

Observer Logbook

Name _____
Observer Code _____ Trip # _____
Vessel Name/ Code _____
Gear type _____ Target _____

This logbook is to be used to record all details of your deployment. Each section has instructions on what information to include and how to record it. Please refer to your sampling manual for more detailed instructions, such as documenting a suspected violation.

In order to meet the expectations of the Scientific Observer Program for a successful trip there are several required sections of the logbook that must be completed.

Documentation of all sampling techniques and changes or difficulties with those techniques must be recorded. All suspected violations must be documented as well as any incidents of vessel interaction with sea turtles, marine mammals or seabirds. **The Safety Checklist must be filled out before departing on each trip.** All calculations, no matter how small, must be recorded in your logbook. There should be an entry in the Daily Notes section for each day of your deployment. Always date your entries so that the chronology of events can be traced in each section. Your logbook is a valuable document. Please make the effort to maintain it, and keep it in a safe place.

ALL Daily Notes entries should be made in ink. Calculations & vessel drawings may be made in pencil.

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Safety Checklist

Pre-Departure (Complete before you leave port)								
Were you informed of the general safety procedures for the vessel?						Yes / No		
Were alarm signals demonstrated for each type of emergency?						Yes / No		
Did you examine escape routes from accommodations and work areas?						Yes / No		
Where is your muster station in case of an emergency?								
Who is the person in charge of medical treatment?								
Where you shown the location of radios and provided with instructions for use?						Yes / No		
Where you shown the location of navigation equipment and provided with instructions on use?						Yes / No		
Survival craft		Capacity (#persons)	Last inspection date	Location	Float free?	Hydrostatic release		
						Present	Attach properly	
Model					Y / N	Y / N	Y / N	
Model					Y / N	Y / N	Y / N	
Was there adequate life raft capacity for all on board? Yes / No								
Was survival craft packed with a SOLAS kit? A / B / Other / No								
EPIRBs		Battery expire date	Location		Category I / II	Float free?		
Model						Y / N		
Model						Y / N		
Check if Present or Absent			Present	Absent	Unknown			
Station bill						In main areas/corridors? Yes / No		
Fire extinguishers								
First aid equipment								
High water alarm								
Watertight doors								
Do they close properly? Yes / No								
Distress flares		#	Expired?	Location			Flotation devices	
Parachute			Y / N				# Life rings / slings	
Smoke			Y / N				# PFDs	
Hand			Y / N				# Immersion suits	
			Y / N					
Were there adequate PFDs for all on board? Yes / No								
Drills (Complete post-trip)								
		Fire	Man overboard	Abandon ship	Flooding	Other?		
Performed?		Y / N	Y / N	Y / N	Y / N			
Date								
Did you participate in drills? Yes / No								
Other Comments:								

Trip Summary

Trip Summary				
Embarkation	Date (dd/mm/yy)	Time (24-hr clock)	Time zone (+/- hrs)	Port (city, country)
Departure	Date (dd/mm/yy)	Time (24-hr clock)	Port (city, country)	
Return	Date (dd/mm/yy)	Time (24-hr clock)	Port (city, country)	
Debarkation	Date (dd/mm/yy)	Time (24-hr clock)	Port (city, country)	
Additional port stops?				
Captain name / address			Nationality	Years in fishery
Mate name / address			Nationality	Years in fishery
Fish master name / address			Nationality	Years in fishery
Crew size (excl. observer)		Crew list attached?	Y / N	
Gear type (circle one)	TBB / OTB-__ / OTM-__ / TBS / PS / LLD / LLS / FPO / GND / Other: _____			
Primary target	Packaging (circle one)	Boxed or bagged / Binned on ice / Loose / Other _____		
Secondary target				
Fish sales				
Location(s):				
Buyer name(s):				
Products (list species groups for each)				Product Wt (kg)
	Whole:			
	Tail off:			
	Head off:			
	Head & tail off:			
	Head off & gutted:			
	Fillet:			
	Other:			
	Other:			

Continued on next page

Debriefing

Forms Completed (check all applicable)				
Observer Logbook		Compliance checklist		Vessel and aircraft sighting
Vessel Information		Safety checklist		Floatsam (PS only)
Trip Summary		Species ID (new spp encountered)		Daily log (applies to PS only)
Gear Description		Lengths		Marine Debris
Total catch & effort (set/haul)		Age structures		
Catch composition		Photo log		
Total sets/hauls		# sets/hauls sampled		
Mortality & sightings (circle Y or N for each)				
	Mortality	Species (code, #)	Sightings	Species (code, #)
Marine mammal	Y / N		Y / N	
Sea turtle	Y / N		Y / N	
Seabirds	Y / N		Y / N	
	Y / N		Y / N	
Accommodations				
# crew assigned to room		Fresh water	Y / N	
Adequate storage	Y / N	Toilet	Y / N	
Food	Y / N			
Sampling advice?				
Debriefing and data checking/tracking				
Debriefing name				
Debriefing date / location				
Date data submitted		Date data entry		
Date data finalized		Date data entry verified		
Debriefing Notes				

Compliance Checklist

During the trip, did you witness or did the master or crew attempt or do any of the following:

Fishing Regulations	
Fish within any inshore exclusion zone	Y / N / U
Fish within any marine protected area	Y / N / U
Presence on board a fishing vessel of any fishing nets, whose mesh sizes do not conform to prescribed standards	Y / N / U
Use any sort of liner or device to obstruct mesh (trawl and other net fisheries)	Y / N / U
Presence on aboard of respiratory equipment (e.g. scuba), harpoon or dangerous fishing weapon (except as a safety precaution)	Y / N / U
Use of explosives, chemicals, poisons or other noxious substances, electrical currents or headlamps, fire-arms, light or automatic traps or any other devices likely to destroy aquatic fauna and the aquatic environment	Y / N / U
Permit/licence conditions	
Target species other than those they are licenced to target	Y / N / U
Use a fishing method other than the method they are licensed to use	Y / N / U
Retain sublegal size fish (varies by species)	Y / N / U
Sell or possess of any protected fishery resources (e.g., turtles, mammals)	Y / N / U
Sell / trade fish at sea	Y / N / U
Not display or present a valid (and current) licence document onboard	Y / N / U
Not display appropriate vessel markings	Y / N / U
MARPOL	
Dumping of industrial, agricultural or domestic waste	Y / N / U
Dumping of plastic	Y / N / U
Discharge of oil	Y / N / U
Dumping of any of the above by another vessel	Y / N / U
Observer/Vessel personnel Interactions	
Request that an event not be reported	Y / N / U
Offered a bribe to modify your data	Y / N / U
Hinder the observer in the carrying out of their duties	Y / N / U
Intimidated or harassed at any time	Y / N / U

If you answered yes to any of the above, please provide more detail on the event and indicate the logbook page(s) where the event is documented more thoroughly.

Date / Explanation
Date / Explanation
Date / Explanation
Observer signature / Date
Version 1.2 6/2011

Vessel Diagram

Vessel Diagram

Sampling Description

You must document how you sampled on each vessel. If you are new to a vessel type or fishery, it is expected that you will need a few days to work out a solid sampling plan. Document your initial sampling plans in the daily notes section. Once you are comfortable with a sampling plan, describe it in this section. If you significantly alter your sampling approach, use the Sampling Description template to document the new sampling approach in the Daily Notes.

For each vessel you must describe:

- Describe the flow of fish as they come on board until they enter the freezer, include any biasing factors.
- Describe each element of your sample design at each level of sampling. For instance, in most cases the population for haul-level sampling will be “all hauls made by the vessel” and these are selected using the Random Sample Table. The population for within-haul sampling for composition will be “all objects (animals, algae, garbage, etc) caught by the gear”
- Describe the sample frame for within-haul sampling and the methods used to create the frame. The typical options are Spatial or Temporal and the sampling units can be baskets, pots, sections of longline, etc. This will vary depending on the vessel.
- Describe the sample design (how samples are selected), your typical sampling rate, etc.

Example:

Sampling Description

Briefly describe the flow of fish:

Codends were opened onto area A (see vessel diagram) of the deck. Retained fish/shrimp were sorted by the crew into baskets by broad size and species categories. Once initial sort complete, further sorting of the retained baskets occurred by more specific market categories. Retained fish/shrimp were then weighed. Concurrent to weighing of retained, discards were shoveled into baskets for weighing. Once retained fish were weighed and stored, discard baskets could be weighed. In general, all discard baskets were weighed, a random subsample selected & then the remaining ‘discards’ were thrown overboard.

Please describe each element of your sample design at each level of sampling.

1. Haul-level Sampling (at the individual vessel level):

Population: all hauls made by the vessel

Haul selection: hauls selected for composition sample using Random Sample Table #2

2. Within Haul Composition Sampling (at the individual haul level):

Population: individuals in a haul (4 codends combined)

Sampling Frame Type (spatial, temporal, other) and Units (include typical size of sample unit): Spatial sample frame – baskets; divide all mix or all discards into equal size bags/baskets and select one.

Expected number (range) of sampling units in population: sorted retained – all weights verified, counts from crew; mixed species retained catch (small fish) – 2-6 baskets; discard catch – 8-20 baskets

Random numbers generated by: dice, Random number table

Sampling Method: All of the larger fish & shrimp are sorted/weight by species and their weights are monitored/recorded. Smaller fish and discards are subsampled for composition. For mixed fish retained sample, randomly select 1 bag/basket of 4-6 total for species specific assessment; for discard sample, randomly select 1 basket of 8-20 baskets for composition sample.

Describe any factors that affected your random sample (e.g. sorting, limited access, etc.): 1-crew sometimes forgot to keep all discards and threw some things overboard as they were sorting; 2-shovels are small so sometimes the larger discards get pushed around before they are eventually lifted into the discard baskets; 3-some crew were better at sorting to species than others.

3. Sexed Length Samples / Sub-set samples for species ID / Average weight:

Population: Not collecting sexed lengths; For average weight, population is all individuals of a species
Sampling Frame Type (spatial, temporal, other) and Units (include typical size of sample unit): Spatial frame (sub set of fish in a basket); Attempt to collect ~ 50 individuals for average weight calculation.

Expected number (range) of sampling units in population: number of average weight samples, depends on numbers of different species in the composition sample and numbers of individuals per species.

Random numbers generated by: not applicable

Sampling Method: Collected approximately 50 individuals of species with too many individuals to count. Once fish/shrimp were sorted to species and placed into a basket or bag, I mixed the bag/basket first. Then, I poured a small amount (~50) onto sorting table, counted them into a weighing bag & recorded the weight. Sometimes I misjudged the number and ended up with too many fish in the average weight subsample. In this case, I either started over by putting the fish back or just counted the sample even if it was much higher than 50 individuals.

Describe any factors that affected your random sample (e.g. sorting, limited access, etc.): no problems collecting average weight samples

4. Specimen Samples (age, maturity, sexed length-weight, etc.):

Population: Not collected

Sampling Frame Type (spatial, temporal, other) and Units (include typical size of sample unit): _____

Expected number (range) of sampling units in population: _____

Random numbers generated by: _____

Sampling Method: _____

Describe any factors that affected your random sample (e.g. sorting, limited access, etc.): _____

Sampling Description

Briefly describe the flow of fish:

Please describe each element of your sample design at each level of sampling.

1. Haul-level Sampling (at the individual vessel level)::

Population: _____

Haul selection: _____

2. Within Haul Composition Sampling (at the individual haul level):

Population: _____

Sampling Frame Type (spatial, temporal, other) and Units (include typical size of sample unit): _____

Expected number (range) of sampling units in population: _____

Random numbers generated by: _____

Sampling Method: _____

Describe any factors that affected your random sample (e.g. sorting, limited access, etc.): _____

3. Sexed Length Samples / Sub-set samples for species ID / Average weight:

Population: _____

Sampling Frame Type (spatial, temporal, other) and Units (include typical size of sample unit): _____

Expected number (range) of sampling units in population:

Random numbers generated by: _____

Sampling Method: _____

Describe any factors that affected your random sample (e.g. sorting, limited access, etc.): _____

4. Specimen Samples (age, maturity, sexed length-weight, etc.):

Population: _____

Sampling Frame Type (spatial, temporal, other) and Units (include typical size of sample unit): _____

Expected number (range) of sampling units in population: _____

Random numbers generated by: _____

Sampling Method: _____

Describe any factors that affected your random sample (e.g. sorting, limited access, etc.): _____

Random Sample Tables

Random sample tables (RSTs) prescribe which hauls to sample. Each RST is designed for a different number of hauls per day. The general guidelines are as follows:

Hauls per day	RST table	Target sample rate	Logbook pages
1-2	None	100%	
3-4	#1	70-75%	15-17
5+	#2	65%-70%	18-20

Once you start with one table, it's best to continue with this table throughout the trip. If you do need to switch, document when and why in the Daily Notes section and then start using the other table.

The table has a space for the date, haul number, whether it should be sampled (**Y**es) or not (**N**o) and notes regarding the haul. For instance, if you miss a haul that was supposed to be sampled, record a brief reason why in the notes column (see example below).

Random Sample Table #2

Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
11-Nov-09	1	Y N	watched 1st haul	12 NOV	9	Y	
11-Nov-09	2	Y		12 NOV	10	N	
11-NOV	3	Y		12 NOV	11	Y	
11-NOV	4	Y		13 NOV	12	Y	
11-NOV	5	N	Caught up on paper work	13 NOV	13	Y	
12-NOV	6	N		13 NOV	14	Y N	Sea sick - weather
12 NOV	7	Y		13 NOV	15	N	
12 NOV	8	Y		13 NOV	16	N	

Random Sample Table #1							
Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
		Y				Y	
		Y				Y	
		Y				Y	
		N				N	
		Y				Y	
		Y				Y	
		N				Y	
		Y				N	
		Y				Y	
		N				Y	
		Y				Y	
		Y				N	
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		Y				Y	
		Y				Y	
		Y				Y	
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		Y				Y	
		Y				Y	
		Y				Y	
		N					

Random Sample Table #1 (continued)							
Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
		Y				Y	
		N				N	
		Y				Y	
		Y				Y	
		Y				N	
		N				Y	
		Y				Y	
		Y				Y	
		Y				N	
		N				Y	
		Y				Y	
		Y				N	
		Y				Y	
		N				Y	
		Y				N	
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		Y				Y	
		Y				Y	
		Y				Y	
		N				N	
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		N				Y	
		Y				Y	
		Y				N	
		Y				Y	
		N				Y	

Random Sample Table #1 (continued)							
Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
		Y				Y	
		N				Y	
		Y				N	
		Y				Y	
		Y				Y	
		N				N	
		Y				Y	
		Y				Y	
		N				N	
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		Y				Y	
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Random Sample Table #2							
Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
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Random Sample Table #2 (continued)							
Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
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Random Sample Table #2 (continued)							
Date	Haul #	Samp?	Notes	Date	Haul #	Samp?	Notes
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Total Catch Estimate Calculations

Example of Total Weight Estimation Method #3 – volumetric estimate of 'bins'

Haul #: 23 Total catch WT: 9.42 MT	Total Weight Calculation - Bin $V = \text{Rectangle} + \text{wedge}$ $V = (L * W * H) + (1/2 * (L * W * H))$ $V = (3.7 * 2.5 * 0.9) + 1/2 * (1.7 * 2.5 * 0.8)$ $V = 8.325 + 1/2 * (3.4)$ $V = 8.325 + 1.7 = 10.025 \text{ m}^3$
Density Calculation Basket volume = 0.023452 m ³ Basket WTS: 21.7, 23.0, 21.2, 22.5, 22.0, 21.8 $\Sigma = 132.2 \text{ kg}$ Density = 0.1322 MT / (0.023452 * 6) $= 0.1322 / 0.140712$ $= 0.9395076 \text{ MT/m}^3$	$\text{Total WT} = V * \text{density}$ $= 10.025 \text{ m}^3 * 0.9395076 \text{ MT/m}^3$ $= 9.41854 \dots \text{ MT}$

Example of Total Weight Estimation Method #2 – weigh subsample of catch and extrapolate to total baskets.

Haul #: 17 Total catch WT: 0.95 MT	Total Weight Calculation Retained WTS main spp from catch Comp = 198.1 kg	Discard WTS (kg) 20.5 21.0 20.1 21.3 22.4 20.7 22.0 19.8 19.5 19.9 Ave basket wt = 207.2 / 10 $= 20.72 \text{ kg}$ Total discard Baskets = 18 Total discard wt = $20.72 * 18 = 372.96$
Density Calculation N/A Total Catch = Ret + mix + Discard $= 946.76 \text{ kg}$	mixed spp retained 17.3 18.7 21.2 18.5* $\Sigma \text{ mix} = 75.7$ * catch comp mixed basket	

Total Catch Estimate Calculations

Haul #: Total catch WT:	Total Weight Calculation
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Total Catch Estimate Calculations

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Total Catch Estimate Calculations

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Total Catch Estimate Calculations

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Daily Notes Pages

Use the following pages to record day to day events - particularly those that affect your sampling effort or data collection. At a minimum, daily entries should include specific notes on problems that occur while you are aboard the vessel, any illnesses or injuries you suffer, the reason you choose the methods used for catch estimation, species composition sampling, length and age structure collection, and any other data collection that you complete.

Record the circumstances surrounding any **potential** violation you witness, including: interference with your duties, harassment, harassing or harming marine mammals and MARPOL (marine pollution) concerns. These pages should be used to document any problems you encounter, as well as the actions taken by you or vessel/plant personnel. Include crew member's names, position or title and the details of the incident or conversation.

Always date every entry and record times if you make more than one entry per day. If an event seems significant only in hindsight, record the details on the day on which you document it. Include the current date and the date of the event. For example, " July 17, 2008 - Three days ago, on July 14th at about 3:00 PM, I was on the bridge when..." The importance of documentation cannot be stressed enough. Recording each incident is preferable to trying to reconstruct events from memory months later. Making such timely entries enhances the overall quality of your data and will greatly ease your debriefing process by making your cruise self-explanatory.

All text entries must be made in ink!

Example:

April 6, 2011 - 12:00

Boarded the shrimp trawler Green Flash at 10am, Main dock in Monrovia. After waiting for 30 minutes, the mate gave me a tour (including most of the safety features for the Safety Checklist). I was informed that we will be departing at 17:00. I plan to use the remaining time to unpack, talk to the crew about setting up a sampling area on deck, finish the Safety Checklist and get a little more oriented with the vessel's layout & gear.

April 6, 2011 - 23:00

The vessel left the dock at 20:00. I'm feeling a little sea sick. We have a 20 hour steam to the fishing grounds & I hope to feel better by then.

April 7, 2011 - 22:00

First haul was deployed. I plan to watch the first haul to see the process and start sampling Haul 2.

Photographs and the Photo Log

Cameras are to be used for pictures of all sea turtles and marine mammals. However, all unidentified items (i.e.: birds and other unique animals, fish damage, gear) should also be photographed.

Photography tips:

- Compose photographs so that the vessel identity and crew remain anonymous;
- Take photos with the sun at your back and avoid direct mid-day sun;
- Make sure to frame the photo so that shadows do not fall across the subject;
- Place a label near the subject identifying it. Include the specimen number and species name in large block letters on a piece of paper;
- Place the specimen and a meter stick or other object for scale against a plain contrasting background;
- Orient the camera perpendicular to the specimen to obtain a full side view and fill the viewfinder with the specimen;
- Use “Macro” setting (if your camera has this) to capture close ups of specific ID characteristics (finlets, lateral lines, etc.);
- If the animal is too large to fit in one frame, take a shot of the head with the front half of the body, and another of the rear half of the body.

Record an entry in the photo log for each photo you take.

Date (dd/mm/yy)	Haul #	Camera # or roll #	Image #	Brief description
<i>Example</i>				
07/11/09	7	1	3-4	<i>ID photo of Hawksbill sea turtle – 2 views</i>
07/11/09	7	1	5-6	<i>Hawksbill sea turtle – gear remaining upon release</i>
20/11/09	25	1	7	<i>Small cetacean, unidentified</i>

