



# **EXPEDITION OPERATIONS & TRAINING MANUAL**



**Version 3.  
Updated in June 2019**

## STANDARD OPERATING PROCEDURES

These instructions provide common guidelines and Standard Operating Procedures (SOPs) for activities that are key parts of Silversea Cruise's expedition offerings.

A copy of this manual is to be retained on the Bridge of ships conducting expedition operations and in the Expedition office. A digital copy of this manual will also be distributed electronically to each Expedition Team member for him/her to download and keep filed for reference.

It is the responsibility of each Expedition Team member and Bridge Officer to read and understand the relevant sections of the manual that are part of their job responsibilities. Any questions can be directed to the Expedition Leader for clarification. Zodiac Operators are to sign the "Zodiac Operator Preparation and Acknowledgement" EOM Form 001 (see Appendix) once aboard stating they have read and understood relevant sections.

Furthermore, and hand-in-hand with the implementation of these SOPs, is the agreement by all parties involved, that all incidents related to the environment, wildlife and safety, in whatever realm of expedition operations, will be reported through appropriate channels. Reports are for internal use and training development, as well as for reporting to regulatory agencies and permitting authorities such as IAATO, AECO and any relevant governmental authorities when applicable by law or regulation. Informal reports to authorities also ensure open communication regarding issues that may arise. Deceased animals and wildlife entanglements shall also be documented and reported to local authorities with GPS data and photographs to assist in researching and/or rescuing the animal where applicable.

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## **Introduction:**

# **MANUAL REVISIONS SINCE FORMER VERSION**

*Please note, this serves as a summary of the major changes since the last draft of this manual.*

### **GENERAL EDITS/ADDITIONS/DELETIONS:**

1. Name of document changed from “Expedition Operations Manual” to “Expedition Operations and Training Manual” to recognize multiple training content elements.
2. Removal of requirement for printed copy to be in each expedition staff cabin. Rather expedition staff will receive and download a digital copy. Printed versions are to be on the Bridge and in the Expedition Office aboard each vessel with expedition operations.
3. Inclusion of EOM Form 001 as an Appendix and instructions for its use aboard
4. Inclusion of this summary of changes since last revision as an Introduction
5. Inclusion of briefing outline for individual Zodiac Operators and Snorkeling in the Appendix as well as a summary of the Emergency Instructions for Zodiacs
6. Standardization of job description names such as Zodiac Operator instead of Zodiac Driver, and Lead Bear Guard instead of Gun Master.
7. Addition of a “Definition of Terms” at the start of some chapters
8. Addition of diagrams to illustrate some SOPs
9. Deleted old Appendix 1: Essentials of Zodiac Driving and old Appendix 2: Operating Instructions for Silver Cloud Kayak Program. Both items are better suited for access and reference outside of this Expedition Operations and Training Manual.
10. For document control reasons, no waiver forms or SAF forms from the VMS have been included with this manual. Where these files are referenced herein, the address for specific documents in the VMS has been provided. Waivers will be emailed as needed to ships separately.

### **SIGNIFICANT EDITS TO SPECIFIC MANUAL SECTIONS:**

#### **Zodiac Operations - Chapter 1:**

##### **1.2 Responsibility and Authorization:**

- Reference to consideration of environmental factors or trigger points for determining whether operations will go ahead or not
- Addition of any regulatory/permit requirements to the Expedition Leader’s (EL) daily briefing to the Expedition Team
- Clarification of Zodiac Operator authorization process

*This document (including any attachments) is meant exclusively for the attention and use of Silversea Cruises and is confidential. **Manual Revised – June 2019.***

- Addition of instruction/clarification to use and complete SAF111 to record trainings and a Zodiac Induction at the start of each voyage including elements to include in this briefing
- Introduction of form “EOM 001 –Zodiac Operator Check List” and standards for use

#### 1.4 Types Of Zodiacs & Engines:

- Updated list of ships, Zodiacs, engines and numbers of each

#### 1.5 Pre-Operation:

- Addition of ordered steps to undertake when lowering Zodiacs with the crane
- Addition of gasoline fuel storage requirements for ships in the “Fuel” section
- Zodiac Operators to check cooling water throughout Zodiac operations
- Addition of pilot ladder maintenance/safety items
- Inclusion of instructions for the Zodiac Operator to complete the newly created Zodiac Boat & Operations checklist in VMS: form SAF95B (checklists to be laminated and kept in Zodiacs for pre-operation boat check with appropriate pen for reuse)
- Inclusion of instructions for the Bridge to use form SAF105 to log Zodiac operations
- Additional guidance for use of prop guards
- Addition of pilot ladder and related safety gear guidelines for all to be inspected for signs of wear and tear, need for replacement, washing, lubrication, replacement and maintenance as needed by a designated person aboard each ship

#### 1.8 Guest Embarkation into the Zodiac at the Ship:

- Clarification of Staff Captain’s role at the ship’s point of Zodiac embarkation / disembarkation and chain of command for reporting concerns about this area of operation

#### 1.10 Driving Procedures:

- Addition and standardization of a Zodiac Briefing to be given by Zodiac Operators in each Zodiac to guests at the start of every voyage.

#### 1.11 Zodiac Tours:

- Clarification that buddy system on Zodiac tours applies to ALL Zodiacs without exception
- Addition of a personal introduction and safety briefing to be made at the start of each Zodiac tour

#### 1.13 Returning to the Ship:

- Clarification for ships with more than one ladder at point of embark/debark – all ladders shall remain down until all expedition staff (except those using pilot ladder) are aboard
- Clarification on who is to use the pilot ladder
- Addition of the order of operations for attaching a Zodiac to the crane hook for lifting
- Addition: Field gear is not to be returned to the ship in the same Zodiac as guests unless necessary due to extenuating circumstances

- As conditions dictate, a recommendation to have two crew members in Zodiacs being hooked to crane for lifting

#### 1.15 Emergency Instructions:

- Change of section name from “Man Overboard (MOB)” to “Emergency Instructions”
- Inclusion of instructions for managing flooding, fire, and loss of air from pontoon

#### 1.16 Natural Hazards to Consider:

- Additional instructions for low visibility and shallow water/grounding
- Inclusion of SOPs for keeping ice away from the ship including instructions for the Bridge, EL and Zodiac Operators
- Change of safe distances from glacier fronts based on Svalbard regulations

### **Remote Landing Operations - Chapter 2:**

#### 2.1 Remote Landings – General Guidelines

- Comments regarding biosecurity checks, responsibility for these, and for team to take responsibility for monitoring themselves for cleanliness
- Clarification of reporting safety concerns and chain of command for operations ashore
- Addition: Guests are not to drink water from “wild” sources

### **Kayak Operations - Chapter 3:**

- Section reorganization and renaming for Kayaker Criteria and Safety, also for Arctic/Antarctic considerations and separating cold water/polar regions protocols from warm water regions

#### 3.1 General Overview

- Addition of a second boat on standby to assist the Kayak Team in case of emergency.

#### 3.2 Program Leadership – Kayak Guides

- Clarification and standardization of roles within the Kayak Team and titles therein
- During kayak operations, in addition to the Kayak Safety Zodiac, a second boat must be readily available to assist the Kayak Team in case of emergency.

#### 3.3 Equipment

- Addition of SOP that Kayak Safety Guide is to carry ship’s satellite phone on kayak excursions

#### 3.4 Criteria for Kayakers

- Definition that potential paddlers must have prior sea kayak experience

#### 3.5 Kayak Briefings and Safety

- Included outline of general kayak briefing topics
- Response plan in the event of a kayak capsizing or a person in the water during kayak operations added

### 3.7 Kayak Safety Driver

- Further clarification of role and responsibilities therein
- Addition of role in Arctic Polar Bear Environments as rifle handler

### 3.9 Polar and Cold Water Kayaking

- Arctic Considerations section enhanced and expanded upon, especially to include operational attention to situations with a swimming polar bear and in and around brash ice in polar bear environments

### 3.10 Warm Water Kayaking

- Additional clarity provided for “free roam” situations and how to perform them
- In Tropical Considerations – deleted item regarding insect repellent

## **Polar Plunge Operations - Chapter 4:**

### 4.1 Prior to Polar Plunge

- Addition of SOP that no participants in the Polar Plunge will wear (e.g hat) or hold (e.g camera) anything that could be lost at sea.

### 4.2 Polar Plunge from Ship

- Removal of requirement to wear safety belt with the buckle at the back

## **Snorkel Operations - Chapter 5:**

- Reorganization and renaming of chapter sections to better reflect the flow of snorkel operations throughout a voyage and to clarify job responsibilities and roles
- Further definition and clarification of the roles and duties involved in snorkel ops
- Additional safety gear checklists and processes outlined step-by-step through chapter

### 5.1 Prior to Starting Snorkel Ops

- Included a ban on the use of full-face snorkel masks
- Included mention of Snorkel Briefing given aboard by Snorkel Master

### 5.2 Conducting Snorkel Operations

- Included review of Snorkel Reports by EL and Snorkel Master
- Added further process and clarification of duties and flow of operations especially during snorkel setup and once guests arrive on site including specific contents of a briefing to be given just prior to entering the water.

### 5.3 Snorkel Safety Lookouts & Safety Zodiac Operator Duties



- Further clarification and definition of roles and responsibilities

#### **5.6 Completion of Snorkel Operations**

- New section added to include instructions to debrief snorkel ops, care for snorkel gear and complete snorkel reports as required

#### **Regions with Polar Bears - Chapter 7:**

- Included mention of not cutting off a bear's escape route with a flare from flare pistol
- Added section for instructions in Appropriate Polar Bear Reactions Scenario B for when a polar bear charges

#### **Medical Emergency Response - Chapter 8:** Entirely new chapter added

#### **Firearms - Chapter 10:**

- Removal of AECO Guidelines from Chapter and instead added as an Appendix
- General chapter and section renaming and reorganization
- Expansion of General Safety section
- Clarification of various SOPs, roles and responsibilities throughout chapter
- Addition of Kayak Firearm Protocols for Arctic polar bear environments  
Addition of SOPs for storing firearms with roles and responsibilities clarified

#### **Appendix:**

- Addition of new Zodiac Operator Checklist EOM – 001
- Addition of Zodiac and Snorkel Safety Briefings as summaries that can be printed for quick reference and use in the field
- Addition of Zodiac Emergency Instructions that can be printed for quick reference and use in the field
- Repositioning of AECO Firearm SOPs to the Appendix

## Standard Operating Procedures

### 1. ZODIAC OPERATIONS

#### Definition of Terms for Zodiac Operations:

**Able Bodied Seaman/men – AB or ABs** – Used interchangeable to refer to the Deck Team and/or Deck Hands of the mother ship

**Buddy System** – used in Zodiac cruising and by which no Zodiac is to be out on tour by itself without a partner boat (or two) that stays within sight and within adequate proximity to assist promptly in case of emergency or engine failure

**Chief Officer** – (also Staff Captain) ship's second in command to the Captain and responsible for Zodiac operations on the ship

**Company** – This refers to Silversea Cruises Ltd.

**Coxswain** – used in some of the VMS materials to mean the same as Zodiac Operator herein

**Man Overboard (MOB)** – a person who has fallen into the water

**Passengers** – people riding in a Zodiac who might be crew, local officials, and/or guests

**Person In Water (PIW)** – someone in the water resulting from a man overboard situation

**Side Gate** – term used to describe the platform primarily used by guests to embark/disembark Zodiacs at the ship

**Staff Captain** – (also Chief Officer) ship's second in command to the Captain and responsible for Zodiac operations on the ship

**Zodiac** – an inflatable rubber boat used for expeditions and operations including but not limited to Zodiac cruises and tendering guests to and from the ship

**Zodiac Buddy** – One of a pair (or triple) of Zodiacs during a Zodiac cruise operation

**Zodiac Cruise** – Use of Zodiacs, always in pairs or triples, to sightsee and watch for wildlife. Also referred to as a Zodiac Tour and used interchangeably.

**Zodiac Grip** – A wrist-to-wrist grip used to assist passengers in and out of the Zodiac; also known as a “sailor's grip”

**Zodiac Induction** – A briefing to be held at the start of each voyage for Zodiac Operators and given by the Expedition Leader.

**Zodiac Pontoons** – the inflatable chambers that run from bow to stern in a Zodiac

**Zodiac Operator** – person responsible and qualified for safe driving and captaining of a Zodiac boat.

**Zodiac Tour** – see above also; Zodiac Cruise

## 1.1 Zodiacs – A General Overview

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Silversea relies on Zodiacs to transport staff, crew, local officials and guests to and from the vessel, and to take guests on Zodiac sightseeing cruises. The boats and the people who operate them are a critical part of Silversea's expedition products and are to be treated with the respect, care and attention they deserve.

## 1.2 Responsibility And Authorization

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- The Chief Officer/Staff Captain has overall responsibility for Zodiac operations, the Operators, and Operator training.
- Each Zodiac Operator is responsible for safe driving and the safety of passengers, whether guests, crew or officials. Under no circumstances shall these be compromised.
- Each Zodiac Operator is in command of his/her Zodiac and passengers shall not be allowed to influence his/her decisions and if needed can be instructed in a firm, polite manner.
- According to the VMS (4.8.2) each Zodiac Operator shall either:  
“undergo successfully the Tender operations training program as specific and applicable to Zodiacs (per form SAF108 “Zodiac Operator Competence Checklist Silversea Expedition”), or hold an equivalent evidence or certification, at discretion of the Master, unless local jurisdiction requires other specific and more stringent certification.”
- As above, “unless local jurisdiction requires other specific and more stringent certification,” if a Zodiac Operator joins the ship without the company-issued certificate he/she needs to be tested and complete the SAF108 as outlined above for Zodiac driving proficiency.
- Authorization of Zodiac Operators using SAF108 is the responsibility of the Trainer. According to the VMS this could be the Expedition Leader, and the Assessor/Certifier is typically the Staff Captain/Chief Officer. Please note form SAF108 states: “The Assessor shall check each point below and confirm that the required knowledge, understanding and proficiency has been satisfactorily demonstrated to confirm competence as a Zodiac Operator.”
- Operators without a completed SAF108 are not permitted to drive Zodiacs independently with passengers. However, new or inexperienced Operators with equivalent evidence or certification as outlined in the VMS above, may drive with an assigned trainer and other crew members in the Zodiac to build, develop and/or demonstrate skills, experience and knowledge on the water until the Operator successfully completes the SAF108.
- Readiness for operating a Zodiac independently with passengers must be agreed upon by the EL, Staff Captain and Zodiac Operator. However, the Staff Captain has ultimate authority regarding Zodiac Operator approval.
- When a staff member joins a ship, regardless of how many times they have been with Silversea or that ship, he/she needs to be re-familiarized with the Zodiac operations and SOP's pertaining to the company and the ship. Before the first Zodiac operation the Expedition Leader or AEL needs to do a Zodiac Induction. In some cases, we have video for staff to watch in addition to the Induction itself.

- The EL is to provide the Induction and complete SAF111 (Training Session/Drill Attendance Log) [VMS Home page > Forms and Letters section > Ship Forms > Index – Ship Safety Forms] for all on the Expedition Team to demonstrate attendance at this session at the beginning of each voyage. The topics to be covered shall include but are not limited to:
  - Watching the ship-specific Zodiac Refresher video
  - A ship-specific overview of side gate operations and procedures
  - A ship-specific overview of Zodiac launch and recovery procedures
  - A review of best practices in emergency situations such as but not limited to MOB, fire, and flooding
  - Destination specific topics such as safe distances from icebergs and glaciers or correct operating procedures around coral reefs, or local regulations/restrictions
- Staff must also sign “EOM Form 001 - Zodiac Operators Checklist” (provided in the Appendix of this manual) acknowledging that they have each received familiarization for the ship Zodiac operations and have read and understood the Expedition Operations Manual before starting to operate Zodiacs. This log of signatures is to be kept in the expedition office aboard the vessel for 30 months.
- The Expedition Leader (EL) is to communicate with the Captain or Chief Officer/Staff Captain prior to a landing or excursion to determine logistics dependent on present conditions in accordance with the VMS instructions: Operations > Ship Operations > Marine Operations > Tender & Zodiac Launch Ports & Operations and applicable checklists (SAF95B).
- An entry about the completion of the pre-operation meeting is to be entered into the ship’s logbook.
- Directions from this communication are to be followed until conditions, daylight, or sea state factors etc. require a re-evaluation of the procedures by the EL and/or Captain, Staff Captain or Bridge Officer on duty. Based on risk assessment and if needed, the EL, Captain and Staff Captain shall establish environmental limitations or “trigger points” such as wind speed, safe crane operation parameters, or wave height that when reached require review of operations.
- For Zodiac operations, the Expedition Leader will perform a daily briefing of the Expedition Team and the Zodiac Operators before the start of the operations for the day. The briefing shall include details of local permit requirements and/or restrictions.

### 1.3 Expedition Program & Itinerary

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- Before the start of each voyage, the Expedition Leader is to prepare and discuss with the Captain a tentative itinerary of destinations and planned activities.
- The Bridge and relevant engineers/officers are to receive a copy of the daily Chronicles for reference.
- The Captain must approve all Zodiac cruising, tendering, landings etc.
- On a daily basis, the Expedition Leader is to discuss with/inform the Chief Officer/Staff Captain/Engineers and Bosun as needed, of planned Zodiac operations. The Staff Captain is to keep the Captain informed of planned operations as needed.
- In planning Zodiac operations, the EL and Staff Captain are to consider:

- A detailed Zodiac program including the number of landings or cruises to be conducted, the number of boats, Operators and time required for each activity
- Staffing requirements for disembarkation and shore party
- Anticipated problems in boarding and landing guests
- Any laws in ports, or permit conditions in protected and natural areas including but not limited to: speed limits, wake restrictions or restricted areas
- The weather forecast and possible implications of change in weather
- Tidal and other geographical conditions such as depth of water near a glacier

#### 1.4 Types Of Zodiacs & Engines

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**Silver Discoverer** – total of 12 Zodiacs

- 10 x MK5 Zodiacs with tiller arm, electric start 60hp Yamaha engines
- 2 x MK6 Zodiacs with center console steering – one with electric start 80hp Yamaha engine and one with electric start 90hp Honda engine

**Silver Explorer** – total of 10 Zodiacs

- 8 x MK5 Zodiacs with tiller arm, electric start 60hp Suzuki 4-stroke engines
- 2 x MK6 Zodiacs with center console steering wheel, electric start 80hp Suzuki engines

**Silver Cloud** – total of 18 Zodiacs

- 18 x MK5 Zodiacs with a combination of tiller arm, electric start 60hp Yamaha engines and center console Yamaha 80hp engines

**Silver Galapagos** - total 7 Zodiacs

- 4 Pumar MI 585 50HP Yamaha engines with tiller arm and electric start
- 3 Zodiac Milpro MK5 50HP Yamaha engines with tiller arm and electric start

**Silver Whisper** – total of 9 Zodiacs

- 6 x MK5 Zodiacs with tiller arm, electric start 60hp Suzuki 4-stroke engines
- 3 x MK6 Zodiacs with center console steering wheel, electric start 70hp Suzuki engines

**Silver Muse** – total of 9 Zodiacs “Jones Act” type approved

- 3 x MK5 Zodiacs with tiller arm, electric start 60hp Yamaha 4-stroke engines
- 6 x MK6 Zodiacs with center console steering wheel, electric start 90hp Yamaha 4-stroke engines

**Silver Moon (Launch Date TBC)** – total of 10 Zodiac - “Jones Act” type approved

- 8 x MK5 Zodiacs with a combination of tiller arm, electric start, Yamaha engines 60CV/80 CV and center console.
- 2 x MK6 Zodiacs with electric start, Yamaha engines 115CV and center console.

## 1.5 Pre-Zodiac Operation

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Upon taking command of a Zodiac the Operator ensures the following:

### **Lowering/Lifting the Zodiac**

- When involved in lowering or lifting Zodiacs be sure to be aware of and stay clear of the free-swinging lifting hook at all times.
- Never place your fingers or hand between the hook and the lifting rings.
- Transfer the Operator (and any other staff members) from one Zodiac to another in a safe and secure manner
- Never drive under a boat that is being lifted or lowered
- When releasing a Zodiac from the hook the following order of release is required:
  - First, start the engine
  - Second, release the hook so it can be lifted to lower the next Zodiac
  - Third, and only when your engine is running properly – release the painter

### **Engine**

- Make sure that the engine is securely clamped and bolted to the boat

### **Fuel**

- Fixed gasoline tanks including any hoses and filters used/connected after them must be approved (by Class/RO)
- Fixed gasoline tanks onboard must be filled from shore in a safe manner. This would be an approved reel hose pump arrangement of the fuel supplying vendor truck able to reach from shore the deck with the fixed tanks onboard. Alternatively temporary transfer large containers/drums maybe considered to be filled onshore and hoisted on deck by crane-derrick for further decanting into the fixed tanks. Such larger containers must be either type approved for gasoline or from material suitable for gasoline including non-static build up type and such fueling /decanting process shall be done by an approved for gasoline use portable pump and based on a ship specific risk assessment. This will require in the vicinity no flammable sources (heat, sparks, static electricity sources etc), open deck /good ventilation (intakes to accommodation closed), use of PPE, standing by of suitable fire-fighting equipment. Additionally the procedures for bunkering in the VMS shall be followed.
- Zodiac Operators to have two full portable fuel tanks at the start of operations. Make sure you have enough fuel for your intended trip and some in reserve. For more fuel, radio the crew at the disembarkation area, Expedition Leader, or the Officer on watch.
- Open vent screw on tank when in use to allow proper fuel flow
- Check fuel hose and line are properly connected and not obstructed, to allow good flow of fuel from the tank to the engine
- Before each Zodiac operation an assigned crew member/Fitter will check fuel levels and/or refill the tanks from the dedicated fuel storage aboard as needed.
- The fuelling of the portable fuel tanks from the ship's fixed tanks shall be done on open deck, inside the fixed tanks drip trays, in suitable weather conditions (no strong winds, heavy rolling/pitching), in the absence of fire/ignition/spark sources, with ventilation intakes in

vicinity closed. The crew member/Fitter performing the portable fuel tanks fuelling shall be trained on the safe procedure and use of PPE (gloves, coveralls, safety shoes, goggles)

- After completion of Zodiac operations, the portable fuel tanks must be removed from the Zodiac and stored in the fuel locker. The assigned crew member/Fitter will ensure the proper storage and lashing of the portable fuel tanks.
- If no approved designated storage exists onboard for the fuel portable tanks, then these shall be stored in the ship's designated paint locker (fire cat.14 SOLAS space) when not in use in zodiacs

### **Throttle Controls & Steering**

- Make sure the controls operate properly
- Turn steering wheel if MK6 and swing tiller arm if MK5 to check functionality
- Shift the throttle from ahead to astern to check functionality

### **Propeller**

- Make sure that the propeller, water intake and lower unit are free of debris
- Ensure the propeller is not damaged prior to operations. If Operator identifies significant damage to the prop it shall be reported with the Operator's initial call into the Bridge.
- Be sure to check that the prop is clear when you start the engine – pay special attention to the location of your bow/stern lines – these need to be in the boat away from the prop
- When using prop guards, be sure the protector is well secured and its integrity is not compromised

### **Cooling System**

- Once engine is on, check if cooling water is discharging forcefully from the engine
- If it is not, or the stream is weak, clear the discharge outlet with wire and try again
- If not working properly then radio for mechanical assistance
- This cooling water shall be checked throughout a Zodiac operation by the Operator

### **Pontoons**

- Make sure that all isolating valves are turned to "NAVIGATION"
- Check pressure of all chambers
- If the chambers need inflation, radio for assistance
- Cover the pontoons in hot weather so guests don't get burned when sitting on them

### **Cleanliness of Zodiac**

- Remove any rubbish
- Boats shall be clean and the pontoons wiped off prior to boarding guests
- Check that all lines are inside the boat and properly secured

### **Safety Equipment**

- Check that the following equipment is aboard your Zodiac or with the Operator
  - Anchor, chain & rope
  - Paddles (x2)
  - Pump/Bailer
  - Tool kit
  - Flares and sound signaling device
  - Boat hook (or combo boathook/paddle)
  - Water cooling wire pin
  - Radar reflectors (if required)

- Fire extinguisher
  - Radio
  - GPS/compass
  - First aid kit
  - Torch/navigation lights (if doing night or low visibility operations)
  - Full spare fuel tank
  - Spare kill chord
- Any and all safety equipment used to transit up and down the designated/pilot ladder, including but not limited to harnesses and carabineers, must be inspected at the end of each voyage for signs of wear and tear, or the need for replacement, by a designated person aboard.
  - This designated person is also responsible for ensuring the designated/pilot ladder safety equipment is washed, lubricated, replaced and otherwise maintained as needed at the end of each voyage.

### **Zodiacs with AIS**

- Please note, each AIS beacon is programmed with a number specific to a particular Zodiac.
- Before every operation each beacon shall be taken from charging station and installed in its unique bracket by the deck team preparing the boats for operations. The beacon will activate automatically once in place, but only if it is in the correct bracket.
- At the end of Zodiac operations for the day, all beacons have to be taken out for charging by the deck team. Operators are responsible to remove the beacon, it will deactivate automatically, and the deck team will return the unit to its charging station aboard.

### **Report to the Bridge**

- Once the Zodiac Operator has completed his/her safety check and pre-operation procedures he/she is to call the Bridge via radio to report any safety or mechanical issues
- Otherwise, the Operator relays that the Zodiac is, “All checked and all OK” for operations. This acknowledges the Zodiac Operator has completed the Zodiac Boat & Operations checklist SAF95B in the VMS: Operations > Ship Operations > Marine Operations > Tender & Zodiac Launch Ports & Operations and applicable checklists (SAF95B).
- The Bridge is to acknowledge this call and log it on form SAF105 “Tender and Zodiac Operations Log” [VMS Home page > Forms and Letters section > Ship Forms > Index – Ship Safety Forms] who is driving each Zodiac by name at the time of the call in addition to other relevant information required on this form.
- The ‘check-in’ to Bridge also acts as a radio check between each Zodiac and the Bridge

## **1.6 Issues, Missing Equipment and Zodiac Maintenance**

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- Zodiac maintenance shall be preventive not reactive
- Reporting details of issues with the engine and/or boat performance is of the utmost importance. Each report shall contain:
  - Date and time
  - Engine number
  - Operator’s name
  - Defect/problem/missing safety equipment
- It is the responsibility of the Assistant Expedition Leader to ensure the Staff Captain is notified of maintenance/repair issues so that the Staff Captain, and/or Deck & Engine Departments can make repairs or conduct maintenance work as needed.



## 1.7 Personal Buoyancy & Clothing

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- You **must** wear a SOLAS approved lifejacket. No crew, guest, or local official is to board a Zodiac, even a Zodiac that is tied up alongside the ship or a dock, without a lifejacket.
- All persons on the embarkation/disembarkation platform **MUST** also wear a lifejacket.
- Make sure you are properly dressed for the conditions you operate within. In the event of an emergency or change in operations, Operators may be required to spend significant time in the outdoors while exposed to the local weather conditions.

### Warm Weather

- Standard Silversea uniform codes apply
- Guests and crew must wear suitable footwear (no bare feet)

### Cold Weather

- Standard Silversea uniform codes apply.
- You will receive standard Silversea outdoor gear, which you shall wear on the Zodiacs although your own foul weather gear is suitable in addition or as needed

## 1.8 Guest Embarkation into the Zodiac at the Ship

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- Always follow instructions from the EL, Staff Captain and/or Bridge Officer on watch
- The Staff Captain is ultimately in charge of monitoring and supervising the operations at the side gate or similar guest loading/unloading area. If Expedition Team members have concerns about the safety of these operations they can be raised with the Staff Captain and/or the EL/AEL for further assessment.
- Place the tiller arm of a MK5 in the upright position (perpendicular to the deck of the boat) so that it cannot swing freely with the engine and potentially hit someone in the Zodiac
- Ensure that guests use the sailor's-grip and have their hands free at all times
- Operator shall help with the loading of guests if conditions allow, otherwise the Operator is to stay near the engine (MK5) or at the center console (MK6) and be ready to make alterations with the throttle and/or tiller arm as needed to counteract wind/swell at the disembarkation/embarkation point.
- Direct guests to sit down right away and slide along the pontoon to their seats
- With the MK6 boats, when loading or unloading guests ensure the engine is switched OFF and the throttle is pulled back in the reverse position so that no-one can accidentally grab hold of an active throttle as they move around the Zodiac.
- Keep watch for ice, logs or marine debris floating towards the Zodiac and be ready to drive away from the platform in case of danger. Be alert at all times!
- Before leaving the gangway, double-check lifejackets are properly donned
- Leave the gangway slowly, ensuring you do not create a wake until you are clear of any local traffic or other Zodiacs
- Zodiac Operators shall never load or unload guests without assistance

## 1.9 Guest Behavior On Board Zodiacs

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- Guests shall remain seated unless embarking or disembarking from the boat, or unless the boat is stopped and permission is obtained from the Zodiac Operator
- There shall not be more than one guest standing while embarking or disembarking
- Secure equipment and belongings to avoid losing items overboard

## 1.10 Driving Procedures

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- **All Zodiac Operators must wear and use a kill cord when the engine is in gear.**
- In addition to the mandatory Zodiac Briefing held aboard, on the first Zodiac operation of every voyage, Zodiac Operators (or in the case of a crew-driver, a designated expedition staff member) must provide a briefing to their guests covering the following:
  - Lifejackets to be worn at all times in the Zodiac
  - No standing unless given permission
  - Proper use of safety lines and foot straps (if provided)
  - Location of safety equipment including but not limited to noise maker, throw bag, hand pump for dewatering, air pump for inflation, first aid kit, fire extinguishers, extra kill cord, paddles/boat hook, distress signals, life ring etc.
  - For assistance during an emergency, follow the procedures on the emergency broadcast placard posted by the radio (if provided)

*Please Note: A SUMMARY of the briefing for printing/quick reference is provided in Appendix of this manual.*

- When driving with guests always adapt to the conditions to make sure the ride is as smooth and comfortable for the guests as possible
- It is better to go too slow than too fast
- Avoid sudden alternations to speed or course. If you must turn suddenly to dodge an obstacle in the water, if possible, warn your guests verbally before you do so.
- Communicate with your guests and ask them if they are comfortable throughout the trip
- Be constantly aware of sea and tide conditions. Get information from the Bridge, your Expedition Leader and/or the scout boat about conditions as needed.
- When conditions degrade, good practice depending on your direction of travel relative to the waves, is to weight either the stern or one side of the Zodiac with extra passengers in order to raise the bow, or opposite side of the boat. This will generally provide a smoother, drier ride.
- Guests with back or balance problems shall sit in the Zodiac's aft where it is most stable.
- Guests will be reassured when the Operator remains calm and confident in rougher conditions. Operators are encouraged to communicate with their guests any anticipated choppy or uncomfortable conditions, or changes of passenger loading patterns.
- Remember, regular communication is a technique for managing the group and their expectations in a tricky situation.
- The 4-stroke hydraulic engines are always in the locked position. Serious damage to the engines can be caused by hitting the engines on rocks, reef or ice. It is important to drive slowly and carefully with the engine tilted up when in shallow or foul waters.

- Be aware of floating hazards in the water – e.g. fishing nets, lobster buoys or ice.

### **1.11 Zodiac Tours**

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- Zodiacs on tour must ALWAYS travel in pairs or triples as needed (buddy system)
- There is no exception to the buddy system on Zodiac tours especially for a boat designated as a “Photo Boat” either for guests or for crew photographers.
- Zodiac cruises are a team effort. Share sightings with other Operators to optimize everyone’s experiences, while keeping radio chatter to a minimum or switching channel
- Be aware of the location of the other Operators and assist each other as needed
- Introduce yourself to your guests and explain the plan for the cruise, approximately how long the cruise will last and what to look out for in terms of highlights of interest.
- Be aware of any local traffic conventions and tidal action
- Be aware of guests who wish to take photographs and ensure all have taken their pictures before moving on - within reason.
- Remember not to favor one side of the boat. Whenever possible, ensure that guests on one side of the boat do not have the scenery to their backs.
- In rough weather guests are susceptible to back injuries – do not sacrifice safety or comfort for speed. Generally, it is not recommended to allow guests to sit on the floor of the Zodiac as they may be more likely to sustain injuries in that position.
- Be aware that during long Zodiac cruises in tropical or polar destinations it is possible for guests to get over heated or cold respectively. Be aware of their comfort and monitor your passengers for any signs of hyper- or hypothermia.
- Laser Range Finders shall be used during Zodiac Operations to regularly check distances to wildlife and/or potential hazardous features including ice fonts, cliff faces, and rocky outcrops. Trained expedition staff member(s) can have the range finder and communicate distances via VHF radio to the rest of the Zodiacs.

### **1.12 Shore Landings**

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- On shore, instruct guests as to the safest way to disembark appropriate to that specific landing site, whether it is a beach, a jetty, rocks, or a muddy bank
- On approach to the landing, Operators must instruct guests to stay seated and listen for instructions upon arrival.
- Approach the landing slowly and tilt the engine to avoid rocks, reef or submerged objects that may damage the engine
- Be aware that the shore party may call you with specific instructions regarding the landing on approach
- Always keep an eye on the swell and surf when approaching a landing and use these varying conditions to aid your approach.
- When a stern landing is needed, it is preferable to approach bow-first and have the shore party spin the Zodiac to place the bow facing seaward and the stern facing to the beach.

- When the Zodiac's stern is closest to the beach, it is critical that no guests, crew, or staff disembark over, or stand behind, the transom. It is possible to be knocked over by the surf in that position and have the full weight of the boat and engine land on top of you.
- During difficult landings, Operators shall wait for a signal from the lead shore party person that it is safe to approach the shore, and the Operator shall be in agreement that this is the right time to approach.
- If lifejackets are removed onshore, they need to be stored inside a bag/bin. Dirt, sand or grit may jeopardize the automatic inflation mechanisms of the lifejackets.
- Any crew assisting with bringing Zodiacs alongside at a pier/jetty must wear a lifejacket or a personal floating aid (float coat). Stepping on and off the Zodiac to help with loading/unloading of passengers is a time when floatation is especially important in case the crew member were to fall and sustain a blow to the head that could cause him/her to be left unconscious and vulnerable to a subsequent fall into the water.

### 1.13 Returning To The Ship

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- Pay attention to "all aboard/last Zodiac" times given by the Expedition Leader and return to the ship at or before that time so as not to delay the ship's departure. Punctuality may be critical since a late departure may jeopardize the next outing.
- Field gear is not to be returned to the ship in the same Zodiac as guests unless necessary due to extenuating circumstances
- If muddy conditions were encountered on shore, have guests scrub their footwear before re-embarking the Zodiac to return to the ship.
- Show consideration for other Operators returning to the gangway and avoid overtaking them or creating a wake near the side gate or kayaks. Remember you work as a team.
- Follow instructions from the Bridge Officer in charge of gangway operation.
- In a briefing as you return to the ship, explain to guests the disembarkation procedures and remind guests to remain seated until the Zodiac is secure alongside the ship and the Able Bodied seamen (ABs) can assist with embark/disembarkation.
- It is prudent for the Zodiac Operator to take his/her time in landing alongside
- Ensure that guests only stand up one-at-a-time, use the Zodiac-grip and have their hands free at all times.
- Assist the ABs with guest disembarkation. Disembark guests from alternate sides so that the boat is always balanced.
- All ladders/steps at the loading/unloading platform shall remain in the water until all guests and crew members are aboard.
- The only crew members to not use the fully set-up platform to embark the ship at the end of operations is the Operator and any assistants remaining in the last Zodiac and suited to climb the designated /pilot ladder in the final Zodiac to go up on the hook.
- As conditions dictate, it is recommended to have two crew members in Zodiacs being hooked to crane for lifting.

- When returning a Zodiac to the hook to be lifted the following order of operations to return is required:
  - First, with the engine still running, attach the painter
  - Second, attach the hook to the lifting straps
  - Third, when your boat is secured by both painter and hook, turn off the engine

#### **1.14 Radio Operations**

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- Be familiar with your radio and comfortable with basic functions including volume control, charging/changing the battery, unlocking, changing, and relocking channels. Seek training from the EL if needed for any of the above radio operations.
- Always carry and monitor your fully charged radio both in the field and aboard the ship. Your safety, and that of others may depend upon it. Any exceptions to this rule can only be made by the Expedition Leader on a case-by-case basis.
- Keep radio conversations short and to-the-point
- Be aware of the location of other Zodiacs and share information if appropriate
- Keep the EL informed shall you, for any reason, deviate from the original plan.
- Stay off the radio while the ship is anchoring, maneuvering or practicing a safety drill, except in an emergency. This allows the Bridge to communicate as needed.
- Always remember that everyone, including guests, can hear radio transmissions.

#### **1.15 Zodiac Emergency Instructions**

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It is recognized that with expedition operations there is no single perfect way to handle an emergency situation. Zodiac Operators are to make decisions that are the most prudent using the resources at their disposal and according to their situation.

*Below information is provided in a SUMMARY in Appendix for printing/quick reference.*

##### **Remember these three essential steps in an emergency:**

1. Raise the alarm
2. Manage the safety of your guests and yourself
3. Act

In case the paired buddy Zodiac(s) cannot assist with a MOB situation, the ship's rescue boat will be launched as per the ship's Recovery of Persons from Water Plan.

##### **Rough Conditions while Underway and/or Flooding**

- At all times, the floor of the Zodiac shall be maintained as dry as possible
- Maneuver appropriately to prevent flooding i.e. increase speed above idle forward will facilitate draining of the Zodiac.
- Check operation and availability of hand pump for dewatering
- Check all self-draining valves are free of obstruction and operating correctly
- Account for all passengers and crew and position passengers to best manage the situation
- Check that all lifejackets are properly donned
- Do not abandon vessel unless forced to do so
- For assistance when Zodiac Operator or crew are incapacitated, follow the procedures on the emergency broadcast placard posted by the radio if provided

### Man Overboard (MOB)

- Call out “Man Overboard” and indicate which side of the vessel the person went over board
- Throw flotation overboard as close to person as possible
- Post a lookout to point at and maintain constant eye contact with person in water (PIW)
- Use all available means to request assistance and share the PIW’s position such as radio, AIS, GPS coordinates, visual compass bearings
- Retrieve the MOB quickly using all available resources including designated survival craft if you are able and safe to do so
- Administer first aid and treatment for hypothermia
- Notify Coast Guard or relevant authorities of the situation as needed

### Fire

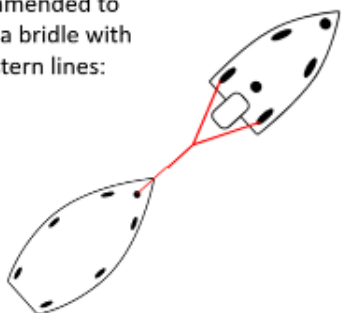
- Raise the alarm and broadcast the emergency to notify the designated survival craft, Mother Ship, relevant authorities and Coast Guard via radio of the situation
- Move all passengers away from the fire
- Disconnect the fuel oil supply by disconnecting the fuel line quick-connect located on the fuel tank in the bow box.
- Secure electrical power. This can be accomplished by turning off the single battery switch in the forward battery box.
- Attempt to put fire out with fire extinguisher aimed at the base of the fire. Do not use water on electrical fires in case of electrocution or spreading of gasoline/oil.
- When the fire is in the outboard engine and cannot be extinguished with a fire extinguisher:
  - Keep passengers calm
  - Ensure all passenger are wearing their lifejackets
  - If unable to control fire make preparations to abandon the vessel

### Loss of Air in Pontoon Chamber

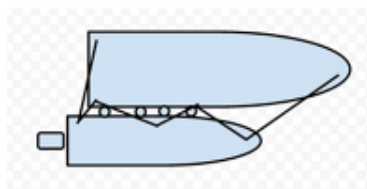
- Raise the alarm to notify the Mother Vessel and designated survival craft of the situation
- Move all passengers away from the leaking chamber(s)
- Connect air pump and commence pumping air into pontoon to maintain inflation
- If air pressure cannot be maintained return to Mother Ship
- If air pressure cannot be maintained and the stability of the Zodiac is in question, make preparations to move passengers to other Zodiacs and/or designated survival craft

### Towing

If towing astern it is recommended to make a bridle with your stern lines:



If towing from the side use spring lines forward and aft to do the work of towing in forward and/or reverse:



**PLEASE NOTE:** Towing is hard on the engine. Tow at SLOW SPEEDS only.

Diagram 1. Recommended towing techniques

## **1.16 Natural Hazards To Consider**

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### **Wind**

- Wind speeds that are outside safety limitations conducive to Zodiac operations are to be established by the Captain, Staff Captain, and/or EL on a case-by-case and ship-by-ship basis recognizing that each ship has different safety parameters and that sometimes local conditions are not consistent with those a short distance away.
- Wind speeds, subsequent conditions, the skills of the Operators and the continuation of Zodiac operations must be assessed using the sound judgment and experience of the Captain/Staff Captain/EL as risk assessed and appropriate, with safety and comfort of the guests as a priority.
- An empty Zodiac driving upwind in high winds is a hazard and shall only be attempted by experienced Operators and/or with extra ballast, or a staff member in the boat to act as ballast.

### **Low Visibility Caused by Fog, Heavy Rain, Heavy Snow etc.**

- Set an appropriate speed of advance (SOA) during restricted visibility. Generally, this means reducing speed as visibility becomes more restricted to aid collision avoidance.
- A good rule-of-thumb for speed reductions is to reduce to at least half the normal speed when reduced visibility is encountered.
- Consult hand-held compass and/or GPS unit and use AIS as needed to aid navigation.
- Ensure communication with the Bridge is consistent and effective.
- Install and/or switch on any AIS and/or navigation lights available.
- Radar reflectors need to be installed at the earliest sign of deteriorating visibility.

### **Coral and Rock Reefs**

- Water color will tell an Operator much about the depth of the water around coral reefs. As a rule of thumb, “Blue, Blue – Sail on Through” and “Brown, Brown – Run Aground.”
- Reefs are both a hazard and a sensitive marine habitat. Keep your distance and never anchor your Zodiac on coral. Look for sandy sea floor for anchoring.

### **Shallow Water and Grounding**

- Be aware of water depths prior to operations and during operations by consulting charts and landing reports for known shallow areas and submerged reefs.
- A boat hook/paddle can be employed to check water depth manually in turbid waters.
- If your Zodiac is grounded, call for assistance and to report your position and situation immediately either by radio to the Bridge, or to the person in charge at the landing site, or to another Zodiac or crew member close by.
- Carefully assess your situation and determine how to best proceed while taking into consideration your location, the substrate, effect of tide, weather conditions, and time
- Formulate a plan for extraction using all/any possible resources at your disposal including other staff members, tow ropes and additional Zodiac(s) for towing
- Consider carefully if it is safe and/or necessary for the Zodiac Operator to climb out of his/her Zodiac dependent on circumstances and conditions.

### **Cliffs, Caves & Falling Rocks**

- Avoid driving Zodiacs close to cliffs where there is evidence of hazardous falling stones, ravines with loose sand/stones and ice or snow that could be breaking up.
- If Zodiac cruising in or around caves keep your time in close proximity to overhangs as brief as possible
- If entering caves, watch the swell very carefully to see the effect of surges. Often it is safest to enter caves stern first as this allows for a speedy exit.

### **Ice Conditions**

- When driving avoid ice with sharp edges that can rip a hole in your Zodiac
- Ice is dense and causes severe propeller damage – just like hitting a rock
- Always travel through ice slowly and look for a route with the least amount of ice
- In the event of glaciers calving, be aware that the newly broken off ice can float great distances and surround your Zodiac very quickly

### **Drift Sea Ice**

- Be aware of the ice drift before the Zodiac operation begins
- Note what the tide is doing, how the ice is shifting and how quickly
- Drift ice moves with wind, tides and sea currents. You might suddenly be enclosed when driving in drift ice. ALWAYS be aware of how the ice is moving.

### **Icebergs**

- Always try to determine if an iceberg is grounded or floating. Stay a greater distance away from a floating iceberg.
- Icebergs are all potentially unstable. All icebergs can suddenly flip over, causing huge waves and sending ice chunks flying through the air at great speeds
- Keep your distance at all times
- Never approach an iceberg closer than two times the height of the iceberg above water. Even at this distance extreme caution shall be used.
- Notify fellow Operators on the radio when they are too close to an iceberg
- Remember that 90% of the iceberg is under water
- Never drive over the underwater ‘footprint’ of an iceberg where you can see the light blue water color indicating there is an ice ledge below
- Listen for cracks, groans, and the rumble of internal ice collapses. These are indications of ice shifting and the activity means you shall stay further back!

### **Managing Ice Around the Ship**

- Bridge SOPs for risk assessment and managing ice to include:
  - Having a lookout posted so ice and changes in current and drift can be observed, understood, and a plan of action can be made and followed in a timely manner
  - Having the bow thruster on standby if applicable and practical for use in moving ice away from the ship
  - Being prepared to lift anchor and/or move the ship as needed to avoid complex ice situations
- When the Expedition Team is requested by the Bridge to assist in managing ice, the Expedition Leader has authority to designate specific Zodiac Operators to assist. These Operators will have experience in Polar Regions and with operating Zodiacs around ice.



- Zodiac Operator SOPs when assisting to manage ice are to include:
  - Use Zodiac propeller wash as primary means for directing the course of pieces of ice
  - Only when needed and with the EL's approval of the most experienced polar drivers, then boats can push ice bow-on

### **Glacier Fronts**

- Never approach closer than five (5x) times the height of the tidewater glacier front. It is required to stay a minimum of 200m from the glacier front
- At some glacier fronts even this is too close – the EL will determine how close to approach.
- As available use a range finder, landmark or ship's radar to assist with gauging distance initially
- Throughout the Zodiac Cruise, Bridge Officers will mark, monitor and check the Zodiacs' distance from the glacier front with assistance from the charts, the ship's radar, and AIS in Zodiacs as appropriate.
- Glacier fronts may calve, causing flood waves, flying ice and floating ice that can block your route to or from the site. Keep your distance!
- Avoid being trapped by islands close to the glacier front if a calving shall occur
- It is best to pass over waves generated by a large calving head-on, and then easing off the throttle on the backside of the wave as needed.
- Stay away from shallow areas as waves are more likely to break there
- Factors that might affect the probability of a calving:
  - Glacier front height
  - Gradient of the glacier on the shore
  - Degree of fracturing in the glacier front
  - Sea and current dynamics under the glacier front
  - High temperatures and rain
- Be aware of 'poppers' or 'shooters' – pieces of ice that dislodge underneath the ice
- As above, listen for noises indicating internal glacial ice collapses and potential calving activity

## **1.17 Wildlife Viewing from Zodiacs & on Zodiac Cruises**

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Follow AECO & IAATO guidelines when operating in the Arctic & Antarctic, in addition to local rules, permit restrictions, and any other regulations regarding interactions with wildlife. Regardless of regulations, it is Silversea policy to avoid disturbing animals at all times.

### **No Disturbance Distance**

- To avoid disturbing animals, avoid provoking a reaction in the first place.
- It is the responsibility of the Zodiac Operators to avoid interactions/disturbance of animals and to define how disturbance will be avoided
- It can be difficult to establish exact distances from wildlife to ensure no disturbance. Different animals, or even the same animals in different situations, will react differently to a given situation. Thus, always err on the side of caution.

### **Avoid Disturbing Wildlife with Noise**

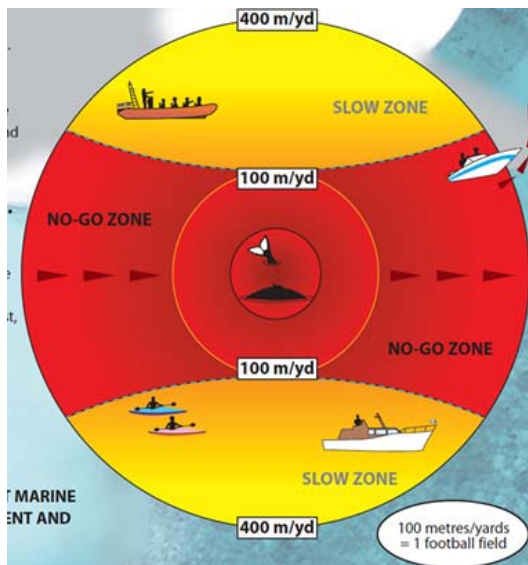
- Keep radios on a low volume setting and keep conversations low and calm

- On board, suspend announcements on outer decks whenever wildlife is nearby and use the Quietvox system aboard the ship instead if equipped with this tool
- Avoid excess engine use, gear changes, conversation, maneuvering or backing up to the animals as these movements produce sudden, large changes in underwater noise levels, which may startle, agitate or drive the animals away

### Proper Speed Near Wildlife

- Drive slowly and carefully whenever operating near breeding colonies or large congregations of wildlife
- Accidental strikes could happen and ultimately are each individual Operator's responsibility

### Driving Around Whales (see Diagram 2 below)



- All Zodiac Operators must work as a team
- Keep to the side of the animal(s) and take turns for the closest watching opportunities
- Do not 'box-in' animals or cut off their travel or exit routes
- Do not go closer than 100 m to whales
- Avoid having too many boats near one animal at any one time or for too long
- Avoid scattering groups of dolphins, seals, whales etc.

Diagram 2. IAATO recommended whale watching procedures and distances

### Approaching Birds or Pinnipeds on Ice or Land

- Watch behavior carefully for signs of disturbance (head waving, moving away, etc.).
- If you are disturbing them, move off slowly
- Observe all permit restrictions and regulations dictating distances for viewing etc.

### Viewing Polar Bears

*The follow is a summary only. Please see Chapter 6 of this Manual dedicated to safety in polar bear environments for more detail.*

- Always drive quietly and slowly in the vicinity of bears
- Do not get close to polar bears on ice or rocks, they can leap up to two Zodiac lengths. A minimum of 30 meters' distance is required between a boat and polar bear.
- Stop immediately if a bear enters water – back off slowly to give it full right of way
- Move away from polar bear(s) if your presence is causing any disturbance or if you notice signs of behavioral change in the bear.
- Never follow or pursue a bear(s) in the water.
- Never switch off the engine to maximize your options for moving away if need be

### Driving with Walrus

- Walrus can pose a hazard to Zodiacs

- With groups in the water there is usually a large bull patrolling the perceived Zodiac ‘threat.’ There have been incidents in which bulls try to climb into Zodiacs and/or puncture the pontoons.
- Do not allow these animals to come too close to the boats
- Never come between walrus and their haul out, or by blocking their access to land
- Never switch off the engine to maximize your options for moving away if need be

#### 1.18 AECO & IAATO Guidelines

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- For some animals AECO and IAATO do give specific recommendations as to distances to the animals as a basic starting point
- Check and familiarize yourself with these distances and any local regulations
- For reference:
  - <https://www.aeco.no/wildlife-guidelines/>
  - <https://iaato.org/wildlife-watching-guidelines>

**ALWAYS FEEL COMFORTABLE IN THE BOAT.**

**If you do not feel that your abilities match the requirements of the conditions  
THEN DO NOT DRIVE.**

**Inform the Expedition Leader or Staff Captain and ask to be replaced with another Zodiac  
Operator.**

**Your own honest assessment of your abilities will always be appreciated and respected by  
the working professionals aboard.**

# Standard Operating Procedures

## 2. REMOTE LANDING OPERATIONS

### 2.1 Remote Landings – General Guidelines

- The EL and/or AEL must always check and abide by the legal requirements of the area being visited. Some regions and sites have species-specific wildlife viewing distance requirements, permit requirements, reporting requirements and restricted areas.
- All staff are to review and understand the contents of their personal and collective shore side medical and emergency equipment kits prior to undertaking any landing.
- Other ships at the same landing site are to be avoided if possible.
- The landing is to be planned in advance by the EL and/or AEL based on knowledge of the site, regulations, restrictions, forecasted weather, avoidance of wildlife aggregations, maximum group sizes, and any safety considerations.
- Any biosecurity checks such as those required by South Georgia, Aldabra, New Zealand Sub-Antarctic Islands etc. must be done with great care and attention to detail.
- The responsibility to organize and hold guest and crew biosecurity checks falls to the EL/AEL, but the entire Expedition Team is responsible to assist with the process.
- Team members must monitor their own apparel for suitability to pass inspection (for example, not wearing thick wool sweaters or trousers with Velcro closures) and for cleanliness as closely as is requested of the guests.
- The EL and/or AEL must brief the Expedition Team in detail about the planned landing and provide instructions, maps, GPS coordinates, tidal information, and job assignments for the execution of the landing as needed.
- If any staff member is not familiar or comfortable using a handheld GPS unit he/she can seek training from the EL to be delegated to another trainer on the team as needed.
- Guests shall receive briefings before a landing, upon arrival at the site, and again as applicable at the beginning of a walk about any restricted areas, any areas with sensitive plant-life and how to avoid it, the expected wildlife, the approaching/avoidance procedures and viewing distances for local wildlife as applicable etc., and inform them to always follow the directions from the Expedition Team.
- A proper debrief of the landing by the Expedition Team is encouraged afterwards to assist the EL/AEL in capturing input to improve the operation, especially to be recorded in the company's Landing Report (LR).
- An LR is to be completed in detail after each landing of guests.
- In case the landing was canceled, the LR should include the reason for the cancellation.
- At any time during a landing/operation anyone on the Expedition Team with safety concerns

needs to voice these preferably to the EL and if he/she is not available then to the AEL. If neither the EL/AEL are in communication, then the safety concern must be communicated to the individual who has been designated to run the landing site or directly to the Bridge. The situation must then be assessed by the person in charge and handled accordingly.

- Guests are not to drink water from “wild” sources

## **2.2 Environmental Considerations on Landing Sites and Hikes**

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- It is company policy not to remove anything from any site that is not clearly garbage, and this must be relayed to guests and crew during site briefings.
- Be aware that while beach cleanups and garbage removal is generally a good thing, there may be situations like in Svalbard where trash collection cycles are being studied.
- Sites are also not to be altered, and guests and crew are not allowed to partake in cairn-building, graffiti creation of any kind, picking flowers, removing plants, taking rocks and fossils, or other such disturbances to the physical environment unless staff are doing so in manner compliant with local regulations and for educational purposes back aboard.
- Silversea staff members will do their utmost via communications and actions to ensure that visitors, staff and crew do not leave anything behind onshore (or in the water).
- When possible, Silversea will remove garbage found on the shores and support local cleanup initiatives such as the “Cleanup Svalbard” project.
- All Silversea visitors will be considerate to other visitors, local people and nearby activities including the avoidance of landings near camps, hunters and trappers, or others unless contact is established and the landing is agreed to in advance.
- Responsible wildlife watching is the norm and Silversea and its employees will adhere to a “No Disturbance Principle” to avoid disturbing wildlife. Avoidance minimizes disturbance and should prevent:
  - Displacement from important feeding areas;
  - Disruption of feeding;
  - Disruption of important behaviors or movement, and habitat;
  - Stress or injury from interaction;
  - Increased mortality or decreased productivity
  - Alteration of habitat
- Please note that wildlife viewing guidelines may vary from agency-to-agency within a single region. If cases like this, Silversea will always adopt the more conservative of the regulations.
- Expedition Staff leading hikes must choose hiking routes that avoid or minimize disturbance of animals, cultural remains or erosion of vegetation and landscape
- Avoiding walking on stream banks and wet ground where more damage to ground cover can occur, and avoiding stepping or holding onto lichen-covered rocks.
- Approach and depart wildlife with caution and respect, watching for any signs of disturbance from our presence.

- Avoid noise and keep radio volumes low, voices low and discussions calm.
- Never feed wildlife or leave food behind at a landing site.
- Hiking groups should be kept small with the best guide to guest ratio possible and organized according to ability, language, and/or duration of the outing as is best suited to the clients.
- Hikers must use prepared or marked paths whenever possible to avoid ecological damage especially in muddy, boggy or eroding areas.
- Be aware of hazards caused by areas of loose rock, thermal wells, geothermal features and vulnerable geological structures.
- Be familiar with local regulations in regards to the presence of cultural remains and pay due respect to any visited or found sites including proper recording of discovered sites.

### **2.3 Shore Side Wildlife Viewing – Nesting Birds and Colonies**

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- Many species of birds nest on the ground or on cliffs and can be easily disturbed from nesting due to human activity.

To minimize potential for disrupting nesting activities:

- Maintain a distance of at least 5-10 meters from nesting seabirds (IAATO Bird Watching Guidelines unless other regulations apply).
- Keep required distance from bird cliffs
- This is especially with penguins, but where otherwise applicable, avoid blocking walkways in colonies, and access to water entry and exit points.
- If there is an observed change in behavior, then move away

### **2.4 Shore Side Wildlife Viewing – Burrowing and Ground-dwelling Animals**

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- For ground dwellers such as small mammals, reptiles and some seabirds, there are several species that live and nest in underground burrows that are vulnerable to damage from people walking. For example, some bird and small mammal species nest in burrow networks, and reptiles and amphibians live in decaying logs or under bark and slabs of stone.
- Staff arriving at landing site prior to guests should identify areas or likely areas of burrows and therefore will be able to point out to guests and crew areas to be avoided.
- Staff should keep visitors to established tracks, and avoid areas of tall grass or areas where footing is less visible
- Lead groups of hikers in single file lines rather than spreading out over a larger area.
- Reptiles, including snakes, lizards and turtles, may be encountered in open areas and trails where they can gather heat energy.
- Wear boots and long pants in areas where venomous snakes/reptiles may be encountered.
- Maintain distance of about 2 meters from any reptiles encountered.

### **2.5 Shore Side Wildlife Viewing – Seals, Sealions or Walrus Hauled Out**

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Seals, sea lions and walrus frequently haul out on land, rocks or ice to rest between feeding, to moult their fur, and come ashore to rookeries during breeding periods. Disturbance at these sites can cause animals to return to the water and create stress on animals during these critical periods.

- Expedition Staff must know local wildlife viewing distance restrictions and watch for behaviors and changes in behavior that indicate animals have been disturbed. If this occurs the group must cautiously and quietly leave the area.
- Measures can be taken to avoid and minimize impacts to animals:
  - Pups are often left alone onshore when mother seals out feeding in the water. They are not abandoned and must be left alone.
  - For single or a few individual animals hauled out to rest near landing sites, a perimeter around the animal should be established, demarcated, and monitored by a staff member to ensure visitors do not approach.
  - Do not walk up to the animals from different directions – the visitors should approach from only one side of a group.

## **2.6 Shore Side Wildlife Viewing – Large Mammals Including Black & Brown Bears\***

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*\*Please note there is another section of this manual dedicated to working in Polar Bear regions – that is not the topic of discussion herein.*

- When landing in regions/sites within brown and black bear ranges, bear defense (noise maker, bear spray) is to be carried and readily accessible by all Expedition staff (i.e. not carried inside backpacks, but clipped to the outside of clothing or a bag, carried in holsters, or carried in hand).
- It is recommended to make consistence noise with song or conversation in bear country to alert any bears to your presence and therefore avoid surprising an animal.
- Maintain distance of at least 100 meters from any bears
- Musk oxen must not be approached closer than 100 meters and no-one must ever pass between a mother and calves.
- If staff suspect fox and/or wolf dens are in an area, it is recommended to keep guests as far from the area as possible especially when they have pups between June and August.
- Never feed or have food in the vicinity of a fox or wolf. These animals are clever and will learn to beg.
- Be aware all mammals can carry rabies and be aware of the signs of a sick animal. Retreat immediately with your group if you have any doubt about the health of a wild animal and no-one may touch a live or wild animal. Authorities must also be alerted of suspicions.
- Monkeys, especially macaques can be aggressive and are known to bite. In areas where macaques are socialized and used to humans it is best practice to talk to them in a loud, affirmative voice with commands as you would with a dog. They will tend to back down but practice prudent behavior around these unpredictable animals.
- Do not make eye contact with primates or other aggressive animals such as dogs or bull sea lions, as it can be interpreted by the animal as a challenge
- Dogs outside settlements are potentially dangerous and a safe distance must be maintained
- Generally, if animal(s) move closer to you and/or your group, keep calm, keep the group together, do not run, and move everyone away to maintain safe distance.

## **2.7 Shore Side Wildlife Viewing – Intertidal Life**

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Animals within intertidal zones need to retain moisture during periods of low tide. Other intertidal features, such as smaller rocks and seaweeds provide shelter and shading from sun during low tide and are important habitat during high tides.

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- Avoid stepping on snails, limpets, or anemones attached to intertidal rocks.
- Replace any rocks, logs or other substrates that are moved for viewing.
- Avoid remove any attached seaweeds and animals from rocks

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Sources consulted in generating these Remote Landing SOPs include:

- IAATO General Information for Wildlife Watching. [www.iaato.org](http://www.iaato.org)
- IAATO Birdwatching Guidelines
- AECO Arctic Wildlife Guidelines. [www.aeco.org](http://www.aeco.org)
- AECO's Guidelines for Expedition Cruise Operators in the Arctic
- Silversea Cruises Ltd. IEE Antarctic Peninsula Cruise Program
- American Hiking Society (Snake Safety)
- Yellowstone National Park, Wildlife Viewing Guidelines (Bears)



## Standard Operating Procedures

### 3. KAYAKING OPERATIONS

#### Definition of Terms for Kayak Operations:

**Free Roam:** A kayak operation in which kayakers/paddlers are given a defined area in which to kayak independently rather than following the Kayak Guides. The free roam area is then monitored and supervised by the Kayak Team and/or additional safety support Zodiacs.

**Kayakers:** Any crew or guest participating in a kayak operation. Also known as paddlers.

**Kayak Excursion:** A guided kayak outing led by the Lead Kayak Guide and Assistant Kayak Guide and escorted by the Kayak Safety Driver in his/her Kayak Safety Zodiac. Also known as a paddle.

**Kayak Group:** Several paddlers/kayakers out on a guided kayak outing led by the Lead Kayak Guide and Assistant Kayak Guide and escorted by the Kayak Safety Driver in his/her Kayak Safety Zodiac.

**Kayak Guides:** The Lead Kayak Guide and Assistant Kayak Guide hired according to their respective job descriptions to lead the kayaking program

**Kayak Program:** An all-encompassing term describing all elements of staff, gear, equipment, boats, participants etc. involved in kayaking from the ship

**Kayak Safety Driver:** The Zodiac Operator hired according to his/her job description to operate the Kayak Safety Zodiac and act in a supporting role for the kayak program

**Kayak Safety Zodiac:** The Lead Kayak Guide and Assistant Kayak Guide hired according to their respective job descriptions to lead the kayaking program

**Kayak Team:** The Lead Kayak Guide, Assistant Kayak Guide and Kayak Safety Driver hired according to their respective job descriptions to facilitate the kayaking program

**Paddle:** A double-ended oar used to propel a kayak. Also used to refer to a guided kayak outing led by the Lead Kayak Guide and Assistant Kayak Guide and escorted by the Kayak Safety Driver in his/her Kayak Safety Zodiac. Also known as a kayak excursion.

**Paddlers:** Any crew or guest participating in a kayak operation. Also known as kayakers.

### 3.1 Kayaking – A General Overview

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On selected voyages and ships Silversea will offer guided kayak excursions. These kayak excursions will be offered in locations the Kayak Guides and Expedition Leader agree to be suited to the activity and to guests who fit the set criteria as outlined below. The excursions will be optional for guests and may run at the same time as other ship excursions, only during daylight hours. Kayak excursions will be guided and supervised by professional Kayak Guides with relevant experience as per the job descriptions. These excursions will take place when the weather, logistics (ship and port where applicable), and site conditions are appropriate and the kayak excursion does not hinder other ship operations.

The main purpose of the kayak program is to enhance the guest experience by offering a unique alternative to other scheduled excursions, an adventurous way in which to view scenery and wildlife. On occasion, a landing may be possible as part of the kayak excursion. This should be discussed and agreed upon in advance with the EL. In this case, all company landing and shore operation procedures for Zodiacs apply and where relevant based on area guidelines and laws.

- Due to safety concerns, English proficiency is required unless prior, special arrangements are made.
- A Kayak Report should be completed by the Kayak Guides and submitted to Silversea home office at the end of each voyage.
- During kayak operations, in addition to the Kayak Safety Zodiac, a second boat must be readily available to assist the Kayak Team in case of emergency.

### 3.2 Program Leadership – Kayak Guides

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- Where applicable, Silversea staffing management will establish one designated Lead Kayak Guide, an Assistant Kayak Guide and a Kayak Safety Driver.
- The kayakers' safety is the guide(s) first priority. The Kayak Guides will be suitably experienced and skilled, with qualifications and proficiency at the minimum that is described in the approved Silversea job descriptions.
- Due to the expertise needed, the Kayak Guides will oversee all aspects of the kayaking program, but the Expedition Leader will ultimately approve where and when kayaking excursions are offered.
- The decision to paddle or not to paddle will be made in consultation between the Kayak Team and the Expedition Leader.
- It is the Kayak Team's responsibility to report all issues and submit any reports needed to the Expedition Leader in a timely manner.
- The Lead Kayak Guide will coordinate with the Assistant Kayak Guide, Kayak Safety Driver and other expedition staff to effectively deliver the kayak program as per these Standard Operating Procedures (SOPs).

- In case a member of the Kayak Team is sick or not fit for duty, another Expedition Team member with sufficient experience can fill that role, or necessary another option is for fewer guests to join the paddle.

### **3.3 Kayak Equipment**

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- The Kayak Team is responsible for issuing kayaking gear and ensuring all gear is returned. Lost or damaged gear must be reported during the next inventory.
- The Kayak Team is responsible for ensuring they have the equipment needed to run their program.
- All equipment will be regularly inspected and maintained by the Kayak Safety Driver to ensure kayakers have a safe and enjoyable experience.
- A suitable competent staff member will complete any service or maintenance required.
- New equipment will be chosen in consultation with the Kayak Guides.
- Inventory and ordering will be done in accordance with Silversea shipboard policies.
- Kayak Safety Driver is to carry a satellite phone during kayak operations

### **3.4 Criteria for Kayakers**

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- Each kayaker will be required to fill out and sign a kayak liability release waiver or a pre-kayaking experience form in order to participate in the kayak program.
- Potential paddlers must have prior sea kayak experience, know how to swim, and be of suitable health and fitness before joining the kayak program. These conditions are to minimize any problems the Kayak Team might encounter with participants.
- This is not an instructional program, which will be communicated clearly to participants prior to each kayak excursion.
- In order to participate in the kayak program, participants must be 16 years or older. Anyone who is 16 or 17 must be accompanied by an adult in their kayak.
- Both the legal guardian/parent and minor participant are to sign the kayak waiver form.
- If the kayak team feels a guest's participation will result in a breach of safety for the individual paddler or the group as a whole, the paddler will be refused to join the program initially, or will be directed to join the safety Zodiac mid-paddle as appropriate.
- Silversea Cruises management on ship and shore side will support the decision by the Kayak Team to refuse a guest to participate in the activity.

### **3.5 Kayak Briefings and Safety**

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- At all times safety will take priority.
- Paddlers are required, for the safety and comfort of all involved, to attend all relevant briefings, and to listen to, understand, and comply with any and all instructions given.
- The briefings will provide guests with information regarding safety guidelines, relevant wildlife and operating regulations, set realistic expectations, recommend dress and other information deemed necessary by the kayak team including but not limited to:

- On water group management and communication techniques while kayaking
  - Getting in and out of the kayaks
  - Risks associated with kayaking and to best avoid them
  - How to properly dress and any personal clothing requirements
  - Demonstration of gear provided
  - Wildlife watching guidelines
  - Physical fitness requirements
  - Paddling techniques forward stroke, back stroke, steering, rudder control
- Each kayak excursion must maintain radio contact with the vessel.
  - A kayak specific safety kit containing equipment to manage paddler capsizes and changing conditions will accompany the Kayak Team and remain with the Kayak Safety Driver in his/her Zodiac.
  - Each kayak will carry one bailing pump, a throw bag and bailing system.
  - Each Kayak Guide will be equipped with a VHF Radio, GPS, watch, rescue knife, and some form of tow system.
  - Guests and guides must always wear an appropriate and well-fitting lifejackets
  - In the event of a kayak capsizing and/or a person in the water, the Kayak Team is to respond swiftly to:
    1. Raise the Alarm
    2. Maintain the safety of themselves and the rest of the group
    3. Act in a manner appropriate to the situation and utilize all available resources to get the person out of the water and right the boat as per their training/experience

### 3.6 Group Size

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- A guide-to-paddler ratio will be no more than 2 guides for 16 kayakers or 1 guide for 8 kayakers.
- When the group size is below eight participants, whenever possible two Kayak Guides will be on the water with guests to provide a high level of customer service and care.

### 3.7 Kayak Safety Driver

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- A support Zodiac operated by a Zodiac Operator trained in the procedures of the kayak program will always accompany the kayakers, to provide support and assistance, and to monitor the operation from the Zodiac and ensure compliance with established protocols. This designated person is known as the Kayak Safety Driver.
- The Kayak Safety Driver will be trained in the procedures of the kayak program, and maintain a position on the water suitable to react quickly if needed in an emergency or directed by the Kayak Guides.
- The Kayak Safety Driver will be suitably skilled and appropriately trained for the geographical area in which they are working with his/her job description is a baseline to ensure a suitably skilled individual fills this role.
- In addition to bringing a ship's satellite phone on kayak excursions, the Kayak Safety Driver will maintain radio contact with the ship and Kayak Guides. He/she will monitor the ship's

Bridge & Expedition Team on their designated working channel, as well as a separate channel designated for the Kayak Team.

- Once each voyage the Kayak Safety Driver must organize a washing of the kayaks with fresh water. He/she is also responsible for checking that all kayaks are in good working order in terms of maintenance, hatch covers secure, no leaks etc.
- In the Arctic the Kayak Safety Driver will also be a rifle handler and will ensure the following:
  - do not allow kayaking if polar bear swimming in close vicinity
  - be aware stationary bear on land can go swimming
  - refer to all in Section 10:2 Firearms in Daily Operations

### 3.8 On the Water

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- Prior to each kayak excursion the Kayak Guides will check each paddler's clothing and paddling attire to be sure it is in good condition and properly worn to minimize risk. Paddlers will also check their gear and confirm with the guides so that they understand the use of all gear and it is fitting properly and comfortably.
- Guides will maintain a non-disturbance ethos when paddling around wildlife, and will alter the excursion should there be encounters that alter the behavior of wildlife.
- At all times Kayak Guides will be responsible to adhere to relevant area guidelines for travel and wildlife viewing including IAATO, AECO and any other regulations and laws applicable to the geographical area in which the kayak program is operating.
- The kayak excursion will take place in areas where conditions, (including but not limited to swell, wind, current, ice), allow, and also offer enhanced experiences for guests in terms of wildlife, scenery or other distinguishing factors.
- It is the responsibility of the Kayak Guides to keep the kayak group together. No kayak is to stray out of eyesight or voice command at any time.

### 3.9 Polar and Cold Water Kayaking

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#### **General Polar and Cold Water Considerations:**

- It is imperative that at least one of the Kayak Guides has experience in the cold water and/or Polar Regions in which the group is paddling, in order to make informed decisions regarding kayaking.
- In cold water and/or Polar Regions guests will be issued and required to wear dry suits.
- All relevant guidelines and laws, concerning travel in Polar and/or cold water areas and amongst ice in any form, will be followed. This includes, but is not limited to the SOPs outlined in the Zodiac section of this Manual, region specific regulations, IAATO and AECO guidelines etc.
- The kayak group will move amongst icebergs, glacial faces and all other forms of ice following a conservative route based on experience and judgment of the Kayak Guides.
- Management strategies to minimize risk in icy environments will be discussed amongst the Kayak Team and guests prior to the start of any excursion involving ice.

- Kayaking will only be conducted during daylight and in good visibility. The Kayak Guides will determine the excursion's length and cancel should conditions or other considerations change.
- If conducting beach starts, landings and/or anchoring kayaks to start excursions in regions with ice, be cautious of waves caused by calvings and ice movements at all times

### **Arctic Considerations:**

When operating a kayak program in the Arctic, especially in areas known for polar bears and walrus, the Kayak Team will make conservative decisions.

#### Kayaking with Firearms in Polar Bear Environments

*Please refer to Firearms Chapter 10 and the section regarding kayaking operations with firearms in this manual, as well as the AECO Firearms SOPs in the Appendix.*

#### Polar Bears

- Each Kayak Team must discuss and agree upon specific protocols for encountering polar bears in different scenarios based on their strengths and combined experience.
- In general, should a polar bear be encountered in the operating area of a kayak excursion the Kayak Guides will alter the paddling program as they see fit, following AECO and Silversea guidelines and incorporating strategies to minimize risk in accordance with experience and judgment.
- Should a swimming polar bear approach kayakers on the water, the Kayak Team will assess the situation, communicate the situation while asking for assistance, and act accordingly to keep the group safe.
- With a swimming bear the Kayak Team must consider all/any resources available to assist them, relevant guidelines, and be ready to move the kayakers into Zodiac(s).
- Do not proceed with kayak excursions if a polar bear is swimming in close vicinity.
- Kayaking in brash ice limits long distance visibility over the water. The Kayak Team must be cautious in these areas particularly with scouting for polar bears and maintaining a close distance between kayakers and the Kayak Safety Zodiac.
- Be aware a stationary bear on land may enter the water and swim.

#### Walrus

- In accordance with current AECO guidelines, no kayaking will occur in "walrus waters."
- Kayak Guides will operate in areas they deem low risk for walrus encounters based on their experience, presence of wildlife, and judgment.

#### Arctic Kayak Safety Drivers

- In the Arctic, the Kayak Safety Driver must be proactive, attentive at all times, and stay close to the kayakers in the water.
- The Kayak Safety Driver will maintain a lookout especially for polar bears and walrus in the operating area of the kayak program before the operation begins and throughout each kayak excursion.

### **Antarctic Considerations:**

- Sites ideal for kayaking in Antarctica offer protected waters away from glacier faces where katabatic winds may occur, generally suitable sea, ice, wind and weather conditions, and are sites that offer wildlife viewing opportunities.

- All kayak excursions in Antarctica will be operated in accordance with the Antarctic Treaty, notably a provision of Annex V to the Environmental Protocol, the Antarctic Specially Protected Area (ASPA). [https://www.ats.aq/e/ep\\_protected.htm](https://www.ats.aq/e/ep_protected.htm)
- When in the vicinity of orcas or leopard seals, guides will take extra precautions and if the animals are exhibiting any aggressive behavior.

### 3.10 Warm Water Kayaking

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#### General Considerations:

- Outside of Polar and cold water regions it is at the Kayak Guides discretion whether or not guests are required to wear dry suits and/or spray skirts based on water temperature, conditions, guide experience, and paddling location.
- It may also be appropriate if conditions and the group's skill level allows to establish a "free roam area" for guests to explore independently. In this case, one Kayak Guide will be on the water supervising and assisting from a kayak, while the other will be helping dress the guests with the specific kayak gear, putting them into the kayaks, and checking they have signed a waiver as needed.
- Guides may use their discretion in a "free roam" situation to increase the number of paddlers to each guide as appropriate.
- During "Free Roam" kayak activities, two safety Zodiacs (one being the designated Kayak Safety Driver) will be stationed off shore to act as a boundary as well as on-water safety support.
- Be aware of weather conditions and monitor changes in the weather closely. Passing squalls can bring lightning, visibility obscuring rain and unexpected high winds.
- Guides must return the group to ship or have a planned escape route as an alternative place to get off the water/take temporary shelter if weather conditions dictate.
- Safe practice is to leave the water when lightning and thunder are cause for concern.
- Especially in tropical areas where dry suits are not necessary, Kayak Guides must ensure guests wear appropriate sun protection including a wide-brimmed hat, polarized sunglasses if possible, and sunscreen.
- Guests and Kayak Guides need to be properly hydrated and bring drinking water.
- Be aware of local boat traffic and fishing activities, obey the rules of the road, and give locals a wide berth and plenty of respect on the water.
- Guests and Kayak Guides must always wear close-toed shoes or booties while paddling in warm water in the event that they may need to wade through shallow water unexpectedly and to protect feet from moving parts inside the kayak cockpit.
- Paddling in surf zones, around high-current or tidal river mouths should be avoided.
- Kayak Guides must bring/study nautical charts or similar accurate maps of the regions they are paddling.

### **Tropical Considerations**

- Paddling directly over shallow coral reefs is discouraged as paddles can easily damage fragile corals, damage the kayaks themselves, and waves can surge over reefs unexpectedly putting paddlers at risk.
- Kayak Guides must be familiar with local plants that can cause skin irritation such as poisonwood. Paddling under these trees or taking shelter under them if it is raining invites the toxic sap can drip down onto kayaks and people below.
- Tropical areas house dangerous marine organisms such as jellyfish, cone snails, and crocodiles. Kayak Guides must be aware of such risks and keep guests in their kayaks as appropriate, in addition to avoiding jellies with paddles.
- When paddling in mangrove creeks ensure that close attention is paid to the route taken and the local tidal schedule. A clear exit route is to be easily found at all times.
- Handheld GPS units are to be left on while paddling in mangroves so that the track can be followed if needed. Ideally, Kayak Guides will study closely aerial photos of the mangroves, such as those available on Google Earth, and determine a route prior to entering narrow mangrove channels.
- To ensure long-term maintenance of the kayaks, beach starts are not recommended due to the impacts of sand clogging steering mechanisms

### **3.11 Kayaking Biosecurity**

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- It is the Kayak Guides' responsibility to ensure relevant regional biosecurity measures are followed at all times.
- When paddlers embark or disembark from shore, regional boot washing protocols such as those for IAATO and AECO will be followed.
- When the kayaking program is transitioning from one region to another, ~~all~~ relevant local boot washing protocols, clothing and gear inspection, and visual inspection of the kayaks (including washing of the kayaks if necessary) will happen after the activity takes place.



## Standard Operating Procedures

### 4. POLAR PLUNGE OPERATIONS

#### 4.1 Prior to Starting Polar Plunge

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- Polar Plunge waiver forms need to be signed by each participant (including crew members) and checked/collected by the doctor prior to cold water swimming.
- For minors the legal guardian/parent and participant need to sign the waiver.
- A list needs to be produced of all that have signed the waiver and this list is to be checked off against participants on the day of the event.
- Additional forms should be available for late deciders and the doctor needs to check the form(s) before the plunge takes place.
- Plenty of towels to be on hand to warm and dry swimmers as they return from the water.
- Bring a passenger list to the event in order to mark participants for records as needed and to award certificates after the event.
- No participants in the Polar Plunge will wear (e.g hat) or hold (e.g camera) anything that could be lost at sea.
- Crew are welcome to participate in a polar plunge, but required to wait until the majority of guests have already done their swim.

#### 4.2 Polar Plunge from the Ship

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- Ensure there is a safety Zodiac in the water with a Zodiac Operator and another spotter staff member ready to assist a swimmer in the water. This boat can be supplied with extra towels, ladder, blankets, ring buoy with floating line, and first aid equipment as needed.
- In polar bear environments a second Zodiac with a Zodiac Operator and a bear guard with rifle should be in the water as well.
- Ensure there is at least one ladder rigged directly to the ship, or on a Zodiac fastened alongside, for swimmers to quickly and easily climb out of the water.
- The doctor and/or nurse must be on standby with any medical equipment he/she deems necessary as a precaution.
- All swimmers will use a safety harness and line worn around the waist
- Swimmers are encouraged to return to the ship right away and not attempt to stay in the water for prolonged periods of time.

#### 4.3 Polar Plunge from the Shore

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- When swimming from shore, ensure there are plenty of towels on hand and that at least one staff member is assigned to monitor and oversee the event.
- The doctor and/or nurse must be present throughout the event and in close proximity with appropriate medical equipment for the plunge.
- In Whalers Bay it is not allowed to dig a hole for the polar plunge.
- Polar Plunges from the shore in Polar Bear environments is prohibited.

## Standard Operating Procedures

### 5. SNORKEL OPERATIONS

#### Definition of Terms for Snorkel Operations:

**Drift Snorkel:** A snorkel operation in which snorkelers drift with an ocean current while viewing the points of interest underwater. These usually take place in one direction of travel with a drop-in point different from the pick-up point.

**In-Water Snorkel Guides:** Expedition Team members snorkeling amongst guests to assist with issues with equipment etc., and to interpret highlights of the activity.

**Zodiac Platform:** Zodiac anchored in position to serve as a staging area for snorkelers entering and exiting the water adjacent to the snorkel area. A secondary Zodiac can be rafted to the first one if needed to make the platform bigger. Each single or double Zodiac Platform must have a ladder.

**Snorkel Area:** The area designated for snorkelers and restricted to Zodiac traffic. Also referred to as snorkel site.

**Snorkel Floatation Devices:** These come in a variety of designs but the two most commonly used with Silversea is the foam “pool noodle” and the yellow inflatable snorkel vest.

**Snorkel Master:** An individual assigned by the Director of Field Staff at time of hiring, and/or by the EL aboard to be in charge of overseeing snorkel operations for a particular voyage.

**Snorkel Platform Assistant:** A staff member positioned on a Snorkel Platform with the primary responsibility to assist guests as needed throughout the operation.

**Snorkel Safety Lookouts:** Depending on the setup (beach and/or Zodiac platform), one or more Expedition Team Members will be assigned as Safety Lookout with the responsibility to monitor snorkeling activities and participants at all times, and to communicate and delegate responsibilities to other staff as needed.

**Snorkel Safety Zodiac:** This is a designated Zodiac outfitted with a ladder, ring buoy on floating line, safety equipment including but not limited to snorkel floatation devices, snorkel gear, radio and competent driver/snorkel rescue staff member is highly encouraged whenever possible. The exception is when the snorkel area is too shallow or confined for a Zodiac to safely maneuver around snorkelers. In this case one person can be designated as Safety Lookout to stand at the shoreline and monitor the snorkelers from that vantage point.

**Snorkel Safety Zodiac Operator:** Responsible for operating the designated Snorkel Safety Zodiac and monitoring the safety of all snorkelers, including staff, while being ready to assist immediately if there are signs of distress or potential for harm amongst the snorkelers.

**Snorkel Shuttle Zodiacs:** Zodiacs for bringing guests to and from the snorkel area

**Snorkelers:** Any Silversea guests, crew, Expedition Team members in the water swimming or snorkeling (wearing snorkel gear) at or around the designated snorkel site

**Zodiac Platform(s):** Zodiacs either anchored away from the coral reef or trailing a group of snorkelers in a drift snorkel. Zodiacs acting as snorkel platforms will have ladders with protective towels in place over the exposed metal frame and ready to use.

## 5.1 Prior to Starting Snorkel Ops

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All Snorkeling Operations in this chapter apply to Silversea

- Due to industry-wide documented incidents, Silversea has determined that it is in our guests' best interest to ban the use of full-face snorkel masks

### Waiver Forms

- After participating in the Snorkel Briefing given by the Snorkel Master(s) guests must sign a snorkel waiver to be kept for duration of time they are aboard
- During equipment handout, be sure to mark on the form what gear has been borrowed. Include sizes, numbers or other ways of identifying the gear for collection purposes

### Gear Preparation

As applicable, the Snorkel Master(s) to be assigned to the role by the Director of Field Staff at time of hiring and/or by the EL aboard for a particular voyage must ensure that:

- All masks and snorkels are washed, in good condition (no tears or broken pieces), and free of sand, smudges and sunscreen prior to gear distribution.
- All gear bags are clean and empty of gear and trash.
- Snorkel Master and his/her team make sure all masks and snorkels are in good condition (no tears or broken pieces) and snorkels are properly attached to the masks
- All snorkels are securely attached to the masks. Any regional biosecurity measures are completed to prevent transfer of organisms on gear.
- Fins are to be clean, free of sand, and in good condition (no tears or holes)
- Fins are arranged for distribution by size groupings
- Two spare gear bags are prepared and include extra fins, masks, snorkels, snorkel keepers, defog (soap ok), vinegar for jellyfish stings, and toothpaste (optional, used for scrubbing new masks). Having two gear bags allows us to keep them in different locations for guests' access.
- Safety gear is available for operations, cleaned and organized. Include Snorkel Flotation Devices, first aid kit and life ring(s) with tow line.

## 5.2 Conducting Snorkel Operations

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Prior to the start of snorkel operations the Snorkel Master and EL will review prior Snorkel Reports for guidance (if available), discuss and agree to a plan for snorkel operations. They are to establish snorkel site boundaries and the best entry and exit points – whether beach and/or Zodiac platform – taking into consideration swell, current, wave action, tides etc.

A Snorkel Safety Zodiac with ladder, ring buoy on floating line and tied to the boat ready for use, safety equipment, snorkel gear, binoculars, radio and Zodiac Operator is required. The exception is when the snorkel area is too shallow or confined for a Zodiac to safely maneuver. In this case Snorkel Safety Lookout(s) ready with equipment to assist in the water can be designated to stand at the shoreline and monitor the snorkelers from that vantage point.

- Staff will be assigned as needed to the following positions: Zodiac Platform Assistant(s), Snorkel Safety Lookout(s) from Zodiac Platform, beach, and/or Zodiac, and Snorkel Shuttle Zodiac(s).
- With assistance from the Snorkel Master or other staff member(s), scout the snorkel site to assess the best area for operations, habitat characteristics, marine life, snorkel conditions, and potential hazards.
- Check waters for evidence of jellyfish. If there are lots of zooplankton (gelatinous ‘jellies’) in the water column, consider cancelling the snorkel. NOTE: there have been cases of serious Irukadji stings in tropical oceans – it is always preferred to err on the side of caution in deciding whether to run a snorkel operation or not.
- Anchor the first Zodiac Platform(s) and raft a second boat in parallel to increase the size of the platform if needed for larger groups of guests.
- Snorkel Safety Lookout(s) and the Snorkel Safety Zodiac(s) must be ready, equipped and on-site before any guests enter the water.
- Whenever snorkeling/swimming from the shore separate and clearly define an area for swimmers and snorkelers. Zodiac Shuttles coming and going from the landing site ashore are to stay separated from any people in the water. See Diagram 3 below.

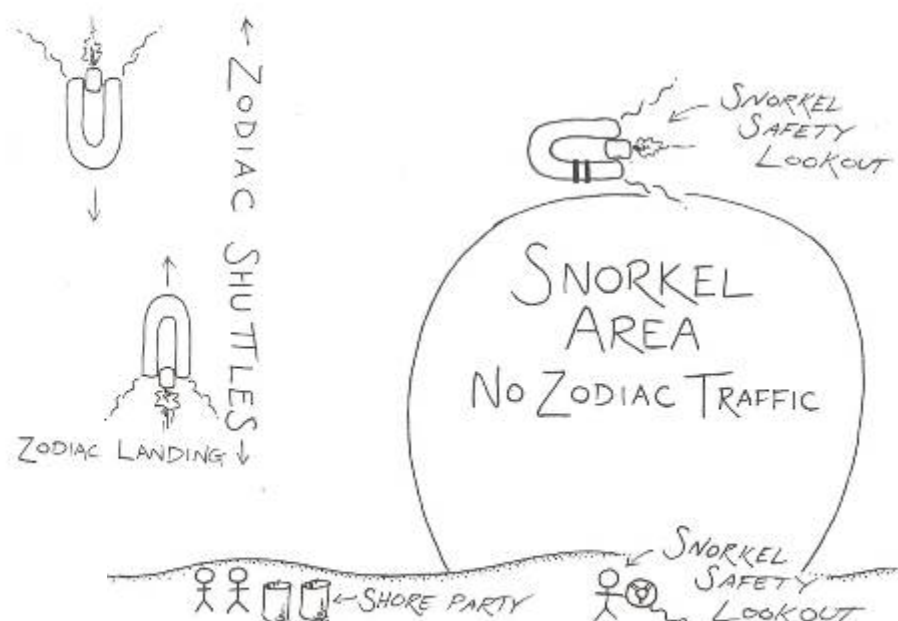


Diagram 3. Snorkel/Swim from shore (*please note distances are not to scale*)

- When possible and appropriate, anchor a minimum of two Snorkel Platform Zodiacs (one on either side of the snorkel area is ideal) with ladders ready-to-use, and at least one staff member to act as Snorkel Platform Assistant on each platform.
- Be sure to have a selection of extra gear on shore or in the Snorkel Zodiac platform(s) for guests that includes at a minimum:
  - Masks, snorkels and snorkel keepers
  - Mixed sizes of fins

- Snorkel Floatation Devices
- First aid kit, including vinegar for jelly stings and a whistle
- Defogger

### **Once the Snorkelers Arrive on Site**

Snorkel Platform Assistants are primarily responsible to deliver a briefing to the snorkelers, unless snorkelers are entering the water directly from the Snorkel Shuttle Zodiac in which case the Shuttle Zodiac Operator provides the briefing (see Appendix for summary/printable version) to including the following:

- Define snorkel area with boundaries
- Site conditions and any pervasive current, or potential for changes to these
- Snorkel site highlights with habitat characteristics and presence/absence of any potentially hazardous marine life
- Remind snorkelers not to stand on the reef
- Timing of snorkel – Explain that snorkelers can return to the platform to rest and/or Zodiac shuttle back to the ship. Note last Zodiac time.
- Safety:
  - ✓ Point out the Safety(s) on beach and/or Zodiac to snorkelers
  - ✓ Point out in water snorkel guides (if applicable)
  - ✓ Point out location of any ring buoy/tag line(s)
  - ✓ Point out snorkel flotation (optional) i.e. noodles, snorkel vests
- Review Hand signals: OK / Need assistance / Emergency
- How to enter the water (from a seated position on the Zodiac) and how to exit the water (first removing and handing fins up to the Snorkel Platform Assistant and then climbing the ladder)
- Continue to monitor the weather and sea conditions for shifting winds and current that could alter snorkeling conditions and the integrity of the anchor.
- Please note, it is safe practice for Zodiacs passengers and snorkelers to leave the water when lightning and thunder are cause for concern.

### **5.3 Snorkel Safety Lookouts & Safety Zodiac Operator Duties**

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These position must be undertaken with care and attention.

- At least one designated Snorkel Safety Lookout and/or Safety Zodiac Operator must be on duty at all times. More staff need to be assigned to these positions by the EL/AEL and/or Snorkel Master as conditions, number of snorkelers, and/or nature of snorkel site dictate.
- Snorkel Safety Lookouts and/or Safety Zodiac Operators will have a whistle handy, sunglasses (preferably polarized), a charged radio, binoculars, and a set of snorkel gear close by and at-the-ready (not in a bag) in case a snorkeler requires assistance.
- Snorkel Safety Lookouts and/or Safety Zodiac Operators will keep a close eye on snorkelers as their primary responsibility and continuously scan the snorkel area until relieved of this duty.

- If Snorkel Safety Lookouts and/or Safety Zodiac Operators are required to assist a snorkeler, then another staff member must take over Snorkel Lookout duties for the rest of the snorkelers.
- Limit talking with guests/crew and other distractions while on duty
- When Snorkel Safety Lookout and/or Safety Zodiac Operator must leave his/her post, he/she is responsible to make sure someone else is assigned to the position and duty.
- If and when possible, the Snorkel Safety Zodiac should carry an additional Snorkel Safety Lookout

#### 5.4 In-Water Snorkel Guides

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- An appropriate number of staff depending on weather/sea conditions, terrain, group size and local regulations etc., should act as In-Water Snorkel Guides pointing out items of interest in the water and monitoring guests who need help with gear or floatation.
- These guides are to remain in the general area of the guests constantly looking around and checking on guests while staying particularly close to any guests having difficulties

#### 5.5 Snorkel Shuttle Zodiacs

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- Zodiac Operators taking guests to and from the Zodiac Snorkel Platforms should check with Zodiac Platform Assistants before arriving with guests to determine that the approach is clear and appropriately timed.
- Zodiac Operators must approach and depart the Zodiac Snorkel Platform(s) with extreme caution, slow speeds and always looking out for snorkelers in the water
- Zodiac shuttles shall approach and depart a Zodiac Snorkel Platform outside of the designated snorkel area and never drive through or across the snorkel area (see Diagram 4. below)

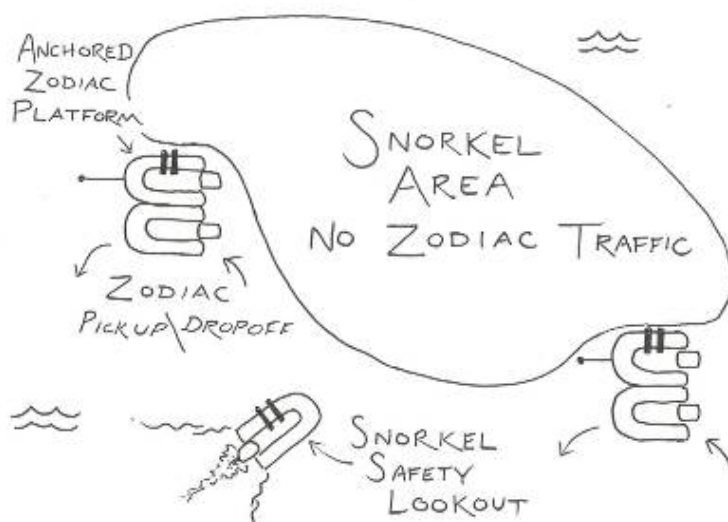


Diagram 4. Snorkel and “No Zodiac Traffic” Areas (*please note distances are not to scale*)

- Always shut the engine off when guests are transferring between Shuttle Zodiac(s) and a Zodiac Snorkel Platform

## **5.6 Upon Completion of Daily Snorkel Operations**

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- When the last snorkeler leaves the water use radio communications between the Snorkel Master, Snorkel Safety Zodiac(s) and Snorkel Safety Lookouts to inform all that snorkel operations have concluded.
- Once the snorkel site is clear of snorkelers, radio the Bridge and/or EL to inform all guests are out of the water and the snorkel operation is completed.
- Once the gear bags and safety equipment is aboard the ship, clean and stow as needed. Replace anything missing or damaged, including items from the First Aid Kit(s).
- As needed, conduct a debriefing with Expedition Team Members involved in the snorkel operations and address any issues or concerns.
- The Snorkel Master is to complete a Snorkel Report and submit to the Staff Assistant in a timely manner.

## **5.7 First Aid for Jellyfish Stings in the Field**

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- Inform the ship, EL and ship's Doctor ASAP
- Do not rub - rubbing the site of a sting can result in further venom release
- Use vinegar to flush area thoroughly and maintain a constant flushing for as long as possible
- Vinegar prevents further stinging by un-triggered tentacles. Do not use urine, freshwater or alcohol – they do not work

### **Flick Off**

- If time allows flick off remaining visible venom sacs with the edge of a ship ID card, key card, credit card etc.
- This gets rid of the stinging sacs without crushing them. If crushed, the venom will spread. Be careful that you do not get stung yourself.

### **Return to the Ship for Further Medical Treatment**

- Carefully transport the injured person to the ship as quickly as possible and keep the doctor/bridge advised if any signs of anaphylactic shock are observed

## **5.8 Upon Completion of Voyage – Snorkel Gear Return and Clean Up**

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- Guests should leave gear in a designated location after their last snorkel. If time allows staff can check the gear hand-ins against the equipment loans recorded on the snorkel waiver forms.
- Wash all gear thoroughly with freshwater and appropriate cleaning solution
- Sort and store fins by size
- Refill Snorkel Safety Boxes (vinegar, shampoo, snorkel keepers, whistles etc.)
- Replace, repair, and/or discard any broken gear.

# Standard Operating Procedures

## 6. DRONE OPERATIONS

### 6.1 For Drone Operations in Antarctica

- Follow IAATO SOPs as below:

#### IAATO Statement on the use of Remotely Piloted Aircraft Systems (RPAS) 2018

The term Remotely Piloted Aircraft Systems (RPAS) is used for any remote piloted aircraft (Formerly called UAVs).

IAATO accept the general use of RPASs within their members' operations, provided the following criteria have been met:

- For the 2018–19 season, recreational RPAS flights are not allowed in coastal areas;
- RPAS flights for scientific or commercial purposes are allowed, if conducted with the permission/authorization from a competent authority;
- RPAS flights are allowed at deep field sites, including coastal areas bound by ice shelves, if conducted with the permission/authorization from a competent authority.

Members who allow RPAS flights should have Standard Operating Procedures in place that are specific to their operation.

Prior to conducting the activity, the use of Remotely Piloted Aircraft Systems (RPAS) must be included in the operator's permit/authorization conditions e.g. Advance Notification, Environmental Impact Assessment (EIA) and Waste Management Permit (WMP), where relevant.

#### Points for Consideration for Operators' Standard Operating Procedures

In addition, for those instances where RPAS flights are allowed, Members agreed to provide the following information as points for consideration when setting up the activity.

##### 1. Legal requirements

- The tour operator and pilot must be familiar with, and adhere to, Antarctic Treaty and National legal requirements.
- Waste Management should be considered in the event that a RPAS is lost.
- Some Competent Authorities require a Waste Management Permit.

##### 2. Flight Operations and Piloting of RPASs

- The best practice guidelines presented in the peer-reviewed article by Hodgson and Koh (2016) should be reviewed by all parties involved with RPAS operations.
- All flights should be pre-approved by an authorized person/EL.
- RPAS equipment should be inspected by an authorized person/EL to ensure that it meets the requirements outlined in the authorized operating procedures.
- RPASs should be of robust construction with suitable safety features for use in Antarctica. If operated over water it should have a flotation device or alternative mechanism (such as a leash) to allow for recovery if it lands in the water.
- RPAS pilots should be able to demonstrate proficiency and experience in varied flying conditions.
- RPASs should not be operated in the immediate vicinity of a vessel if the vessel's radar is operational.

- Every flight should adhere to the individual Members' Standard Operating Procedures and a risk assessment carried out in advance for the activity.
- Each flight should have a pilot and an observer (except during solo expeditions).
- Pre-flight planning should include identifying an alternate landing area away from the launch site should the launch site become unusable. The authorized person/EL should be made aware of the alternate landing site before the flight begins.
- A test flight should be undertaken to show the authorized person/EL that the equipment is fit for purpose, and the pilot is proficient in its operation and use in the Antarctic.
- Each flight should begin with an airborne test of the RPAS and its systems in an area away from people and wildlife. This should include testing the RPASs failsafe systems for auto-return. (It is noted that south of 70 degrees, failsafe systems may be unreliable).
- The pilot should maintain visual contact with the RPAS at all times.
- The observer should maintain a lookout over the area for wildlife, people or other hazards, change in weather conditions and is responsible for monitoring signs of disturbance by wildlife.
- The observer is responsible for maintaining VHF radio contact with the other staff (Authorized person/EL/ Bridge/Communications team). The pilot should not use a VHF radio while the RPAS is airborne.





### Expe 3. Flight restrictions

- Flights should be conducted in fair weather, with a cloud base sufficiently high that visual contact can be maintained with the RPAS at all times to ensure pilot control.
- Total flight durations should not exceed 20 minutes, and the pilot must have a way to monitor the flight battery voltage at all times during the flight. (It is noted that in colder conditions flight time will be controlled by battery life.)
- Flights should not be started in winds exceeding the RPAS manufacturer's recommended maximum and should be aborted if winds exceed 25 knots.
- The maximum distance away from the pilot should never be beyond visual contact

### 4. Environmental restrictions

- Electric powered RPASs are preferable and should be used to minimise noise impact.
- Be aware the lower the RPAS flight, the more likely wildlife will respond. Initial responses are often physiologically and not necessarily obvious to the observer. RPASs should be flown at the maximum altitude practicable to achieve desired outcomes, and stopped as soon as a behavioural response is observed.
- RPASs should be launched, when possible, out of sight of wildlife.
- RPASs should never be launched closer than 100 meters from wildlife.
- RPASs must not be flown over or near to concentrations of wildlife on shore or at sea, or over concentrations of marine mammals and flying birds.
- RPASs must not be flown over Antarctic Specially Protected Areas (ASPAs).
- RPASs must not be flown over Antarctic Specially Managed Areas (ASMAs) unless the activity is specifically allowed in the ASMA Management Plan.
- RPASs must not be flown directly over designated Historic Sites and Monuments (HSMs).
- RPASs must not be flown in the vicinity of scientific stations without the permission of the Base Commander.
- If any wildlife indicates disturbance, unusual behaviour, or interest in the RPAS, the flight should be aborted immediately.
- At all times, Pilots, Expedition Leaders and Vessel Master recognize the desirability to keep RPASs out of the sight / hearing range of all other vessels at all times.
- In the event of a crash, every effort should be made to collect all the remains and evidence of the RPAS, if safe to do so.

### 5. Record keeping

- A log of all flights must be maintained, including location, length of flight, weather conditions, any crashes or unexpected landings.
- RPAS flights must be recorded on the PVR (post-visit report), including the detail above and if there was any disturbance to wildlife.
- Additional reporting to the operator's Competent Authority may be required under permit/authorization conditions.

# IAATO RPAS for Navigational Use

## Background

The term Remotely Piloted Aircraft Systems (RPAS) is used for any remote piloted aircraft (Formerly called UAVs).

IAATO accepts the general use of RPASs within their members' operations, provided the following criteria have been met:

- i. For the 2018–19 season, recreational RPAS flights are not allowed in coastal areas;
- ii. RPAS flights for scientific, navigation or commercial purposes are allowed if flying permission has been incorporated into the IAATO Member permitting and planning processes. Non-approved Individuals guests, staff, passengers and other personnel are not allowed to fly RPASs;
- iii. RPAS flights are allowed at deep field sites, including coastal areas bound by ice shelves, if conducted with the permission/authorization from a competent authority.
- iv. Members who allow RPAS flights should have Standard Operating Procedures in place that are specific to their operation.
- v. Prior to conducting the activity, the use of Remotely Piloted Aircraft Systems (RPAS) must be included in the operator's permit/authorization conditions e.g. Advance Notification, Environmental Impact Assessment (EIA) and Waste Management Permit (WMP), where relevant.

## Purpose

Whilst the IAATO Recreational Ban of RPASs remains strong within the IAATO Community it is acknowledged that more and more vessels are using RPASs for Navigational Use. Deployment of Remotely Piloted Aircraft Systems (RPAS) can, in some circumstances, reduce or avoid environmental impacts that might otherwise occur. Their use may also be safer and require less logistical support than other means of deployment for the same purpose.

With this use in mind, IAATO would like to propose the following RPAS Guidelines for Navigational Use to be assessed during the 2018-19 Antarctic Season.

### Scope of RPAS use for Navigation:

1. Assess sea ice conditions
2. Assess open water, coastal or other, navigational constraints or risks
3. Having been permitted for navigation, other uses of opportunity, such as commercial filming of the vessel, should not be performed.

## Guidelines

### Pre-deployment Planning and Environmental Impact Assessment (EIA)

Requirements of the Environmental Protocol and its Annexes

- i. A permit for operation of an RPAS for navigational use must be issued by an appropriate national authority before the activity is undertaken.
- ii. Any proposed activities undertaken in the Antarctic Treaty area shall be subject to the procedures set out in Annex I of the Environmental Protocol for prior assessment of the impacts of those activities on the Antarctic environment.
- iii. Flying or landing an aircraft in a manner that disturbs concentrations of birds and seals is prohibited in Antarctica, except in accordance with a permit issued by an appropriate authority under Annex II to the Environmental Protocol.
- iv. Removal of hazardous wastes from Antarctica, including electrical batteries, fuels, plastics, etc. is required by Annex III, which should be considered in contingency plans for lost or damaged RPAS as part of the Environmental Impact Assessment (EIA).
- v. A permit issued by an appropriate national authority is required to enter an Antarctic Specially Protected Area (ASPA), and special requirements to operate RPAS may apply within an ASPA or an Antarctic Specially Managed Area (ASMA): any planned RPAS operation within ASPAs or ASMAs, including any overflight of these areas, must be in accordance with the respective ASPA or ASMA Management Plan.

## General Considerations

- i. Undertake detailed pre-flight planning, including thoroughly assessing the particularities of the operational area in advance of deployment, to ensure an appropriate understanding of its topography, weather and any hazards that may impact upon an environmentally sound operation.
- ii. Map out flight plans, prepare contingency plans for incidents or malfunctions, including alternative landing sites and plans for RPA retrieval should there be a crash.
- iii. When operating RPAS from vessels, be aware of elevated risks of collisions with flying birds that often follow ships.

## Operator Characteristics

- i. RPAS pilots should be well-trained and experienced before undertaking operations in Antarctica. Supporting documents and demonstration of experience (flight logs, etc.) need to be verified by the IAATO Operator.
- ii. Before operating in Antarctica, RPAS test flights should be undertaken in a variety of conditions by the pilot that will be operating in Antarctica with the specific type and model of RPAS that will be deployed.
- iii. RPAS operations should comprise a pilot and at least one observer. Pilots and designated observers should operate within Visual Line Of Sight (VLOS) with the RPA at all times, unless the operation is approved by a competent authority to operate "Beyond Visual Line Of Sight (BVLOS)".
- iv. Pilots and designated observers should be vigilant during operations and maintain good communications with each other throughout operations, watching for wildlife moving into the area of operations.
- v. When possible, pilots should avoid operation of RPAS near wildlife.
- vi. Pilots and designated observers should operate with special care near cliffs where birds may be nesting, and where practicable maintain the horizontal separation distance. During VLOS operations, pilots and designated observers should watch for, and inform each other of, signs of wildlife disturbance.

## Reporting

- i. If an interaction with wildlife occurs, the designated observer (other than the pilot who should be principally focused on RPA systems and control) should record animal reactions
  - a. Interactions should be defined as changing the behavior of wildlife due to an interface with the RPAS.
- ii. Post-activity reporting should be completed in accordance with the EIA, IAATO and/or permitting associated with the activity.
- iii. RPAS operators are encouraged to carry out further research into the environmental impacts of RPAS to help minimize uncertainties and to undertake regular reviews of the research to help refine and improve currently known best practice environmental guidelines for the operation of RPAS in Antarctica.

**Please also see the following support documents in the IAATO Field Operations Manual (FOM):**

- Environmental Guidelines for operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica
- RPAS Best Practice Paper
- IAATO Statement on the use of Remotely Piloted Aircraft Systems (RPAS) 2018

## 6.2 For Drone Operations Worldwide

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- The IAATO SOPs for UAV flights (above) are to be used as applicable worldwide.
- The UAV photographer is responsible for checking on national, regional and local regulations for flying UAVs and securing proper permissions with the support of the ship's agent or Silversea office as needed.
- Photographers should not assume that they are allowed to fly in a region. It remains the responsibility of each individual photographer to ensure that all local laws and requirements in terms of drones usage are met.
- Expedition Leaders are responsible for supervising all aspects of UAV activity, including the field activities of the UAV photographers.
- The Expedition Leader or Assistant Expedition Leader is responsible for meeting with embarking UAV photographers at the start of the voyage to review together the Company's SOPs and ensure procedures are clear.
- Ahead of each day filming is anticipated, the EL should know the plan and proposed flights and filming goals of the photographer(s). Pre-flight planning to include identifying an alternate landing area away from the launch site should the launch site become unusable.
- UAV photographers must attend all staff and guest briefings to ensure they are updated for activities off ship and ashore.
- Flights should be conducted in fair weather; with a cloud base sufficiently high that visual contact can be maintained with RPAS/UAV at all times to ensure control.
- RPAS/UAV equipment should be inspected by an authorized person/EL to ensure that it meets the requirements outlined in the authorized operating procedures.
- No flights over land will be conducted from the sea. Flights over the sea may be conducted from land, from a Zodiac, or from the deck of the ship when at anchor.
- No drone flights permitted from the ship while underway unless authorized by the Master.
- A Zodiac will always be on standby in the unlikely event that the device needs to be retrieved. This means if flying from the ship there must be a Zodiac on standby.
- RPAS/UAVs should not be operated in the immediate vicinity of a vessel if the vessel's radar is operational.
- Each flight must have a pilot and an observer
- The observer should maintain a lookout over the area for the RPAS/UAV, wildlife, people or other hazards, change in weather conditions and is responsible for monitoring signs of disturbance by wildlife.
- Total flight durations should be monitored, and the pilot must have a way to observe the flight battery voltage at all times during the flight. (It is noted that in colder conditions flight time will be controlled by battery life.)
- Flights should not be started in winds exceeding the UAV manufacturer's recommended maximum and should be aborted if winds exceed 25 knots.
- The maximum distance away from the pilot should never be beyond visual contact



- The observer is responsible for maintaining VHF radio contact with the other staff (Authorized person/EL/Bridge/Communications team). The pilot should not use a VHF radio while the RPAS/UAV is airborne.
- Be aware the lower the RPAS/UAV flight, the more likely wildlife will respond. Initial responses are often physiological and not always obvious to the observer. RPAS/UAVs should be flown at the maximum altitude practicable to achieve desired outcomes, and stopped as soon as a behavioral response is observed.
- RPAS/UAVs should be launched, when possible, out of sight of wildlife.
- RPAS/UAVs should never be launched closer than 100 meters from wildlife.
- UAVs must not be used over any wildlife colonies or concentrations of wildlife on shore, marine mammals at sea or over concentrations of flying birds to minimize potential impact to native birds and mammals.
- UAVs are never to be used to pursue or follow wildlife.
- At all times, Pilots, Expedition Leaders and Vessel Master recognize the desirability to keep RPAS/UAVs out of the sight and hearing range of all other vessels at all times.
- In the event of a crash, every effort should be made to collect all the remains and evidence of the RPAS/UAV, if safe to do so.
- Biosecurity measures will be followed as per regional requirements, including when necessary wiping down the device before and after flight with a disinfecting agent (e.g. Virkon-S, Virox5 or other).

### 6.3 Record Keeping

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- A log of all flights in Polar Regions must be maintained, including location, length of flight, weather conditions, any crashes or unexpected landings using the Silversea standard drone flight log form. This log is to be sent to the designated shore side contact after each voyage.
- RPAS/UAV flights must be recorded on the PVR (post-visit report for Polar Regions), including the detail above and if there was any disturbance to wildlife.
- Additional reporting to the operator's Competent Authority may be required under permit/authorization conditions.

### 6.4 Piloting of RPAS/UAVs

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- RPAS/UAV pilots should be able to demonstrate proficiency and experience in varied flying conditions.
- Proving UAV pilot proficiency may involve a pre-departure interview about the UAV photographer's experience with the equipment, proof in part of their competence, or confirmation of their abilities through proven professional use.
- Only those who have proven proficiency in a way that satisfies Silversea's responsibility to their SOPs will be allowed to operate UAV equipment with permission and support from the Company, Master and Expedition Leader.
- Silversea will refuse the use of any UAV equipment if the Company feels the conditions or level of experience will not be met under their permit.

- Those who can demonstrate proficiency in a manner that satisfies Silversea's responsibility to a permit will be added to the Company's list of pre-approved UAV photographers for future seasons, but UAV photographers will always be subject to proving maintained competency with the equipment in similar conditions for future dates.
- As no official training or certification frameworks currently exist, Silversea must rely on their SOPs, based on the IAATO Guidelines, to guide process.

## 6.5 Guests and RPAS/UAVs

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- Guests are not permitted to fly UAVs.
- However, if conditions permit, qualified and pre-screened expedition staff photographers or parties with legitimate scientific or commercial UAV projects who have been vetted by the Company may elect to operate remote-controlled UAV's to obtain commercial aerial footage from select locations.
- Parties with legitimate scientific or commercial UAV projects are welcome to inquire about possible logistical support while onboard a Silversea voyage. If a guest (e.g. a scientist, researcher or documentary filmmaker) wishes to fly a UAV for non-recreational purposes on one of the Company's trips, it will be the responsibility of the guest to first contact the Company.
- In the case of a scientist, it is the scientist's responsibility to obtain all authorizations and/or permits from the Competent Authority. The company will consider any applications under its own authorization. The final decision as to where, when and if the UAV can be used (regardless of application) will be made by the Company, Master and Expedition Leader.
- Prior to approving the use of a UAV by a guest for scientific purposes or limited commercial applications, such as documentary filmmaking, Silversea must be convinced that the activity is a legitimate activity and that appropriate authorizations have been obtained.
- All UAV use by guests involved in scientific research or limited commercial applications, especially in Antarctica must follow the conditions of the Competent Authority authorization and pertinent permits, and under final approval of Silversea per their guidelines and appropriate UAV guidelines and authorizations such as those issued by IAATO.

## Standard Operating Procedures

### 7. REGIONS WITH POLAR BEARS

#### 7.1 General Polar Bear Safety

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Polar bears can be encountered all over the Arctic. Every staff member must be familiar with regional guidelines and regulations in regards to operations in polar bear areas as well as the AECO Polar Bear Guidelines available here: <https://www.aeco.no/guidelines/polarbear/>

- Silversea and AECO Guidelines prohibit any actions designed to lure, pursue or otherwise seek out polar bears in such a way as to disturb them or expose either bears or humans to danger.
- Silversea Staff must take every necessary action to prevent our guests from having close, unexpected encounters with polar bears. Any shooting at (or of) a polar bear will be investigated as a possible criminal offence.
- Every staff member ashore must be armed with either a rifle or flare pistol, an appropriate number of rounds for the firearm, and must carry a working and charged radio.
- Expedition staff members leading walks ashore need to do a head count for each group at the start of the walk, and keep their guests close together in tight walking groups. This means that the group walks only as fast as the slowest group member.
- Weather such as snow and fog that hampers visibility may make a landing unsuitable and decisions as to the viability of a landing need to be made accordingly between the Expedition Leader and the bear guards.
- In the event of an urgent shore side evacuation, it is the Expedition Leader's responsibility to double check as soon as possible that all guests and crew have left the shore and/or returned safely to the ship.
- Enough Zodiacs to evacuate everyone ashore must be on hand near the landing site.
- Unless there is an emergency or under instructions, no staff member should ever load a round or fire a weapon at any time.
- No staff member should walk around by themselves on a landing site without notifying a bear guard or the Expedition Leader first.
- Any incident related to polar bears must be reported immediately through the ship's command to the DPA and SVP of Expeditions. No communications are to be made directly from the ship to any authorities or AECO, unless instructed to do so by the company.
- Guests and staff delivering interpretation in polar bear regions may benefit from wearing and using Quietvox devices ashore. Dedicated staff members (generally lecturers and naturalists) will use the Quietvox units to interpret to the guests, while Rifle Handlers and Bear Guards will refrain from wearing or using the units so as not to be distracted from their primary duties.

- When opportunities for practicing shooting at the firing range are available, priority for attendance is to be given to the Bear Guards and Rifle Handlers.

## **7.2 From the AECO Operational Guidelines re: Polar Bears**

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- Avoid confrontations with bears. Hurting or killing a polar bear is an offence if not done in self-defense. Irresponsible actions leading to such a situation can also be deemed an offence.
- Do not make a landing if you cannot see clearly, e.g. fog with low visibility.
- Always be vigilant to bears; always keep watch when in zodiacs or ashore. When landing, check out the terrain before landing the passengers. If a bear is close to the landing site, then the landing should be cancelled at that site. Establish a polar bear watch system and stay in places where you have good visibility of the surrounding area.
- Never feed or leave anything edible where it can be found by bears. (Nothing should be left behind). Teaching bears that people can mean food is a potentially deadly hazard both for bears and people.
- Never follow/chase bears; by ship or zodiac, in drift ice or open waters or on-foot ashore. The bear can become stressed (without you noticing) and an emergency situation may be the result.
- Never put pressure on anyone or be pressured by anyone to approach close to bears, or do anything related to bears that are not deemed safe.
- If you find yourself in close proximity to a bear ashore, you should observe the following:
  - Never approach a bear when you catch sight of it.
  - Leave the area swiftly and calmly.
  - Stay together as a group and keep an eye on the bear.
  - Bring sub-groups together.
- Frighten off the bear if it follows you and you have no chance of getting away. Stay together and make as much noise as possible. Behave firmly and make use of whatever means you have to intimidate it. Make sure you do not shoot flares off such that they land behind a bear that is on its way towards you. Use signal firearms or signal pens with crack cartridges (not maritime signal flares or red flares of any kind).
- Shoot to kill: If a bear refuses to be intimidated, so that human lives are at stake, prepare to kill it.
- Define a dividing line in your surroundings, and prepare to shoot if the bear crosses it. You should target vital organs, such as the heart or lungs, if possible. Continue shooting till you are sure that the animal has been put down. Be very careful when you approach the animal afterward.
- Report injured or killed polar bears immediately to local authorities. Don't remove the dead animal or other items on the location of the incident.
- Plan ahead with the landing staff, for the handling of a possible polar bear situation.
- Guide to visitor ratio should be adequate taking into account the risk of polar bear encounters.



### AECO: Polar Bears – Vessels and Zodiacs

- If you catch sight of a polar bear on land or on ice from an expedition cruise vessel a minimum of 200 meters should be kept between the vessel and the bear(s). Do not attempt to approach the bear to a closer distance with the vessel.
- If the vessel is laying still and a polar bear is approaching it is not necessary to retreat unless there is potential danger in the situation. Take all necessary safety precautions especially when polar bears are approaching the vessel on ice and can potentially reach the broadside.
- Small vessel and vessels with low outside decks must never allow a bear to approach the broadside.
- Portholes that can be reached by the polar bear must always be closed in these situations.
- Do not allow anyone to lean over the broadside or to put themselves at any risk during the “polar bear situation”.
- In the event of a polar bear sighting, on land or on ice, from a zodiac, the Zodiac Operator shall make sure that he/she always keeps at least a distance of 30 meters between the Zodiac and the land/ice/spot where the polar bear is present.
- This distance is only acceptable when it is absolutely clear that the bear shows no signs of stress or being disturbed from the presence. If the polar bear shows any signs of stress or starts walking away, **never follow a bear(s), but retreat from the area immediately.**
- The Zodiac must always be positioned so that it can leave the area in a safe and controlled manner should the situation require it.
- Never follow or approach a swimming polar bear from any angle. If you catch sight of a swimming bear, retreat immediately.

### **7.3 Appropriate Polar Bear Reactions**

*Note: The Lead Bear Guard is responsible ashore for polar bear safety, if not reachable then the Expedition Leader, if neither of them – then you / the rifle handler are responsible for safe course of action.*

#### **Scenario A – Bear spotted at a distance**

- If a bear is spotted at a distance while groups are ashore, the spotter will assess the situation and be sure the Bear Guards and the Expedition Leader are notified immediately preferably on an alternate radio channel.
- Information to be conveyed should include the animal’s location, approximate distance from the landing site, and any behavioral observations.
- The Expedition Leader and the bear guards will then continue to communicate as the situation dictates and will decide how to proceed based on the scenario.
- If the bear guards and Expedition Leader decide that it is necessary to evacuate the area, then this announcement will be made on the main radio frequency to all the other staff ashore using the code words, “Papa Bravo” and giving directions for everyone to return to the landing site.
- Expedition staff will then escort their guests, still in tight groups, back to the Zodiacs and will begin to assist in the evacuation of the landing site as needed.
- At this point, it will be important to keep the guests calm and moving in an orderly and efficient way back to the Zodiacs.

### **Scenario B – Bear spotted at close range**

- In the unlikely event that a bear is spotted at close range on shore or in the water, the spotter or closest expedition team member may need to fire a flare right away in an attempt to scare the bear. If time allows, first inform the EL and/or Lead Bear Guard.
- Do not trap the polar bear's escape route by your position or the flare shot
- It is recommended that the preliminary flare(s) be shot into the air.
- As soon as possible, all staff members ashore should be notified of the situation by radio, and will return to the Zodiacs to evacuate the guests as outlined above.
- If the evacuation is urgent, staff can distribute Zodiac lifejackets to the guests once they are already in the boats.
- In the event of a sudden site evacuation, all staff should remain on the main radio frequency in order to stay updated on the situation's developments, but keeping radio communications to a minimum in order to keep the channel clear for the most urgent messages.
- Meanwhile, the armed bear guards will be in charge of handling the bear as the situation and their training dictates.
- If there is no escape route for you and your group or the polar bear charges:
  - go down on your knees between the group and the polar bear
  - load a cartridge into the chamber and prepare to fire
  - inform group of your intentions
  - if the bear comes closer to about 30 meters shoot to kill

### **7.4 Drones as a Tool to Assist in Spotting Polar Bears Ashore**

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- Taking into consideration all the drone regulations, if there is an approved UAV pilot amongst the bear guards and rifle handlers on the Expedition Team, and conditions are favorable for drone flight, then the pilot may fly a drone over a landing site to assist in finding polar bears on the landscape.
- Because flights from sea over land are prohibited, the use of a drone to spot bear(s) should only be undertaken from the shore after a safe perimeter has been established by the bear guards.
- The UAV pilot should have no other responsibilities at the landing so that this one dedicated individual can focus on the UAV flight while a second individual acts as observer and keeps watch for bears in the vicinity of the pilot and his/her self.
- As per drone SOPs, radio communications to other bear guards, Bridge or EL etc. must be made by the observer and not the pilot while flying the UAV.
- The drone should always be considered as an additional tool for detecting polar bears shore side, and not the primary way of spotting bears. An over reliance on technology does not replace the eyes, ears, site knowledge and intuition of trained bear guards.
- If a bear is sighted by drone, the drone is to be returned to the pilot and landed. Never pursue or follow a bear with the drone.
- Drone flights for scouting a landing site for bears should be logged in the Photographer's Drone Log with notation of the specific reason for the flight.
- Any footage of polar bears captured on drone video while scouting for them at a landing site is not to be used in the DVD, nor for any commercial purposes by any staff member while employed by Silversea or afterwards.

# Standard Operating Procedures

## 8. MEDICAL EMERGENCY RESPONSE

### 8.1 Medical Emergencies – A General Overview

A medical emergency is an event that is reasonably believed to risk death or permanent injury to a person if not treated immediately. A medical emergency can include but is not limited to severe pain, bad injury, profuse bleeding, choking, difficulty breathing, serious illness or a medical condition that is rapidly getting worse.

In the event of a medical emergency, immediate and actionable communication, situational management, and response is the best way to assist. Communications must stay accurate and concise. In developed areas calling for assistance will mean calling an emergency service, but in many expedition and experiences scenarios it will mean calling for assistance from those around you and calling the ship to activate responses aboard.

Always use your best judgment to respond considering carefully the resources, expertise of other people, and options for action available to you in any given situation.

### 8.2 Responding to Medical Emergencies

Presented with a medical condition or injury assess the situation. Is it critical? For example, is the patient suffering a traumatic injury like a broken bone, an asthma or allergy attack, or are there possible cardiac issues?

If you assess the possibility that the patient is facing a medical emergency as outlined above take the following steps:

#### 1. Raise the alarm and call for assistance

- In populated areas with access to professional medical care, attempt to call emergency services and/or in conjunction with notifying the ship.
- In remote areas, call the Bridge to alert the Officer on watch, Captain, Doctor and/or Expedition Leader. Please note, it is best practice to switch channels as soon as possible to best facilitate communications.
- Your initial transmission(s) must include a concise relay of the issue at hand including information about the incident/situation, person(s) involved such as name, age, medical conditions, suite number etc., and your location

#### 2. Manage the safety of yourself and anyone nearby

- Ensure you, your guests, any crew members and people nearby are safe out and out of harm's way
- Move people away from the area around the victim(s)
- Consider returning guests and/or crew to the ship as the situation dictates. This can include stopping expedition operations altogether if needed.

**3. Ensure a coordinated response is in action**

- The Expedition Leader, AEL or designated person-in-charge at the landing site will assist to coordinate an emergency response in concert with the ship's Doctor, Captain of the vessel or Officer on watch as needed.

**Additional Medical Emergency Actions**

- A full and complete accounting for each guest (and crew members if necessary) must also be undertaken in case of a situation where more people could be involved than have been observed/recorded on scene.
- Whenever possible, a crew member should travel with the patient to a primary care facility. This will help them stay calm and feel more secure. It also provides the ability to report the status of the patient back to vessel.

## Standard Operating Procedures

### 9. Bird Strike Protocol

#### 9.1 Bird Strike Prevention

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- Seabirds, and other migratory birds, can be attracted to a ship by its lights during the night or as a refuge in poor weather. The best method to prevent bird strikes on a ship is to follow established GSGSSI protocols prior to arrival to the Territory or to a known densely populated bird region.
- Prevention protocols include, reducing outside lights to the minimum, pointing down and inwards where possible, though not to compromise safety and closing curtains on windows and portholes as it becomes dark.
- When possible windows and portholes without curtains should be blacked out as well.
- These measures need to take place particularly when the ship is near islands while still offshore, and when approaching land during evening hours or when visibility is poor.

#### 9.2 Bird Strike Mitigation

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- In case prevention measures fail, members of the deck crew and Expedition Team will check the decks and crevices of the ship each morning and if a bird is located on board, all efforts to avoid handling should be made and first consult with the onboard ornithologist before taking any action.
- When necessary to capture the individual, hold the bird across its back to keep the wings folded and do not use any force.
- If the bird is disoriented or has waterlogged feathers carefully place the individual in a box/container in a dry, warm room until the individual is recovered and ready to be released.
- Once the individual is ready for release make sure it is at night with the ship's lights off, or at a minimum, or as soon as possible during the day taking care to ensure there are no predators (skuas, gulls, falcons, etc.) present.
- The GSGSSI Bird Strike Proforma as provided to operators on 08 August 2018 by GSGSSI's Visitor Management and Biosecurity Officer (Ross James) will be used to report any bird strikes (including birds released unharmed) to the Government Officer when in South Georgia and South Sandwich Islands.
- In other regions, proper reporting procedures will be followed.

## Standard Operating Procedures

### 10. Firearms

Firearms procedures are outlined in the VMS: [Fleet Ops > 7.0 Passengers > 7.5 Use of Firearms Onboard \(Protection of Wildlife\)](#), which follow the relevant AECO Guidelines (see appendix). These shall be followed as a minimum at all times.

**Additionally the following procedures apply:**

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#### 10.1 General Firearms Safety

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##### Designated Shore Staff:

- Require Expedition staff who are assigned as rifle handlers to have a recent (within last 6 months) police/no criminal conduct certificate, national license for handling firearms and adequate training on the rifles to be used in expedition
- Select and appoint an experienced Lead Bear Guard with good reputation and standing, who would normally provide the firearms /rifles and flare guns onboard. The Lead bear Guard shall be able to provide additional training to the other expedition staff/rifle handlers on the use of the specific firearms
- Before firearms embarkation onboard – obtain a license from the Flag Administration (in line with Bahamas Bulletin 128 “Guidelines to Ship owners on carriage of privately contracted armed security personnel for vessel protection” )
- Additionally, source a local license from the relevant authorities at locations where firearms will be used ashore for protection from wildlife). Observe in advance timelines for application

*Note: The type of flare guns onboard will not be of the type categorized also as firearms and as such not all procedure herewith apply to them*

##### Shipboard Staff

- Declare firearms (rifles), ammunitions and flare guns in advance of each port of call as required by local authorities
- Store rifles in a secure/restricted access space and designated cabinet onboard
- Keep bolts separately (different secure storage location) from the rifles onboard

#### 10.2 Firearms in Daily Operations

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Please Note: The below deals specifically with procedures relating to firearms when they are involved in various expedition activities such as Zodiac cruises, kayak excursions and landings

ashore. However, **Chapter 6. Operations in Regions with Polar Bears** deals specifically with safe operations in polar bear environments and best practices therein.

### **Crew Member Roles and Responsibilities with Firearms**

#### Doctor/Nurse/Captain/Staff Captain/Security Officer

- Perform alcohol breath test on rifle handlers

#### Lead Bear Guard

- Insert bolts in rifles
- Consult list of rifle handlers and assigned rifle and flare gun
- Distribute rifles (as per list assignment) and two ammo magazines to rifle handlers at side gate
- Bring ashore and hand flare guns to non-rifle handlers at the landing side as per assigned list
- Advise flare gun holders to keep it always in holster without a flare loaded and to load it only when intended to be used

### **Zodiac Cruising Operations with Firearms**

#### Bear Guards

- Distribute evenly across the Zodiacs boats/convoy
- Keep several rifles (2-4) in water-tight cases, unloaded
- Unless a situation arises to need it:
  - Do not load, “half-load” or keep half-loaded rifles
  - Do not load flare guns
- If a polar bear is spotted ashore, do not get closer than the Lead Bear Guard and follow his/her the instructions

### **Kayaking Operations with Firearms**

#### Roles and Equipment

- There are to be two Kayak Rifle Handlers. This will be the Kayak Guide with the most rifle handling experience (in charge of safety) and the Kayak Safety Driver.
- In addition, all Kayak Team members will carry flare pistols.
- The following equipment is to be dedicated to the Kayak Team:
  - 1 rifle and 1 flare firearm for the Kayak Guide/Rifle Handler. These are to be kept in a watertight bag in or on top of his/her kayak.
  - 1 rifle and 1 flare firearm for the Kayak Safety Driver/Rifle Handler. These are to be kept in a Pelican case (or similar dry storage) in the Kayak Safety Zodiac.
- The Kayak Team will operate independently during kayaking excursions, but they must liaise and communicate with the ship’s Lead Bear Guard
- All/any firearm handling procedures stated elsewhere in this manual are to be adhered to by the Kayak Team.

#### Kayak Rifle Accountability

- The keys to the Firearm Room will be signed in and out by the ship’s Safety Officer
- The Kayak Safety Driver (rifle handler) will pick up two dry bags for the Kayak Guides, rifle with magazines and flare guns before operations, will keep them in a waterproof case and will return them upon completion
- The designated waterproof case for the Kayak Team will contain:
  - 2 rifles

- 3 flare guns
  - 20 hunting cartridges (cal 308 x 5)
  - 9 flares
- After every kayak operation a member of the Kayak Team will wash and dry the waterproof case and oil, dry and pack up the rifles and flare guns before returning to proper, safe storage.
- The Kayak Safety Driver takes responsibility for these steps in addition to returning the key to the Safety Officer if needed.

## **Landing Site Clearing Operations with Firearms**

### **Lead Bear Guard**

- Prepare a plan and conduct it for site clearing accordingly
- Perform a radio check before landing on separate radio channel for clearing party
- Limit number of persons (only rifle handlers) ashore till site cleared
- If uneven terrain - consider using a drone if possible for reconnaissance, operate from shoreside, ensure drone pilot is covered by a rifle handler (unless pilot is a rifle handler)

*Note: Drone procedures are in Chapter 6. Operations in Regions with Polar Bears “Drones as a Tool to Assist in Spotting Polar Bears Ashore”*

- Any remaining rifle handlers and non-rifle handlers pick up their assigned flare guns
- Clear all terrain and post rifle handlers at desired positions. If drone is used – perform also physical scouting to verify.
- When area closest area confirmed as cleared - inform Expedition Leader that shore party can land and prepare per time schedule
- Go back to one/regular working radio channel.
- Radio/inform Expedition Leader and declare site clear when landing can start

## **Procedures for Rifle Preparations Ashore**

### **Rifle Handlers – including Bear Guards**

- Load two magazines and keep one in pocket
- If a buddy check available:
  - If more than one rifle handler loading at the same time - Safely “half-load” the rifle in a kneeling position in a line pointing the muzzle in a safe direction
  - Have a buddy standing behind checking
- If no buddy check available:
  - “Half-load” manually and dry fire – pull bolt forward while pushing cartridge down and dry fire in a safe direction
- Keep the safety in fire position
- Always keep the muzzle pointing upwards
- Do not allow anyone to hold your weapon

*Note: “Half-loading” first check the chamber visually and with finger, close the bolt while pushing the trigger.*

- Insert the full magazine until you hear a click and check by pulling the magazine that it’s operational
- Do not carry rifle “half-loaded” into settlements



**Procedures to Return Firearms to the Ship:**

- Non-rifle Handlers and Rifle Handlers are to return flare guns at the landing site
- Rifle Handlers and Bear Guards when instructed, are to unload rifles and dry fire in a safe direction with a buddy and then put back rounds of ammunition from the two magazines at the side gate
- Lead Bear Guard is to put back ammunition and flare guns in the designated storage on board, leave rifles to dry, before cleaning/oiling them to store in designated secure locker

## Standard Operating Procedures

### 11. ESCORTING TOURS

#### 11.1 Prior to Departure of Transportation

- Read and review the Tour Reports (TRs) from previous visits to the destination and any PIQs to know what to expect on tour. Ideally this should be done a couple of days in advance to be prepared for questions from guests.
- Upon arriving at your designated tour start point, check in with the tour guide for that vehicle or boat and review together the timings, destinations, and plans at each stop as given by the EL.
- Introduce the guide to the Quietvox system and set him/her up with the transmitter
- If discrepancies to schedule are noted, advise the EL, AEL or EPC immediately to avoid issues.
- Check that the microphone is working and that the transportation is clean and ready to go.
- Reserve a seat in the front of the transportation (not the very front row however) for one expedition team member. This person is in charge of communications with the guide to ensure the program runs smoothly. This person should also be the first one off the transport to assist guests and answer questions they might have as they disembark.
- If a second staff member is on the tour, take a seat at the rear of the transportation but be ready to disembark at the front of the group at each stop.
- Place a Silversea bus sign in the window and remember to collect it at the day's end.
- In case the step onto the transport is too high, check that there is a step in place for guests to board and unload the transportation. If not, it may be possible to borrow a Zodiac step from the ship for the day.
- If there is more than one staff member assigned to a coach/vehicle/boat, decide who will count guests onto the transportation and who will guide and assist guests to the buses along the route from the ship to the parking area.
- Once the guests begin disembarking the ship, all chit-chat between staff is to cease and staff begin to count the guests onto the coaches as they embark the vehicle. This head count is important to distribute guests evenly between the vehicles.
- As guests load, it may be appropriate to set the guests' Quietvox color code for the tour.
- Once you have a final count and all are seated and ready for departure, be sure to radio in a head count to the person in charge of debark – usually the AEL or Program Coordinator. This should be given as, “22 guests PLUS 3 staff” or simply “22 PLUS 3.”
- Listen to the person in charge of loading. Most of the time one bus will be loaded and then the next. Be proactive, and guide guests accordingly to the bus being loaded.

## 11.2 During the Tour

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- At each and every stop, be sure the guide tells the guests what time to be back (“in 20 minutes” is not acceptable, it must be at a time such as 1:20 pm) and where to meet up with the group at that time in case the guests get separated from the group.
- Be sure the guide also advises the guests if it is safe to leave belongings on the vehicle when they head out. It is always recommended that guests do not leave valuables or important documents on the bus.
- A staff member should be at each door of the vehicle to assist guests off and answer any questions.
- At lunch, comfort, or refreshment stops, at least one staff escort should go inside the venue first to make sure all is ready and prepared (including dietary requests) and to direct guests to toilets, any points of interest, and the dining area.
- Record timings of the tour, guide names, and any comments for the tour report.
- Facilitate a great tour! Recognize when you need to step in to keep the tour on schedule, when the temperature or microphone volume needs to be adjusted etc. If guests unexpectedly need to return to the ship or have a medical emergency, it is your job to work with the local guides and tour operators to take care of them.
- Work with the guide in case they need to talk more (you can ask leading questions), talk less (you can discretely suggest a little rest time for the guests), or when to avoid statements such as, “we usually stop here, but today we are in a hurry.”
- The use of cell phones and/or headphones on tours is discouraged except for communications to the ship and/or other staff on tour for logistics purposes and this should be done quietly and discretely out of ear shot of the guests if possible.
- After each stop it is the responsibility of the expedition staff members to count the guests back onto the vehicle and ensure that all are present and accounted for. In the event that someone is missing, steps will need to be taken to locate the missing individual(s) and further coordination with the tour operator and/or ship may be required.
- While on tours, expedition staff take on in the role of hosts, liaisons between guests and locals, guides, interpreters, educators and are expected to be proactive. Wherever possible staff add to the guests’ experience with knowledge, insight, socializing, or if appropriate buying inexpensive items in a market for sharing. These items can be reimbursed aboard.

## 11.3 Returning to the Ship

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- It’s a good idea to choose a landmark on the outward drive away from the port so that you know when you are getting close to the ship on the return. When you see you are nearing the port, call the Bridge with your VHF radio, or contact someone aboard (EL or HD) by cellular phone to advise the ship you are returning with guests.
- Once you have helped all the guests off the transportation, be sure to collect the bus sign and thoroughly check the bus from back to front for any misplaced items. These can be brought to Reception to be placed in ‘lost and found.’

- Touch base with your guide to make sure there are no outstanding issues or concerns from their perspective or from yours.
- In case there was any issue on the tour, inform the EL ASAP so that he/she is aware of the problem before being approached by guests.

## Appendix 1.

## EOM Form 001 – Zodiac Operator Preparation and Acknowledgement

[illegible]

## **Appendix 2. SUMMARY – Silversea Zodiac Safety Briefing**

To be given by Zodiac Operators at start of voyage's first Zodiac Operation

# **Zodiac Safety Briefing**

- Lifejackets to be worn at all times in the Zodiac
- No standing unless given permission
- Proper use of hold ropes, safety lines and foot straps (if provided)
- Location of safety equipment including
  - noise maker
  - throw bag
  - hand pump for dewatering
  - air pump for inflation
  - first aid kit
  - fire extinguisher
  - extra kill cord
  - paddles/boat hook
  - distress signals
- For assistance during an emergency call for help and/or follow the procedures on the emergency broadcast placard posted by the radio (if provided)

### **Appendix 3. SUMMARY – Silversea Zodiac Emergency Instructions**

## **Zodiac Emergency Instructions**

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It is recognized that with expedition operations there is no single perfect way to handle an emergency situation. Zodiac Operators are to make decisions that are the most prudent using resources at their disposal and according to the situation.

### **Remember these three essential steps in an emergency:**

4. Raise the alarm
5. Manage the safety of your passengers and yourself
6. Act

In case paired buddy Zodiac(s) cannot assist with a MOB situation, ship's rescue boat will be launched as per the ship's Recovery of Persons from Water Plan.

### **Rough Conditions while Underway and/or Flooding**

- At all times, the floor of the Zodiac shall be maintained as dry as possible
- Maneuver appropriately to prevent flooding i.e. increase speed above idle forward will facilitate draining of the Zodiac.
- Check operation and availability of hand pump for dewatering
- Check all self-draining valves are free of obstruction and operating correctly
- Account for all passengers/crew and position passengers to best manage the situation
- Check that all lifejackets are properly donned
- Do not abandon vessel unless forced to do so
- For assistance when Zodiac Operator or crew are incapacitated, follow the procedures on the emergency broadcast placard posted by the radio if provided

### **Man Overboard (MOB)**

- Call out "Man Overboard" and indicate which side of vessel person went over board
- Throw life ring buoy overboard as close to person as possible
- Post a lookout to point at & maintain constant eye contact with person in water (PIW)
- Use all available means to broadcast the emergency and the PIW's position such as radio, AIS, GPS coordinates, visual compass bearings
- Retrieve the MOB quickly using all available resources including designated survival craft if you are able and safe to do so
- Sound five short blast of the vessel's horn "emergency signal" to notify vessels in vicinity of the emergency condition
- Administer first aid
- Notify Coast Guard of the situation as needed

### **Appendix 3. Continued...**

#### **Fire**

- Sound the alarm and broadcast the emergency to notify the designated survival craft, Mother Ship and Coast Guard via radio of the situation
- Move all passengers away from the fire
- Disconnect the fuel oil supply by disconnecting the fuel line quick-connect located on the fuel tank in the bow box.
- Secure electrical power. This can be accomplished by turning off the single battery switch in the forward battery box.
- Attempt to put fire out with fire extinguisher aimed at the base of the fire. Do not use water on electrical fires in case of electrocution or spreading of gasoline/oil.
- When the fire is in the outboard engine and cannot be extinguished with a fire extinguisher:
  - Keep passengers calm
  - Ensure all passenger are wearing their lifejackets
  - If unable to control fire make preparations to abandon the vessel

#### **Loss of Air in Pontoon Chamber**

- Sound the alarm to notify the Mother Vessel and designated survival craft of situation
- Move all passengers away from the leaking chamber(s)
- Connect air pump and commence pumping air into pontoon to maintain inflation
- If air pressure cannot be maintained return to Mother Ship
- If air pressure cannot be maintained and stability of the Zodiac is in question, make preparations to move passengers to other Zodiacs and/or designated survival craft



#### Appendix 4. Silversea Snorkel Safety Briefing

Snorkel Platform Assistants are primarily responsible to deliver a briefing to the snorkelers, unless snorkelers are entering the water directly from the Snorkel Shuttle Zodiac in which case the Shuttle Zodiac Operator provides the following:

## Snorkel Safety Briefing

- Define snorkel area with boundaries
- Site conditions and any potential changes, e.g. tide, current, wind
- Snorkel site highlights with habitat characteristics and presence/absence of any potentially hazardous marine life
- Remind snorkelers not to stand on the reef
- Timing of snorkel – Explain that snorkelers can return to the platform to rest and/or Zodiac shuttle back to the ship. Note last Zodiac time.
- Safety:
  - ✓ Point out the Safety(s) on beach and/or Zodiac to snorkelers
  - ✓ Point out in water snorkel guides (if applicable)
  - ✓ Point out location of any ring buoy/tag line(s)
  - ✓ Point out snorkel flotation (optional) i.e. noodles, snorkel vests
- Review Hand signals: OK / Need assistance / Emergency
- Proper water entries and exits using the ladder

## Appendix 5. AECO Standard Operating Procedures for Firearms

### Below are the AECO Firearms SOPs.

Silversea Firearm SOPs do not need to duplicate any of the below, but rather complement the below with our specific operations not included here:

- Careless handling of firearms represents a greater hazard to human health than polar bears. It is imperative that safety rules be adhered to when firearms are stored, transported or used.
- People have very differing attitudes/feelings towards firearms ranging from nervous and negative feelings to strong interest and a desire to look at/touch weapons. It is important that the expedition leader/guide explain the need of guns and signal guns, how and when we load and unload them, the dangers involved, the importance of unauthorized persons never touching them and of following the instructions of the guides and guards ashore.

#### 5.3.1. General

- Type of weapon: The Governor of Svalbard recommends the use of rifle calibre .308 Win or larger for polar bear protection. The ammunition must be of the expanding type. All firearms in use on the cruise should be of the same calibre, using the same ammunition.
- Guides should use their “own” rifles: Guides and/or polar bear guards carrying firearms should preferably be responsible for one particular rifle throughout the season (or throughout the whole cruise).

#### 5.3.2. Training

- All guides and polar bear guards should have good shooting skills, be experienced in handling the firearm and have knowledge about polar bear behaviour. At least one guide ashore should have considerable experience, preferably from hunting or active shooting. Unless the user is familiar with the firearm and has had sufficient training with a firearm, the sense of safety provided by firearms is deceptive. Test your weapon and signal gun/pen prior to the cruise. Never point at anyone with a gun or signal pen; loaded or unloaded.

#### 5.3.3. Signal guns

- To frighten away a polar bear, a signal gun or emergency signal pen (with crack cartridges) is more suitable than a rifle, but flares can not replace a rifle; they only complement it. Moreover, flares are useful for alerting about imminent danger or accident. Flare guns also represent a hazard for humans and should not be loaded unless you need them.

#### 5.3.4. Storage and maintenance

- Weapon locker: All firearms should be stored in the ships’ weapon locker, never in the owner’s cabin. The bolt should not be stored at the same place as the rifle.
- Ammunition: Should be locked up.

- Running maintenance: The “owner” has the responsibility of maintaining and cleaning their rifle. Be sure that the oil used to clean the gun is suitable to low temperatures – incorrect cleaning materials can result in weapons jamming in the Arctic.

#### 5.3.5. In Zodiacs - transportation

- Use a cover to protect the rifle from sea water and dust.
- The rifle should never be loaded or half loaded in the zodiacs.

#### 5.3.6. Ashore

- The expedition staff must keep an overview of their group!
- If approaching a cabin, send an armed person out to check out the cabin first to make sure there are no bears hiding close to or inside the cabin.
- Never let visitors walk alone if not accompanied by a rifle-carrying person.
- Load cartridge (half loading) of at least one firearm immediately when coming ashore outside settlements.
- Load the chamber only to prepare for an actual warning or shot. Never walk around with loaded chamber.
- Empty the chamber immediately when a risky situation ends.
- Never let visitors handle your rifle.

#### 5.3.7. In settlements

- Never walk inside the settlements with a half loaded or loaded rifle. Let the bolt be open or remove it, making it visible to everybody that it is unloaded.
- Never walk outside the settlements in polar bear areas without a rifle.