



# STATION MARINE DINARD

## EOS sampling protocol: elasmobranchs landed at French auctions

As part of the French National Work Plan 2022-2024

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**European Maritime and Fisheries Fund FEAMPA / OS I.4**





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As part of the French National Work Plan 2022-2024

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## *I. Context*

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Since 2000, a European framework for the collection and management of fisheries data has been in place. This framework was last reformed in 2008, resulting in the current data collection (Data Collection Framework). Under this framework, Member States collect, manage and make available a wide range of fisheries data necessary for scientific advice.

Data are collected on the basis of National Work Plan (NWP) in which Member States indicate what data is collected, the resources they allocate to collection and how the data is collected. Member States are required to report annually on the implementation of their national plan and the Scientific, Technical and Economic Committee for Fisheries (STECF) evaluates these annual reports.

These data are then analyzed by international expert groups and form the basis of scientific advice and recommendations in STECF reports. The resulting scientific advice is used to inform the decision-making process of the Common Fisheries Policy.

The EOS monitoring of elasmobranchs landed at French auctions, conducted by the MNHN, was set up in 2012. Since 2022, it has been mutualized with the Ifremer Obsventes survey in order to increase the sampling effort on elasmobranchs fished in the Atlantic and Channel waters.

## 2. Auction sampling protocol

### a. Planning of visits and preparation of field equipment

A weekly telephone call to the auctions is mandatory to maximize the observation effort. Thus, it is necessary to obtain an exhaustive list of the offshore fleet of each auction and a detailed forecast of landings for the coming week; including the number of boats expected per sale and the quantities of rays and sharks per vessel. When contacting the auction, it is useful to recall the context of the intervention and to make it clear that it is not a question of control. The biological and commercial data collected are confidential and anonymized in secured database.

**Each auction visit requires 2 observers to properly sample elasmobranchs.**

**Only vessels flying the French flag are to be sampled.**

Observers are required to obey to health and safety standards upon arrival. Clothing and sampling equipment must be clean. Here is the list of mandatory material, special attention should be paid to the underlined material:

- Shell boots
- Oilskin and coat
- Warm clothes
- Gloves
- Ichthyometer with 1.5 metre stop
- Decameter
- 10 kg mini electronic scale, accuracy  $\pm 20g$ .
- Pencils, eraser
- Manual Counter
- EOS sampling protocol (at least pages 5 to 10)
- Sufficient input form (minimum 30 per visit)
- Measurement/Photo guide by species (Appendix 2)
- MNHN species identification documents
- Camera

### b. Organization of the visit

When the observers arrive at the auction, it is essential to present themselves to the person in charge that day and to remind them of the objective of the intervention if necessary.

The first step is to analyze the situation by asking staff or consulting the forecast board. Identify the ships present, estimate the progress, the expected time of sale and how to position yourself to avoid disturbance. **It is important to take a global look at the species and commercial categories present and to make an "inventory" of the quantities (cat, total weight, etc.) of species to be sampled.** This first round of auction also makes it possible to detect certain specificities: "emptied" categories, "injured" categories, out of category for large shark specimens and rare species.

**The completeness of the offshore and coastal vessels registered for sale must be respected on the day of the visit.**

### *c. EOS form terminology*

The entry form shown in Figure 1 is designed to record a landing by sales name. One or more sheets are required to cover all sales names, especially for offshore vessels. It is made up of 6 different frames, explained below:

#### ① General description of the observed landing

- **Observateurs:** First and last name of observers.
- **Nom du navire/immatriculation:** Name of the vessel written in capital letters/ registration number if notified (e.g. FELIR 918511).
- **N° de débarquement:** Number incremented during computer entry - **Do not fill in.**
- **Date de vente:** Date of sale of the landing, not date of sampling.
- **Criée:** Name of the auction monitored by capital letters.
- **N° de page:** Number of pages in the upper part and total number of pages of the landing observed in the lower part.

#### ② Description of the ETIQ sales name

- ⇒ A column is dedicated to each set of sales name/category.
- **Nom de vente/FAO:** Local sales name as indicated on the label and/or FAO code (e.g. Thornback ray/RJC). Do not write anything in case of absence.
  - **Nom latin:** The scientific name of a genus and species as indicated on the label. Do not write anything in case of absence.
  - **Catégorie:** commercial category, usually 10 to 50 or 1 to 5 (more rarely small, medium, large).
  - **Poids total des lots:** Total weight in kilograms (precision: 1 decimal) of the different sales batches linked to the sales name/category set. Calculation to be made the next day on the basis of the weights of each sales batch recorded in frame 6.

#### ③ Frame Description remarks/ gravid female /LWR (Length Weight Relationship)

- ⇒ A frame to record remarks or the accuracy of the scale used in case of LWR but also, if necessary, to specify the size of the reproductive female.
- A female is said to be gravid when:
- In the case of oviparous species (ray, dogfish, chimera): the horns of a capsule come out of the female's cloaca.
  - In the case of viviparous species (Starry smooth-hound, Tope Shark, stingray, torpedo, pelagic sharks): young emerge from the female's cloaca.

#### ④ Description of the sample ECH

- ⇒ A column is dedicated to each species encountered under a set of sales name/category. Multiple columns will be entered for a mix of species and/or presentations in the sample.
- **Genre/espèces:** The scientific name of the species found in the sample.
  - **Vrac/Hors Vrac:** This information should be specified ONLY when the batch has a mixture of species AND a sub-sampling of this batch is required.
    - The term "**Vrac**" (Bulk) means that specimens of the different species are mixed indiscriminately in the sample.
    - "**Hors Vrac**" (Non-bulk) means that specimens of a species are placed directly on top of the boxes or in a box associated so that they can be seen by the fishmonger. These species may sometimes be mentioned as a remark on the sale documentation (ETQP) in some auctions.
  - **Présentation:** is the actual presentation observed and not the one recorded in the ETQP. A different presentation may appear in the sample, especially when species are mixed. In this case, observers will report the main presentation observed.
  - **Nombre** of specimens: Number of specimens measured for the sample

- **Poids Ech.:** Weight of the sample in kilograms (precision: 1 decimal) or total weight of the sales batch if all specimens are measured (see method of sampling sales batches).

**5** Entry of biometrics by sex and maturity for males (Appendix 4)

- ⇒ Three sub-columns are dedicated to each species for the capture of biometrics.
  - **Mj:** Juvenile Male
  - **Ma:** Adult male
  - **F:** Female without differentiation

**6** Entry of batches weights by sales name/category

- ⇒ There are two columns dedicated to entering the weights of sales batches in a sales name/category set. The amount will be reported/verified in the "Total Weight of Sales batches" box of **ETIQ** the day after the sale with the sale documentation.

**DO NOT erase batches weights in this frame once the total weight has been calculated.**

**7** Memo of standard box weight used in auctions

- ⇒ Allows you to subtract the tare weight from the sample in the event that the auction scales provided do not allow it.

**Be careful, the standard box weight can vary depending on the auction and it is up to the observer to identify the actual weight used and subtract it from the gross weight of the sample.**

**8** Information on the completeness of sampling and the follow-up of the control procedure

- ⇒ Boxes are to be checked to signify:
  - **Ech. Complet:** "Yes" is checked if the completeness of the sales name/category sets for this landing has been observed. "No" is checked if some have not been observed.
  - **Vérification ETQP:** "Yes" is checked once the ETQP verifications of the sales names and batch weights sold by category is completed.

**9** Accuracy of scales/scale used

- ⇒ Weight measurement is a sensitive factor when performing LWR. For rare and/or PETS classified species, the accuracy of the scales must be indicated in grams for specimen weighing (see paragraph g). It can be indicated in this frame or in frame 3.





#### d. Sampling Method

**For a landing, all the combinations - sales name/category - of elasmobranchs present must be sampled and recorded on the EOS form.**

The sampling procedure differs according to the tonnages landed by sales name/category. This procedure as well as the EOS form is described in Figure 3.

It is advisable to print a reprint of Figure 3 in order to fully understand the different situations described below.

- **Subsampling on high tonnages** Situation 1 and Situation 2
  - ⇒ Size category 30, 40 and 50 batches: sampling of a minimum of 35 specimens.
  - ⇒ Size category 10 and 20 batches: sampling of at least 20 specimens.
- **No subsampling on small tonnages** Situation 3
  - ⇒ Batches in size categories 30, 40 and 50 if the entire batch can be observed in its entirety (number of specimens less than 50).
  - ⇒ Batches of size categories 10 and 20 if the total weights per category are less than 150 kg.
  - ⇒ **For rare species, refer to paragraph g.**

**For the same sales name, all categories present in the landing must be realized.  
If one or more categories of a sales name are not measured, the data in the sales name will be unusable.**

E.g. category 20 and 30 measurements of *R. brachyura* but no category 10 measurements also present.  
The data acquired from categories 20 and 30 will not be usable.

**This parameter must absolutely be considered when choices of measures have to be made due to lack of time or inaccessible categories.**

#### e. Special treatment for mixture of species and/or presentations.

- **Species mixture**

Some samples may be subject to further sorting when a sales name includes a mixture of species Situation 2. In this case, identify each species as the sampling process progresses until 35 specimens are reached. Divide the species into different boxes to record specific weights. Mention the presentation of each species and the type of mixture (Bulk/Non-Bulk).

- ⇒ A species column (frame 3 - Fig. 1) is dedicated to each of the species found in the sample. It is not necessary to carry over the sales name of frame 2 (Fig. 1; Fig. 3 – Situation 2).
- ⇒ Measurements by species will appear in columns to follow. Make sure you have enough columns on the same sheet for this situation. The first column will show the information of the "main" species sold under this sales name. The following column(s) will report data on the other species(s) observed.
- ⇒ The number of specimens measured and the weight are noted in frame 3 for each of the identified species.

- **Presentations mixture**

It sometimes happens that a sales name/category groups together specimens presented whole, gutted and/or in wings of the same species, especially for the sale of rajids. The situation is identical to Situation 2, the data must be entered by applying the species mixture method but adapting it to the different presentations encountered.

In frame 2, enter the name of the species in the Genus/Species of ECH and specify the presentation according to the following guidelines:

- ⇒ If the specimens in the sample are presented as **"Whole" and "Empty"**:
  - Make a single weighing and mention the main presentation in the ECH presentation field.
- ⇒ If the specimens in the sample are presented in **"Wing"**, in a new column:
  - Delete/replace any of the words "Mj", "Ma" or "F" with "I" for indeterminate sex.
  - Enter the width of the wings.
  - Take a picture if there is any doubt about the identification.
- ⇒ If the presentation is **"skinned"**:
  - Do not measure as the species cannot be identified with certainty. Take the data of the sales name, make an identification proposal in the comments and take a general photo of the box.

- **Species and presentations mixture**

This (rare) situation takes up the previous methods and combines them. Always mention each species and their presentations in ECH.

- **Special cases in the "Wounded" and "Thin" categories**

- ⇒ If the size category of the batch is identical to one of the categories already observed and for which the number of specimens to be measured has been reached, fill only the sales name in a new column. There is no need for biometric measurements. If different (e.g., 90), apply the normal sampling protocol.

- **Special case of sales names of bony fish with the presence of elasmobranchs**

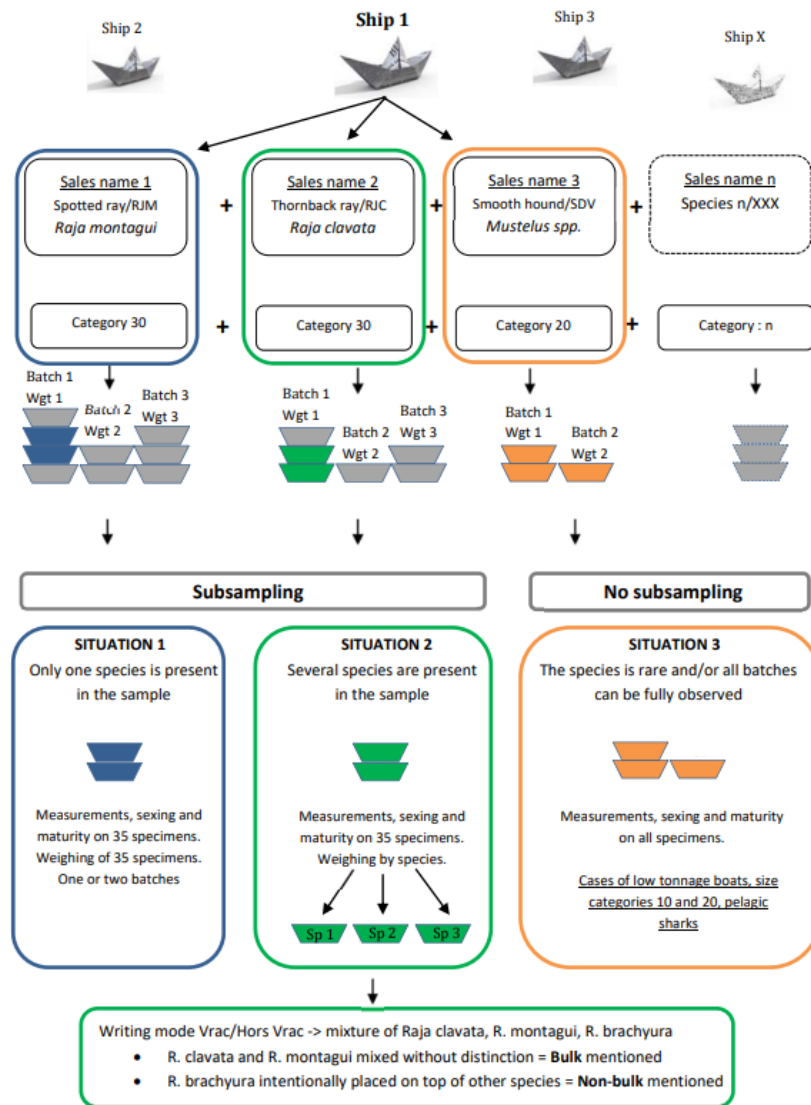
- ⇒ In the case of elasmobranchs mixed with bony fish, crustacean or mollusc, the sales name must be recorded, measured and weighed only elasmobranchs and the remaining weight of the batch must be entered under a column "Various bony fish" or "Various crustacean or mollusc" (Fig. 2). This situation often occurs on coastal vessels.

Grandin Perlon			R. douce / RST				
C. lucerna			R. montagui				
20			30				
5.3			11.2				
Femelle œuvée LT :	Femelle œuvée LT :	Femelle œuvée LT :	Femelle œuvée LT :				
R. microporeluta	Divers poissons	R. montagui	Divers poissons				
V (HV)	V HV	V HV	V (HV)	V (HV)			
Entier (Vidé)	Entier Vidé	Entier (Vidé)	Entier Vidé				
1		6					
1.20	5.7	10.450	0.210				

	Mj	Ma	F		Mj	Ma	F		Mj	Ma	F		Mj	Ma	F
0			0				0				0				
1			1				1				1				
2			2				2				2				
3			3				3				3				
4			4				4				4				
5			5				5				5				
6			6				6			1	6				
7			7				7				7				
8			8				8			1	8				
9			9				9				9				
10			0				10			1	0				

Figure 2: Examples of bony fish/elasmobranch mixture.



Observateurs	Sébastien Mayot / Thomas Barreau		N° débarquement		Page N° 1
Nom du Navire	LE CRESCO		Date de vente	11/10/2016	5
Immatriculation	350000		Crée	DINARD	Nb tot pages

E	Nom vente	Rale douce	Rale bouclée		Emissoles
T	Nom latin	<i>Raja montagui</i>	<i>Raja clavata</i>		<i>Mustelus asterias</i>
I	Catégorie	30	30		20
Q	Pds total des lots	293,2	532,5		116,5

Remarques :

	<b>SITUATION 1</b>		<b>SITUATION 2</b>				<b>SITUATION 3</b>		
E	Genre/espèce	<i>Raja montagui</i>	<i>Raja clavata</i>	<i>Raja brachyura</i>	<i>Raja undulata</i>	<i>Mustelus asterias</i>			
C	Vrac/Hors Vrac	Vrac	Vrac	Vrac	Hors Vrac				
H	Présentation	(Entier) Vidé	(Entier) Vidé	Entier (Vidé)	Aile Entier Vidé	(Entier) Vidé			
	Nb Individus	35	31	3	1	20			
	Pds Ech.	50,7	45,7	6,5	1,5	116,5			

Tares des caisses:  
Petite: 2,4Kg  
Moyenne: 3,8Kg  
Grande: 4,2Kg

Ech. complet  
Oui ☐ Non ☐

Vérification ETQP  
Oui ☐

RTP précision  
balance/peson :  
± .....

	Mj	Ma	F		Mj	Ma	F		Mj	Ma	F		Mj	Ma	F		Mj	Ma	F
60					50				60				50				100		
1					1				1				1				1		
2					2				2				2				2		
3					3				3				3				3		
4					4				4				4				4		
5					5				5				5				5		
6					6				6				6				6		
7					7				7				7				7		
8					8				8				8				8		
9					9				9				9				9		
70					60				70				60				110		
1					1				1				1				1		
2					2				2				2				2		
3					3				3				3				3		
4					4				4				4				4		
5					5				5				5				5		
6					6				6				6				6		
Pds des lots de vente					Pds des lots de vente				Pds des lots de vente				Pds des lots de vente				Pds des lots de vente		
217,5					215,5												80,5		
60,0					236,4												26,0		
15,7					80,6														

**Attention : Toujours vérifier que les balances de criée ne sont pas préréglées sur une tare spécifique**

Figure 3: Protocol for simultaneous and exhaustive sampling of coastal and offshore vessel's landings and transcription of the data in the EOS form.

#### *f. Biometric data record on the EOS form*

To facilitate the entry of biometrics, it is recommended to announce the data by mentioning the sex of the specimen, the sexual maturity if it is a male and then its length. Examples of landing inputs are presented in Appendix 3 for the 3 situations described above.

**1/ Sexual maturity is an important biological parameter** because it allows the L50 to be analyzed according to geographical areas. It is detected only for males (juvenile/adult) by examining the calcification of their two reproductive organs, the pterygopods. These are considered fully functional, and specimen is adult, when calcification is complete. The morphological variations of these stages are described in Appendix 4. Variations in calcification are perceived by flexing one of the pterygopods.

- **juvenile male (Mj)**: Depending on the species, pterygopods are smaller or slightly larger than pelvic fins. They are either non-calcified and flexible, or partially calcified and still flexible to a large extent in sub-adults.
- **Adult male (Ma)**: Pterygopods are fully formed, hardened, calcified, and longer than pelvic fins. In some shark species, flex points persist and the terminal cartilage may remain flexible.

**2/ The total length (LT) is the most common length to be measured on** each specimen in the sample, measured to the inferior centimeter. However, some presentations and/or species may require **a different measurement or two measurements** (Fig. 4). The measures are specified by species and presentation in Appendix 2:

- The **width of the disc (LD)** for *Dasyatidae* and the **total length (LT)** when they are not stemmed.
- The **width of the wing (LA)** for rays presented in "Wings".
- **Total length (LT)** and **fork length (LF)** for pelagic sharks.
- **Pre-pelvic length (LPP)** for chimeras.

**3/ The number of specimens measured and the weight of the sample** are reported in the ECH frame, respectively under "Nb Ind" and "Pds Ech". Attention, the weight of the sample is a net weight (without the tare of the box).

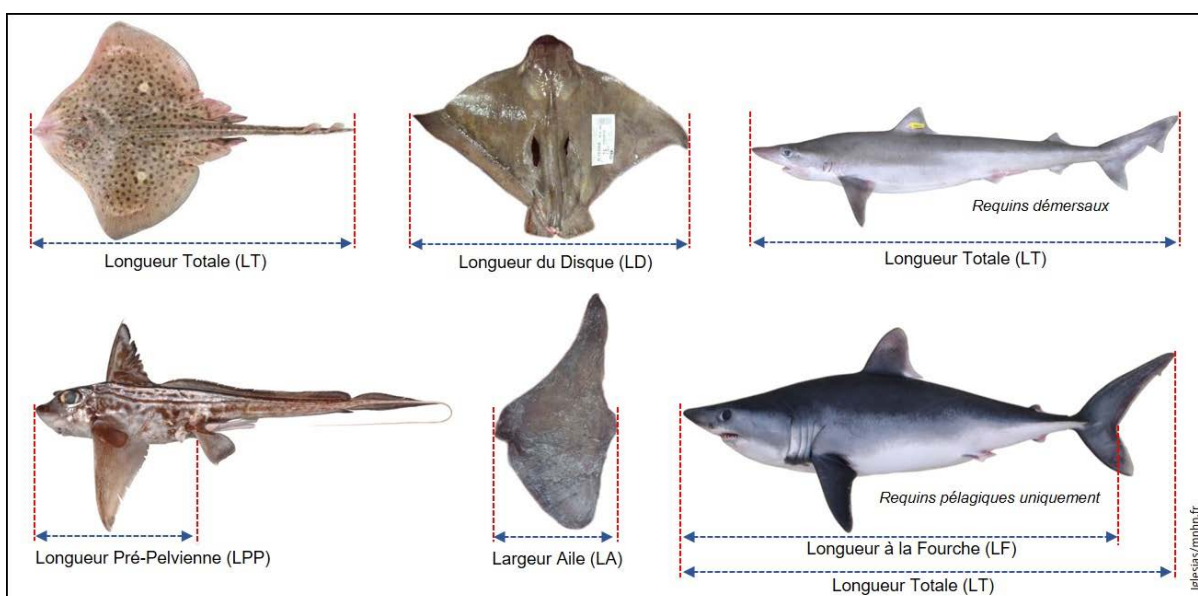


Figure 4: Description of the measurements according to the species and the presentations.

*g. Rare species and/or species classified as PETS (Protected, Endangered and Threatened Species)*

Rare and/or PETS-classified species are listed and marked in colour in the EOS fact sheet (Appendix 2). They need to be given special attention because PETS are included in the new European regulatory framework DCF for the collection of biological data and there is little data collected for these species.

For these species, it is required to **carry out the total biometrics per specimen on all landings present under the auction enclosure**, i.e. the specimen weight and the length(s) defined per species in the EOS fact sheet (Appendix 2).

In the case of a large landing for categories 10 and 20 (number of specimens SIGNIFICANTLY greater than 20), it is requested to carry out at least measurements of 20 specimens per vessel.

**This procedure must be followed for species marked in color in Appendix 2, whether they are for sale, withdrawn from sale, landed in the previous days but still present in the auction.**

• First proposal for adaptation of the EOS form (Fig. 5)

E T I Q	Nom vente	Torpille marbrée	
	Nom latin	Torpedo marmorata	
	Catégorie	90	
	Pds total des lots	15,0	
Remarques/ Femelle œuvée		Femelle œuvée LT: - RTP Précision balance = 10g	
E C H	Genre/espèce	Torpedo marmorata	
	Vrac/Hors Vrac	V	HV
	Présentation	Entier	Vidé
	Nb Individus	8	
	Pds Ech.	15	

**Tares des caisses:**

Petite: 2,4Kg

Moyenne: 3,8Kg

Grande: 4,2Kg

		Mj	Ma	F
0	Sex	LT	LD	Poids
1	F	37	29	1,35
2	F	44	28	1,62
3	F	43	27	1,61
4	F	49	33	2,55
5	F	49	31	2,53
6	F	34	22	0,90
7	F	41	28	1,50
8	F	50	34	2,69
9				

**Frame 2 – ETIQ:** unmodified.

**Frame 4 – ECH:** unmodified except if several presentations are observed in the same batch. In this case, use as many columns as necessary to distinguish between specimens sold as "whole" and "gutted". No measurement shall be taken on specimens presented as "wing" or "skinned".

**Frame 5 – Biometric measurements:** Modify the column headings "Mj", "Ma" and "F". Replace them with statements indicating sex, length(s) measured by species and weight.

Sex: Use the same script "Mj", "Ma" or "F".

Length(s): always to the inferior centimeter:

- Use the decameter on the ground only for specimens greater than 150 cm. Make a square with the ichthyometer (or a box) to record the lengths.
- The species should be positioned in its most natural posture.

Weight: Rigorously review the following procedure:

- Note the accuracy of the scale used.
- Remove as much ice as possible from the body.
- If possible, **reset the tare weight of the scale** between each specimen weighing.

Figure 5: Proposal 1 for adapting the EOS form.

- **Second proposal for adaptation of the EOS form (Fig. 6)**

<div style="border: 1px solid black; width: 50px; height: 50px; margin: 0 auto; margin-bottom: 10px;"></div> <div style="border: 1px solid black; padding: 5px; width: 100px;"> Indiquer la précision de la balance pour les RTP (en g) :   <math>\pm \dots 100g.</math> </div>	0			
	RTP			
	Pds des lots de vente			
	Sex	LF	LT	Poids
	Mj	106	129	6,1
	F	116	143	7,0
	Mj	92	102	3,8
	F	134	163	10,4
	Ma	197	239	32,20

**Frame 2 – ETIQ and frame 4 – ECH:** same as the 1st proposal.

**Frame 6 - Entering batch weights:** change the column headings "Sales batch weights" to "LWR". Add records indicating sex, length(s) measured by species, and weight.

Sex, length(s) and weight: use the same process as the 1st proposal and indicate the accuracy of the scale used.

Figure 6: Proposal 2 for adapting the EOS form.

Accuracy of scales: Weight measurement is a sensitive data. The scale used must be adapted to the size of the specimen and the weighing limits. If, in a series of measurements, some specimens require switching from a scale to another whose accuracy is not identical, indicate this in the comments and add an asterisque (\*) on the specimens concerned in the weight column.

In addition, for PETS and rare species, **photos should be taken** in good lighting conditions and preferably on a single-color background. They must clearly show the identification criteria used (see MNHN identification booklet and Appendix 2) and a general view of the specimen must be made in addition.



### *3. Reminder of sampling procedure*

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The main steps of the sampling are recalled here in order to properly structure the observations to be produced during each auction visit:

1. Complete frame 1 of the EOS form prior to start sampling of a vessel, except for the total number of sheets and the landing number.
2. Identify the different categories by species so as not to omit certain sales batches.
3. Fill in frames 2 and 6 at the beginning of the sampling of a sales name, the calculation of the total weight can be done posteriori.
4. Use the sampling method appropriate to the volume of the sales name (see 3.d).
5. Indicate the genus/species encountered in frame 4.
6. Apply, if necessary, the methodology related to species and/or presentation mixtures (see 3.e).
7. Carry out the biometric readings of individuals by stating the sex, the maturity (male) and then the recommended measure according to the presentation or the species (see 3.f and Appendix 2). Record the length of the egg-bearing females in frame 3.
8. Record the weight and number of specimens measured for each species sampled in frame 4.
9. **Record specimen length and weight for rare and PETS species except for Tope shark and Picked dogfish.**
10. Be sure to reposition boxes and put the label back in place, glaze the fish if necessary.
11. Repeat steps 3 through 10 for all sales names to be sampled.
12. In the case where the sampling of the landing is incomplete, note in the "Comment" field the exact reasons that prevent observation.
13. Fill in the page count in frame 1 and then move on to the next ship with a new EOS form.

#### 4. Control of the data entered and sending the EOS form to the MNHN

- **Sales quantity control with commercial documents (ETQP)**

It is necessary to request the commercial documents of all vessels the day after the visit to check the quantities (Q) registered by species (E), category (T) and presentation (P). It is possible that some auctions will not be able to remove the value and average price of those documents, so it is strongly recommended to precise that the processing of the data remains confidential and secured.

This ETQP document must be attached to the sending of the EOS form or sent by email to the MNHN agents in charge of monitoring.

Prix Moyens par Bateau/ETQP							
Période : Du 28/04/2015 Au 28/04/2015,							
Bai							
Espece	T	Q	P	Qté kg	Valeur	Prix moyens	Nb Lots
BAR FILET	12	A	110	2,00	28,34	14,17	1,00
Sous Total				2,00	28,34	14,17	1,00
BAR TACHETE	10	A	110	11,80	132,03	11,24	1,00
BAR TACHETE	20	A	110	9,00	90,81	10,00	1,00
BAR TACHETE	20	B	110	5,20	20,80	4,00	1,00
BAR TACHETE	30	A	110	6,00	40,02	6,67	1,00
Sous Total				32,80	284,28	8,88	4,00
EMISSOLE	30	A	110	8,80	11,28	1,28	1,00
Sous Total				8,80	11,28	1,28	1,00
MAIGRE	20	A	110	4,00	40,40	10,10	1,00
Sous Total				4,00	40,40	10,10	1,00

Figure 7: Extract from standard commercial document (ETQP).

- **Sending EOS form and validation**

The originals of the input form and the associated commercial document will be sent by the service provider no later than 7 working days after the completion of the visit.

The MNHN will be required to acknowledge receipt and validate the quality of the data within 15 days of receipt. In the event of a problem, a notification will be sent to the contractor stating the errors found. If the MNHN does not return within 15 days, the visit will be considered valid.

- **Postal & digital Addresses**

Equipe DCF  
MNHN Marine Biology Station  
38, rue du port Blanc  
35800 Dinard  
[christelle.paillon@mnhn.fr](mailto:christelle.paillon@mnhn.fr), [sebastien.mayot@mnhn.fr](mailto:sebastien.mayot@mnhn.fr),  
[thomas.barreau@mnhn.fr](mailto:thomas.barreau@mnhn.fr)



## *5. Conditions for the validity of an auction visit by the MNHN*

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The auction visit will be validated by the MNHN supervisors if it meets the following requirements:

- ✓ The monthly visit is dedicated to EOS survey, it cannot be combined with a visit related to Obsventes survey.
- ✓ ~~The quantities of elasmobranchs observed must be representative of the tonnages landed in the auction during the flowing month.~~
- ✓ Observation of all offshore vessels listed for sale is required.
- ✓ Observation of all coastal vessels listed for sale is required.
- ✓ The entire landing of each vessel must be observed:
  - All sales names must be observed.
  - All size categories must be observed.
- ✓ Data on rare species classified as PETS must be recorded.
- ✓ The data must be corrected/completed the day after the observation with the commercial document provided by the auction.

**Failure to comply with these obligations must be duly justified in order for validation to be granted.**

## Appendix I: EOS form for auction sampling

MNHN

FICHE TERRAIN EOS POUR SAISIE D'UNE MAREE

Observateurs						N° débarquement				Page N°	
Nom du Navire						Date de vente				Nb tot pages	
Immatriculation						Créée					

E  
T  
I  
Q

Nom vente/FAO

Nom latin

Catégorie

Pds total des lots

Remarques/Femelle oeuée

Femelle oeuée LT:

Femelle oeuée LT:

Femelle oeuée LT:

Femelle oeuée LT:

Femelle oeuée LT:

E  
C  
H

Genre/espèce

Vrac/Hors Vrac

Présentation

Nb Individus

Pds Ech.

V

HV

Entier

Vidé

V

HV

Entier

Vidé

V

HV

Entier

Vidé

V

HV

Entier

Vidé

V

HV

Entier

Vidé

Tares des caisses:

Petite: 2,4Kg

Moyenne: 3,8Kg

Grande: 4,2Kg

Ech. complet

Oui ☐ Non ☐

Vérification ETQP

Oui ☐

RTP précision

balance/peson :

±.....

0	Mj	Ma	F	0	Mj	Ma	F	0	Mj	Ma	F	0	Mj	Ma	F	0	Mj	Ma	F
1				1				1				1				1			
2				2				2				2				2			
3				3				3				3				3			
4				4				4				4				4			
5				5				5				5				5			
6				6				6				6				6			
7				7				7				7				7			
8				8				8				8				8			
9				9				9				9				9			
0				0				0				0				0			
1				1				1				1				1			
2				2				2				2				2			
3				3				3				3				3			
4				4				4				4				4			
5				5				5				5				5			
6				6				6				6				6			
7				7				7				7				7			
8				8				8				8				8			
9				9				9				9				9			
0				0				0				0				0			
1				1				1				1				1			
2				2				2				2				2			
3				3				3				3				3			
4				4				4				4				4			
5				5				5				5				5			
6				6				6				6				6			
7				7				7				7				7			
8				8				8				8				8			
9				9				9				9				9			
0				0				0				0				0			
1				1				1				1				1			
2				2				2				2				2			
3				3				3				3				3			
4				4				4				4				4			
5				5				5				5				5			
6				6															

## Appendix 2: EOS technical Sheet

FICHE PRATIQUE EOS			Types mesures	Lmax	Maturité mâles	Types de photos à prendre	
	Nom commun	Nom scientifique	FAO	(cm inf)	(cm)		Gamme taille passage juvénile à adulte
Raies	Raie bouclée	Raja clavata	RJC	LT	120	60 - 85	Emissole lisse générale sillons buccaux
	Raie brunette	Raja undulata	RJU	LT	120	75 - 90	
	Raie chardon	Leucoraja fullonica	RJF	LT	120	70 - 90	
	Raie circulaire	Leucoraja circularis	RJI	LT	120	65 - 85	Requins renards générale tête avec œil
	Raie douce	Raja montagui	RJM	LT	80	50 - 70	
	Raie fleurie	Leucoraja naevus	RJN	LT	80	45 - 70	
	Raie lisse	Raja brachyura	RJH	LT	120	80 - 110	Requins mako/taupe générale aileron dorsal
	Raie mêlée	Raja microocellata	RJE	LT	100	65 - 80	
	Raie blanche	Rostroraja alba	RJA	LT	230	120 - 170	
Requins	Aiguillat commun	Squalus acanthias	DGS	LT	160	55 - 75	Raies aigles générale dorsale nez/œil de profil
	Émissole lisse	Mustelus mustelus	SMD	LT	175	70 - 110	
	Émissole tachetée	Mustelus asterias	SDS	LT	130	70 - 100	
	Grande roussette	Scyliorhinus stellaris	SYT	LT	130	75 - 110	Raies pastenagues générale dorsale générale ventrale œil/spiracle de profil
	Petite roussette	Scyliorhinus canicula	SYC	LT	80	45 - 65	
	Requin gris	Hexanchus griseus	SBL	LT	550	310 - 400	
	Requin hâ	Galeorhinus galeus	GAG	LT	175	110 - 135	Pocheteaux générale dorsale générale ventrale œil
	Requin peau bleue	Prionace glauca	BSH	LF + LT	400	155 - 220	
	Requin renard	Alopias vulpinus	ALV	LF + LT	580	250 - 350	
	Requin renard à gros yeux	Alopias superciliosus	BTH	LF + LT	?	?	Torpille noire générale dorsale spiracles
Requin mako	Isurus paucus	SMA	LF + LT	450	180 - 215		
Requin taupe commun	Lamna nasus	POR	LF + LT	360	145 - 200		
Torp	Torpille marbrée	Torpedo marmorata	TTR	LT	100	20 - 40	Autres générale
	Torpille noire	Torpedo nobiliana	TTO	LT	180	55	
Pocheteaux	Grand pocheteau gris	Dipturus intermedius	DRJ	LT	260	160 - 190	
	Petit pocheteau gris	Dipturus batis	RJB	LT	150	115 - 125	
	Pocheteau noir	Dipturus oxyrinchus	RJO	LT	150	85 - 125	
	Pocheteau de Norvège	Dipturus nidarosiensis	JAD	LT	230	150 - 160	
Myliobatidae	Pastenague commune	Dasyatis pastinaca	JDP	LD + LT	80	?	
	Pastenague de Tortonese	Dasyatis tortonesei	JDO	LD + LT	80	?	
	Pastenague épineuse	Bathytoshia lata	RDC	LD + LT	260	?	
	Aigle de mer commun	Myliobatis aquila	MYL	LD + LT	150	?	
	Aigle de mer vachette	Aetomylaeus bovinus	MPO	LD + LT	220	?	
Chim	Chimère commune	Chimaera monstrosa	CMO	LPP	38	20 - 30	
	Chimère opalescente	Chimaera opalescens	WCH	LPP	45	25 - 35	

Esèce en gras rouge -> RTP à réaliser + Photos

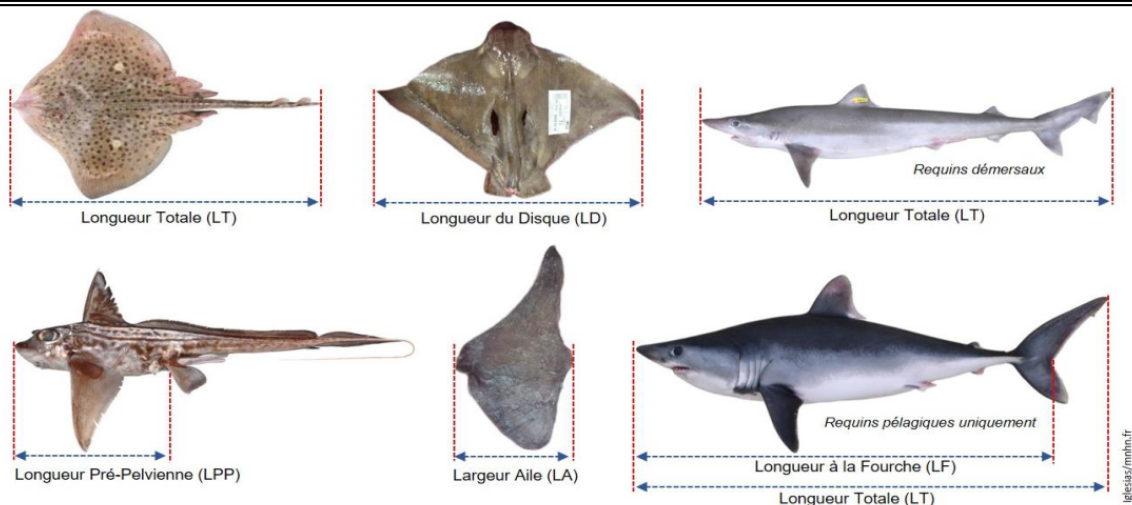
Esèce en gras noir -> RTP à réaliser

Esèce en gras vert -> Photos

Espèce en gras rouge -> RTP à réaliser + Photos

Espèce en gras noir -> RTP à réaliser

Espèce en gras vert -> Photos



### Appendix 3: Input examples for small volumes, large volumes, and species mixture

MNHN

FICHE TERRAIN EOS POUR SAISIE D'UNE MAREE

Observateurs

Thomas Barreau / Seb Raypr

N° débarquement

Page N°

1

Nom du Navire

PETIT FILON

Date de vente

14/06/23

Immatriculation

123 456

Crée

Brest

Nb tot pages

E  
T  
I  
Q

Nom vente/FAO

Raie lisse RSH: Roussettes / S4C

Raie douce RST:

Nom latin

R. brachyura

S. canicula

R. montagui

Catégorie

10

30

30

Pds total des lots

164,3

760,8

28,2

Remarques/  
Femelle œuvée/  
Précision RTP

Femelle œuvée LT :

Femelle œuvée LT :

Femelle œuvée LT :

Femelle œuvée LT :

Femelle œuvée LT :

E  
C  
H

Genre/espèce

R. brachyura

S. canicula

R. montagui

R. brachyura

L. naevus

Vrac/Hors Vrac

V

HV

V

HV

V

HV

V

HV

Présentation

Entier

(Vide)

Entier

Vide

Entier

(Vide)

Entier

(Vide)

Nb Individus

19

38

1

1

Pds Ech.

164,3

25,8

28,2 - RSH - RSN

2735

1215

Tares des caisses :

Petite : 2,4Kg

Moyenne : 3,8Kg

Grande : 4,2Kg

Ech. complet

Oui

Non

Vérification ETQP

Oui

0

1

2

3

4

5

6

7

8

9

10

1

2

3

4

5

6

7

8

9

10

1

2

3

4

5

6

7

8

9

0

Indiquer la  
précision de la  
balance pour les  
RTP (en g) :

± 5g.....

Pds des lots de vente

63,3

83,4

180,4

160,2

157

109,8

Commentaires :

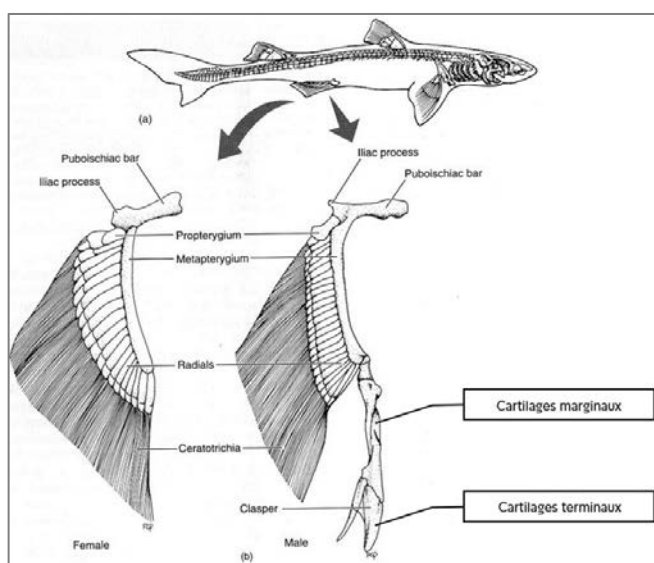
Raie pleine posée sur le dessus du bac, face ventrale et non vidée.



**Appendix 4: Description of the morphological variations of pterygopods according to the 2 stages of male maturity for *Mustelus asterias*, *Scyliorhinus stellaris*, *Scyliorhinus canicula* and the species of *Rajiformes* and *Myliobatiformes***

**Pterygopods** (clasper) = canal-like extensions of the medial part of the pelvic fin of males. They are divided into 2 parts, called marginal and terminal. They are made up of several cartilaginous ± calcified parts. The pterygopods are not connected to the testicles, the sperm is emitted into the cloaca where it mixes with seawater and taken over by a siphonal gland located at the base of the pelvic bones.

**Be careful, for the determination of maturity, the more numerous terminal cartilages may appear more flexible to the touch even for adults. Rely only on marginal cartilage for maturity assessment.**



***Mustelus asterias***

In this species, with the exception of the youngest specimens, the pterygopods are longer than the posterior tips of the pelvic fins. The difficulty lies in the assessment of the stage in sub-adult specimens (b and c). In this species, as in the other *Triakidae* and the *Squalidae* (Smooth-hound, Tope shark, Dogfish), the pterygopods are fragile. When palpating, it is important to be careful not to break the calcified parts, which could induce misidentification of maturity.



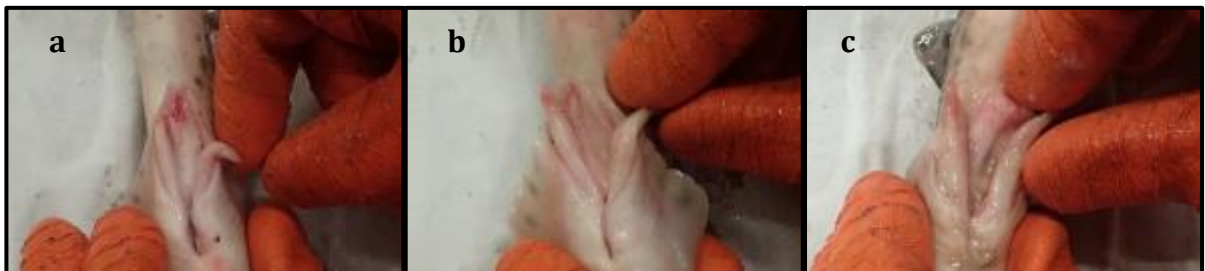
### *Scyliorhinus stellaris*

In this species, the pterygopods of adult males (c) reach or slightly protrude from the posterior ends of the pelvic fins. There is no remarkable difficulty in determining the adult stage. Pelvic fins should be spaced apart in small specimens (a) because pterygopods are sometimes hidden.



### *Scyliorhinus canicula*

Like *Scyliorhinus stellaris*, the pterygopods of adult males (c) reach or slightly protrude from the posterior ends of the pelvic fins. Due to their small size, it is sometimes difficult to identify the stages with gloves.



### General case in Rajiformes and Myliobatiformes

In these groups, the size of the pterygopods varies greatly between species. They always extend beyond the posterior ends of the pelvic fins in sub-adult (b) and adult (c) specimens. The differentiation of the stages is easier than sharks.

