



Adventure
Canada

STANDARD OPERATING PROCEDURES

Expedition Operations Manual

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Purpose of this Manual

On every expedition, there will be departures from the proposed plan, situations will arise, and conditions or circumstances will change. How the Expedition Leader (EL) / Assistant Expedition Leader (AEL), Program Director (PD), and Expedition Team adapt to those changing conditions should remain consistent with the standards and guidelines articulated in this manual.

Expedition Team Effectiveness

Summary

All Adventure Canada expedition team members are expected to be well prepared for the expeditions upon which they are working. The general behaviour, conduct, and readiness of the guides underlines the team's credibility, but also sets the tone of the expedition, and in many ways sets an example. We are professionals. Our passengers look to us to make their experiences memorable for the right reasons, and above all, safe.

An expedition team member's professional area of expertise is taken as a given—to be expedition-ready, all expedition team members should be prepared for the environment, the activities they may be asked to perform, and to generally operate in a service environment with an (often) eclectic set of clients. All expedition team members should expect to find themselves in unfamiliar and/or challenging situations.

Do

- Ensure your certifications are up to date (All required certifications can be found in the “training requirements” document in your welcome package).
- Remain professional at all times.
- Check with the EL / AEL / PD if you're unsure.
- Be prepared to divert from the plan at any time.
- Familiarize yourself with and adhere to current AECO (Association of Arctic Expedition Cruise Operators) guidelines for responsible tourism to ensure our operations meet the highest standards of environmental and cultural respect.
-

Don't

- Lose your head—use the expertise of the team to your advantage.
- Answer questions you don't know the answer to—admit you don't know and ask.
- Offer to carry a weapon or drive a Zodiac if you do not have proper qualifications and experience.

Responsibilities of the Expedition Leader

The Expedition Leader (EL) is only one role within the expedition team—only with the whole team working together are expeditions truly successful, delivering an unrivalled passenger experience. The EL is responsible for leading the expedition team and utilising the combined experience and skillset of all expedition team members to make the very most of the opportunities afforded, as well as challenging all expedition team members to adapt to changing situations and demands. The EL is expected to:

- Demonstrate leadership and keep a cool head at all times, leading by example.
- Instil and encourage professional discipline and safety in all elements of the expedition operation—passengers should feel that the EL always has the bases covered.

- Liaise with the Program Director, Captain, officers, and expedition team to plan landings, cruises, and the on-board program, ensuring safety but without inhibiting the energy, enthusiasm, and desire to explore.
- Marshal landings and Zodiac operations (cruises & ship-to-shore transfer)—having overall responsibility for the safety of the shore / cruise party; and work closely with the Captain to ensure safety aboard ship.
- Support and guide the expedition team where appropriate, but also directly address shortfalls in conduct or expectation.
- Intervene (if necessary) in difficult or challenging expedition team members or passenger situations to resolve issues.
- Enthusiastically participate in the banter and laughs with the rest of the team and passengers—we're all supposed to have fun.

Responsibilities of the Program Director

The Program Director (PD) is responsible for managing the on-board operations for each expedition, as well as managing passenger enjoyment and satisfaction. The Program Director is responsible for all logistical elements onboard such as the Daily Program, Gift Shop, Gym, Spa and all sign up requests for onboard activities. The Program Director is responsible for managing the onboard team which primarily consists of the Assistant Program Director, Host, Onboard Office Representative, Gift Shop Manager, and any other expedition team member that is requested to assist with onboard operations. All administrative tasks onboard are managed by the Program Director, as well as any communication (not related to Expedition Leader matters) between the Adventure Canada office should filter through the PD.

- Creates programming and scheduling for all onboard activities with input as needed from the Host. All programming each day is approved by the Expedition Leader.
- In conjunction with the EL, the PD will oversee the execution of the daily program, including timely departures and arrivals and onboard programming.
- Liaise with the ship's captain, hotel director, and hotel crew to ensure maximum usage of resources.
- Manages all special groups onboard (Journalists, Agent Groups, Partners, etc.) and ensures delivery of agreed upon programming.
- Communicates with Adventure Canada office important updates and information (daily reports, incident reports, disembarkation details etc.).
- Maintains an inventory of all items onboard related to programming and gift shop and communicates/orders new stock as needed with Operations Department of the Adventure Canada office.

Clothing

All expedition team members are expected to dress appropriately for the environments and climates in which they're operating. An expedition team member must not compromise the rest of the team by becoming a burden through a lack of preparedness. For example:

- Boots—wear appropriate footwear; you may be asked to fill-in on the beach, which means stepping into the surf—don't always expect others to do it.
- Warm, waterproof clothing—expect changing conditions & to stay for the duration of a landing.
- Gloves—bring spares for yourself.
- Our expedition team members set an example to passengers—if we're wearing rubber boots and waterproof trousers maybe they should be too.
- It is suggested that the expedition team carry additional clothing items (e.g., spare socks, gloves, toque) in the event that a passenger loses or forgets to bring their own.

A general gear list may be found in the expedition team hub.

If in doubt, be cautious and over-prepare—conditions can change rapidly, and it's always easier to remove clothing and put it in your backpack than it is to return to the ship to change. Expect the unexpected and think ahead.

Equipment & Certification

Safety is one of Adventure Canada's key anchors. Safety and emergency training are imperative in our ability to perform in our positions and for our guests.

The expedition cruise industry is rapidly evolving, and with it, the requirements for training, certifications and in the field practice.

Each different role on an Adventure Canada expedition requires a unique set of skills and with it, varied training requirements and certifications. Your training prerequisites are based on your specific role with Adventure Canada.

Requirements for ALL expedition team members

- ✓ Standard First Aid
- ✓ Marine Medical Certificate
- ✓ Security Awareness Course and Certificate

Requirements for Bear Monitors

- ✓ Possession and Acquisition License: Or Equivalent certification demonstrating proof of competency. ** It is highly recommended that you have a Polar Bear monitor training certificate**

Requirements for Sea Kayak Guides

- ✓ Sea Kayak Certification

Requirements for Zodiac Operators

- ✓ Small Vessel Operator Proficiency Certificate

Requirements for AECO Destinations (Nunavut, Iceland and Greenland)

AECO Field Staff Assessment

All expedition team members complete AECO Field Staff Online Assessment if operated in AECO region as noted in the SOP and receive training on these integrated SOPs.

All certifications are to be submitted to the Adventure Canada office in advance of travel.

Treatment of Equipment

- Respect: Use equipment safely and respect it—treat it as if it were your own.
- Readiness: Equipment should be ready and serviceable for the duration of daily operations. An expedition team member must NOT compromise the rest of the team by becoming less effective or a burden through a lack of preparedness. For example:
 - Radio — recharge batteries, otherwise you'll not be contactable in an emergency.
 - First aid kit — take it with you on every landing/cruise and ensure it is accessible.
 - Scope — protect it during rough transfers and travel and use it when appropriate.
 - Firearm — keep it dry, clean, and oiled (follow the directions of the expedition team member responsible for the armoury).
 - Failures — If you accidentally damage any equipment, report it to the EL / AEL. Don't create a safety risk of the equipment failing when another person is using it.
 - Safety Equipment for Zodiac drivers (Hard Hat, throw ropes, emergency kit): Rinse ropes with fresh water and hang to dry. Ensure emergency kits are inspected and taken with you on every excursion and hard hats are used appropriately.

Suggested Personal Equipment

Either Adventure Canada or the ship will provide much of the specialist (large and/or expensive) expedition equipment. However, it would be advantageous for expedition team members to bring some of their own equipment—especially if expecting to perform specific roles.

- Binoculars (mandatory for Bear Monitors, and highly advisable for all others)
- Hand-held GPS (mainly for Zodiac drivers—better to know your own kit)
- Laptop and/or USB memory stick (especially for expedition team members with presentations)

Location Knowledge

Do your homework: The expedition team are expected to have a rough understanding of each location in advance (i.e., An expedition team member is expected to do some high-level research of their own to familiarise themselves with the destinations).

The sailing schedule: At the commencement of each expedition, the expedition team will receive a sail plan outlining the proposed destinations and schedule. The schedule will closely resemble Adventure Canada's proposed itinerary shared with passengers in advance, available on our website.

The sail plan is an EXPEDITION TEAM-ONLY document—it must **NOT** be shared with passengers for any reason. Timings may change on a daily basis and only the EL should make the exact timings public. The sail plan is subject to change, and only by the Captain and EL.

Expedition Team briefing: Prior to every landing and Zodiac cruise, the EL will brief the Expedition Team on site-specifics. Many of the Expedition Team may have prior knowledge of some destinations and there will of course be instances when Adventure Canada is visiting a location for the first time. Passengers should also receive a high-level briefing from the EL prior to each excursion. Timings and positions assigned by EL.

Passenger queries: Prior to and during a landing, Expedition Team members may be approached by passengers with questions about the site (usually related to orientation, landing conditions, terrain, flora & fauna, and evidence of human presence). The credibility of our guides relies upon them being well informed to optimise their passengers' experience. If you don't know the answer to a question (you'll never know all of them), refer to other members of Expedition Team who might be specialist in a particular subject area or the EL/PD.

Teamwork

A good expedition team becomes a great expedition team if expedition team members act as a unit and not as individuals. The expedition will be operating in areas that are inherently dangerous, facing unpredictable situations that, if not handled properly, could spiral out of control. From the most experienced member to the rookie, everyone **MUST** gel and work toward the same objectives as set by the EL, PD or Captain. Safety is the number-one priority. Professional, expert interpretation of the environment and culture comes a close second.

Expedition team members **MUST**:

- Be able to have complete trust in another expedition team member—the EL/PD will expect something to be done if requested and cannot be expected to check upon the work of all expedition team members.
- Step up and do their bit to share the burden or play their role when required (whatever task is assigned—*especially* in an emergency situation).
- Appreciate that not all tasks will be desirable or without stress; on occasion, all expedition team members will be pushed or challenged by situations or people.
- Be professional. This is a job. With that job comes responsibility.
- Never forget why we're here. We're passionate about the adventure and all that it encompasses.

Attitude, Demeanour, and Decision-Making

Our expedition team members are part of a team, and the success of the team is down to their collective efforts and their support of the EL. Adventure Canada benefits from a large number of returning expedition team members. For clarity, Adventure Canada has the following expectations of **ALL** expedition team members, **ALL** of the time.

- **Attitude:** “Can do, will do.” Volunteer before being asked. If asked, the answer is “yes”.
- **Demeanour:** Outside of your cabin, expedition team members must be bright, engaging, enthusiastic and—above all—professional. You represent the company **AND** your fellow expedition team members. Don't let them down.
- **Decision-making:** Expedition team members are expected to make decisions that do not put passengers, fellow expedition team members or ship's crew at risk. If an expedition team member is unsure or uncomfortable with a situation, they should request feedback or support from EL / AEL/ PD. There is nothing wrong in asking for help. **Never promise anything.**
- Decision-making should always consider Adventure Canada's commitment to responsible tourism, including adherence to AECO guidelines, particularly concerning wildlife encounters, site visits, and community interactions.

Personal Time & Half Days Off

- **Personal Time:** Occasionally, expedition team members may request brief personal time to recharge, they are taken with the intention to avoid burnout or general lack of sleep. You will need to check in with the PD or EL to discuss the personal time, so they know that you will be unavailable and won't try to reach you on the radio.
- **Half days:** All team members are entitled to a ½ day off every 7 days when they are on two or more expeditions in a row. These half days are at scheduled with the PD & EL.

Communication

Efficient and effective communications are essential to the smooth and professional functioning of an expedition— enabling the expedition team and ship's crew to work as a team to create both a safe and inspiring experience for passengers. Poor communication has the potential to create or exacerbate situations of unacceptable risk.

The EL and the expedition team may communicate between each other and with the ship's crew face-to-face, using radios or the ship's PA system. The expedition team is expected to give their full attention to briefings from the EL / AEL/ PD and to their instructions over the radio or PA system; the same is true for any communication coming from the Bridge. Lead by example and show the passengers the importance of these announcements by giving them your utmost attention.

Expedition Team & Passenger Briefings

Daily Expedition Team Briefing

A daily team meeting will be held every morning at the same time as the wake-up call. This meeting is multi-purpose to ensure there is a common understanding of the:

- Plan for the day (activities, times, landing and/or community maps etc.)
- Expedition team roles on landings/cruises (i.e., drivers, side-gate, Bear Monitors, site interpreters etc.)
- Operational issues (i.e., any mistakes or shortfalls to be avoided or rectified)
- Passenger issues (i.e., to whom or what does the expedition team need to pay special attention in order to improve the passenger experience)
- Requests from the Captain and/or his officers

The daily expedition team meeting is MANDATORY, for all expedition team members, without exception.

Impromptu expedition team briefings

When the plan changes (as it so often does), the EL may call an unexcepted expedition team meeting to brief the team as to what the changes are and why they're necessary.

Passenger briefings aboard ship

If there are significant departures from the plan, the EL will either gather passengers together or brief them using the public address system (see section: Ship's PA system). Other expedition team members may be asked to support the EL in conducting the briefings (for instance those with specific knowledge of a new landing site, conditions, or reasons for the change in plan). Sometimes it is sensible to debrief passengers after unplanned events or incidents to explain how they arose and why the expedition team may have acted in a particular manner.

Briefings prior to landings or new operational areas must include relevant AECO guidelines concerning visitor conduct, wildlife interaction, and site-specific sensitivities (e.g., historical, cultural, ecological).

Passenger briefings on shore

When passengers arrive at the shore, the EL / AEL or designated expedition team member will usually deliver a short orientation briefing and instructions for the landing while passengers remain in the Zodiac. If the sea conditions are too rough, it may be more practicable to disembark the passengers and run through the briefing on the beach. Prior to a planned walk, the lead guide and/or Bear Monitors should ask passengers to cluster to set expectations as to the walk duration and terrain, how the walk will be conducted, what people may be expected to see, and any boundaries or limitations.

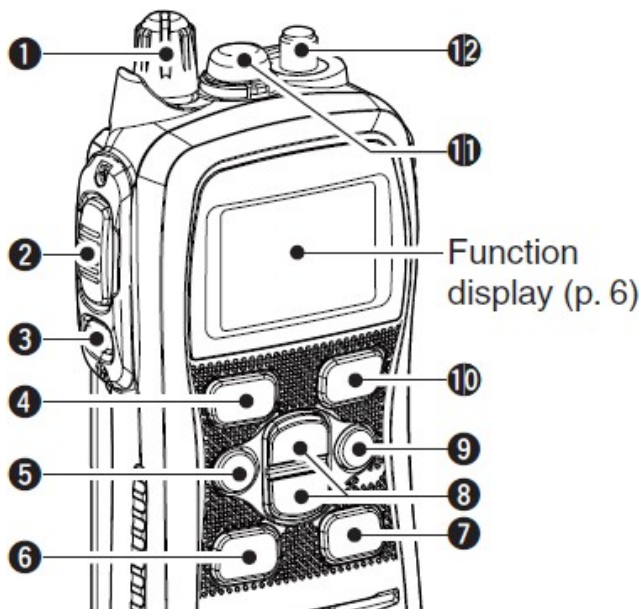
Passenger briefings in response to events

Sometimes passengers may either witness or be affected by a potentially serious unplanned event (e.g. witnessing a Zodiac flip or person get injured, or simply getting caught in very inclement weather). It is sensible, if possible, for the EL/ AEL to clearly debrief passengers as to what happened and make clear how the situation will be handled, and what (if anything) is expected of them.

Marine Radios

Summary

A hand-held marine UHF/VHF radio is a basic but vital tool for the expedition team and ship's crew to maintain safe and effective communication. There are limitations but if used properly, your radio will help you and others maintain the structure and shape of a landing or Zodiac cruise, improve the passenger experience, keep them safe, and expedite assistance in the event of an emergency.



RADIO KEYS/SWITCHES

1 Power Switch & Volume

2 Push to Talk

3 Monitor Key

8 Channel Up/down keys

Do

- Maintain your radio, charge it, and check its settings (e.g., stay on the operations channel).
- Make sure your radio is accessible and audible.
- Keep all communication professional.
- Use your radio to contact other expedition team members for answers to passenger questions.
- Speak clearly but with brevity.
- Be cautious not to interrupt an ongoing conversation.

Don't

- Tie-up the channel unnecessarily—emergencies or changing situations such as approaching bears do not wait till a

conversation is completed.

- Use Channel 16 unless it's an emergency and you have no other option.
- Talk over an existing conversation.
- Violate privacy if a specific expedition team member has requested to communicate on another channel.

General Description & Limitations

Adventure Canada uses hand-held marine UHF/VHF radios to enable expedition team communication on shore, in Zodiacs and around the ship. Some expedition team members may bring their own marine radios. All hand-held radios have limitations that expedition team members should be aware of to optimise their operation:

- These radios are battery-powered and thus require regular recharging.
- Transmissions are limited (outside of short-range use on the ship) to line-of-sight and are less effective when obstructed (by mountains, buildings, or larger vessels). As a result, expedition team members may be required to relay messages (see section: [Relaying](#)). Depending upon terrain maximum transmission distance is limited to approximately two kilometres. The ship has a more powerful radio so may be able to maintain communication, though at greater distance the expedition team member may only be able to receive from, but not transmit to, the ship.
- Some radios may be submersible (i.e., resistant to accidental dunking into the sea) but do not float, unless specifically referenced on the radio.

Allocation Priority

The AEL will allocate marine radios on a priority-basis. EL, AEL, Zodiac drivers, bear monitors, and side-gate expedition team members will be highest priority. Depending on the number of remaining resource expedition team members, radios will be allocated based upon their role on shore and points of interest. Where possible, every expedition team member will have a radio allocated.

Responsibilities of Radio Carriers

As an expedition team member, if you are allocated a radio, you are expected to:

- Take it on every landing / Zodiac cruise.
- Have the radio on from morning meeting till you go to bed so you can be located if necessary.
- Keep the radio charged—easiest to charge them overnight.
- Rinse the radio after taking sea spray during a Zodiac transfer to/from the shore (if the radio is submersible / waterproof).
- Place radio in a waterproof case whenever possible in order to prevent water damage.
- Report any faults or losses directly to the AEL.

General Radio Etiquette

Not all expedition team members will be familiar with using a hand-held radio or may have done so in a different kind of operation to that of Adventure Canada. To aid more efficient and effective communication, please observe general radio etiquette and be aware of some of the common pitfalls, outlined below.

Contacting Another Expedition Team Member: After pressing and holding the transmission button for 2-3 seconds, call the name of the expedition team member you wish to contact 2-3 times, before saying your own name, so they know who's calling them (i.e. Dave, Dave, Dave, Chris). If you're being called, respond immediately with either "go-ahead" or "stand by" (if

you're busy).

Brevity vs. Verbosity: Speak clearly and normally. Brevity is key as there is only one transmission channel that everyone uses. Don't tie up the channel. When watching wildlife close-up, try to keep radio traffic to a minimum to avoid unnecessary disturbance.

Keep it Professional: Assume that passengers and ship's crew are always within audible distance of an expedition team member radio. Keep all conversation clean and professional—and do not EVER argue over the radio.

Crossing: If two or more expedition team members are already involved in a radio conversation, try to avoid initiating a new conversation half-way through—this often leads to crossing of transmissions and conversations being cut off (which means you'll need to repeat them anyway).

Radio volume & listening for transmissions: Be aware of your radio volume—if you turn it down to converse with a passenger while there is radio activity, REMEMBER TO TURN IT BACK UP. Otherwise, you might as well not have a radio. If you're in a situation of inclement weather, high-wind, or strong seas, you may need your volume on high just so you can hear a transmission. Putting the radio in an inside pocket is not helpful if you can't hear it. While around wildlife, be aware of your radio volume (i.e., turn it down, so you can hear transmissions, but so it doesn't disturb the locals).

Operations Channel

The Captain and the EL will agree the radio operations channel (for example, Channel 72). There is only one channel for both ship's crew and expedition team members so the two teams can communicate with each other and monitor each other's activity. This is useful for expedition team members for example when communicating with crew drivers, the shoreman and most importantly, the Bridge.

Remember, everyone using the channel will hear your transmissions.

Be aware of accidentally switching channels, especially as some radios will automatically default to Channel 16—the international distress frequency. This is monitored by the Bridge, but also all other shipping, coastguard and military in the area who will use it to call each other before switching to another channel. They won't care that you've just spotted a white-phase gyrfalcon.

Switching Channels

In certain situations, it is sensible to switch channels to have a private or longer conversation avoiding tying up the main operations channel. Ask the expedition team member you wish to speak to switch to another channel (for example, Channel 68) before continuing your conversation. Be aware:

- If you are speaking privately, any other person with a radio can also switch channels to listen in.
- If you are wanting a longer conversation with another expedition team member, all the time you're speaking on another channel, you are effectively incommunicado from the rest of the operation—so try to keep it brief.
- You must remember to **SWITCH BACK TO THE MAIN-OPERATING CHANNEL**.

Relaying

Hand-held marine UHF/VHF radios have a limited range and are usually restricted to line-of-sight operation unless at close quarters (e.g., on the ship). On landings where the terrain is undulating or complex, expedition team members may have to relay messages to bridge the distance or terrain between the sender and the intended recipient. This makes communications more complicated and protracted so be careful to avoid 'crossing' when messages are being relayed.

If possible, expedition team members should move position to re-establish direct line-of-sight communications and avoid relaying.

Common Pitfalls & How to Avoid Them

Hand-held marine UHF/VHF radios are relatively simple and easy to use, however there are a few pitfalls to avoid ensuring you're as effective as possible with your radio.

Battery failure: Ensure you fully charge your radio every night. If you suspect your batteries are faulty, contact the AEL immediately when back aboard. If your batteries fail, try to let another member of expedition team member know so they can relay you are off-air.

Out-of-range: If you cannot see the Expedition Team Member you wish to speak to (i.e., no line-of-sight) you may be out-of-range and will need to relay the message via another expedition team member (see section: [Relaying](#)).

Waterproof does not equal buoyant: If your radio is submersible or waterproof, it does NOT mean it will float, unless a floatation device is attached to it. Ensure your radio is securely attached to your person. If it does fall into the water, it will likely sink—you'll need to act quickly to recover it—but DO NOT dive in after it.

Garbled messages: Often in rough seas, radios, microphones and/or speakers can become waterlogged. Some radios have a 'purge' function allowing the user to expel the water during the operation. Check with the AEL if you have this on your radio. If not, hold the radio (screen facing the ground) and give it a hard shake to try to expel water manually. You may have to wait to rinse and dry your radio aboard the ship.

Being impatient: When initiating a transmission, expedition team members often start talking at the same time they press and hold the transmission button. When this happens, the radio may not engage with a strong signal for a second or two, meaning the name of the person that the expedition team member is trying to call is not transmitted (i.e., no-one will know who you're trying to call). To avoid this, be patient, press and hold the transmission button for 2–3 seconds before speaking so the start of your conversation can definitely be heard on the transmission.

Not locking the keypad: In the rough and tumble of a landing, radios are often bumped about. If your radio keypad is not locked, it's easy to be accidentally shunted off the operations channel or have the volume turned down so it's inaudible. You'll be incommunicado and a lot less useful.

Lower power transmission: Some hand-held radios will enable the user to preserve battery by switching to lower power transmission. Locking the keypad doesn't always disable the toggle function so expedition team members can accidentally switch this setting. KEEP YOUR RADIO ON HIGH-POWER TRANSMISSION as your communication will be less effective (i.e., other expedition team members may not receive your transmissions on lower power). Fully charged batteries will easily last until you reach the ship to re-charge.

Changing channel: If you change channel (see section: [Switching channel](#)) remember to switch back to the main operation channel. If you change channel accidentally, switch back to the main operations channel and remember to lock your radio keypad.

Wind interference: When operating in windy conditions, be sure to turn your body away from the wind so your conversation isn't completely drowned out by the noise of the wind—hand-held radio microphones are susceptible to wind interference. Zodiac drivers should be especially aware.

Radio feedback: In the presence of other radios (e.g., whilst on the expedition team boat approaching a landing), you can get feedback during a transmission (a high frequency wailing that deafens everyone). Ask other expedition team members to turn their radios right down or off whilst you communicate, or alternatively, move away from the other radio carriers if possible.

Ship's Public Address (PA) system

Summary

The PA, or announcement system on the ship is the best way to communicate with all passengers aboard. Adventure Canada uses different ships from time to time, so these are general guidelines only.

Do

- Ensure you know exactly how to use the PA before using it.
- Know what you're going to say (roughly) before starting an announcement.
- Speak clearly and concisely—but do not rush.
- Switch the PA off after use.

Don't

- Make announcements to the crew quarters (the watch-rotation means some members of the crew will be asleep whatever time of day it is).
- Make announcements to outside decks when the ship may be near wildlife.
- Make announcements late at night (e.g., after 2200) unless otherwise agreed with passengers (e.g., for a sighting of the aurora borealis).

When to Use It

The ship's announcement system is a useful tool for expedition team members when running the on-board programme but also for ensuring the safety of all souls aboard. It is mainly used for the following purposes by expedition team members:

Morning Wake-Up Call: Each morning the EL uses the PA to broadcast a wake-up call to ensure passengers are ready to participate in the daily programme of activities.

Programme Announcements: The Host will announce upcoming activities on the daily programme using the PA. For instance, an expedition team member presentation, film, gathering, evening entertainment, and/or impromptu gathering should be announced fifteen minutes in advance and then a reminder broadcast five minutes before the start. Keep them brief and to the point.

Mandatory Briefings: There are a number of ALL passenger briefings that are usually safety-related (e.g., lifeboat drill, Zodiac briefing, firearms briefing) where the PA will be used to direct passengers to a briefing location and/or deliver the content of the briefing.

Locating a Passenger or Expedition Team Member: On occasion individuals will need to be identified as either being aboard or to meet (with some immediacy) at a particular location. Rather than search the ship, the PA can be used to briefly request their presence at a location. This is especially useful for identifying if passengers are aboard when the Swipe system suggests they are not.

PA Talks: In a few instances, an expedition team member may elect to use the PA system to broadcast interpretive information about remarkable sights the ship may be passing. Usually limited to spectacular geology and/or ice formations because wildlife (e.g., whales, bears) is likely to be disturbed by the noise of the announcement on the decks—which is where all the passengers should be.

Locations

The PA system is accessed from Reception and the Bridge.

General Etiquette

The PA system is not same as the UHF/VHF radios—it is a one-way comms system and passengers will most definitely hear what is being broadcast. To make most effective use of the PA observe the following guidelines:

Avoid over-use: The best way to ruin the peaceful and relaxing atmosphere aboard is to broadcast announcements every twenty minutes. Only use the PA when necessary.

Broadcast clearly: Keep the microphone close to your mouth but avoid being a ‘heavy-breather’—that’s just unpleasant. Speak clearly and concisely—if you’re mumbling, there’s no point making the announcement.

Underline the message: Repeat the core elements of a message at least twice (e.g., when announcing a presentation or film, be sure to repeat the host’s name, talk title, time, and location). Not all passengers will be listening right at the start of the announcement.

Volume: Don’t shout—it’s loud enough through the speaker system already.

PA talks: When delivering interpretive information (for instance around geological or glaciological points of interest), break the talk into short paragraphs giving the passengers’ ears a chance to rest and their eyes the opportunity to take in the scene before continuing. We don’t need to be constantly broadcasting.

Firearms & Firearm Safety

Summary

Adventure Canada expeditions routinely operate in wilderness areas falling within the range of bears. These animals are apex predators and can be potentially dangerous to humans. Qualified expedition team members carry firearms for the dual purpose of protection of bears and the preservation of human life.

The EL will seek to:

- As a priority, minimise any risk that bears and people come into close contact.
- Deploy the Bear Monitors in such a way as to spot a bear at distance so that it may be avoided.
- Dissuade the bear from engaging the landing party.
- Stop a bear intent on attacking any member of the landing party.

Do

- Always ensure that a firearm is unloaded, the chamber is clear, and the safety is ON when receiving and giving a firearm to another expedition team member. Treat every firearm as loaded.
- Always point the muzzle of the firearm skyward or towards the ground—never allow passengers or expedition team members to feel a firearm has been pointed or ‘waved’ at them. Never point your firearm at anything you do not intend to shoot.
- Keep your finger straight and off the trigger until you are ready to fire.
- Know your target and what is beyond.
- Always deliver your firearm to the armoury yourself for maintenance and secure storage.
- Always inform the expedition team member responsible for the armoury if any issues with firearms or ammunition are encountered so they may be remedied, or the firearm/ammunition removed from circulation.

Don't

- Load firearms in a Zodiac—always load ashore.
- Load a flare pistol unless you intend to immediately fire it.
- Have the safety OFF unless you intend to fire the firearm.
- Discharge your firearm if this introduces a risk to human life.
- Fool around with firearms, even when they're not loaded—it is both unprofessional and dangerous.
- It is prohibited to operate or handle a firearm when alcohol or prohibited drugs have been consumed. Under no circumstance can an Expedition Member be under the influence. (You may be required to take a randomized or circumstantial breathalyzer test).

General Description

While Adventure Canada SOPs for firearms are comprehensive for safety and deterrence, Bear Monitors should also be aware of any specific AECO recommendations regarding wildlife deterrence hierarchies and the importance of avoiding disturbance that could lead to conflict situations. The primary goal, in line with AECO principles, is the prevention of situations requiring deterrents.

The ship will carry an armoury of firearms that can be tactically used by expedition team members at the direction of the EL when in contact with bears. These firearms include:

Bear Bangers

The first line of deterrent, bear bangers are designed to deter a bear with a loud noise similar to a gunshot. They should be fired between a bear and the landing party.

Shotguns

Adventure Canada uses the Remington 870 Marine Magnum for the use of bear monitoring using deterrent and lethal rounds (rubber bullets, bear-bangers, and slugs). They are rugged and relatively simple to use and provide a powerful shoot-to-stop option.

Rifles

Adventure Canada does possess two .30-06 Browning X-Bolts for the use of bear monitoring. This firearm is equipped with a four round magazine and hollow-tipped ammunition.

Expedition Team-Owned Firearms & Ammunition

From time-to-time, expedition team members may request permission to bring their own firearm on an expedition, subject to local authority regulations transport and possession regulations. Any expedition team member-owned firearm should be either a shotgun (12- gauge or larger) or large-calibre rifle.

Expedition team member-owned firearms, must be cleared through the Adventure Canada's Operations department. They are subject to the same restrictions aboard the ship and the carrier must observe all Adventure Canada operational guidelines ashore.

On arrival to the vessel, expedition team member owned firearms must be checked in to the gun locker with the AEL.

Eligibility to Carry Firearms

All firearms carriers must provide evidence of appropriate certification from their national governing body in advance to the Adventure Canada office. If a licence or certificate is out-of-date or void in any way, the EL must not allow them to carry a gun. A COPY OF YOUR CURRENT CERTIFICATION MUST BE BROUGHT ABOARD—ALL EXPEDITION TEAM MEMBERS NEED TO CHECK WITH AC BEFORE BRINGING THEIR OWN FIREARM. ADDITIONAL CERTIFICATION MAY BE REQUIRED.

Nomination of Bear Monitors for Each Landing

Depending upon the landing site, intended activity, and prevailing conditions, the EL will make an assessment as to which expedition team members will carry a firearm ashore. For obvious reasons, not all Bear Monitors can be Zodiac drivers on the same excursion.

Responsibilities of Bear Monitors

Maintaining a high-level of operational safety is the paramount responsibility for all Bear Monitors. Each Bear Monitor:

- Must, whenever receiving a firearm (not in a case), check the chamber is clear and ensure the safety is ON.
- Is responsible for their own firearm and ammunition (transport, loading, discharge, unloading).
- Must avoid accidental discharge of the firearm by keeping the chamber clear (unless intending to fire) and keeping the safety ON. If a round has been loaded in response to a perceived risk, once that risk has subsided, the chamber should be immediately cleared.
- Must ensure that any deliberate discharge of their firearm does not, in any way, endanger human life.
- Must ensure their firearm is safely returned to the armoury (unloaded with safety ON).
- Must behave in a manner that ensures passengers feel safe and confident in their ability as a Bear Monitor. It is essential that all Bear Monitors behave professionally and adhere to operational guidelines at all times. Any transgression (perceived or otherwise) is damaging for the credibility of the entire expedition team and Adventure Canada.
- It is prohibited to operate a Zodiac when alcohol or prohibited drugs have been consumed. Under no circumstance can an Expedition Member be under the influence. (You may be required to take a randomized or circumstantial breathalyzer test).
- Must carry binoculars to spot for bears from distance and not rely upon their eyes alone or riflescopes.

One member of the expedition team will be responsible for the armoury. See section [Firearms & ammunition storage](#), below.

Firearms & Ammunition Storage

All firearms and ammunition used by expedition team members must be returned to the ship's armoury when aboard – there are no exceptions.

The EL will nominate a suitably experienced expedition team member to marshal the check-in and checkout of firearms and ammunition into secure storage as well as any required or routine maintenance. Only they, the EL, and the Chief Officer should have direct access to the armoury.

A firearm will be assigned to an expedition team member for each excursion, wherever possible.

Handling Firearms & Ammunition

All Bear Monitors must know how to handle firearms and ammunition safely and competently. It is essential that passengers feel safe and confident that the Bear Monitors are protecting them and importantly when they direct passengers on a landing that their credibility is such that passengers comply unreservedly. In order to achieve this, Bear Monitors must behave professionally and adhere to common operational guidelines.

Loading: A Bear Monitor loads only their own firearm with the ammunition provided to them in the carry case. Firearms may only be loaded ashore (unless there are very extenuating circumstances on a Zodiac cruise).

Flare pistols: A flare pistol should NEVER BE LOADED WITHOUT IMMEDIATE INTENT TO FIRE. The flares should be easily accessible, as should the pistol. Flare pistols do not have a magazine and therefore the firing chamber is filled directly and often there is no safety—so any flare loaded has a much higher risk of accidental discharge.

Shotguns: When loading a pump-action or shotgun Bear Monitors should load lethal ammunition into the magazine. Safety must be ON prior to loading and remain ON. Rubber slugs and bear bangers should be loaded into the action independently and as needed.

Rifles: Internal magazines are only loaded with live rounds ashore. External magazines may be pre-loaded with rounds, but the magazine must not be engaged within the magazine port until ashore. Safety must be ON prior to loading and remain ON.

Discharging

A Bear Monitor, working with the EL, must do everything possible to avoid discharging their firearm (i.e., by moving passengers and the expedition team away from a perceived threat). Firing a firearm must only be done under duress with no other option available. Passengers should be tightly clustered into a group to (a) look larger and more threatening to the bear and, (b) avoid the risk of any individuals crossing the line of fire.

Bear Bangers: If a bear is approaching the landing party with no sign of altering its direction, the gun bearer should position themselves between the passengers and the bear. Taking note of the wind direction and terrain a banger should be fired so that it lands between the bear and the shooter such that the subsequent explosion drives the bear in the opposite direction.

If the Bear Monitor feels the banger round may overshoot the bear's position (exploding behind it) they should either:

- Alter the trajectory (and consider shooting into the ground ahead of the bear) to limit the distance travelled.
- Use a shoot-to-stop firearm (shotgun or rifle) and fire a warning shot overhead or in front of the bear. THIS IS THE DEFAULT OPTION IF IN DOUBT.

Shotguns & rifles: If a bear remains intent on approaching the landing party, a round should be loaded, and safety moved to OFF before warning shots should be fired in the bear's path to kick-up ice or earth (adding a visible deterrent). Bear Monitors should consider the potential for ricochet and endangering either human life or the bear; if in doubt, the Bear Monitor should shoot just overhead of the bear.

If the bear continues to approach with intent and there is no hope of evacuating passengers and expedition team members from the landing prior to being physically engaged by the bear, the bear monitor must shoot-to-stop. If you are forced to fire directly at a bear, shoot to kill by firing at the vital organs (mid-chest). Try to avoid headshots or wounding the bear as this can escalate the situation.

At burst pace, a polar bear can cover one hundred metres (100m) in around six (6) seconds. At thirty metres, the shooter may only have around two seconds if the bear is closing at full pace.

NOTE: all possible measures should be employed to avoid shooting a bear.

Unloading

Bear Monitors are responsible for ensuring all firearms in their possession are unloaded whilst on the beach and before boarding a Zodiac. Ammunition should be placed in an ammo box and placed in the carry case. Chambers should be empty, breaches open, and safety ON. Each Bear Monitor to do an inventory of his or her own equipment prior to leaving the beach.

The bridge is to be notified when the inventory is completely back on board and stored.

Cleaning & Basic Maintenance

Bear Monitors are responsible for keeping their firearms free of dirt, sand, and grit whilst ashore. As a general note, the muzzle of any firearm should not come into contact with the ground to keep the barrel free from detritus. When carrying firearms in the rain, be sure to dry them off thoroughly and lightly oil the barrels. The expedition team member in charge of the armoury is to maintain and oil the armoury.

Bear Monitors should ensure, where possible, that firearms do not come into contact with seawater—arranging all carry cases to dry on the occasion they are dampened by wave spray. In addition, the carry cases should be laundered regularly to remove any residual salt.

At any point, Bear Monitors may be requested to assist in cleaning and performing of routine maintenance by the expedition team member responsible for the armoury. Maintenance kits will be provided.

Treatment of Ammunition

Ammunition must be kept dry and securely stored in the armoury when aboard the ship. When ashore, surplus ammunition (or flare rounds that should never be loaded without intent to fire) should be kept dry and readily accessible in an ammo box.

The expedition team member responsible for the armoury should do a regular check on the state of the ammunition and expiry date when checking out firearms from the armoury. Ammunition that appears damaged or corroded in any way should be set-aside for disposal at the end of each season and the EL must be notified.

Firearms on Landings

Firearms will be routinely carried by Bear Monitors on wilderness landings (not community stops) that are believed to be within the range of bears. Firearms must be carried if a bear could theoretically be expected to be present.

See section: [Landing \(wilderness\) operations](#) for more information on how firearms should be used to establish and maintain security.

Firearms on Zodiac Cruises

Whilst less likely to directly encounter a bear on a Zodiac cruise, the possibility that a mechanical failure might result in either the Zodiac being forced to land ashore unexpectedly or be pursued by a swimming bear remains.

As a precaution, firearms (unloaded and remaining in cases) will be routinely carried by Bear Monitors on Zodiac cruises that are believed to be within the range of bears. Firearms must be carried if a bear could theoretically be expected to be present. If Zodiacs split up (min. group size of two boats) at least one boat must have a firearm.

In the highly unusual circumstance that a Bear Monitor is forced to protect human life while in a boat as a direct result of a real and present danger posed to passengers or the expedition team by a bear, a firearm may be loaded in the Zodiac.

Firearms Briefing & Familiarisation

When conducting both landings and Zodiac cruises with firearms, the expedition team must clearly and concisely brief all passengers as to what they can expect of the expedition team and how they are expected to behave. A firearms briefing is mandatory for all passengers and is primarily for their own safety.

During the briefing the EL may be assisted by other experienced Bear Monitors in explaining why we carry firearms, firearms protocols and landing/Zodiac operations with firearms. It should be made very clear that the safety of passengers is of paramount importance and that direction from the EL and Bear Monitors **MUST** be followed. Failure to do so will result in passengers being barred from landings. All expedition team members must be shown the bear safety video provided by Adventure Canada.

Expedition team members that are eligible to be Bear Monitors may wish to familiarise themselves with the firearms within the ship's armoury. It is at the discretion of the Captain and the EL if any form of shooting practice can take place—usually from the stern of the ship whilst the passengers are attending a presentation elsewhere on the vessel.

Dealing with Incidents

Accidental discharge

On a very rare occasion, a Bear Monitor may accidentally discharge a firearm. The shooter and expedition team members nearby must immediately react to ensure there is no imminent danger or ongoing threat to human life. The EL and the Bridge must be informed immediately in addition to—if necessary—the doctor.

To mitigate the risk of accidental firing of a firearm, all Bear Monitors **MUST** have:

- The safety ON unless under immediate threat of attack from a bear.
- An empty chamber (i.e., no rounds loaded into the breach) unless under immediate threat.
- The firearm(s) in their possession at all times (i.e., never leave it unattended) or with a passenger.
- The firearm unloaded on shore prior to returning to the ship.

Misfires / Jamming

If a firearm hasn't been properly maintained or carried responsibly, there is a greater risk that the barrel, firing pin, trigger, or bolt/loading action is compromised resulting in a misfire and/or jamming. Either could have potentially lethal consequences.

To mitigate the risk of misfires and/or jamming, the expedition team member responsible for the armoury should regularly check the firearms and, if necessary, ask other expedition team members to assist in cleaning/oiling them. All Bear Monitors must avoid their firearm coming into contact with the ground or other surfaces or objects likely to cause damage or obstruction to the firing / loading mechanisms.

In the event of a firearm misfiring or jamming, the Bear Monitor must make a decision—if there is time to radio another Bear Monitor for assistance then they should do so. If not, the Bear Monitor must either clear the jam or utilise another firearm, which may only be a flare pistol. If a flare pistol is not available or all rounds are spent, the Bear Monitor must cluster all passengers into a tight group, make as much noise as possible whilst making themselves as big as possible to try and intimidate the bear.

Submerging a Firearm

Bear Monitors will either travel in a Zodiac or be a Zodiac driver, often in rough conditions. On rare occasions, firearms have been lost overboard.

To mitigate the risk of submerging a firearm:

- Securely stow all firearms within the Zodiac or (preferably) hold them upright during the transfer to shore/ship.
- In rough seas, the Zodiac driver's firearm should be carried on to the beach by an expedition team member in the first landing party avoiding the possibility that the Zodiac may later become waterlogged, and the firearm submerged.

If a firearm is submerged, it should be recovered as soon as possible, and dried, thoroughly cleaned, and oiled when back aboard the ship. Until that time, the firearm may not be relied upon and if necessary, the landing plan may need to be adapted for one less firearm.

Bridge Operations

Summary

The Bridge is the command centre of any expedition—usually where the majority of the route and excursion planning takes place between the Captain, EL and AEL. When given access to the bridge it is essential that the expedition team respect the working environment of the Captain, Bridge officers and helmsmen and giving them necessary space and freedom to operate.

Do

- Respect the requests and working space of the Captain, officers and helmsmen.
- Ask for access to the chart drawers or binoculars etc.
- Leave the Bridge promptly and politely if requested to do so.
- Quietly engage passengers showing an interest in the Bridge and its operation.

Don't

- Distract the officers or helmsmen from their tasks.
- Talk loudly or lark about.
- Set a poor example that passengers might follow.
- Bring food or drink into the Bridge.

Expedition Team Member's Role on the Bridge

The expedition team has no formal role on the Bridge—for all intents and purposes, expedition team members are equal to passengers and have no authority pertaining to the ship's operation. The Captain may, at their discretion, allow members of the expedition team to be on the Bridge—usually to continue planning landings / cruises or to spot for wildlife. If an expedition team member is in doubt, they should follow the direction of the EL / AEL.

Planning

It is essential that the Captain and the Bridge officer of the watch have a clear view of the timings and how each landing / cruise is intended to operate. Such plans may involve the ship repositioning to a different pick-up point to enable one-way routes to be taken. The EL arranges this.

As well as general orientation, using the ship's charts, the EL and AEL will liaise with the Captain and Bridge officers to better understand depths, tides, potential obstructions, weather forecast, and any possible impacts on timings. The number of boats required, crew drivers, and shoremen should also be made clear. The EL should be aware of any concerns the Captain may have regarding ice conditions and the anchorage and agreements made as to latest return times or should conditions change for the ship, how the landing party might be recalled.

Ship's Charts

The ship will carry the most detailed nautical charts available for any given area being explored. In many cases, the ship may have conducted its own soundings (see section: Depth sounding) to travel into or through some of the blank blue spaces on the map, so to speak.

The Navigation Officer is responsible for the charts. ALWAYS ask before accessing the chart drawer or locker to view charts. Electronic charts may also be available on the bridge. For detailed navigation or orientation, an expedition team member should ask the Bridge officers if the navigation charts can be relied upon in the same way as the paper charts as this is not always the case.

Ship's charts will contain limited information regarding the land's topography, features (incl. man-made structures) and names. Expedition team member (especially drivers) are encouraged to spend time studying the chart prior to a landing to improve their orientation.

Ice Charts

The ship will receive sea-ice related information and forecasts from the national authority within whose waters the expedition is operating. The quality of information varies but can be useful for mid-range planning purposes. Sea-ice charts are usually received every two to three days (though possibly one day later than issued).

The EL / AEL should seek the Captain's interpretation of the ice charts when planning destinations, activities and the timings within the steam schedule.

Tide Data

The Bridge officers will easily be able to reference tide data for the current location, and with some notice, will be able to provide relatively accurate information regarding rising, falling, or slack tides for any given location. In some areas, where tidal ranges are high and currents swift, tide data is a crucial element of planning (e.g., Iqaluit, Sondre Stromfjord, Kujjuuaq, Pangnirtung, Kangerlussuaq).

Zodiac drivers should be aware of shifting tides prior to a landing and how they may impact the operation (see section: [Operation in shallow waters](#)).

Sunrise / Sunset Times

For any given latitude and longitude on any given day, the sunrise and sunset times can be determined by a Bridge officer. If early-morning or late-evening landings are likely, the EL / AEL should seek this information. At high latitudes mid-season this is not an issue, after the summer solstice (21 June), light may increasingly become a factor in the hours of potential operation.

Longer days provides the EL, Captain, and expedition team with much greater flexibility in planning landings and cruises and working around potential delays. Landings have been conducted at 0200 (exceptionally) in the past in mid-season.

Shorter days towards the end of the season at lower latitudes provide a better opportunity to see the aurora borealis (the northern lights). The Bridge is usually informed to contact the EL / AEL if the spectacle is sighted and if the passengers have agreed to being woken in the middle of the night, an announcement made on the PA (see section: Ship's PA).

Weather — Current Conditions & Forecast

Current conditions: The Bridge will be able to provide accurate information for the current weather, including ambient temperature, wind speed & direction, and barometric pressure. Range, direction of travel, and type of cloud cover may usefully assist in planning for potential scenarios during a landing—especially any perceived threat of fog.

Forecasts: The Arctic experiences highly changeable and often unpredictable weather. The accuracy of any weather forecast should only be used as a guide and not be wholly relied upon. The Bridge will receive weather forecasts daily (especially relating to wind speed and direction). The barometer on the Bridge will show the trending pressure readings indicating relative stability or volatility.

The EL is expected to take into account changes in weather when planning a landing and must avoid committing the expedition to any course of action that would be significantly compromised by changing conditions.

General Behaviour on the Bridge

Both ship's crew and expedition team members must work together to ensure a safe and successful expedition for all. Whilst a degree of camaraderie may develop, Expedition team members are expected to be professional at all times. The team should be aware that the ship is home to the crew and officers before their arrival and long after their departure.

Zodiac Operations

Summary

Zodiacs are integral to the operation of expedition logistics—they are our workhorses. The efficiency and effectiveness of our operation will significantly influence the passenger experience. Above all else, Adventure Canada must operate safely in all conditions. Passengers must feel confident in our ability to safely and professionally transport them between the ship and shore, as this journey is as much a part of their trip as the destinations themselves.

It is essential that every driver have mastered full control of his/her Zodiac in all conditions.

Do

- Ensure personal preparedness (e.g., appropriate clothing, floatation device, etc.).
- Complete all safety checks and drive responsibly.
- Drive with control at all times, and drive at a safe speed.
- Disengage from a manoeuvre and try again if it's going wrong.
- Ensure your passengers understand the rules of your boat.
- ALWAYS WEAR ENGINE KILL-SWITCH.
- Ensure the Zodiac floor is clear of clutter.
- Follow any regulations for that region related to wildlife viewing.

Don't

- Drive without the proper certification.
- Drive too fast in dangerous conditions (e.g., high wind, angry seas).
- Drive in a manner that is unsafe or uncomfortable for passengers.
- Drive unsafely around ice and ice-faces.
- Drive in a manner that scares or harasses wildlife.
- Drive with disregard for other vessels (and their activities).

General Boat Description

The majority of expedition ships operate six-metre Zodiac MkVs. These boats are exceptionally stable even in rough seas. Made from highly durable hypalon fabric, they are resistant to extreme conditions. Our Zodiacs are powered by a 60hp outboard motor and though designed to take up to fifteen people (max. payload 2500kgs), Adventure Canada will usually transport ten passengers at a time.

Most Zodiacs have been modified with a bow-box for storage. The motors are electric start, with a long-arm rear tiller upon which the gear level is mounted.

All Zodiac MkVs have the Futura hull—featuring two speed tubes port and starboard and a central inflatable keel to improve hydrodynamics and manoeuvrability.

Driver Eligibility

Only expedition team members with an appropriate powerboat coastal navigation qualification should drive Zodiacs with passengers. Expedition team members must provide evidence of certification from their national associations along with Marine Medical and STCW certifications to the Adventure Canada office in advance. The EL will prevent any expedition team member failing to do so from driving with passengers.

The ship may request Adventure Canada to provide proof of operational competency of drivers and certification. Relevant elements of COLREGs have been summarised for Zodiac drivers in this manual. See section: [Appendix 2 – COLREGs for Zodiac drivers](#).

Identification of Drivers for Each Landing / Cruise

Dependent upon the characteristics of the landing and the prevailing conditions, the EL will identify those expedition team members with driving responsibility. All expedition team members eligible to drive should be prepared to do so if plans change midway through a landing.

Briefing Passengers for Zodiac Operations

Passengers must be briefed regarding Zodiac operations prior to the first landing to ensure they are fully cognizant of what is expected of them, and what they can expect from the expedition team and the driver of each Zodiac. It is the responsibility of the EL / AEL to deliver this **mandatory** briefing even if passengers have travelled in Zodiacs before. Every ship's Zodiac operation is slightly different.

It is important to introduce the passengers to:

- The key card system and its operation.
- Lifejackets, and how they should be donned.
- Expedition Team and/or control of the side-gate.
- Announcements and pre-embarkation procedures.
- Zodiac groups (principally to split the large group into 3–4 smaller groups to avoid excessive queuing and waiting at the side-gate).
- Embarking / disembarking Zodiacs at the ship.
- Disembarking / embarking Zodiacs at the shore.

Driver Responsibilities

Personal preparedness

The driver **MUST** be:

- Appropriately clothed for the conditions in which the Zodiac operation is being conducted. If conditions change, the driver's performance must not be compromised by poor preparation.
- Wearing an approved personal flotation device (PFD)—either a lifejacket or a float-coat.
- Prepared for changing conditions (e.g., fog), carrying a GPS (see section: [Use of GPS](#)) and, ideally, binoculars.

Captaincy

Every driver of a Zodiac is the captain of that vessel. The driver is therefore responsible for communicating clearly with their own passengers and for ensuring any journey is safely and professionally executed.

Rules of the boat

It is the driver's responsibility to clearly outline what is acceptable passenger behaviour in the boat (i.e., standing up, moving around, taking photos), and what is not. Passengers should be under no illusion as to who is in charge of the vessel and what they should do when directed.

Driver Boarding & Safety on the Winch

Readiness at the side-gate

Drivers should be ready at the side-gate (or designated driving-boarding point) at least 30 minutes before to the passenger disembarkation time. Zodiacs are lowered to the gangway, where drivers will embark onto their Zodiacs.

Before embarking the Zodiacs, each driver must have their Zodiac emergency kit and a hard hat (for working around the winch hook). These items are found in the expedition mud-room.

Observing sea conditions

The driver should be aware of the state of the sea surface when being lowered. The Zodiac MkV is stable, but an unexpected swell could throw the driver off balance.

Releasing from the winch hook

Usually, a driver should start the engine before releasing the Zodiac from the winch hook. If the engine cannot be started (which happens from time-to-time), the Zodiac can be immediately replaced. However, if the ship is underway, the drag of the Zodiac on the water will place pressure on the winch line and thus the driver should unclip from the winch before attempting to start the outboard motor. The driver should signal (thumbs up) to the winch-operator when the hook has been unclipped and the Zodiac is free.

Pre Pax-Boarding Safety Checks

It is vitally important that every driver runs through basic safety checks on the Zodiac prior to embarking passengers. The deck crew will have run through checks already, a captain must be confident of his vessel—they are responsible for the safety of their passengers.

Fuel cans & lines

Ensure that fuel lines are free from obstruction and 'pinching', and that both fuel cans have enough fuel in them for the planned activity. If not, request a new fuel can from the boatswain.

Winch ropes

Disconnect the rear winch ropes from their d-rings, coil the ropes and store them on in the front of the box—thereby clearing the deck for the driver and passengers to move about without tripping.

Bow & stern lines

Ensure the bowline is stowed inside the Zodiac between the bow-box and the bow. Ensure the stern lines are stowed securely against the pontoons or inside the boat next to the transom. Both lines need to be clear of the propeller.

Pontoon valves

Check the valves on each pontoon—they should be set to ‘navigation’ to ensure they’re in the closed position. If one of your pontoons is punctured, the remainder will stay inflated and enable the Zodiac to limp back to the ship.

Oars

Each Zodiac should have two oars stowed securely against the port and starboard pontoons. If one is missing, request a replacement from the AEL.

Identifying the boat

Each driver should notify the Coordinator of the name of the Zodiac they are driving. This should be done via radio upon embarkation. The Coordinator’s role is to monitor the passenger movement between ship and shore as tracking passenger numbers in case of emergency.

Buddy System & Driving Alone

When at all possible, ensure that you are driving in groups of at least **two** Zodiacs. This is to ensure quick response in case of emergency.

If driving without a buddy is absolutely necessary, you must inform the EL and the bridge, and you **MUST** remain in range of communication at all times.

Every Zodiac motor is fitted with a standard 'kill-switch'. All drivers must **ALWAYS** wear the kill-cord around their arm or attach it securely to themselves. In the event of the driver being knocked overboard, the kill-cord will trigger the kill-switch and the engine will immediately cut out, protecting the driver from being injured by the propeller, preventing runaway boats, and enabling them to swim back to the drifting Zodiac.

Approaching the Gangway

Zodiacs should standoff until the side gate is lowered to either the port or starboard side-gates (sometimes both, if the lee-side is changeable). Once secured, the able-bodied seaman (AB) manning the gangway will signal the Zodiac driver to approach.

Passengers may be watching from the side-gate or upper outside decks, so approach sensibly.

Portside example: Approach slowly (preferably on very low throttle or even just in idle) from a shallow angle allowing the AB to tether the starboard-bow first, then swing the tiller to bring the Zodiac alongside. Take the aft rope from the gangway to tether the starboard side.

Before loading passengers:

- The Zodiac should be secured to the gangway by two ropes. **The kill-cord may only be removed once the boat has been secured.**
- Motor should be in neutral and the tiller upright and out of the way (unless strong current or high wind requires the Zodiac to be held in forward gear on idle).
- A small step should be placed inside the Zodiac facing the gangway.
- Signal to the expedition team member on the side gate that the Zodiac is ready to embark passengers.

Side-gate Operations

The side-gate is a critical part of the Zodiac operation and the expedition team manning the side-gate play a key role in the coordination of the landing/cruise operation and ensuring the safety of passengers.

- Side-gate must have clear communications between the shore-party (usually with the EL), the Zodiac drivers and the Bridge (especially the latter when swell is heavy).
- PA announcements are made inviting Zodiac groups (in agreed order & time-stagger) to attend the side-gate.
- ALL Passengers must scan their security card—and no one else's.
- Lifejackets are securely fitted (i.e., buckles engaged) on passengers before they approach the gangway.
- Backpacks may be worn down the gangway steps and into the Zodiac but must be taken off immediately after sitting down.
- Backpacks should be removed from backs while in the Zodiac.
- The Zodiac driver has signalled to the boat is ready to accept passengers.

- Maximum of 10 passengers board each boat (unless otherwise directed by the EL/AEL).
- The shore-party is made aware when all passengers have disembarked the ship.

The side-gate expedition team members have the right to stop any passenger from boarding a boat if they have not swiped their card and are not wearing a lifejacket properly.

Loading Passengers

Only when the Zodiac driver has signalled the side-gate expedition team members and the boat is ready can the loading operation commence. When passengers have descended to the lower platform of the gangway, the driver **MUST** direct the passenger to:

- Surrender their walking stick etc. to the AB on the gangway.
- Take the sailors' grip being offered by the driver.
- Step first from the gangway on to the pontoon of the Zodiac.
- Step second on to the step inside the Zodiac.
- Sit where they are indicated to by the driver and, if necessary, slide along the pontoon.
- Receive back any items handed to the AB prior to embarking.
- Stay seated while other passengers enter the Zodiac.

The driver should make any changes to the passenger seating (e.g., to balance weight, move individuals as needed away from the bow toward the stern etc.) before casting off from the gangway. As a last precaution, the driver must visually check lifejackets before moving off.

General Driving Behaviour & Etiquette

Adventure Canada's Zodiac operation must be safely conducted. Beyond that, it must appear slick and professional. All drivers should have a common understanding of how to behave around other Zodiacs, watercrafts belonging to locals, ice, obstructions, and other potentially challenging characteristics of a landing or cruise.

Passenger experience

- If a passenger feels unsafe or uncomfortable for any reason while in a Zodiac, their experience of the entire trip will be detrimentally affected. It is a basic responsibility of the driver to ensure this does not happen.

Passenger comfort

- Assess the conditions in which the transfer / cruise is taking place.
- Assess the needs of your passengers before getting underway.
- Ask passengers periodically if they are comfortable. If someone is getting cold or wet, this will become a safety issue if it's not addressed quickly.
- Adjust speed, select the least challenging route or position passengers differently if necessary (e.g., rather than drive across the waves, zigzag to the shore heading directly into the waves and switching back so they're at your stern to avoid excessive wave spray OR load the boat heavy on the lee-side by placing 6 passengers on that pontoon and only 4 on the other to lift the pontoon higher to avoid spray).

Interactions with other Zodiacs

- Do not drive close to other Zodiacs at speed.
- Do not bump into other Zodiacs or other objects (unless travelling very slow).
- Do not cut across the path of other Zodiacs (esp. at speed).
- Wait for another Zodiac to exit a tight landing site before commencing your final approach—crowding or jostling makes you look impatient and unprofessional.
- Be aware of the line-of-sight of passengers in other Zodiacs taking photographs or simply observing. Sometimes it's nice to have another Zodiac in shot for scale, but this should be deliberate.
- Do not push in ahead of another Zodiac at the gangway unless agreed with the other driver and usually only for passenger safety (i.e., someone in your boat is a hypothermia candidate).

Operations around ice

Working around ice is a complicating factor for Zodiac operations—increasing time and risk—as well as a great delight for passengers. Striking a balance between offering the passengers an exciting and eye-opening experience and getting home safely is important.

The driver **MUST ALWAYS** err on the side of caution—you cannot gamble with the lives of other people who have been entrusted into your care.

If a situation arises where a Zodiac is too close to an ice face or iceberg, expedition team members can radio the driver and use the term “icewall” in a phrase. For example, “Eric, icewall icewall.” The expedition team member being called on the radio **MUST** move **IMMEDIATELY** away and back towards where the other Zodiacs are located.

Brash ice & growlers

When travelling through brash ice, be aware that passengers will be jostled and bumped—sometimes unexpectedly—when the Zodiac bounces off growlers. Avoid excessive speed; it doesn't sound good if your propeller is taking hit after hit. Drivers should consider taking the outboard lock **OFF** so the engine will trim upward if hit by a large piece of ice, lessening impact to the propeller and drive shaft. Polar Bears are also known to use brash ice as cover and can be very difficult to spot, posing a potential danger to passengers and expedition team members. Please be very **CAUTIOUS** when travelling through brash ice.

Icebergs & glacier faces

Approaching large walls of ice is an impressive experience. However, it can be very dangerous, and conditions change in a split-second. Drivers are expected to observe the following rules without exception:

- Drivers should prep passengers each and every time of what to do if they encounter a calving—**immediately** sit down and listen for instructions, as driver will need to act quickly.
- **ALWAYS STAY AT LEAST TWO TO THREE TIMES THE ICE-FACE HEIGHT AWAY FROM IT.** Be aware of the ambient temperature—if it is significantly above freezing, the ice will be melting (and therefore weakening faster).
- **ALWAYS** be aware of your exit route if the ice calves—do not place yourself or your passengers into situations from which you cannot exit quickly.
- **NEVER** kill your engine directly next to an ice face—you'll lose time in starting it to get out of the way if you need to exit the area quickly.
- **NEVER** go beneath an ice-arch.
- **NEVER** go into an ice-cave.

- ALWAYS respond immediately to direction from the Bridge and the EL / AEL to move away from a berg or glacier face.
- If a berg or glacier calves and creates a large bow-wave the first (preferred) option is to exit the area. However, if this is not possible, the Zodiac's bow should be turned directly into the wave. If the wave is high and/or carrying a lot of ice fragments, the driver should consider asking the passengers to sit into the boat to lower the centre of gravity / increase stability and brace.

Pack ice and floes

Drifting pack ice is interesting and fun to drive around and between, however the driver must be sure to pick a route that will not be cut-off and/or crush the Zodiac. Particularly when operating in swift current, floes will move quickly, and drivers should be exercise great caution. It is not permitted (unless under strictly controlled conditions and with the authority of the EL) to allow passengers to step on to a floe.

Fast-ice

Sea ice that is permanently attached to land is worth investigating, by gently driving the bow of the Zodiac on to the ice surface and killing the engine for quiet. Marine mammals may well be present or their tracks evident.

Ice near the gangway

When approaching the gangway in icy conditions, a Zodiac driver may need to either wait for the current to move ice away from the base of the gangway or assist its clearance by gently nosing up against it and slowly applying throttle to push it away. Once the initial inertia of the ice mass has been overcome it can be left to drift away with its own momentum. It is better not to push ice with passengers in the boat—allow the driver of an empty boat to do the work instead.

Operations in shallow waters

The nature of expedition operations dictates that Zodiacs will be operating in shallow waters in order to arrive onshore. Any driver can study the ship's charts and tide data (see section: [Bridge operations – planning](#)) prior to the landing to make note of known underwater obstructions, shoals, or depths.

The EL / AEL or other expedition team members may have detailed knowledge of a landing site and potential issues that may be encountered. If this is not covered in the briefing, drivers should ask.

Approaching a landing site: If the landing site has not been visited before or information is scant, the scout and/or first expedition team boat should approach the landing site slowly with the outboard lock OFF or the engine trimmed upward pulling the propeller into shallower water. The driver should ask for a spotter on the bow if other people are in the Zodiac. Other drivers should:

- Pay attention to route taken by the scout / first expedition team boat.
- Request a brief from a driver who has made a landing ahead of them.
- By default, approach with caution with either the outboard lock OFF or engine trimmed upward if there are obstructions, or no brief is received.

Operations in falling/rising tides

Over the course of a landing operation, the tide will change (it may come up, slacken, or fall). It is important that the EL / AEL be aware of the tide and the expected range of travel up or down.

Falling tides:

- Makes for shallower waters and poses a higher risk for smooth entry and exit at landing sites.

- Expose rocks creating additional navigational hazards.
- Can leave Zodiacs beached or cut off.

Rising tides:

- Submerge (hide) obvious rocks making them navigational hazards.
- Can submerge a landing site making it unfit as an exit point.
- Dependent upon the tidal range, falling and rising tides can create swift currents that may make Zodiac navigation more complex or slow the operation.

Operations in high winds and/or high waves

If conditions are already borderline or dangerous prior to commencing operations, it is likely that the EL will cancel the landing. However, wind and sea conditions may increase in intensity during a landing to a point that the landing must be curtailed to return passengers safely to the ship. Drivers should be especially careful due to the increased operational risk when embarking passengers from the shore, transferring passengers back to the ship, and disembarking them at the gangway. **Drivers must also be aware that they are most vulnerable when their Zodiac is empty. An unloaded boat is more likely to be flipped by high winds or big waves, or likely, by a combination of the two.** Waves that push the Zodiac upward at a steep angle increase the likelihood that a large surface area of the hull will be exposed to wind, acting like sail and flipping the boat. Drivers should:

- Avoid crossing steep sided waves at speed.
- Wear the kill-cord at all times.
- If necessary, request that another expedition team member rides in the Zodiac at the bow to increase the stability of the boat.

At the shore

The waves are likely to be more lively, passengers colder, and less responsive/mobile. In very high winds, communication will be more difficult. Dependent upon the landing site and its exposure to swell, it may be necessary to operate stern landings (see section: [Stern landings](#)). The driver should double check with passengers that all lifejackets are fitted securely, and equipment (especially cameras) is safely stowed inside the Zodiac. The driver should warn the passengers that the transfer is likely to be bumpier and wetter than usual.

During transfer

The driver may wish to move the passengers slightly aft, thereby raising the bow to afford a little more protection. If the ship is positioned in a direction that lies across the waves, the driver should zigzag directly into the waves and then turning have them following to limit wave spray abeam. Dependent upon the velocity of the wind, the driver will need to strike a balance between keeping the bow up to protect the passengers and ensuring the boat is in no danger of being flipped if a strong gust of wind gets under the bow. When fully loaded, this unlikely. In high waves, any brash ice or growlers can become harder to see and thus stronger impact is more likely—drivers should proceed with caution.

At the ship

The driver should request a lee from the Expedition Leader at the gangway if the Bridge officer hasn't already turned the ship to provide one. Approach the gangway with caution and ensure no passengers move to disembark the Zodiac until it is secure, and both the driver AND the AB can assist them. The driver may need to leave the motor in forward gear on idle to alleviate strain on the forward gangway mooring rope. Ask passengers to wait if the gangway is exposed to large swells and/or is moving around. See section: [Disembarking passengers at the gangway](#).

Operations at night, in low-light conditions, or in tunnels

On occasion, Zodiac and landing operations may continue into hours of darkness or failing light or commence before or around dawn. Drivers should proceed with great caution given the obvious reduction in visibility (pertaining to hazards and any arising emergency situation).

Drivers should operate with headlights—at a minimum a headlamp, but preferably with another individual in the Zodiac using a high-flashlight-power beam (often available from the Bridge). Tighter communication between drivers is essential, as is a greater awareness of the operations of other vessels.

While a rare find, subterranean sea-tunnels should be approached with great caution. Ice caves and tunnels should NEVER be entered. Rock tunnels (e.g., Papa Stour) should be entered only with lights (at least two in case one fails part-way). All drivers must have flashlights and travel in buddies at all times when operating in low light. If you do not have a buddy and a flashlight, DO NOT proceed until they are available to you.

Following direction from EL / AEL or Bridge

Any driver receiving direction from the Bridge or EL / AEL should comply immediately.

Observing Wildlife

Most passengers come to the Arctic to experience, among other things, the wildlife. Making the most of our encounters with wildlife will help them have the best experience possible. As well as providing naturalist interpretation, a driver should be well aware of best practice Zodiac driving to prolong and even encourage interactions. In addition, the Canadian Wildlife Service (CWS) has strict standards for approaching wildlife that to which Adventure Canada adheres. Responsible wildlife viewing is in line with our best practices.

All Zodiac operations near wildlife must strictly adhere to AECO guidelines for approach distances, vessel speed, and behavior to minimize disturbance. These guidelines complement and may specify further details to the CWS and DFO standards mentioned in Appendix 3.

Zodiac drivers must be briefed on AECO's specific recommendations for operating vessels in areas with marine mammals and birds, including go-slow zones and when to cease an approach.

Approaching wildlife

When approaching a site where we expect to encounter wildlife, it is best for Zodiacs to approach in a single line, the speed regulated by the lead boat, rather than to approach as an armada (and creating a much greater disturbance). The group can always re-form closer to the wildlife and proceed in a more open pattern. Approach should be slow, with no sudden movements and with limited noise (on the radio as well as in the boats). Sound travels further and faster over water and through cold air.

Some animals (e.g., large whales) should be approached within their field of vision. NEVER approach a whale directly from behind. The most acute angle of approach should be from their port or starboard quarter—preferably abeam of them. You should never be within less than 100 metres of marine wildlife.

Keeping our distance from wildlife

CWS and DFO standards should be known to the EL / AEL and specialist expedition team members. Please See Appendix 3 for guidelines.

If the EL / AEL or biologist deems the approach of the Zodiacs to be far enough, then all drivers should adhere to the distance set, over and above CWS standards. The safety and comfort of wildlife is always top priority when viewing wildlife.

Providing wildlife with an exit

Some animals will become stressed or aggressive (e.g., walrus) if they feel trapped—for instance, by Zodiacs creating a semi-circular arc around a haul-out. Their behaviour may change, and any group may be disturbed, curtailing the interaction. Especially around walrus, drivers should form an open arc with an obvious route of escape should it be required by those animals being observed.

Observing behaviour — reactions to our presence

All drivers should be sensitive to changes in behaviour of any animal being observed. For example, drivers should avoid a chase if there are obvious changes in direction or pace of an animal. Subtler behaviours including baring of teeth, opening jaws threateningly, agitation, or restlessness should be cues for drivers to move away. The animal may settle allowing the driver to approach again with greater caution.

Creating a quiet atmosphere

The best interactions, the most intimate, are often conducted in quiet, with deafening silence. Ask passengers to either lower their voices or stop talking altogether if possible. Drivers should lower the volume of their radios, **but not so it is inaudible**. Do not turn off your engine in the presence of wildlife as this poses risks of being undetected and frightening wildlife and slows reaction time when action is required.

DO NOT turn your engine off

It is unsafe or unwise to turn engines off. Drivers should NOT turn their engines off when observing wildlife, below are a few instances as to why:

- In strong currents an unpowered Zodiac could move out of position very quickly and become a hazard for other boats.
- In very shallow waters particularly when near bears—the bear could easily run out through the water toward the Zodiac that cannot escape as quickly with the propeller trimmed upward.
- Close to ice-faces. The risk of icefall and the need to make a rapid exit is overriding.

Moving away from wildlife

All drivers should be cognizant that just because they are moving away from animals they can still be disturbed by the noise, so keep speed low and ask passengers to remain respectfully quiet until at a safe distance.

Communication with the Bridge, Side-Gate, Drivers & the Shore

Four key groups of people need to monitor and maintain efficient communication during Zodiac operations.

Bridge

The EL should inform the Bridge when the Zodiac operation is commencing and when the last Zodiac has left the beach to return to the ship. The Captain / officer of the watch can halt operations at the ship if conditions are becoming risky at the gangway and the ship needs to reposition. The Bridge can, at any time, recall the landing party.

Side-gate

The expedition team at the side-gate must be clear if (a) the Bridge is ready for passengers to board Zodiacs in inclement weather & swell, the Bridge may temporarily halt the operation whilst the ship turns to provide a lee for Zodiacs—and (b) the driver is ready to accept passengers into the boat. The expedition team at the side-gate should inform the shore party and drivers when only a few passengers remain and when the last Zodiac carrying passengers is approaching the shore.

Drivers

Drivers should inform the Bridge which Zodiac they are driving, the number of passengers on board and whether they are heading to shore or returning to the ship. The first driver should inform the shore party when they are approaching the shore with passengers. Drivers may need to communicate with each other if mechanical failures are experienced or if previously unknown obstructions are encountered. Drivers may need to relay messages between the shore and the ship if the landing site is obscured by terrain.

Shore party

Usually, the EL will direct the Zodiac operation (with passengers) to commence, signalling side-gate and drivers to start loading. Drivers should listen for any communication from the shore party regarding the landing site.

For communication guidance and general operation of marine radios see section: [Marine Radios](#).

Shore Landings

Getting passengers ashore safely and comfortably is a critical element of the Zodiac operation. The precise methods of embarkation and disembarkation may differ from site to site, dependent upon the landing site terrain and sea conditions.

Wet vs. dry landings

The most commonly asked question of landings is “wet or dry?” Many passengers do not like wearing rubber boots, despite them being the best option for keeping their feet dry. However, rubber boots offer less support to ankles and thus those with stout walking boots may wish to change ashore (or avoid the rubber boots entirely if they can get out of the Zodiac without getting their feet wet).

Wet landings

These suggest a high likelihood of passengers stepping into water or mud when disembarking the Zodiac at the shore, so rubber boots should be worn. A wet landing may also have damp or waterlogged terrain (e.g., Umingmaktok (Baychimo Harbour)). If the sea is lively, it's waves will likely be breaking on the shore—this is a wet landing. Stern landings are definitely wet landings.

Dry landings

These can be guaranteed when landing at jetties (e.g., Sisimuit, Ilulissat, Upernavik, Camp Lloyd) and are likely if landing on stable rock platforms with good grip (e.g. Karrat Island).

If in doubt, the EL should advise passengers of a wet landing.

Beaches

When landing or picking up passengers from a beach, drivers should be aware of obvious pitfalls and expected behaviours, see section: [Operation in Shallow Waters](#).

Unless a clear line of approach (free of obstructions) has been established, drivers should approach the landing beach with caution. The shore party may indicate if the water is deep enough to leave the motor down—if not, the driver should by default trim the motor upward.

Drivers **MUST NOT** approach at speed—we're not taking the beach, just landing on it. Passengers will not enjoy being jolted hard against the beach.

Passenger disembarkation

The shore party (usually EL / AEL) will repeat to passengers how they should disembark—by shuffling along the pontoon toward the bow, swinging legs toward the ocean, and rotating their feet around and outside of the boat—with the assistance of other expedition team members in the shore party. The driver should remain by the engine (unless otherwise requested to assist).

Passenger embarkation

Essentially the opposite movement to disembarkation. Passengers should sit with their backside on the pontoon near the bow of the Zodiac. Expedition team members may assist them to swing their legs towards the ocean and into the boat before shuffling aft to create space for other passengers to board.

Driver responsibilities

- Follow the direction of the shore party into the beach and reduce speed.
- Direct all passengers to remain seated—indicate they will be briefed in-boat.
- Stay by the engine when unloading, unless requested by the shore party to assist.
- Assist passengers into the boat when loading, positioning them if necessary.
- Indicate readiness to leave when the shore party pushes the boat out.

Shore party responsibilities

- Guide the driver into the beach when ready.
- Greet the passengers and brief them while they are still in the Zodiac (see section: [Shore welcome & onshore pax briefing](#)).
- Marshall the process of passenger disembarkation from / embarkation into the Zodiac.
- Assist the driver to get underway with a strong push out and away from the shore.

Rock platforms

Rocky landings are often more straightforward than a beach landing in terms of approach. The scout and/or EL should pick a landing site that allows the propeller to remain in deep water.

Driver responsibilities

- Follow the direction of the shore party into the rock platform and reduce speed.

- Direct all passengers to remain seated and not to move until asked.
- Approach bow-first at low speed—there should be very little jolt or bounce-back against the rock.
- Gently increase throttle, pushing the bow harder into the rock platform—this increases stability and allows a member of the shore party to step on to the bow pontoon, on to the bow-box and into the Zodiac.
- Maintain forward throttle keeping the Zodiac perpendicular to the shore.

Shore party responsibilities

- Guide the driver into the rock platform (indicate if water is shallow).
- Wait until the driver has steadied the Zodiac bow-first against the rock.
- Step into the Zodiac with the step, placing it just aft of the bow-box.
- Direct passengers, one at a time, to step out of the boat, over the bow-box and the bow-pontoon and on to land, with the assistance of other expedition team members.
- Remove the step allowing the driver to exit.
- The process is reversed when embarking passengers from a rock platform.

Jetties

Often in harbours, passengers can be disembarked on to a jetty if the ship itself cannot come alongside. The EL may elect for drivers to approach bow-first, similar to a rock platform landing, however if the jetty is too low in the water, it may be preferable to come alongside similar to approaching the gangway and secure forward and aft lines, with the passengers disembarking abeam on to the landing stage.

Driver responsibilities

If coming alongside the driver should:

- Prepare the Zodiac's bow and stern lines so they are easily accessible to the shore party and the driver.
- Approach slowly.
- Direct the passengers not to move and to be aware of the jetty on their backs if they're sat on the nearside pontoon.
- Allow the shore party to grab the bowline before manoeuvring the Zodiac alongside to throw the stern line to another member of the shore party or tie up themselves.
- Ask the passengers on the nearside pontoon to make space similar to how they would be asked at the ship's gangway (see section: [Disembarking passengers at the gangway](#)) so a member of the shore party can come aboard with the step and assist passengers on to the jetty.

Shore party responsibilities

- Be ready to receive bow and stern lines from the Zodiac and secure them.
- Be ready to board the Zodiac with the step and assist passengers to disembark by stepping on to the pontoon.

Stern Landings

On only a few occasions it is possible to make a landing in swell despite it causing significant waves on the beach. The waves crashing on to the beach would ordinarily engulf a Zodiac by coming over the transom and waterlogging it, so the EL can elect to operate stern landings, whereby the Zodiac turns about 180° at the beach and approaches stern first to disembark passengers on to the beach. More often, though still seldom, conditions may change while passengers are ashore, necessitating a stern landing extraction of passengers from the beach.

In both cases, stern landings are more complicated, time consuming, effort intensive and if not executed properly pose a higher risk to safety. There is a much greater chance of the expedition team (almost definitely) and passengers getting wet and cold.

Only experienced drivers should tackle stern landings and at least four members of the shore party plus the driver should be prepared to catch boats and assist passengers into or out of the Zodiac.

Executing a stern landing to disembark passengers ashore

- The driver must brief all passengers as to how stern landings operate and ask them not to move until directed by a member of the expedition team.
- The driver must standoff until directed by the shore party to approach.
- *Note: Ideally at least two members of the shore party should have waders, allowing them to be in much deeper water. The driver should drive towards the shore party allowing them to flick the bow sideways to facilitate a tight rotation of the Zodiac to bring it about stern-first.*
- The driver approaches the shore and swings the boat around (with the assistance of the shore party) just offshore, quickly kills the engine and raises it from the water. **THIS MUST BE DONE TO SAFEGUARD THE SHORE PARTY AND THE ENGINE.**
- The Zodiac will be pushed toward the shore by the incoming waves and with the assistance of the shore party, who will line both port and starboard pontoons to steady the boat.
- Shore party members assist passengers to swing their legs from the boat and into the water before moving up the beach. **NO ONE** should exit over the transom.

Embarking passengers on to a stern-landed Zodiac

This follows a similar process in reverse, though the Zodiac will drive straight outward and away from the shore.

- The driver must be ready to start the engine once all passengers are aboard and the shore party is ready to push the Zodiac out against the incoming waves.
- No expedition team member should be directly behind the Zodiac and in between the pontoons at this point.

Stern landings should be avoided if the EL / AEL cannot be confident of his shore party's ability to manhandle a Zodiac in relatively lively seas. If necessary, fewer Zodiacs should be in the water—thus freeing up more of the expedition team to assist ashore.

Working with Shoremen & Crew Drivers

Shoremen are members of the ship's crew, made available to the operator (Adventure Canada) for the purpose of looking after Zodiacs brought ashore whilst the expedition team are elsewhere on the landing site. The EL must be sensitive to the conditions including tide changes and the number of Zodiacs a single shoreman can realistically work with.

Crew drivers may be made available by the Captain if previously agreed with Adventure Canada to supplement the expedition team to help drive boats on landings and Zodiac cruises. Crew drivers, while experienced, are likely to operate with caution and will readily receive direction related to the landing site. If used on a Zodiac cruise, the EL must place another member of the expedition team in the boat to provide interpretation and perhaps assist with radio communication.

In both cases, working with shoremen and crew drivers, all expedition team members must treat them as an integral member of the team and with the respect that they themselves would expect. The crew are experienced seamen—however, they require clear direction from the EL / AEL. They will operate on the same UHF/VHF marine radio channel as the rest of the expedition team and can be communicated with easily.

The expedition team should not expect them to take the lead, provide interpretation, or engage with passengers beyond being polite and helpful.

Zodiac Cruises

Cruises in Zodiacs can be an enthralling experience for passengers—an opportunity to get closer to wildlife and ice, to get a sea-level view of the size and scale of geological formations, glaciers and icebergs. The ship usually has enough Zodiacs in the fleet to be able to cruise with all passengers at one time. If this is required, some boats may have to take up to twelve passengers/team members to achieve it (dependent upon total number of passengers aboard). During a cruise the ship may reposition to enable a one-way route to be travelled.

From an operational perspective, cruising poses a different set of challenges compared to conducting a shore landing:

- The ship's company is spread more disparately over a larger area.
- There is a higher likelihood of going out of radio contact with the ship and other expedition team members.
- Remedying incidents is usually more complex and time-consuming.
- Controlling the group if weather and sea conditions change is more difficult.
- Timing relies upon drivers' ability to gauge distances effectively—unless the ship is repositioning the lead driver should head back toward the ship no later than halfway into the allotted time for the cruise.

Zodiac Cruise Guidelines

- All Zodiacs should be lowered in advance of passengers embarking.
- Nominated Bear Monitors should board with their firearms. See section: [Firearms on Zodiac cruises](#).
- The EL should clearly brief all drivers as to their position in the driving order.
- It is imperative to use the card scan system when Zodiac cruising.
- All drivers should be aware of the Zodiac group they're in and which other drivers are in the buddy system group (see section: [Buddy system](#)).
- A non-driving expedition team member should always accompany a crew driver to provide interpretation to passengers (see section: [Working with shoremen & crew drivers](#)).
- All drivers should be aware of the return time and location and are expected to return in the same order to disembark passengers as that of the loading order.
- The EL / AEL should keep a close eye on changing weather and sea conditions and allow time for a more protracted disembarkation and winch operation.
- When in bear country, a firearm should be present in two to three Zodiacs out on the water, unloaded, but with ammo with them in case of an emergency.

Buddy system

During a Zodiac cruise, drivers should NEVER become isolated from other boats. The minimum boat group size on a cruise is two, and one of those drivers should be a Bear Monitor if operating in a bear zone. If one boat experiences an incident of any kind, another boat and expedition team member must be on hand to assist or protect. It is lower risk to have a minimum buddy group of three boats allowing one boat to assist and the other to go for help if out of radio range. At least one of the drivers should carry a GPS unit (see section: [Use of GPS](#)).

Glacier cruising

Specifically, when cruising glaciers, drivers and expedition team members should be aware of the safety guidelines when operating around ice (see section: [Operations around ice](#)).

Disembarking Passengers at the Gangway

In the same controlled manner of passenger embarkation, their disembarkation back on to the ship at the gangway must be equally efficient and professional. The driver must be aware that the passengers may be tired, wet, and considerably colder than when they boarded and thus may be less steady on their feet and prone to mistakes.

- Approach the gangway when the AB is ready. Follow the same line outlined above (see section: [Approaching the gangway](#)).
- Before reaching the gangway, drivers should ask the passengers on the nearside pontoon (the one that will touch the gangway) to create a space for (a) the AB to step into the Zodiac if required and (b) for the step to be placed and passengers to disembark. Typically, the two passengers closest to the bow should be asked to slide forward on the pontoon and the three passengers closest to the engine should be asked to slide aft.
- The driver should maintain control of the Zodiac (using the engine) whilst the AB secures the forward gangway rope to the Zodiac before assisting them to secure the aft line. Unless in strong current, the engine should be in neutral with the tiller arm stowed upward and out of the way.
- Take the step from the AB and place it in the Zodiac next to the pontoon.
- Drivers should tell passengers to only stand when they are directed AND assisted to disembark on to the gangway. Passengers MUST use the step inside the Zodiac and step on the pontoon before stepping on to the gangway.
- Drivers must insist on the sailor's grip being used with the AB.
- Drivers must remind passengers to SWIPE THEIR OWN CARD (indicating they are back on the ship).

Driver Disembarkation & Safety on the Winch

Passengers must be safely disembarked at the gangway before drivers disembark and Zodiacs are winched back on to deck. Passengers should not be kept waiting in the cold for drivers to put their boat on the hook.

Preparing for your Zodiac to go "up on the hook"

- All bags, Zodiac safety kit, firearms etc. should be moved to the sides of the Zodiac or beneath the winch ropes and central ring.
- Drivers must first re-attach the winch rope carabiners to the D-rings near the transom, taking care the winch ropes are not twisted. **BE SURE THE CARABINERS ARE SECURELY ATTACHED TO AVOID THE CONNECTION FAILING WHEN UNDER LOAD.**
- The driver should approach the side of the vessel as directed by the boatswain or winch operator. **Drivers must never be beneath a Zodiac on the crane.**

- All operations around the winch hook require a hard hat. If you do not have one, you're not permitted near the hook.
- The winch hook should be hanging down by the water, indicating where the driver is to attach—if not, the driver should stand off from the ship and wait for the winch hook to be lowered.
- In lively seas, it is advisable that the driver holds the central ring linking all winch ropes, thereby avoiding having to step away from the motor and lean down to pick it up when directly under the winch hook.
- Drivers should approach the winch hook SLOWLY, assessing any swell or waves travelling down the side of the ship toward the vicinity of the hook. Heavy swells can cause the Zodiac to be buffeted whilst attached to the hook, but not fully out of the water.
- When at the hook, the driver should shift into neutral, place one hand on the hook, with the other on the central ring and solidly connect the two in a single smooth action.
- Holding on to the winch ropes, the driver MUST kill and lift the engine before exiting the Zodiac.
- Drivers will exit their Zodiac (attached to the hook) into another Zodiac to be delivered to the gangway. The last Zodiac will be attached to the hook at the gangway.
- All Zodiacs going up on the hook should be accompanied by another driver or expedition team member in case of emergency.

Cargo Operations

At the beginning and end of every expedition, Zodiacs may be required to shift baggage to and from the ship. They may also ferry provisions at this time or at any point where a settlement is visited. Depending on the nature of the cargo, the Hotel Manager or Captain may request the boatswain to prepare cargo nets. Zodiacs must be loaded in a manner to avoid items being lost overboard.

If cargo nets are used, they must be spread out within the empty Zodiac such that all four corners can be brought together when the cargo is loaded in the centre of the boat. The driver should approach the winch hook as directed by the boatswain and pass the winch hook through all four corner rings the cargo net—while keeping the Zodiac directly beneath the hook. The driver must then signal to the winch operator to lift. If the Zodiac is not directly beneath the winch when the load is lifted it will swing, putting the driver at risk from being knocked out of the boat.

If cargo nets are not used, the driver should approach the gangway, as they would do with passengers, assist in securing the Zodiac before unloading the cargo to crew who will take it up the gangway and into the ship.

Harbour Operations

Adventure Canada visits communities where it is necessary to take Zodiacs into a harbour to land passengers at a jetty (see section: [Jetties](#)).

Navigation markers

On approach, drivers should also pay attention to any navigational markers (e.g., leading lines, red/green buoys).

Speed

Drivers should pay close attention to advertised speed limits, keeping any wake to a minimum to avoid damaging moored vessels. If a speed limit is not advertised, adjust speed to 3-5 knots.

Avoiding other vessels

In general, it is easier and more respectful to give way to other (locally owned) vessels in a harbour. Zodiacs tend to be more easily manoeuvrable anyway.

Rafting

Attaching one Zodiac alongside another can be easily and quickly done using one of the following preferred methods:

- Bowlines — Thread one Zodiac bowline through the safety rope loops of both Zodiacs linking the two together and secure with a knot.
- Carabiner — All Zodiacs are equipped with carabiners on the sides of the Zodiac for rafting. A carabiner can be threaded through the safety rope loops of two Zodiacs.

It is preferable to secure Zodiacs to the gangway individually using their bowlines, rather than create a single large raft. A raft will place unnecessary stress and pressure on the gangway. If there are many Zodiacs, rafts of two or three boats can be created hanging off a Zodiac that is attached to the gangway using a bowline.

Anchoring

Every Zodiac is equipped with its own grapnel anchor. These anchors are sufficient to hold the Zodiac in relatively calm waters. They will not hold if the wind picks up and will be prone to dragging unless the sea floor is rocky.

When anchoring a Zodiac, the driver should:

- Identify a good anchorage, preferably in relatively shallow water with a rocky floor. Avoid areas of strong current, deep water, or obstructions.
- Ensure there is enough space between their boat and the next.
- Assess the wind direction and sea conditions.
- Prepare the grapnel anchor (unfolding and securing all flukes) and line.
- Turn the bow into the wind.
- Throw the anchor and run the line through one of the safety loops on the port or starboard bow and allow the boat to be blown steadily astern, letting out the line as she moves. The more line that is let out the shallower the angle and the more likely the anchor chain will rest on the sea floor and create extra drag.
- Hold the line firm when enough line has been let out, take a mark of their position against the shore, and wait to see if the anchor holds or drags.
- If the anchor holds, secure the line to the safety rope loop, kill the engine, and request a pick-up from another driver. If the anchor drags, reposition, and repeat the process. If it continues to drag, the driver should notify the EL who may direct them to return to the ship and go up on the winch.

When anchoring is completed, drivers must collapse the anchor flukes and stow flat in the bow-box, recoiling the anchor line for the next driver to use. It is not helpful to open the bow-box when needing to throw an anchor to find the anchor line tangled.

Mooring

Zodiac drivers (and preferably all expedition team members who may assist the landing operation at a jetty, for instance) should know a few basic knots in order to safely secure the Zodiac to either the gangway, a jetty or an immovable object (e.g., rock) on a beach. A driver may seek to moor the Zodiac to a ring, pole, bar, rope (e.g., from another Zodiac), or an irregular object.

Note: When mooring, be sure to take account of tide conditions—if the tide is falling, ensure enough slack in the line so the Zodiac is not pulled from the water when the sea-level falls.

Towing

Occasionally, another driver's Zodiac will experience a mechanical failure and the boat will need to be towed either back to the ship or to a safe place where remedial action may be undertaken. When towing a Zodiac, drivers **MUST**:

- Secure the boats using the towed boat's bowline.
- Transfer passengers into the operable boat in case—for any reason—the boat being towed needs to be jettisoned.
- Ensure one driver remains in the boat being towed.
- Be sure to avoid any slack line tangling in the propeller of the towing boat.
- Assess the conditions when deciding whether to pull up the outboard motor of the towed boat—pull up if there are rocks or shallows, leave down if the seas are lumpy and it's windy so it can act as a rudder and place less stress on the transom.

Safety Boat

Some activities may require a Zodiac to act as a safety boat—for swimming or SCUBA diving, and when supporting kayakers, sea-cliff rock climbers, and maintenance activities to the hull of the ship (e.g., painting).

Only experienced drivers (confident and capable of manoeuvring around objects and in restricted areas) should be used as safety boat drivers. Another strong / fit expedition team member should be in the Zodiac to assist to pull any individual in distress from the water.

Safety boat drivers must be aware of:

- The proximity of their propeller to the individual in the water.
- Direction and strength of current that may carry the individual in the water.
- Any nearby obstructions (e.g., ice, rocks, seaweed) or wildlife.
- Distance back to the ship (perhaps requiring towels & a safety bag in the Zodiac).

Safety boat drivers must identify themselves and their position to the Bridge.

NOTE: All safety expedition team members should be aware that swimming in cold water might cause excess stress in the swimmers body resulting in cardiac arrest. This is a risk to anyone choosing to jump into or otherwise enter Arctic waters without a dry-suit. Also see section: [Man overboard](#).

Use of GPS

At times, drivers may not have sight of the ship or the landing point on the shore to orientate themselves. Visibility may be greatly reduced by fog and/or obstructing complex terrain. The driver may also be asked to drive some distance from the ship following a long or complex route line to a specific landing point.

It is advised that drivers be prepared to use a handheld GPS unit to determine both their current position and the direction they need to travel to reach their intended destination (be that the ship or the shore). All scouts should carry a GPS.

Adventure Canada may supply GPS units, though it is sensible for a driver to carry their own and be entirely familiar with its operation.

GPS co-ordinates must also be recorded on visits to Canadian Wildlife Sites. These are to be recorded for each and every visit and reported to the Adventure Canada office, Operations.

Dealing with Incidents

No expedition's Zodiac operation runs without incidents of one kind or another. Risks can be minimised, but the probability of incident is high given the nature of the environments in which Adventure Canada operates. Importantly, when an incident arises, drivers and other expedition team members should be familiar with the operational protocols that protect the safety of expedition team members and passengers first and the specialist Zodiac equipment second.

ALL INCIDENTS MUST BE REPORTED TO THE EXPEDITION LEADER OR ASSISTANT EXPEDITION LEADER ASAP.

Hitting a rock

Expeditions operate in shallow waters where visibility can be nil (i.e. in waters where the seafloor is disturbed or where there is glacial flour). Drivers should be aware of how to operate in shallow waters (see section: [Operations in shallow waters](#)) to minimise the risks of hitting a rock. If the propeller or skeg (the projecting stern section of the outboard motor, which protects the propeller) strikes a rock, if the motor has not already cut out, the driver should:

- Ensure all passengers remain calm—hitting rocks happens in shallow waters.
- Kill the engine and inspect the damage.
- Continue slowly and with greater caution if the damage is limited.
- Radio another driver for assistance if the damage is substantial (i.e., to transfer passengers)—relay if necessary. Communicate to the passengers what will happen.
- If the engine cannot be restarted and the Zodiac is drifting into a dangerous situation, the driver should use paddles or the anchor to arrest the drift.
- Arrange with another driver to be towed back to the ship (see section: [Towing](#)).
- Report all incidents and damage to the AEL. Some damage may have been sustained (e.g., to the drive shaft) without it being obvious to the driver.

Scouts should proceed with greater caution AND MUST WORK IN A BUDDY SYSTEM.

Experiencing a mechanical failure

From time to time, an engine, throttle or gearbox will fail, rendering the Zodiac unusable for landing or cruise operations. In this instance, the driver should:

- Ensure all passengers remain calm—boats break down unexpectedly, just as cars do.
- Check fuel lines—it may just be a bad connection.
- Radio another driver for assistance if issue is terminal (i.e., to transfer passengers)—relay if necessary. Communicate to the passengers what will happen.
- If the engine cannot be restarted and the Zodiac is drifting into a dangerous situation the driver should use paddles or the anchor (see section: [Anchoring](#)) to arrest the drift.
- Arrange with another driver to be towed back to the ship (see section: [Towing](#)).
- Report all incidents and damage to the boatswain.

Changing a fuel tank

During longer Zodiac transfers or cruises, the fuel tank may need to be changed. The driver should have checked the fuel levels as part of their safety checks (see section: [Pre-pax boarding safety checks](#)). The engine will appear to stutter prior as the fuel is running very low. At this point, the driver may have the opportunity to swiftly change the tank without the engine cutting out. The driver should:

- Connect the spare fuel tank (located in the gear box in the Zodiac).
- Ensure the air valve is open on the spare tank.
- Disconnect the fuel line from the empty tank and attach it to the new tank.
- If necessary, squeeze the priming ball located on the fuel line between the tank and the motor.
- The driver should make a note of the remaining anticipated distance to travel and, if necessary, request a replacement fuel tank from the ship.
- The driver should report that a fuel tank has been changed during the operation to the AEL.

Leaking or failed pontoon or speed tube

Zodiac MkVs are designed with five interconnected pontoon compartments, two inflatable speed tubes below the water to provide greater stability and responsiveness, and an inflatable keel. Rarely will these compartments fail. The 'hypalon' fabric (synthetic rubber) is extremely resistant to abuse and low temperatures. A Zodiac, with its compartmentalised pontoons, should remain afloat with up to three of five compartments failing.

During the driver's safety checks (see section: [Pre-pax boarding safety checks](#)) it is important that all pontoon valves have been turned to 'navigation' to close the valve. In the event that a pontoon does fail the driver should:

- Immediately re-check the valves are set to navigation.
- Ensure all passengers remain calm.
- If possible, locate the cause of the failure and mitigate any risk of exacerbation.
- Move passengers off of the leaking pontoon to alleviate their weight causing the air to escape faster under greater pressure.
- Radio another driver for assistance and if help is not likely to be available quickly, slowly head toward the shore or the ship (whichever is closest).
- Transfer passengers (and any equipment) to the shore, ship, or another Zodiac.
- Return to the ship (under tow if necessary).

Leaking keel

If the Zodiac begins to porpoise or corkscrew while underway, it is likely that keel has deflated slightly. While not threatening, a compromised keel will reduce the manoeuvrability of the boat and require the driver to reduce speed in order to maintain a constant direction, without disruptive movement.

Freeing a line wrapped around the propeller

A Zodiac's bowline or stern lines, if not correctly stowed, can become wrapped around the propeller. To avoid this, the driver should ensure lines are stowed during their safety checks (see section: [Pre-pax boarding safety checks](#)). Other detritus floating on the surface may also become entangled. In the event that a line does become wrapped around the propeller, the driver should:

- Shift the gear into neutral after coming off the throttle.
- Ensure all passengers remain calm—most entanglements can be freed relatively easily.
- Attempt to lift the engine from the water. If tangled in the bowline, this may not be possible.
- Slowly try to untangle the line (using a penknife only if it cannot be freed by other means).
- Radio for assistance from the Bridge or another Zodiac driver if the propeller cannot be freed.

Man Overboard

EVERY person in a Zodiac MUST wear a personal flotation device (PFD) (either a lifejacket, float coat, or survival suit). Seawater can chill down to approximately -1.78°C (dependent upon salinity) before freezing and generally sea temperatures will not rise above 3°C in Arctic waters. While survival may be dependent upon specific circumstances and physical condition of the person involved, as a general rule, any person without a full survival suit in a stressful situation is likely to survive less than ten minutes before becoming hypothermic (core body temperature of 35°C).

Cold water will rob the body of heat thirty-two times faster than air so **all efforts must be made to remove the casualty from the water immediately**. However, once the individual is in the Zodiac or on the shore, rescuers must take account of wind-chill and shelter the casualty.

Normal body temperature is 37°C ; amnesia will begin at 34.5°C ; loss of consciousness at 30°C and death at 26°C .

In the event of a passenger overboard (MOB), the driver should:

- Immediately come off the throttle and go into neutral to avoid any possibility of the MOB being injured by the rotating propeller.
- Ask passengers to keep their eyes fixed on the MOB whilst they manoeuvre the boat to affect a pick-up.
- Radio the Bridge to sound the alert and request the doctor be in a state of readiness.
- Communicate to the MOB to try to remain calm and try to limit their movement whilst the Zodiac approaches. (Motion increases blood circulation away from the core and thus increases heat loss).
- Move less able passengers to the far side of the boat and request assistance from more able passengers to remove the MOB from the water.
- Slowly come alongside the MOB, ensuring the propeller is well away from the casualty, moving into neutral when in position. Approach the MOB so that they are upwind of the Zodiac, and will be blown into the hull, rather than away from it.
- Ensure the passengers create a gap large enough for you to haul the casualty into the Zodiac without possibility of them being knocked overboard themselves.
- Heave the casualty from the water using the safety stirrups on each side of the Zodiac—they will be water-laden, less responsive than normal, and very heavy. If you are alone, lock arms with the casualty in the water and using leverage, attempt to roll your entire body into the boat, removing as much of the casualty as possible from the water.
- Once in the boat, remove all wet clothing and dress the person in any spare clothing to limit further heat loss and exposure.
- Return immediately to the ship.

Do not attempt any rescue that would compromise the safety of other passengers.

In the event of driver overboard, the driver should:

- If alone, and the kill-cord has been pulled: radio the Bridge and other drivers for immediate emergency assistance and swim towards the stopped Zodiac if close-by.
- If alone, and the Zodiac remained under power: radio the Bridge and other drivers for immediate emergency assistance and try to stay calm and limit movements in order to reduce blood circulation and conserve heat.
- If with passengers, direct them to pull the kill-cord (if possible); radio the Bridge and other drivers for immediate emergency assistance and swim towards the stopped Zodiac if close-by.

Equipment overboard

If equipment is lost overboard, ensure a passenger keeps their eye on where it was dropped, turn the boat around and if the equipment floats, retrieve it. If the equipment does not float, mark the position using a GPS unit (as it may be in shallow enough water to be retrievable). If not, and the equipment is lost, report the loss to the EL / AEL.

Wilderness Operations

Summary

Landing in unspoiled surroundings is a privilege. Few will have set foot in these places, and sometimes not for decades. Adventure Canada visits places that are about as raw and untamed as it gets—because these locations are about as far away from people as one can get. As a result, the expedition must be fully self-supporting and capable of maintaining high standards of safety, allowing passengers, photographers, filmmakers, researchers etc. to make the most of the time they have to absorb and capture the experience, without putting themselves or others at risk.

Do

- Direct passengers to stay within the perimeter—this is **not** negotiable.
- Encourage safe and respectful behaviour.
- Maintain communication to ensure the expedition team ashore remain ‘connected’ and regularly update the Bridge.
- Bring the site to life through broad, enthusiastic, and relevant interpretation.
- Allow passengers ‘alone-time’—encourage silence (it’s deafening).
- Remind passengers (and expedition team) of last Zodiac and shuttle times.

Don’t

- Allow passenger operations to commence until the site is secure.
- Allow disrespectful or unsafe behaviour.
- Allow the shape of a perimeter to be broken—where possible, other expedition team should assist a Bear Monitor to engage passengers or deal with an incident so the Bear Monitor can return to their primary role of protection.
- Allow a walking group to string-out so it cannot be protected.

Before Passenger Operations

Prior to any passenger disembarkation the EL and expedition team should make a thorough assessment of the landing planned. Better preparation may avoid potentially serious incidents when passengers are ashore.

Condition assessment

The EL should take into account current and forecast weather, tidal movements, potential ice movement, and presence of bears or other wildlife as well as any propensity of the passenger group to disturb them, or for the group to become threatened.

In addition, the EL should consider the overall needs and ability of the passenger group and their familiarity with expedition operations. A challenging first landing is likely to be riskier than after the group has had plenty of practice and are familiar with the general operation.

Scouting

Dependent on the site, the EL may elect to send a scout to assess in more detail the condition of the proposed landing site or identify a new landing site. The scout should gather information on the terrain, ice conditions, observable wildlife and any

other potential challenges that may present themselves.

Scouts should be:

- Briefed by the EL as to what information is expected from them.
- Clear about the duration of the scouting activity and when to report back.
- Operating in pairs for safety.
- Capable Zodiac drivers.
- Bear Monitors if expected to land.
- Equipped with binoculars to assess inland terrain & presence of wildlife from a distance.
- Equipped with GPS units if seeking to identify a very specific landing location.

Securing a landing site & setting up

Unless there is clear visibility from the ship, or the terrain is very open, scouts should assess the shoreline immediately to the left and right of the landing site looking as far inland as possible from the Zodiac for bears. Armed scouts may be required to land if visibility from the scouting Zodiacs was limited.

AECO guidelines for site selection and assessment must be considered, prioritizing the avoidance of sensitive wildlife areas, cultural heritage sites, and vulnerable vegetation. Scouting reports should note adherence to these considerations.

Expedition team boat

Once the scouts have identified a landing site and/or made an initial wildlife assessment, the expedition team (except those expedition team members assigned to the side- gate) and necessary equipment (e.g., life jacket bags, steps, scopes etc.) will be brought ashore – usually 30 minutes ahead of passenger disembarkation. Arriving late is unacceptable. Expedition team members who are late for the expedition team boat will be left behind to arrive with passengers, rather than delay the entire operation.

Drivers unfamiliar with the landing should follow the expedition team boat to the shore to learn the approach line and make note of potential obstacles.

Establishing a beachhead

Once ashore, Bear Monitors should take direction from the EL to establish an immediate perimeter (especially if terrain or fog limits close-range visibility). The expedition team should have been briefed by the EL / AEL ahead of the landing as to what is expected of them during the excursion (e.g., boat catching, gathering lifejackets, setting up a scope, setting up a shore station – see section: [Shore stations](#)).

Clearing buildings or complex terrain

Bears are well used to making use of all available cover when hunting. If a site contains buildings that will be visited (e.g., Dundas Harbour, Alexandria Fjord, Etah) or passengers are expected to pass close-by (e.g., Port Leopold), the buildings should be cleared, examine all sides, one at a time, room-by-room. Extreme caution should be exercised. The Scout should also make a lot of noise on their approach by yelling or using noisemakers.

Similarly, if the site is composed of complex terrain, such as hill, erratic boulders, dips, gullies (e.g., Beechey Island), cave entrances or large rock fields, Bear Monitors should clear the entire site or establish a tight perimeter.

This process can take time, but should be completed ahead of any passengers landing, in case a swift exit is required which would be complicated by large numbers of passengers.

Setting a site perimeter

If the site has a specific point(s) of interest within a relatively small area and the terrain lends itself to good visibility and wide arcs of fire, then the EL may elect to set a perimeter. Gun bearers should be:

- Placed at good vantage points that establish clear boundaries for passengers.
- In view of other Bear Monitors (but not ALL Bear Monitors)—radio relay may be required.
- Preferably not more than 100m apart.

Passengers should be reminded of expected behaviour around guns and to respect the perimeter.

Rotating perimeters

If the landing site is relatively small contained (e.g., Fort Ross, Port Epworth, Caswell Tower), and there are enough gun-bearers available, the EL may elect to establish a rotating perimeter whereby a spare-gun relieves a Bear Monitor at their post, allowing them to rotate over to the next position and relieve the next Bear Monitor. The process continues with one Bear Monitor constantly spare. This enables all Bear Monitors to move across the site, avoiding those in exposed positions from getting too cold if standing as a lookout or sentry for long periods.

Timing

Many factors may influence timings on a landing including weather and sea conditions, familiarity with the site, presence of wildlife and ability of the passenger group. Broadly outlined below is general timeline for disembarkation for a landing, assuming three passenger groups.

- T-30 minutes: Scouts and drivers ready at the side-gate(s).
- T-30 minutes: The expedition team ready to depart for shore at the gangway.
- T-5 minutes: Side-gate and EL confirm plans remain the same so passengers can be informed if there is any expected delay.
- T-0 minutes (planned commencement of pax departure): Driver ready at the gangway and signals side-gate to commence loading of passengers.
- T+10 minutes: Second passenger group is called to the gangway.
- T+20 minutes: Third passenger group is called to the gangway.

Maintaining the planned timing of a landing requires good communication and discipline within the expedition team. The expedition team should ALL be aware of the time of the last Zodiac and when the first shuttle to the ship commences.

This is a rough idea of the timings for excursions:

- T-40-30 minutes: Scouts and drivers ready at the side-gate(s).
- T-30 minutes: Expedition Team ready to depart for shore at the gangway.
- T-5 minutes: Side-gate and EL confirm plans remain the same so passengers can be informed if there is any expected delay.
- T-0 minutes (planned commencement of pax departure): Driver ready at the gangway and signals side-gate to commence loading of passengers.

Communication

Strong lines of communication on a landing are essential. Most of the expedition team should be equipped with radios and be familiar with their responsibilities, see section: [Marine radios](#). The EL / AEL should be aware of the terrain and areas where certain members of the expedition team, dependent on their position, may be required to relay. AC offers marine radio training and is working towards offering certification on selected voyages.

A number of parties must monitor or actively use the operations channel during a landing. These include the Bridge, side-gate, drivers, and shore party (usually EL, Bear Monitors, remaining expedition team members, doctor and the shoreman). See section: [Communication with the Bridge, side-gate, drivers and the shore](#).

Do

Ashore, the expedition team should work together to:

- Confirm the site is ready to receive passengers (e.g., site secure, shore stations ready).
- Highlight points of interest that passengers can be directed toward.
- Address any issues arising on the landing (e.g., passenger injury).
- Monitor the perimeter / communicate bear sightings and interesting wildlife.
- Monitor changing weather conditions.
- Coordinate any response to an incident or change in plan.

Don't

Expedition team should avoid:

- Turning radios off or turn the volume down for long periods.
- Complex terrain or buildings to improve transmission signal strength.

Using Bear Monitor-escorted walking groups

If the site offers no specific points of interest or they are widely distributed across a large area (e.g., Etah, Baychimo, Jenny Lind) then it is not possible to establish a tight perimeter and establishing walking groups may be preferable. During a briefing aboard the ship, passengers should be asked to self-select into walking groups (usually based on anticipated route length and terrain). The walking groups will usually determine the disembarkation order at the side-gate. Bear Monitors should be divided up amongst the groups. Bear Monitors should:

- Brief their walking group on the shore prior to leading off the walk.
- Keep the walking group tight—the lead gun should control the crowd at the front and the end gun should set the pace of the walk. If the group becomes elongated the lead gun **MUST** stop—otherwise the centre of the group will be unprotected. Individuals cannot leave the group.
- Encourage other expedition team members to evenly distribute themselves in the centre of the group to interpret the characteristics of the environment the passengers are passing through.
- Maintain constant vigilance—other expedition team members should not allow Bear Monitors to become surrounded by passengers, limiting their visibility and effectiveness. The majority of interpretation should be borne by unarmed expedition team members.

Medical Responsiveness Ashore

Dependent upon the characteristics of the landing site, the conditions and the limitations of the passengers, expedition team should be prepared for various different kinds of medical issues to arise. All expedition team members must be first aid

certified.

All expedition team members should carry the small medical kits issued by Adventure Canada on EVERY landing and cruise. Larger sites (e.g., Etah, Jenny Lind, Beechey Island, Bathurst Inlet) may mean the doctor/emergency response coordinator is some distance away from a casualty.

Medical Response Team

The ship's doctor has specific responsibilities on ship and will not be accompanying the landings. Adventure Canada supplies passengers' medical information to the doctor ahead of every expedition. The EL can request the ship's doctor to (when available) to come to shore:

- Carry a marine radio and monitor the operations channel at all times ashore.
- Determine if certain more vulnerable passengers (based upon their medical history and/or performance during the trip) be more closely accompanied.

Aboard, the doctor has a small field hospital that passengers, expedition team, and crew are welcome to visit.

When ashore, the Adventure Canada Emergency Response Coordinator is responsible for reacting to medical emergencies and carries a portable defibrillator, medical equipment, and drugs. All expedition team members have been trained to operate the defibrillator in the event of an emergency.

Expedition team responsibilities

Members of the shore party must all hold valid first aid certification (minimum requirement of Emergency First Aid Level C) and be prepared to assist a casualty and request the doctor's assistance.

If there are multiple expedition team members present, it is essential that one or more expedition team members concentrate on the passenger and one expedition team member takes control of the situation in terms of communications (with EL / AEL / doctor / Bridge) and ensures the ongoing safety and security of the casualty and expedition team members treating them.

Other expedition team members can assist in moving other passengers away from the scene and ensuring they are safe and able to continue with the rest of the landing, or dependent upon circumstances, moved back towards the landing site for extraction.

Accidents

If a medical incident occurs whilst ashore, the doctor should ALWAYS be informed, even if considered to be relatively minor.

If the incident is severe, the expedition team member MUST contact the doctor immediately to request assistance and provide first aid prior to the doctor's arrival. If possible, the priority must be to stabilise the casualty. All expedition team members ashore and aboard MUST be ready to assist the EL / AEL as directed.

Preservation of life

In the gravest of circumstances, expedition team members may be required to provide potentially life-saving assistance to a casualty, consistent with their first aid training. Expedition team members are not medical professionals and thus all that is expected is that the expedition team member does what they have been trained to do until the doctor arrives.

Medivacs

In most scenarios, the expedition will be too far from established search and rescue bases to await a direct medical evacuation by helicopter or twin otter. Most likely, any casualty ashore will be taken back to the ship, which can reposition to expedite an air medevac.

It is the doctor's decision to request a medevac.

- The EL and doctor must proceed immediately to the casualty's location and relieve any expedition team members under stress. The EL must later ensure relevant expedition team members receive appropriate treatment for shock.
- The area must be made safe or exited if this is not possible—further risk to human life is not acceptable.
- In the event of a demise, the body is to be respectfully transferred (preferably in a body bag) back to the ship and the Adventure Canada office and relevant authorities informed, for onward communication.
- The EL must brief all expedition team members and the Captain, and determine the best course of action, in consultation with the casualties travelling companions.
- Expedition team members should offer respectful assistance to any travelling companions and allow the EL to brief the other passengers with discretion.

Passenger-Operations

Commencing passenger-operations

Passenger operations should only commence once the site is secure, and the EL has communicated to the side-gate that the shore party is ready (see section: [Side gate operations](#)). The shore party will be deemed ready by the EL once the landing site is secure and the expedition team members are in position (see section: [Securing a landing site and setting up](#)).

The side-gate will commence the loading operation into Zodiacs when the first driver is ready. The driver will radio the shore party to confirm passengers are inbound.

Shore welcome & onshore pax briefing

When passengers arrive onshore, their first impressions of a site begin with how well they are received by the expedition team immediately at the landing site. Those catching boats should:

- Ensure each Zodiac is met with a greeting and a smiling face (usually by EL / AEL but sometimes by another designated expedition team member).
- Enlist the shoreman's assistance to catch the boats.
- Direct passengers to remain seated in the Zodiac before briefing them on what to do next, unless wave conditions are too rough.
- Deliver a brief orientation of the site and describe the plan of action.
- Describe the conditions under foot and how passengers should disembark.
- Indicate where lifejackets can be stowed.
- Indicate where rubber boots can be left if passengers are opting to change footwear.
- Describe the site protection (i.e., by a perimeter or Bear Monitors within walking groups).
- Indicate the presence of Bear Monitors if they can be seen.
- REPEAT THE TIME OF THE LAST ZODIAC and what time return operations may commence.

For specifics on driver and shore party responsibilities for passenger disembarkation for different types of shore landings see section: [Shore landings](#).

Stowing lifejackets — safety measure

The expedition team should assist passengers to stow lifejackets in bags on the beach. This ensures there is a safety check onshore regarding passenger numbers returning to the ship. There should be no spare lifejackets in the bag at the end of the landing.

Be sure not to leave the lifejacket bags below the high-tide mark.

Stowing rubber boots

Some passengers will want to change footwear from rubber boots used on a wet landing to walking shoes particularly when longer walks are anticipated. If the landing is open-jawed (i.e., a different entry and extraction point) the rubber boots will be transferred by Zodiac.

Shore stations

Some sites visited by Adventure Canada are multi-faceted and offer numerous points of interest that can be interpreted by expert guides within the team as a shore station. Passengers can be encouraged to visit shore stations in a particular order or randomly to learn more about the geology, history, archaeology, cultural connections, botany, and broader biology of a site, or sometimes just to experience great panoramic viewpoint.

Shore stations offer structure to a landing and allow passengers to make choices regarding what interests them most.

General behaviour

All expedition team members and passengers must be reminded of AECO's principles for onshore conduct, including but not limited to: 'leave no trace,' waste management, respect for wildlife (e.g., no feeding, maintaining silence where appropriate), and the protection of geological features and vegetation.

Adventure Canada enables the expedition team and passengers to experience rarely visited, often hugely significant wilderness locations (historically, culturally, scientifically). The expedition team must set an example and enforce if necessary certain behaviours, such as:

- Staying within the perimeter and other safety-related boundaries.
- Being respectful of the site, its wildlife, its history, and structures.
- Removing nothing (including man-made garbage), especially on archaeological sites.
- Leaving no permanent trace of our presence, especially on archaeological sites.
- Observing wildlife within permitted CWS guidelines.
- Observing time limits for each landing and ensuring the last Zodiac leaves on time.

The expedition team should engage passengers—bringing the site alive for them, orientating them and being ready to ask questions or listen to passengers' thoughts. Collectively, guides are expected to interpret the full breadth of what can be experienced on the site, from the macro to the micro, from history to the present, from culture to science.

Archaeological Sites

Adventure Canada has a long history of including visits to archaeological sites in all of its northern cruises and has taken pride in reporting dozens, if not hundreds, of new sites encountered during landings in Greenland, Nunavut, the Northwest

Territories, Labrador, and Newfoundland. Passengers enjoy these visits, learning more about northern cultures from exploration of the sites than is possible to absorb during on-board presentations. Each ship/cruise should have at least one archaeologist on board, as well as cultural specialists from northern and sub-Arctic communities.

Archaeological Permits

Each cruise in which there are planned landings at archaeological sites, there must be a supporting permit to visit the planned site. The expedition team archaeologist must apply for an archaeological permit from the appropriate agency (Class 1 or equivalent), including a list of planned landings at which archaeological sites are known (or suspected) to be present, together with several alternate locations to be considered for landings in the event of adverse weather/sea conditions, or the presence of a polar bear, which prevent landing at the initial location. Prior to submitting the application, the archaeologist should contact the appropriate agency to acquire a list of known sites in the planned landing areas. A copy of the itinerary (map from online brochure is good) should accompany the application. As no excavation or artefact collection will be undertaken, the application need not be too detailed or technical, and the archaeologist can apply for a Class 1 permit (no excavation or collection).

AECO Guidelines for Cultural Heritage Sites: "In addition to permit requirements, all visits to archaeological and cultural heritage sites must follow AECO guidelines. This includes protocols for visitor numbers, approach, conduct on site, and ensuring no disturbance or removal of artifacts. The expedition archaeologist will brief the team and passengers on these specific AECO site protection measures.

Briefings

The archaeologist must present a briefing to passengers and the expedition team at the very beginning of each cruise (on day 1 or 2, and BEFORE a first archaeological or historic site visit) on procedures to follow when landing at or encountering an archaeological site. This should include a summary of the appropriate heritage legislation and its requirements for visitors to sites. The archaeologist should also distribute, post, and bring attention to, regional pamphlets on how to treat archaeological sites.

Once on site, the archaeologist will brief visitors on where to walk, where not to walk (e.g., through tent rings or sod houses), the age and function of the site, why it is so located, what to look for in terms of structures and artefacts, and a **strict** prohibition of removal of any artefacts, bones, rocks, or other objects from the site. Passengers and the expedition team should feel free to explore sites—under the guidance of the archaeologist—to gain an appreciation of how and why people lived at the site. Visitors must remain a small but safe distance from archaeological features.

Archaeologist should try as much as possible to incorporate the knowledge of Inuit beneficiaries during the interpretation of Thule/Inuit or other sites (if the person is interested in doing so).

Reporting

One of the permit requirements on the archaeologist is to provide the appropriate agency (or agencies) with reports following the conclusion of the cruise(s). This will include a one-page non-technical summary report due by September 30 describing sites visited and their condition, with one or two photos, for public viewing. A full report must be submitted by March 31 describing the nature of the cruise, the itinerary, and a list of onboard personnel responsible for heritage education and protection. Each site visited must be described as to the number and type of features, their condition, the presence of any vandalism or natural disturbance, any change in condition since last visited, the presence of surface artefacts, the number of visitors, and any interpretation programme offered. A site form should be completed and appended to the report for each site visited, including appropriate information.

For new sites encountered, a site form should be completed, including a description of the location, a set of GPS coordinates from the centre of the site, an estimate of the number and type of features observed, the surface environment, the dimensions of the site, and its relationship to natural features (such as the seashore, a stream, lake, large boulder, or prominent hill) to assist in re-location. (The quantity of information provided must be balanced with other duties, such as Zodiac driving, guiding, wildlife monitoring, etc.—the ship and its passengers come first). The site forms and reports should be submitted to agencies as listed on the permit.

Zodiac shuttles

The EL and Zodiac drivers should always expect some passengers to retire from a landing some time before the last Zodiac

and set a time for a shuttle (i.e., Zodiac returning to the ship) to commence. Passengers may wish to return for a number of reasons including:

- Fatigue or injury
- Inclement conditions and / or poor preparation on the part of the passenger.
- Disinterest in what a landing has to offer.

If passengers are requesting a shuttle before the pre-agreed commencement time, it is at the EL's discretion to arrange an earlier Zodiac as shuttle drivers may be elsewhere on the landing site.

When the shuttle commences, the EL should agree with the driver if any excursions (e.g., around nearby icebergs or other points of interest) are allowed. Shuttle excursions create a precedent that time may not accommodate for passengers waiting until the last Zodiac to return.

The driver of the first shuttle **MUST** radio the Bridge to alert the crew of inbound Zodiacs to the gangway. The Bridge will direct the AB on watch to attend the side-gate and assist disembarkation.

Last Zodiac

All passengers should have departed the shore prior to the last Zodiac. The last boat leaving the shore is usually transferring the expedition team (especially Bear Monitors and the EL) from the landing site. All remaining equipment on the beach (e.g., lifejacket bags, scopes, firearms) must be in the boat.

The EL should inform the Bridge when the last Zodiac is inbound for the ship and confirm when all passengers and the expedition team are on board.

Landing Safety

Safety is the principal objective of any landing—conditions should be constantly assessed. The EL is responsible for safety of all persons ashore and all safety-related direction from the EL must be followed. Should there be any breakdown of communication and the EL is not reachable; the expedition team must default to the AEL.

Limiting factors — the lowest common denominator

At all times, the expedition team must consider the overall ability of the group and in some situations scale safety measures for the lowest common denominator in terms of ability (i.e., if a walking group is seeking to complete a route, they may only proceed at the pace of the slowest individual). There is a limit to how thinly the expedition team can be spread across groups, and passengers should be reminded that this is group travel—not an expedition for individuals. If in any doubt, consult the EL / AEL.

Terrain — assessing the risks

It is not uncommon for passengers to overestimate either their ability or the limits of their clothing and equipment. Some landing terrain can be challenging and will rapidly expose weakness within the party—areas that have not been visited previously may be underestimated in their demands by the expedition team (e.g., Baychimo Harbour). The EL / AEL / the expedition team are advised to:

- Be very vigilant of passenger condition during demanding walks or climbs.
- Rein in more ambitious plans if passengers cannot meet demands of complex terrain—and do so early.
- Avoid heightened risk of injury that would threaten the landing operation.
- Re-assess what would be a more appropriate activity or route.
- Re-emphasise the demands of some activities once back aboard ship and encourage passengers to be more

cautious in self-selecting which groups to join ashore.

Leading guides should:

- NEVER take risks.
- ALWAYS make the group feel safe.
- If necessary, think laterally and more creatively about how to bring the experience to life.
- Avoid isolating passengers that are slowing or otherwise compromising the group.
- Inform the EL / AEL if a delayed return to the landing site is unavoidable.

Ice faces — assessing the risk

On occasion a shore party may be able to get close to the face of a glacier perhaps on land (e.g., Etah) or a tidewater glacier that still calves into the sea (e.g., Croker Bay South Glacier).

The EL should be aware of the potential risks to passenger safety (e.g., getting too close to the base of the glacier and being caught by a calving event. The resultant bow-wave and or flying ice fragments could cause injury.)

If a situation arises where a Zodiac is too close to an ice face or iceberg, an expedition team member can radio the driver and use the term “icewall” in a phrase. For example, “Eric, icewall icewall.” The expedition team member being called on the radio MUST move immediately away and back towards where the other Zodiacs are located.

Changing Environmental Conditions

The Arctic environment is harsh, unforgiving, and prone to sudden changes. The landing party MUST take note of changing conditions that may threaten the group related to:

Weather

Many landings and cruise routes will be exposed to changes in wind direction and speed. Zodiac drivers should see section: [Operations in high winds &/or high waves](#). Increasing wind speed will increase the wind-chill factor markedly. Snow, sleet, or heavy rain can exacerbate risk of exposure, reduce traction under foot and reduce visibility. Zodiac drivers should see section: [Use of GPS](#) for operations in reduced visibility.

Sea

The state of the sea can worsen rapidly; increasing swell may complicate the situation at an exit beach requiring a stern landing extraction. Zodiac drivers should see section: [Operation in high winds &/or high waves](#).

Tide

Both EL / AEL and drivers should be aware of tidal range and direction (as informed by the Bridge) prior to a landing. The team must guard against being cut-off by rising tides, stranded by falling tides and falling victim to risks of operating Zodiacs in changing tides (e.g., increased current, changing nature of submerged obstacles and rocks). See section: [Operations in shallow waters](#).

Ice

Falling temperatures may cause surfaces to freeze, making conditions under foot more dangerous. Wind can push pack-ice toward either the ship or the landing / exit points reducing access and extending the time it takes to safely clear a landing and return passengers to the ship.

Increasing temperatures, or worsening sea-states can increase risk of icefall or calving on glacier faces and around icebergs. All drivers must pay close attention to adhering to minimum safe distances (see section: [Operations around ice](#)).

Visibility

If visibility is being reduced by fog or inclement weather, the EL should assess the situation. It is advisable to direct expedition team members to escort passengers down from high points (e.g. Karrat Island, Rensselaer Bay, Etah). Zodiac drivers should be prepared to use GPS to navigate between the ship and the shore, see section: [Use of GPS](#). EL / AEL are advised to review the size of the secure perimeter and bring it inward to reduce distance between the guns. Bear Monitors should be more vigilant.

Light

During the earlier and later ends of the season, failing light may be an issue for the expedition team to watch for (see sections: [Sunrise and sunset times](#) and [operations at night or low-light conditions](#)) and how it may make extraction from a landing site and related Zodiac operations more dangerous. If this is expected, the expedition team should carry flashlights.

Changing passenger dynamics

The expedition team should remain aware of the general state of passengers, specifically regarding exposure (as a result of low ambient temperatures, wind-chill, and moisture—whether sea water or precipitation). See section: [Expedition team preparedness – clothing](#).

Any passengers that may have suffered minor injuries during the landing should also be watched closely. A more serious passenger issue can consume the expedition team resources and put the safety of the entire group at risk and at the least complicate the logistics of a landing and delay the planned exit. See section: [Medical responsiveness ashore](#).

Firearms safety

Bear Monitors MUST NEVER put at risk human life through their actions with a firearm. All firearms must be carried in accordance with the standards and guidelines outlined in section: [Firearms and firearms safety](#).

Bear Monitors should exercise caution, tightening a perimeter and/or walking group when necessary, being open with passengers about the reasons for doing so, but without debate.

Wildlife encounters

Principally, the only animals that will threaten passengers on a landing are bears, skuas, and Arctic terns. It would be highly unlikely, though possible, for passengers to be threatened by musk oxen or caribou given their skittishness and propensity for flight. However, should they be somehow surprised, passengers should cluster, make noise and back away. Most threats can be countered by simply leaving the immediate vicinity.

Bird attacks

Some Arctic species can be highly territorial and will enthusiastically protect their young, especially skuas and terns. Dive bombing (mobbing) and strafing (guano-gunning) are common strategies. The expedition team should encourage passengers to hold their arm or walking sticks above their heads, so the bird aims at the new highest point and move away from the area. It is not acceptable for passengers to continue to disturb the animals' behaviour and cause unnecessary stress.

Bear attacks

In most cases, close contact with bears is avoidable. Scouting and vigilance from Bear Monitors and guides to move passengers away from direct confrontation on land is preferable. In some instances, bears will approach you and the group and will not be deterred. In this case, the EL / AEL should evacuate the site (see section: [Forced site evacuations](#)) in preference of any kind of firearms-engagement. If the latter is unavoidable, see section: [Firearms & firearms safety – discharging](#).

Forced Site Evacuations

Some landings are necessarily curtailed in response to a threat to the safety of the shore party. There are no right or obvious answers—forced landing evacuations are complicated. The EL must assess the conditions and make a judgement call based upon the information available and overall risk profile of the situation at a given point in time. The decision **MUST** be clearly communicated to ALL expedition team members and the Bridge.

All expedition team members ashore and aboard **MUST** be ready to assist the EL / AEL as directed.

Bear Threats

It is not uncommon for bears to pose enough of a risk to the shore party to require the group to return to the ship. The EL's response will be dependent upon where on the landing and when the risk has been identified as being unacceptable. The following options could be exercised:

- Return to the original landing site.
- Accelerate progress to the proposed exit point.
- Identify a new extraction point.
- If all of the above options are exhausted, controlled use of firearms should be employed to deter the bear in the first instance.
- **NOTE:** *A combination of all options may be required dependent upon the distribution of the shore party.*

The EL / AEL will need to consider the following factors when assessing if a forced evacuation is viable, prior to using firearms.

Capacity within the available Zodiacs

Variables include the number of Zodiacs in the water and the number of expedition team members and passengers onshore (plus kit). If a bear(s) approaches the shore party when a significant proportion have already returned to the ship, it may be possible to extract all souls from the shore with the available boats in the water.

Proximity of the ship to the shore party

If the ship is relatively close to a landing site, it may be possible to:

- Expedite passenger extraction by shuttling from shore to ship rapidly.
- Deploy more Zodiacs to increase capacity (though access to drivers could be a limiting factor).

If the ship is not close enough to the shore party, the EL may elect to:

- Cluster the shore party group(s) and prepare Bear Monitors to use their firearms.
- Reduce the risk to the shore party by evacuating as many passengers as possible to the water in Zodiacs, before preparing Bear Monitors to use their firearms.

Distribution of the shore party

If the threat has been monitored for some time, the EL should already be preparing to bring walking parties or the perimeter boundaries towards the chosen exit point(s). However, if the shore party is widely distributed, it may not be practicable to use a single extraction point. In this scenario:

- The highest risk group should be evacuated first.

- If the highest risk group is inland, the Bear Monitors should prepare to exercise firearms in accordance with AC operational guidelines (see section: Firearms & firearms safety – discharging). If possible, Bear Monitors with longer-range rifles should seek to provide additional cover to an inland group—unless there is any threat to human life.
- The EL may elect to send groups with access to extraction points back to the ship anyway.

NOTE: Location of the lifejackets may be an issue if they cannot be transferred to the extraction point, however, in situations where there is a greater risk if staying onshore versus sitting in the bottom of a Zodiac without a lifejacket, the EL / AEL must choose the option that is the lesser evil in terms of threat to passenger safety.

Mobility of the shore party

If for any reason, the shore party's (or group therein) mobility is compromised through injury or pre-existing condition, the EL cannot rely upon expeditious and reliable progress being made to an extraction point.

Behaviour, speed, and direction of the threat

Spotters should inform the EL of the bear's speed of approach—is it moving quickly or panting and sitting down and then panting again? Does it look focused upon the group? Is its direction ambling or straight-as-an-arrow at the group? This information enables the EL to make a rough assessment of 'closure rate'—though the bear's behaviour cannot be predicted.

Other threats

Various other environmental dynamics & unpredictable events may force an early evacuation scenario. The following list is not exhaustive, but illustrative:

Rapidly rising or falling tides

Planned exit routes may become cut off or otherwise unusable. Routes to shore may become too shallow or access to limited landing sites be limited by rising tide. If there are no other options (e.g., cliff shoreline) then the landing will need to be aborted.

Sudden changes in weather or temperature

Arctic weather systems can be unpredictable and difficult to forecast. Storms blowing in across the landing site increase the risk of exposure and narrows the acceptable margin of the Zodiac operation.

Recall signal from the ship

The Captain may signal a general recall of the shore party back to the ship as a result of perceived threats to the anchorage or ship's position. The ship may alternatively have spotted bears or incoming weather. Regardless, if the recall signal (one long blow of the ship's horn) is heard, the shore party MUST return to the vessel.

Serious incident or medical emergency ashore

If there is a serious accident or incident that is diverting a lot of the expedition team effort to contain and stabilise, the EL may elect to abort the landing, concentrating efforts where they are needed most.

Open-Jaw Landings

The EL may plan landings or cruises with a one-way route in mind—necessitating a different entry and exit point or start and finish point. These landings can be described as 'open-jaw'. One-way routes can be exciting for passengers, being given the sense of an overland journey and enables them to cover more ground. Routes may be as simple as a walk parallel to the shore (e.g., Beechey Island, Croker Bay), or more complex inland routes (e.g., Bathurst Inlet, Port Epworth, and planned a route between Caswell Tower (Radstock Bay) and the eastern shore of Erebus Bay, opposite Beechey Island). There are

operational complications to consider:

Lifejackets / rubber boots

These need to either be carried/worn or left at the landing site and transferred by Zodiac to the exit point. Should any forced evacuation be necessary, the equipment may not be immediately on hand.

PNR – point-of-no-return

Inland one-way routes have a point-of-no-return where the shore party is committed to the journey with very few or no forced evacuation points en route. Shore-tracing routes offer opportunities for unplanned Zodiac pick-ups.

Division of expedition team labour

An open-jaw landing divides the expedition team into shore & driving groups. Expedition team drivers are required to reposition the Zodiacs (even if supplemented by crew drivers). Usually 4–5 expedition team will be lost from the shore party in this way. The EL should consider carefully who to allocate as a driver to ensure strength in both teams.

Speed of the slowest

One-way walking routes are time-limited by the slowest member of the group. Various groups can be created (usually based upon fitness and therefore walking speed) but the overall timeframe for the landing will be determined by the speed of the slowest person attempting it. Once the group is past the PNR (see above), the shore party is committed.

Hybrid Landing / Cruise Operations

On occasion, a site may be visited that offers both onshore interest and an opportunity to Zodiac cruise (e.g., Ilulissat & Sermeq Kujalleq; Croker Bay & South Croker Bay Glacier; Karrat Island & Karrat Fjord). The EL may elect to split the expedition team and passenger groups to operate on land and water concurrently, before flipping the groups to repeat. A hybrid operation has the following pros and cons:

Advantages

- Smaller group size: each group (land / sea) is relatively small making for more intimate experiences but avoiding the feeling of overcrowding. Smaller groups are quieter and often the passengers mix more freely.
- Greater flexibility: small groups tend to be more flexible, if (for example) there is a change of plan or an unexpected point of interest. Smaller groups can be briefed and directed more easily.
- Tactical option for skills shortfall: if the EL does not have available enough expedition team members with appropriate skills (e.g., drivers to safely transport all passengers in Zodiacs) at one time, running hybrid operations may be the only option available.

Disadvantages

- Logistical complexity: With half the group, and therefore the expedition team split and operating two different programmes, both MUST hold to pre-agreed timetables, otherwise the plan will quickly unravel. Communication between the groups may be compromised by distance and terrain.

Split expedition team: The EL must consider how to balance both teams (land / sea) to ensure leadership strength, Zodiac and firearms capability as well and other relevant mixes of skills and experience

- Different experiences: Passengers may have wildly contrasting experiences because they won't have all been in the same places at the same times, particularly when it comes to wildlife encounters... whales, walrus, and bears are unlikely to repeat their appearances.
- Medical responsiveness: The doctor cannot accompany two groups at once and is therefore the reaction time and expertise in one of the two groups will be less than the other. Dependent upon the activities and needs of the passengers, the EL should work with the doctor to determine the best course of action.

Community Operations

Summary

Visits to communities are an excellent opportunity to meet the people who call this region home and understand their unique connection to the land and sea. Passengers are encouraged to engage with all members of town and absorb the vibrant and often progressive cultural presentations.

Some isolated communities may not receive any ship other than their 'sea-lift' cargo ship for years—our visit may be regarded as a significant event.

Community stops can be regarded as safer locations than wilderness landings. In the event of an emergency, passengers can find shelter from the elements, protection from animal threats, and medical attention in some places—even a skim latté (though that's not the norm).

This does *not* mean that the expedition team relax or stop being professional—just that the consequences of changes in the plan are likely to be less severe. The expedition continues to operate with credibility and to a timetable.

Do

- Confirm arrangements directly with community representatives prior to arrival.
- Treat all locals with respect, humility, and openness.
- Encourage interaction between passengers and locals.
- Engage local people for wildlife / landing intelligence.
- Be ready to support the community stop in any way directed by the EL, AEL or community organizer.

Don't

- Be rude to local people in any way—we are visitors in their hometown.
- Carry firearms into a community.
- Think of a community stop as 'expedition team internet access'—the EL may require you to support the visit such that using the Internet is not possible.
- Arrange your own activities—your responsibility remains to the expedition.

Responsibility for Prior Arrangements

In general, the Adventure Canada office will have made prior arrangements (to a greater or less degree) for all community landings, unless communities are visited as a result of a radical change to the programme and are thus completely unplanned. The Adventure Canada office representative will usually advise the EL / AEL as to what arrangements and timetables have been agreed with the community representatives.

It is common to invite members of the community (usually around 10–15) on to the ship for a meal and a tour, before they are introduced to the passengers to give an introduction to the community and take questions. Local maps, if available, are helpful to passengers.

Onshore community activities

- Cultural presentations (e.g., displays of traditional dress, throat singing, storytelling)

- Inuit games presentations
- Country food sampling
- Inuit / Greenlandic art and craft items for sale
- Town tours led by local guides
- Sporting competitions (International all-star soccer, baseball, hockey teams)

Amenities

- Museums
- Grocery stores and cafes
- Souvenir shops (large settlements only)
- Post office services
- Internet access

Availability of amenities varies by community and day of the week. Public holidays can greatly impact what is open.

It may be possible to walk to other points of interest within the community boundaries (e.g., the viewpoint over Ilulissat Sermeq, Salmon Creek at Pond Inlet, or—the birders' favourite—the rubbish dump in various communities).

Confirming Arrangements

The EL should ensure either the Adventure Canada office or the office representative aboard the ship has confirmed any arrangements, communicating directly with the community prior to arrival. From time to time, the best-laid plans may unexpectedly change, and the EL / AEL / Program Director should be ready to adapt to a much more self-supported community stop.

Time Shifts — Ship vs. Shore

The EL / AEL and Program Director should be VERY AWARE of the synchronicity (or otherwise) between ship time and the local time in a community to avoid arriving one hour early or late. The Captain may elect to transition between time zones more gradually than national time zones would otherwise allow so disruption to the shift pattern of the crew is minimised.

Residents of the Region

Visits to all communities provide passengers and the expedition team with often unique opportunities to make real (and potentially enduring) connections with individuals from markedly backgrounds and cultures—people who see the world through a different lens. What can be gained in sharing a mere conversation is remarkable.

Expedition team members should remind passengers that all cultures and communities adapt and evolve with the times—so ask questions to get answers; show interest and respect.

Locals can also be a useful source of intelligence for the expedition team. Hunters may share the locations of recent wildlife sightings (e.g., including large kills that may attract other animals), knowledge of possible new landings, and local ice conditions. Information should be verified and corroborated where possible.

Suggestions from the local community should be reported to the EL for inclusion in the expedition report.

Expedition Team Roles

The expedition team role in a community visit is dependent upon the community itself and prior arrangements made with the local representatives. All expedition team members are expected to engage with events when requested by the EL / AEL, who will receive a brief from the Adventure Canada office representative.

Zodiac drivers will be required for all communities in Arctic Canada, but the ship may be able to come alongside at a pier in larger Greenlandic and maritime communities.

Translators may be required in some communities to facilitate arrangements and /or establish stronger cultural connections. The EL should be aware of any expedition team members that can assist with translation, though the majority of community representatives will speak some English.

Cultural specialists and musically and/or vocally gifted expedition team members usually accompany the passengers to the cultural presentations.

Photographers, ornithologists, historians, physical sciences, and expedition specialists should accompany passengers seeking other points of interest (e.g., walks or visits to historical, biological, or physical points of interest).

Passengers have more freedom in communities (as these are safe locations) but should be firmly reminded of the timetable for shuttles to begin, last Zodiac (or all aboard if alongside).

General Behaviour & Conduct

The expedition team and passengers are reminded that we are visitors and should conduct ourselves in communities we visit with:

1. Respect
2. Humility
3. Openness
4. Discretion

Encourage passengers to have a good time and engage in a respectful manner. It is not acceptable to barter alcohol for goods or services under any circumstances.

Interactions within communities must be guided by AECO principles for cultural respect, including appropriate engagement, supporting local economies responsibly, and adhering to community-specific requests. Briefings should prepare passengers for these interactions in line with AECO recommendations.

Firearms in Communities

Under NO circumstances are firearms to be taken into communities. It is both unnecessary and potentially provocative. Passengers will be safe to wander and explore within the boundaries of a community. If there is any uncertainty, they should be advised to ask a member of the expedition team.

Dealing with Incidents

Usually there are no incidents while visiting communities. The expedition team should be made aware that social problems (alcohol, drugs, abuse) might exist within some communities. Passengers should be reminded that these same challenges exist where they live also.

Medical emergency

Passengers should be advised to contact an expedition team member, the resident police or hospital staff, or one of the community representatives.

Operational Safety & Risk Avoidance

Summary

Adventure Canada operates in some of the most remote and unforgiving environments in the world. Acceptable operational safety margins can only maintain if everyone (the expedition team and crew) follows consistent operational procedures, standards, and guidelines that mitigate risk and ensure there is a collective understanding of what to do if issues arise. The consequences of failing to do so are severe.

Do

- Be professional—this is not a slipshod endeavour, and we have a duty to deliver.
- Make everyone feel safe by limiting risk and therefore mistakes.
- Maintain discipline—operational safety measures are not optional.
- Ask questions if you're not sure what to do in any given situation.
- Communicate clearly with other expedition team members to mitigate risks (avoid bad situations)
- Communicate immediately with the EL / AEL if there's a risk or an issue.

Don't

- Take risks, especially with the lives of passengers or other expedition team members.
- Think that transgressions will be tolerated.
- Cover up mistakes that may be compounded to create bigger problems.

Scan Card System

The scan card system is a critical safety measure for expedition operations.

The security scan outlets are located at each side-gate and gangway. Each passenger will be issued with a security swipe card. Passengers must swipe their individual card when disembarking and returning to the ship.

At the end of every landing, the electronic security system must be checked to verify that all passengers are on board. Passengers not showing as on board will be called over the PA to confirm their presence on the ship. The ship cannot get underway until the Bridge has confirmation all souls are aboard.

If a passenger is verified to not be aboard the *Ocean Endeavour*, they will need to be located as swiftly as possible. The EL will delegate a team to return to shore in a Zodiac, who will remain in radio contact with the ship to document their efforts. This team should include an armed Bear Monitor if the EL has any reason to suspect bear activity on shore.

Lifejacket Count

The lifejacket count system is a safety measure to ensure all passengers have left the shore. The system relies upon all passengers placing the lifejacket in a bag upon reaching the shore. If the last Zodiac is ready to leave and there are lifejackets remaining in the bag, then passengers must still be ashore.

The system is described in more detail in section: [Stowing lifejackets – safety measure](#). The system is potentially fallible if not all passengers place their lifejacket in the bag.

Firearms Safety

There are numerous safety measures that govern the expedition's use of firearms. For a full description see section: [Firearms & firearms safety](#). Bear Monitors must pay particular attention to guidelines for handling firearms and ammunition. All expedition team members should assist Bear Monitors to ensure that passengers stay within the gun perimeter, or any limits prescribed by Bear Monitors.

Zodiac Safety

A comprehensive set of operational guidelines that describe the safe operation of Zodiacs for expedition purposes are found in section: [Zodiac operations](#). Drivers should ensure that safety checks are completed prior to passengers boarding, see section: [Pre-pax boarding safety checks](#). Drivers should not take risks when driving alone or with passengers. The consequences of miscalculations when operating in a harsh environment like the Arctic could be lethal. Drivers should be specifically vigilant for:

1. **Exposure** — the risk of hypothermia dramatically increases when wet, and wind-chill can greatly lower the ambient temperature. Wear appropriate clothing and drive in a manner that reduces the likelihood of getting constantly wet (see sections: [Clothing](#) and [Operations in high winds & high waves](#)).
2. **Flipping** — drivers are at highest risk when travelling alone or with few passengers in high winds and lively seas. Drivers should reduce speed to avoid wind gusts lifting the bow whose underside might be exposed when rising up a steep wave at speed, acting as a sail and flipping the boat. If this were to happen, man overboard safety guidelines should be followed (see section: [Man overboard](#)).
3. **Ice calving** — the risk to Zodiacs is not only from ice falling from above, but also from the ice foot rapidly rising to the surface beneath the Zodiac. Calving events can be explosive and unpredictable. Drivers should ALWAYS MAINTAIN A MINIMUM SAFETY DISTANCE of twice the height of an ice face away from it (see section: [Operations around ice](#)).
4. **Pinning** — whilst being highly manoeuvrable under normal circumstances, an overloaded, underpowered, damaged, or highly trimmed Zodiac will be less manoeuvrable. Drivers must avoid being pinned against rocks or beneath the gangway or rudder protection bars in times of heavy swell. Getting pinned could result in capsizing.
5. **Stern landings** — should only be attempted by experienced drivers with sufficient expedition team members on the beach to manhandle the Zodiac. For a full description of how to operate a stern landing see section: [Stern landings](#). Drivers MUST ensure they kill the engine before it can injure the shore party who may be off-balance and struggling against the incoming waves.

Landing Safety

A comprehensive set of operational guidelines that describe the safe wilderness landing operations can be found in section: [Landing safety](#). As a general rule, the expedition team should exercise common sense in:

1. Selecting appropriate clothing for the conditions and advising passengers at the side-gate if they are poorly prepared.
2. Determining safer routes to take whilst ashore avoiding uneven ground, steep falls, or surfaces with less traction.
3. Constantly assessing conditions and anticipating impacts of decisions that may affect passengers' safety.
4. Keeping passengers within the perimeter.
5. Asking for assistance from other expedition team members or the Bridge.

Safety Aboard the Ship

The ship is generally considered a safe environment—it is, in effect, the best lifeboat we have.

Lifeboat drill

Within twenty-four (24) hours after passengers have first boarded the ship, international marine regulations stipulate that a lifeboat drill is conducted—this is MANDATORY for all expedition team members and passengers and is marshalled by the Captain, officers, and crew. During the drill, the passengers will wear the ship's lifejackets (not those used on landings) and proceed to the lifeboat deck where they would board the lifeboats if the Captain were to signal abandon ship (seven short blasts followed by one long blast of the ship's bells or horn).

The EL may be requested by the Captain to use the PA to issue instructions to passengers during the drill.

Avoiding accidents in heavy seas

In lively wind and sea conditions, most incidents are a direct result of instability. All passengers should be advised to:

- Keep one hand free for the ship and one hand for themselves at all times.
- Avoid placing their hands in doorjambs.
- Stay in their cabins if they're unstable on their feet.
- Avoid walking on the outer decks—if a passenger is washed overboard, there is a high probability of death.
- Keep important equipment secure.

In the event of an accident, contact a member of the expedition team or crew. Appropriate assistance will be quickly available. The EL / AEL should follow up with both the Safety Officer and the doctor after the incident is under control.

Dealing with Emergencies

Whilst much effort is made to reduce operational risks, mistakes may be made or events influenced by factors beyond the control of the expedition team and crew, creating an emergency situation. In this event, the EL must take control while ashore and ALL expedition team members work as a unit in support. On the ship, the Captain or Officer of the Watch will take control and ALL expedition team members including the EL who must act in support.

Expectations of Expedition Team

In the event of a serious incident, all expedition team members MUST do their utmost to:

- Keep their head—be cool, calm, and collected.
- Communicate immediately with the EL, but only what is essential—time may be limited (default to AEL and/or Bridge if EL not in-range).
- Work as a team (see section: [Teamwork](#)).
- Remember their training.
- Reassure passengers, who will be looking to the expedition team and crew for leadership and professionalism.

Social Media

In the event of a serious incident, please respect the privacy of all guests, expedition team members, and crew involved. It is company policy that you refrain from sharing images or details of incidences on social media outlets.

Incidents

Many types of incidents, how to avoid them, and what to do if they arise, have already been described in this manual. Please reference the following sections:

- Firearms incidents
- Zodiac incidents
- Wilderness landing incidents (see: Landing safety and forced site evacuations)
- Community landing incidents
- Medical responsiveness

Appendices

Appendix 1 — Zodiac Qualification Checklist

CRUISE MANAGEMENT INTERNATIONAL, INC. ZODIAC QUALIFICATION CHECKLIST

Seafarer's Name:

Seafarer's Date of Birth:

Department / Rank:

Seaman Record Book or Passport No.:

Vessel Name:

Vessel Type:

Proficiencies	Date Completed	Trainer/ Assessor
1. Demonstrate/describe process for planning a short passage taking into account natural hazards, weather conditions, and small boat limitations		
2. Demonstrate knowledge of Zodiac launching/recovery procedures including when doing so from storage cradles.		
3. Understand/Demonstrate Zodiac buoyancy. How to equalize pressure in compartments and drain plug positions.		
4. Demonstrate ability to start/stop engines and tilt/lower same		
5. Demonstrate familiarization with engine cooling system.		
6. Demonstrate ability to maneuver Zodiac at slow & planing speeds in both open and confined waters' including turning short around, going astern, and steering a compass course.		
7. Demonstrate ability to drive/maneuver with engine tilted up.		
8. Demonstrate ability to successfully recover a man overboard		
9. Demonstrate ability to come alongside and depart from the vessel loading platform taking into account the wind and sea conditions		
10. Demonstrate proper understanding and use of emergency equipment, including flares, fire extinguishers and throw bags(quoits)		
11. Demonstrate/describe general principles of being towed, including accepting and securing the towline & towing at a safe speed.		

12. Demonstrate ability to safely carry out a beach landing and the procedures for embarking/disembarking passengers in such a situation		
13. Understand/demonstrate proper use of portable radios in the event of an emergency		
14. Demonstrate proper donning of and principles of operation of the lifejackets used in Zodiac operations		
15. Have read and understand the Zodiac Operations Manual		
16. Demonstrate/describe familiarization with the COLREGS as they relate to Zodiac operations		
17. Demonstrate knowledge of actions / precautions to be taken in case of weather deterioration and / or reducing of visibility, including proper use of radar reflector and GPS receiver.		
Comments		

Vessel IMO No.:

Seafarer's Signature:

Date:

Trainer/Assessor Name/Position:

License / Doc No.:

Trainer/Assessor Signature:

Date:

Master's Name:

Master's Signature:

The Chief Officer has overall responsibility for Zodiac Operations, Zodiac drivers, and Zodiac driver training. No one is permitted to operate a Zodiac with passengers until this form has been completed. REV 1 19'05'2016

Appendix 2 – COLREGs relevant to Zodiac drivers

Taken from IMO's International Regulations for Preventing Collisions at Sea 1972. These regulations may be subject to change. All regulations were current at the date of initial publication of this manual – November 2012.

Rule 6 – Safe speed

COLREGs state, every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid a collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken in to account:

- The state of visibility;
- The traffic density including concentrations of fishing vessels or any other vessels;
- The manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;
- At night the presence of background light such as from shore lights or from back scatter of her own lights;
- The state of wind, sea and current, and the proximity of navigational hazards;
- The draught in relation to the available depth of water.

Zodiac drivers should be aware of all factors related to travelling at safe speed. Drivers are expected to demonstrate competency to judge safe speed at all times—this is basic seamanship.

Rule 9 – Narrow channels

COLREGs state (a) a vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit or the channel or fairway which lies on her starboard side as is safe and practicable; (b) a vessel of less than 20 metres in length or a sailing vessel shall not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway.

Zodiac drivers should be aware when entering harbours with narrow entrance channels (e.g., Qaanaaq, Pangnirtung, Camp Lloyd, Iqaluit) that these rules apply, however all drivers should be prepared for local disregard for the rules and/or hazards (e.g. sea-ice) making the rule less practically applicable.

Rule 13 – Overtaking

COLREGs state, any vessel overtaking any other shall keep out of the way of the vessel being overtaken.

Zodiac drivers overtaking another craft should be very aware of the impact of their own bow-wave / wake on the vessel being overtaken, particularly if it is carrying passengers.

Rule 15 – Crossing

COLREGs state, when two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel.

Zodiac drivers should be aware of this rule when crossing with other vessels, but it's not suggested as a binding part of Adventure Canada's Zodiacs operation as it may not be at all times practicable.

Annex II – Additional signals for vessels fishing in close proximity

To avoid ambiguity, Zodiac drivers should not approach fishing vessels unless stationary and only then approaching the vessel on its port or starboard bow, not from aft or abeam.

Annex IV (Rule 36) – Distress signals

COLREGs state, the following signals, used or exhibited either together or separately, indicate distress and need of assistance:

- A gun or other explosive signal fired at intervals of about a minute;
- A continuous sounding with any fog-signalling apparatus;
- Rockets or shells, throwing red stars fired one at a time at short intervals;
- A signal made by radiotelegraphy or by any other signalling method consisting of the group ...---... (SOS) in the Morse Code;
- A signal sent by radiotelephony consisting of the spoken word "Mayday";
- A signal consisting of a square flag having above or below it a ball or anything resembling a ball;
- Flames on the vessel (as from a burning barrel, oil barrel, etc.);
- A rocket parachute flare or hand flare showing a red light;
- A smoke signal giving off orange-coloured smoke;
- Slowly and repeatedly raising and lowering arms outstretched to each side;

Zodiac drivers should be aware of the following distress signals from ships (particularly our own) but also from any others in proximity to an active Zodiac operation. If any signals are detected, the driver should seek direction from the Captain or EL.

Appendix 3 – Wildlife Guidelines

Marine Wildlife Guidelines for Boaters and Viewers

These Adventure Canada guidelines are to be used in conjunction with the most current AECO Wildlife Guidelines. In any situation where AECO guidelines recommend a more precautionary approach (e.g., greater distances, specific operational restrictions), AECO guidelines shall be followed. Key AECO wildlife interaction protocols will be summarized here/in a separate AECO appendix.

Seeing killer whales and other marine wildlife in their natural environment can be a thrilling experience.

In our excitement, we sometimes forget that our presence has an effect on wildlife and their habitat. Just like us, marine animals need space to find food, choose mates, raise young, socialize, and rest.

When we get too close, approach too fast, or make too much noise, we may be disrupting these activities and causing the animals unnecessary stress. In some cases, we may be threatening their lives. Follow these guidelines in the presence of marine wildlife.

Set an example for others and help protect our spectacular wildlife resources.

Why do we need guidelines?

The diversity and complexity of marine life in the coastal waters off British Columbia and Washington is truly extraordinary.

It is a fragile world. Pollution, global climate change, and other impacts are taking their toll at all levels of the coastal food web. Many species of marine wildlife, *such as the endangered southern resident killer whales (fish eaters)*, are showing signs of vulnerability.

Meanwhile, vessel traffic in our waters is steadily increasing, placing added pressures on marine animals and their habitats.

If you see tail, fin or spray – Stay far enough away

Keeping a minimum of 100 metres away from most whales, porpoises and dolphins, and keeping 200 metres away if they are in resting position or with their calf.

Keeping 200 metres away from killer whales in B.C. and the Pacific Ocean and keeping 400 metres away from all killer whales in Southern Resident Killer whale critical habitat* (June 1 – Oct. 31)
*Under the Canada Shipping Act. Some exceptions may apply.

Belugas in the St. Lawrence Estuary

Keeping 400 metres away

Certain whales, like killer whales in B.C. and the St. Lawrence Estuary Beluga in Quebec, need *more distance* because of threats they already face. There are also other approach distances which are tailored to particular circumstances. For more information visit: <https://dfo-mpo.gc.ca/campaign-campagne/protectingwhales-protagerbaleines/index-eng.html>

Canada

We need to minimize our impact. These guidelines are designed to help you enjoy your wildlife encounter and reduce the risk of disturbing marine wildlife.

How to Avoid Disturbing Marine Mammals

Watching whales and other marine mammals in their natural surroundings gives Canadians an opportunity to better appreciate these beautiful animals, but when humans get too close to wildlife in their habitat, we risk disturbing and even harming marine wildlife.

Approaching marine mammals too quickly, coming too close or making too much noise can disturb, stress, or even harm these wonderful creatures who call our waters home.

Marine mammals are wild animals

that people may inadvertently come across while enjoying our oceans. In those cases, we ask that you keep your distance, not only for their well-being, but for yours as well.

Disturbing marine mammals, including approaching or attempting to approach them, includes:

- feeding, swimming or interacting with a marine mammal;
- moving a marine mammal (or enticing/causing it to move);
- separating a marine mammal from its group or going between it and a calf;
- trapping a marine mammal or a group either between a vessel and the shore, or between a vessel and other vessels; or
- tagging or marking a marine mammal.

Well-intentioned watchers may unknowingly disturb marine mammals. You can avoid being disruptive or threatening by using binoculars to watch safely and responsibly. If a whale approaches you in the water, we ask that you move away and keep your distance.

Be whale wise

While watching marine mammals, you should **never**:

- feed them
- swim, dive or interact with them
- move, encircle them, or entice them to move
- change directions quickly or park your boat in their path
- approach them when they're resting
 - the whale will look like it's not moving and will be floating at the surface or near the surface
- separate a mammal from its group or go between it and a calf
- trap a marine mammal or a group either between a vessel and the shore, or between a vessel and other vessels
- approach them if there are already several boats present
- approach head on or from behind, as this will cut off their movements
- tag or mark them
- touch, feed or disturb an animal, even if it comes up to a wharf or the shoreline
- approach using aircraft

Porpoises and dolphins

If dolphins or porpoises ride the bow wave of your boat, avoid sudden course changes. Hold course and speed or reduce speed gradually. Do **not** drive through groups of porpoises or dolphins.

Seals and sea lions

When you encounter seals or sea lions:

- reduce boat speed, minimize wake, wash, and noise, and then slowly pass without stopping
 - 'wake' is the disturbed water caused by the motion of a boat's hull passing through the water
 - 'wash' is the disturbed water caused by the propeller or jet drive
- avoid sudden changes of speed or direction
- move away slowly at the first sign of disturbance or agitation. If the animal starts to stare, fidget or dive into the water, you are too close

Haul-outs

Be cautious and quiet near haul-outs, especially during breeding and pupping seasons (generally May to September). Pupping season is when seals, sea lions and walrus give birth.

- DO NOT swim with, touch or feed marine wildlife.

Appendix 4 – Canada's Marine Mammal Regulations

Certain whales need more distance because of the threats they already face. There are also approach distances that are tailored to particular circumstances.

400 metres for all killer whales in Southern Resident Killer whale critical habitat* (June 1 – Oct. 31)

* Under the Canada Shipping Act. Some exceptions may apply.

200 metres for killer whales in B.C. and the Pacific Ocean.

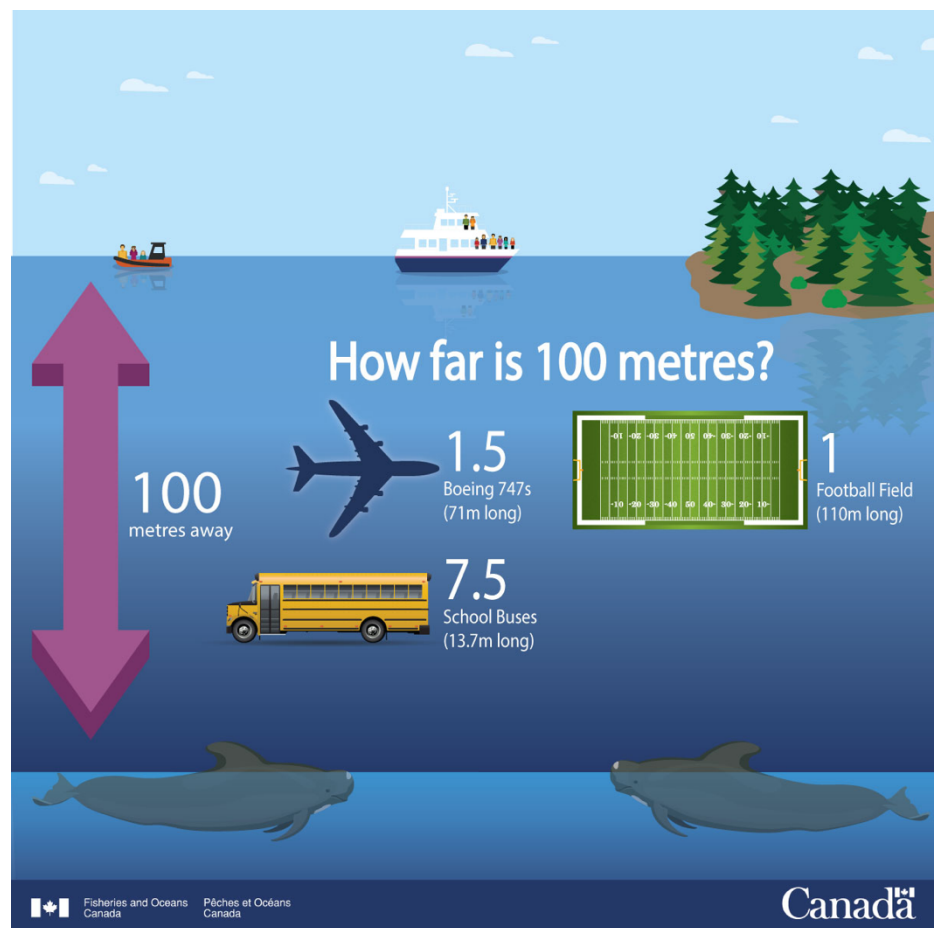
400 metres for threatened or endangered whales, dolphins and porpoises in the St. Lawrence estuary and the Saguenay River.

200 metres for all whales, dolphins, and porpoises in parts of the St. Lawrence estuary.

50 metres in parts of the Churchill estuary, including parts of the Churchill River and Seal River to allow safe boating activities.

Keeping a minimum of **100 metres** away from most whales, dolphins, and porpoises, and keeping a minimum of **200 metres** away if they are in resting position or with their calf.

Anyone in contravention of these Regulations can now be charged with an offence under the Fisheries Act.



Guidelines to avoid disturbance to seabird and waterbird colonies in Canada

Seabirds and waterbirds are particularly vulnerable to the effects of human disturbance.

Most species spend much of the year at sea, but part of their life is spent on land. In spring and summer, they congregate in colonies in order to court, mate, lay and incubate their eggs, and raise and feed their young.

Breeding seasons along Canada's southern oceanic coasts extend from March through September, and through the ice-free period in Canada's Arctic

Colonies can range in size from a few pairs to over a million pairs. The birds tend to nest in the following locations:

- islands or cliff-faces near water
- ledges, open rock, under boulders, in crevices or burrows near water
- on roof tops
- in marshes

Nesting colonies are vulnerable to the following factors:

- human disturbance
- habitat loss and destruction
- catastrophic events such as storms, disease, and oil spills

Colonial waterbirds can be found in marine and freshwater environments; however, the distinction is not clear-cut as many species occur in both environments. Their presence may vary depending on the time of year.

Species that occur primarily in the marine environment (**seabirds**) include:

- puffins, murres, Razorbills, guillemots, auklets, and murrelets
- gannets
- shearwaters and fulmars
- petrels

Species that occur in both marine and freshwater environments include:

- gulls
- terns
- cormorants and pelicans (not protected under the MBCA)

We provide general information on seabird colony locations on Canada's east coast, Arctic coast and Pacific coast.

History

For hundreds of years, seabirds and colonial waterbirds were exploited for meat, eggs, and feathers, and many breeding colonies were disrupted by human disturbance and development.

The Great Auk, a flightless colonial-nesting seabird, was harvested to extinction by the mid-1800s.

Concern over severe declines in the numbers of seabirds breeding in coastal regions of Canada's eastern provinces is one of the issues that contributed to the adoption of the Migratory Birds Convention Act in 1917.

Legal protection

Federal laws protect:

- all regularly occurring seabirds and waterbirds (except cormorants and pelicans)
- colonies, when they are located in:
 - Migratory Bird Sanctuaries
 - National Wildlife Areas
 - National Parks or National Park Reserves

Most colonies in protected areas are closed to visitation during the breeding season.

Warning

Some species of birds are protected by both the Migratory Birds Convention Act, 1994 and the Species at Risk Act (SARA). SARA prohibits certain activities for listed species. In some cases, more specific recommendations or information on nesting periods may be found in Species at Risk Recovery Strategies or other official documents. At all times, it is your responsibility to comply with all federal, provincial, or territorial legislation. See more information on requirements related to residence protection under SARA.

Impacts of disturbance

When planning your activities, you should be aware of the potential impacts of disturbance on seabird and waterbird breeding colonies.

The following activities may affect birds negatively:

- approaching colonies by land or by water
- landing boats
- walking across breeding areas
- staying too long in one spot

Disturbance can cause birds to:

- abandon their nests or young
- use valuable energy reserves for defense, instead of incubating eggs and feeding their young

Getting too close to nests may prevent adult birds from returning to protect and feed their young which can expose eggs or young to predation, and to the lethal effects of heat, cold and rain.

Nests might be difficult to see. A careless step in a colony can destroy a bird's breeding burrow, nest, eggs, or chicks. Remember that:

- many species of seabirds and waterbirds nest in:
 - hidden crevices
 - burrows
 - vegetation
 - on top of exposed rocky ledges
- some species are active only after dark

When adult birds are flushed, many of the young chicks wander from their nest site and may:

- fall to the water
- be taken by predators
- be injured or killed by neighbouring birds

Some species are particularly sensitive at certain stages of their breeding cycle. For example, disturbance can cause chicks to leave the nest too soon, resulting in chick mortality.

Guidelines

During the breeding season, you should:

- stay off seabird and waterbird colonies
- maintain appropriate buffer zones around colonies
- avoid any disturbance of migratory birds

Activities in waters around breeding colonies, such as fishing and boating or low-altitude flying, can also put birds at risk. You should keep activities far enough away to avoid:

- flushing birds from their nests
- causing birds to dive at you in an attempt to drive you away from the colony

In all cases where you may be disturbing seabirds and waterbirds, move away as quickly and quietly as possible.

General guidance on reducing disturbance to colonies that do not have other restrictions are given below.

On land

- You must maintain a sufficient distance to avoid disturbing nesting birds. Signs that birds are disturbed include adults displaying erect posture while sitting on their nests, increased vocalization and adult birds leaving their nests
- Maintain a buffer of at least 1 km from colonies for high-disturbance activities (such as drilling or blasting)
- Follow the rules and directions where appropriate fenced viewing facilities have been established
- Only approach colonies at authorized locations

If you should inadvertently find yourself at a colony, leave as quietly as possible and without sudden movements.

On the water

- You must maintain a sufficient distance to avoid disturbing nesting birds. Signs that birds are disturbed include adults displaying erect posture while sitting on their nests, increased vocalization and adult birds leaving their nests
- It is preferable to travel at steady speeds when close to seabird and waterbird colonies, moving parallel to the shore, rather than approaching the colony directly
- Avoid any sharp or loud noises, do not blow horns or whistles, and maintain constant engine noise levels
- Do not pursue seabirds or waterbirds swimming on the water surface, and avoid concentrations of these birds on the water
- Where possible, use certified tour boats or accredited guides
- Anchor large vessels, such as cruise ships, at a suitable distance to avoid disturbance
- Do not disturb birds when approaching colonies in small vessels
- Never dump waste or garbage overboard, because:
 - even small amounts of oil can kill birds and other marine life, and habitats may take years to recover
 - fishing line, cans, plastic bottles, and other plastic waste can injure or kill birds

Appendix 5 – AECO Guidelines Summary: This appendix provides a summary of key AECO guidelines relevant to Adventure Canada operations. For full details, refer to the latest AECO Field Staff Online Assessment and resources. This includes guidelines on:

- Community Guidelines
- General Visitor and Operator Guidelines
- Wildlife Guidelines

- Site Guidelines (including cultural heritage)
- Community Engagement
- Biosecurity and Waste Management

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Acknowledgement of Responsibility

I, _____ acknowledge the contents, requirements, and responsibilities outlined in these Standard Operating Procedures. I have taken the time to review all information and have asked any questions that I have in regards to these Standard Operating Procedures.

Date:

Name Printed:

Signature:

Date:

Witness Name Printed:

Witness Signature:

Please detach and return to an Adventure Canada office representative. Thank you.

Notes

