

**REPORT ON THE ADVISORY MISSION TO HA LONG BAY WORLD HERITAGE SITE,
Quang Ninh Province, Viet Nam
From 16th July to 20th July 2018**



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Abbreviations

HLB	Ha Long Bay
HLBMB	Ha Long Bay Management Board
HLCBA	Ha Long-Cat Ba Alliance
IUCN	International Union for Conservation of Nature
MoCST	Ministry of Culture, Sport and Tourism
PPC	Quang Ninh Provincial People 's Committee
CPC	Ha Long City People's Committee
QNTA	Quang Ninh Tourism Association
TAB	Tourism Advisory Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WHS	World Heritage Site
WHF	World Heritage Fund

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EXECUTIVE SUMMARY

The State Party of Viet Nam requested IUCN to provide advice on improving the management of Ha Long Bay World Heritage Site (the property), with particular attention to waste management and visitor management.

The mission visited Ha Long Bay, situated in Quang Ninh Province 170 km from Hanoi, from July 16th to 20th, 2018. Three days of field visits were conducted accompanied by the Vice Director and other staff of the Ha Long Bay Management Board (HLBMB). Briefings and de-briefings were held with the Chair of the Ha Long City Peoples' Committee and with officials of several national and provincial administrative and regulatory agencies.

The mission found that overall, the property is well managed with effective conservation of biodiversity. Recommendations of previous missions in relation to aquaculture and fishing and to the number of people living within the property have been addressed. The mission believes however, that the World Heritage values of the property are impacted by the visual and physical effects of waste and concerns lie in the visitor numbers to the property, and the projected growth that could have significant additional impacts. Currently the perceptions of the property by foreign visitors are negatively affecting the image of the property and there is a likelihood that without interventions, foreign visitors will reduce in numbers as word of mouth spreads about the visual and environmental impact of waste, and the large numbers of visitors affecting the overall experience.

Recommendations are provided to the Ha Long Bay Management Board to address these issues.

Waste management and environmental protection

- It is emphasized that the daily huge quantities of solid waste disposed of at the present dumpsite of Ha Long City should be reduced. Separation of waste components at the source and selling recyclable materials to private companies is a realistic option. At the same time, it has to be investigated whether the current dumpsite area is suitable and has sufficient capacity for further disposal or should be closed as soon as possible. In the latter situation another area for future managed disposal of waste has to be identified and developed.
- The free-of-charge provision of low-quality plastic bags in shops, supermarkets and market places should be terminated immediately by law and the customers should use their own shopping bags in order to drastically reduce plastics pollution of the environment.
- Regarding other waste fractions, the following is noted:
 - Medical waste: all hospitals have facilities to collect waste, treat sewage and incineration to burn waste. The proportion of collected and treated waste is 100%.
 - Construction waste: the City People's Committee planned 2 dumping areas to dump construction waste in Ha Khanh and Ha Phong ward with the total area of 24ha.
 - Hazardous waste and industrial waste generated in Ha Long City: from the generated waste by small-scale business only 45% is currently collected and treated. With respect to the waste generated in the industrial zones of the City this rate is about 70%.
- When developing new areas in and near Ha Long Bay area, the implementing party should realize an environmental improvement contribution as well, in order to reduce the possible negative impact by the new development on the local environment.
- Cruise boats with sufficient space have to be installed with a wastewater treatment unit, which can treat grey and black wastewaters.
- It is recommended to install black water treatment machines at the visitor sites, rather than transporting the black water to an offshore facility, to avoid the risks related to transportation

of tanks filled with black water. One opportunity is the Japanese technology, called Jokaso, with a capacity of treating 8 to 10 m³/day. The machine has five functional chambers (sedimentation, anaerobic, aeration, storage and disinfection) in a tank. Various types and sizes are available from small residential units to large commercial units. This machine costs around \$10,000 to \$15,000, depending on its capacity. It can be provided by a Vietnamese company or is imported from Japan and is already used in some places in Viet Nam.

- If it is considered necessary by all relevant authorities that an economic development in the buffer zone needs to be realized, this development has to include the required sanitary facilities in order to avoid increased environmental pollution of the surrounding areas.
- Despite the fact that coal industry related cleaning facilities have been installed there is still an amount of untreated wastewater from the coal industry being discharged directly into rivers. More coal mining wastewater treatment stations should be installed to such level that all wastewater from the coal industry is treated prior to discharging into the rivers.

Visitor management

- Introduce a rigorous booking system that provides for:
 - Scheduling of cruise vessels to be pre-approved to use specific routes and visit specific sites, managed through an operational contract issued by the HLBMB
 - Scheduled cruise dates to be booked online at least one year in advance
 - Establish a working group of the relevant agencies to undertake a process of determining the maximum numbers of vessels for each of the routes (with appropriate expert advice as necessary).
- Investigate the options for an internationally recognized eco-certification program (GreenGlobe and EarthCheck are two excellent examples) and develop a policy and operational approach to introducing voluntary eco-certification with incentives for cruise operators that become eco-certified.
- Once planning has been undertaken for the three new routes that have been identified by the HLBMB and their carrying capacity, offer these three newly approved excursion routes as incentives to the highest standard cruise operators once they have achieved their eco-certification. Before this time, these routes should not be opened up.
- Investigate and promote a new route that offers the potential for a short (2 hour) boat tour ideally within the buffer zone that allows visitors to see the land-/seascape without venturing too far within the property.
- Develop site management plans that identify maximum visitor capacity for each site on the new routes.
- Continue to strengthen visitor education and raise greater awareness of the values of the property through:
 - ongoing training of guides and ensuring every vessel has a guide on board
 - issuing the video that has recently been produced by HLBMB (currently awaiting approval) to all vessels and require them to play it on exit from the harbor.
- Continue to implement the existing sustainable tourism actions including:
 - the cap on vessel numbers

- the requirements for wooden boats to be replaced with steel vessels that are more environmentally sound and have better capacity for management and containment of waste
- the planned requirement that every vessel must carry a trained tour guide.
- In determining pricing policies, there are two key principles that need to be adopted:
 - Manage the destination for the experience, not for the amount of money that can be generated
 - It is better to have fewer people paying higher fees than many people paying lower fees.
- Develop a Visitor Management Plan as an annex to the Master Plan that addresses the implementation of the above recommendations and provides clarity about capacity of excursion routes, visitor sites and other visitor management strategies.

Waste management and environmental protection requirements

- The safe disposal of both solid and liquid waste remains an issue, mainly due to the non-availability of adequate and environmentally safe collection and disposal systems. Until these required systems can be implemented, ensure that no further developments in the Ha Long Bay area are undertaken.
- Ensure the safe collection and adequately managed disposal of solid waste in the area arising from existing developments, including by:
 - Identifying and developing a safe and properly managed landfill site, as no such site is currently available to dispose of the daily generated quantity of solid waste (around 10 tons from the tourist boats and around 20 tons on-land);
 - Taking measures to reduce the daily quantity of solid waste to be disposed of, including by making it compulsory for waste generating sources to separate solid waste components into unpolluted waste fractions, which would greatly enhance further processing and recycling. The separation of solid waste and the further treatment of unpolluted waste fractions could create jobs for local people, and become a source of revenue for private sector parties;
 - Collecting hazardous waste components separately from all other waste components, including waste oil and medical waste, due to their high negative impact on the local environment.
- Significantly reduce the quantity of generated plastics through preventive measures, including the urgent termination of free-of-charge provision of low-quality plastic bags in shops, supermarkets and market places as a low-cost solution to reducing the environmental contamination caused by plastics.
- Install additional coal mining wastewater treatment stations to ensure that all wastewater from the coal industry is treated prior to discharging into the rivers.
- Oblige cruise operators to install wastewater separation and treatment facilities on operating cruise boats, including at least all overnight boats, through inclusion of this obligation in the annual contracts. Smaller boats or boats used only for day cruises should have installed a wastewater storage facility for temporary storage of the generated wastewater, the discharge of which could be arranged by private sector parties, in agreement with, and under the supervision of HLBMB.

- Collaborate with Ha Long Municipal authorities regarding collection, separation of waste fractions, possibilities of recycling and composting of organic waste as well as safe disposal (landfilling) of remaining solid waste components.

Integrity of the buffer zone

- The State Party seek to consider options in relation to the boundary of the buffer zone as part of the submission to extend the property to include Cat Ba and to exclude the current development zone.
- Consistent with any amendment to the boundary, should it proceed, ensure that strict planning conditions and enforcement are in place to safeguard against further inappropriate development in the revised buffer zone.
- Adopt a destination management approach to tourism where visitors are encouraged to do many activities across the destination rather than only within the World Heritage property.

Authority of the HLBMB

- Strengthen the legal powers and delegation of the HLBMB to provide additional powers:
 - The power to determine the excursion routes, sites and moorings that tour operators may use;
 - The power to use the operational license to prescribe the routes, sites and moorings individual operators may use;
 - The power to determine and implement pricing systems that ensure optimal revenue from tour boats including differential pricing for different routes and products;
 - The power to establish a one ticket system for tourists where one fee is collected and disbursed to the relevant agencies as necessary.

1 BACKGROUND TO THE MISSION

1.1 Inscription history

Ha Long Bay was inscribed on the World Heritage List in 1994 under criterion (vii), and re-inscribed in 2000 to include criterion (viii). It was the first of two natural properties established in Viet Nam among what is now a total of seven World Heritage properties.

Appendix 3 provides a summary of concerns expressed since that time and responses from the Viet Nam management agencies.

1.2 Terms of reference for the Mission

The State Party of Viet Nam requested IUCN to provide advice on improving the management of the Ha Long Bay World Heritage property, with particular attention to waste management and visitor management.

The four areas in the Terms of Reference are:

1. Assess the overall state of conservation of the property, with particular attention to waste management and propose a draft strategy to deal with these pollution sources that is affordable and practical.
2. Review visitor management plans including the use of revenue targets to set number; review visitation numbers and trends and recommend measures
3. Assess the cumulative impacts of infrastructure development in the buffer zone of the property and provide advice on how to mitigate any negative impacts on the property.
4. Advise the proper authority of Ha Long Bay Management Board and areas for improvement of the site management plan and the Regulations on protection of Ha Long Bay for adequate execution of management of the property.

Two experts were identified by IUCN and selected with the State Party of Viet Nam to undertake the mission from July 15th to 20th, 2018. These were Janet Mackay from Australia, a visitor management and tourism expert and Wim Vrins, a waste management expert from the Netherlands.

Further details on the mission are contained in Appendix 2 (Itinerary).

2 Overall state of conservation of the property

The mission found that overall the property is well managed with effective conservation of biodiversity. The recommendations of previous missions in relation to aquaculture and fishing as well as numbers of people living within the property have been addressed, and the Ha Long Bay Management Board (HLBMB) is committed in ensuring the OUV is protected.

Whilst there has been considerable growth in visitor numbers and vessels in recent years, and large numbers of visitors to scenic sites and attractions within the property, the sites themselves are well managed and generally have infrastructure that is appropriate to the setting and scale of visitation. The HLBMB has taken steps to better manage the level and diversity of tourism activity and has expressed a strong commitment to minimizing the impact of visitors on World Heritage values. Considerable further commentary is provided in relation to waste management under section 3 *Waste management and strategy to deal with pollution sources* and under section 4 *Tourism development and Visitor Management*.

Ensuring visitors are aware of the World Heritage values of the property and what this means in a global environment is necessary and could be improved to assist in ensuring long term conservation. Interpretation of the property and the sites within it is provided through static panels at a range of sites and is also delivered by guides on site that have been trained under several training programs. It was noted that the HLBMB is in the process of requiring every vessel licensed to operate within the property to have a minimum of one trained tour guide on board. This is to be commended. A video has also been produced by HLBMB and is awaiting approval for release from the PPC that will provide information about the property and its significant values and ways visitors may assist in protecting the values. Once approved this will be made available to vessels operating within the property. This is an excellent initiative and we believe it should be provided free of charge to every vessel and operators are encouraged to play the video on cruises exiting the port.

It is understood that the Cua Van Cultural Centre was planned as a significant facility that could underpin the protection of the property by providing interpretation of values, with operations delivered as per the centre's management plan. Whilst the centre does have interpretation and it is understood there are guides available here, on two visits to the center (one as part of a commercial tour immediately prior to the mission, and the second on a site visit during the mission), the significant numbers of visitors congregating at the center, and the lack of basic English skills of staff mitigated against visitors gaining any appreciation of the purpose of the center or the messages it is intended to convey.

The primary threats to the property identified by the mission were:

- The **range of urban and tourism developments within the buffer zone** collectively has significant impact on visual amenity as well as landscape and access/viewsapes to the property (discussed in detail under section 5)
- The **significant growth in visitor numbers** and the impact this has at individual sites (e.g. caves and overnight moorings) as well as through waste, oils and litter emanating from tourist vessels. These issues are having a negative impact on the environmental and aesthetic values of the property as well as on its reputation, particularly amongst foreign visitors. The issue of visitor management is discussed in detail in section 4. The issue of waste is addressed in section 3.
- As a **multiple use property** with many vessels active (e.g. fishing, trade) as well as tourist vessels, impacts are also being caused by other activities. The relocation of fishing families to the mainland and the installation of waste removal within the floating villages has had considerable benefits, but there is still much activity within the Cua Van and Vung Vieng

floating villages that are visited by tourists and it is common to find a build-up of litter around the villages. This contributes to the visitors' perceptions of poor management.

In managing the collection and disposal of solid waste and treatment and discharge of liquid waste, practical supervision and monitoring schemes are essential. In particular, the recommended installation of separation and treatment facilities for black and grey wastewater has to be supervised and monitored accurately by trained and dedicated HLBMB staff members. Required transport and monitoring facilities have to be determined and subsequently provided by the HLBMB to their employees who will carry out those activities in the field. Reporting should be done in accordance with internationally accepted standards by using unambiguous and objective indicators and should be done electronically to avoid misunderstandings and misinterpretations.

The mission concluded that whilst the geological values of the property are currently not threatened, with continued growth in visitor numbers, and if effective management of visitors and waste is not strengthened, the impacts on aesthetic values will cause a significant threat to the OUV of the property.

3 WASTE MANAGEMENT AND STRATEGY TO DEAL WITH POLLUTION SOURCES

3.1 Waste management

3.1.1 Background Information

Due to the strategic location of Ha Long Bay, economic developments in the tourism sector, construction of major transport and port systems, fishing activities and extraction of mineral deposits, building materials, etc. have taken and are taking place.

Economic development activities, however, do not only result in positive outcomes, but can have a negative impact on the prevailing environmental conditions. The activities with the largest potential for environmental pollution and degradation of Ha Long Bay are coal mining, sea ports, site reclamation and leveling for urban development, fisheries, aquaculture and tourism activities.

Some environmental studies show that the water quality in Ha Long Bay has declined with signs of local pollution. Activity of coal mining in the Ha Long and Cam Pha regions with waste dumpsites, which are not properly managed, along with reclamation for expansion of beaches have led to an increase in sedimentation and pollution due to disturbance to the Ha Long Bay bottom sediments, and are the main factors leading to the degradation of sensitive ecosystems such as mangroves, coral, etc..¹

3.1.2 Overall Waste Management

Current Solid Waste Management

Ha Long Bay area

Ha Long Bay Management Board (HLBMB) is officially in charge of providing solid waste management (SWM) services (collection operations and discharge/disposal) in Ha Long Bay, both at sea area and on-shore. Ha Long City is responsible for the SWM services delivery within its municipal area and in the small towns where the municipal authorities are in charge.

The HLBMB is, based on signed contracts, managing and supervising the collection and discharge/ disposal of the solid waste generated in its area carried out by private parties. The HLBMB has arranged for collectors of solid waste generated on tourist boats, fishing boats, tourist locations in Ha Long Bay and other sources of waste generation. Furthermore, people are involved in cleaning Ha Long Bay's waters by picking floating waste out of the water.



Aquaculture on the Bay is not allowed anymore and, apart from Cua Van and Vung Vieng that were retained for tourism/education, the floating farms were removed in 2013 under the supervision of HLBMB.

The collected solid waste is disposed of in containers at several fixed spots in the area, that are emptied by a collection truck owned by a private party. The latter disposes the waste at the dumpsite of Ha Long City Municipality. The solid waste collection services performances are monitored by Ha Long Bay Management Board on a regular basis through verification of the collected, discharged and dumped quantities of solid waste. The collection services are contracted to private sector parties, which are providing the solid waste collection (SWC) services at a satisfactory level. If the capacity of

¹ ENVIRONMENT PLANNING IN HALONG BAY TO 2020 VISION TO 2030: Final Report, July 2014

the current municipal disposal site becomes insufficient, a new area has to be identified for establishing a new landfill site for both Ha Long Bay and Ha Long City areas.

Unfortunately, no separation of solid waste is taking place in the Ha Long Bay and Ha Long City areas, apart from some minor separation of cans by collectors. This implies that all solid waste generated and collected in Ha Long Bay area is disposed at Quang Ninh Center for Solid Waste Treatment in Hoanh Bo District.

Ha Long City

Ha Long City covers an area of 271.95 km² and has a population of around 252,000 people. It is the cultural, economic and political center of Quang Ninh Province. The city is divided into two parts: East Ha Long and West Ha Long. The eastern part is an industrial zone where most of the province's official buildings are also concentrated. The western part, also called Bai Chay, is the lively tourism zone.

The Ha Long City's People's Committee is, among others, responsible for providing SWM services to the citizens. These services are provided through collectors with waste storage bicycles, who dispose the collected waste in communal waste containers. The domestic and business wastes are collected and temporarily stored in the containers distributed in the City. These communal waste storage containers are emptied by a waste compactor truck which subsequently delivers the compacted waste to the municipal dumpsite.

There is an incinerator at the dumpsite area Hanh Bo Center to burn the delivered solid waste, but it appears that this is currently not operational.

Through compaction of all collected solid waste the option of separating solid waste fractions at the dumpsite becomes more and more complicated. Recycling and re-use companies as well as agricultural companies wish to receive the basic waste fractions unpolluted from other fractions and therefore solid waste fractions should be separated at the source rather than at the end of the SWC process. Early separation of solid waste in combination with recycling and processing will result in smaller quantities of waste to be disposed of.

The smaller and larger waste storage containers consist of metal sheets and are neither painted nor galvanized. The latter is required to avoid corrosion of the metal sheets, in particular in the corners. This implies that, under the prevailing humid weather conditions, the metal containers are quickly subject to corrosion. Synthetic or plastic containers are more appropriate to be used in the local context.

It is emphasized that the daily huge quantities of solid waste disposed of at the present dumpsite of Ha Long City should be reduced. Separation of waste fractions at the source and selling recyclable materials to private companies is a realistic option. At the same time, it has to be investigated whether the current dumpsite area is suitable and has sufficient capacity for further disposal or should be closed as soon as possible. In the latter situation another area for future managed disposal of waste has to be identified and developed.

Plastics

The pollution of the environment caused by plastics is high. Clean-up programs are costly and time-consuming. It would be better to identify and implement preventive solutions rather than curative ones. Customers of shops, supermarkets and market places receive low-quality plastic bags in which the procured items are taken away. These plastics are of the lowest quality and can't be recycled anymore, so the bags are used for packing waste prior to discharge in the containers or are just thrown away. To prevent this plastic pollution, the free-of-charge provision of these bags in shops, supermarkets and market places should be stopped immediately, and the customers should use their own shopping bags. To initiate and realize this action, it should be included in the national environmental legislation and mass-media campaigns and dissemination programs should be organized as this plastic pollution is not a pollution problem in Ha Long Bay area only but also

elsewhere in Viet Nam and the world. The use of plastics on the cruise boats should be reduced as well to avoid further pollution of the Bay waters with plastics.

The free-of-charge provision of low-quality plastic bags in shops, supermarkets and market places should be terminated as soon as possible and the customers should use their own shopping bags in order to drastically reduce plastics pollution of the environment.

Regarding other waste fractions, the following is noted²:

- Medical waste: all hospitals have facilities to collect waste, treat sewage and incineration to burn waste. The proportion of collected and treated waste is 100%.
- Construction waste: the City People's Committee planned 2 dumping areas to dump construction waste in Ha Khanh and Ha Phong ward with the total area of 24 ha.
- Hazardous waste and industrial waste: from small-scale business only 45% of the generated waste is collected and treated. For industrial zones, this rate is about 70%.

Current Liquid Waste Management

The management of liquid waste in Ha Long Bay area is also one of the responsibilities of the HLBMB, including the transport to and discharge at one of the treatment plants in Ha Long City while the Municipality of Ha Long City is in charge of cleaning liquid waste generated in the city area, through transport and discharge into one of the 5 treatment plants available.

The industrial zones Cai Lam and Viet Hung as well as the Ha Khanh industrial cluster have facilities to treat waste water adequately. The expanded Cai Lan industrial zone does not have a central treatment station, but each factory inside this zone has a separate treatment facility.

One of the major sources of water pollution in Ha Long Bay are the coal mines. To clean the wastewater generated at the coal mines 35 treatment stations have been installed with a total capacity of around 10,000 m³/h. With respect to quarry projects, only channels were created with lakes to store water instead of building a treatment facility.

Furthermore, much liquid waste pollution is created by tourist activities. Despite the fact that waste from boats is managed by Provincial Department of Transportation, HLBMB has undertaken already several actions to get more control and grip on the pollution sources, such as proper registration of cruising boats. Contracts with cruise companies for legal cruise operations are to be prepared and signed, detailed listing of cruising requirements are required prior to each cruise tour, field inspections to verify illegal discharging of wastewater into the Bay waters are undertaken and on-shore arrangements/facilities have been made to facilitate discharging of waste and wastewater from the cruise boats and to secure safe transport of the waste items to their final destination.

With respect to treatment of wastewater HLBMB has no facilities yet, but the Municipality of Ha Long City is using 5 treatment plants, which all are located within the City boundaries, which are operating 24 hours per day and which in total have a capacity of 895 m³/h. These 5 treatment plants do operate satisfactorily. For example, the treatment plant Bai Chai, with a capacity of 236.5 m³/h is a bio-treatment plant, dividing the wastewater in small quantities which are treated within 4 hours. The plant has 8 pumping stations and services around 20,000 citizens of Ha Long City. It has started operations in 2007 and will already be closed within 2 years.



²MANAGEMENT PLAN FOR HA LONG BAY – WORLD HERITAGE IN THE PERIOD 2017 – 2021

It was reported that the construction of 2 new treatment plants within the municipal area and with each a capacity of 346m³/h has been approved by the required authorities and that the works will start soon.

Apparently, the construction of another treatment plant with a capacity of 33,000 m³/day-night has been approved by the central government of Viet Nam. This treatment plant will be part of an overall development program near Tuan Chau Marina. The treatment plant is possibly built by Au Lac Joint Stock Company (who also invested in Tuan Chau Marina). The construction was approved in 2015. The treatment plant will serve a new residential area – Ngoc Chau Residential Area. Land clearance for the entire project has started already. The total capacity of the Au Lac invested treatment plant is 1,393m³/h while the actual demand is about 1,084m³/h. When this project is completed, the Ha Long CPC will manage it. The specifications of the new treatment plants are available with the local authorities.

When developing new areas, the implementing party should realize the necessary sanitary facilities as well, in order to minimize negative impact by the new development on the local environment.

3.1.3 Waste generated on Tourist Boats

General

There are 492 tourist boats operating in Ha Long Bay of which 32 are day-boats and 169 are overnight boats. The average number of passengers per cruise is 19 for the day-boats and 18 for the overnight boats. On average the number of cruises made per day by day-boats is 220 and 90 by overnight boats. Furthermore, in calculating daily quantities of waste the following data (based on figures shown in the Final Report – Ha Long Bay Waste Collection and Treatment: USAID and IUCN) have been used;

Solid waste generation is 1 kg per day for passengers on a day-boat (per cruise: 1 kg)

Solid waste generation is 2 kg per day for passengers on an overnight boat (per cruise: 3 kg)

Wastewater³ (grey) per passenger on day boat: 5 liters

Wastewater (black) per passenger on day boat: 15 liters

Wastewater (grey) per passenger on overnight boat: 50 liters

Wastewater (black) per passenger on overnight boat: 200 liters

Solid and liquid waste daily generation on cruise boats

A cruise boat with 19 passengers, which is making a day-cruise generates the following quantity/volume of wastes:

Solid waste: 19 x 1 kg = 19 kg

Wastewater (grey): 19 x 5 = 95 liters

Wastewater (black): 19 x 15 = 285 liters

A cruise boat with 18 passengers, which is making an overnight cruise, generates the following quantity/volumes of wastes:

Solid waste: 18 x 3 kg = 54 kg

Wastewater (grey): 18 x 50 = 900 liters

Wastewater (black): 18 x 200 = 3,600 liters

The above implies that the average daily solid waste quantity and liquid wastes volumes are generated by the tourist cruise boats in Ha Long Bay:

The day-cruise boats:

Solid waste: 19 x 220 = 4,180 kg

Wastewater (grey): 95 x 220 = 20,900 liters

³ Wastewater is any water that has been affected by human use. Wastewater is used water from any combination of domestic, industrial, commercial or agricultural activities, surface runoff or stormwater, and any sewer inflow or sewer infiltration. Sources of grey wastewater are kitchen, bathroom or laundry. Sources of black wastewater are urine, feces and toilet paper

Wastewater (black): $285 \times 220 = 62,700$ liters
And the overnight cruise boats:
Solid waste: $54 \times 90 = 4,860$ kg
Wastewater (grey): $900 \times 90 = 81,000$ liters
Wastewater (black): $3,600 \times 90 = 324,000$ liters

Total daily generation of wastes generated on the operational cruise boats is as follows;

Solid waste: 9 tons

Wastewater (grey): 101.9 m^3

Wastewater (black): 386.7 m^3

Bilge waters is another main source of pollution, but it is complicated to assess daily quantities as the waste volume highly depends on the status of the boat engine: only boat inspections could lead to accurate figures as this depends on engine maintenance (leaks), boat hull material and maintenance. It has to be noted that according to data from the Viet Nam register, day boats are equipped with bilge tanks of 50 liters.

On various cruise boats the water and oil are separated and delivered to the shore area or to a private contractor for collection and transport.



Many cruise boats separate and treat grey and black wastewater



As shown above, wastewater from the tourist boats is one of the pollution sources to Ha Long Bay waters. The daily pollution loads from these tourist boats are 101.9 m^3 of grey and 386.7 m^3 of black wastewater.

An effective way to drastically reduce the amounts of grey and black wastewaters is installation of a wastewater treatment unit on each operational cruise boat with sufficient capacity, which can treat black water. An example is the technology designed by Ship Production and Research Institute. This treatment facility can treat both grey water and black water. There are 2 kinds of treatment facilities; i.e. one with a capacity of 640 liters of grey water/day and of 360 liters of black water/day and another

one with a capacity up to 4,600 liters of grey water/day) and 2,200 liters of black water/day. The former facility costs around USD 3,000 and the latter one USD 6,000. After treatment the treated wastewater can be discharged from the boat into the Bay waters. HLBMB should require at least all overnight cruise boats to install this system or alike, whereas boats used only for day cruises should install wastewater collection and storage facilities for later on-shore disposal. This obligation should be included in the annual contract for legal operations in Ha Long Bay between the cruise companies and HLBMB.

With respect to discharge and subsequent transportation of untreated wastewater HLBMB should engage private companies that provide trucks to pump wastewater from the cruise boats' tanks into the trucks' tanks and take care of further transport to a treatment plant.

Cruise boats with sufficient space have to be installed with a wastewater treatment unit, which can treat grey and black wastewaters.

3.1.4 Wastes generated on Visitor Sites

There are many islands in Ha Long Bay that are of much interest to visitors, due to for example, climbing, caves, trekking and beaches. Furthermore, various visitor sites have been included in different overnight cruise tours as well as in day-tours.

Tourists are visiting these sites and stay there from one to several hours, depending on the diversity and area of the site. At most of the visitor sites a restaurant and/or bar is available as well as sanitary facilities.

Consequently, solid waste and liquid wastes (grey and black) are generated at these visitor sites. The generated solid waste is being collected and subsequently stored in bins/bags and/or containers.

Collection of the solid and liquid wastes and transport is done by private collectors with boats and storage/pumping facilities. Those take the medium-sized waste containers to the shore for discharging into trucks.



This process has some risks of pollution, in particular during loading and unloading. Similar to the treatment of grey and black wastewaters from cruise boats, it is advised to arrange for treatment of grey and black wastewaters generated at the visitor sites. The proposed treatment machines could be connected to the locally available generators that provide the energy required for their treatment operations.

It is recommended to install black water treatment machines at the visitor sites, rather than transporting the black water to an offshore facility, to avoid the risks related to transportation of tanks filled with black water. One opportunity is the Japanese technology, called Jokaso, with a capacity of treating 8 to 10 m³/day. The machine has five functional chambers (sedimentation, anaerobic, aeration, storage and disinfection) in a tank. Various types and sizes are available from small residential units to large commercial units. Such a machine costs around \$10,000 to \$15,000, depending on its capacity. It can be provided by a Vietnamese company or imported from Japan and is already used in some places in Viet Nam.

3.1.5 Buffer Zone

The main purpose of the buffer zone around Ha Long Bay World Heritage Site is to provide protection to its environment. Therefore, such area should remain unpolluted and should not be subject to industrial and commercial developments.

The area between Ha Long and Cam Pha is rich in coal. Large open cut mines produce coal which is transported by boat. Because there is no large industrial harbor in the area, the large tonnage boats cannot approach the coast due to the low depth of the coastal water and the presence of sandbanks. For this reason, small boats make the shuttle through the protected area between the small coal wharves and the large boats anchored to the larger wharf offshore. Because the production capacity exceeds the transportation capacity, large quantities of coal are piled up on the beach forming dykes of coal along the coast, creating a black landscape with a negative visual impact, as well as salts and large quantities of sulphur which pollute the environment and have a negative impact on both fauna and flora. In this way the buffer zone area is creating more waste management problems to Ha Long Bay rather than enhancing the conservation of its natural values, including its biodiversity.

If considered necessary, economic developments in the buffer zone that are initiated, have to be inclusive the required sanitary facilities in order to avoid increased environmental pollution of the surrounding areas.

New Cruise Wharf

The construction of Hon Gai I International Wharf, with a total port area of 115.2 ha, is expected to be completed by the end of 2018. Ha Long Bay is being visited by several luxury cruises, but it had no appropriate wharf to locate those cruise ships. The 524m-long wharf is located near Sun World Ha Long Park. It can receive two 225,000-ton ships and another smaller ships at the same time. Many shipping companies have left Ha Long Bay and are currently making use of harbors with adequate infrastructural facilities like in Hue or Danang.

With the construction of the new wharf Ha Long Bay authorities trust that the infrastructure has been improved to such level that also cruise ships with larger capacities can be received. The wharf is presently being constructed but no further facilities regarding discharge of solid and liquid wastes are planned for. It is assumed that the larger cruise ships are equipped with sanitary treatment facilities and that bilge, grey and black wastewater are treated onboard and that no discharge of liquid waste will be required in the future.

Broader Region

The grey water from the rural households is not treated before discharge. In regard to the treatment of grey water, some communities in rural areas have simple wastewater collecting systems which consist of sewer pipes and oxidation ponds as wastewater treatment stations, and the wastewater including the grey water is treated in the community wastewater treatment plant.

3.2 Management of environment and waste

Once developing an area located in a buffer zone one has to take into account the management of several elements, among which, infrastructure, waste management, public services delivery and community facilities. Furthermore, a new development in the buffer zone of Ha Long Bay, has to be realized in such way that the burden of additional services delivery, resulting from this new development, on Ha Long Bay Management is as minor as possible.

From the Waste Management's point of view, the sanitary services delivery schemes should be designed at such a level that the needs of the people who are staying in the development area can be fulfilled. For example, a development area for 25,000 people in the buffer zone around Ha Long Bay has been approved by the authorities and requires the following clean-up facilities:

Solid waste Collection:

- As the daily generation of solid waste in Ha Long Bay and immediate surroundings will be around 25 tons, communal containers are to be located for temporary storage of solid waste and emptied daily or every other day by a waste collection truck.

Solid waste Disposal:

- A suitable area has to be identified and developed for establishing a landfill site, site office and separation and recycling units.

To avoid any further burden on the Ha Long Bay authorities the solid waste collection, recycling and or re-use (if any) and disposal system must have adequate capacity to deal with the daily generated solid waste quantity for several years.

Liquid waste storage:

- Sanitary network systems have to be designed and constructed for grey wastewater and for black wastewater through which these wastewaters are collected. The daily generated volume of grey water would be around 125 m³ and of black water 375 m³, so the sanitary network systems should have at least such capacities.

Treatment and discharge

- A treatment facility for grey and black water has to be installed for cleaning the wastewaters after which these are to be discharged in the open water. Cost of such facility is between 10,000 and 15,000 USD.

4 TOURISM DEVELOPMENT AND VISITOR MANAGEMENT PLAN

4.1 Introduction

Prior to the mission, the visitor management expert booked an overnight tour to experience Ha Long Bay from a visitor perspective and observe vessel and visitor behavior. The opportunity was also taken to talk with other visitors. In addition, the mission itself visited many sites on several of the approved routes, accompanied by staff of the HLBMB. The mission also visited Tuan Chau port from which the majority of vessels operate, and the new Hon Gai International Wharf that is expected to be completed by the end of 2018.

4.2 Current situation

Ha Long Bay WHS is a major national, regional and international tourist destination. The number of visitors visiting the property has increased steadily over the past 15 years from 1.2 million in 2002 to approximately 4 million in 2017, about 67% of whom are foreigners. Visitor access is normally by boat and visits focus on a limited number of popular sites. The primary activities are cave visits, sightseeing, swimming, walking, kayaking and appreciation of nature and culture.

There are currently around 488 vessels operating in Ha Long Bay consisting of 169 overnight vessels and 323 day vessels. The 169 overnight boats use 3 approved routes/itineraries and moor at 5 approved overnight docks with 30-60 vessels approved for each dock.

An estimated 100 - 150 foreign cruise ships are reported to moor offshore each year and tender their guests into Ha Long City from where they do activities including Ha Long Bay day cruises. The nature of the mooring precludes the largest foreign vessels (up to 2000 capacity). A new wharf is currently being built, Hon Gai 1 International Port, that will provide capacity for up to 2 large cruise ships (500-4000 pax) plus smaller vessels to be moored at a time and has the potential to add considerable visitor numbers.

In 2017, the number of tourists coming to Quang Ninh province was 10 million people, an increase of 16% over the same period in 2016. 4.2 million of the visitors in 2017 were international which was an increase of 22% on the previous year.⁴

Table 1 shows the visitor numbers to Ha Long Bay from 2013 to 2017 and the breakdown of domestic/foreign and overnight/day visitors. This suggests that well over 50% of foreign visitors coming to the province visit Ha Long Bay whilst a much smaller percentage of domestic visitors do.

Table 1. Visitor numbers 2013 - 2017

Year	Ha Long Bay Total visitors	By nationalities		By services	
		Vietnamese	Foreigners	Day trip	Overnight trip
2013	2,545,187	893,162	1,652,025	1,987,183	558,004
2014	2,400,215	874,473	1,525,742	1,811,865	588,350
2015	2,575,527	834,197	1,741,330	1,979,855	595,672
2016	3,144,320	1,000,832	2,143,488	2,425,675	718,645
2017	3,924,043	1,214,390	2,709,653	3,043,035	881,008
<i>Total</i>	<u>14,589,292</u>	<u>4,817,054</u>	<u>9,772,238</u>	<u>11,247,613</u>	<u>3,341,679</u>

⁴ Management Plan statistic document

Table 2 provides details of the approved excursion routes⁵.

The Ports Department determines which vessels can use each route and approves the itinerary and the mooring locations for overnight vessels as well as the order of visiting sites.

Routes 6, 7 and 8 that have been researched and planned by HLBMB are not yet publicised or operational.

Table 2. Existing excursion routes

Route 1. Scenic Park	
Tuan Chau Port	Thien Cung Grotto - Cho Da Islet - Dinh Huong Islet - Dau Go Cave - Ba Hang Cave - Trong Mai (Ga Choi) islet
Route 2. Park of Caves	
Tuan Chau Port	Ti Top Island - Soi Sim Island - Sung Sot Cave - Me cung grotto, Bo Nau Cave - Luon Cave - Trong Cave - Trinh Nu cave - Hang Ho Dong Tien - Tung Sau area
Route 3. Marine Culture Park	
Tuan Chau Port	Cua Van Cultural Floating Center - Tien Ong Cave - Ba Ham Lake - Ba Men temple - Ang Du
Route 4. Marine Recreational Park	
Tuan Chau Port	Co Cave - Thay Cave – Cong Do area -Cap La Cave - Vung Vieng Fishing village – Cong do ecological zone – Hon Xep Park
Route 5. Cat Bay Island (Hai Phong City)	
Tuan Chau Port	Thien Cung Grotto – Dau Go Cave – Cho Da Islet – Ba Hang Cave – Dinh Huong Islet – Trong Mai Islet (GA Choi) – Gia Luan Wharf (Cat Ba Island – Hai Phong City) Tuan Chau Tourist Port

4.3 Management of tourism

Tourism is regulated under a National Tourism Law 2017 and a series of national and provincial regulations, decrees and policies including:

- Law of Tourism
- Decree No.149 on administrative sanctions of tourism.
- Decree No.117 on administrative sanctions of environment protection.
- Regulations of Ha Long Bay management.
- Decision No. 2526 on issuing regulations of beach management in Quang Ninh.
- Decision No. 4088/2015/QD-UBND dated 21/12/2015 by Quang Ninh Provincial People’s Committee on temporary rules on cruise boat management in Ha Long Bay and Bai Tu Long Bay

These regulations and the system of signs combined with regulations at ports and attractions on Ha Long Bay are the legal basis for regulating tourism operations and visitors and for administrative agencies to deal with violations.⁶

⁵ Decision No. 1139/QD-UBND dated 27th April 2015 of Quang Ninh Provincial People’s Committee

⁶ Source: adapted from the State of Conservation Report by the State Party to the 37th session of the World Heritage Committee and discussions with the Department

The state management of Ha Long Bay is the direct responsibility of the Ha Long City People’s Committee and the Chairman of the City is also the Director of the Management Board. The primary day to day responsibility for management lies with the Ha Long Bay Management Board (HLBMB). The HLBMB is directly responsible for the management, conservation and promotion of Ha Long Bay’s values (including Bai Tu Long bay).

HLBMB is administered by the Quang Ninh Provincial People’s Committee and professionally directed by Ministry of Culture, Sport and Tourism and Viet Nam National Commission for UNESCO. The HLBMB consists of 10 divisions with 380 staff.

The main tasks of the HLBMB are as follows⁷:

- Policy development for conservation and protection of values of the property (to be approved by Quang Ninh PPC)
- Scientific research and monitoring
- Communication and promotion of the World Heritage values to visitors and the community
- Managing and monitoring socio-economic activities in Ha Long Bay
- Coordinating compliance and disaster management with other agencies
- Revenue collection from and management of sales of excursion tickets
- Visitor and site management including operations contracts for tour operators
- Collection and treatment of waste and protecting the environment of Ha Long Bay
- International relationships in terms of heritage management capacity and foreign investment for the management and conservation of Ha Long Bay property
- Staff, finances and resource management and capacity building

Other key agencies involved in management and operations in Ha Long Bay and a brief summary of their responsibilities are shown in Table 3.

Table 3. Agency responsibilities in relation to Ha Long Bay

People’s Committees of Ha Long City, Cam Pha City and Van Don District	Implementing the administrative management of socio-economic activities and residential properties within its management area; Coordinating with Ha Long Bay Management in communicating and educating the public to protect the property and its environment. Funding major development or infrastructure that falls outside the HLBMB’s financial limits
Department of Tourism	Planning and regulation of tourism activities on the Bay including standard tourism services and excursion routes; Capacity building and training for tourist guides and services staff; monitoring the quality of tourist services; marketing and promotion for the province
Department of Culture and Sports and Ministry of Culture, Sports and Tourism	Public administration on heritage management, conservation and restoration; organize studies, collection, exhibition and communication about tangible and intangible values of the heritage; issue license to organize community cultural services in Ha Long Bay; monitoring, inspection and treating violations related to relevant issues

⁷ Source: adapted from State of Conservation Report by the State Party to the 37th session of the World Heritage Committee and discussions with the Department

Ports Authority ⁸	Administration of wharves and anchorage areas in Ha Long Bay; licensing and regulation of tourist boats in Ha Long Bay; day to day management of tourist vessels, their routes and sites; ensuring compliance with license regulations.
Department of Environment and Natural Resources	Management of environmental protection of Ha Long Bay; environmental monitoring including climate change responses; Inspecting, monitoring and compliance environmental regulations.
Department of Agriculture and Rural Development	Master Plan for aquaculture in Ha Long Bay; management of fishing; education of the fishing community to protect fishing resources and not use destructive fishing methods.
Department of Construction	Management of construction to ensure the values of the property are protected; protection of historic heritage; coordinating of building regulations and standards for tourism infrastructure construction projects in coastal areas of Ha Long Bay.
Department of Police	Coordination, and monitoring violations to, socio-security and ensuring the safety of inland waterway traffic regulation. Processing the immigration procedures for international visitors on the Bay
Viet Nam National Commission for UNESCO	International relations regarding management of World natural and cultural Heritage sites in Viet Nam.

The management of tourism is addressed in the Management Board's master plan and the Ha Long Bay Management Plan. It is also addressed in the Master Plan for Quang Ninh Tourism Development to 2020.

The Ha Long Bay management plan sets high targets for visitor numbers, revenue, infrastructure improvements, environmental protection and tour boat operations.

4.4 Destination management

The overall destination within which Ha Long Bay is located has also undergone significant change and growth consistent with the Master Plan for Quang Ninh Tourism Development to 2020, Vision to 2030.

The Master Plan recognizes the importance of the property and maintaining its integrity:

The UNESCO recognition provides a global public awareness and interest in the destination.

Environmental degradation needs to be quickly addressed, with overcrowding and pollution from hospitality and industrial activities reduced or the province may risk losing its UNESCO status.

Another issue that needs addressing as one of the challenges to Quang Ninh tourism is the balance between development and conservation, especially the core tourism resource of Quang Ninh is the World Heritage Site. This challenge is becoming more and more serious

⁸ Since Jan 2017, Ha Long City People's Committee has been responsible for managing tour boats (through the Ports Authority) instead of Quang Ninh Department of Transportation

when there is still limited capacity in Quang Ninh province in maintaining the balance between conservation and development⁹

The plan provides strategies including incentives for promoting foreign investment into new developments, with significant investment already occurring into:

- Sunworld theme park that attracted over 1 million visitors in its first year of operations and is particularly attractive to domestic and Chinese markets
- Accommodation in the order of 10,000 beds likely over the next 10 years

And planned for a walking street, golf course, conference centre and laser light performance all of which will both add to the attraction of Ha Long, but also add to the diversity of experiences visitors can do (hence Ha Long Bay is not the only attraction or reason for visiting the province).

These additional attractions and experiences distract from the value of Ha Long Bay as a World Heritage property. They may also attract a different market of tourists that may otherwise not have come to Ha Long Bay, may not appreciate its values, and add to the high visitor numbers and associated management challenges.

4.5 Future growth

Tourism is projected to grow significantly in Ha Long City in coming years. This will be influenced by a) a proposed airport that will enable visitors to fly direct to the province; b) highway improvements including a new bridge that will cut the travel time from Hanoi by 1.5 hours; c) better access and wharf access for large foreign cruise vessels; and d) significant residential and holiday accommodation development in the current buffer zone that will attract high numbers of people on longer stay holidays.

The management plan aims for growth in tourism to Ha Long Bay of more than 4 million in 2018 (including 2.5 million internationals) and 5.4 million tourists in 2021 including 3.8 million internationals.

All this growth has the potential to impact on the property if effective management is not in place.

4.6 Recent improvements

A World Heritage Centre and IUCN mission to the property in December 2006 noted that unprecedented increases in visitor numbers, from 850,000 in 2000 to 1.4 million in 2005, had resulted in high tourism pressure¹⁰.

In 2009 the World Heritage Committee again expressed its serious concern that the property remained under pressure from tourism development, and in 2011 it encouraged the State Party to consider options for better management of visitors, including dispersal of visitors in order to reduce pressure, and improved signage at key visitor locations.¹¹

The Ha Long Bay Management Board, together with other agencies instigated many improvements in response to concerns regarding tourism growth and impacts. Many of the recommendations contained within the Ha Long Bay Tourism Management Plan 2013-2015 were undertaken. Improvements have included:

- Focusing visitors and vessels on five primary routes
- Site infrastructure and facilities at visitor sites

⁹ Master Plan for Quang Ninh Tourism Development to 2020, Vision to 2030

¹⁰ WHC-07/31.COM7B

¹¹ WHC -13/37.COM7B

- Information and interpretation signage
- Improved environmental management and requirements for vessel waste management
- Capping vessel numbers at 500
- Introducing a limit of 15 years on the working life of wooden vessels and requiring them to be replaced by more environmentally sound and safe steel vessels
- Introducing and regulating vessel standards (with 34 vessels stopped from operating in 2017)
- GPS monitoring of all vessels for where they go and meeting standards
- Identification of three new itineraries/routes to Bai Tu Long that have not yet been opened for vessels.

4.7 Visitor management – the issues

Ha Long Bay is a World Heritage Site and with this recognition there are considerable expectations in relation to environmental management and conservation of the values for which it was inscribed on the World Heritage List. Visitors, particularly international visitors have high expectations of any World Heritage Site. At the present time, there is considerable concern expressed through social media and word of mouth about the experience visitors are getting at Ha Long Bay. The main issues raised are the numbers of visitors and vessels and the waste management situation.

The overall visitor experience is, for some visitors, predominantly internationals, impacted by rubbish, perceptions of poor water quality, numbers of vessels, numbers of people at sites, crowding on departure and return. On busy days, there are up to 10,000 visitors a day on boats in the Bay.

Management of waste disposal is an issue as is rubbish throughout the bay. Oil in the water is also common. Whilst these issues are not solely related to tourism activity but also other uses of the Bay (fishing, trade etc), tourists are those that notice and express concern. These issues are dealt with in section 3 of this report.

Because of the approach to the allocation of travel routes to vessels, there is limited differentiation between the products that a visitor can choose except for the 'standard' of the vessel and the hospitality offered. Every vessel at peak times is currently on itineraries that involve high numbers of vessels at visitor sites and at moorings. Whilst partially managed by the Ports Department scheduling the order vessels visit sites, there can still be large numbers and queuing at sites.

The planned new development of hotels and the new port at Bai Chay will significantly increase visitor numbers. The management plan has also targeted increased visitor numbers to the property. Without effective management, this will increase the impacts on the visitor experience and compound the issues that visitors are currently expressing concerns about.

The mission considers that generating increased revenue from visitors is better done through differential pricing and experiences that attract a greater revenue return per visitor than through significantly growing the visitor numbers.

4.8 Visitor management objectives recommended by the mission

1. To implement a sustainable approach to visitor management that will ensure positive impacts from projected growth in tourism
2. To improve the visitor experience thorough effective environmental management
3. To ensure the visitor experience is of a high standard that will encourage positive messages about the management of Ha Long Bay
4. To improve the social and economic returns from tourism to the province and its communities

4.9 Proposed approach to visitor management

The mission recommends that the HLBMB adopt the following nine strategies to meet the visitor management objectives:

1. Introduce a rigorous booking system
 - for tour boats using Ha Long Bay that permits specific numbers of vessels on specific routes and at identified moorings and allows for managing numbers of tourists visiting sites
2. Eco-certification
 - a. Introduce an internationally recognized eco-certification system that encourages operators to achieve high environmental and visitor experience standards
3. Incentives for eco-certified tour operators
 - Offer the three new approved excursion routes as incentives to the highest standard operators once they have achieved their eco-certification. Encourage operators on the new routes to offer high quality and differentiated tour products through enabling exclusive opportunities, such as individual mooring or sole access to a beach, at a higher price to visitors and higher return to Government
4. New short (2 hour) route based from the Bai Chay Dock
 - Investigate a new route for a 2 hour boat tour based from the Bai Chay port aimed at the large volume of domestic and other Asian foreign tourists that will be staying in this growth areas that offers the opportunity for a short 2 hour boat tour ideally within the buffer zone that allows visitors to see the landscape without venturing far within the property
5. Visitor sites management plan
 - Undertake site management planning for the major visitor sites starting with those on the new routes, to determine the upper limits on visitor numbers to ensure environmental and social sustainability
6. Interpretation
 - Increase the efforts in interpretation to ensure all visitors are well aware of the World Heritage area and the values of the property and how to protect them
7. Continue to implement the existing sustainable tourism actions including:
 - a) the cap on vessels
 - b) the requirements for wooden boats to be replaced with steel
 - c) the planned requirement that every tour boat must carry a trained tour guide
 - d) Implement waste management recommendations (see section 3).

8. Pricing and revenue generation

In determining pricing policies, there are two key principles that need to be adopted:

- Manage the destination for the experience, not for the amount of money that can be generated
- It is better to have fewer people paying higher fees than many people paying lower fees.

9. Visitor management strategies

- Visitor Management Plan be developed and form an annex to the Master Plan that addresses the implementation of the above recommendations and provides clarity about capacity of excursion routes, visitor sites and other visitor management strategies.

- The current vessel number (max 500) could be sustained if effective environmental and social management is put in place, as well as a booking system and the operating license permits to determine where vessels may travel, visit and dock.

4.9.1 Introduce a rigorous booking system

Tour boats using Ha Long Bay currently have an operational contract with the Management Board. Their activities (where they go, when, etc.) are however regulated by the Ports Authority under the Department of Transportation. It is recommended that the route a vessel is approved to use and the sites which it may visit should be permitted through the operational contract issued by the HLBMB. The regulation would continue to be the role of the Ports Authority. The HLBMB would introduce an online booking system that enables vessels to book dates for itineraries a minimum of one year in advance consistent with their approved operational contract.

For each of the eight excursion routes (including the three new proposed ones), a maximum number of vessels will need to be determined. This requires assessment of the distance of the route, the number of sites and attractions that exist or are available for visiting and the number of current or potential moorings. To achieve this, a working group of the relevant agencies should be established to undertake a process of determining the maximum numbers for each of the routes (with appropriate expert advice as necessary).

New excursion routes offer an opportunity to improve the environmental performance of all operators. If those operators that achieve the highest standards are rewarded by access to the new routes, others will see this as an incentive to improve their performance.

4.9.2 Eco-certification

Eco-certification of tourism operators is a way of ensuring:

- a consistent standard of high quality tourism operations in protected areas
- high quality interpretation and visitor experience
- sustainable practices by tourism operators in protected areas resulting in better environmental management, protection and stewardship
- a sustainable and competitive tourism industry. It offers a range of benefits for the operator including:
 - customer assurance of the quality of the experience
 - business improvement - quality management involves documentation of operational and management procedures, improved business knowledge, competence, sustainability, management and predictability
 - competitive advantage through increased market share and profitability as many international visitors will seek out an eco-certified operator over others.

There are many certification and accreditation systems in use in Asia and in Viet Nam, and some have been tried and failed. Often this has been because the operators could not achieve the high standards required. With a commitment to Government investment in overcoming the challenges of waste management in Ha Long Bay, operators should be able to work through the process and requirements to achieve eco-certification. It is recommended that the HLBMB investigate the options for an internationally recognized eco-certification program (GreenGlobe and EarthCheck are two excellent examples) and develop a policy and operational approach to introducing voluntary eco-certification with incentives for those that become eco-certified. Blue Sail is currently being pursued with funding from JICA and the value of this program to international visitors needs to be evaluated.

4.9.3 Incentives for eco-certified tour operators

Offering incentives for eco-certified tour operators will provide the opportunity for these operators to be able to differentiate their product or experiences from other companies and gain market share. Many foreign visitors are prepared to pay a higher price for their experience. These visitors generally may be:

- More discerning about the overall experience
- Caring about the environment
- Prepared to pay for more exclusive experiences
- Willing to learn and understand
- Willing to engage with a place, not just look
- Interested in community
- Willing to 'give back' to environment/community etc.

The guests will be prepared to pay a higher price, and the tour companies can be expected to pay more for their license than those tours that do not have a competitive advantage.

Once planning has been undertaken for the three new routes and their carrying capacity determined, the HLBMB should offer the three new approved excursion routes as incentives to the highest standard operators once they have achieved their eco-certification. Before this time, these routes should not be opened up.

Operators on the new routes should be encouraged to offer high quality and differentiated tour products through enabling exclusive opportunities (such as individual moorings or sole access to a beach) at a higher price to visitors and higher return to Government. Examples of high standard operator incentives might be:

- Small number of vessels/overnight dock
- Exclusive beach access
- Beach dinner sites (not in caves)
- Small group sea kayaking
- SCUBA site permits

These initiatives would be permitted through the Operating Contract and regulated by the Ports Authority. By dispersing some of the overnight vessels to new routes, and ensuring the highest standards, while at the same time maintaining the cap on vessel numbers, there will be fewer boats operating in existing routes, and an incentive for improved environmental performance and visitor management.

In working with operators to identify new product opportunities all new products need to be consistent with World Heritage values and biodiversity protection.

Incentives (e.g. lower fee) could also be offered for operators changing their hours of departure from the 11-1pm peak period for overnight boats. If boats chose to change their itineraries to, for example, a 09:00 or 16:00 o'clock departure, not only would they be less affected by the crowding of boats leaving and arriving at the port, they would also encourage visitors to stay longer in Ha Long as they would need to stay before or after their trip.

4.9.4 New short (2 hour) route based from the Bai Chay Dock

With significant growth in tourism forecast and major development occurring around Bai Chay Dock and Hon Gai Port, there is a need for tours to be available from that location. The nature of development is aimed at encouraging visitors to come for a few days and undertake a range of

activities. This market, likely to be domestic and other Asian foreign tourists, will be less focused on Ha Long Bay as their primary experience, and looking for a range of activities. For many, a short 2-two-hour boat trip is likely to satisfy their interest in the property and its values. It is recommended that a new route be investigated and promoted that offers the potential for a short (2 hour) boat tour ideally within the buffer zone that allows visitors to see the landscape without venturing far within the property.

4.9.5 Visitor Sites Management

The management of visitor sites within Ha Long Bay is being done well and the infrastructure is well planned and constructed with biodiversity being considered in the process. Despite this, on popular routes and at peak times there are large numbers of visitors at some sites with queuing and large groups. It is important that tour guides ensure that where infrastructure exists visitors need to adhere to using it.

In the development of new routes, each visitor site needs to be carefully planned for a maximum number of visitors taking account of:

- sensitivity of the site
- access and circulation
- waiting areas
- maximum group sizes for effective tour guiding/interpretation

Appendix 5 provides detail on contemporary approaches to determining the capacity of sites.

Some sites may not need any infrastructure. For example, tour operators may provide the tables and chairs as well as interpretation for their guests.

4.9.6 Interpretation

Whilst there is good signage and interpretation at many of the sites, and tour guides have been trained to tell the stories, it is critical that all visitors understand they are in a World Heritage Site, what the Outstanding Universal Value is for which WHS, and how it should be protected. This can be achieved through:

- Ongoing training of guides and ensuring every vessel has a guide on board
- Issuing the video that has recently been produced by HLBMA and is awaiting approval to all vessels and requiring them to play it on exit from the harbor. There may need to be support provided to small companies that may not have video facilities on board to ensure it can be shown.

4.9.7 Sustainable tourism

Continue to implement the existing sustainable tourism actions including:

- the cap of 500 vessels
- the requirements for wooden boats to be replaced with steel
- the planned requirement that every tour boat must carry a trained tour guide
- Implement waste management recommendations (see section 3).

4.9.8 Pricing and revenue generation

In determining pricing policies, there are two key principles that need to be adopted:

- Manage the destination for the experience, not for the amount of money that can be generated

- It is better to have fewer people paying higher fees than many people paying lower fees.

Vessels being licensed on the new routes should be charged a significantly higher fee than the present routes because there will be fewer boats on the new routes (as per the recommended strategy). In addition to the fee for use of the route, additional fees can be charged for any exclusive opportunities permitted through the operational contract. As an example, if an operator is the only boat allowed to use a particular beach, they could be charged an additional 5-10% of the route fee for this privilege.

These fees would be handed onto the guests as part of their product price. Two years advance notice or lead time will be required for tour operators to apply for these privileged licenses.

The current approach is to charge a lower fee for the less used routes to encourage more dispersal. However, with the introduction of new routes some dispersal will occur and reduce the load on existing routes. Incentives (e.g. lower fee) could also be offered for operators changing their hours of departure (e.g. 09:00 or 16:00) and hence requiring an overnight stay in Ha Long city that delivers economic benefits to the region. Less used routes should attract higher fees because the experience is better.

4.9.9 Visitor management strategies

It is recommended that a Visitor Management Plan be developed and form an annex to the Master Plan that addresses the implementation of the recommendations and provides clarity about capacity of excursion routes, visitor sites and other visitor management strategies.

The various agencies will need to work closely together to design and implement the solutions identified in this report.

The HLBMB will need to be assigned more authority to assume responsibility for the allocation of the routes through operational contracts with the Port Authority to enforce.

The Operational contracts will need to set out the approved routes and overnight moorings, fees, number and timing of visits and environmental obligations.

5 IMPACTS OF INFRASTRUCTURE DEVELOPMENT IN THE BUFFER ZONE

The mission toured the urban areas adjacent to the property and viewed and discussed the development occurring and planned in the Bai Chay area of Ha Long City. Previous reports have addressed the impacts of industrial development and roads.

Significant development is occurring and planned within the buffer zone including residential and holiday accommodation, tourism attractions and support services. Whilst it is understood that these developments are all subject to Environmental Impact Assessments and monitoring for compliance, this scale of development within the buffer zone is inappropriate and severely impacts landscape, visual amenity and access.

The impacts of waste and environmental management associated with the property are addressed in a separate section (section 3).

In terms of the buffer zone, the cumulative impacts are as follows:

- Industrial and commercial developments have a negative impact on the local environment, which in buffer zones is often already very vulnerable, such as the mangrove area near Ha Long Bay
- More people and activities result in an increase in pollution, not only in the buffer zone but also in the surrounding areas

The extensive urban style development (anecdotally approved for an estimated 25,000 people in the buffer zone) being constructed is directly adjacent to the coastline and obstructs the view into the property as well as the visual amenity from the property.

The development will result in significant growth in tourism and visitor numbers that will impact the number of visitors to Ha Long Bay and compound the issues addressed in the earlier section under visitor management.

Discussions with the HLBMB suggest that the buffer zone was originally based on an inland road corridor, and development was then approved between that and the coastline. Discussions have occurred about a new road being developed on the coastal side of the new development zone and seeking a revision of the buffer zone boundary to that new alignment.

Extensive development such as is occurring and planned is inappropriate to any buffer zone. If a boundary realignment is to occur, it will need to be accompanied by strict planning regulations and enforcement in relation to appropriate development within the new zone.

It is understood that the dossier for submission to UNESCO for the extension of the existing Ha Long Bay WHS to incorporate Cat Ba Island and National Park is expected to be submitted by September 2019. This would be an opportunity to seek a realignment of the buffer zone.

Mitigation

It is too late to stop the extent of existing development that has occurred in the buffer zone. This severely impacts the integrity of the property. Whilst less than ideal, some stakeholder raised the possibility of re-aligning the buffer zone boundary and establishing strict conditions for development within any new buffer zone boundary.

The significant growth in tourists that can be expected has the potential to have additional impacts on the property if effective visitor management is not put in place. The measures proposed under Visitor Management in this report will assist. However, given the nature of development and the likely markets that will reside in new areas, a strategic approach to tourism destination management should be encouraged. By offering a range of attractions within the destination that meet the needs of new markets, Ha Long Bay property will not be the sole focus of all visitors' travel plans. For many, a short

boat trip to see the scenery nearby may be all they need amongst the multiple activities they do on their holiday.

It is recommended that:

1. The State Party seek to consider options in relation to the realignment of the boundary of the buffer zone as part of the submission to extend the property to include Cat Ba.
2. Consistent with any amendment to the boundary delineation of the buffer zone, should it proceed, ensure that strict planning conditions and enforcement are in place to ensure no further inappropriate development in the revised buffer zone.
3. Adopt a destination management approach to tourism where visitors are encouraged to do many activities across the destination.

6 AUTHORITY OF THE HA LONG BAY MANAGEMENT BOARD

Previous missions (2013, IUCN) have identified that the HLBMB lacks sufficient authority to carry out its day to day functions, and that there is considerable reliance on other agencies for important aspects of the role. This mission concurs with this advice.

The mission concluded that in terms of tourism and visitor management, there appear to be adequate staff and they are well trained, committed and capable of performing their roles. They are however, hampered by the lack of authority. The main areas that still require resolution in terms of the areas discussed on this mission lie in:

- The power to determine the excursions routes, sites and moorings that tour operators may use
- The power to use the operational license to permit the routes sites and moorings individual operators may use
- Determining and implementing pricing systems and ensuring optimal revenue from tour boats including differential pricing for different routes and products
- Establishing a one ticket system for tourists where one fee is collected and disbursed as necessary.

In terms of waste management and environmental protection, the following areas need to be addressed regarding the HLBMB authority:

- Contract signing with all cruise boats operational in Ha Long Bay, which has to include the latter's obligations regarding preventing and treating pollution of the local environment, amongst which installation of separation and treatment facilities for wastewater
- Setting up and operating an adequate monitoring and evaluation scheme, based on unambiguous and objective indicators, in order to enhance compliance with the contract articles by the cruise boat companies
- Entering into contracts with private sector parties with respect to solid waste collection and disposal and of collection of wastewaters
- Identifying a suitable site for future landfilling of solid waste and once identified supervising the development of the site
- Procuring required installations, equipment and supporting needs for professional landfilling operations at the site
- In collaboration with the relevant ministries the HLBMB should assist in banning free-of-charge provision of plastic bags
- Make efforts to avoid further economic and environmental pollution developments in the area
- HLBMB should have the official authority (enforcement article in the legislation on environment) to penalize parties that violate the environmental regulations as set in the law. If this authority is not provided to HLBMB, violations will continue.

In terms of policy and practice, the HLBMB master plan provides the details for the operations of the Management Board. This master plan, when it is updated, could better address the management of visitors. As previously mentioned in section 4, this could take the form of a Visitor Management Plan as an annex to the master plan. This would be the guidance and policy context for negotiations with operators and for operational contracts.

The current HLBMB master plan covers the period 2017 – 2021 and consists of many general statements. Its main purpose is to protect the OUVs of Ha Long Bay. In developing Ha Long Bay and Bai Tu Long Bay into the key areas for environmental protection and sustainable tourism development the master plan refers to the implementation of objectives, targets and solutions stipulated in the

Environmental Planning for Ha Long from 2020 to 2030. Transportation issues are dealt with in a separate transportation development plan.

Regarding domestic waste management and treatment, the master plan indicates that the proportion of collected and treated waste is more than 97% (about 316.5 tons/day) and that now all wastes is delivered to Hoanh Bo Center for incineration. However, it was reported to the mission that this incinerator is currently not operational at all. In which way the domestic waste is currently disposed of is not clear.

Furthermore, the master plan indicates that the amount of collected and treated sewage accounts for 35%. 65% is not treated at all and is, consequently, discharged into the open waters and seriously pollutes the local environment. Regarding remaining waste fractions, the master plan proposes efficient and effective interventions.

7 CONCLUSION AND RECOMMENDATIONS

The mission found that overall, the property is well managed with effective conservation of biodiversity. The recommendations of previous missions in relation to aquaculture and fishing and to the number of people living within the property have been addressed, and the Ha Long Bay Management Board expressed commitment to ensuring that its World Heritage and other significant values are protected.

The mission believes however, that the World Heritage values of the property are impacted by the visual and physical effects of waste. Concerns lie in the visitor numbers to the property and the projected growth that could have significant additional impacts. Currently the perceptions of the property by foreign visitors are negatively affecting the image of the property and there is a likelihood that without interventions, foreign visitors will reduce in numbers as word of mouth spreads about the visual and environmental impact of waste, and the large numbers of visitors impacting on the overall experience.

Likewise, the major development in the buffer zone whilst not, as we understand it, directly impacting on the values of the property, are seen as inappropriate development in the buffer zone of a WHS property.

7.1 Summary of visitor management recommendations

To ensure that the integrity of and the OUV of the property are protected, it is imperative that strategies and plans are put in place that result in sustainable, responsible, safe and rewarding tourism experiences and opportunities, that are also beneficial environmentally and socially.

- It is recommended that a rigorous booking system be introduced that provides for:
 - vessels to be pre-approved to use specific routes and visit specific sites through an operational contract issued by the HLBMB
 - cruise dates to be booked online at least one year in advance
 - setup of a working group comprising of the relevant agencies, who will undertake a process of determining the maximum numbers for each of the routes (with appropriate expert advice as necessary).
- It is recommended that the HLBMB investigate the options for an internationally recognized eco-certification program (GreenGlobe and EarthCheck are two excellent examples) and develop a policy and operational approach to introducing voluntary eco-certification with incentives for those that become eco-certified.
- It is recommended that, once planning has been undertaken for the three new routes and their carrying capacity, the HLBMB offer the three new approved excursion routes as incentives to the highest standard operators once they have achieved their eco-certification. Before this time, these routes should not be opened up.
- It is recommended that a new route be investigated and promoted that offers the potential for a short (2 hour) boat tour ideally within the buffer zone and allows visitors to see the landscape without venturing far within the property.
- It is recommended that site management plans be developed that identify capacity for each site on the new routes.
- It is recommended that the HLBMB continue to strengthen awareness of the values of the world heritage property through:
 - Ongoing training of guides and ensuring every vessel has a guide on board

- Issuing the video that has recently been produced and is awaiting approval to all vessels and requiring them to play it on exit from the harbour.
- It is recommended that the HLBMB continue to implement the existing sustainable tourism actions including:
 - the cap on vessels
 - the requirements for wooden boats to be replaced with steel
 - the planned requirement that every tour boat must carry a trained tour guide
- It is recommended to determine pricing policies.
- It is recommended that a Visitor Management Plan be developed and form an annex to the Master Plan that addresses the implementation of the above recommendations and provides clarity about capacity of excursion routes, visitor sites and other visitor management strategies.

7.2 Buffer zone recommendations

- The State Party seek to consider options in relation to the realignment of the boundary of the buffer zone as part of the submission to extend the property to include Cat Ba.
- Consistent with any amendment to the boundary delineation of the buffer zone, should it proceed, ensure that strict planning conditions and enforcement are in place to ensure no further inappropriate development in the revised buffer zone.
- Adopt a destination management approach to tourism where visitors are encouraged to do many activities across the destination.

Appendix 1. Terms of reference

The IUCN expert shall carry out an Advisory Mission to Ha Long Bay from July 15-20, 2018

1. Assess the overall state of conservation of the property, with particular attention to waste management and draft strategy to deal with these pollution sources that is affordable and practical.
2. Review visitor management plans including the use of revenue targets to set number; review visitation numbers and trends and recommend measures.
3. Assess the cumulative impacts of infrastructure development in the buffer zone of the property and provide advice on how to mitigate any negative impacts on the property.
4. Advise the proper authority of Ha Long Bay Management Board and areas for improvement of the site management plan and the Regulations on protection of Ha Long Bay for adequate execution of management of the property.

Appendix 2. Itinerary and meetings

Day	Meeting	Meeting Attendees
Monday 16 th July 09:00 – 12:00	Meeting with IUCN & UNESCO Hanoi, Ha Long Bay Management Board, USaid Venue: IUCN Office, 1st Floor, 2A Building, Van Phuc Diplomatic Compound, 298 Kim Ma, Ba Dinh, Hanoi	Michael Croft Country Representative UNESCO Hanoi Office Tran Lan Huong Science and Education Program Manager UNESCO Hanoi Office Jake Brunner Head of Indo-Burma IUCN Viet Nam Nguyen Thi Bich Hien Ha Long - Cat Ba Alliance Project Manager IUCN Viet Nam Le Thi Thanh Thuy Program Officer IUCN Viet Nam Scott Baros Officer USAID Viet Nam Nguyen Viet Cuong Head of Heritage Unit Ministry of Culture, Sports and Tourism Cung Duc Han Officer Viet Nam National Commission for UNESCO Pham Dinh Huynh Deputy Head Ha Long Bay Management Board Do Tien Thanh Deputy Head of Professions & Research Unit Ha Long Bay Management Board Nguyen Lan Huong Office manager Ha Long Bay Management Board Ms. Trang Officer Ha Long Bay Management Board Janet Mackay Visitor Management Expert TRC Tourism Australia Jo Davis Officer TRC Tourism Australia Wim Vriens Waste Management Expert Netherlands
17:30 - 19:00	Briefing meeting with Mr Pham Hong Ha Venue: Ha Long Bay Management board, 166 Le Thanh Tong, Ha Long City	Pham Hong Ha Head Ha Long Bay Management Board Pham Dinh Huynh Deputy Head Ha Long Bay Management Board Nguyen Huyen Anh Deputy Head Ha Long Bay Management Board Tran Van Hien Head of Professions & Research Unit Ha Long Bay Management Board Do Thanh Hai Deputy Head of Landscape Renovation technology Unit Ha Long Bay Management Board Vu Huy Luyen Director of Rescue Center Ha Long Bay Management Board Le Van Cat Deputy Head of Landscape Renovation technology Unit Ha Long Bay Management Board Do Phuc Van Director of Conservation Center I Ha Long Bay Management Board Hoang Van Hanh Deputy Director of Conservation Center II Ha Long Bay Management Board Le Trong Viet Leader of patrolling and investigation team Ha Long Bay Management Board Le Lam Tuan Director of Conservation Center III Ha Long Bay Management Board Vu Duc Minh Deputy Head of Tour Guide and Tour Operation Unit Ha Long Bay Management Board Do Tien Thanh Deputy Head of Professions & Research Unit Ha Long Bay Management Board Nguyen Lan Huong Office manager Ha Long Bay Management Board

Day	Meeting	Meeting Attendees
		Nguyen Thi Huyen Officer of International Relation Ha Long Bay Management Board Cung Duc Han Officer Viet Nam National Commission for UNESCO Ms. Trang Officer Ha Long Bay Management Board Le Thi Thanh Thuy Program Officer IUCN Viet Nam Janet Mackay Visitor Management Expert TRC Tourism Australia Jo Davis Officer TRC Tourism Australia Wim Vrins Waste management Expert Netherlands
Tuesday, 17 th July 10:30 - 12:00	Site visit Tuan Chau Port facility Tuan Chau Port	Pham Dinh Huynh Deputy Head Ha Long Bay Management Board Do Tien Thanh Deputy Head of Professions & Research Unit Ha Long Bay Management Board Cung Duc Han Officer Viet Nam National Commission for UNESCO Ms. Trang Officer Ha Long Bay Management Board Le Thi Thanh Thuy Program Officer IUCN Viet Nam Janet Mackay Tourism Expert TRC Tourism Australia Jo Davis Officer TRC Tourism Australia Wim Vrins Waste management Expert Netherlands Meetings with: Mr. Tung Director, of Tung Van Boat Company Mr. Tuyen Division of Public Benefit Management, Ha Long City People's Committee
13:30 - 16:30	Site Visit by boat to the most popular tourism routes/ sites and pollution threats	Pham Dinh Huynh Deputy Head Ha Long Bay Management Board Do Tien Thanh Deputy Head of Professions & Research Unit Ha Long Bay Management Board Cung Duc Han Officer Viet Nam National Commission for UNESCO Ms. Trang Officer Ha Long Bay Management Board Le Thi Thanh Thuy Program Officer IUCN Viet Nam Janet Mackay Tourism Expert TRC Tourism Australia Jo Davis Officer TRC Tourism Australia Wim Vrins Waste management Expert Netherlands
Wednesday 18 th July 8:00 - 13:00	Visit the property: visit new and undeveloped routes and sites	Pham Dinh Huynh Deputy Head Ha Long Bay Management Board Do Tien Thanh Deputy Head of Professions & Research Unit Ha Long Bay Management Board Cung Duc Han Officer Viet Nam National Commission for UNESCO Ms. Trang Officer Ha Long Bay Management Board Le Thi Thanh Thuy Program Officer IUCN Viet Nam Janet Mackay Tourism Expert TRC Tourism Australia

Day	Meeting	Meeting Attendees	
		Jo Davis	Officer TRC Tourism Australia
14:00 - 17:00	Site Visit development in buffer zone and New Hon Gai International Tourist Port	Pham Dinh Huynh Do Tien Thanh Cung Duc Han Ms. Trang Le Thi Thanh Thuy Janet Mackay Jo Davis Wim Vrins Han Gai	Deputy Head Ha Long Bay Management Board Deputy Head of Professions & Research Unit Ha Long Bay Management Board Officer Viet Nam National Commission for UNESCO Officer Ha Long Bay Management Board Program Officer IUCN Viet Nam Tourism Expert TRC Tourism Australia Officer TRC Tourism Australia Waste management Expert Netherlands Site Manager, Sun Group
Thursday, 19 th July 9:00 – 17:00	Meeting with Ha Long Bay Management Board to collect for more information – Quang Ninh Inland Waterway Port Authority Quang Ninh tourism Department of Tourism Ha Long Bay Management board, 166 Le Thanh Tong, Hanoi	Do Tien Thanh Cung Duc Han Ms. Trang Le Thi Thanh Thuy Janet Mackay Jo Davis Wim Vrins Meetings with: Mr. Le Duy Phuoc Ms. Do Thuy Hang Mr. Khuynh	Deputy Head of Professions & Research Unit Ha Long Bay Management Board Officer Viet Nam National Commission for UNESCO Officer Ha Long Bay Management Board Program Officer IUCN Viet Nam Tourism Expert TRC Tourism Australia Officer TRC Tourism Australia Waste management Expert Netherlands Vice Director of Quang Ninh Inland Waterway Port Authority Vice Head of Planning and Finance Division, Ha Long Bay Management Board Head of Tourism Resources Division, Quang Ninh Department of Tourism

Day	Meeting	Meeting Attendees	
Friday 20 th July 10:30 - 11:30	Presentation by Experts Quang Ninh PPC, Department of Tourism, Department of Natural Resources and Environment, Department of Transportation, Department of Agriculture and Rural Development, Ha Long City People's Committee) Venue Ha Long Bay Management board, 166 Le Thanh Tong, Hanoi	Pham Hong Ha Pham Dinh Huynh Nguyen Huyen Anh Tran Van Hien Do Thanh Hai Vu Huy Luyen Le Van Cat Do Phuc Van Hoang Van Hanh Le Trong Viet Le Lam Tuan Vu Duc Minh Do Tien Thanh Nguyen Lan Huong Nguyen Thi Huyen Cung Duc Han Ms. Trang Le Thi Thanh Thuy Janet Mackay Jo Davis Wim Vrins	Head Ha Long Bay Management Board Deputy Head Ha Long Bay Management Board Deputy Head Ha Long Bay Management Board Head of Professions & Research Unit Ha Long Bay Management Board Deputy Head of Landscape Renovation technology Unit Ha Long Bay Management Board Director of Rescue Center Ha Long Bay Management Board Deputy Head of Landscape Renovation technology Unit Ha Long Bay Management Board Director of Conservation Center I Ha Long Bay Management Board Deputy Director of Conservation Center II Ha Long Bay Management Board Leader of patrolling and investigation team Ha Long Bay Management Board Director of Conservation Center III Ha Long Bay Management Board Deputy Head of Tour Guide and Tour Operation Unit Ha Long Bay Management Board Deputy Head of Professions & Research Unit Ha Long Bay Management Board Office manager Ha Long Bay Management Board Officer of International Relation Ha Long Bay Management Board Officer Viet Nam National Commission for UNESCO Officer Ha Long Bay Management Board Program Officer IUCN Viet Nam Tourism Expert TRC Tourism Australia Officer TRC Tourism Australia Waste management Expert Netherlands
14:00 – 16:30	Meeting with Ha Long Bay Management Board – Debrief from meeting with Mr Ha Ha Long Bay Management board, 166 Le Thanh Tong, Hanoi	Pham Dinh Huynh Do Tien Thanh Cung Duc Han Ms. Trang Nguyen Thi Bich Hien Le Thi Thanh Thuy Janet Mackay Jo Davis Wim Vrins	Deputy Head Ha Long Bay Management Board Deputy Head of Professions & Research Unit Ha Long Bay Management Board Officer Viet Nam National Commission for UNESCO Officer Ha Long Bay Management Board Ha Long - Cat Ba Alliance Project Manager IUCN Viet Nam Program Officer IUCN Viet Nam Tourism Expert TRC Tourism Australia Officer TRC Tourism Australia Waste management Expert Netherlands

Appendix 3. Provides a summary of concerns expressed by UNESCO and responses from the Viet Nam management agencies

(from the 2013 IUCN reactive monitoring mission report)

Established in 1995 by the Quang Ninh Province People's Committee (PPC) and managed under the direction of the Ministry of Culture, Sports and Tourism and the Viet Nam National Commission for UNESCO, the Ha Long Bay Management Board (HLBMB) has very wide-ranging roles and responsibilities for protecting and promoting the natural values of the World Heritage Site (WHS). With a complement of almost 400 staff and an annual budget of approximately 2.15 million USD, the HLBMB appears to be well resourced to conduct its business. However, in enforcing regulations and conducting other management functions within the property the HLBMB is hindered by its dependence on other government agencies. The HLBMB should be rendered a greater degree of autonomy and independence thereby increasing its authority, influence and decision-making ability in enforcing regulations and conducting management operations.¹²

Ha Long Bay was inscribed on the World Heritage List in 1994 under criterion vii, and in 2000 under criterion viii. It was the first of two natural properties established among the total of seven World Heritage properties in Viet Nam.

Concerns about the state of conservation of the Ha Long Bay WHS were first raised by the World Heritage Committee in 2001 and 2002. At its 27th session in 2003, the World Heritage Committee considered a report from a UNESCO delegation visit to the property that noted improvements in the quality of coastal waters affected by land developments, and improved visitor management at cave sites, but expressed concern about the effects on the integrity of the property from increased numbers of residents in the floating fishing villages, attracted by tourism opportunities, and the growth of aquaculture activity. The World Heritage Committee requested IUCN and the World Heritage Centre to co-operate with the State Party in implementing an environmental management plan and requested the State Party to report on the potential impacts of increased numbers of residents living on boats in the property and the growth of prawn culture.

At its 28th session in 2004 the World Heritage Committee, having considered letters from the State Party dating from April 2003 and March 2004, commended the efforts to monitor immigration by fishermen into the property and setting standards for compliance by aquaculture practitioners along with other regulatory instruments. The World Heritage Committee urged the adoption of an integrated management approach giving special attention to the many threats from an increasing population in the floating community, massive tourism infrastructure development, urbanization, industrialization and aquaculture activities.

At its 30th session in 2006 the World Heritage Committee considered the response from the State Party to concerns raised by IUCN in September 2005 about a number of serious threats to the property, including water pollution from coal mining wastes, live coral extraction and sale, destruction of mangrove forest, degradation of water from construction of tourist facilities and other impacts of inappropriate tourism infrastructure developments. It was noted that the reported threats occur only in the buffer zone or outside the property and are being addressed by local authorities. Accordingly, the World Heritage Committee urged the HLBMB to continue to relieve or resolve economic development pressures on the property and its buffer zone, and encouraged the State Party to request international assistance from the World Heritage Fund (WHF) to strengthen the management capacity of the HLBMB.

At its 31st session in 2007 the World Heritage Committee considered a report from the State Party dated November 2006, on the co-operative policies and plans of the relevant local authorities to control, limit and monitor impacts of development projects in coastal areas and protect mangrove forests, and on plans to control and limit the number of floating villages and regulate aquaculture activities. The World Heritage Committee further noted that the World Heritage Centre and IUCN visited the property in December 2006 and their report also remarked on the high tourism pressure from an unprecedented increase in visitor numbers to 1.4 million

¹² IUCN 2013 Monitoring mission to Ha Long Bay

in 2005. At its 33rd session in 2009 the World Heritage Committee, having considered the state of conservation report submitted by the State Party, expressed serious concern about continued pressures from tourism and fishing inside the property and from economic development projects in surrounding areas, and requested the State Party to strictly enforce protective legislation and EIA measures, and to reinforce the capacity of the HLBMB in monitoring and regulating use and threats to the property. The Committee recommended that the State party should consider requesting assistance from the World Heritage Fund to assess the management effectiveness of the property and implement its outcomes over a three-year period.

At its 35th session in 2011 the World Heritage Committee, having considered a further state of conservation report from the State Party, noted that a plan was being developed for sustainable use of the Cua Van Cultural Centre and efforts were being made to address multiple development and population pressures. It requested the State Party to implement the 2020 Master Plan, reiterated its recommendation to undertake a management effectiveness evaluation with assistance from the WHF, further requested copies of the EIAs on major developments within and outside the property, and encouraged the State Party to consider options for better visitor management.

At the 37th session in 2013 the World Heritage Committee considered the state of conservation report submitted by the State Party in March 2013. The report noted that the several projects in the buffer zone of the property had been completed, the report also advised that the EIAs for these projects had been fully implemented and that all water quality indicators meet the standards for coastal waters in Viet Nam. The State Party also reported on measures taken to maintain and upgrade tourist facilities, and on the preparation of plans for tourist management and for the sustainable use of the Cua Van Cultural Centre. Further the State Party advised on its continued efforts to strengthen management capacity, including the production of several management plans, and its intention to request funding to undertake a management effectiveness evaluation. The World Heritage Committee noted that the World Heritage Centre and IUCN are of the view that the principal features of the property are not significantly threatened, but that the aesthetic values risk being undermined by excessive and uncontrolled tourist operations and by water pollution due to wastes emanating from coastal activities, and from floating villages and aquaculture activities within the property. The World Heritage Committee requested the State Party to invite a reactive monitoring mission to be conducted by IUCN to assist with the design of an action plan for implementing integrated management of the property and its buffer zone and to assess progress made in implementing recommendations from its 33rd and 35th sessions.

In 2014, the Quang Ninh Province decided to transfer the state management of Ha Long Bay from Ha Long Bay Management Board to Ha Long City People's Committee and Mr. Chairman of the City is also the Director of the Management Board. The transfer is aimed at to strengthen the administrative capability of the Ha Long Bay Management Board in the management and protection of the property and allowing it a greater degree of independence, authority, and decision-making power in conducting its day-to-day management and enforcement roles and responsibilities. Quang Ninh Province is continuing to enhance the ability of the management's staff and implementing the integrated management plan for the property and conducting the specific tourism products for promoting the natural values of the World Heritage property.¹³

¹³ Decision no. 38 COM.7B.72

Appendix 4. Maps

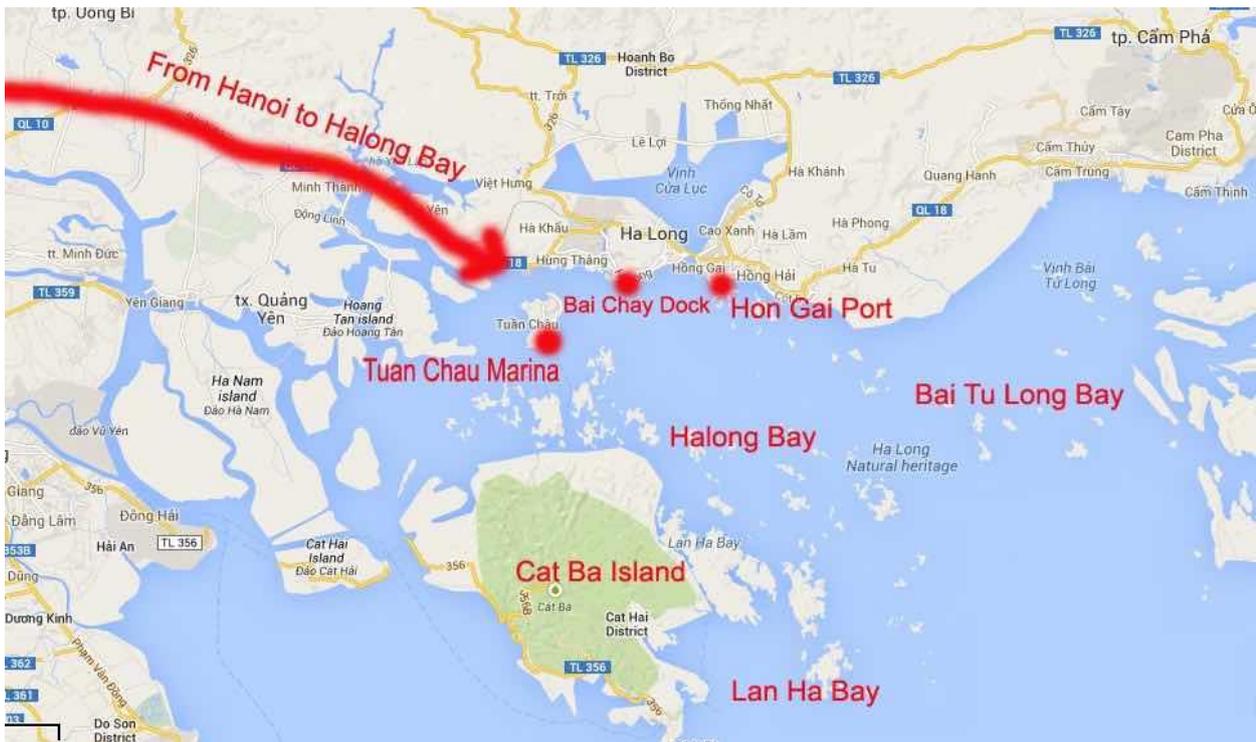


Image 1. Maps of Ha Long Ports

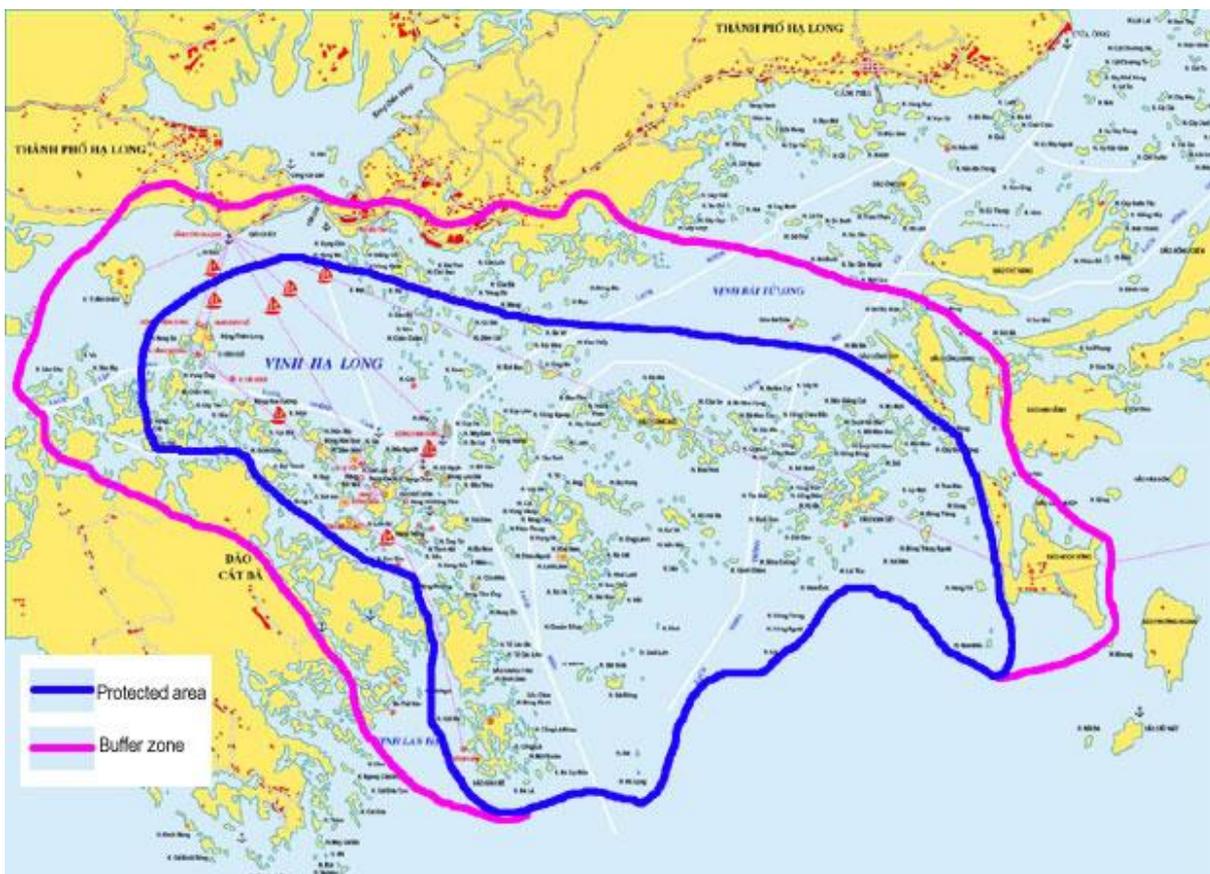


Image 2. Ha Long Bay WHS Buffer Zone

Appendix 5. Contemporary Approaches To Assessment Of Site Capacity¹⁴

Carrying Capacity Concept

Tourism as an industry contains the seeds of its own destruction, in other words, tourism can kill tourism! If poorly managed it destroys the very attractions that visitors come to a location to experience. As Glasson et al. state:

“tourism is, by its very nature, an agent of change. Some of the impacts of change may be controlled, regulated or directed. If properly managed, tourism has the potential of being a renewable industry, where resource integrity is maintained or even enhanced. If mismanaged, or allowed to expand within short-term goals and objectives, it has the capability of destroying the very resources upon which it is built”¹⁵

Huge effort, time and money is spent worldwide attracting visitors to various attractions. By comparison, much less effort, time and money is spent sustainably managing the resources on which the tourist attraction depends. When the resource becomes degraded beyond a certain point, the tourists move on.

Numerous definitions of tourism carrying capacity have been published. Early definitions were focused around numerical based methodologies that set ceiling figures for the number of tourists a site could accommodate. The UNWTO 1981 definition reflects this approach;

“The maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors.”

The UNWTO definition maintains relevance in assessment of some physical and economic parameters such as accommodation and transport availability etc., however, when applied to the biophysical and socio-cultural characteristics of tourism, its usefulness as a flexible management tool diminishes.

Over time carrying capacity thinking evolved in line with the international drive towards achieving ‘Sustainable Development’ across all sectors, including tourism. The foremost and probably most widely recognized definition for carrying capacity was published in the joint International Union for Conservation of Nature (IUCN), United Nations Environment Programme (UNEP), World Wide Fund for Nature (WWF) report “Caring for the Earth” (IUCN / UNEP / WWF 1991) which defines environmental carrying capacity as:

“The capacity of an ecosystem to support healthy organisms while maintaining its productivity, adaptability and capability of renewal, thus, carrying capacity is the upper capacity of human activity which when exceeded causes deterioration in the resource base.”¹⁶

This definition moves away from a numerical approach and recognizes that it is the exceeding of human activity rather than actual numbers that is the cause of resource deterioration, additionally, this definition would be equally applicable if the resource base was cultural or socio-political.

Defining carrying capacity through the determination of actual visitor numbers by assessing the number of tourists a site can accommodate before an unacceptable level of damage occurs is increasingly recognized as an outdated and flawed approach. This is primarily because of the conceptual assumption that tourism destinations are stable rather than the real-life fact that they are dynamically complex and impossible to predict. Methodologies that generate fixed figures are often arbitrary and do not reflect actual conditions that are flexible and continually changing within time and space as determined by a wide range of factors and are thus considered outdated.

¹⁴ Source Tourism Carrying Capacity Report, GON, 2018

¹⁵ Glasson. J, Godfrey.K, Goodey. B, (1995) **Towards Visitor Impact Assessment** Avebury Press, Aldershot

¹⁶ IUCN / UNEP / WWF (1991) **Caring for the Earth, A Strategy for Sustainable Living** Gland Switzerland

“Our focus should, instead of a numerical approach, be on the deployment of frameworks and strategies that determine which of many plausible futures are desirable, what social, economic and environmental conditions are involved in tourism development, the acceptability of the trade offs that would occur, and how people affected can be given voice to articulate concerns and values involved.”¹⁷

McCool. S,F, Lime. D,W

In determining carrying capacity particularly at individual site level, it is often found that the quantity of visitors at any one time is a more critical factor than the overall numerical level of visitation. These factors include:

Weather – determines number of visitors to a site (e.g. wet weather may deter casual visits). Determines wear on infrastructure (e.g. unpaved paths more prone to wear in wet conditions i.e. capacity of path is higher in dry conditions than wet)

Time of day – middle of day (11.00 am – 3.00pm) most likely to be busier than the beginning or end of a day. Each visitor will arrive and depart the site at a different time and stay on site a different length of time.

Day of the week – weekends are busier than weekdays (domestic tourism).

Season of the year – national holidays, special events, dry season, seasonal attractions etc. will influence numbers of visitors to a location and this may exceed carrying capacity for only short periods of time, thus the impact may or may not be cumulative.

Number of visits made – assumptions are made when calculating carrying capacity based on the number of visitors entering a site that each person visits each location available to them once during their visit, however visitors may only go to specific parts of a site or a single visitor may go to one location several times during their visit.

Establishing carrying capacity is therefore not a task to set fixed numbers of visitors for a specific site or whole island because carrying capacity varies depending on a huge range of factors that include place, season, time, user behavior, infrastructure and facility design, patterns and levels of management, community perceptions and tolerance and the dynamic characteristics of the location itself, thus, managing visitors within the capacity of a location requires adopting a managerial approach by setting a framework for assessing capacity indicators and their continual monitoring to determine the decisions needed to maintain sustainable outcomes.

“Carrying capacity is not fixed. It develops with time and the growth of tourism and can be affected by management techniques and controls”¹⁸ Saveriades A

Visitors can have both a positive and negative impact on the environment, economy and social structure of a destination. The positive aspects of visitation can include providing jobs within local communities, raising income to support and / or secure community development activities, raising community awareness and support for conservation protection of natural and cultural assets resulting from the community’s direct benefits achieved through tourism and cross culture interactions etc. Whereas negative impacts include damage to natural, cultural and social environment, pressure on essential infrastructure for water, power, waste disposal and resulting impacts on the environment, deterioration of tourism facilities and ambiance from overcrowding etc.

Limits of Acceptable Use

‘Limits of Acceptable Use’ (LAU) is a continuous monitoring based system that utilizes a minimum set of indicators predetermined by the management authority to monitor the impacts of tourism on sites and

¹⁷ McCool. S,F, Lime. D,W, Tourism Carrying Capacity:, Tempting Fantasy or Useful Reality? in Journal of Sustainable Tourism Volume 9, 2001 - Issue 5:

¹⁸ Saveriades A., 2000: Establishing the social tourism carrying capacity for the tourist resorts of the east coast of the Republic of Cyprus. Tourism Management 21 (2000) 147-156

indicate whether changes due to visitor numbers or type of activity is acceptable or not. If an impact exceeds the predetermined acceptable level, this will trigger a management action to reduce or ameliorate the impact. The system also supports achieving transparency in the decision making process, as management actions can be traced back to specific problems (via the indicators).

The difference between carrying capacity and LAU is that carrying capacity is a quantitative measure that deals with visitor numbers and refers to the turning point when a destination or area starts to decline in adverse conditions as a result of the number of visitors coming. This can be in terms of ecological system, physical structure, economic structure, political administration, visitor satisfaction, and community tolerance (Glasson, Godfrey, and Goodey (1995). LAU is a qualitative measure that involves the whole process of defining the desired resource conditions and taking actions to maintain or achieve those conditions within a set of predetermined parameters. The LAU is therefore a more holistic approach that supports improved sustainable management systems and the development of a more robust resource base allowing greater number of visitors to visit whilst maintaining impact at an acceptable level. (There will never be no impact).

In order to adopt the LAU approach to managing visitor numbers, the answers to three questions are required. These need to be resolved by the Government organizations responsible for the management of the tourism sector, its natural and cultural resources and the other stakeholders. The questions are:

- What kind / level of resource impact is acceptable?
- What kind of social conditions are acceptable?
- What kind of actions to achieve or protect those conditions is acceptable?

The indicators identified for a tourism LAU monitoring system are ‘things’ that can be measured and show if the desired resources and social conditions are changing as a result of increasing human use. Hundreds of indicators have been identified by organizations such as the UNWTO, OECD, European Environment Agency, Green Globe 21 etc. for measuring diverse tourism-based resources and conditions, many of these are complex and require extensive financial and manpower resources.

Indicators

The UNWTO Guidebook on Indicators of Sustainable Development for Tourism Destinations (2004) describes indicators as “information sets which are formally selected to be used on a regular basis to measure changes that are of importance for tourism development or management.” Simply described, “an indicator is something that helps you to understand where you are, which way you are going and how far you want to be from where you are now.”

This translates as:

- Where are we now? What is the status of the natural and cultural resources on which tourism development relies now? and in the future (the sustainable development issue)?
- Where are we going? Based on the current government policies and management directions, and actions of the public and private sectors, what activities and interventions are required to achieve a sustainable outcome within the carrying capacities of resources on which tourism relies.
- Where do we want to be? To achieve the vision of a fully sustainable tourism sector providing long term benefits for the population and its natural and cultural resource base.

Indicators are management tools, since they are performance measures providing critical information to tourism managers and tourism stakeholders alike. A well thought out set of indicators could provide ‘real time’ information to deal with issues as they arise and help guide sustainable development and management of the property’s resources.

The benefits of adopting indicators would be:

- Improvement in decision making thereby lowering risks and/or costs;
- Emerging issues can be identified allowing preventative action to be taken;
- Impacts can be identified thereby allowing corrective actions or amelioration to be instigated when required;
- Performance can be evaluated and progress measured;
- Residents will see transparency and accountability in public decision making;
- Continuous improvement and capacity in public management.

Since the 1992 Rio Summit , monitoring indicators measuring sustainability have become commonplace in government and industry worldwide. Tourism is no exception. Destinations are increasingly adopting monitoring as a means of measuring the success or failure of the sector to meet its sustainable targets. Since Rio much discussion has taken place on the type of indicators, the grouping systems to be used and what they should measure. The tourism sector has monitored destination performance for many years using conventional tourism indicators such as arrival numbers, length of stay, occupancy rates etc. These indicators, by and large, have an economic and growth orientated focus, increasingly, destinations are putting into place indicators that measure the state of environment, pressure on supporting infrastructure or socio-cultural impacts.

Appendix 6. Composition of mission team



Janet Mackay – Tourism Expert
Director TRC Tourism

Profession

Consultant in Tourism, Recreation and Conservation

Qualifications

- » Master of Applied Science (Park Management), Charles Sturt University, 1999
- » Graduate Diploma in Education, UNE, 1984
- » Graduate Diploma in Recreation Planning, Canberra University, 1978
- » Bachelor of Arts (Sociology and Geography), Monash University, 1977

Areas of Expertise

- » Tourism and recreation planning and management
- » Visitor management
- » Product and business development
- » Business planning, development and mentoring
- » Management planning for parks, protected areas, reserves and communities
- » Organizational change management
- » Community consultation and facilitation

Countries of work experience

Australia, New Zealand, China, Thailand, Malaysia, Samoa, Vanuatu, UK, France, Belgium, Turkey, Chile, Bhutan, Niue, Timor-Leste, Solomon Islands, Japan



Wim Vrins –
Waste Management Expert

- 35 Years of professional experience in the identification, formulation, design, planning and implementation of integrated, multi-component, development projects in developing countries at central government, regional government, local government and community level with emphasis on fostering Public/Private Partnerships, capacity building of local government authorities, review of public sector finance, sector policy planning and budgeting for various government departments, assessment of policies, strategies and capacity of central and regional government bodies with regard to planning, budgeting, accounting and expenditures related to public finance issues
- Preparation of LF and measurable objective project progress parameters for monitoring and evaluation purposes.
- Working experience in formulating new EU-funded TA programs, including assessment report, action fiche, logical framework, Terms of Reference for TA experts and budget.
- Experience of supervising implementations of macro and micro projects pertaining to regional and local economic, social and environmental developments, including assessing target groups needs and potentials aiming at poverty alleviation and women participation in local economic and social developments and in enhancing active participation in development interventions of non-state actors (NSAs), such as NGOs, private sector parties and local communities
- Fully familiar with all aspects of Solid Waste Management and Sanitation schemes.
- Experienced in carrying out Environmental Assessments and in designing, implementing, evaluating and monitoring Environmental Improvement (Water Resources Management, Wastewater Treatment and Water Sanitation) Projects.
- Design of national strategy for SME and NGO developments and design of training programs, strengthening local SMEs, NGOs, CSOs, micro-enterprises and Communities
- Preparing cost/benefit analysis for flood protection works in urban and rural areas in New Zealand.

Appendix 7. Photographs

Images of overcrowding issues at sites



Images of waste issues





Buffer zone development



Meetings with stakeholders



Site Visit Tuan Chau Marina and checking cruise boats facility July 17, 2018



Site Visit Tuan Chau Marina July 17, 2018 – Ha Long Bay Center for Travel Guide and tourism Operation



The advisory mission team and Head and Deputy Heads of Ha Long Bay Management Board at debrief meeting 20 July 2018

