



IAATO Observer Checklist

for Landed Activities

Thank you for agreeing to participate as an IAATO Observer. The following checklist should be straightforward. When answering the questions, you can use yes, no, unsure but please include explanations. The checklist has been designed as a useful tool to facilitate confirmation of whether obligations set forth by IAATO and the Antarctic Treaty System are being met.

Please email your completed evaluation to IAATO within three weeks of participating in this program. For companies operating a full Antarctic season, it is best to complete this form as soon as possible so that the company being observed can make improvements while their Antarctic season is still in progress. If possible, please provide the company with a draft copy of this report prior to disembarking the vessel.

Please submit by email to: Jhaase@iaato.org

Any additional documents or appendices can be sent to:

By Fax: +1 401 841 9704

By Post: IAATO
50 South County Commons Way
Unit E-5B
South Kingstown, RI, 02879
USA

Voyage Dates
(embarkation and disembarkation): 18jan19-08feb19

Observers Name Damon Stanwell-Smith

Date of Report 08 feb 19

Name of Vessel MS Fram

Name of Tour Operator/Organizer
Hurtigruten

Voyage sub-chartered to (if applicable)
n/a

Name of Expedition Leader Tessa van Drie

Actual Itinerary/Expedition Travelled:
Please attach the day-by-day itinerary. If the Post Visit Site Report was completed by the end of the voyage/flight/expedition it can be appended to this report instead of describing the actual itinerary (please check with the Expedition Leader/Operations Manager).

1. Voyage Preparation and Documentation

- Was the home office efficient to work with and forthcoming with documentation?

Hurtigruten HQ was responsive and helpful.

- Were you provided with the same preparatory materials as all the clients were? Did they arrive in a timely fashion so you could adequately prepare for your voyage?

Emails sent in good time, with links to comprehensive complementary online documentation.

- Did the pre-departure material include a copy of the Antarctic Visitor Guidelines (ATCM Recommendation XVIII-1) and/or ATCM General Guidelines for Visitors (Resolution 3-2011)?

ATCM visitor guidelines were highlighted, and pre-departure information was clear on visitor responsibilities



- Did the pre-departure material include a copy of the leaflet 'Don't Pack a Pest' describing IAATO's updated biosecurity procedures?

Yes, included within preparatory documentation.

- Did the pre-departure material explain that conditions can be severe and inhospitable and point out the necessity for suitable clothing?

Yes, clearly explained.

It was observed that the only preparatory documentation which felt a bit "light touch" for travellers unfamiliar with the Antarctic was the suggested equipment/clothing-list, which did list all items, although could possibly be enhanced with more explanations.

- Were clients advised that sophisticated medical care is unavailable in the Antarctic, and encouraged to take out medical and evacuation insurance prior to their trip? Did they have to provide a medical questionnaire prior to their voyage?

Yes, the medical situation was clearly explained, and a comprehensive pre-departure medical form, which included listing insurance details and a consultation/sign-off by the passenger's physician was a mandatory requirement.

Upon boarding check-in, every passenger was required to present to the ship doctor&nurse, and have their medical form checked/health assessed.

The chief purser advised me that occasionally passengers have arrived dockside without their medical form, and as a result have been denied boarding.

2. Antarctic Treaty and Domestic Legislation

A. Compliance with Domestic Legislation

Did the operator receive all permits from government authorities required under domestic legislation in time of departure? Please list the government department and subject of the reference of each permit or authorization granted.

These documents include:

- Advance Notification
- Environmental Impact Assessment (EIA), usually either at the Initial Environmental Evaluation (IEE) or PEE (Preliminary Environmental Evaluation) level
- Permit(s) to enter Antarctic Specially Protected Areas (ASPAs) if appropriate
- Waste Management Permit if appropriate
- Other if appropriate

B. Compliance with Operator's Advance Notification and EIA

- Were copies of the Advance Notification and Environmental Impact Assessment (EIA) on board and found in an easily accessible location?

The IEE and permit authorisation was available, with hardcopies filed in the EL office and in the captain's office.

Advance notification paperwork was not observed, resulting in a follow-up enquiry with Hurtigruten HQ. I was advised that Hurtigruten's permitting authority (Norwegian Polar Institute) did not require an advance notification to be submitted for the 2018/19 season. The NPI permit to operate was checked and is valid.

- Were the relevant officers, expedition leader and staff familiar with the content and did the expedition staff generally adhere to these documents?

On board, the responsibility for permitting compliance is clearly focussed upon the EL. In interview with the captain, chief officer and chief engineer; all were aware of the ship's permit, and relied upon direction from the EL within the ship/voyage management to ensure compliance.

Expedition management team (Captain / Chief officer / Hotel manager / EL / AEL / Exped. coordinator) met at 0730 each morning.

The staff team were responsive to EL direction on permitting issues throughout voyage, and proactively and diligently engaged in ensuring adherence to permitting requirements.

- Did you note any deviations/discrepancies to the operator's EIA? If so, please describe.

No discrepancies from EIA observed, with the text interpretation exception of:

One anomaly was the IEE stated (Sect. 5.4) that biosecurity process managed through the use of a "mud-room" for boot cleaning on board. Anecdotally, I was advised that Midnatsol does not have a mud room, and one was not in use on Fram (although boot racking was present, folded to the ceiling on deck 2 "car deck" / expedition kit storage area). "Mudroom" was interpreted as the "tender pit" on Fram. This did not compromise biosecurity checks in the event, however is differently configured than described in IEE.



C. Compliance with Management Plans

- Did the operator observe all relevant management plans for Antarctic Specially Managed Areas (ASMA's) and Antarctic Specially Protected Areas (ASPAs), and were these available to relevant officers, expedition leader and staff onboard?

Yes, the captain, chief officer and EL were all aware of ASMA/ ASPA management restrictions, and where they were located onboard; Directing ASMA/ASPAs compliance rested with the EL, who was observed to work closely with the bridge officers.

IAATO Operational Updates (OU) were filed in the EL office, and were familiar to the captain and EL. However the chief officer was not aware of the OU's, and expressed interest in greater familiarity with OU content.

- Were any ASPAs entered? If so, did the operator have the required permit(s)?

No ASPAs entered.

- Were any ASMA's or historic sites visited? If so, were relevant management plans observed?

Deception/Whalers Bay ASMA entered, and the management regime was followed carefully.

D. Compliance with ATCM Recommendation XVIII-1

- Were all activities conducted in accordance with ATCM Recommendation XVIII-1 - Guidance for those Organising and Conducting Tourism and Non-governmental Activities in the Antarctic (adopted at the Antarctic Treaty Meeting, Kyoto, 1994)?

Yes, all activities were compliant.

E. Compliance with Standard Procedures for Station Visits

- Were Antarctic Research Stations visited?

Yes, Gonzalez Videla Station (Chile) was visited on 5 Feb 2019. The visit was not originally planned, and resulted from a rescheduling as the Lemaire Channel was not navigable due to ice.

- If so, were advance notification requirements for such visits taken into account (e.g. Palmer Station, McMurdo, Rothera or Signy Station)?

The EL advised that Videla base had been contacted 24 hours prior to visit (by VHF, and subsequently by email), to explain the change of schedule; and enquire of the possibility of requesting a visit.

The base was very welcoming.

- Was the 72 hour advance notice adhered to for all other stations?

As noted above, in the specific instance of giving 72 hr notice, this was not possible for Videla station on 5 Feb.

- If a previously scheduled visit to a research station was cancelled, was the station notified promptly?

Amirante Brown station was originally scheduled to be visited in the morning of 4 Feb.

The EL advised that she had decided not run a station visit / landing, and to only zodiac-cruise the adjacent Paradise bay instead (also booked by Fram as a peer site).

Almirante Brown Base was notified of the change. The EL requested permission to use their landing site to launch kayaks. They were happy with the altered arrangement, and agreed.



- Did the visit ashore interfere with Antarctic scientific work?

No, the base personnel stated they had received 9 IAATO ships in Dec 18 and 11 ships in Jan 2019; and that the Fram visit was welcomed. Coffee and biscuits were provided in the base dining room, and several base personnel were present describing activities.

I asked about penguin counting, as the base area is heavily settled with nesting gentoo penguins. I was advised by a naval personnel that penguins and chicks counted annually, "by the air force", and that this season 7,617 penguins had been counted.

- Did the vessel provide any support by transporting scientists, etc.? If so, describe the briefings provided to these individuals after embarkation.

Fram transported a German scientist, Jorg Kluge, from Stanley to KEP (SG).

Jorg is engaged in alien invasive botanical research at South Georgia. He was quiet during the transport and did not give a presentation onboard. EL gave him mandatory IAATO briefing and SG Biosecurity briefing. He participated on SG landings.

In addition Andrew Lowther of NPI and a colleague (Heidi), came aboard one afternoon, during Whalers Bay landing - to shower/do laundry. They were deployed by Midnatsol, and camping for the season - penguin surveying. Gave a well-received talk on board.

3. Vessel Operation

A. General

- Did the Captain or an appointed ice pilot have Antarctic experience suitable for the intended operation? Was there additional relevant Antarctic experience among the bridge officers?

Yes.

The Captain has extensive Antarctic experience (11 seasons), as does the Navigational officer (6 seasons) and Safety officer (16 seasons).

In addition, the Chief engineer (6 seasons) and first engineer (16 seasons) was observed to show a depth of understanding of polar conditions that added resilience to the ship's operations.

- Did the vessel, as far as reasonable and practical, comply with the Guidelines for Ships Operating in Polar Waters?

Yes, the Fram is Polar Code compliant, with a PWOM onboard.

Whilst the observer is not a maritime expert, no deviations were observed; and in interview with all senior officers - emphasis was given by all personnel that the ship management ensured that the Polar Code is complied with.

- Did the vessel participate in the IAATO vessel tracking scheme and report hourly?

Yes, Redport - tracking hourly

- Were current hydrographic charts for the area of operation available on the bridge at all times? Please indicate which charting authority charts were being used (e.g. UKHO, Chile HO, etc.).

Yes, paper and electronic charts for all areas, on the bridge

Charting authority - UKHO / Admiralty

- How did the vessel obtain ice information? Were weather, ice and routing information services provided and reviewed in a timely manner?

Polar View used.

It was noted by the Captain that ice-data had been provided on Polar View at 3-day intervals in the 2017/18 season, and was currently being provided at 7-day intervals in the 2018/19 season. This was advised to be more of an issue early in the season

- Did the vessel navigate in ice covered waters at any time? If so, please provide details such as ice concentration, duration etc.

Fram was originally classified as Ice class 1B, although during Polar Code certification has been reclassified category C.

The ship navigated through open / drifting pack ice departing from Brown Bluff, into Antarctic Sound; and around icebergs of varying concentrations in Errera channel and Neumayer channel - All within Polar Code limitations.



- Were IAATO Marine Wildlife Watching Guidelines observed? Please describe wildlife sighted and any effect of the vessel presence on wildlife activity.

Yes, all guidelines followed carefully.

In particular, the extra care and diligence that the captain demonstrated in ship / cetacean approaches and interaction was noted.

- Was the ship's command cooperative and helpful in all aspects of your job? Did you have access to the navigation bridge and engine room?

Yes

All officers, indeed all of the crew, were to a person very helpful and cooperative.

Access to the bridge was available whenever requested, without pushback.

Engine room access was available by prior appointment with the chief engineer

B. Safety and Contingency Planning

- Which Search and Rescue (SAR) measures were put in place for self-sufficient operations? In general, would you say that the principles of self-sufficiency and sound contingency planning were observed at all times?

Hurtigruten company SAR manual printed and present on bridge, including specific SAR coordination with Argentina and Chile RCC's.

The chief officer provided comprehensive information on SAR during the observation interview.

- Were there onboard drill schedules which included regular damage control scenarios related to ice damage with control measures that considered the implications of cold weather environments?

Interview with chief officer confirmed there were damage control drills every three months, the most recent 2 weeks prior to the interview (and prior to current voyage)

- Was there a comprehensive briefing on safety issues, including the mandatory lifeboat/safety drill, conducted in a timely manner, with all passengers in attendance, and translated for non-English speaking passengers?

Yes.

The initial passenger briefing was held whilst the ship was still tied up alongside at Ushuaia (it was explained this is Hurtigruten policy), and included a mandatory safety briefing and accompanying lifeboat/safety drill.

Passengers were shown TPA donning (for lifeboats), but not immersion suit donning (for rafts). It was translated by professional interpreters into German, Spanish and Mandarin.

- Were passengers' and crew's attention drawn to the necessity for suitable clothing in conditions that can be severe and inhospitable? Were passengers strongly encouraged to observe the weekly crew abandon ship drill and fire drill?

Yes. Daily briefings were used to highlight the necessity for suitable clothing, with advice provided on specific activities / anticipated conditions.

Passengers were advised of the occurrence of ship drills, of which a both a fire drill and mustering drill occurred during the voyage; however did not participate.

A weekly mandatory first aid drill was also undertaken for the crew,/expedition including emphasis on CPR training and oil spill burns; which was witnessed by some passengers.

- Were the relevant officers and the expedition leader familiar with IAATO's Emergency Contingency Plan?

Yes.

The captain, chief officer and EL were familiar.

- Please describe the medical facilities and list the number and qualifications of all medical personnel onboard.

A well appointed surgery, with two beds, located on deck 2. The doctor described the dispensary as "comprehensive".

First aid kits are issued to all expedition staff, as well as a backpack carried by the doctor on landings.

The ships doctor is Panamanian-trained as a General Practitioner. The ships nurse is also a Panamanian-trained / qualified nurse, specialising in obstetrics.

The chief officer is qualified as in ship first aid, and the AEL is a trained wilderness paramedic.



- Were the relevant officers and the expedition leader familiar with IAATO's Medical Evacuation Response Plan (EMER), and was there a copy on board? If not, please describe the Emergency Medical Evacuation Response that was in place.

The captain and EL were familiar with the EMER; a hard copy was filed in the EL office.

Interviewing the chief officer and doctor, it was apparent that they both deferred to the EL for guidance on the IAATO (EMER), and noted that Hurtigruten had an internal medical evacuation response procedure, although it was not described in detail during the observation.

Internal coordination could be strengthened here.

- Were passengers and crew advised to take precautionary measures to prevent accidents during particularly difficult weather conditions?

Yes. Passengers were advised both at the beginning of the voyage, and as appropriate over the PA system (in English, German, Mandarin and Spanish).

C. Oil Spill Prevention

- Please list location and capacity of fuel tanks, as well as fuel types and quantity used while the vessel operated in the Treaty Area. Was there any deck storage of fuel?

Interview conducted with chief engineer and first engineer:

500m³ MGO
2m³ oils/greases
21.6m³ lubes

All tendering using diesel outboards, no deck storage of fuel.

Non-polluting "EAL" lubricants being used (as per USA regulation) for wire lubrication

- What spill response materials and equipment were readily available on board should an incident occur in the Treaty Area? Did spill response exercises take place, and at what frequency?

Extensive Oil response equipment installed and upgraded as a result of Polar Code preparations.

300m (70cm skirt) inflatable (NOFI 1000) oil boom on board, detachable to enable encircling of Fram or alternate vessel; with accompanying skimmer pump, holding tanks and hoses.

Advised that oil spill drills were undertaken, however not observed during voyage.

- Please describe the processing of oily water. Was there a separator in use, and were oil transfers documented in an Oil Record Book? Were actions in line with the Operators Environmental Impact Assessment?

Yes. Chief engineer explained the ship had an upgraded centrifugal oil separator, working to tolerance of 5ppm.

Oil record book maintained, and actions consistent and compliant with IEE/EIA.

D. Sewage and Waste Management

- Did the vessel have an approved waste management plan?

Yes. Fram's "Garbage management plan" is an approved, MARPOL compliant plan

- Did the vessel comply with MARPOL and Annexes III and IV of the Environmental Protocol with regards to sewage and waste disposal? Please list equipment used for sewage and waste management; and describe disposal methods and how these were recorded.

Yes. Chief engineer described Fram's sewage processing system. Effluent broken down in 3-chamber system, output clear water.

- Was there adequate storage space on board to retain all wastes and sewage while the vessel operated in the Treaty Area? If not, describe the methods and frequency of discharges.

Chief engineer advised: all sewage stored onboard, in 3x holding tanks (47, 48, 32 m³ combined volumes). In event of excess, the ballast tanks can be used for sewage storage.

Chief officer advised that discharging is only undertaken outside 12NM, North of 60degS.



- Did the vessel comply with IAATO recommended waste management practice to not dispose of waste below the Antarctic Convergence (note these exceed MARPOL regulations)?

Yes.
No waste was disposed of in Antarctic waters.

- Were staff, crew and passengers advised about the importance of sewage and waste minimization, and was publicity given to appropriate management practices?

Yes.
Passengers were briefed upon embarkation, and crew/staff also advised.

- What types of hazardous substances were used on the ship? How were these stored and monitored? Was there a separate receptacle for battery disposal?

Chief officer advised:
There are "very few" Hazchems on board - which included "Aquatough" detergent - although this is not used South of 60degS, or at Ushuaia (but is used in Stanley FI, as the usage rules are less strict there). No rust removal is undertaken where chippings could fall in the water column.

A separate battery disposal receptacle is available for passengers and crew; and fluorescent light tubes are also separately stored/disposed of.

- Were poultry products separated out from other food garbage?

Yes. Separation of poultry undertaken.

- Was there any exchange of ballast water in the Treaty Area? Did the vessel have an approved ballast water management plan?

No ballast water exchange undertaken.

The chief officer advised that an approved ballast water management plan was in operation.

4. IAATO Standards and Regulations

A. General Conduct

- Did the operator support the basic mission of IAATO – which is to advocate and promote the practice of safe and environmentally responsible private-sector travel to the Antarctic?

Yes. A culture of safety and environmental responsibility was evident in all aspects of Ship/expedition operations.

- Was the expedition well organized and carried out, with no obvious violations of applicable requirements? Were the activities generally conducted with a high degree of professionalism?

Yes. The expedition was well organised and very professionally delivered, both from the perspective of a passenger, and behind the scenes by the expedition staff/crew.



B. Expedition Leader and Staff

- Was there at least one copy of the IAATO Field Operations Manual (FOM) on board and found in an easily accessible location? Was it useful and used? If not, why not?

Yes. Electronic FOM (2018/19) was on board, on the ship's internal shared computer system and accessible to crew and expedition staff.

A FOM hard copy (2017/18) was filed in the EL office, on deck 4.

Upon enquiry about the 2018/19 "FOI" abbreviated hard copy folders provided to all ships, Hurtigruten had retained one of two Hurtigruten FOI copies for marine operations HQ, and sent the other to Midnatsol.

- Were the expedition leader and staff generally familiar with the content of the FOM?

Yes, EL and all expedition staff seemed engaged on FOM content and interested in expanding their professional knowledge.

- Did at least 75% of the staff have previous experience in Antarctica?

Yes.
Of the 14 staff onboard, 13 had previous seasons of professional Antarctic experience - 93%. (11 of the 14 also had worked previous Arctic seasons too)

Overall, the staff team demonstrated a high level of experience in Antarctic field guiding.

- Had any of the staff taken the IAATO Online Field Staff Assessment? Please detail which staff members and their onboard role (e.g., Jane Blogs, EL, Jo Bloggs AEL).

All staff had taken the relevant IAATO assessments; as well as the captain, and chief purser.

Ref Annex 1 for roles

- Please enclose names of staff members, areas of specialty and years of polar (Arctic and Antarctic) or other relevant experience.

Attached as annex 1

14 expedition staff listed

- If the expedition leaders changed, was there a handover procedure?

Tessa van Drie arrived on board at the beginning of the voyage, and was handed over to by previous EL, Mario Acquarone. Tessa advised this was a comprehensive structured process that included a skype call, a meeting, and explanation of a folder of files on the ship shared drives.

- Were you introduced to passengers, and invited to staff briefings?

Yes. As observer, I was introduced to the passengers together with the captain/senior crew and expedition staff at the beginning of the voyage; and was invited to all staff meetings and briefings subsequently.

C. Passenger and Crew Briefings

- Was the crew briefed on Recommendation XVIII-1 and/or ATCM General Guidelines for Visitors (Resolution 3-2011) prior to the start of the season? Was the crew provided with copies of the Visitor Guidelines?

Yes. The crew were briefed at the beginning of the season, and as a component of crew rotations, including being provided visitor guidelines.



- If new crew members embarked for this particular voyage, were they briefed accordingly by the expedition staff or officers? If so, how?

Yes.
New/returning crew were observed to participate in the same briefings by the EL as passengers; and attendance was recorded.

- Was the IAATO Safety and Conservation Briefing (PowerPoint presentation) given prior to landing passengers in Antarctica? If not, why not?

Yes, the IAATO briefing was given on the sea-passage between the Falklands and South Georgia.

- Was this a mandatory briefing and if so, how was this carried forth?

Yes.
The briefing (which was extensive, and included additional information after the IAATO slides) was mandatory and included a checklist of all passengers, monitored by expedition staff.

- Were copies of Recommendation XVIII-1 (Visitor Guidelines) and/or ATCM General Guidelines for Visitors (Resolution 3-2011) distributed to passengers with this briefing?

The ATCM guidelines were provided at the same time as issuing the ship's mandatory "muck boot" branded rubber boots, on the sea-day prior to Falklands arrival.
Passengers were therefore encouraged to read the guidelines prior to attendance at the IAATO powerpoint briefing.

- Were copies of the guidelines provided to non-English speaking passengers in one of the following additional languages: Spanish, French, Italian, Dutch, German, Russian, Mandarin Chinese, Japanese?

Printed Guidelines were available in:

English
German
Spanish
Mandarin

(to reflect the demographics of the passenger complement)

D. Coordination of Itineraries

- Was the latest version of the IAATO Vessel, Landbased and EMER Contact Information available onboard? Were itineraries efficiently coordinated with other vessels at all times?

Yes, EMER contact information was in hardcopy in a specific contact folder in EL office, and online on ship shared computer drives. The Itinerary was observed to be carefully followed.

- What means of communications were used to coordinate schedules (e.g., daily IAATO radio schedule, GMDSS, email, etc.)?

Email was the primary communication, backed up with VHF radio when in range, as appropriate.

The EL also advised that the bridge officers updated AIS/GMDSS system with each landing, following IAATO guidance last season.

- Were there any visits to a landing site by more than one vessel over 12 passengers at one time? If so, could this have been prevented?

No visits undertaken with more than one vessel present.

At one location (Stromness, SG) another IAATO vessel requested a chance to steam around the bay during a Fram landing; in lieu of a blown out landing, to which the Fram captain / EL agreed.



- Were the time slots set for landings in the IAATO Ship Scheduler observed?

Yes, time slots were carefully observed. Two potential overlaps occurred, both with other IAATO vessels:

- i) At Shag Rocks, SG, 25 Jan. Resolved satisfactorily through ships' masters conversation and coordination
- ii) At Brown Bluff, 1 Feb (1400-1930) Another vessel delayed their scheduled departure from site for 60 mins. MS Fram opted to stay back, and so eventually had 80 min delay to start of operations. The EL was disappointed in the other vessel's actions and contacted the other vessel EL, and IAATO Operations.

- Were the expedition leader and staff familiar with the IAATO Wilderness Etiquette? Was there a buffer time of 30-60 minutes allowed between visits?

Yes.

EL and all expedition staff in coordinating roles demonstrated their familiarity with wilderness etiquette, code of conduct and expectation of buffer time between site visits.

E. Pre-landing Action

- Did the itinerary adhere to Antarctic Treaty and IAATO Site Guidelines relative to the size of ship and the landing sites permitted

Yes.

The ship operated under category 1; indeed most landings were at sites that allowed cat 1 and cat 2 ships. The exception was at some SG sites (specifically Cave Cove/King Haakon bay, Prion Island); and Hannah Point - where the reduced numbers allowed on shore was followed.

- Did the itinerary adhere to Antarctic Treaty and IAATO Site Guidelines relative to the limits on the number of landings which can take place each day, and did they observe a 'rest period' for wildlife (usually from 2200-0400 hrs)?

Yes.

The EL was observed to follow site guidelines / ship scheduler / other vessels in proximity, were consulted as appropriate. No landings were made in the 2200-0400 slot, with the exception of a small camping party at Danco Island on 3-4 Feb.

- Did the itinerary adhere to restrictions and management plans in place for visiting Antarctic Specially Protected Areas (ASPAs) and Antarctic Specially Managed Areas (ASMA's)?

Yes.

ASMA visited: (Whalers Bay) within Deception Isl. ASMA. All guidelines / management plan limitations followed.

- Did the expedition leader and/or staff inspect every landing site for the purpose of evaluating safety and environmental conditions prior to landing passengers?

Yes.

A scouting of expedition staff, led by the EL, assessed every landing prior to any passenger deployment. The sites were also flagged / zoned prior to passenger access.

- Was a briefing or announcement made prior to landing to advise on the peculiarities of the site being visited, the expected conditions, possible boundaries, behavior around wildlife, and any other relevant safety and environmental issues? Were passengers advised of the necessity for suitable clothing in conditions that can be severe and inhospitable?

Yes.

A briefing was made, including site-specific powerpoint images (maps/photographs) the evening before each day of landings. Upon confirmation by EL scouting party that the landing could proceed, a PA announcement was made to inform of any additional limitations. (all PA announcements made in English, German, Mandarin and Spanish)



F. Management Approach

- Were Antarctic Treaty and IAATO Site Guidelines consulted and followed when planning the landings? Did all the expedition staff responsible for activities ashore demonstrate a good working knowledge of the ATCM Site Guidelines?

Yes.

Each landing was discussed in a team meeting the day before, led by the EL or AEL; using powerpoint slides of maps, previous visit photographs, scans of the guideline FOM pages.

Staff roles were allocated according to prior experience and language knowledge; and observed to be covering the required site management ratio for all landings.

- At all sites did the expedition leader and staff make use of the method of 'zoning', including Closed Areas, Guided Walking Areas and Free Roaming Areas?

Yes.

Zoning utilised, although typically guided walking areas following flags and cones were preferred. Closed areas, identified from site management guidelines, and occasionally additionally after scouting, were marked with flags/cones and supervised by expedition staff.

- Were any new sites visited and if so what criteria were used to evaluate the site?

No new sites were visited, that did not already have established site guidelines / management plans.

The only site that no-one from the expedition team had previously visited was Prion Island (SG), as it was previously inaccessible when Fram was not operating as a cat 1 vessel. A thorough scouting/risk assessment was undertaken by the expedition staff prior to landing passengers, who were limited to c. 30 people ashore at any time, well within the site management guidelines, as the site was of limited size, and a strong emphasis was placed on minimising disturbance to the nesting wandering albatrosses present.

- In general, were visitor numbers ashore limited to comply with management plans, environmental conditions and safety practices if necessary? Was there a particularly effective way to manage passengers ashore organized by the staff? If so, please describe.

Yes.

Visitor numbers ashore were all limited to be guideline-compliant.

Whilst no novel techniques were observed, the extensive use of flags/cones proved to be very effective at entraining passengers to move around the sites visited in a manner conducive to ensuring wildlife watching distances and etiquette maintained.

G. Biosecurity Measures

- Were IAATO's Boot and Clothing Decontamination Guidelines adhered to at all times? Was there a briefing and a clothing check organized so that all precautions were taken to avoid the translocation of seeds and other organisms to and within Antarctica?

Yes.

A briefing was provided initially prior to Falklands arrival, with further emphasis during the sea passage between FI and SG.

An extensive clothing / bag / equipment / boot check was undertaken.

- Did passengers clean their backpacks, camera bags, tripods and clothing (particularly Velcro attachments and pockets) to avoid the possible translocation of diseases?

Yes.

Passengers cleaned/vacuumed, under the supervision of field staff, and were then checked by a separate staff member.

- Was there a thorough cleaning of all gear - full boot and clothing decontamination incl. vacuuming - done between distinct regions (e.g. South Georgia and Antarctica)?

Yes.

Cleaning stations were established between regions; and individual landings each had a pre/post landing clean and inspection.

- Was Virkon used as disinfecting solution, and if not, why not?

Yes.

Virkon was used before and after every landing, at recommended dilution and supervised by an appointed biosecurity manager (the AEL, Ralf)



H. Activities Ashore

- Did the site visits generally comply with Antarctic Treaty and IAATO Site Guidelines?

Yes. All AT and IAATO site guidelines observed to be followed carefully.

- Did passengers, staff and crew comply with Recommendation XXVIII-1, Guidance for Visitors to the Antarctic / ATCM General Guidelines for Visitors (Resolution 3-2011)?

Yes. The passengers did, overall, show commendable enthusiasm to follow all visitor guidance. Occasional over-exuberance was discreetly, rapidly and effectively subdued by guidance from expedition staff, and was very much the exception.

Some crew came ashore, and evidently had been well-briefed as they all complied carefully to visitor guidelines.

- Was there a minimum 20:1 passenger to staff ratio maintained on shore?

Yes.
Observed to be maintained, and usually a much lower ratio, as the Fram's tendering system uses crew (AB's) as boat drivers, enabling more expedition staff to be involved on shore, as required.

- Were there more than 100 visitors ashore at any one time (exclusive of expedition guides and leaders)? If so, please describe in detail.

No.
At no time was it observed there were more than 100 passengers ashore. This could be verified by the personnel tracking system onboard, which was consulted/observed several times during landings.

- Did the expedition staff on shore give the visitors an appropriate briefing, setting clear boundaries and reminding them of required distances from wildlife, scientific monitoring control sites and equipment, and protected areas? Did they also point out specific environmental features such as sensitive vegetation?

Yes. A briefing was provided upon arrival ashore of each boat group of passengers; usually by the EL and occasionally by either the AEL or Chinese-speaking field guide.

- Did the staff provide educational information?

Yes.
Educational information was occasionally included in the arrival briefings, however most usually provided by specialist field guides, according to their expertise/familiarity, stationed around landings.

I. Safety Ashore

- During the briefings ashore, was attention also paid to safety aspects and possible hazards?

Yes.
Key safety / risk issues were highlighted, and a return time to the tender arrival location always given.

- In general, would you say that passengers were well supervised by staff at all times?

Yes.
At no time were passengers observed to be lacking appropriate supervision.



- Was there emergency equipment available in the Zodiacs or other landing craft, as well as ashore? If so, please include a list.

Yes. Shore kit for 110 souls (stored in 10 waterproof valises):
Emergency shelters x11, Fjellduken bivvi bags x11, Insulation mat x22, Water 0.5L x 110 pouches, Food x110 ration packs, Flares (2x rockets, 3x smokes), heatpads x110, signal mirror, 30m rope, throwline, folding stretcher, sunscreen x1 bottle, knives x2, headtorch x4, wool blankets x55, TPA x25, wastebags 1 roll, large garbage bag x1, life jacket storage bags x2, folding shovels x2, Ice axe x2, whistles x2, toilet rolls x4, large first aid kit x1. Flags x40, cones x12, Walking sticks x100 pairs, Crevasse rescue bag (kit) x1; Iridium sat phone x1

- Were all staff members equipped with VHF radios, and capable of contact at all times?

Yes.
marine handheld VHF radios issued to all expedition staff, marine UHF radios issued to EL/AEL, expedition coordinator and to activity lead (e.g. kayak head guide)

Staff exhibited good radio etiquette; and were familiar with the requirement to relay messages in hilly terrain.

- Did medical personnel participate in landings and/or was 'on call' during landings?

Yes.
The ship doctor and ship nurse both routinely participated in expedition landings as a component of their core duties; and if not on site, were on-call.
The ship doctor carried an extensive first-aid backpack, in addition to the landing equipment, when on shore.

- After each landing, did the staff confirm that all passengers had returned to the ship or land-based facility? How were passengers accounted for?

Yes.
The EL was observed confirming with the bridge and "tender-pit" coordination crew all passengers on the ship.
Passenger/staff/crew were accounted for using a computerised scan of ship identity cards.

The chief purser explained that if the system failed, the passenger numbers ashore could be recovered from the ship's central computer system. If this also failed, then a manual count on board would need to be undertaken (although had only been required once, to date).

- In general, would you say that the principles of self-sufficiency and sound contingency planning were observed at all times?

Yes. Personnel, equipment and procedures all indicated good contingency planning.

The only additional recommendation would be to enhance briefing / coordination between the ship doctor and expedition staff, in particular EL, on EMER procedures.

When interviewed, the doctor was unsure of IAATO EMER, and indicated he deferred to guidance from EL and chief officer.

J. Landing Craft Operations

- Were instructions given to passengers on how to use Zodiacs or other landing craft safely?

Yes.
Advice on the use of Fram's Polar Cirkel RIB tenders was provided in the form of a mandatory briefing to all passengers, and reinforced by regular advice from the crew during tendering.

- Were all passengers required to wear a Personal Flotation Device (PFD) when in the landing crafts?

Yes. Offshore 150N auto-inflating (by CO2) lifejackets were handed out to passengers prior to every landing, and checked to ensure they had been donned correctly, including crotch straps, each deployment.

Passengers were required to keep their lifejacket with them (either worn or carried in a rucksack) at all times onshore, to allow for rapid tender collection, if required, from a different location to arrival.

- Were drivers qualified, and respectful of wildlife? Were IAATO Marine Wildlife Watching Guidelines observed at all times?

Yes.
MS Fram operates a system whereby almost all tendering is undertaken by experienced crew (AB's and the chief purser) rather than expedition staff (2 staff were qualified to drive P/C boats). It was apparent that the drivers had all been on the vessel for a long time and were appropriately qualified, highly professional, demonstrated respect for wildlife; and followed IAATO guidelines.

When on extended cruises, expedition staff accompanied the crew drivers, to assist with providing guiding/interpretation.



- Did the drivers demonstrate a good working knowledge of the IAATO Guidelines for small boat activities in the vicinity of ice?

Yes.

When in ice proximity, the drivers operated safely and in a manner appropriate for the craft. The Polar Cirkel tenders were observed to be particularly well suited (in comparison to the more typical zodiacs) to ice operations.

- Did you notice any malfunctions of boats and/or engines? If so please describe.

Yes. The Fram has 7 Polar Cirkel boats: 2x 8m boats that carry 11 pax+driver, 5x 6.5m boats that carry 7 pax+driver. Their hulls are in good condition, despite some having worked on Fram (and previously MS Nord Norge) since 2002. The boats were re-engined in April 2018 to diesel outboards (Yanmar D-Torque and Oxe); and have been temperamental. 2 (occasionally 3) were out of action during observation; with no replacement engines onboard, although an older petrol outboard was used on one P/C boat. Several crew commented on diesel good-economy and ease of fuel storage vs. engine weight, under-power, unreliability.

- Was there a Zodiac Operations Manual available (or a comparable manual for landing craft)?

Yes.

Tender operations manual available in hardcopy in EL office and on ship shared computer drive.

- In general, would you say that landing craft operations were organized safely and efficiently at all times?

Yes.

The landing craft operations were of particular interest to observation as Hurtigruten utilises a different model from most other IAATO operators - with RIBs rather than rubber (Zodiac MilPro or similar) inflatable boats. Fram's operations were observed to be highly efficient and safely conducted.

K. Other Activities

- Were there other types of activities conducted, such as helicopter flights, kayaking, scuba diving, mountaineering or camping? If so, please describe.

Yes.

i) Kayaking: was carried out at 4 locations (Brown Bluff, Danco Island, Paradise Bay, Damoy)

ii) Camping: was undertaken for one night, at Danco Island

- Were these activities described in the EIA and Advance Notification?

Yes. described in IEE.

- Were these organized safely and efficiently at all times? Please give a short description.

i) Kayaking: With 7-8 double kayaks and 2 single kayaks (passengers in doubles, guides in singles); covered by a Polar Cirkel tender. All participants screened by the ship doctor, briefed by the kayak guides and provided with drysuits, buoyancy aids.
ii) Camping: Undertaken by 30 passengers (selected by lottery, as 56 requested) and 2 staff; all paired in Hilleberg Keron 3 tents; and associated shore safety equipment (as per all shore landings) All participants were briefed and participated in pitching their own campsite. They departed after dinner and returned before breakfast. Observed to follow IAATO short-camping guidelines.



L. Sub-Antarctic Islands

- Please enclose a list of all sites visited in the Sub-Antarctic Islands if relevant. Were permits, visitor guidelines and management plans adhered to?

i) Falkland Islands visited 20-22 Jan.
 Visited New Island reserve, West Point Island, Carcass island, Saunders Island, and a whole day at Stanley. Observed to follow guidelines and IAATO wilderness etiquette.

ii) South Georgia visited 25-29 Jan.
 Visited King Haakon Bay (Pegotty Bluff, Cape Rosa / Cave Cove), Prion Island, Fortuna Bay, Stromness, Grytviken, St Andrews Bay, Drygalski fjord.
 GSGSSI Permitted, and all visitor guidelines/management plans followed; including strong emphasis on enhanced biosecurity.

- If so, were these activities described in the EIA and Advance Notification? Were these organized safely and efficiently at all times?

Subantarctic Island visits (specifically FI and SG, as described above) are not mentioned in the 2018-19 IEE, with regards to route planning, as the document describes "Planned Activities" between 60degS and 68deg20minS. IEE "Site selection" refers to "IEE Appendix 1, Fig. 2", which was not seen by the observer. However, SG operations are described in the IEE, in the context of "Passenger activities offshore" biosecurity checks to reduce risk of non-native species introductions.
 All activities were observed to be organised professionally and safely; with a commendable emphasis on biosecurity around SG.

5. Other Observations and Recommendations

Please elaborate on any other comments or recommendations pursuant to the operations being observed.

- 1) To codify enhanced biosecurity processes which were being developed in response to stricter SG audit requirements. This could include a PPT or illustrated sheet to inform passengers and incoming field staff on Fram (and other Hurtigruten vessels). Operator feedback response (15feb19): "Codifying almost complete".
- 2) Ensure an individual expedition staff member continues to be appointed the biosecurity manager - as AEL Ralf was undertaking during observation. This is also a recommendation of GSGSSI. Operator feedback response (15feb19): "Now standard for SG voyages, looking to roll-out to Polar regions and other sensitive areas".
- 3) Consider increasing the combined capacity of the tendering vessels used for extended cruising; to reduce the EL-pressure and emphasis on undertaking "landings" as a required voyage success criteria.
 Operator feedback response (verbally, 8feb19): "Tendering operations currently under review".
- 4) Enhance the internal coordination and IAATO-familiarity between chief officer, doctor and possibly other senior expedition staff members (AEL / exped. coordinator) with the IAATO-familiar EL/ captain. This could include requesting the chief officer and chief engineer undertaking the IAATO online assessment.
 Operator Fram response (15feb19): "It is has been mandatory for our Captains to undertake online assessment for 2018/19 season; and for next season will be extended to all bridge officers and hotel managers".

Thank you for your time and attention and we hope you had an enjoyable trip.