



December 10, 2014

## NEFSC Fisheries Sampling Branch Policies

### **Gear Maintenance**

The National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center (NEFSC) Fisheries Sampling Branch (FSB) collects, maintains, and distributes data for scientific and management purposes in the northwest Atlantic Ocean. FSB manages three separate but related observer programs: the Northeast Fisheries Observer Program (NEFOP), the Industry Funded Scallop (IFS) Observer Program, and the At Sea Monitoring (ASM) Program. Here, "observers" refers to any observer/monitor working for the FSB.

#### Purpose

FSB observers carry a number of critical gear items on every deployment, such as safety equipment, sampling tools, and electronic devices. Because of the harsh working conditions at sea, gear must continually be updated, maintained, and replaced. Equipment that does not meet minimum standards can negatively affect the quality of data collected and compromise observer safety.

This memo outlines the proper maintenance and storage of observer gear. Following these guidelines will significantly extend the usability of the equipment, reducing cost to FSB and the observer providers, as well as minimizing the time observers spend getting new equipment.

FSB staff will review and verify observer gear whenever possible. Observers should bring all issued gear every time they come to the Observer Training Center ("Tech Park" in Falmouth, MA) for gear certification. At the time of the writing of this memo, the Gear Certification Program is still in a pilot phase, and a formalized memo will be distributed in the future.

#### Lost, Stolen, or Damaged Gear

The observer service provider is responsible for all NMFS-issued gear distributed to observers. Proper documentation is required in the event Government-issued gear is lost or stolen. The service provider is therefore required to provide the following:

1. Written statement (from observer) identifying the gear lost and manner in which the gear was lost, using the attached Gear Damage/Loss Report.
2. Police report describing the theft and identifying which items were stolen (required for stolen property only).
3. Reimbursement (equal to the value of the equipment when purchased) or replacement to the Government for the gear lost, if the observer is deemed to be at fault.

Gear that is damaged or suspected of not functioning properly should be immediately reported to FSB using the attached Gear Damage/Loss Report. Non-functioning equipment may not be used on observed fishing trips, as it may cause significant errors in data collection. FSB staff will assess damaged gear and work with manufacturers to repair the gear when possible. Any damage caused by negligence that requires repairs will be charged to the service provider.

In addition, FSB may place observers on probation status for significant gear neglect to either NMFS- or service provider-issued gear. Indications of gear neglect include significant damage outside of the normal wear-and-tear expected in the at-sea environment, or improper maintenance causing the gear to become unusable sooner than expected (*e.g.*, not rinsing metallic equipment in fresh water, causing substantial amounts of rust).

FSB will evaluate all gear whenever possible, and mark any gear that is inadequate for future use as “failing” the inspection. Observers may be recommended for probation if the following patterns of gear neglect are noted:

- 3 or more items “failing” a single gear inspection,
- the same item “failing” two or more inspections in a 6-month period, or
- any single “failed” item costing NMFS more than \$1000 in repair/replacement charges.

During the probation period, observers must:

- Follow all FSB guidelines for gear maintenance.
- Submit a digital photo of all gear laid out in such a manner that FSB staff can determine the physical condition of the gear:
  - Immersion suit taken out of bag, showing all accessories securely attached
  - Spring scales and calipers rinsed in fresh water, showing any rust
  - Marel scale rinsed in fresh water, with batteries removed and stored properly
    - At least one photo should show the scale number
  - Incidental take kits, with all items removed from bags
    - Close-up of turtle pliers and tags, showing any rust
  - ToughPad, showing any scratches, cracks, or debris
  - Digital camera, showing any scratches, cracks, or debris
    - The photo of the digital camera can be taken with the ToughPad camera
  - Photos should be uploaded at the same time as the trip, coded as “Observer Duties”
- Check the calibration of the scales and report to FSB after each trip, following the attached Self-Check Worksheet, including:
  - Small (10-lb) spring scale – test weight of 1 full gallon of water (such as a jug of water available at many stores)
  - Large (100-lb) spring scale – test weight of 1 full gallon and 3 full gallons of water
  - Marel (electronic) scale – perform 1-day calibration as described in the Marel scale maintenance documents
    - Record on both the Self-Check Worksheet and the Marel Scale Log
  - PIT tag scanner – test sample tag as described in the Observer Program Manual
- Immediately report any gear problems to FSB staff.

The photographs and worksheet submitted for each trip must be reviewed and approved by FSB staff before the observer may redeploy on another probation trip. After 3 trips, NMFS will decide whether the probation requirements have been satisfied.

If there is further evidence of gear neglect within 1 year of coming off probation, the observer may be recommended for decertification. If 1 year passes without a gear inspection, the observer must coordinate with FSB to arrange a gear inspection.

## NEFSC Fisheries Sampling Branch

### **Gear Damage/Loss Report**

This form is used to document significant damage or loss to NMFS-issued sampling gear that is issued to an observer for use on commercial fishing trips. The observer to whom the gear was issued should complete as much information as possible, and submit to their COTR with the trip data logs (if damage/loss occurred at sea) or within 48 hours (if damage/loss occurred on land). If gear was stolen, a copy of the police report must be included.

**Lost or stolen ToughPads** must be reported to Erin Kupcha ([Erin.Kupcha@noaa.gov](mailto:Erin.Kupcha@noaa.gov)) immediately to protect confidential information.

Observer Name: \_\_\_\_\_ Observer ID: \_\_\_\_\_ Provider: \_\_\_\_\_

Gear Type: \_\_\_\_\_ Serial Number: \_\_\_\_\_

Reported by: \_\_\_\_\_ Date: \_\_\_\_\_

Description of Damage/Loss: \_\_\_\_\_  
\_\_\_\_\_

Cause of Damage/Loss: \_\_\_\_\_  
\_\_\_\_\_

Observer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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For FSB Staff use only:

Additional Details: \_\_\_\_\_  
\_\_\_\_\_

Estimated cost to repair/replace: \$ \_\_\_\_\_ Date of estimate: \_\_\_\_\_

Outcome: \_\_\_\_\_ Signature: \_\_\_\_\_

**Fisheries Sampling Branch  
Observer Gear Certification Program  
Self-Check Worksheet**

Observer's Name: \_\_\_\_\_

Observer ID: \_\_\_\_\_

Observers on probation for gear negligence must complete this form after each probation trip, and submit it with their trip logs. If you have non-functioning or missing equipment, please contact FSB before deploying on your next trip. Describe any issues on back.

ITEM	DESCRIPTION	RESULT
Calipers	Good Condition, not rusted	Y / N
	Slide moves freely	Y / N
	Screw prevents slide from falling out	Y / N
Small Spring Scale	Good Condition, not rusted	Y / N
	Weight of 1 gallon of water	____.____ lbs If not between 7.5 and 9.1, replace
	Scale Number	
Large Spring Scale	Good Condition, not rusted	Y / N
	Weight of 1 gallon of water	____ lbs If not between 7 and 9, replace
	Weight of 3 gallons of water together	____ lbs If not between 22 and 28, replace
	Scale Number	
Marel Scale	Good Condition	Y / N
	Calibration	Fit value: _____ Calibration weight: _____.__ lbs
	Scale Number	
Incidental Take Kits	Good Condition, dry	Y / N
	PIT Tag scanner reads test tag	Y / N
Immersion Suit	Good Condition, accessories attached	Y / N
Electronics	Good Condition, including accessories	Y / N

Observer's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Safety Gear:

Observer safety is of utmost importance. Safety gear is required on every observed fishing trip. The safety gear issued to observers is comprised of:

- Personal Flotation Device (PFD)
- Immersion suit
- Personal Locator Beacon (PLB)
- Light, mirror, and whistle

## *Maintenance*

The PFD and immersion suit should be free of defects. All observers should be able to don an immersion suit in under 60 seconds. The immersion suit zipper should be waxed regularly (until it moves easily), and the suit should be stored with the zipper 1-2" from the bottom.

The PLB must have a current NOAA SARSAT registration decal. In the case of an emergency, a non-registered PLB may cause delays to search and rescue teams. Expired PLB batteries must be replaced. Each PLB must be tested by the observer at least once per month to ensure proper working condition.

The PLB, light, mirror, and whistle should be attached to the immersion suit and placed securely inside the suit pocket. Long, tangled strings can inhibit or delay donning of the suit in an emergency.

Each observer should also have at least 10 EPIRB Visual Inspection Cards (EVICs) at any time. These are issued to vessels after a visual inspection of the vessel's EPIRB.

## Electronic Gear:

FSB issues several types of electronic gear that are used to capture and store information quickly, as well as to transmit real-time data. The electronic gear issued to observers will vary depending on program type, and is comprised of:

- Data Entry Hardware (iPAQ, ToughBook, and/or ToughPad)
- Digital Camera
- Accessories:
  - SD card(s)
  - Charger(s)
  - Adapter(s)

Electronics must always be brought to inspection fully charged and with all accessories. Chargers, SD cards, and adapters are individually assigned to a single observer, and should not be shared or transferred.

## *Maintenance*

The data entry software should be the most up-to-date version. The data entry hardware device should be in good working order. Although issued electronics are designed for the at-sea environment, they should not be left soaking in water. Screens and keyboards should be cleaned with a damp cloth using fresh water and then air-dried. Any fish scales or debris should be removed and parts should be brushed clean (*e.g.*, with an old toothbrush). Devices that are physically damaged (*e.g.*, broken screens) or malfunctioning may not be used.

Accessories should be kept with the device to which they are issued. Chargers and adapters should be kept clean and dry, and should be free from defects (*e.g.*, cut cables).

### Spring Scales:

Scales are critically important for weighing species on every trip. All observers are issued two spring scales, but the exact style may vary between observers and providers. The small scale is accurate to the tenths place and has a maximum load of 12-15 lbs. The large scale is accurate to the whole number and has a maximum load of 100 lbs or more.

### *Maintenance*

Scales are prone to rust if not properly maintained. Some scales have small parts, such as indicator arrows, that can break or fall off during normal use, which decreases the accuracy of reading the weight. After repeated use, the springs in the scales will stretch, resulting in inaccurate weight readings. FSB requires all scales to read within 10% of the actual value, and will compare the scale readings to known weights during certification checks.

Scales should be rinsed in fresh water after use to prevent rust. Observers should regularly check that scales are properly tared between and during hauls. If an observer suspects inaccurate readings, they should immediately contact FSB for a certification check and/or replacement scales.

### Marel Scale:

Marel electronic motion-compensating scales are issued to some observers, depending on provider and trip type history. Marel scales are generally easier to read and can handle a larger weight than spring scales. A limited number of scales in two sizes are available: the larger scale can weigh up to 150 lbs at a time, the smaller scale can weigh up to 60 lbs at a time. Not all observers will be issued a Marel scale.

If a Marel scale does not meet FSB standards, the observer may not use that scale but may deploy with certified spring scales.

### *Maintenance*

Marel scales are prone to rust if not properly maintained. During a trip, the scale must be rinsed down with water, removing all slime and debris. After a trip, the scale must be dismantled and thoroughly washed with fresh water. The case must be washed with fresh water and allowed to dry before repacking. Scales must be visually inspected for any damage, foreign objects, or rust. The display screen should be in proper working condition.

Observers must perform and document daily calibration tests for each day on the water (documented on the Marel Scale Log) as well as Fit Value tests for each haul on which the scale was used (recorded on the Catch Estimation Worksheet). The Fit Value indicates the performance of the calibration, and should be less than 25 (less than 70 in rough weather is acceptable). The calibration weight is the readout when the 5-kg weight is read by the scale, and should be within the range of 11.00 - 11.05 lbs. Scales with values outside this range may not be used.

In addition to the scale, all parts must be stored in the scale case when not in use, including: batteries, Marel scale reference guide, silicon grease, and calibration weights. The case should be kept in good condition.

## Calipers:

Calipers are used to measure mesh sizes in the trawl and scallop dredge fisheries. They are also used to measure certain trap dimensions in the lobster, crab, and fish pot/trap fisheries, and may be used for measuring line thickness in the gillnet and longline fisheries.

### *Maintenance*

Calipers are prone to rust if not properly maintained. Calipers that have thoroughly rusted shut may not be used. Rust can be prevented by rinsing in fresh water after use, and lubricating with WD-40 or other mineral oils. Numbers (size markings) must be legible.

Two screws at the right-hand side of the caliper prevent the slide from falling out. If these screws are missing and cannot be replaced, then the device should not be used.

## Incidental Take Gear:

Incidental take gear is used when sampling a marine mammal or sea turtle at sea. This gear is issued in two separate kits ("Mammal Kit" and "Turtle Kit"), the contents of which will differ by observer certification (see full list below).

### Mammal Kit (NEFOP & IFS)

Tags (yellow, begin with D0 or D0A)

10 for NEFOP, 5 for IFS

Face shield, gloves

3 work slates

Disposable camera

12' measuring tape

Tyvek tags, pencil, Sharpie

Temperature probe

2 black 'body bags'

Plastic bags, multiple sizes

Zip ties

Face Shield

### Mammal Kit (ASM)

10 tags (yellow, begin with D0 or D0A)

Zip ties, gloves

Face Shield

### Turtle Kit (NEFOP & IFS)

10 tags (metal, Inconel)

Waterproof handouts & log

5 biopsy punches

Tagging pliers

5 vials saturated salt H<sub>2</sub>O

Measuring tape (10' or 12')

Betadine and alcohol wipes

Parafilm, Whirl-paks

Write-on tape, pencil, Sharpie

Dive slate

Gloves

Tweezers, toothpick

### *Maintenance*

Most incidental take gear is designed to withstand the at-sea environment. Some pieces of equipment, such as tagging pliers, are prone to rust if not properly maintained. During a trip, the entire turtle kit should be stored in a waterproof bag away from seawater (*e.g.*, not in a bucket on deck). After use, the incidental take kits must be allowed to dry fully, especially the turtle kit. Rust on pliers and/or tags can cause infection to live sea turtles.

Incidental takes should be tagged according to the protocols for the particular species and program (see the Biological Sampling Manual). Observers must have a sufficient number of tags and other biological sampling equipment before deploying on a trip (see list above).

Other Gear:

Other gear issued to FSB observers may include:

- Length frequency board(s) and strips
- Sturgeon sampling vials
- Measuring tapes (small and large)
- Depth stick
- Waterproof notebooks
- Field diaries

These items should require minimal maintenance, such as cleaning with fresh water. Any item that is broken may not be used.

Waterproof notebooks should be submitted to FSB when they are full, or when they contain at least 5 trips worth of data. As notebooks are submitted, FSB will send replacements via postal mail. Observers should have at least 2-3 notebooks at any time.

Field diaries should be submitted to FSB when they are full, contain at least 5 trips worth of data, or contain information relevant to a submitted Incident Report (*e.g.*, harassment, interference with observer duties, injury).