduction pathways. This includes the implementation of measures to prevent introductions. The Action Plan also plans a review of visiting vessel biosecurity protocols. The UK/SGSSI Environmental Charter has a guiding principle to control or eradicate invasive species. SGSSI have been designated a marine protected area and cannot be visited without a permit from the Government. The associated management plan only addresses biofouling, but does make comment regarding the similarity of the habitats between SGSSI, Falklands and South America. This suggests that the likelihood of ballast water transferred species surviving across the region is high.

<p>Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?</p>	<p>A recent baseline survey of inshore waters at South Georgia was carried out to provide data on the inshore marine flora and fauna of the region (Brickle & Brewin, 2011 and 2010).</p> <p>Settlement plates, which can be used to detect the presence of non-native species, have also been established at three locations.</p>
<p>Has any joint scientific and/or technical research on ballast water management occurred?</p>	<p>None known.</p>
<p>Are effective information sharing tools currently available? i.e. warnings, inspections etc.</p>	<p>Information may be shared through the Antarctic Treaty Secretariat of the Council of Managers of National Antarctic Programmes.</p>
<p>Has a formal request for extension of the Convention (authoritative notification) occurred?</p>	<p>No.</p>
<p>Has there been any interest from OT stakeholders in regarding extension of the Convention?</p>	<p>No.</p>
<p>Is there evidence that drafting into local legislation is underway?</p>	<p>None known.</p>
<p>Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations</p>	<p>Yes. The SGSSI Biodiversity Action Plan (2016-2020) states that 60 vessels visit SGSSI each year. Many of which are known to have travelled from or through harbours with known populations of marine invasive non-native species. There has been little assessment</p>

occur and/or pose a high risk?	of the risks that these species pose to SGSSI, but increased biosecurity of the pathway would undoubtedly reduce the risk of introductions.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	Not specifically, but see monitoring programmes.
Is there capacity for Port State Control inspections and sampling?	Unlikely. No permanent population.

Key points

- Minimal visibility of ballast operations. Particularly offshore.
- Logistical difficulties - no permanent population.
- Lack of testing facilities.
- Limited monitoring efforts.
- Unlikely to request extension of the Convention, but interest in improving ballast water biosecurity.

5.18 Pitcairn Islands

An email was sent to the generic Government of the Pitcairn Islands contact address. Nothing was received. The non-native species advisor (David Moverley) of the Secretariat of the Pacific Regional Environment Programme was also contacted to see if he could provide further advice. At the time of writing nothing was received.

Output	Status
Is there demonstrated awareness of the ballast water introduction pathway?	Not known. There is awareness through the Secretariat of the Pacific Regional Environment Programme coordinates invasive species programmes within the region; however, Pitcairn's position is not known.
Are there regional strategies in place addressing the ballast water pathway?	None known.
Are there local policies or guidance in place addressing the ballast water pathway?	The Pitcairn Marine Protected Area Ordinance (2016) regulates the discharge of ballast water within the designated MPA.
Is there evidence of active environmental (marine) monitoring programmes capable of detecting ballast water introduced species?	None Known.
Has any joint scientific and/or technical research on ballast water management occurred?	None known.
Are effective information sharing tools currently	None known.

The Ballast Water Management Convention in the UK Overseas Territories

available? i.e. warnings, inspections etc.	
Has a formal request for extension of the Convention (authoritative notification) occurred?	No.
Has there been any interest from OT stakeholders in regarding extension of the Convention?	No.
Is there evidence that drafting into local legislation is underway?	None known.
Is there evidence that implementation of the Convention will offer increased protection towards marine habitats? i.e. do ballast operations occur and/or pose a high risk?	Not known. It is possible that ballast water operations do occur although shipping is minimal. Visibility is low operations could not be established.
Have horizon scanning and/or risk assessment exercises been conducted to identify potential ballast water introductions?	None known.
Is there capacity for Port State Control inspections and sampling?	No.

Key points:

- Unclear on the level of local and regional awareness.
- Some local relevant ordinance.
- Unknown visibility of ballast water activity.
- Unknown information in relation to implementation (monitoring, communication, port inspections).
- Unlikely to require or be able to implement the Convention.

6 Overseas Territories implementation requirements and capacity

Assuming that OTs do intend to implement the Convention, effective implementation will only occur with a consultative process leading to a national ballast water management policy which is sympathetic towards all implicated stakeholders. Engagement between governmental agencies and private organisations (i.e. ship operators) must occur through official channels, such as a formal ballast water management taskforce or the IMO. This is particularly important for the OTs which maintain a shipping registry as they will need to develop a strategy suitable for their role as both a flag state and potentially as a port state. It should be noted, however, that until the UK has drafted the statutory instrument to implement the Convention, it is very difficult to say with clarity what OTs are required to do.

6.1 Lead Agencies and Task Force

Most of the OTs have not formally designated a lead responsible authority/agency for the implementation of ballast water management within their waters. This, along with the formal designation of a National Task Force, should be considered of primary importance and used to facilitate the drafting of a preliminary ballast water status assessment. This process can be used to formally characterise the risk and costs associated with the ballast water introduction pathway and provide evidence for national decision-makers. Drafting a National ballast water strategy; carrying out legislative assessments; and assessing the economic cost/benefit of implementation should be considered priority areas following the completion of the initial assessment and the decision to progress being made.

As human pathogens are included in the Convention, the Task Force, under the authority of the Lead agency should consider whether cross-sectoral links and consultation with the department(s) responsible for human health would benefit the development of the national ballast water strategy.

6.2 Information gathering and communication

Port baseline surveys and the risk assessment of vulnerable locations should be undertaken, or compiled using existing data gathered during previous research programmes. Ongoing monitoring programmes at high risk areas should also be considered to ensure that baseline species information is current, and that the effectiveness of the national ballast water management strategy can be effectively assessed. Suitable tools for storing and sharing data should also be considered.

Clear communication networks and working groups between industry, National government, and the public stakeholders should be set up and maintained to not only communicate the ongoing need for ballast water management, but also ensure that local policy is clear and appropriate. This is particularly important for the communication of flag requirements to the vessels under the authority of an OT.

6.3 Legislation

The drafting of effective legislation is vital to the Convention and its successful implementation. Although most the OTs are likely to base their legislation on the UK archetype, there may be subtle differences based on the specific infrastructural circumstances and the legislative framework of each OT. The UK, for example, is likely to amend the Merchant Shipping Act (1995) to include the control of 'biological (bio) pollution' under the Prevention of Pollution section of the Act. It may be possible for the OTs to amend their existing legislation in a similar way to the UK; however, this is dependent on applicable legislation being in place. Drafting brand new legislation may be needed; the UK's implementation would be a significant step to improving the clarity of the OT position. For the OTs that do not need to legislate for the aspects of the Convention relevant to maintaining a shipping registry, this should be a simple process and allow rapid accession to the Convention. How aggressively an individual OT wishes to enforce the Convention is ultimately in the hands of their authorised policy makers (which may be UK based); however, such decisions and policies should be based on the actual risk of non-native species introduction to marine ecosystems rather than budget allowance and political will.

OTs implementing the Convention will need to carry out some form of compliance monitoring; for which the responsible body (most likely the Port Authority) will need to ensure that staff are adequately trained and equipped to meet the requirements.

Regional networks should be established/consolidated to ensure that parity within the region is maintained. The risk assessment and exemption processes should be considered by these networks.

Engagement with IMO and international stakeholder groups should be promoted to ensure that access to best practice and the associated support network is effectively managed. National ballast water strategies should be reviewed and amended as more data is obtained and international experience grows.

Table 5 shows a summary of the priority activities for the OTs following acknowledgement that the Convention may be required within their jurisdiction.

Table 5 - Implementation activities for OTs (note that some of these activities could be concurrent and may only be relevant to OTs with shipping registries).

Activity	Description	Additional Information
Designation of responsible authority	Responsible for the coordination of the implementation process	
Formalisation of National Task Force	Defines which department is responsible for Convention provisions and deliverables	
Assessment of ballast water issues	Includes cost/benefit analysis, shipping information, habitat description and broad environmental conditions, baseline ballast water exchange levels, risk assessment of vulnerable location, legislation review etc..	See monograph 17, GEF-UNDP-IMO GloBallast Partnerships and IOI, 2009
Port baseline surveys	Define the environmental conditions, determine high risk locations, determine current NNS occurrence and population boundaries etc.	Included above, but considered a separate activity
National government, industry, and public consultation	The requirement for the convention, or other ballast water management framework, needs to be acknowledged at the decision-making/national government level and agreed with the UK responsible authority as applicable.	
Draft ballast water management strategy	Define the requirements for visiting vessels and flag-vessel certification (as applicable)	
Mobilise National Task Force		
Consultation with UK regarding drafting legislation	Formally request extension of the Convention and draft the OT legislation	
Develop port specific procedures for enforcement, inspection and reporting	Define programme of inspection i.e. risk based	
Training port inspectors	Ensure suitable skills and knowledge is in place and available	
Develop flag vessel certification requirements	As required. Ensure that flagged vessels can be approved as fit for purpose under the Convention and can be issued with a certificate of compliance	Can be delegated to other organisation e.g. class society

Develop information management tools		
Designate ballast water exchange areas, as required	As applicable	
Determine sediment disposal options	This could be delegated to the responsibility of the Ports Authority as a commercial enterprise	May cause issue for OTs with limited Port Facilities and facilities
Update/revise ballast water management strategy		
Enact legislation and national policy	Inform flag vessels, IMO and IMO member states of the implementation timeline and requirements under the National and Region (as applicable) framework	Instruct applicable flag vessels to install type approved systems, in line with the implementation schedule (as amended at MEPC 71)
Implementation of the Convention.	Begin enforcement and compliance monitoring	

7 Conclusion

The BWMC is a complex instrument, requiring a multidisciplinary and coordinated approach in relation to its implementation and enforcement. The effective adoption of the Convention and the improved management of the ballast water introduction pathway requires action from environmental scientists, maritime professionals, and associated policy makers. It is therefore essential that all sectors are engaged as part of this process. The decision-making process of whether an OT should implement the Convention is itself multifaceted and requires: an understanding of shipping activities in the OTs waters, what ships operate under their flag (if any), and a cost benefit analysis (including environmental, social and economic factors) to determine if ratification is an appropriate approach to take.

Although there has been a significant delay between its adoption and entry into force, the BWMC currently offers the best policy option for a globally agreed and standardised approach to the reduction in the number of ballast water mediated introductions of non-native species and human pathogens. The assurance of treatment system suitability and efficacy is a principal consideration of the convention and this has been significantly refined since the adoption. The commercial competition between manufacturers provides impetus for future innovative and more effective solutions, whilst potentially reducing the cost to industry. The standards for ballast water discharge are stringent and, if met consistently, could significantly reduce the impact of the pathway. Importantly, the convention offers an international framework for compliance and gives Parties the support to enact legally binding ordinance within their waters.

This work has identified that the implementation of the Ballast Water Management Convention within many of the OTs lacks an overall framework. As the UK position on implementation is also not currently clear the uncertainty for the OTs is being exacerbated and resulting in delay to the decision-making process and framework development. Based on information gathered for this report, of those OTs that responded, the majority did not appear fully aware of either the requirements of the Convention, or how it applies to their territory, despite a recognition of the potential threat posed by ballast water. This lack of awareness and the fragmented information provided makes the delivery remit of OT departments challenging to determine. Although a minority of the OT governmental departments were aware of the Convention (either through direct contact or contained in strategic documents), they were not able to clarify where the responsibility for adoption decision making laid. As a result, local lead departments have not been formally designated and there has been little or no consultation with UK government. This creates a significant block to further progress as departments are not willing to formally discuss the Convention and would be unable to enact the requirements

The Ballast Water Management Convention in the UK Overseas Territories

should they wish to. The implementation of an applicable UK legal framework is now critical to the identification of roles and responsibilities within the OTs, and would equip them to determine if implementation was in their interests.

The drafting of UK domestic legislation is underway, and expected to be enacted after the Convention enters force; however, it is not believe this has included consideration of the OTs. The act of extending a Convention into OT law is well established and follows a defined process, however, to the best of our knowledge none of OTs have been consulted at the time of writing. In addition, many of the OTs, and departments therein, appear to currently lack the resource and remit to support the activities of ongoing compliance monitoring and enforcement. Some of the territories (e.g. Gibraltar and BAT) are currently implementing alternative ballast water management programmes that have been designed to be in-line with the BWMC and have the frameworks in place to manage the pathway. None of the OTs have officially stated that they are intending to request extension of the Convention; however, there was interest at the departmental level in some OTs. It is worth noting that the main cost of the Convention is levied towards the maritime industry i.e. ship owners retrofitting existing vessels with ballast water treatment systems, but there will still be an economic cost associated with an OT's accession. Although the feasibility of implementation within the OTs will have to consider the economic cost, the decision to implement the Convention should be primarily based on the risk posed to the marine habitats of each OT.

The Convention does have the potential to increase the resilience of OT marine ecosystems and the associated services they provide. As the OTs, particularly those without shipping registries, would be implementing only for environmental protection, they may wish to consider (in consultation with UK Government and the IMO) simplifying implementation as much as the Convention will permit. This would enable the OTs to utilise the Convention's framework, methods and support network for enforcement and sanctions against non-compliance. Lack of overall capacity does, however, create a serious roadblock to implementation, and this is an area which will require further support and, importantly, additional resource for the OTs.

There are several regional working groups, most notably in the Caribbean, which aim to harmonise the implementation of pollution protection (if not ballast specific) measures. Although such initiatives have prompted the drafting of action plans and regional strategies it is not clear whether this has resulted in on the ground actions, within the OTs, relevant to ballast water management.

Should the Convention not be implemented in the OTs, the application and practice of some of its measures in local biosecurity plans or ordinance will aid in pathway management, protecting the environment, human health and ecosystem stability. It is imperative that the Defra network continue The Ballast Water Management Convention in the UK Overseas Territories

to engage the OTs to ensure that territory specific needs are further recognised and addressed on an individual basis.

8 Acknowledgments

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This Report was compiled based on the information gathered and provided up to 8/6/2017 (with revisions following review 9/11/2017). The authors attempted to ensure the quality of the information gathered during the process; however, some of the information presented has been taken from anecdotal sources and grey literature and should be treated with a level of uncertainty.

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10 Contacts

Table 6 – Coordinating organisation and UK-lead contacts.

Regional Organisation	Region	Contact	Project and/or Activities
GloBallast	International		providing international coordination and information dissemination, including the development of toolkits and guidelines, and establishing a strong cooperation with industry and NGO
International Maritime Organisation	International	http://www.imo.org/en/Pages/Default.aspx	United Nations Agency. Standard setting agency for global maritime.
FCO (OT Desk Officer or Administration lead)	Anguilla	Kathy Ponteen kathy.ponteen@fco.gov.uk	
	Anguilla	Darren Forbes-Batey Darren.Forbes-Batey@fco.gov.uk	
	Bermuda	Kathryn Parkinson kathryn.parkinson@fco.gov.uk	
	BVI	Caroline Brown caroline.brown@fco.gov.uk	
	Cayman	Caroline Brown caroline.brown@fco.gov.uk	
	Montserrat	Kathy Ponteen kathy.ponteen@fco.gov.uk	
	TCI	Dave Wells dave.well@fco.gov.uk	
	Ascension	Andrew Sigley andrew.sigley@fco.gov.uk	
	St Helena	Andrew Sigley andrew.sigley@fco.gov.uk	

Regional Organisation	Region	Contact	Project and/or Activities
	Tristan	Andrew Sigley andrew.sigley@fco.gov.uk	
	Falklands	Nicola Moss nicola.moss@fco.gov.uk	
	Pitcairn	Jonathan Brown jonathan.brown@fco.gov.uk	
	BAT	Julie Coleman julie.coleman@fco.gov.uk	
	BIOT	Paul Smith Paul.Smith@fco.gov.uk	
Maritime Coastguard Agency	OT/UK	Leanne Page Leanne.Page@mcga.gov.uk	UK BWMC policy lead
Department for Transport	OT/UK	Iain Dickson Iain.Dickson@dft.gsi.gov.uk	
		Claire McAllister Claire.McAllister@dft.gsi.gov.uk	Head of Maritime Safety and Environment Division
		Laura Marquis laura.marquis@dft.gsi.gov.uk	
		Katie Goodall Katie.Goodall@dft.gsi.gov.uk	
RAC-REMPEITC-Caribe	Caribbean	RAC-REMPEITC - Caribe Aviation & Meteorology Building, Curaçao T: +5999 868 4612 E: rempeitc@cep.unep.org F: +5999 868 4996	Funded by IMO, UNEP, and UNDP. Assists countries in the Wider Caribbean Region to prevent and respond to pollution in the marine environment through:

Regional Organisation	Region	Contact	Project and/or Activities
			<ul style="list-style-type: none"> • Developing and accessing national and multilateral contingency plans • Training and workshops • Technical support and consultancy • Information and public awareness
Secretariat of the Antarctic Treaty	British Antarctic Territory	Dr. Reinke, Executive Secretary executive.secretary@ats.aq	
Secretariat of the Antarctic Treaty	British Antarctic Territory	José María Acero tito.acero@antarctictreaty.org	
Polar Regions Department Overseas Territories Directorate, Foreign & Commonwealth Office	British Antarctic Territory	polarregions@fco.gov.uk	
	British Indian Ocean Territory	Helen Stevens, Environment Officer Helen.Stevens@fconet.fco.gov.uk Tel: 002463703503	

Regional Organisation	Region	Contact	Project and/or Activities
Secretariat of the Pacific Regional Environment Programme	Pacific Region	David Moverley, INNS advisor sprep@sprep.org Secretariat of the Pacific Regional Environment Programme PO Box 240, Apia, Samoa Tel: +685 21929 Fax: +685 20231	Employed by the governments and administrators of the Pacific Region to protect the regions environment and ensure sustainable development. Areas include: <ul style="list-style-type: none"> • Biodiversity and ecosystem management. • Climate change. • Waste management and Pollution control. • Environmental monitoring and Governance.
RAC-REMPEITC Caribe	Wider Caribbean Region	rempeitc@cep.unep.org http://www.racrempeitc.org/	The Regional Marine Pollution Emergency, Information and Training Centre – Caribe implements international Conventions created to reduce pollution from ships. It is one of four Regional Activity Centres of the Caribbean Environment Programme (UNEP-CAR/RCU).

Table 7 - Overseas Territories BWMC stakeholders

Country	Organisation	Contact	Project and/or Activities	
Akrotiri and Dhekelia	Ministry of Defence	Nicholas Andrew-Gauvain Environmental Advisor Overseas Environmental Team DIOSEE-EPSEnv1a@mod.uk	Administration of environmental legislation	
Anguilla	Office of Superintendent of Ports, Harbours and Piers	Mr. Rawle S Hazell Superintendent Rawle.Hazell@gov.ai	Harbour, Port and Pier Management	
		Calvin Andre Samual, Director of Environment calvin.samual@gov.ai P.O. Box 60 Unit 12, 2nd Floor, Brooks and Sons Complex The Valley, AI-2640, Anguilla Telephone: 264 497 0217 Fax: 264 497 8534 http://www.gov.ai/doe/		Responsible for implementing Environmental Policy
		Karim Hodge Karim.Hodge@gov.ai		
		Sherman Williams Sherman.Williams@gov.ai		
		Stuart Wynne Stuart.Wynne@gov.ai		
Travis Carty Travis.Carty@gov.ai				
	Department of the Environment			

Country	Organisation	Contact	Project and/or Activities
		Kafi Gumbs kafi.gumbs@gov.ai	
Ascension Island	Ascension Island Government: Marine, Plant and Transportation Services	Andrew Airnes Andrew.airnes@ascension.gov.ac Corporate Services Ascension Island Government Georgetown Ascension Island ASCN 1ZZ Tel: (+247) 67000 ext 100 Fax: (+247) 66152	Responsible for off-loading the supply ships that service the island. Maintenance to moorings, Government vehicles, plant and equipment.
		Carl Thomas carl.thomas@ascension.gov.ac	
	Legal and Judicial Services	Walter Scott, Solicitor General solicitor.general@ascension.gov.ac Corporate Services Ascension Island Government Georgetown Ascension Island ASCN 1ZZ Tel: (+247) 67000 Fax: (+247) 66152	
	Legal and Judicial Services	Kitty George kitty.george@ascension.gov.ac	Responsible for Law reform, Law Revision and Legislative Drafting. Also assistant Harbour Master
Bermuda	Government of Bermuda –	Andrew Pettit, Director apettit@gov.bm	Develops legislation and policy to protect Bermuda’s environment.

Country	Organisation	Contact	Project and/or Activities
	Department of Environment and Natural Resources	Botanical Gardens 169 South Road Paget DV04 Tel: (441) 236-4201	Monitor and provide guidance for the prevention and control of pollution.
	Bermuda Shipping and Maritime Authority	Captain Pat Nawaratne, Chief Executive Officer/Chief Surveyor pnawaratne@bermudashipping.bm Bermuda Shipping and Maritime Authority, PO Box HM1628 Hamilton, HM GX Bermuda Tel: +1 441 295 7251 Fax: +1 441 295 3718	The Bermuda Ship Registry is a part of the wider Red Ensign Group
	Department of Marine & Port Services	Mr Scott Simmons, Director of Marine & Port Services ssimmons@gov.bm 19 Fort George Hill, St. George's GE 02, Bermuda Tel: (441) 297-1010 Fax: (441) 297-1530	Oversee marine affairs in Bermuda. Responsible for the safe movement of both international shipping and the operation of commercial and recreational boat traffic in local waters
	Department of Environment	Alison Copeland, Biodiversity Officer	

Country	Organisation	Contact	Project and/or Activities
	and Natural Resources, Government of Bermuda	aicopeland@gov.bm Dr. Geoff Smith, Head of Pollution Control	
British Virgin Islands	Ministry of Natural Resources and Labour	Joseph Smith Abbot, Deputy Permanent Secretary JSmith-Abbott@gov.vg 33 Admin Drive Road Town, Tortola British Virgin Islands VG1110 Tel: 284-468-3701	Management of the natural resources of the British Virgin Islands, as well as the keen regulation of the supply of labour in the Territory, ensuring that supply meets demand.
	n/a	Mr. Smith Abbot forwarded questions to other BVI governmental contacts: Ronald Smith-Berkeley Kelvin Penn Mervin Hastings Angela Burnett Penn Abbi E Christopher Tessa Smith Argel Horton Nancy Woodfield Pascoe	

Country	Organisation	Contact	Project and/or Activities
	Virgin Islands Shipping Registry	Captain Bala, Director rBala@gov.vg Sebastian's Building, Administration Drive, Road Town Tortola, British Virgin Islands Tel: +1 284-468-2902/2903 Fax: +1 284-468-2913	Shipping registration information. Shipping regulations Technical guidance
	BVI Ports Authority	bviports@bviports.org British Virgin Islands Ports Authority Port Purcell PO. Box 4 Road Town, Tortola VG1110 British Virgin Islands Tel: (284) 494-3435 Fax: (284) 494-2642	Provide port facilities and services.
Cayman Islands	Department for Environment	Gina Ebanks-Petrie, Director Gina.Ebanks-Petrie@gov.ky 580 N Sound Rd, George Town, Cayman Islands Tel: +1 3459498469 Fax: +1 3459494020	A Government Agency responsible for management of the environment and natural resources in the Cayman Islands.
	Cayman Islands Shipping Registry	Mr Peter Southgate, Advisor Maritime Policy and Legislation	Registration of shipping vessels. Maritime Security.

Country	Organisation	Contact	Project and/or Activities
		<p>peter.southgate@cishipping.com 133 Elgin Avenue P.O. Box 2256 Grand Cayman KY1-1107 Tel: +1 345-949-8831 Fax: +1 345-949-8849</p>	<p>Survey and Audit certification for yachts and merchant ships registered in the Cayman Islands.</p>
	<p>The Port Authority of the Cayman Islands</p>	<p>Mr. Clement Reid creid@caymanport.com Grand Cayman Location and Main Office 45A Harbour Dr. Grand Cayman CAYMAN ISLANDS PO BOX 1358 KY1-1108 Tel: (345)949-2055 Fax: (345)949-5820</p>	<p>Port and Harbour management. Organise imports and exports of cargo. Immigration Cruise ship Navigation.</p>
Falkland Islands	Falkland Islands Government	<p>Ross James, Biosecurity biosecurity@doa.gov.fk Falkland Islands Government Office Falkland House 14 Broadway Westminster London SW1H 0BH Telephone: 020 7222 2542 Fax: 020 7222 2375</p>	<p>Implementation of laws and regulations.</p>

Country	Organisation	Contact	Project and/or Activities
	Environmental Planning Department	Nick Rendell, Environmental Officer nrendell@planning.gov.fk Falkland Islands Government Office Falkland House 14 Broadway Westminster London SW1H 0BH Telephone: 020 7222 2542 Fax: 020 7222 2375	<ul style="list-style-type: none"> • deliver building control and spatial planning functions to the public and government departments; • provide for the conservation and protection of historic sites and buildings; • meet the Government's international environmental commitments; • co-ordinate the delivery, monitoring and review of the Biodiversity Strategy; • provide statutory environmental functions; • progress the Waste Management Action Plan and • advance environmental good practice, including the sustainable use of natural resources.
Gibraltar	Department of the Environment and Climate Change	info.environment@gibraltar.gov.gi Department of the Environment and Climate Change Duke of Kent House Line Wall Road Tel No: (+350) 20048450	Providing effective environmental protection, addressing the threat of climate change, protecting and enhancing our natural environment, developing sustainable waste management practices, promoting energy efficiency and sustainable energy generation as well as ensuring that Gibraltar's development respects the delicate balance between environment, economy and society.
	Gibraltar Maritime Administration	Mr. Richard Montado, Maritime Administrator	Gibraltar is a Category One Red Ensign register

Country	Organisation	Contact	Project and/or Activities
		richard.montado@gibraltar.gov.gi Watergate House 2/8 Casemates Square, Gibraltar Tel: 200 46861	
Montserrat	Ministry of Agriculture, Trade, Lands, Housing and Environment	Daphne Cassell malhe@gov.ms	
	Montserrat Port Authority	Mr. Joseph O'Garro, Port Manager joseph.ogarro@mpa.ms P.O. Box 383, Plymouth, Montserrat Tel: 1 (664) 491 2791/2 Fax: 1 (664) 491 8063	Port and Harbour Management
Pitcairn Islands	The Government of the Pitcairn	admin@pitcairn.gov.pn Pitcairn Islands Office P.O. Box 105 696 Auckland New Zealand Tel: +64 9 366 0186 Fax: +64 9 366 0187	Responsible for implementing Regulations and Policy
Saint Helena	Saint Helena Port Authority	Julie Balchin, Biosecurity Officer julie.balchin@enrd.gov.sh The Castle, Jamestown,	Law enforcement, border control and security at Jamestown Wharf and in Rupert's Bay. Fulfilment of the requirements of the ISPS Code (International Ship and Port Facility Security Code).

Country	Organisation	Contact	Project and/or Activities
		St Helena, STHL 1ZZ Tel: 00290 22470	
	Environment and Natural Resources Directorate, Saint Helena Government	Derek Henry derek-henry@enrd.gov.sh The Castle, Jamestown, St Helena, STHL 1ZZ Tel: 00290 22470	Management, conservation and regulation of the natural and man- made environment. Including land, buildings, transport infrastructure, agriculture and the environment.
South Georgia and the South Sandwich Islands	Government of South Georgia & South Sandwich Islands	Jennifer Lee, Environment Officer env@gov.gs GSGSSI Government House, Stanley, Falkland Islands, South Atlantic, Tel: +500 28200 Fax: +500 28201	
Tristan da Cunha	Tristan da Cunha Government, Fisheries	James Glass, Director of Fisheries jamespglass@gmail.com	
	Tristan da Cunha Government, Fisheries	Katrine Herian, Biosecurity Officer katrine.herian@tdc.uk.com	

Country	Organisation	Contact	Project and/or Activities
	Tristan da Cunha agriculture and natural resources	fishopstdc@gmail.com	
Turks and Caicos Islands	Ports Authority of the Turks & Caicos Islands	Mr. Andy Robinson, Director of Ports arobinson@ports.tc South Dock Providenciales Turks and Caicos Islands BWI Tel: 1 (649) 946 1613 Fax: 1 (649) 941 4262	Port and Harbour Management
	Department of Environment and Coastal Resources	Dr John Claydon (forwarded by H. Wilson) JClaydon@gov.tc	<ul style="list-style-type: none"> • Protect and improve the environment and conserve and enhance biodiversity within the territorial boundaries of the Turks and Caicos Islands and beyond, Support government policies and international treaties and Conventions towards sustainable development. • Promote sustainable management of natural resources (e.g. fisheries and marine resources, mineral resources and the protected areas). • Implement maritime laws and regulations in the Turks and Caicos Islands.



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