

WEATHERVANE SCALLOP OBSERVER MANUAL



Regional Information Report No. 4K04-39

Alaska Department of Fish and Game
Commercial Fisheries Division
211 Mission Road
Kodiak, Alaska 99615

August 2004

WEATHERVANE SCALLOP OBSERVER MANUAL



By

Jeffrey P. Barnhart
and
University of Alaska Anchorage
North Pacific Fisheries Observer Training Center

Regional Information Report¹ No. 4K04-39

Alaska Department of Fish and Game
Commercial Fisheries Division
211 Mission Road
Kodiak, Alaska 99615

August 2004

¹ The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished division reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Commercial Fisheries Management and Development Division.

AUTHORS

Jeffrey P. Barnhart is the statewide scallop fishery biologist and scallop observer program coordinator for the Alaska Department of Fish and Game; Commercial Fisheries Division; 211 Mission Road, Kodiak, Alaska 99615.

University of Alaska Anchorage, North Pacific Fisheries Observer Training Center, 707 A Street, Anchorage, Alaska 99501.

ACKNOWLEDGEMENTS

The authors would like to acknowledge Heidi Morrison, Lori Ryser, Jason Benshoof, and Lucinda Neel from the Alaska Department of Fish and Game for their assistance with this publication.

PROJECT SPONSORSHIP

The Alaska Department of Fish and Game receives federal funding from the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, through a NOAA Cooperative Agreement for management of weathervane scallops off Alaska.

The University of Alaska Anchorage, North Pacific Fisheries Observer Training Center is funded by the NOAA Seagrant College Fund and trains fishery observers for the Alaska Department of Fish and Game Crab and Scallop Observer Programs and the NOAA Fisheries, North Pacific Groundfish Observer Program.

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	i
LIST OF FIGURES	ii
LIST OF APPENDICES	iii
ABSTRACT	1
 PART I 	
INTRODUCTION	2
ONBOARD OBSERVER PROGRAM	2
PROGRAM RESPONSIBILITIES	3
Vessel Owners and Operators	3
Independent Contracting Agent	5
Alaska Department of Fish and Game	6
CONFLICT OF INTEREST STANDARDS FOR ONBOARD OBSERVERS	7
CONFLICT OF INTEREST STANDARDS FOR CONTRACTORS	8
GENERAL PROGRAM OVERVIEW	9
Scallop Observer Candidate Requirements	9
Trainee Permit	9
Full Certification	9
Observer Decertification	10
Disciplinary Trainee Status	11
Recertification	11
Briefing	11
Debriefing	12
Confidentiality of Data	12
Living and Working at Sea	13
Observer Duties	13
Observer Sampling Duties	13

TABLE OF CONTENTS (Cont.)

	<u>Page</u>
OBSERVER SAMPLING GEAR AND EQUIPMENT.....	14
Provided By Contractor	14
Provided By Vessel.....	15
Provided By ADF&G	15
PERSONAL GEAR.....	16
Provided by Contractor, Observer, or Vessel.....	16
Provided by Observer.....	16
 PART II 	
GENERAL FORM INSTRUCTIONS.....	17
NOTEBOOK ENTRIES	17
Collecting Evidence.....	18
SAMPLING ON SCALLOP VESSELS.....	18
DATA FORM INSTRUCTIONS	20
General Header Information--All Forms	20
Letter Codes for Statewide Scallop Registration Areas.....	21
Fishing Log for Alaska Scallops.....	21
Weekly Summary Form.....	22
Haul Composition Form	23
Bycatch and Scallop Discard Form	26
Scallop Size Frequency Form	27
Shell Collections	27
Crab Size and Injury Form.....	28
Crab Mortality.....	29
Crab Measurement.....	29
Crab Sex Determination.....	29
Crab Shell-Aging	29
Shell-Age Characteristics	30
Halibut Length and Condition Form.....	30

TABLE OF CONTENTS (Cont.)

	<u>Page</u>
Radio Report Form	31
Radio Reporting Procedures	31
Phonetic Alphabet.....	32
Radio Codes	32
 PART III 	
SAFETY AND SEA SURVIVAL	34
Introduction	34
Safety on Deck of a Scallopier	34
Marine Safety	35
Safety Orientation	35
Station Bills.....	36
Emergency Procedures.....	37
Drills and Instruction	37
Marine Safety Equipment	38
Life Rafts	38
Personal Flotation Devices (PFD)	39
Immersion Suits	39
Emergency Position Indicating Radio Beacon (EPIRB)	40
Radios	41
Flares.....	41
Survival Kits	41
Fire Extinguishers	41
The Seven Steps to Survival	42
Recognition	42
Inventory	42
Shelter	42
Signals.....	43
Water.....	43
Food	43
Play	43
LITERATURE CITED	44
APPENDIX.....	45

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1.	Shell sampling protocol schedule.....	28

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1.	Safety examination decal.....	35
2.	Safety checklist.....	36
3.	Example of a station bill.....	37
4.	Emergency procedures	37
5.	Typical life raft and equipment	38
6.	Hydrostatic release	38
7.	Heat escape lessening position (HELP)	39
8.	Life ring.....	39
9.	Donning an immersion suit and a “wet exit”	40

LIST OF APPENDICES

<u>Appendix</u>		<u>Page</u>
A.1.	Fishing log for Alaska scallops.	46
A.2.	Weekly summary: scallop catcher-processor	47
A.3.	Haul composition form.....	48
A.4.	Halibut length-to-weight conversion table	49
A.5.	Characteristics of Alaskan scallops	50
A.6.	Bycatch and scallop discard form	51
A.7.	Scallop shell height measurement	52
A.8.	Scallop size frequency form	53
A.9.	Crab size and injury form.....	54
A.10.	Crab measurement	55
A.11.	Crab sex determination.....	56
A.12.	Halibut length and condition form	57
A.13.	Scallop observer radio report form.....	58
A.14.	Radio codes	59

ABSTRACT

The Weathervane Scallop Observer Manual describes onboard observer duties and sampling methodology for observers participating in the Alaska Department of Fish and Game (ADF&G) Scallop Observer Program. This manual also serves as a reference, providing information about observer qualifications, training, certification, and safety as well as the responsibilities and requirements of independent contracting agents, vessel operators, vessel owners, and ADF&G.

PART I

INTRODUCTION

The Alaska Scallop Fishery Management Plan, established by the Alaska Department of Fish and Game (ADF&G) in 1993 and adopted by the Alaska Board of Fisheries (BOF) in 1994, includes a requirement for onboard observer coverage. The primary purposes of the Onboard Observer Program are to collect essential biological and fishery-based data, monitor bycatch and provide for regulatory enforcement. These data are necessary to achieve the requirements set out in 16 U.S.C. 1801-1883, the Magnuson-Stevens Fishery Conservation Act (Magnuson-Stevens Act) and the federal Fisheries Management Plan (FMP) and Amendments for the Scallop Fishery Off Alaska.

This manual, along with the scallop observer classroom training and a pretrip briefing, should adequately prepare onboard observers to carry out their duties. In the event observers are confronted with unanticipated sampling problems at sea not fully covered by the classroom training, they should reference this manual. Any deviation from the methods outlined in training or this manual should be discussed with ADF&G staff prior to implementation.

ONBOARD OBSERVER PROGRAM

A summary of regulations governing the Onboard Observer Program is located in the ADF&G Commercial Shellfish Fishing Regulations booklet. This booklet is provided as an informational guide only. Complete regulations are found in the State of Alaska Fish and Game Laws and Regulations Annotated, which contains Alaska Statutes (AS) and Alaska Administrative Codes (AAC).

Regulations governing the observer program include: (1) 5 AAC 39.141 Onboard Observer Program, (2) 5 AAC 39.142 Conflict of Interest Standards For Onboard Observers and Independent Contracting Agents, (3) 5 AAC 39.143 Onboard Observer Certification and Decertification, (4) 5 AAC 39.144 Onboard Observer Independent Contracting Agent Certification and Decertification, (5) 5 AAC 39.146 Onboard Observer Briefing and Debriefing, (6) 5 AAC 39.645 Shellfish Onboard Observer Program, (7) 5 AAC 39.646 Shellfish Onboard Observer Trainee Program Qualifications and Requirements, and (8) 5 AAC 38.076 Alaska Scallop Fishery Management Plan.

Alaska Board of Fisheries findings and regulations in 5 AAC 39.141 (a)-(g) relevant to the scallop observer program are as follows:

- (a) The Board of Fisheries finds that in particular fisheries observers on board fishing vessels would greatly enhance management primarily by facilitating information gathering, and by improving regulatory compliance. Onboard observers may be the only practical

fishery monitoring, data gathering, or enforcement mechanism in some Alaska fisheries where a large component of vessels, such as catcher-processors and floating processors, rarely or never enter Alaskan ports.

(b) Every onboard observer shall have free and unobstructed access to inspect the catch, equipment, gear, or operations of the fishing vessel or tender to which the observer is assigned.

(c) Onboard observers must be as unintrusive to vessel operations as practicable and must make the scope of their activities as predictable as possible in the performance of their assigned observer duties.

(d) Onboard observers are not required to obtain criminal or administrative search warrants to conduct their duties.

(e) Onboard observers shall carry out such scientific and other duties as deemed necessary or appropriate to manage, protect, maintain, improve, and extend the fish and aquatic plant resources of the state.

(f) Onboard observers shall have free and unobstructed access to loran or GPS coordinates, at random, at least twice in each 24-hour period. However, an observer shall have access to loran or GPS coordinates at any time if the observer suspects illegal activities. These loran or GPS observations are not to interfere with normal operations of the vessel.

(g) Every independent contracting agent, and their office personnel and business agents while employed by the independent contracting agent and for six months after terminating that employment, may not work as an onboard observer.

PROGRAM RESPONSIBILITIES

Vessel Owners and Operators

The responsibilities of vessel owners and operators are described in 5 AAC 39.645 (i) and 5AAC 39.645 (l):

(1) contract and pay for observers through an independent contracting agent, unless the onboard observer is provided by the department;

(2) provide at least 48 hours advance notice to the contracting agent of an observer's arrival at a department area office for debriefing;

(3) when carrying an observer trainee and within sufficient time to allow for debriefing before expiration of the trainee permit, ensure that the trainee is returned to the

port where the department office responsible for management of the fishery the observer's assigned vessel participates in;

(4) provide adequate food and accommodations for the observer that are equal to those provided for the vessel's crew;

(5) provide to the observer daily catch information, including the areas fished, number and pounds of scallops landed, number of hauls by statistical area, and other information as specified by the department;

(6) provide a safe work area, necessary gear, opportunity, and sufficient time to allow the observer to adequately sample catch as specified by the department;

(7) ensure that the transfer of an observer between vessels is conducted in a timely manner, under safe conditions, and with agreement of the observer involved;

(8) assure observer access to single side band (SSB) radio, fax, telex, or telephone so that catch reports from observers are received at the area management office as specified by the department;

(9) notify the observer before scallops are brought on board to allow sampling unless the observer specifically requests not to be notified; and

(10) provide proof of compliance with U.S. Coast Guard vessel safety requirements;

Pursuant to 5 AAC 39.645 (1) the vessel owner, owner's agent or operator may not:

(1) impede or interfere with an observer carrying out observer duties;

(2) interfere with or bias the sampling procedure employed by an observer, including physical or mechanical interference, or sorting or discarding of catch before sampling;

(3) tamper with, destroy, or discard an observer's collected samples, equipment, records, photographic film, papers or personal effects without the express consent of the observer; or

(4) harass an observer by conduct that has sexual connotations, and has the purpose or effect of interfering with the observer's work performance, or by conduct that otherwise creates an intimidating, hostile, or offensive environment.

Independent Contracting Agent

Responsibilities of the independent contracting agent are described in 5 AAC 39.645 (j):

- (1) employ observers in compliance with all applicable state and federal laws and provide all necessary administrative and payroll functions for the observer employees;
- (2) secure contracts directly with vessel owners and operators;
- (3) provide the department with a certification training program plan and qualifications of instructors for department approval no less than 30 days before implementation;
- (4) provide the department with complete and legible transcripts, resumes, and other work history documents to qualify observer candidates no less than 30 days before training;
- (5) provide observer training to meet certification requirements contained in 5 AAC 39.143;
- (6) coordinate with the department to schedule observer certification examinations and provide observer sampling equipment for use at the examinations;
- (7) provide all logistical support for observers, including room and board, travel to and from vessels, travel to and from department examinations, and briefings and debriefings;
- (8) assign observers to vessels without regard to requests from vessel owners and operators for, or for exclusion of, a specific observer; any requests for, or for exclusion of, a specific observer shall be reported to the department by the contracting agent;
- (9) provide, for each observer deployment, a complete set of all necessary observer sampling equipment as specified, in writing, by the department for an observer to complete a trip assignment;
- (10) provide the department with no less than 48 hour advance notice of an observer's scheduled arrival at the port where the department office responsible for management of the fishery the observer's assigned vessel participates in for briefings and debriefings;
- (11) schedule all observer briefing and debriefing appointments directly with the department;
- (12) maintain records of observer's scheduled briefing and debriefing dates, and observer's time on board a vessel to ensure compliance with maximum trip limits for trainee observers as specified in 5 AAC 39.143 (c), and fully certified observers as specified in 5 AAC 39.142 (a)(8);

(13) ensure that no less than 65 percent of observer deployment days per year per contractor are performed by certified observers;

Alaska Department of Fish and Game

Responsibilities of the Alaska Department of Fish and Game include the following:

1. establish standards for observer and contractor conflict of interest;
2. establish certification, decertification, suspension, and probation criteria for observers and contractors;
3. certify, suspend, and decertify observers and contractors;
4. establish appeal procedures for suspended and decertified observers and contractors.
5. establish, administer, and score observer certification tests;
6. maintain a list of certified observers and contractors;
7. provide a list of certified observers to contractors upon request;
8. provide a list of certified contractors to observers, industry and the public;
9. determine observer sampling procedures;
10. maintain a list (for ADF&G use) of observer briefing and debriefing dates, and observer and vessel activities for verification of compliance with the 36, 90, 180, 270 and 365 day deployment rules;
11. approve all observer vessel assignments;
12. brief and debrief observers only in the ADF&G office responsible for the management of the specific fishery, unless ADF&G authorizes otherwise;
13. provide observers with appropriate sampling gear and equipment as listed in the section Observer Sampling Gear and Equipment, provided by ADF&G;
14. monitor observer data gathering performance;
15. analyze observer data;
16. prepare reports;

17. review observer candidate's qualifications based on their college transcripts, resumes, and other work history documents to assure program compliance; and
18. approve an observer training course.

CONFLICT OF INTEREST STANDARDS FOR ONBOARD OBSERVERS

Pursuant to 5 AAC 39.142 (a) a department approved fisheries onboard observer

(1) must be employed by

(A) an independent contracting agent who has been certified by the department;
or

(B) the department;

(2) may not have a financial interest in the observed fishery;

(3) may not have a personal interest in the vessel to which he or she is assigned;

(4) may not serve as a crew member or processing worker on the vessel to which he or she is assigned;

(5) may not solicit, accept, or receive, directly or indirectly, a gift, whether in the form of money, service, loan, travel, entertainment, hospitality, employment, promise, or in any other form, that is a benefit to the observer's personal or financial interests, under circumstances in which it could be reasonably inferred that the gift is intended to influence the performance of official duties, actions, or judgment;

(6) may not have been convicted of a misdemeanor or felony involving fraud dishonesty, an "offense against the person" in violation of AS 11.41, arson under AS 11.46.400, or a fish and game misdemeanor or fish and game infraction with a penalty in excess of \$300 for a period of seven years preceding application to the onboard observer program;

(7) may not have a personal or financial interest, other than that of the observer's employee relationship in the contracting agent who serves as the observer's employer;

(8) may not spend more than 90 days on board any one vessel in 12 consecutive months, unless the 90 day limitation is waived by the department for good cause;

(9) may be assigned to a vessel only upon approval by the department.

“Financial interest” and “personal interest” are defined in 5 AAC 39.142 (c) as noted under the heading “Conflict Of Interest Standards For Contractors”.

CONFLICT OF INTEREST STANDARDS FOR CONTRACTORS

Pursuant to 5 AAC 39.142 (b) duties and restrictions relative to conflict of interest standards for an independent contracting agent who provides onboard observers are as follows:

(1) May not be an individual, partnership, or corporation with a personal or direct financial interest in the proceeds of any vessel licensed to process or harvest in the affected fishery other than the provision of observers;

(2) Shall assign observers to vessels without regard to requests from vessel owners or operators for a specific individual;

(3) Repealed 12/26/97;

(4) May not knowingly or negligently hire as an observer an individual who has a personal or financial interest, other than that of the observer’s employee relationship, with the contracting agent;

(5) May not hire an onboard observer on a commission basis;

(6) Shall, for each observer assignment to a vessel, submit to the department, upon request, a written statement, signed by the contracting agent under oath and subject to applicable criminal penalties, stating that the contracting agent does not have a personal interest and does not have a direct or subsidiary financial interest in the vessel or in fishing activities of the vessel;

(7) Shall obtain and submit to the department, upon request, for each observer assignment to a vessel, a written statement, signed by the vessel owner, operator, or owner’s agent, under oath and subject to applicable criminal penalties, stating that the vessel owner or operator does not have a personal interest and does not have a direct or subsidiary financial interest in the contracting agent.

Relative to the conflict of interest standards “financial interests” and “personal interests” are defined in 5 AAC 39.142 (c):

(1) “financial interest” means any source of income to, or a capital investment held by, an individual or the individual’s spouse or blood relation up to and including the second degree of kindred.

(2) “personal interest” means an interest held or involvement by an individual, partnership, or corporation, or an individual’s immediate family member or parent,

including membership in any organization from which, or as a result of which, a person or organization receives a benefit.

GENERAL PROGRAM OVERVIEW

Scallop Observer Candidate Requirements

To qualify as a candidate for the Scallop Observer Program an individual must have the following education or work experience as described in 5 AAC 39.646:

- (1) a Bachelor degree in the sciences of biology, any branch of biology, or limnology; or
- (2) a valid National Marine Fisheries Service observer certification; or
- (3) other fisheries related education or work experience approved by the department.

Trainee Permit

All scallop observer candidates who complete the approved training and orientation specified by the department and who pass an exam administered by the department with a score of at least 90 percent, will be issued a trainee permit. Trainee requirements are set forth in 5 AAC 39.143 and 5 AAC 39.646. Under 5 AAC 39.646 an onboard scallop observer trainee must

- (1) have the ability to use a radio for communications; and
- (2) be physically able to carry out the duties of an observer and not be incapacitated by chronic or debilitating seasickness.

Under 5 AAC 39.143 (c) (2), a scallop trainee permit expires if 36 days pass between trainee briefing and debriefing for an observer trip or, if after 180 days from the time a scallop trainee permit was issued, the observer fails to gain full scallop observer certification. However, if a scallop trainee observer was deployed at least once during the first 180 days after the trainee permit was issued, the trainee permit may be extended up to 270 days at the discretion of the department.

Full Certification

As described in 5 AAC 39.143 (f) the department shall certify as a scallop onboard observer a trainee who

- (1) has a valid scallop observer trainee permit;

(2) has satisfactorily completed all observer trainee trip assigned tasks specified in writing by the department;

(3) has not engaged in behavior described in 5 AAC 39.143 (j);

(4) has completed the number of observer trips that the department, in its discretion, determines from debriefing the trainee are necessary to prepare the trainee to perform as a scallop onboard observer; and

(5) is not the subject of revocation proceedings under 5 AAC 39.143.

Observer Decertification

ADF&G reserves the right of decertification, with grounds for decertification outlined in 5 AAC 39.143 (j):

- (1) Significant or consistent failure to satisfactorily complete observer trip assigned tasks specified in writing by the department;
- (2) impairment of the observer's ability to complete assigned tasks due to the use of alcohol or a controlled substance;
- (3) engaging in violent or criminal behavior that could endanger a person or property on the assigned vessel or that prevents the observer from performing tasks according to the standards of the onboard observer manual;
- (4) soliciting or accepting items or services, other than the basic life necessities, from an operator, owner, or crew member of a vessel to which the observer is assigned;
- (5) failure to report known criminal behavior or cooperate with the investigation or prosecution of criminal behavior arising from fishing operations of the vessel to which the observer is assigned;
- (6) engaging in emotional or sexual relations with a person on board the assigned vessel in a manner that interferes with the observer's ability to perform according to the standards of the onboard observer manual;
- (7) exhibiting poor judgment or unprofessional behavior that significantly interferes with the observer's ability to perform assigned tasks or results in a breach of confidentiality, lack of observer coverage, or other actions detrimental to the observer program.

Disciplinary Trainee Status

Provisions under which a certified observer may be demoted to trainee status are detailed in 5 AAC 39.143 (k): “A certified onboard observer may be demoted to trainee status for failure to satisfactorily perform assigned tasks specified in writing by the department, if the failure occurs after the department has notified the onboard observer in writing that the onboard observer’s performance for the assigned tasks has been deficient”.

Recertification

A fully certified observer’s certification expires when that observer fails to participate as an onboard observer for a period of 12 consecutive months. Recertification is provided for under 5 AAC 39.143 (e) and (i). Recertification requires an observer candidate to complete retraining and reorientation specified by the department and retest, with a score of at least 90 percent, on an exam administered by the department. Candidates who successfully complete observer training, reorientation, and testing achieve trainee status. To become recertified a trainee must meet the criteria set forth in 5 AAC 39.143 (f).

Briefing

Briefing requirements are described in 5 AAC 39.146. After assignment to a vessel by the contractor the observer must attend a pretrip briefing. Unless ADF&G authorizes otherwise, all observers will be briefed and debriefed at the ADF&G office responsible for the management of the fishery in which the vessel participates. All observer briefing and debriefing appointments will be made by the representative contractor. Briefings must be scheduled at least 48 hours in advance.

The observer MUST bring all required sampling equipment, as listed in the section of this manual entitled "Observer Sampling Gear and Equipment Provided by Contractor" to the briefing for visual confirmation by ADF&G. During the briefing, observers will be given state-owned equipment for which they are responsible, as well as the necessary forms, paperwork, and fishery specific information for the observer trip. Each observer will be issued a scallop observer manual containing a unique set of confidential codes for encoding catch reports sent to ADF&G.

Observers are encouraged to contact ADF&G if questions arise while at sea. A situation or sampling challenge that was not covered in the briefing or during training may arise. Observers should have the scallop observer manual and the Commercial Shellfish Fishing Regulations book readily available when contacting ADF&G as questions will likely be answered by referring to those publications.

Debriefing

Debriefing requirements are described in 5 AAC 39.146. All scallop observers must be debriefed immediately after completion of the assigned trip.

Observers must give ADF&G area staff immediate notice of their departure from the assigned vessel. After departure observers shall return directly to the ADF&G office at which the briefing occurred unless otherwise permitted by ADF&G. Debriefings are conducted at the ADF&G office responsible for management of the fishery in which the vessel participated, unless the department authorizes a different location. Contractors shall schedule debriefings with the department as least 48 hours in advance.

Observer debriefings are required by regulation. Observers are expected to have all forms and required reports completed and organized prior to arrival at the ADF&G office. At the debriefing observers will (1) submit their completed paperwork and shell collections, (2) answer questions that might arise from a review of their data forms, (3) return all department issued materials and equipment, and (4) submit evidence to a Alaska Bureau of Wildlife Enforcement (ABWE) officer if potential violations were observed during the trip. ADF&G personnel will check all data forms for accuracy and completeness. Observers may be required to correct any and all data errors prior to subsequent deployments.

If an observer's vessel returns to a port of briefing for any reason, the observer MUST contact ADF&G. At the discretion of ADF&G, a midtrip debriefing may be scheduled, which will allow a preliminary data check and provide ADF&G an opportunity to resolve sampling problems or answer observer questions. The vessel operator should contact the observer's contracting agent to schedule the midtrip debrief with the department at least 48 hours in advance.

Confidentiality of Data

Observers will not discuss any aspect of fishing activity on their assigned vessel including catch or fishing location information, with contracting agents, other observers, or industry representatives. All observer-collected data will be turned in to ADF&G only. No copies will be made. Upon request of the vessel operator, observers are permitted to verbally provide sampling information pertaining to haul composition, crab bycatch, discarded scallops, retained scallops, and halibut length and condition. ALL OTHER OBSERVER COLLECTED DATA INCLUDING THE OBSERVER'S LOGBOOK, WEEKLY TRIP SUMMARIES, AND RADIO REPORTS ARE CONFIDENTIAL. Vessel operators may submit a written request to ADF&G requesting photocopies or electronic copies of their personal fishing records, including non-confidential observer collected data.

Living and Working at Sea

Once the observer has successfully completed the initial briefing requirements with ADF&G, they should immediately proceed to their assigned vessel.

1. If a conflict or problem (with the crew, equipment, etc.) occurs that affects an observer's ability to sample as directed by ADF&G, the situation should be reported to a vessel operator immediately. If the vessel operator is unable or unwilling to correct the problem the observer should notify ADF&G immediately.
2. Do not interpret the regulations. Interpretation of regulation will be done by ADF&G staff or ABWE.
3. Observer sampling activities should be as unobtrusive to vessel fishing and processing operations as possible (5 AAC 39.141 (c)). However, **SAMPLING DUTIES ASSIGNED BY ADF&G ARE MANDATORY**. Any actions on the part of the vessel's crew or employees to deny an observer space, equipment, or opportunity to conduct their normal sampling activities should be recorded in the observer's logbook and reported at once to the vessel operator. If the vessel operator is unable or unwilling to correct the problem the observer should notify ADF&G immediately.
4. Observers should remember their actions reflect on ADF&G, their contractor, other observers, and the entire observer program. Avoid becoming involved in boat politics. Observers should follow vessel rules and be sensitive to restrictions such as wearing rain gear or rubber boots in the galley or sleeping quarters. Observers should feel free to ask the vessel master or crew any questions about boat policies.

Observer Duties

The observer's duty is to observe both fishing and processing operations and collect data as directed by ADF&G. As described in 5 AAC 39.141 (b) "every onboard observer shall have free and unobstructed access to inspect the catch, equipment, gear, or operations of the fishing vessel or tender to which the observer is assigned". **Observers are not enforcement agents and have no enforcement authority.** However, observers are expected to document all violations. The ABWE, USCG or NOAA office of law enforcement, will take appropriate enforcement action on information provided by the observer. Observers may be required to testify in court or submit written statements as necessary for prosecution.

Observer Sampling Duties

When conducting biological or legal sampling, onboard observers will take representative and unbiased samples, and do so with a maximum amount of precision.

Sampling duties of onboard scallop fishery observers may include the following; exact duties may vary by deployment and will be assigned during the briefing.

1. Obtaining representative samples of height, weight, and sex frequencies from the retained and /or discarded scallop catch;
2. recording daily catch rates including pounds of retained scallops and the number of hauls made;
3. collecting representative live weights of scallops, crab, or other species;
4. recording bycatch numbers, size, sex, and condition for all species of crabs and fish as directed by ADF&G;
5. documenting handling procedures, time on deck, and retention of prohibited species;
6. retaining biological samples and enforcement evidence;
7. carrying out additional duties as directed by ADF&G; and
8. reporting vessel and sampling activity to ADF&G via SSB radio or mobile satellite communications or other methods as directed by ADF&G staff.

During fishing operations, compliance with all regulations including closed water areas should be observed. Instances where possible violations are observed should be documented in the observer's logbook and subsequently discussed with ADF&G staff upon returning to port.

OBSERVER SAMPLING GEAR AND EQUIPMENT

Provided By Contractor

The following items will be provided by the contractor:

1. two 300 mm stainless vernier calipers (ADF&G approved);
2. one 35-mm waterproof camera capable of taking good quality close-up photos in low light situations;
3. spare batteries for camera (one complete set);
4. two cassette tape recorders using standard or micro cassettes (must be as small as possible, battery operated and able to operate in cold and/or damp environments);
5. two sets of batteries for tape recorder;
6. two clipboards for 8 ½ x 11 paper;
7. small can of spray rust preventative (for caliper lubrication and cleaning);
8. a minimum of 12 #2 pencils with erasers;
9. a minimum of 2 #2 red pencils with erasers;

10. one pencil sharpener;
11. small calculator (battery operated);
12. spare batteries for calculator (one complete set);
13. two thumb counters;
14. calendar;
15. watch;
16. black indelible marking pens;
17. two scallop knives;
18. hand magnifying lens;
19. personal flotation device (PFD) to be worn at all times when the observer is on deck;
20. hard hat;
21. 100-pound spring scale, capable of weighing scallop samples in one (1) pound increments. The scale must be in good working order and of a type approved by ADF&G.
22. "Alaska's Saltwater Fishes" by Doyne W. Kessler or similar type reference book approved by the ADF&G statewide scallop observer program coordinator;
23. "Biological Field Techniques for Chionoecetes Crabs" by Jadamec et.al.
24. two large briefcases, one must be of a locking type, large enough to hold all contractor issues sampling equipment, and all department issued data forms, equipment and supplies.

Provided By Vessel

The vessel must provide the observer with a minimum of 6 plastic bushel-sized baskets. The baskets must be available to the observer at all times for sampling activities. Baskets must be onboard the vessel prior to departing port.

Provided By ADF&G

ADF&G will provide the observer with the following:

1. observer manual;
2. radio reporting codes;
3. Rite-in-the-Rain notebooks;
4. 35-mm film;
5. cassette tapes;
6. current Commercial Shellfish Fishing Regulation Booklet;
7. ADF&G statistical area charts;
8. all required data forms;
9. muslin bags for shell collections; and
10. other materials and supplies as required.

PERSONAL GEAR

Provided By Contractor, Observer, or Vessel

The following are necessary items that may be provided by the contractor, observer, or vessel:

1. Survival suit with whistle, approved light, and name of vessel or individual written on the suit;
2. rain gear;
3. waterproof deck boots; and
4. rubber gloves, two (2) pair minimum

Provided by Observer

The observer is responsible for providing the following:

1. personal clothing, adequate for anticipated length of time at sea and season of the year; and
2. personal articles (e.g. towels, medications, and toothpaste).

PART II

GENERAL FORM INSTRUCTIONS

All data forms completed by observers are processed and entered by department staff. It is not possible to change the computer format to accommodate an observer's creative method of data collection or recording. Therefore, all forms must be completed following prescribed methodology. This manual contains specific instructions and examples for completing each type of form. If it becomes necessary to alert ADF&G about some aspect of data collection or recording, write a note on the form and discuss the circumstances with ADF&G at the debriefing.

All forms should be neat. All numbers should be precisely printed in conventional Arabic numbers so they are legible. Sloppy forms multiply the number of data entry errors and are time consuming to interpret. Use a sharp pencil, not a pen, to fill out all forms. Erasures should be neat if changes are necessary.

All forms must be filled out **DAILY** and should be double checked for completion and readability as soon as possible. All forms (completed and blank) should be kept locked in the observers briefcase when not in use.

Time records should be in military format reflecting either standard time or daylight-savings time when appropriate.

NOTEBOOK ENTRIES

ADF&G will provide a Rite-in-the-Rain notebook to each observer. The observer notebook is intended to be a record of data and pertinent information not noted on data forms. The notebook should document the crew list, vessel diagram, all sampling activities, sampling difficulties and all perceived regulatory violations. The notebook is a confidential record of your activities. NO ONE should have access to the notebook except the observer and ADF&G.

ALL sampling activity **MUST** be documented, including sampling time, activity, results and difficulties. Document any unmet sampling goals and the reasons for it in a clear and concise manner in your Rite-in-the-Rain notebook.

Notebooks should not contain personal references, unprofessional characteristics of vessel personnel, etc. Notebooks become property of ADF&G at the conclusion of each deployment and may be used as evidence in future court cases if violations occur. Observer should keep this in mind and maintain professional documentation.

Collecting Evidence

All potential violations witnessed by an observer **MUST** be documented in detail in the observer's notebook as soon as possible after the incident. The longer you wait to record the incident the greater the chance you will forget the details. Observers are often questioned weeks, months, and sometimes years after the event, so document thoroughly. Details should include the exact nature of the suspected violation, location on the vessel where the violation occurred, time of day, vessel name, and names of crew involved. Detail all conversations with the captain and crew members regarding the violation. When documenting potential violations, remember the four W's (who, what, where, and when). Documentation of potential violations should be kept separate from other notebook entries. Be sure to allow for a blank page prior to and following any violation documentation in your notebook. Document removal of species other than weathervane scallops from the catch for consumption on board or kept (homepacks) by the captain or crew. Other potential violations may include illegal gear, marine pollution (MARPOL) violations, and harassment.

To substantiate information recorded in the observer notebook and on data forms, it is important to take pictures of potential violations. When taking photographs of prohibited species or MARPOL violations position the animal or material in such a way that identification is obvious. Depending upon the illegal activity, include as much of the activity as possible in the photographs and document them thoroughly in your observer notebook. Take a blank photo or two prior to and following the evidence photographs. This will keep the evidence photos separate from other photos.

All photographs should be documented in the daily observer notebook entries. A photo log should be kept in the observer notebook. Be sure to indicate the frame number, the date it was taken, and what is shown in each frame.

All notes, journals, photos, or any other information collected by scallop observers while deployed in the capacity of a shellfish observer are subject to subpoena by the court for whatever it thinks might be relevant to an investigation or case. The court does not have to distinguish between what is personal property and what is state property.

All fisheries information and data collected in notes, journals, other written materials, photos, videos, and sound recordings by shellfish observers while deployed in the capacity of a scallop observer are CONFIDENTIAL AND PROPERTY OF ADF&G.

SAMPLING ON SCALLOP VESSELS

After boarding the vessel, observers should remember that their safety and the safety of others is of primary importance. The commercial fishing industry is considered one of the most dangerous industries in the nation. **OBSERVERS SHOULD BE AWARE OF THEIR SURROUNDINGS AND WHAT IS HAPPENING AROUND THEM AT ALL TIMES.** Observers are urged to familiarize themselves with their personal safety equipment including

their survival suit and PFD. Observers should determine where the vessel's safety equipment is stored and pay special attention to vessel emergency drills. Observers should request a detailed safety briefing and ship tour from the captain prior to leaving port.

Observers should establish a sampling plan with the vessel master and crew, which will include a general description of observer sampling activities. Each vessel and crew will present the observer with a unique sampling situation.

Prior to collecting any information, the fishing and sorting operation should be observed to determine the safest and least disruptive sampling location. Sampling procedures should begin following the initial observation period.

Observers should not cause UNREASONABLE interference with the operation of the vessel and its processing lines, but sampling activities are **MANDATORY** and the vessel **MUST** make the necessary space, time and equipment available. This will require communication with the vessel master and crew. Any actions on the part of the vessel's crew or employees to deny an observer space, equipment or opportunity to conduct his or her normal sampling activities should be recorded in the observer's logbook and reported at once to the vessel operator. If the vessel operator is unable or unwilling to correct the problem the observer should notify ADF&G immediately.

Observers should check with the vessel captain or mate to be sure they will have access to at least six (6) baskets at all times for use in sampling activities. Do not leave port without adequate equipment. If problems arise contact the local ADF&G office.

Determine what method the vessel captain will use to determine the daily estimates of retained scallop catch (in pounds of shucked meat). The observer is required to record, on a daily basis, independent data as a cross check of the operators catch and effort reporting. The observer-collected data will likely consist of a daily box or bag count of scallop meats, multiplied by the average weight of the box or bag, yielding an estimate of scallops, in pounds, retained each day.

On a daily basis, determine the pounds of scallop meats retained and the number of hauls completed for each statistical area fished. Area and effort information may be obtained from the Fishing Log for Alaska Scallops. Do not copy catch information from the vessel operators completed fish tickets and do not supply catch information to the operator for completing fish tickets.

Randomly select hauls for species composition and bycatch/scallop discard monitoring. Do not sample the same time periods each day. Sample hauls should be selected throughout the period of fishing activity. All times of the day and night and all distinctly different fishing areas should be represented. Sample pre-selected hauls regardless of gear performance, catch composition, or volume.

Maintain the ADF&G reporting schedule established by the area biologist at the time of the briefing. Observers are required to maintain the reporting schedule even if no fishing occurred or the boat is tied to the dock. In this case, report Item 5 only on your radio report.

Prior to a mid-trip or final debriefing collect the original copy of the Fishing Log For Alaska Scallops from the captain or mate, unless directed otherwise by ADF&G. Observers will submit the log along with other data forms at each mid-trip and the final trip debriefing.

DATA FORM INSTRUCTIONS

General Header Information--All Forms

All forms have a header block at the top of the page typically containing space for recording the vessel name, ADF&G number, trip number, observer name, date, fishery code, and haul number. The header information is necessary to identify data associated with each vessel and trip and should be completely filled out on each form.

ADF&G will assign a **trip number** at the time of the observer briefing. A trip is defined as the period of time between observer briefing and debriefing. Trip numbers do not change with mid-trip debriefs. For example, if the vessel returned to port but planned to continue to fish in the same registration area with the same observer then the trip number would not change. Changing registration areas or observers requires an observer debriefing and briefing; therefore a new trip number is necessary. Trip numbers start over annually with this state-wide numbering system.

The 5-digit **ADF&G number** is issued by the Commercial Fishery Entry Commission. The number is required to be display in one foot high digits in a contrasting color, on both sides of the vessel wheelhouse.

Each haul, including unsuccessful hauls, is assigned a sequential **haul number** starting with #1 at the beginning of each trip. The skipper will record all hauls in the ADF&G Fishing Log for Alaska Scallops. At least twice per day observers should verify that haul numbers are recorded consecutively; i.e., no duplicates and no skipped haul numbers.

The reporting week begins on Monday at 00:01 hours and ends on Sunday at 00:00 hours.

The **fishery code** consists of the letter code designation for the registration area, followed by the letter "S" (designating scallops) and the last two digits of the regulatory year. For example, if a scallop vessel fished in the Kodiak Registration Area during the 2004 season, the fishery code designation would be KS04.

Letter Codes for Statewide Scallop Registration Areas

Use the following codes to designate the scallop registration areas:

A= Southeastern Alaska
D = Yakutat
E = Prince William Sound

H = Cook Inlet
K = Kodiak
M = Alaska Peninsula

O = Dutch Harbor
Q = Bering Sea
R = Adak

Fishing Log for Alaska Scallops

The **FISHING LOG FOR ALASKA SCALLOPS** (Appendix A.1.) should be completed by the vessel operator, with the exception of the ‘Haul sampled’ column, which will be completed by the observer. **Data recorded on this form are extremely important and the observer should check twice daily, at a minimum, to be sure all information is recorded accurately, legibly, and in a timely manner.** The logbook must be legible to be of use to the department.

Refer to Appendix A.1. for examples of completing the Fishing Log for Alaska Scallops. Detailed information necessary for completing data fields that are not self-explanatory is provided below.

ADF&G will assign a **trip number** at the time of observer briefing.

Observers will designate **sampled hauls** with a "1" and **unsampled hauls** with a "2". This includes sampling for either bycatch/scallop discard or haul composition. In addition, indicate haul composition samples with the designation “HC” in the left page margin adjacent to the haul sampled column.

Vessel operators will record the total combined **dredge width** to the nearest foot. For example, if two 15-foot dredges were fished, they will record “30”.

The captain will determine if the **gear performance** was satisfactory, unsatisfactory, or partially satisfactory.

Hauls should be numbered sequentially starting with **haul number 1** at the beginning of each trip. All hauls must be recorded regardless of gear performance. A trip is defined as the period of time between observer briefing and debriefing. Mid-trip debriefs have no effect on the sequential haul numbering; haul numbers do not start over with number 1 after a mid-trip debrief.

The **set position** should be recorded in degrees, minutes, and hundredths of a minute (decimal minutes to 2 decimal places) and E/W of 180° longitude.

Fishing times should be recorded in Alaska local time; either standard time or daylight-savings time when appropriate. The military time designation will be used. Midnight is recorded as 0000 hours.

The **fishing duration** should include the minutes the gear was fishing as described in the ADF&G Fishing Log for Alaska Scallops. Hang-up time should not be included.

The **catch** column refers to the retained catch. Operators will record number of **bushels** and **estimated round weight** of scallops in pounds. If requested, the observer can help the captain determine the average weight of a bushel of scallops retained by the crew.

Operators will record the estimated round weight (in pounds) of **discarded scallop catch** due to size or shell condition. This column may be neglected by vessel operators. Observers should insure this column is completed.

Record the 6-digit (5-digit in the Yakutat area) **ADF&G statistical area** fished. The set position will be considered the area fished. Statistical area charts can be obtained from ADF&G.

Weekly Summary Form

The **WEEKLY SUMMARY FORM** (Appendix A.2.) is used to record the daily information from each statistical area fished including (1) pounds of scallop meats retained by the vessel, (2) number of hauls fished, (3) number of hauls sampled by observer for bycatch (4) the number of Dungeness, and Tanner crab counted in bycatch sampled hauls and the **total number of king crab caught in all tows, not just sampled tows. The number of bycatch sampled hauls includes only those hauls sampled for prohibited species bycatch and not those sampled for haul (species) composition.** Daily data is summarized by utilizing the fishing log for Alaska scallops, observer collected data, and the record of scallop meat weights. The top portion of the Weekly Summary Form details daily data by statistical area, whereas the bottom section provides a weekly data summary for each statistical area fished. The ‘other Tanner’ column in both the top and bottom sections serves a dual purpose. It is used to record combined opilio and hybrid crab in the Bering Sea Registration Area and Dungeness crab in all other registration areas. For the purposes of observer data collection, hauls set prior to midnight but sampled after midnight are attributed to the set day. The weekly reporting period is defined as Monday through Sunday.

The typical scallop catcher-processor in Alaska fishes two dredges simultaneously. Occasionally, due to a mechanical problem or for gear maintenance purposes, only one dredge will be fished. When completing this form it is important to report single dredge tows separately from normal two-dredge tows. Use a separate row to record daily single dredge tows by statistical area and identify those tows by writing ‘SD’ in the margin to the left of the row. Follow this same procedure when completing the weekly summary section at the bottom of the form. Smaller catcher-processors or catcher vessels may be limited to fishing only one dredge, due to vessel size or regulatory constraints. In this scenario, it is not necessary to use the single dredge designation.

For each statistical area fished, observers must determine the pounds of scallop meats retained by the vessel. If fishing is limited to one statistical area for the day, the pounds of retained scallop meats is determined by simply adding together the pounds from that statistical area. If

more than one statistical area is fished, the pounds of scallop meats will need to be proportioned between statistical areas. A designated crew member is assigned to keep record of the scallop meat pounds produced per shift. Typically, during a work shift, scallop meats are put into five-pound boxes and frozen in a plate or blast freezer. At the end of the shift, six of these boxes are put into a case. The resulting 30 pound cases are tallied and put into the freezer hold. The case tally is recorded on a marking board in the case-up area and a paper copy is retained by the vessel operator. Because the very nature of observer work is to provide an independent assessment, try to verify the number of cases that are put in the freezer hold at the end of each shift. It will help with vessel relations if you do this in a non-obtrusive manner. Also, work with the crew to obtain the “five-pound” box weights. On some vessels, each five-pound box of scallops is weighed independently, while on other vessels, box weights are spot-checked. The easiest way to collect this data is to be present when the five-pound boxes are weighed. Record the five-pound box weights and collection times in your logbook. Discuss any weight discrepancies with Fish and Game the next time you are in port.

The most accurate and straight forward method to attribute scallop meat weights to multiple statistical areas is to sum the number of bushels of scallops, as recorded on the Fishing Log for Alaska Scallops, harvested from each statistical area for the day, and divide each sum by the total number of bushels harvested for that day. Multiplying the resulting percentage attributed to each statistical area by the pounds of scallop meats retained for the day will yield the number of pounds of scallop meats retained in each statistical area for the day.

Example Calculations

Vessel Daily Production Data = Number of Cases (83) x Case Weight (30 lbs/each) = 2,490 pounds of scallop meats.

Number of bushels and percent of catch (round weight) per statistical area:

<u>Statistical Area</u>	<u>Bushels of Scallops</u>	<u>Percent of Catch (Round Weight) per Statistical Area</u>	<u>Pounds of Scallop Meats per Statistical Area</u>
445931	270	$270 \div 498 = 0.54216$	$0.54216 \times 2,490 \text{ lbs} = 1,350$
445932	135	$135 \div 498 = 0.27108$	$0.27108 \times 2,490 \text{ lbs} = 675$
435931	<u>93</u>	$93 \div 498 = 0.18674$	$0.18674 \times 2,490 \text{ lbs} = 465$
	498 (Total)		

Haul Composition Form

The **HAUL COMPOSITION FORM** (Appendix A.3.) is used to record the catch composition by weight in the scallop dredge including scallops, other commercial and non-commercial species, and debris. Unless otherwise directed at the time of briefing, the observer will sample one haul per day for catch composition. Only one dredge per haul will be sampled to determine catch composition. All sampled hauls must be selected randomly with the decision to sample a haul made prior to seeing its contents. **CRAB AND HALIBUT FROM HAUL COMPOSITION SAMPLING ARE NOT ENTERED ON THE CRAB SIZE AND INJURY**

FORM, THE HALIBUT LENGTH AND CONDITION FORM, OR THE BYCATCH AND SCALLOP DISCARD FORM.

Before the dredges break the water's surface, the observer should decide to sample either the port or starboard dredge. After the dredge is brought aboard, dumped and reset, the crew will begin sorting the retained scallop catch. Before any sorting begins, notify the crew of your intent to sample and then monitor the sorting to ensure there is no presorting of your sample. Normally, two or three crew will sort the catch, and put the retained scallops into baskets that are moved into the shucking house. During this time, stand-by and wait for the crew to finish sorting the retained catch from the discarded catch. After the retained scallops are removed from the deck by the crew, the observer will sort and weigh the remaining dredge contents by species. The haul composition sample is a record of species composition by weight. Small quantities of each species are weighed entirely, whereas large amounts may be subsampled to estimate weight. Weigh small quantities of species separately and record the weight to the nearest whole pound in column 7, "Weight in Sampled Dredge." In rare cases, you may not have the time or resources to identify all animals to species. In this situation, species groups may be recorded together; use the unidentified code i.e. snails unidentified, starfish unidentified etc.

If the haul contains a large volume of a single species (other than scallops) observers may estimate the total weight by first calculating an average basket weight of the species (record in column 6) and then multiplying that average weight by the visually estimated volume (or actual basket count) of the species or item contained in the catch. Record the resulting total weight in column 7.

To estimate the total weight of scallops in the haul, first weigh three baskets of scallops (retained by the crew) and calculate the average weight. Record this number in column 6, "Average Basket Weight". Multiply the average basket weight by the total number of baskets retained by the crew. Add to the resulting figure, the weight of all discarded scallops and record the grand total weight (to the nearest whole pound) in column 7. All calculations must be shown in the page margin to the right of column 7. Scallop and other bivalve shells must be sorted, weighed and recorded separately in the appropriate row on the form. See Appendix A.3. for examples.

Pacific Halibut should be sampled and quickly returned to the sea. Measure in a straight line, the fork length of the fish and convert length to weight using the conversion table (Appendix A.4.). Enter all halibut lengths in the halibut worksheet space provided on the form. Enter the sum of the halibut weights from the worksheet into column 7 of the Haul Composition Form.

Two species of Tanner crab are commonly taken as bycatch in the weathervane scallop fishery. Both are of the genus *Chionoecetes*. Within Alaska waters, *Chionoecetes bairdi* is found in the Gulf of Alaska, Aleutian Islands, and Bering Sea, whereas *C. opilio* occur only in the Bering Sea. There is also a hybrid of these two species, which can display a wide range of mixed characteristics.

Identify all crabs to species prior to weighing them. Tanner Crab (*C. bairdi*) are recorded as species code 68560. *C. opilio* and hybrids are combined together into *Chionoecetes* sp. and recorded as species code 68541. Crabs from Haul Composition sampling are not included in the

crab count from bycatch sampled tows and therefore will not be included in the weekly summary form, radio report form or crab size and injury form.

There are three species of king crab commonly harvested commercially in Alaska. However, the red king crab (*Paralithodes camtschaticus*), is the king crab species most likely encountered with the scallop dredge throughout the state.

Weathervane scallops *Patinopecten caurinus*, and scallops of the genus *Chlamys* have historically been fished commercially in Alaska. Identifying characteristics of both species are shown in Appendix A.5.

Use the blank rows in the species column for recording all species of invertebrates and vertebrates found during haul composition sampling that are not preprinted on the form. Each species recorded on the Haul Composition Form must be associated with a 5-digit code from the National Marine Fisheries Service, species codebook provided by ADF&G. Skates and skate egg cases will be divided into three categories (1) Big skate, *Raja binoculata* (species code 00420) and big skate egg cases (species code 00421), (2) longnose skate, *Raja rhina* (species code 00440) and long nose skate egg cases (species code 00441) and, (3) all other skate species will be grouped together as *Bathyraja* sp. (species code 00405) and *Bathyraja* egg case (species code 00402). Reference books provide by the independent contracting agent and/or reference material supplied by ADF&G or the Observer Training Center should be used to identify skates.

Preprinted items and associated codes at the bottom of the form include natural debris items, scallop “clappers” and man-made debris items. Natural debris, such as kelp, wood, rocks, etc. is added together and recorded as a single weight. The weight of large wood pieces or rocks too large to weigh directly, may be estimated. Scallop clappers are scallops that were obviously not killed in the current tow (previously dead), typically with little or no soft tissue remaining in the shell, with both valves still connected by the black ligament at the hinge. Count the clappers and break them apart before discarding overboard. Clappers represent natural and fishing mortality because scallops that are shucked by the processing crews are broken apart prior to discarding overboard. Man-made debris items are sorted by category type, weighed and counted.

If a dredge comes up empty i.e. flipped or simply no contents, complete the header information on the Haul Composition Form and write “Empty Dredge” at the top of the form. Put a zero in column 7 for weathervane scallops.

If a dredge comes up nearly empty or without any scallops, proceed with normal sampling and put a zero in column 7 for weathervane scallops.

If any part of the sample is lost or forgotten i.e. washed overboard or accidentally thrown overboard prior to sampling, record one pound in the appropriate location(s) on the form and note the reason for the data loss on the form.

Bycatch and Scallop Discard Form

One dredge from each of five hauls will be sampled daily for both retained and discarded weathervane scallop catch and prohibited species bycatch. Scallop C/Ps fish around the clock and normally make 15-21 tows/day. To the extent possible, sampling should be spread throughout each day so that it represents a cross-section of oceanographic and habitat characteristics in those areas commercially fished for weathervane scallops. There are four distinct goals associated with each bycatch sampled haul: (1) scallop discard assessment, (2) retained scallop assessment, (3) crab size, injury, and enumeration, and (4) Pacific halibut length and condition assessment.

AFTER the dredge has been emptied on the deck and the crew has removed the retained scallop catch from the dredge contents, observers should collect all remaining whole and broken weathervane scallops (discarded scallop catch) from the deck. Discarded scallops should be cleaned of heavy mud before they are weighed. Select one full basket for subsampling. Do not bias your sample selection by shape, size, or position of the scallops. All other baskets of discarded scallop catch should be temporarily set aside. Sort scallops from the subsample basket into two other baskets, one for broken (including crushed) scallops the second for intact scallops. When counting broken/crushed scallops there will be numerous pieces of scallops in the sample. If a scallop shell has 50% or more of the soft tissue attached to it, count it as one scallop. If it has less than 50% of the soft tissue attached, it should be discarded from the sample. Weigh the basket of **intact** discarded scallops and count the individuals. Record the number and weight (to the nearest whole pound), in the row indicated by condition code 1 on the **Bycatch and Scallop Discard Form** (Appendix A.6.). Measure the shell height (SH) of 20 scallops from the basket of intact discarded scallops. The 20-scallop sample will be selected by dividing the number of intact scallops by 20 and measuring every n^{th} scallop. For example, 100 intact scallops, divided by 20 equals 5; so every 5th scallop in the sample would be measured. Scallop shell heights are measured to the nearest millimeter, the straight line distance from the umbo to the outer shell margin, perpendicular to the hinge (Appendix A.7.). Record the measurements in the column indicated as sample type 3, on the **Scallop Size Frequency Form** (Appendix A.8.). Sampling of scallops from the retained catch (Sample Type 2) is addressed in the Scallop Size Frequency Form section of this manual.

Weigh the basket of **broken/crushed** discarded scallops and count the individuals. Record the number and weight (to the nearest whole pound), in the row indicated by condition code 2 on the Bycatch and Scallop Discard Form.

Weigh each of the remaining unsample baskets of discarded scallops (remainder of discard) that were set aside from earlier sampling and sum the weights before returning the scallops to the sea. Record the sum in the row indicated by condition code 3 on the Bycatch and Scallop Discard Form.

Count all the scallop clappers in the sampled dredge and break the shells apart before discarding them overboard. Record the number of clappers in the row indicated by condition code 5 on the Bycatch and Scallop Discard Form.

If a dredge comes up empty i.e. flipped or simply no contents, complete the header information on the Bycatch and Scallop Discard Form and write “*Empty Dredge*” at the top of the form. For condition codes 1 through 5, put zeros in the “Number of Animals” and “Weight” columns. It is not necessary to record any information on the Crab Size and Injury Form, Scallop Size Frequency Form or Halibut Length and Condition Form.

If a dredge comes up nearly empty proceed with normal sampling.

If any part of the sample is lost or forgotten i.e. washed overboard or accidentally thrown overboard, put a null (-0-) designator in the appropriate location(s) on the form and note the reason for the data loss on the form.

Scallop Size Frequency Form

The **SCALLOP SIZE FREQUENCY FORM** (Appendix A.8.) is used to record scallop SH measurements from two sample types; retained scallop catch (sample type 2) and discarded scallop catch (sample type 3). Methodology for selecting intact discard samples (type 3) for measuring is described in detail in the Bycatch and Scallop Discard Section of this manual.

For sample type 2, twenty scallops from the **retained catch** in each of the five hauls sampled daily for bycatch will be measured. Scallops will be selected from the baskets of retained scallops collected by the crew. Do not bias your sample selection by shape, size, or position of the scallops. Collect the 20 scallops from the retained catch prior to conducting other sampling duties, because if there is a small amount of retained scallop catch, there is likely probability that all the scallops will be processed, and therefore unavailable to you, by the time you are finished with your other sampling duties. Record the SH under the column designated as sample type 2. Place the 20 whole scallops in the clean plastic container provided by ADF&G and weigh them to the nearest tenth of a pound, on the ship’s scale. Be sure to subtract out the weight of the plastic container. Do not tare the plastic container on the ship’s scale. It is calibrated for their product. Everything that is taken into the processing area must be very clean and dry including the plastic container of scallops. Do not, under any circumstances, wear your rain jacket or gloves into this area. When you are done weighing the scallops, the area should be spotless. **Record the weight on the condition code 4 line of the Bycatch and Scallop Discard Form** (Appendix A.6.).

Shell Collections

Observers will collect the dorsal (left) valve of every tenth shell examined from the retained scallop samples (those coded as sample type 2 on the **Scallop Size Frequency Form**) as indicated by the shell sampling protocol (Table 1). Record the haul number and corresponding shell number from the Scallop Size Frequency Form, as well as the statistical area number, vessel ADF&G number, and date on the inside of the shell with a permanent marker. The haul number will be indicated by the prefix **H** followed by the number. The shell number will be indicated by the prefix **S** followed by the number. When the shells are wet or damp the inside of the shell can be easily written on with a lead pencil. After the shells are dry, use a permanent

marker to replace the pencil label. Collected scallop shells must be cleaned of all meat, barnacles, and other fouling organisms. Failure to do so will result in very odoriferous shells; and dried on silt, barnacles, etc., obscure growth rings important for visual shell-aging. Shells will be cleaned with a brush provided by the department. Use the minimum amount of pressure necessary to remove fouling organisms. Do not use a wire brush. Handle shells to avoid chipping the shell margin. Store dried shells in muslin bags provided by the department. Each muslin bag should contain only the shells collected during one week from one registration area or district. Shells should not be separated by statistical area. If, for example, a vessel fishes in both the Shelikof District and the Northeast District in the same week, shells will be divided into two bags, one containing Shelikof District shells and one containing Northeast District shells, both with the same beginning and ending week dates written on the bag. A permanent marker should be used to write the beginning and ending dates of the week on the outside of each bag along with the vessel name, ADF&G number, trip number, fishery code, district (where applicable), and observer's name.

The shell sampling protocol schedule indicates which shells to measure on any given day. For example, on Sunday, the observer will collect shell numbers 3 and 13 (every tenth shell) from each of the five hauls. On Wednesday, collect shell numbers 8 and 18.

Table 1. Shell sampling protocol schedule.

DAY OF THE WEEK	
Starting Number	Sunday Monday Tuesday Wednesday Thursday Friday Saturday
	3 2 5 8 7 1 4

Crab Size and Injury Form

Crab measured and examined during bycatch sampling are recorded on the CRAB SIZE AND INJURY FORM (Appendix A.9.). This form is used to detail crab catches observed during bycatch monitoring. Codes for species, sex, shell condition, and mortality are listed at the bottom of the form.

The sampling goal is to measure, if available, 20 each of Tanner (combined *Chionecetes* spp.), king, and Dungeness crab per sampled dredge. If the dredge is judged to contain more than 20 crabs of a single type, Tanner for example, measure and speciate the first 20, then count and speciate the remainder. Observers should collect the first 20 crabs encountered by species, from the discarded catch, for detailed examination. Observers should alternate between starting at the forward, middle and aft of the discard catch pile. Take time to sort the bycatch pile carefully, **avoiding size bias** when collecting the first 20 crabs. Be aware, the tendency is to select the larger crabs while overlooking smaller ones. Be sure to enter the total number of crab captured in the dredge on the **Bycatch and Scallop Discard Form** (Appendix A.6.).

The form has columns for species code, size (mm), sex, shell condition, and mortality. If the carapace is crushed so that size or sex cannot be determined, insert a null (-0-) in the corresponding space on the form. Do not leave blank.

Crab Mortality

If a sampled crab appears to be moribund or dead, record mortality as 1. Any injury that breaches the carapace and soft tissue underneath will kill the crab because its vital organs are exposed to the environment. Crabs may survive a leg injury so long as it is distal from the coxa, because it may autotomize the injured leg. Crabs with a crushed carapace will likely die and should be recorded as mortality code 1.

Crab Measurement

All crabs are measured following previously developed biological standards. The biological measurement for king crab and horsehair crab is the carapace **LENGTH** (Appendix A.10.). Carapace length is described as the straight line measurement from the posterior margin of the right eye orbit of the carapace to the center of the posterior carapace margin as measured with a vernier calipers. Carapace length is recorded to the nearest whole millimeter.

The biological measurement for Tanner crab is the carapace **WIDTH**. Carapace width (CW) is the greatest straight line distance across the carapace, **EXCLUDING SPINES**, at a right angle to an imaginary line midway between the eyes to the mid-point of the posterior portion of the carapace. Carapace width is recorded to the nearest whole millimeter.

The biological measurement for Dungeness crab is the carapace **WIDTH** as measured inside the tenth antero-lateral spine or tooth.

Crab Sex Determination

Male and female crabs can be identified by looking at the shape of the abdominal flap on the ventral side of the crab (Appendix A.11.). Juvenile and adult male Chionoecetes crabs have an abdominal flap that is nearly triangular in shape and rounded at the anterior end. Juvenile females have a rectangular shaped abdominal flap that is rounded at the anterior end. A hand lens may be helpful when determining the sex of Chionoecetes crabs less than 25 mm CW.

Crab Shell-Aging

For each Tanner or king crab sampled during the bycatch monitoring, a shell-age determination must be made. Shell-age is an estimate of elapsed time since the last molt. The observer should keep in mind the subjective nature of this determination. Only by looking at many crabs from a similar area can a relatively accurate assessment of shell age be made. The time of year and type of seabed where the crabs reside will cause crabs to “age” at seemingly different rates. It is helpful to examine several areas on the crab, especially the ventral side and dactyls, to determine shell-age. The amount of scratches and the color on the ventral surface of the exoskeleton,

combined with spine wear, are clues used to determine shell-age. The more hands-on experience with the aging techniques, the more confident and accurate each observer will become.

Shell-Age Characteristics

Red king crab and Tanner crab are shell-aged by examining the color and amount of scratches on the ventral surfaces, in combination with the presence of epifauna on the carapace.

Soft-shell crabs of all species are crabs that have recently molted. They are very pliable, and the legs will not support the weight of the body without bending. The exoskeleton is like skin. The soft-shell phase is short, typically less than 2 weeks, because the exoskeleton hardens quickly. This classification should not be confused with crabs several months after a molt that exhibit hardened exoskeletons, but which can be compressed due to the lack of meat within the shell.

New-shell king crab exhibit white ventral surfaces with relatively few scratches or abrasions. Shells are normally 2 weeks to 12-months old. Old-shell king crab have a yellowish ventral surface with a number of dark stained scratches. The shells are typically 13 to 24-months old. Very-old-shell king crab have a yellowish ventral surface, darkened by several years of accumulated scratches and abrasions. Scratches are also present on the carapace. Carapace spines and dactyl ends are worn. Epifauna is often apparent. Shells are more than 24 months old.

New-shell Tanner crab exhibit a pinkish colored ventral surface with limited scratches. The carapace is pink to brownish-red with sharp spines. Shells are normally 3 weeks to 12-months old. Old-shell Tanner crab exhibit a ventral surface with numerous scratches and abrasions. The exoskeleton is brown with worn spines. Epifauna may be present. Shells are 13 to 24- months old. Very-old-shell Tanner crab typically have numerous scratches and abrasions on the ventral surface. The exoskeleton is dark brown to blackish with very worn spines. Epifauna is almost always present. Shells are more than 24 months old.

Halibut Length and Condition

Halibut sampled during bycatch sampling are recorded on the HALIBUT LENGTH AND CONDITION FORM (Appendix A.12.).

Halibut are measured to the nearest centimeter (cm) from the tip of the closed lower jaw to the end of the central rays of the caudal fin (fork length). Care should be exercised to obtain the straight line distance and avoid any bias by laying the measuring tape on top of the fish. Large fish may require assistance for accurate measuring.

Halibut condition codes are listed at the bottom of the form. Multiple hauls may be recorded on a single form.

Radio Report Form

The **RADIO REPORT FORM** (Appendix A.13.) is used to organize and encode observer data transmitted by radio or mobile satellite communication systems to ADF&G offices. Each observer will be issued an observer manual with a unique set of reporting codes. All reports, regardless of the reporting method used, must be sent in code. The radio report form should be completed prior to the assigned transmission time. This will facilitate a smooth and accurate radio message.

REPORT THE FOLLOWING ITEMS (IN CODE ONLY) FOR EACH STATISTICAL AREA FISHED:

- ITEM 1. Statistical Area.
- ITEM 2. Total minutes of all hauls.
- ITEM 3. Total minutes of all bycatch sampled hauls.
- ITEM 4. Total number of king crab in all hauls.
- ITEM 5. Sampling condition.
- ITEM 6. Number of *C. bairdi* Tanner crab in bycatch sampled hauls.
- ITEM 7. Number of *C. opilio*/hybrid Tanner crab **or** Dungeness crab in bycatch sampled hauls. (Use **item 7** for reporting *C. opilio* and hybrid Tanner crab in the **Bering Sea Management Area, Dungeness in all other Management Areas**).
- ITEM 8. Pounds of scallop meats retained.
- ITEM 9. Total number of hauls/number of bycatch sampled hauls. (For example, if **36 hauls were made during the reporting period and 10 were sampled for bycatch, the entry would be 36/10**).

Radio Reporting Procedures

Historically, single side band (SSB) radio was the standard method of communications between scallop vessels and ADF&G offices. Radio communications has largely been replaced with mobile satellite communications. Most scallop boats use satellite communications to communicate with ADF&G offices via fax or email. Still, some of the smaller scallop boats have only radio communications, so it is important to know how to use the ship's radio. All transmissions must be in code to protect data confidentiality.

The reporting schedule will be established with the observer at the briefing. While radio reports may be required hourly, daily etc. the normal reporting schedule is tri-weekly; Monday, Wednesday, and Friday. The report on Monday covers fishing activities on Friday, Saturday and Sunday. Wednesday's report covers fishing activities on Monday and Tuesday. Friday's report covers fishing activities on Wednesday and Thursday. ADF&G office locations, radio call signs, fax numbers, phone numbers, and email addresses will be provided to the observer at the briefing.

A separate radio report is required for each statistical area fished during a reporting period. So, if three statistical areas were fished during a reporting period, an observer would submit three reports for that period.

Observers are responsible for transmitting the radio report. If the vessel operator prefers to transmit the information himself, the observer should be present at the time it is transmitted in case any questions arise or special instructions are sent to the observer from ADF&G.

Observers must submit a report on the designated reporting day and time even if no fishing or processing took place during the reporting period. In this case, report only Sampling Condition, Item 5.

The radio is extremely busy at times, so keep the radio use to a minimum. Be prompt, accurate, and courteous with all radio communications. Speak slowly enough to allow your report to be copied accurately. Be sure to state your vessel name and coded information as: "ITEM ONE: _____", "ITEM TWO: _____", "ITEM THREE: _____", and so forth. Stay on the radio for confirmation that your report was copied.

Phonetic Alphabet

Use the phonetic alphabet in your radio reports:

A - ALPHA	J - JULIET	S - SIERRA
B - BRAVO	K - KILO	T - TANGO
C - CHARLIE	L - LIMA	U - UNIFORM
D - DELTA	M - MIKE	V - VICTOR
E - ECHO	N - NOVEMBER	W - WHISKEY
F - FOX-TROT	O - OSCAR	X - X-RAY
G - GULF	P - PAPA	Y - YANKEE
H - HOTEL	Q - QUEBEC	Z - ZULU
I - INDIA	R - ROMEO	

Radio Codes

Appendix A.14. is an example of radio codes used to complete the scallop observer radio report form. At the time of briefing, each observer will be issued a manual with a unique set of codes for encoding observer data for transmission by radio or mobile satellite communications to ADF&G offices. Observers should not remove codes from their manual or allow anyone to see their code sheets. Codes are to be kept confidential and locked in the observer's briefcase when not in use. If someone other than the observer transmits the observer's report, they should be given the message to transmit in coded form only.

All nine items listed on the radio report form must be encoded, for each statistical area fished, before the observer enters the wheelhouse. The message will be typed into the computer in the following format: Boat name, Item 1, Item 2, Item 3, Item 4, Item 5, Item 6, Item 7, Item 8, Item 9, STOP. Referencing Appendix A.13., the following is an example of the data string that would

be reported on Wednesday July, 7 : LUCKY DUCK, LR, WBMG, PAG, Y, XO, BU, C, CNWS, BY-J, STOP. Always use capital letters, never small letters.

PART III

SAFETY AND SEA SURVIVAL

Introduction

Commercial fishing in Alaska is a dangerous occupation. Alaska's harsh environment, the weather, and the nature of the gear and equipment being used on a rolling deck make commercial fishing a hazardous environment. You can greatly increase your level of safety and survival by considering safety in all that you do and preparing for emergencies ahead of time. You must take responsibility for your own safety and learn as much as you can before an emergency threatens your life. Most fishing vessels are operated by safety-minded skippers who realize the danger of their occupation. Use the knowledge and experience of the vessel's crew for guidance on safety on your vessel. They are certainly concerned about the safety of an observer, a guest on their vessel, and will make sure that the dangers for you are minimized. No matter how cautious the crew is, it is your responsibility to try to keep yourself safe and know how to react in emergency situations.

The information presented here, and in briefing and training, serves only as an introduction. You can learn much about sea safety and survival from the vessel personnel, who have years of sea experience between them. You must realize that the ultimate responsibility is upon you to survive. It is easy to think "this will never happen to me," but that thought may cost you your life. Take the time to learn as much as you can, and consider what your actions will be in emergencies. Your life is worth far more than any data you could collect in the fishery.

Safety on Deck of a Scallop

The most important thing you can do on the deck of a scallop vessel is to always be aware of your surroundings. Keep your eyes and ears tuned to what is going on, and never turn your back on fishing gear that is in operation or otherwise not secure. A few points:

- Choose a work area that is clear of the recoil path of the warp cables.
- Do not sample on deck during haulback or setting operations.
- Never listen to music with headphones; equipment failures are often preceded by warnings from other crew or unusual noise from the equipment.
- Never leave clothing, tools, tape recorders, etc., hanging loose.
- Be extremely careful when near temporarily slack cables, avoid stepping over slack cables, and never step into the bight of a line.
- If you are tired or otherwise not feeling well, use extra caution because your judgment and reaction time may be impaired.
- Wear a PFD (Personal Flotation Device) and a hard-hat when on deck.
- Before you begin sampling, get to know the location and use of safety equipment onboard such as life rings, survival suits, life rafts, life vests, fire extinguishers, EPIRBs, exits, escape

routes, and your emergency station. Should an emergency occur, you may have only seconds to act. If you are prepared, those seconds may be the difference between life and death. It is up to you to learn as much as you can about the general emergency procedures for all vessels and the procedures particular to your assigned vessel.

Marine Safety

Most first-time observers have no previous experience at sea. You will learn about safety and survival procedures during training; but training alone will not be enough. It is up to you to learn as much as you can about marine safety and the procedures particular to your assigned vessel.

U.S. Coast Guard regulations require specific equipment, instructions, and drills aboard vessels that operate beyond the Boundary Line (an imaginary line that follows the shoreline, crossing from headland to headland at entrances to bays, inlets and rivers) or carry more than 16 individuals. These regulations are published in the Code of Federal Regulations.

Safety Orientation

When you board a vessel, you must receive a safety orientation. This may be as simple as showing you around, but may include watching videos, donning immersions suits, or conducting drills. An important item to find is the Commercial Fishing Vessel Safety Examination Decal (Figure 1). The U.S. Coast Guard operates a free vessel inspection program to assure that a vessel’s safety equipment meets Coast Guard standards. Although the program is voluntary, Alaska state regulations, 5 AAC 39.645 (i)(10), mandate that any vessel required to carry an onboard observer will “provide proof of compliance with U.S. Coast Guard vessel safety requirements.”

Upon successful completion of the exam, the vessel is issued the decal and paperwork that certifies compliance. The inspection is valid for two years from the date (month/year) indicated on the decal. The decal should be on a starboard side window of the wheelhouse. If the decal is missing, the vessel may have paperwork that verifies the inspection (they may have replaced a window, for example). If you board a vessel without a decal, or with an expired decal, you are to immediately disembark and then inform ADF&G and your employer.

It is important to remember that the safety decal is only an indicator of the vessel’s safety at the time of inspection. The person ultimately responsible for your safety is you. Figure 2 is a list of the items to

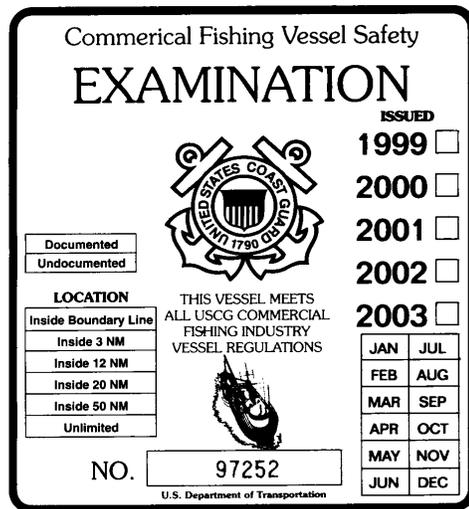


Figure 1. Safety examination decal.

bechecked prior to leaving port. Check these things before you leave port so the skipper has an opportunity to fix any problems. You also need to know about procedures and equipment before you are seasick--an emergency is possible at any time.

Figure 2. Safety checklist.

➤ **Vessel Safety Checklist**
 The following is a list of vessel safety equipment that is mandatory by the U.S. Coast Guard.

	mo. / yr.
Life Raft (rated for _____ # persons)	
Service Due sticker	_ / _
Hydrostatic release (Is it configured properly?)...	_ / _
EPIRB	
NOAA Registration Decal with vessel name	_ / _
Battery sticker	_ / _
Hydrostatic release	_ / _
Flares	
3 smoke flares	_ / _ _ / _ _ / _
6 handheld flares	_ / _ _ / _ _ / _
3 parachute flares	_ / _ _ / _ _ / _
Fire Extinguishers	
Each exit in the wheelhouse	_ / _ _ / _ _ / _
Galley	_ / _
Engine Room	_ / _
Auxiliary rooms with machinery	_ / _ _ / _
Immersion Suit	
The vessel must have a survival suit on board for EVERYONE, no exceptions. Inspect the suit issued to you for general condition and size.	

Date and Time _____

Captain's Signature _____

Observer's Signature _____

A signature indicates that the observer and vessel operator have inspected and discussed all safety matters addressed above. This form must be completed prior to departure.

As stated in ADF&G Commercial Shellfish Fishing Regulations General Provisions 5 AAC 39.645 (10) (i) When a vessel is required to carry an onboard observer, the vessel owner, owner's agent, or operator shall provide proof of compliance with U.S. Coast Guard vessel safety requirements.

USCG regulations for all vessels carrying observers in 50 CFR Sec. 600.746 state 'a vessel is inadequate or unsafe for purposes of carrying an observer if it has not passed a USCG safety examination or inspection...' and applies to 'any fishing vessel required to carry an observer as part of a mandatory observer program or carrying an observer as part of a voluntary observer program under the Magnuson-Stevens Act or under any other U.S. law'.

Station Bills

Somewhere, in a prominent place, you will find the station bill (Figure 3). The station bill assigns duties to all on board in the event of an emergency. Familiarize yourself with your duties in emergency situations and ask for clarification if the station bill does not provide you with enough information.

Figure 3. Example of a station bill

	Man Overboard	Fire	Flooding	Abandon Ship
	Signal: 3 long blasts repeated at least 4 times.	Signal: 1 long blast not less than 10 seconds.	Signal: 1 long blast not less than 10 seconds.	Signal: at least short blasts followed by 1 long blast.
Position	Station/Duty/Bring	Station/Duty/Bring	Station/Duty/Bring	Station/Duty/Bring
Captain	Wheelhouse, radio, maneuver vessel	Wheelhouse, radio, maneuver vessel	Wheelhouse, radio, maneuver vessel	Wheelhouse, radio, maneuver vessel
Mate	Throw ring, lookout	Fight fire	Plug hole, pump	Immersion suits, prepare life raft
Deck Boss	Emergency swimmer, don immersion suit and safety line	Assist fire fight	Assist plugging hole and pumping	Immersion suits, prepare life raft
Deckhand	Communicate, assist where needed	Communicate, boundary person, survival gear	Communicate, secure hatches, assist	Communicate, EPIRB, count crew
Observer	Wheelhouse	Debarkation station	Debarkation station	Debarkation station

Emergency Procedures

There may be other placards posted (Figure 4) that describe the procedures for specific emergencies. Required postings are the survival craft embarkation stations, fire and emergency signal, the abandon ship signal, the location of immersion suits and donning instructions, and the detailed instructions on how to make distress calls (MAYDAY). Regulations require that some instructions are *available*, so they may not be posted; but are in an accessible location. Be sure to ask for these and review them. There should be instructions available for fires, person overboard, crossing hazardous bars, rough weather, anchoring the vessel, and flooding.

Drills and Instruction

In addition to these required instructions, drills must be conducted involving each individual at least once a month. Participate in any drills that are conducted--you may contribute to the crew's knowledge besides learning more yourself. Drills are the most effective means to improve your chances of surviving an emergency.

ABANDON SHIP
<p>●●●●●● —</p> <p>SIGNAL</p> <p>AT LEAST 7 SHORT BLASTS FOLLOWED BY ONE LONG BLAST ON SHIP'S WHISTLE AND GENERAL ALARM</p>
<ol style="list-style-type: none"> 1. Preparations should include the following as time and circumstances permit: <ol style="list-style-type: none"> a. General Alarm & Mayday. b. All personnel don survival suits/PFD's. Warm clothing if time permits. c. Prepare to launch liferaft. Attach sea painter to vessel. d. Assemble signal devices--EPIRB, flares, smokes, flashlights, handheld radios, etc. e. First Aid Kit. f. Water. g. Food. 2. Muster at embarkation station. 3. When sinking is imminent or remaining on board is inappropriate: <ol style="list-style-type: none"> a. Launch & board liferaft. b. Keep sea painter attached to vessel. Be prepared to cut sea painter immediately if there is risk of damage to liferaft or vessel sinks. c. Activate EPIRB & commence 7 Steps to Survival.

Figure 4. Emergency procedures.

Marine Safety Equipment

Life Rafts

Any vessel that operates offshore must have enough life raft capacity for all aboard. Life rafts (Figure 5) are stored in canisters that allow them to float free and automatically inflate if the vessel sinks. Ideally, there will be time to manually launch and inflate the raft. Know where the rafts are stored, how to remove them from the cradle, where to launch them, and how to inflate them.

Pay special attention to the devices used to secure the life raft canister to the cradle. The most common type of hydrostatic release (Figure 6) is designed to cut through line when the water pressure rises (about 2 meters under water). The device cuts a loop of line that secures the retaining strap for the raft canister. This should set the canister free, while the painter line (attached to the raft and its inflation trigger) should stay attached to the boat by a weak link. The weak link is a low breaking strength material (red cord or soft metal) that will break before the sinking boat pulls the raft under. [Note: hydrostatic releases are not required if the canister is set to "float free".]

You need to determine if the release is correctly mounted and know how to release the raft manually. The release should be marked with an expiration date. If the function of the hydrostatic release and raft is not clear to you, ask for guidance. Usually, a "pelican hook" holds the retaining strap.

To launch a typical raft manually:

- 1) Release the pelican hook
- 2) If the raft is to be launched from another location on the vessel;
 - a. Break or disconnect the weak link
 - b. Carry the canister to the launching point
- 3) Tie off the painter line
- 4) Toss canister in water, and
- 5) Pull on painter until the inflation is triggered.

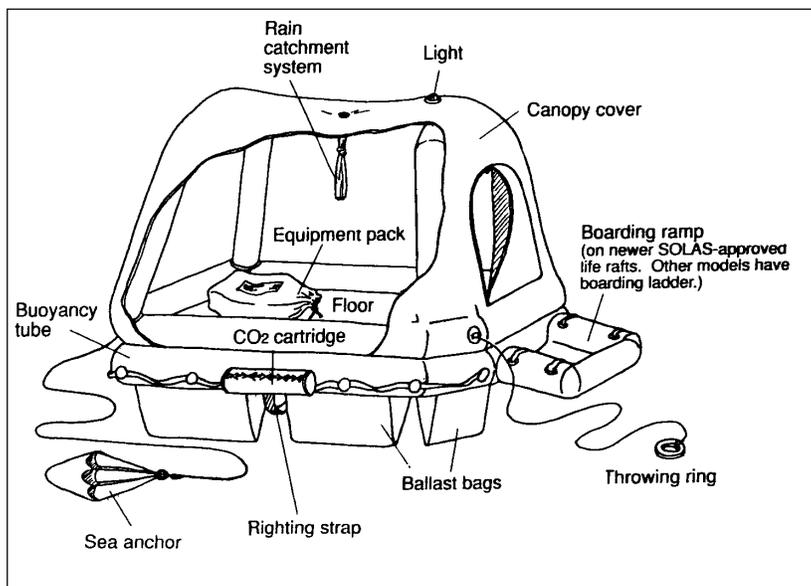
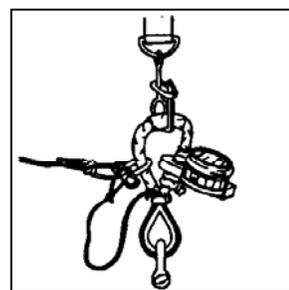


Figure 5. Typical life raft and equipment.



©2001 AMSEA
© 1992 AMSEA (3.20)

Figure 6. Hydrostatic release.

Personal Flotation Devices (PFD)

Personal flotation devices are an essential component of marine safety and survival. They provide flotation and thermal protection. The best PFDs are bright, highly visible colors to aid rescuers. You are required to have a PFD for your deployment. You may be issued one as part of your gear, or you may have one of your own. If purchasing a PFD, consider comfort to be a major consideration. The best PFD is the one that you will wear.



PFDs provide thermal protection in their design (vest, jackets, etc.) and their function. Keeping the head and neck out of the water reduces the exposure of high heat loss areas to water, which can transfer heat much faster than air. If in the water, you should use the Heat Escape Lessening Position (HELP). The "HELP" position reduces the movement of water around the head, neck, sides, armpits, and groin (Figure 7).

Figure 7. Heat escape lessening position.

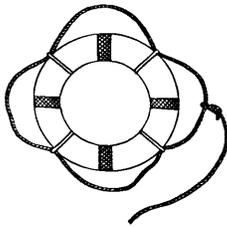


Figure 8. Life ring.

Life rings (Figure 8) are required and should be in logical locations to enable rescuing a man overboard. Life slings are devices used to lift a person from the water and are usually located near the block. A life sling is throwable and can be substituted for a life ring. Find the life rings on your vessel and be prepared to get one and throw it in a man overboard emergency. It will provide flotation, and can mark the position of the person in the water even if they cannot reach it.

Immersion suits

An immersion suit (Figure 9) is a shelter that is required by the safety regulations for everyone aboard a vessel that operates in cold water. There are different brands and styles, but all are made of neoprene rubber, and are generally a universal size. Either your assigned vessel will have enough aboard for the crew and you or one will be provided by your contractor or ADF&G. Be sure that you can find your suit and put on the suit in less than a minute, even in the dark. Know how to get to where the suits are stored in the dark. The suits must have a working zipper (add some wax to lubricate) and a signal device, such as a strobe light attached. They should be stored in an easily accessible place.

Donning an Immersion Suit



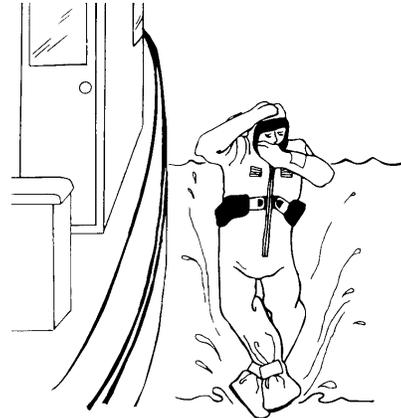
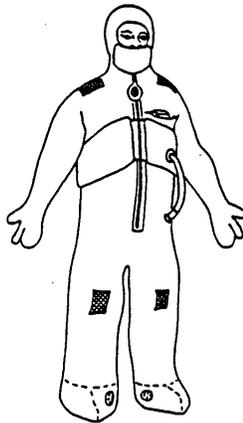
Sit on deck and work your legs into the suit. You may have to remove your boots to do so, but plastic bags over them may help your legs slide in easier.

Place your weak arm in first, then pull the hood over your head (or hood first, then weak arm). If you have long hair, make sure that it is safely tucked in the hood. Then place your stronger arm in the sleeve.

Holding the zipper below the slide with one hand, lean back to straighten the zipper and pull the lanyard with the other hand. Secure the face flap. Do not inflate the air bladder until you are in the water.



Jumping in the water is the last resort. You should try to board a raft directly, without getting wet. If you cannot get to a raft, ease yourself into the water if possible. If jumping, protect your head and keep your feet together to protect from floating debris.



©2001 AMSEA

Figure 9. Donning an immersion suit and a "wet exit"

Emergency Position Indicating Radio Beacon (EPIRB)

The vessel will have at least one EPIRB mounted in a float-free bracket that will be automatically activated in the event of sinking. The signal is received by satellite and will identify the sender. It is important to know where the EPIRB is mounted and how to activate it manually. In case of an abandon ship emergency, it is an item you want to take with you. Someone should be assigned that duty on the station bill. Be sure to locate the EPIRB(S) on your vessel and read the directions on how to activate them. An EPIRB should be tested monthly.

Radios

The emergency frequencies are Channel 16 on VHF (Very High Frequency) radios and 2182 kHz or 4125 kHz on SSB (single side band radios). VHF radios are short range and SSB radios are for long range communications. Vessels are required to monitor the emergency frequencies at all times, and these frequencies are used by all vessels to relay navigation, hazard, and emergency. There will be a placard (or sticker) posted near the radio that describes how to make a MAYDAY call. Know what constitutes a proper MAYDAY call. If you hear a MAYDAY call on the radio, listen carefully and take notes. Inform the person on watch and be ready to respond to the call if the Coast Guard does not.

Flares

There will be flares and smoke signals aboard, most likely in the wheelhouse, but also in the life raft. Each type (hand held, rocket, smoke flares, etc.) will have instructions printed on its container. Each type has specific situations that it is best used. Flares are dangerous and should be treated as firearms. It is not legal to use a flare except for actual emergencies. If you see a flare launched at sea, inform the person on watch immediately.

Survival Kits

A personal survival kit can take up very little space in an immersion suit while greatly enhancing your ability to survive. The items to include in your kit should enhance your ability to address the issues of shelter, signals, fire and personal medical needs. Items such as a knife, dental floss (a strong multi-purpose line), plastic garbage bags, matches, signal mirrors, a compass, small flares, or a space blanket are small items that fit in a zip-lock bag and could save your life.

Comfort Kit: A comfort kit contains a more extensive inventory than a personal survival kit. The items in it should more broadly cover issues raised in the Seven Steps to Survival such as emergency water and food supplies, a first aid kit or a radio. Vessels may have an emergency bag stored and a person named in the station bill to bring it.

Fire Extinguishers

There are four classes of fire extinguishers, each for a specific source of fire. Appropriate extinguishers must be available and maintained. Know where the nearest extinguisher is to any place that you spend time, and be prepared to get backup extinguishers in the event of a fire. Fire extinguishers are approved for one or more specific Classes of fire:

Class A	Combustible solids - wood, paper, plastic (make A sh)
Class B	Oil, grease, and gas (they B oil)
Class C	Electrical (C ircuits)
Class D	Metals: flares are an example (they D ent)

The Seven Steps to Survival

1 Recognition 2 Inventory 3 Shelter *4 Signals 5 Water 6 Food 7 Play*

The USCG assembled the Seven Steps to Survival from studies and personal accounts of those who survived, or did not survive, emergencies. The Seven Steps are arranged in order to guide you on priorities that will increase your chance of survival. Committing the seven steps to survival to memory should be one of your goals in learning how to survive emergencies at sea or on land. The Seven Steps should be started again each time the situation changes (e.g., boarding the raft).

Recognition

This step should be taken the moment you board a vessel, because life on board a vessel is an inherently dangerous situation. Become familiar with normal operations on a vessel, and reassess dangers anytime the situation changes. In the event of an emergency, you must quickly recognize the seriousness of the situation and that your life is in danger. Hesitation or denial may cost your life, especially in the harsh environment of Alaska.

Inventory

Stop and assess the situation. Decide what will help you and what will hurt you. Inventory the equipment, weather, your skills, injuries, and your mental condition. Doing so will help you to make good decisions that will help you survive.

Shelter

Your biggest enemy in Alaska is the cold. Your primary shelter is your clothing. Secondary shelter is anything that further protects you against the loss of your body heat such as an immersion suit, a raft, or even an overturned vessel. Water can take heat away from your body much quicker than air, so shelter also helps you keep as dry as possible. High heat loss areas need to be protected most, and the added buoyancy of a PFD helps to keep your head and neck out of water. In a shore survival situation, shelter is critical. It takes hours to construct adequate shelter and you must do so as soon as possible.

Clothing: It is the air spaces between cloth fibers that provide insulation. Cotton cloth absorbs water and holds it in the interstitial spaces (between the fibers) rendering it useless as insulation. Therefore cotton, although very comfortable, offers little protection in a damp environment. In contrast, when wool or polyfiber clothes absorb water, the fibers hold the water and the interstitial spaces stay open to trap air, keeping the insulating value intact. Consider clothing made of wool, polar fleece, or polypropylene to wear at sea. Wool pants and sweaters that cost less than \$5 at a thrift store could make the difference between life and death. If too warm for

work, keep them with your immersion suit. Polar fleece, polypropylene, and similar synthetics cost more, but dry quickly and are well suited for many outdoor pursuits beyond your work as an observer.

Signals

A good signal attracts attention and conveys a message for help. Radios, EPIRBS, and flares are signals carried by vessels. Other examples of signals are lights attached to immersions suits, or a signal mirror in your personal survival kit. If abandoning ship, anything that can be tossed overboard may help an aircraft to find you. Anything that makes you bigger or brighter is a signal. Three of anything (fires, buoys, immersions suits on the beach) is an internationally recognized distress signal that could be used in a shore survival situation.

Water

Humans require about two liters of water per day to stay healthy. You can live without water for only a few days, and will suffer dehydration from the stress of any emergency. Life rafts have limited rations of water, but it is advised to gather as much as possible before abandoning ship if time permits. Never drink seawater or urine.

Food

A person can go without food much longer than without water. Never eat food without water--your body must use water to digest food. Life rafts are supplied with limited food rations. In a shore survival situation, almost any animals or leafy green plants in the inter-tidal zone are edible. Avoid mussels or clams because they may cause paralytic shellfish poisoning.

Play

Studies have shown that mental attitude makes a positive difference in a survival situation. Play is anything that keeps you occupied and prevents your mind from dwelling on the difficulties you are facing. Play could be reading, telling jokes or stories, completing a task, improving your shelter--anything that keeps your mind active and focused.

LITREATURE CITED

(AMSEA) Alaska Marine Safety Education Association, 2001. Marine Safety Instructor Manual, 8th Edition. Edited by Jerry Dzugan and Shawn Newell. AMSEA, P.O. Box 2592, Sitka, Alaska, 99835.

APPENDIX

Appendix A.1. Fishing log for Alaska scallops.

Trip number			ADF&G #			Year	Fishery Code		
1			99615			04	KSO4		

**ALASKA DEPARTMENT OF FISH AND GAME
FISHING LOG FOR ALASKA SCALLOPS**

Captain's Name Black
 Observer name Steve Dredge
 Vessel Name Lucky Duck

Haul sampled	Total dredge width	Gear performance	Date			Set position			Fishing times in ALT		Fishing duration (minutes)	Average bottom depth (fms)	Average Speed in knots	CATCH		Discarded Catch: round weight in pounds	ADF&G statistical area							
			Mon.	Day	Haul No.	Latitude (N)	E W	Longitude	Dredge on bottom	Dredge off bottom				Bushels	Round weight (pounds)									
			2	3	0	1	7	5	66	57.34.54				w	151.54.60		0100	0215	75	53	4.8	27	1566	100
2	3	0	1	7	5	67	57.35.40	w	151.55.40	0225	0325	60	55	4.8	18	1044	100	5	1	5	7	3	0	
2	3	0	1	7	5	68	57.34.30	w	151.54.35	0335	0430	55	55	4.8	35	2030	150	5	1	5	7	3	0	
1	3	0	1	7	5	69	57.33.68	w	151.52.65	0440	0540	60	53	4.8	30	1740	150	5	1	5	7	3	0	
2	3	0	1	7	5	70	57.31.28	w	151.45.88	0555	0700	65	54	4.8	20	1160	100	5	1	5	7	3	0	
2	3	0	1	7	5	71	57.31.18	w	151.46.39	0715	0825	70	54	4.8	20	1160	100	5	1	5	7	3	0	
1	3	0	1	7	5	72	57.36.40	w	151.46.52	1315	1415	60	57	5.0	22	1276	100	5	1	5	7	3	0	
2	3	0	1	7	5	73	57.35.94	w	151.45.10	1425	1530	65	56	4.8	20	1160	60	5	1	5	7	3	0	
1	3	0	1	7	5	74	57.36.20	w	151.45.60	1545	1650	65	58	4.8	21	1218	80	5	1	5	7	3	0	
2	3	0	1	7	5	75	57.35.92	w	151.44.30	1705	1805	60	57	4.8	20	1160	70	5	1	5	7	3	0	
1	3	0	1	7	5	76	57.33.55	w	151.36.76	1820	1930	70	54	4.8	27	1566	110	5	1	5	7	3	0	
HC	1	3	0	1	7	5	77	57.33.51	w	151.39.37	1945	2050	65	58	4.9	35	2030	120	5	1	5	7	3	0
1	3	0	1	7	5	78	57.33.25	w	151.37.69	2115	2215	60	60	4.9	35	2030	140	5	1	5	7	3	0	
2	3	0	1	7	6	79	57.33.35	w	151.36.93	0105	0205	60	62	4.8	24	1392	50	5	1	5	7	3	0	
2	3	0	1	7	6	80	57.35.89	w	151.32.79	0220	0330	70	59	4.8	20	1160	50	5	1	5	7	3	0	
2	3	0	1	7	6	81	57.36.73	w	151.38.68	0340	0440	60	53	4.8	18	1044	30	5	1	5	7	3	0	
2	3	0	1	7	6	82	57.36.89	w	151.46.89	0455	0600	65	58	4.8	15	870	20	5	1	5	7	3	0	
1	3	0	1	7	6	83	57.34.08	w	151.48.70	0610	0710	60	65	4.9	25	1450	60	5	1	5	7	3	0	
2	3	0	1	7	6	84	57.32.59	w	151.48.70	0725	0830	65	64	4.8	35	2030	150	5	1	5	7	3	0	
1	3	0	1	7	6	85	57.30.85	w	151.46.48	0840	0945	65	57	4.8	35	2030	200	5	1	5	7	3	0	

Haul sampled
 1-yes
 2-no

Gear performance
 1-satisfactory (both dredges)
 2-unsatisfactory (both dredges)
 3-partially satisfactory (one dredge satisfactory and one dredge unsatisfactory)

Appendix A.4. Halibut length-to-weight conversion table.

HALIBUT LENGTH-TO-WEIGHT CONVERSION TABLE							
Length/Weight		Length/Weight		Length/Weight		Length/Weight	
(cm)	(lbs)	(cm)	(lbs)	(cm)	(lbs)	(cm)	(lbs)
21	0.2	69	8.4	117	46.3	165	140.8
22	0.2	70	8.8	118	47.5	166	143.6
23	0.2	71	9.2	119	48.8	167	146.4
24	0.3	72	9.6	120	50.3	168	149.2
25	0.3	73	10.0	121	51.6	169	152.2
26	0.4	74	10.5	122	52.9	170	155.1
27	0.4	75	10.9	123	54.5	171	158.1
28	0.5	76	11.4	124	55.8	172	161.1
29	0.5	77	11.9	125	57.3	173	164.1
30	0.6	78	12.4	126	58.8	174	167.3
31	0.6	79	13.0	127	60.3	175	170.4
32	0.7	80	13.5	128	61.8	176	173.6
33	0.8	81	14.0	129	63.9	177	176.8
34	0.8	82	14.6	130	65.2	178	180.0
35	0.9	83	15.2	131	66.7	179	183.3
36	1.0	84	15.8	132	68.3	180	186.7
37	1.1	85	16.4	133	70.6	181	190.1
38	1.2	86	17.1	134	71.8	182	193.5
39	1.3	87	17.7	135	73.5	183	196.9
40	1.4	88	18.4	136	75.3	184	200.4
41	1.6	89	19.1	137	77.1	185	204.0
42	1.7	90	19.8	138	78.9	186	207.6
43	1.8	91	20.5	139	80.9	187	211.2
44	1.9	92	21.2	140	82.8	188	214.9
45	2.1	93	22.0	141	84.0	189	218.0
46	2.2	94	22.7	142	86.7	190	222.4
47	2.4	95	23.5	143	88.7	191	226.2
48	2.6	96	24.4	144	90.6	192	230.1
49	2.8	97	25.2	145	92.0	193	234.0
50	2.9	98	26.0	146	94.7	194	237.9
51	3.1	99	26.9	147	96.9	195	241.9
52	3.3	100	27.8	148	99.0	196	246.0
53	3.6	101	28.7	149	101.2	197	250.1
54	3.8	102	29.6	150	103.4	198	255.2
55	4.0	103	30.6	151	105.7	199	258.4
56	4.2	104	31.6	152	107.8	200	262.6
57	4.5	105	32.6	153	110.3	201	266.9
58	4.8	106	33.6	154	112.6	202	271.2
59	5.0	107	34.7	155	115.0	203	275.6
60	5.3	108	35.7	156	117.4	204	280.0
61	5.6	109	36.8	157	119.9	205	284.5
62	5.9	110	37.9	158	122.4	206	289.0
63	6.2	111	39.0	159	124.9	207	293.6
64	6.5	112	40.2	160	127.5	208	298.2
65	6.9	113	41.4	161	130.0	209	302.9
66	7.2	114	42.6	162	132.7		
67	7.6	115	43.8	163	135.4		
68	8.0	116	45.0	164	138.1		

Appendix A.5. Characteristics of Alaskan scallops.

There are two types of scallops that are commercially fished in Alaskan waters. The weathervane scallop, *Patinopecten caurinus*, is the primary scallop species harvested. This is a large scallop reaching a shell height of 12 inches. Its range in Alaska is from Dixon Entrance in southeast Alaska to the Aleutian Islands. The genus *Chlamys* is the other scallop that has been commercially harvested on an experimental basis in Alaska. These are small scallops that normally grow to less than three inches in shell height. *Chlamys* are found throughout Alaska from Dixon Entrance to the Bering Sea and Arctic Ocean.



©2004 ADF&G

Weathervane



©2004 ADF&G

Chlamys sp.

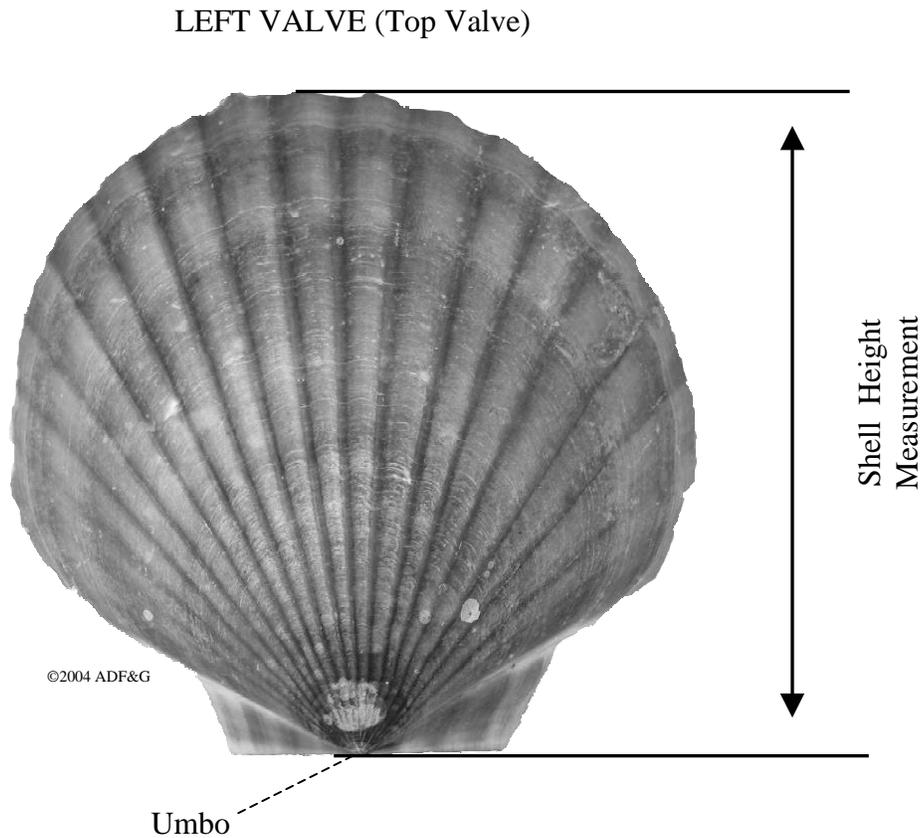
Weathervane scallop

A large scallop with prominent, heavy, widely spaced, smooth ribs. The valves are wider than long and slightly convex. The right valve is typically larger than the left valve, has less discrete color patterns, and flattened ridges. It is light brown to golden yellow in color. The left valve is typically dark brown in color and may have barnacles and other marine flora and fauna attached to it. The anterior and posterior ears are nearly equal.

Chlamys scallop

Small scallops with valves that are longer than wide and strongly convex. The ribs are narrow and prominent. May have prominent spines depending upon the species. Color ranges from pink to golden brown to white. Frequently they are covered with scallop sponge and/or other marine organisms. The anterior ears are longer than the posterior ears.

Appendix A.7. Scallop shell height measurement.



Scallop shell heights are measured to the nearest millimeter, the straight line distance from the umbo to the outer shell margin, perpendicular to the hinge. The right valve is typically larger than the left valve and it protrudes beyond the left shell's margin. Care should be given when measuring shell height so not to include the right valve.

Appendix A.8. Scallop size frequency form.

**ALASKA DEPARTMENT OF FISH AND GAME
SCALLOP SIZE FREQUENCY FORM**

Observer Steve Dredge
 Vessel Lucky Duck
 Date 7-5-04

Trip #	ADF&G #	Fishery Code	Haul #
1	99615	KS04	71

Sample type 2

Sample type 3

Shell height (mm)				Shell height (mm)			
1	1	2	5	1	8	9	
2	1	1	0	2	8	5	
3	1	3	2	3	9	0	
4	1	3	4	4	8	3	
5	1	5	5	5	1	1	0
6	1	2	7	6	9	5	
7	1	3	3	7	1	2	1
8	1	5	1	8	7	7	
9	1	4	3	9	8	9	
10	1	3	7	10	9	9	
11	1	2	7	11	1	0	6
12	1	7	0	12	1	1	9
13	1	5	9	13	9	7	
14	1	4	8	14	8	7	
15	1	5	3	15	8	9	
16	1	4	6	16	6	5	
17	1	4	0	17	7	8	
18	1	4	1	18	1	0	3
19	1	3	9	19	9	7	
20	1	4	9	20	8	1	
21				21			
22				22			
23				23			
24				24			
25				25			
26				26			
27				27			
28				28			
29				29			
30				30			
31				31			
32				32			
33				33			
34				34			
35				35			

Sample type
 2-Retained catch
 3-Discarded catch

Appendix A.9. Crab size and injury form.

**ALASKA DEPARTMENT OF FISH AND GAME
CRAB SIZE AND INJURY FORM**

Observer Steve Dredge
 Vessel Lucky Duck
 Date 7-5-04

Trip #	ADF&G #	Fishery Code	Haul #
199615	KS04		71

	Species Code	Size (mm)	Sex	Shell Cond.	mort?		Species Code	Size (mm)	Sex	Shell Cond.	mort?
1	6	51	2	2	2		31				
2	6	53	2	1	2		32				
3	6	69	1	1	1		33				
4	6	80	2	2	2		34				
5	9	102	2	0	2		35				
6	9	170	1	0	2		36				
7							37				
8							38				
9							39				
10							40				
11							41				
12							42				
13							43				
14							44				
15							45				
16							46				
17							47				
18							48				
19							49				
20							50				
21							51				
22							52				
23							53				
24							54				
25							55				
26							56				
27							57				
28							58				
29							59				
30							60				

Species Codes

0=*Chionoecetes* sp. (opilio/hybrids)
 1=Brown King Crab
 2=Red King Crab
 3=Blue King Crab
 5=Hair Crab
 6=*C. Bairdi*
 9=Dungeness crab

Sex

1-Male
 2-Female

Shell Condition

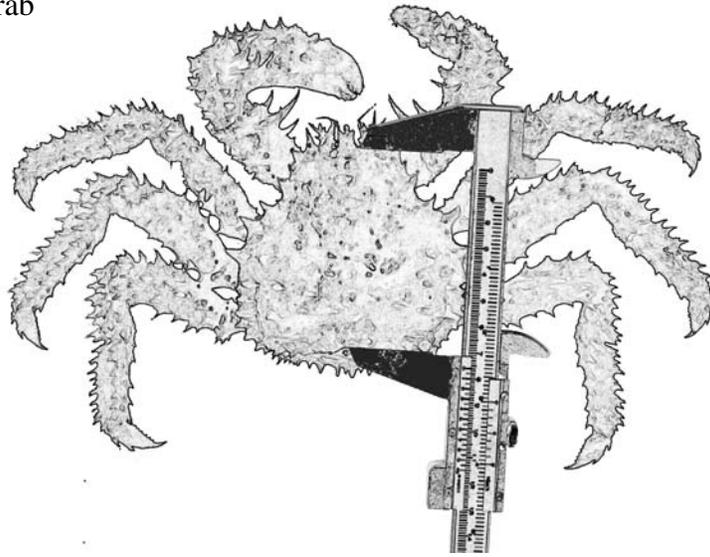
0- Soft
 1- New
 2- Old
 3-Very Old

Mortality

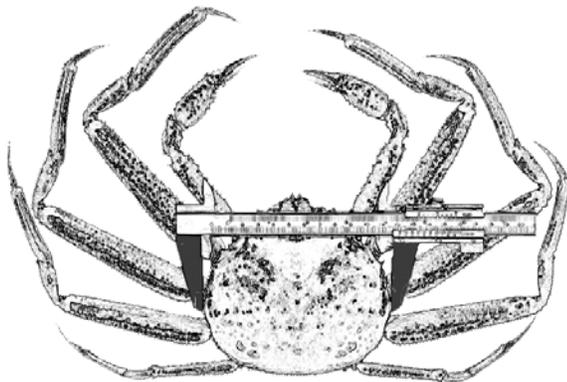
1-Dead or moribund
 2-Alive

Appendix A.10. Crab measurement.

King Crab



King crabs are measured from the right eye socket to the mid point of the posterior of the upper carapace.



Tanner Crab

Tenth "tooth" at widest point of carapace



Dungeness Crab

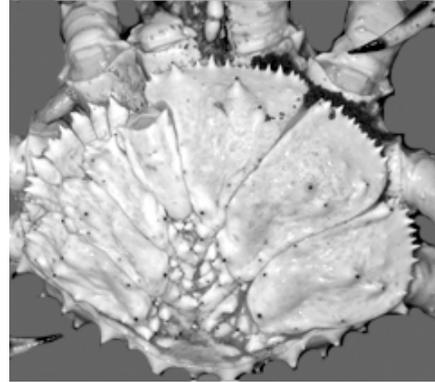
Tanner crabs are measured at maximum width, not counting spines. Dungeness crab widths are measured in the front of the "tenth tooth".

Appendix A.11. Crab sex determination.

King Crab

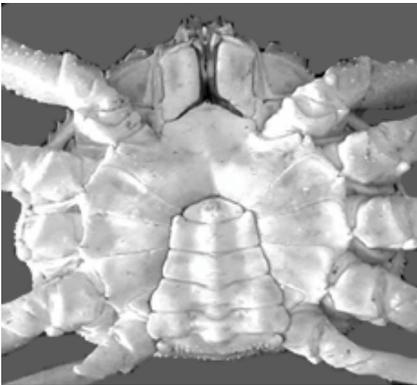


Adult Male



Adult Female

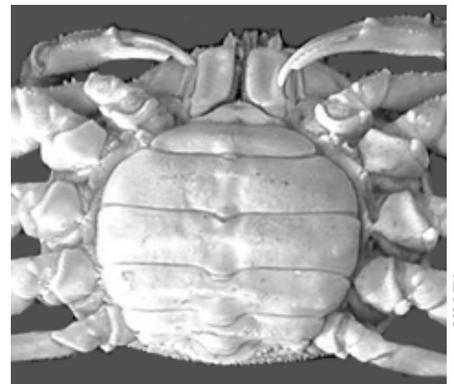
Tanner Crab



Juvenile Male,
similar characteristics in adults.



Juvenile Female



Adult Female

Appendix A.13. Scallop observer radio report form.

Reg. Area Kodiak - K
 Vessel Lucky Duck
 Observer Steve Dredge

SCALLOP OBSERVER RADIO REPORT FORM

	MONDAY	TUESDAY	MON/TUES TOTALS	WEDNESDAY	THURSDAY	WED/THURS TOTALS	FRIDAY	SATURDAY	SUNDAY	FRI/SAT/SUN TOTALS	WEEKLY TOTAL
DATE	7-5	7-6		7-7	7-8		7-9	7-10	7-11		
ITEM 1. Stat-Area	actual 515730	actual 515730	actual 515730	NO	NO		NO	NO	NO		515730
	code		LR	Fishing	Fishing		Fishing	Fishing	Fishing		
ITEM 2. Total minutes	actual 840	actual 445	actual 1285	in	in		in	in	in		1285
all hauls.	code		WBMG	STAT AREA	STAT AREA		STAT AREA	STAT AREA	STAT AREA		
ITEM 3. Total minutes all	actual 320	actual 125	actual 445	515730	515730		515730	515730	515730		445
bycatch sampled hauls.	code		PAG								
ITEM 4. Number of king crab	actual 0	actual 0	actual 0								0
in all hauls.	code		Y								
ITEM 5. Sampling Condition	actual No Problem	actual No Problem	actual No Problem			NO Problem				NO Problem	NO Problem
	code		X0			WB				GN	
ITEM 6. Number of <i>C. baird</i>	actual 23	actual 5	actual 28								28
Tanner in bycatch smp'l'd hauls.	code		BU								
ITEM 7. # of <i>opilio</i> /hybrids or	actual 2	actual 0	actual 2								2
Dungeness in bycatch smp'l'd hauls.	code		C								
ITEM 8. Pounds of scallop	actual 1650	actual 860	actual 2510								2510
meats retained.	code		CNWS								
ITEM 9. Total # hauls /	actual 13-5	actual 7-2	actual 20-7								20-7
# bycatch sampled hauls	code		BY-J								

This is an example of a tri-weekly reporting schedule.

Appendix A.14. Radio codes.

ITEM 1:STAT-AREA CODES	MEANING
Y, K	0
F, A	1
L, N	2
R, T	3
C, V	4
X, D	5
Z, W	6
Q, U	7
M, E	8
H, O	9

ITEMS 2,3,4,6,7,8,9	
CODES	MEANING
Y, S	0
F, V	00
L, D	000
R, W	1
C, B	2
X, K	3
P, A	4
G, N	5
Z, T	6
Q, J	7
M, U	8
H, E	9
I, O	BLANK

SAMPLING CONDITION CODES (Item #5)	
CODES	MEANING
VR	NO PROBLEM
XO	NO PROBLEM
WB	NO PROBLEM
MD	NO PROBLEM
GN	NO PROBLEM
AF	NO PROBLEM
QP	POTENTIAL
DL	POTENTIAL
RM	HARASSMENT, UNABLE TO GET WORK DONE
FY	HARASSMENT, UNABLE TO GET WORK DONE
NC	HARASSMENT, BUT ABLE TO GET WORK DONE
EX	HARASSMENT, BUT ABLE TO GET WORK DONE
YS	SOS
PH	SICK
UU	SICK, UNABLE TO PERFORM WORK
SZ	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
CG	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
OE	SKIPPER AWARE OF HIGH BYCATCH, BUT DOESN'T CARE
IW	SPARE
JQ	SPARE

The Alaska Department of Fish and Game administers all programs and activities free from discrimination based on race, color, national origin, age, sex, religion, marital status, pregnancy, parenthood, or disability. The department administers all programs and activities in compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, the Age Discrimination Act of 1975, and Title IX of the Education Amendments of 1972.

If you believe you have been discriminated against in any program, activity, or facility, or if you desire further information please write to ADF&G, P.O. Box 25526, Juneau, AK 99802-5526; U.S. Fish and Wildlife Service, 4040 N. Fairfax Drive, Suite 300 Webb, Arlington, VA 22203 or O.E.O., U.S. Department of the Interior, Washington DC 20240.

For information on alternative formats for this and other department publications, please contact the department ADA Coordinator at (voice) 907-465-6077, (TDD) 907-465-3646, or (FAX) 907-465-6078.