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INTERNATIONAL PACIFIC HALIBUT COMMISSION

ESTABLISHED BY A CONVENTION BETWEEN CANADA
AND THE UNITED STATES OF AMERICA

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2017 IPHC Discard Mortality Study Bid Specifications September 2017

The International Pacific Halibut Commission (IPHC) is requesting bids from commercial fishing and research vessels to conduct a study in October 2017 to investigate Pacific halibut release practices and associated mortality. The purpose of the charter is to (1) evaluate the effects of fish handling practices on injury levels and their association with the physiological condition of captured Pacific halibut, (2) investigate the effects of fish handling methods and associated injury level and physiological condition on post-release survival of sublegal Pacific halibut discards, and (3) validate the ability of electronic monitoring (EM) to correctly identify release methods and associated fish handling methods to post-release survival. This project will help refine current estimates of discard mortality rates (DMRs) in the directed Pacific halibut fishery by investigating the relationship between hook release methods, injury levels, physiological condition, and survival post-release. Additionally, it will pioneer the use and application of EM to associating fish handling practices with survival.

The 2017 Discard Mortality Study will require fishing conventional fixed gear in an area southeast of Chignik, AK, bounded between the following points (56°05'N, 158°10'W), (56°05'N, 157°25'W), (55°26'N, 156°23'W), (54°55'N, 157°15'W), (54°55'N, 158°10'W), and (55°40'N, 158°50'W) as depicted in Figure 1. Three sets of 8 skates (1,800' feet long (300 fathoms) with 100 hooks (#3 (16/0 Mustad) at 18' intervals) will be fished per day. A secondary roller will need to be in place in board the rail to enable release of fish into an area where they can be assessed, tagged, and released. Release methods (careful shake, hook straightening, gangion cutting, and hook stripper) will be randomly assigned by skate throughout each set. Two trips of six days will be conducted, following an initial two days of test fishing to finalize the experimental protocols. The vessel must be capable of taking three (3) IPHC field biologists for the data and sample collections.

Vessel must be available to conduct the two trips during in the latter half of October, or early November, 2017, unless otherwise agreed by IPHC staff and the vessel. It is essential that the vessel clearly indicates its availability.

Legal-sized Pacific halibut and permitted bycatch retained from collection operations become the property of the IPHC and are sold to reduce the costs of charter operations.

Vessels are reminded to carefully consider **all** costs associated with performing the work over the time frame of the bid, and to budget these into their proposal(s).

Bids must be mailed, emailed (pdf) or faxed in time to arrive in the Commission's Seattle office by 12:00 noon (Pacific Daylight Time) on Monday, 25 September 2017.

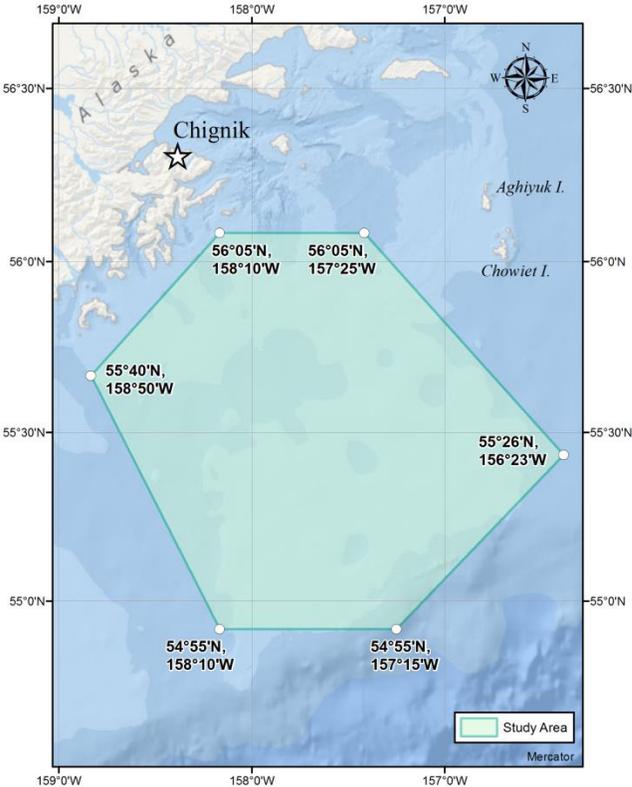


Figure 1. Discard mortality study area (southeast of Chignik, AK)

A. General Operations

1. The Commission is requesting bids to complete thirty six (36) sets with 8 skates of conventional gear over two trips in October and/or November 2017.
2. Vessel must have a secondary roller inboard of the rail, potentially with a slide or chute, where fish will be released using one of four treatments (careful shaking, hook straightening, gangion cutting, or hook stripping).
3. Two days of preparatory fishing will be conducted to confirm the feasibility of all four treatment methods (particularly hook straightening on sub-legal fish) and to work out deck sampling protocols and handling speed.

B. Project description

The 2017 Pacific halibut discard mortality charter will entail setting 36 sets of 8 standardized skates over two trips. Fishing shall occur in the greater Chignik area bounded within a region defined by the following points (56°05'N, 158°10'W), (56°05'N, 157°25'W), (55°26'N, 156°23'W), (54°55'N, 157°15'W), (54°55'N, 158°10'W), and (55°40'N, 158°50'W) as depicted in Figure 1. Fish are to be released at an inboard roller using one of the following randomly assigned release methods (# of skates per experimental treatment): careful shake (5), hook straightening (1), gangion cutting (1), and hook stripper (1). Two days of test fishing will be conducted prior to the main study, to ensure all treatment types can be carried out. As a result, any treatments that are not feasible (hook straightening of a 16/0 circle hook from sublegal fish is likely not tenable) will be removed from the study, and replicates for the hook stripper will be increased. All halibut will be measured and evaluated for injuries. All fish ≤ 84 cm (equivalent to 33" and smaller, and therefore the size of fish normally discarded by the directed fishery) will also be weighed, sampled for blood and fat content, scored a survival viability (as per the standards used by the NMFS observer program), and tagged and released. All released fish will be tagged with a conventional wire cheek tag, and 80 of the wire-tagged fish will also be tagged with a pop-up satellite reporting tag. An EM system will be installed and running during the experiment (see Appendix 5 for more information and requirements). Footage from the EM will be evaluated for ability to identify release methods. The vessel will be required to carry one motion compensating scale (a large scale with accompanying plastic cradle for measuring round weights) and provide power for electronic equipment (ultrasound, centrifuge, rechargeable batteries for scales, etc.).

Chartered vessel must have sufficient crew for baiting, setting, and hauling the gear, and dressing and icing any of the legal sized fish. Setting will begin at approximately 5:00 AM **local** time (not earlier) or at first light each morning, whichever is later. When all stations are set, the vessel will return to the first station and begin hauling after the set has soaked at least 5 hours.

During hauling, Pacific halibut may only be brought aboard at a rate that is roughly equivalent to the rate at which the IPHC staff can sample them. Specifically, the Pacific halibut must remain alive until sampling begins in order to minimize morbidity/mortality due to time out of water. In order to avoid accumulating fish on deck that are waiting to be sampled, the number of fish on deck may need to be limited by suspending hauling until the IPHC staff catch up with the fish already aboard. A crewmember may be required to aid in the movement of live fish to and from the sampling station during sampling operations. It is expected that the entire sampling process,

from weighing, sampling, and tagging will require less than 5 minutes per fish. All Pacific halibut slightly greater than commercial legal-size ($\geq 85\text{cm}$), and some bycatch if permitted by federal or state regulations (Pacific cod and rockfish) will be retained and sold to reduce costs of the charters, except as noted in Section K.

The working day for the vessel crew finishes when all retained Pacific halibut have been dressed, examined by Commission samplers, iced, and all gear is baited and ready for the next day's fishing. For vessels with satisfactory speed and an efficient crew, the working day is expected to be approximately 16 hours or less. Due to weather, gear problems, vessel's speed, heavy fishing, etc., the length of working days will vary. Fishing at night is to be avoided to minimize sand flea activity affecting the suitability of the fish for tagging.

C. Vessel requirements

Prior to bid acceptance, IPHC Secretariat staff will inspect the vessel and determine the adequacy of deck space, accommodations, and confirm that the vessel meets all minimum requirements.

1. The vessel must be mechanically sound in all respects, seaworthy for fishing in the designated areas, and suitably equipped for fishing Pacific halibut (conventional or snap gear are acceptable for this charter).
2. The vessel must have a well-insulated fish hold capable of packing all retained species in ice. Vessels will not be allowed to use RSW or slush the catch.
3. The vessel must have adequate deck space to allow the IPHC Secretariat staff to carry out their duties. We will require space to mount a recording shack (approximately 36" by 38" by 74" high). Deck space will need to accommodate a measuring cradle and motion compensated scale (54 cm length, 40 cm width, 16 cm high with accompanying cradle of 121.5 cm length and 52 cm width). The location of the shack must not obstruct fishing or processing operations and must be close to the dressing table and live fish landing area. The ideal setup is to have the cradle attached to the shack directly below one of the opening shack windows. This allows for optimal communication between IPHC Secretariat staff. With your application, please provide a deck diagram indicating proposed shack/data recording station and cradle position.
4. Vessels will need to be available for one day prior to charter start up for EM equipment install, and crew will be responsible for integration of sensors into onboard hydraulics and deck configuration in partnership with the EM provider. A davit will need to be installed at the haul rail to position the EM camera itself. More information can be found in Appendix 5.
5. Accommodations shall be clean and sanitary. The vessel shall have adequate accommodations for the vessel crew and at least three IPHC Secretariat staff members, including women. The vessel must be equipped with clean, sanitary, dry, and comfortable mattresses, but no bedding, for IPHC-assigned personnel.
6. The vessel must have a usable marine head that can be used in privacy by male or female IPHC Secretariat staff.
7. A galley reasonably equipped with a cook stove, refrigerator for food storage, and sink is required.
8. A sink or shower for washing is preferred.

9. Preference may be given to a vessel with capability of freezing samples (~-20C; -5F).

D. Electronic equipment requirements

1. Two VHF radios and one single side-band unit.
2. A satellite communication system capable of reliably communicating with the IPHC office.
3. Reliable email capabilities are preferred but not required.
4. Two GPS (Global Positioning Systems) units.
5. A GPS plotter is desirable.
6. Two radar units. One must have a range of at least 24 nm.
7. Two depth sounders.
8. An intercom from the fishing deck to the bridge is desirable.
9. The vessel must provide reliable 110 AC power to the sampling shack/data station for powering a light, tablet, small computer, and portable ultrasound machine. The ability to provide 110 AC during hauling operations is required (power draw of 5 amps). For those vessels without a constant AC supply during hauling, the power supply requirements can likely be met with a simple inverter.

E. Gear requirements

The owner shall provide and replace, as needed, all gear and associated equipment necessary for commercial longline fishing (except as noted in Section J-1).

1. At least 44 skates of conventional longline gear must be prepared before the charter. All gear will be 1,800 feet long (300 fathoms) with 100 hooks per skate. Gear may be provided as full or partial skates coiled either in tubs or on skate bottoms. Gear must be flagged at the half skate so samplers can identify which half of a skate fish came from. **Snap gear is not allowed.**
2. Skates shall be uniformly rigged with circle hooks (#3 (16/0 Mustad or equivalent) in average or better condition spaced along the groundline at 18-foot intervals (100 per skate). Spacing will be monitored by Commission staff.
3. Gangions shall be 72-thread count, hard lay material between 24 to 48 inches after tying. **Swivels are not allowed.** Hooks must be oriented on the gangions by inserting the gangion through the front of the hook eye (Figure 2).

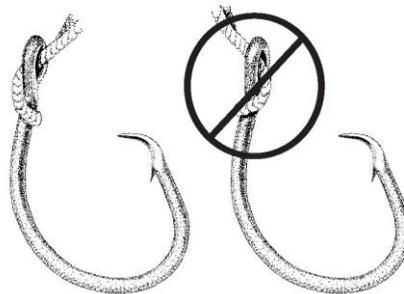


Figure 2. Proper gangion orientation to hook

4. A weight of approximately 5 to 10 pounds must be snapped on or tied to the groundline at each skate junction.

5. Fishing gear shall be maintained strictly in accordance with the specifications outlined in this document. If it is found that the gear is not being maintained to standards, the Commission representative could halt fishing operations and the owner or his/her representatives will be required to bring it up to standard. No additional payment will be made for time required to perform this gear maintenance. As one of the treatment methods per set will be gangion cutting, there will be extra maintenance required each day.
6. An automated hook stripper, or crucifier, will be required, and will be used to remove all Pacific halibut on randomly specified skates. Bycatch may not be removed by hook strippers as all bycatch (including sharks) are to be carefully released.
7. All vessels must provide and use an approved seabird deterrent device (e.g., tori line) while setting the gear, as required by state or federal agencies. Experience has shown that the key to successful tori line deployment is the height from which the line is deployed. This technique produces an effective coverage zone, while minimizing deployment challenges and interference with the fishing gear. It is the vessel's responsibility to have sturdy attachment poles (preferably welded, not strapped) for the tori lines, with a high attachment point for the lines. All tori lines are to be deployed so that the line enters the water no less than a distance of 40 meters (130 feet) aft of the vessel stern (if the vessel is greater than 100 ft. the minimum distance is 60 meters (200 feet)). See Appendix 2 for full bird avoidance requirements.
8. All vessels must take measures to avoid and minimize marine mammal interactions. See Appendix 3 for more details.
9. The IPHC will provide small temperature/data logger (s) for attachment to the groundline or anchors, as determined by the vessel crew.

F. Bait

1. The Commission will bear the cost of all ice and bait purchased before or during each charter. The Commission shall also arrange for bait to be shipped to or available in the intended ports of embarkation/sale.
2. Bait shall be frozen chum salmon, number 2 semi-bright or better.
3. The crew will be responsible for cutting the salmon into pieces approximately 1/4 to 1/3 pound for baiting the gear. The Commission requires that the bait **not be salted**, but instead kept on ice or frozen until used. IPHC staff will monitor bait size during the charter to ensure compliance to survey standards.
4. Auto-baiting machines are not permitted for use.

G. Crew requirements

The number of persons required to maintain and bait the skates of longline gear, as well as to process the Pacific halibut as it is caught, depends on the skill and professionalism of the crew as a whole. Experience has shown us that these qualifications vary widely, and that the labor-intensive nature of using hand-baited longline gear wears heavily on all but the most durable and experienced. It is of the utmost importance that all crew working on these research charters adhere strictly to the gear maintenance and fish quality standards expected by the IPHC. Bidders are cautioned to consider the ability of individuals assigned to gear maintenance, baiting, fish cleaning, and icing duties, and to select crewmembers with the best possible skill and motivation levels.

1. The owner will be solely responsible for providing at all times during the charter a fully qualified and experienced crew. The normal daily workload for fishing, icing the catch, and

the strict gear maintenance required by the IPHC have shown us that the necessary crew **must consist of at least a captain plus three to five additional crew members**. Bidding with less than that complement of crew may result in your operation being excluded from consideration.

2. The captain must possess any required Coast Guard or maritime licenses or certifications applicable to the vessel and area of operation.
3. The captain shall have a minimum of three years of commercial fishing experience as a master of a comparable-sized vessel and be competent in the use of modern navigational and fish-detecting equipment.
4. The captain is responsible for being knowledgeable in and adhering to all state, provincial, federal and international laws pertaining to commercial fishing. This includes fishing regulations, area closures (rockfish, sea lion rookeries, etc.), state or federal No Discharge Zones (sewage/blackwater), MARPOL (International Convention for the Prevention of Pollution from Ships) and the COLREGs (International Regulations for Preventing Collisions at Sea).
5. At least two crew shall have a minimum of three years of longline fishing experience and be competent in longline construction and repair, baiting methods, and Pacific halibut dressing and icing techniques. The remaining crew must be capable in longline repair, baiting methods, and Pacific halibut dressing and icing.
6. The captain and crew will be responsible for all phases of gear maintenance and the daily setting and hauling of the fishing gear, including repairing the skate of gear from each set that had the gangion cutting treatment.
7. The crew will be responsible for loading all vessel supplies prior to, during, and after the charter.
8. The crew will be responsible for offloading any fish sold during the charter.
9. The captain will ensure that the vessel remains in port for a 24-hour period after the offload is complete to enable the Seattle staff to ensure the exchange of all necessary data, to maintain consistent communications, and provide troubleshooting support. If there is a legitimate need for a quick turn-around (e.g., weather window, offload window between salmon openings, mechanical breakdown, etc.), clearance from the Seattle office staff needs to be obtained on the day that the fish sale is conducted. However, deficiencies in the vessel or problems with the crew's performance must be resolved prior to departing, which could result in port stays in excess of the 24-hour window.
10. All bycatch not retained must be carefully released from the hook. This includes shark and skate species as well. Vessels encountering tail-wrapped shark specimens shall make every effort to release the animal unharmed.
11. The captain and crew will be responsible for the dressing and icing of all sampled fish. A crewmember or members must be available (as required) for dressing Pacific halibut while the gear is being hauled.
12. All vessel personnel are expected to conduct themselves in a professional manner at all times. Physical relationships with IPHC Secretariat staff are prohibited while on charter, and vessel personnel must disclose any past or present activities or relationships that are in conflict with this policy. If a conflict arises, the IPHC will reevaluate staffing options and work with the vessel owner, captain, and crew to resolve the conflict.

13. Fishing plans must be mutually agreeable to the lead biologist and the captain. The captain will communicate to the lead biologist on a daily basis all changes to fishing plans and contingencies as they develop.
14. The captain and crew shall create a working environment that is free from intimidation and harassment (verbal, physical, or sexual). Please refer to Appendix 4 for further information regarding harassment and professional work environments.
15. All captains and crewmembers must be acceptable to the IPHC. The IPHC may require the replacement of any crewmember during the charter if found unacceptable in skill, experience, or behavior.

H. Safety

The captain is responsible for all matters relating to safety of personnel, the vessel, and equipment operation. The captain will adhere at all times to navigational rules whether it be during fishing operations, running, drifting, or when at anchor. He/she (or captain's representative) shall review safety procedures and equipment with the scientific party at the beginning of each charter and after any crew change.

1. U.S. vessels must possess a current U.S. Coast Guard inspection sticker. The vessel shall be mechanically sound in all respects, completely seaworthy, and comply with all applicable safety regulations.
2. Canadian vessels must possess a current Ministry of Transportation certificate (Canada Steamship Inspection Certificate) for the purposes for which the vessel is to be used. The vessel shall be mechanically sound in all respects, completely seaworthy, and comply with all federal Transport Canada regulations.
3. All vessels shall adhere to the regulations for power driven vessels underway in International Waters. In relation to the practice of drifting at night, the operator must maintain a proper lookout and ensure that his/her vessel is properly lighted as per the regulations (specifically 1972 International Regulations for Prevention of Collisions at Sea (72 COLREGS): Rule 2, 5 and 23. These regulations are available online at <http://www.navcen.uscg.gov/?pageName=navRulesContent>).
4. All safety equipment (such as life rafts) must have passed inspection requirements and be of sufficient capacity for the captain, crew, and all Commission staff aboard.
5. The Commission will provide immersion suits, personal EPIRB's, and personal floatation devices for its employees.
6. A Category I 406 MMHZ EPIRB (Emergency Position Indicating Radio Beacon) must be affixed to the exterior of the vessel in a manner approved by the U.S. Coast Guard.
7. No alcohol consumption or illegal drug use is allowed aboard IPHC chartered vessels, including days at sea and anchor days, as well as port days or when the vessel is at the dock. This is a **no tolerance policy** which will be in effect at all times the vessel is on charter, and violation of this policy is sufficient cause for contract termination, and possible exclusion from future IPHC contract eligibility for one or more years.
8. While shore excursions are not prohibited under IPHC contract, vessels are reminded that such activities fall outside of the mandates of the contracted work, and that the vessel is responsible for the safety of all concerned during such activities and may not be fully protected by insurance policies during non-contracted activities. It is required that float plans

be completed before making shore excursions, that all participants wear approved floatation devices, skiffs be fully stocked with a boat kit (emergency oars, bailer, sea anchor, rope etc.), and that the group carry a fully stocked shore kit, hand held radio, and first aid kit.

I. Owner's responsibilities

1. The owner will be responsible at his/her own expense to maintain the vessel, its engine(s), machinery, equipment, and fishing gear in good and seaworthy condition.
2. The owner will be responsible to provide lube oil, grease, filters, other engine-room supplies, and all other vessel operating supplies normally required for commercial fishing operations.
3. The owner will be responsible for the purchase of all fuel required to operate the vessel for the duration of the charter period, except as stated in Section J.
4. The owner will be responsible for providing a working environment that is free from intimidation and harassment (verbal, physical, or sexual). Please refer to Appendix 4 for further information regarding harassment and professional work environments.
5. The owner agrees to indemnify, defend and hold harmless the IPHC from any and all claims by whomsoever brought for loss, damage or personal injury from any cause arising out of the charter of the vessel, including but not limited to, claims arising out of the negligence of the IPHC, its agents or employees.
6. As part of the bid, the owner shall submit a disclosure statement specifying any conviction for the violation of any fishing regulations pertaining to the Pacific halibut fishery within the past five years by the vessel's owner, captain or crew.
7. The owner will provide adequate and wholesome meals for the crew and all IPHC representatives for days when IPHC Secretariat staff are aboard the vessel. The vessel owner will reimburse the IPHC for meals if the galley is closed while in port.
8. The owner shall be responsible for the payment of all crew salaries, including any bonuses, and for the payment of all payroll taxes on salaries, such as income tax, unemployment, workers compensation, and other taxes as applicable. With respect to vessels operating in the waters of foreign countries, the owner is responsible for ensuring that all crew have adequate health insurance coverage.
9. The owner shall be responsible for all fees incurred arising out of the operation of the vessel including, but not limited to, harbour dues, moorage, watchman costs and environmental fees.
10. The owner will be responsible for all vessel and crew related customs and immigration requirements and fees. A summary of requirements and fees for Canadian vessels chartering in the U.S. can be found in Appendix 1. The owner will be responsible for all delay expenses incurred by the Commission arising out of the owner's failure to fulfill conditions necessary to permit entry of the vessel and/or crew into the United States to timely meet the owner's charter obligations (see Appendix 1).
11. The owner will be responsible for all customs requirements and fees related to fish sales in a foreign port. The Commission will organize the customs brokering for any foreign offloaded fish and the associated fees will be deducted from the vessel payments. See Appendix 1 for a summary of the requirements and estimate of fees for Canadian vessels landing in the US and for any vessel landing U.S. caught fish in Canada.

12. Prior to commencement of the charter, U.S. vessel owners shall provide to the IPHC a copy of the insurance policy verifying that all IPHC personnel are included on the vessel's P&I insurance policy as either a crewman or business invitee, and that the IPHC is listed as an additional insured or co-insured on the P&I policy for the term of the charter agreement. The policy must provide protection with minimum limits of \$5,000,000 USD. Canadian vessel owners are strongly encouraged to acquire similar coverage. The IPHC will reimburse the owner for any additional premiums incurred by the owner to meet its obligations under this paragraph (Section J-6).
13. The owner agrees to maintain at its sole cost and expense throughout the period of the charter hull and machinery insurance to the full market value of the vessel with trading warranties appropriate to the charter, said policy to include a waiver of subrogation against the International Pacific Halibut Commission. The Owner will provide proof that the above coverage and subrogation is in place prior to the commencement of the charter.
14. The owner agrees to maintain at its sole cost and expense throughout the period of this charter pollution/environmental hazard insurance with minimum limits of \$5,000,000 USD, said insurance to name the International Pacific Halibut Commission as an additional insured. The Owner will provide proof that the above coverage is in place prior to the commencement of the charter.

J. IPHC responsibilities

1. The IPHC will replace all fishing gear lost in the course of the gear being put into the sea for fishing. This includes lost buoys, flags, buoy line, anchors, and physical components of skates including lost or replacement hooks and gangions required for normal gear maintenance, and gangion cutting treatments. As well, the IPHC will bear the cost of purchasing the physical components (i.e., labor is not included) of one new skate based upon every 100 skates of gear fished as compensation for normal wear and tear. Replacement groundline, hooks, and gangions will be the same or equivalent to gear lost or condemned. To this end, the skipper must provide a vendor contact to speed up the processing of gear claims.
2. The IPHC will reimburse the individual costs and fees associated with sending and receiving electronic communications (satellite phone, email) pertaining to IPHC business. Email capability is preferred, but not required. Costs for service connection are not included and should be covered in the bid price.
3. The Commission will arrange and pay for all ice and bait necessary to complete the charter.
4. The IPHC may terminate the charter at the nearest port if for any reason the owner fails to render the required services or the vessel and/or crew do not meet the specifications as stated on the Vessel Tender Form.
5. The IPHC will reimburse U.S. vessel owners for any additional premiums required to cover IPHC personnel under the vessels Protection and Indemnity (P&I) insurance policy. The IPHC will purchase individual insurance for IPHC employees serving aboard Canadian vessels.

K. Fish caught during the charter

Pacific halibut (slightly greater than commercial legal-size; ≥ 85 cm) sacrificed for sampling and some bycatch (rockfish and Pacific cod if permitted by federal or state regulation) will be

retained and sold. All fish caught will become the property of the IPHC and will be sold through an auction or direct sale process by IPHC Secretariat staff in Seattle. The lead biologist will work with the captain to maintain contact with the office and arrange offloads.

1. Ports of sale for this project will be constrained to King Cove, Sand Point, Alitak, or the same as the starting port, unless an alternate port is agreed upon by the IPHC and the vessel owner. Please note that the port of sale may be dictated by which processors are able to accommodate a small offload.
2. The crew is responsible for the dressing, icing, and unloading of all retained fish. Ten percent (10%) of the net proceeds from Pacific halibut sales will be paid to the vessel.
3. The vessel may retain bycatch only if all applicable state and federal regulations are met for the retention of that species (these have not been finalized at time of writing). Generally, IPHC-chartered vessels are only allowed to retain Pacific cod and rockfish due to mortality arising from barotrauma. In no instance will the retention of species other than Pacific halibut be allowed to restrict or otherwise interfere with achieving the scientific objectives of the charter. These fish will become the property of the IPHC, with the local management authority receiving 50% of the net sale proceeds, and the vessel receiving the remaining 50%.
4. Vessels making deliveries to Sand Point should note that the plant there may not be accepting rockfish if there is an active closure to commercial landings.
5. The IPHC is committed to selling only fish of the highest possible quality. To this end, all fish caught on IPHC charters and intended for sale must be handled in a manner which meets or exceeds the industry standards. Prior to the charter and after any offload, the hold must be thoroughly cleaned and sanitized. Fish retained for sale must not be gaffed in any area other than the head and should be stunned and bled immediately after landing and prior to dressing. All traces of blood, gills, viscera, gonads, kidney, and sweetmeats must be completely removed. Pacific halibut must be wet-scraped or the body cavities rinsed before icing. All fish must be layer-iced and the pokes and gill cavities of all retained Pacific halibut, large and small, must be filled with ice. It shall be the captain's responsibility to see that the aforementioned procedures are carried out. Following each sale, the offloader will be required to complete Fish Quality Forms that will note fish appearance and temperature for all Pacific halibut and bycatch offloaded. The captain will be required to initial the Fish Quality Forms to acknowledge that the contents have been read.

L. Post-award and post-charter meetings

1. Upon the award of a contract and prior to the start of the charter, a post-award meeting will be held at a mutually agreeable location to discuss issues relating to the charter, and to sign contracts. The project supervisor will schedule the date and time of the meeting. The meeting shall include the vessel owner and captain. A follow up phone meeting will occur in the weeks prior to the charter's start, to confirm final details and requirements.
2. After completion of the charter, a post-charter debriefing may be held in person, over the phone, or by mail with the vessel owner and captain. The purpose of the debriefing is to provide the vessel operator with a vessel performance evaluation and provide feedback for future charter projects. The vessel operator will also have the opportunity to assess and evaluate the IPHC Secretariat staff and/or charter methods.

M. Bidding procedure

1. The IPHC will consider bids based upon a lump sum for the successful completion of two days of test fishing and two trips (36 sets, each composed of eight skates of standard gear) as outlined in the project description (Section B). In addition to this lump sum, the vessel will receive 10% of the net sales of halibut and 50% of the net sales of bycatch. The Commission cannot guarantee the amount of fish caught during a charter or prices received from the sale of the fish. The IPHC will pay the lump sum fee after completion of the project. The vessel's share of the halibut and bycatch revenues will be paid once the offload payment monies are received by the IPHC office in Seattle.
2. All bids must be submitted on the appropriate VESSEL TENDER FORM provided by the IPHC.
3. The Commission is not restricted as to the nationality of the vessels it charters for operation in any area and will contract according to its own best interests. Also, vessels need not be licensed for halibut fishing in Canada or the U.S. to be eligible.
4. The IPHC will not be obligated to accept the lowest bid or any bid received and will contract according to its best interests. Vessels will be rated using the following criteria: seaworthiness and general condition of the vessel and its equipment, the vessel's availability, the captain's experience and fishing record, the qualifications of the selected crew, and IPHC operating costs.
5. Bids must be mailed, emailed (pdf format) or faxed in time to arrive in the IPHC's Seattle office **by 12:00 noon (Pacific Daylight Time) on Monday, 25 September 2017**. We have encountered problems in the past with bids posted too late to arrive in Seattle by the deadline (**postmarked dates do not apply to the deadline date**). If mailing please allow sufficient time for your bid to arrive. Please mark all bids whether mailed or faxed with: "DISCARD MORTALITY CHARTER BID: Attn: Claude Dykstra" and note "DISCARD MORTALITY CHARTER BID" in the subject line of the email. Emails should be sent to claude@iphc.int.
6. If we can be of assistance in filling out the Vessel Tender Form or answer any questions, please call Claude Dykstra (ext. 7662), Josep Planas (ext. 7687), or Tim Loher (ext. 7674), at **206-634-1838**.

INTERNATIONAL PACIFIC HALIBUT COMMISSION

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Appendix 1: Customs, Brokerage and Tracking Fees for International Operations and Landings

Vessel owners are advised that border agents (U.S. or Canadian) may deny entrance to individuals with prior criminal convictions or immigration violations into their respective countries. This includes but is not limited to convictions for DUI/DWI (driving under the influence of drugs or alcohol, driving while intoxicated), break and enter, assault (no matter how minor), drugs, and theft (includes shoplifting). We have witnessed increased vigilance in this area, especially with respect to the U.S. Bureau of Customs and Border Protection (CBP). It is the owners' responsibility to ensure that all crew meet the necessary security requirements to enter a foreign country. **The captain and crew are required to possess a valid passport upon entry.**

Customs and Fish Brokerage Fees:

Vessels landing in foreign ports will be required to meet all Immigration and Customs requirements of that country. These fees are divided into those dealing with the vessel itself and its crew, and those dealing with offloading fish or product. Entrance requirements are essentially triggered any time the vessel docks for any reason in the foreign country.

The vessel owner will be responsible for all charges levied in this process, and should budget this into their bids. Please keep in mind that the prices listed here are subject to increase over the period covered by multi-year contracts.

A. Canadian Vessel and Crew in U.S. waters (Customs Issues).

Canadian vessels fishing and landing catch from U.S. waters must make a formal entry with a U.S. Custom's Office for the vessel and crew into the first U.S. port of call. After a formal entry is made, the vessel must obtain a 'permit-to-proceed'. Upon arrival at the next U.S. port, a formal entry and clearance are once again required. **These requirements apply for every visit to a port, without regard to the interval between port visits or whether fish are delivered during the visit.** This process is continued until the vessel clears to a foreign port and leaves U.S. waters. Although it is possible for a vessel to post an international carrier bond and complete all paperwork themselves, the IPHC strongly recommends the vessel secure the services of an experienced maritime agent.

Summaries of the expected 2017 fees (US) are as follows and apply to any port visit:

1. Brokerage fee to process the vessel's entrances/clearances with CBP per occasion will be \$695 for any Alaskan port.
2. CBP fees for entry and clearance \$40 (US) for vessels under 100 GRT.
3. Automated Cargo Entry (ACE) manifest input is an automated requirement to declare the vessel's manifest (items on board) prior to each entry. The IPHC office in Seattle will arrange for a customs brokerage firm to handle this requirement and will post the necessary bonds. An AMS entry will be required for every port entry and the customs brokerage fee for this service is \$135 (US).

4. Advance Passenger Information System (APIS) electronic Advanced Notice of Arrival (eANOA) must be filed, **online**, by each vessel at least 24 hours in advance of arrival into the US. The charge for this is \$310 (US).
5. The vessels must also file an APIS electronic Advanced Notice of Departure (eANOD) no less than 15 minutes prior to departure from their last US port before departing to foreign. The charge for this \$310(US).
6. Brokerage communications fee per port call is \$55.
7. Yakutat Entry Agent Travel Expense is \$70.

Therefore, **Canadian** boats can expect to pay **\$925 (US) to \$1,215 (US) per port entry (plus an additional \$70 if landing in Yakutat) in Alaska**. Example invoices for combinations of the above can be obtained by contacting the IPHC Survey Manager. The IPHC works with Alaska Maritime Agencies (907-562-8808) for its brokerage services.

B. Canadian Vessels selling fish in a U.S. port. (Fish Brokerage Fees)

The IPHC office in Seattle will arrange for a customs broker to handle the required paperwork for selling U.S. fish in a U.S. port from a Canadian vessel. The lead biologist on the vessel will work closely with the IPHC office and/or customs broker to ensure that all entry requirements are fulfilled. This includes giving the office or broker at least 24 hours' notice before entering port and providing a copy of the fish ticket and any other required information after the offload and prior to departure.

Our fish sales broker in Alaskan ports is Perman Stoler Customs Brokers (907-243-3313). Their fees per landing in 2017 will be as follows:

Basic brokerage fees will range from \$306(US) to \$320(US) per landing depending on the species delivered (halibut, rockfish, Pacific cod). In 2017 there is a \$50 charge for filing a Food and Drug Administration (FDA) prior notice of landing, and a \$50 electronic invoice processing charge per landing. In addition to this U.S. Customs levies a Harbor Maintenance Fee in Haines, Juneau, Ketchikan, Kodiak, Petersburg, Sand Point and Sitka. This fee is calculated at 0.125% of the landed value (fish sales).

Boats can expect to pay a fish landing brokerage fee ranging from **\$406-\$494 (US)** per landing.

C. Tracking Canadian Vessels in U.S. Waters:

The Commission office in Seattle will arrange for the Marine Exchange of Alaska (www.mxak.org) to provide Vessel Monitoring Systems (VMS) satellite tracking services. **Vessel owners will be responsible for any fees associated with this and should budget this into their bids.**

The Marine Exchange of Alaska (MXAK) will provide one, self-contained satellite transponder capable of being temporarily adhered to the exterior of each vessel employed by the Commission. The transponder will be programmed for one position report per hour throughout the vessels' trips. The MXAK will provide the vessels' position data to the Commission and USCG 17th District command center via a secure web-based display (Automated Secure Vessel Tracking System –ASVTS). The units are self-contained, requiring no external power, there is no

electrical installation required. The Marine Exchange will deliver the transmitters to North Pacific Maritime, or any other agent being used by IPHC in Ketchikan, AK to be installed by the vessel crews prior to their voyage.

Per Vessel Costs:

1. Transmitter activation fee (per unit) \$100 (US)
2. Transmitter equipment rental \$35 (US) per week
3. Satellite and ASVTS Access Fee, 1 position report/hr \$50 (US) per week.
4. Delivery and Return Shipping \$75 (US) per unit (unless dropping off in Ketchikan)

Tracking fees in 2016 ranged from **\$647 (US)** for 8 weeks to **\$768 (US)** for 12 weeks of work.

Appendix 2: Seabird Regulations

The current regulations are as follows, but may change prior to the charter period. All IPHC vessels must comply with seabird avoidance measures as required by federal management authorities. Please ensure that you check on the current regulations prior to the charter as changes are currently being discussed.

All vessels over 55-ft must comply with the following seabird regulations:

Requirements:

The operator of a vessel must conduct fishing operations in the following manner:

- (i) Use hooks that, when baited, sink as soon as they are put in the water.
- (ii) Must not discharge offal while gear is being set.
- (iii) Make every reasonable effort to ensure that birds brought on board alive are released alive and that wherever possible, hooks are removed without jeopardizing the life of the birds.

The operator of that vessel must employ one or more of the following seabird avoidance measures:

- (i) For inside waters (Prince William Sound, Southeast Inside District, and state waters of Cook Inlet), all vessels must tow a single streamer line to prevent birds from taking hooks;
- (ii) All other waters all vessels must tow a paired streamer line while gear is being set to prevent birds from taking hooks

Single Streamer Standard:

- (i) A single streamer line must be deployed in such a way that streamers are in the air for a minimum of 40 m aft of the stern and within 2 m horizontally of the point where the main groundline enters the water.
- (ii) **Material Standard:** The minimum streamer line specifications are as follows:
 - Length** 300 feet (91.4 m)
 - Spacing of streamers:** Every 5 meters until performance standard is achieved.
 - Streamer material:** Brightly colored, UV protected plastic tubing or 3/8 inch polyester line or material of equivalent density. An individual streamer must hang from the mainline to 0.25 meters of the water in the absence of wind.

Double Streamer Standard:

- (i) Deploy a minimum of two streamer lines while setting hook-and-line gear. If both streamer lines cannot be deployed prior to the first hook, at least one streamer line must be deployed before the first hook and both streamers must be fully deployed within 90 seconds
- (ii) Exceptions: In conditions of wind speeds exceeding 30 knots, it is acceptable to fly a single streamer from the windward side of the vessel. In winds exceeding 45 knots, the safety of the crew supersedes deployment of the streamer lines.
- (iii) Paired streamer lines must be deployed in such a way that streamers are in the air for

a minimum of 40 m aft of the stern for vessels under 100 ft and 60 m aft for vessels over 100 ft. The paired streamer lines must be deployed on each side of the main groundline.

- (iv) **Material Standard:** The minimum streamer line specifications are as follows:
Length 300 feet (91.4 m)
Spacing of streamers: Every 5 meters until performance standard is achieved.
Streamer material: Brightly colored, UV protected plastic tubing or 3/8 inch polyester line or material of equivalent density. An individual streamer must hang from the mainline to 0.25 meters of the water in the absence of wind.

FOR MORE INFORMATION CHECK OUT THESE WEB PAGES

<http://www.fakr.noaa.gov/protectedresources/seabirds/bycatchregs.htm>

<http://www.fakr.noaa.gov/protectedresources/seabirds/guide.htm>

<http://www.fakr.noaa.gov/protectedresources/seabirds/newsitems.htm>

<http://alaskafisheries.noaa.gov/protectedresources/seabirds.htm>

The following link has a great video demonstration of Tori Line Deployment technique. Clip #3 specifically:

<http://www.wsg.washington.edu/mas/resources/seabirdvideo.html>

Appendix 3: Marine Mammal Interactions

The IPHC has begun the process to obtain a Letter of Authorization from NMFS for operations that have the potential for a marine mammal take or interaction. As part of this process, we are formalizing the vessel requirements for avoiding marine mammals and reducing interactions. These procedures will be detailed in the vessel contract but are summarized in part below.

Monitoring Measures

The Captain or any crew on watch, or the IPHC sampler will be required to visually monitor the area of operation for marine mammals and other protected species during all longline operations. The objective is to avoid transecting or operating in areas with significant concentrations of animals.

Operational Procedures

The “move-on” protocol may be implemented if protected species are present near the vessel and appear to be at risk of interactions with the longline gear: longline sets are not initiated if marine mammals are detected and represent a potential interaction with the longline gear, as determined by the professional judgment of the IPHC lead sampler and vessel captain.

To reduce depredation and habituation of whales if whales begin to depredate, IPHC research boats are instructed to sink the line back down and travel to and haul gear on a different station set that morning, returning to the station where the whales were later the same day. IPHC longline survey protocols specifically prohibit chumming before or during the longline setting operations (i.e., releasing additional bait to attract target species to the gear).

Reporting

The vessel captain and crew should work with the IPHC staff to record any marine mammal sightings and depredation events. Incidentally captured marine mammals that are still alive should be released from research longline gear to the water as soon as possible with no gear or as little gear remaining on the animal as possible. Animals are released without removing them from the water, if possible. Any data collection, if conducted, should not to delay the animal’s release.

In the event that the animal can safely be brought aboard or near enough for closer inspection, the IPHC samplers will collect as much data as possible from captured animals considering the disposition of the animal; if it is in imminent danger of drowning, it is to be released as quickly as possible. If the safety of the crew and captured animal will not be compromised, the scientific party will attempt to collect biological information from captured marine mammals before they are released, including species identification, sex identification, estimated length, and photographs. Photos of dead marine mammals (and live if possible) should include an image of the left and right side of the dorsal fin to help determine stock ID and a picture of the nature of gear entanglement. Information should also describe whether the animal was seen prior to the entanglement, a description of its behavior, and any mitigation measures used and/or discretionary decisions made by the lead sampler, including a rationale for those decisions. This information will be recorded in the research cruise logbook and conveyed to NMFS NMML within 24 hours of capture or as soon as ship to shore communication allows.

In the event of any incidental capture or entanglement of marine mammals in any research gear or any collisions with marine mammals with the vessel, the scientific personnel will contact the

IPHC project coordinator with the encounter and condition information as soon as possible and within 24 hours.

Appendix 4: Harassment in the Workplace

What is harassment?

Federal regulations (U.S. Civil Rights Act, U.S. Equal Employment Opportunity Commission, and Canadian Human Rights Commission) protect employees from harassment in the workplace based on race, color, ancestry, place of origin, political belief, religion, marital status, family status, physical or mental disability, sex, sexual orientation, age, or criminal convictions. The IPHC and vessels contracting to them adhere to these laws. Harassment is any behavior that demeans, humiliates, or embarrasses a person, and that a reasonable person should have known would be unwelcome. It includes actions (e.g., touching, pushing), comments (e.g., jokes, name-calling), or displays (e.g., magazines, posters, cartoons). Speech (including swearing and offensive jokes) can also be considered workplace harassment if someone feels that the language used is severe or pervasive enough to create a hostile or abusive work environment.

Some examples of harassment include:

- unwelcome remarks, slurs, jokes, taunts, or suggestions about a person's body, clothing, race, color, place of origin, religion, age, marital status, family status, physical or mental disability, sex, sexual orientation, political belief, or criminal or summary conviction offence unrelated to employment;
- unwelcome sexual remarks, invitations, or requests (including persistent, unwanted contact after the end of a sexual relationship);
- displays of sexually explicit, sexist, racist, or other offensive or derogatory material;
- written or verbal abuse or threats;
- practical jokes that embarrass or insult someone;
- leering (suggestive staring) or other offensive gestures;
- unwelcome physical contact, such as patting, touching, pinching, hitting;
- patronizing or condescending behavior;
- humiliating an employee in front of co-workers;
- vandalism of personal property;
- and/or physical or sexual assault.

Whether or not behavior is harassment depends on the individual's tolerance or sensitivity to it. The law supports this interpretation.

Consensual Banter

Two or more employees bantering back and forth is not harassment if everyone involved is in agreement. However, such banter is harassment if any employee feels uncomfortable with this behavior, and the behavior continues even after that person has expressed their discomfort, or if the others involved should have known the person was uncomfortable. This type of harassment can create what is known as a "poisoned work environment," where employees do not feel safe and feel consistently humiliated.

All IPHC staff and vessel captain and crew should abide by the following:

i. Respect others

Each employee has the right to be treated fairly and respectfully in the workplace. Each employee also has the responsibility to treat others in a way that respects individual differences. No matter what your opinion, or that of the people with whom you interact at work, showing mutual respect and consideration will make everyone's work and life aboard the boat easier. If you have doubts about whether a joke, comment, coarse language, or other behavior will embarrass, humiliate, degrade, or otherwise bother someone, then don't say or do it.

ii. Speak up and report harassment

If someone behaves in a manner that offends, harms, humiliates, or degrades you, do not put up with it. First, if you feel that you can speak to that person, do so. Let them know how you feel. Tell them the behavior is inappropriate. If they continue the behavior, or if you do not feel you can speak directly to the person, you have several options, from speaking to the captain, the IPHC lead, or the IPHC office.

Vessel Captain and IPHC Staff Responsibilities

i. Put a stop to harassment

The vessel (owner/captain) and the IPHC have full responsibility for making sure the work environment is free from harassment. If you become aware of harassment in your work environment, you must do everything you can to stop it, whether or not a complaint has been made. Not knowing that one's actions are perceived as harassing, is not an excuse. It is important for you to be aware of the behavior of those around you and how it affects a professional working environment. If a reasonable person should have known that harassment was going on, you will still be held responsible if you let the situation continue. Harassment will not be tolerated and necessary actions will be taken to stop it.

Appendix 5: Electronic Monitoring Systems

What is an EM system?

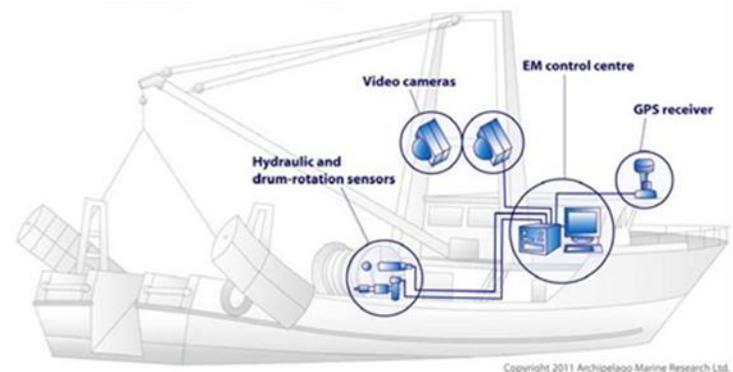
An electronic monitoring (EM) system is a method for helping fisheries to collect and interpret at-sea catch information as accurately, efficiently, and cost effectively as possible. Each EM system helps fishers to automatically create a record of key fishing activities without the need for hosting an onboard observer. Relevant EM data can then be reviewed to help fisheries ensure a “level playing field” across all vessels, and support sustainable resource-management initiatives on a fleet-wide basis.

System and Installer: The system will be similar to the ones currently being deployed in the AK longline small vessel fleet as part of the pilot work being conducted by NMFS. The unit will be installed by Archipelago Marine Research Ltd employee or contractor. Contractors are available in Sitka, Homer, and Petersburg, but arrangements can be made for other ports if necessary.

What equipment does an EM system include?

Although specific components may vary from one application to the next or one fishery to another, an electronic monitoring system typically includes several key components: one or more video cameras, a hydraulic gear sensor, a drum sensor, a GPS receiver, and a control center equipped with Archipelago’s data-collection software.

The data collection software monitors the EM system, and stores relevant fishing activity data on a removable hard drive for later review.



What data does an EM system collect?

During a fishing trip, an EM system automatically creates a time-stamped profile of relevant fishing activity based on video footage (for example, setting, hauling and sorting), and equipment usage (such as hydraulic pressure, drum rotation, vessel speed, heading, and location) updated every 10 seconds. Depending on the gear type, video may be recorded from port to port (for example, for trawl applications), or in conjunction with specified fishing activities (setting and hauling). No sound is recorded with video imagery. Data are encrypted to ensure the highest level of data safety and security.

How is this data used?

At the end of the specified data collection period the hard drive is removed from the control center and mailed to the designated data review technicians at the Pacific States Marine Fisheries Commission (PSMFC). Any relevant portions of the fishing data will be interpreted by the reviewer (in this case halibut release method, and where possible injury coding). The goal of the EM portion of this project is to verify the ability of the EM system to effectively capture the release technique being used. When combined with the typical injury profile associated with each release method, discard mortality rates will be able to be calculated for fish released on EM trips.

What are your basic responsibilities during a typical fishing trip (to be completed in cooperation with field samplers)?

- Ensure there is enough disk storage space on your data drive to cover the length of the trip. The EM system software will provide you with this information.
- Ensure the system is continuously powered on from the time the vessel leaves the dock, until it returns to the dock.
- Inspect the EM system periodically to ensure that all components are securely mounted and operating properly.
- Clean the lens dome of each camera with a damp, soft cloth as necessary.
- During night fishing operations, ensure the camera field of view is well lit to enable clear and accurate recording of imagery.
- Monitor the EM system software frequently to ensure that camera and sensor data are being displayed and recorded.

How long does it take to install an EM system?

The time required for an EM installation is variable from vessel to vessel and depends largely on the fishery and vessel specific configurations. Typical install times range between eight to twelve hours for a two to three camera system. Anything that you can do to prepare your vessel ahead of time will help to reduce the time required during the actual install. See the next section for what you can do to prepare.

What can you do to prepare for a new EM system installation?

There are several things that you can do to prepare before the EM technician arrives to install the EM system:

- **Review** the document “EM Observe v5 Operating Specifications” document available from IPHC. This document provides an overview of each of the components that will be installed, and outlines what you need to consider prior to install.
- **Power Requirements-** Ensure that your vessel can provide the required power for the EM system. Consult with your electrician if you are unsure if your vessel can provide the stated power requirements, and ensure sufficient power systems are in place prior to installation of the EM system.

The power requirements listed within this section must be in place on your vessel to enable you to achieve 100% data collection. It is your responsibility to ensure that your vessel is able to meet the power requirements as outlined below. Archipelago will not install an EM system on a vessel that does not meet these power requirements. Archipelago will not take responsibility for the proper operation of this equipment unless these power requirements are met.

Sufficient power must be continuously supplied to the EM system from the time you leave the dock at the start of the trip, until you tie up at the end of the trip.

DC Power Option

- Input voltage range is between 11 to 32 volts.
- Archipelago recommends operating the system on a dedicated 19-volt or 24-volt

supply whenever possible.

- The maximum power draw for an operational system is 120 watts or current draw of 5 amps at 24 volts DC, or 10 amps at 12 volts DC.
- The maximum power draw during sleep mode (engine is off and system in sleep mode) is less than 10 milliamps

In no case should the engine-starting battery supply the EM system power.

AC Power Option

- Input supply must be between 90 to 240 volts AC. AC power from the vessel will be delivered to the EM system using an AC to DC power converter (supplied with the EM system)
- To ensure AC power stability, generator-supplied power should be conditioned by an uninterruptible power supply (UPS) that the EM system can plug into (not supplied with the EM system).

DC Power Hook Up Specifications

The vessel must have a dedicated DC circuit from the vessel power bus or battery bank to the EM system.

- The dedicated EM system battery bank must be electrically isolated from the engine starting battery.
- The dedicated EM system auxiliary battery bank should be a quality component, deep cycle, rated to at least 60 amp-hours.
- The circuit must have an appropriate sized fuse or breaker at the power bus or battery connection (15 amp fuse for 12volt, 10 amp fuse for 24 volt). It is important to have power wires fused as close to the battery as possible.
- The wiring supplied must meet the minimum standards listed in the following table:

Choosing the correct wiring for power supply and distance

Power supply	Up to 20 ft. (6.0 metres)...	20 to 30 ft. (9.5 metres)...
12 volt	use 14 AWG (1.63 mm diameter)	use 12 AWG (2.05 mm diameter)
24 volt	Use 16 AWG (1.29 mm	use 14 AWG (1.63 mm

- A battery isolator should be installed between the engine alternator, the starting battery, and the auxiliary battery. The isolator allows a single output alternator to separately charge the two or more batteries with priority on the engine starting battery.
- The vessel alternator must be of sufficient output to handle the charging requirements for both the starter and auxiliary batteries.
- **Hydraulics Preparation-** If using hydraulics to fish, ensure that you have installed a 1/4 inch national pipe thread (NPT) female gauge port in the high pressure delivery side of the

hydraulic line in a location away from fishing activity (preferably in the engine room).

- **Wheelhouse Preparation** – Ensure that you have a suitable location and space in the wheelhouse for both the control center and the monitor. Identify a secure, cool and dry location for the EM control center, near a reliable power source.
- **Component Mounting Consideration** – Ensure that you can provide suitable mounting locations for all components and that you have suitable pass through or wire run access holes available from the cabin/wheelhouse to the deck for all system components.
- **Camera Location Considerations** – In order for the Archipelago install technicians to determine the best locations for cameras to be mounted, you will need to clearly be able to describe to the install technicians all locations on your vessel where the following activities occur:
 - fishing gear is deployed into the water and retrieved from the water
 - all areas where fish are brought on board the vessel
 - all areas where fish are returned to the water
 - all locations and methods used to move fish around on deck from the time they come out of the water, to the time they are put into the hold or released (including grading and/or processing methods)
- **Availability During Install** – Ensure that you are onboard the vessel at the scheduled time and date, and that the vessel is at the agreed upon location. Although you will not be required to be on board the vessel during the entire installation process, you will be required to be present at various stages during the installation. If you leave the vessel while the install is occurring, please ensure you leave your contact number with the installation technicians. The more time that you and your crew are able to spend working with the install technicians, the more knowledge of the EM system you will have which will greatly help reduce time commitments and potential costs in the future.