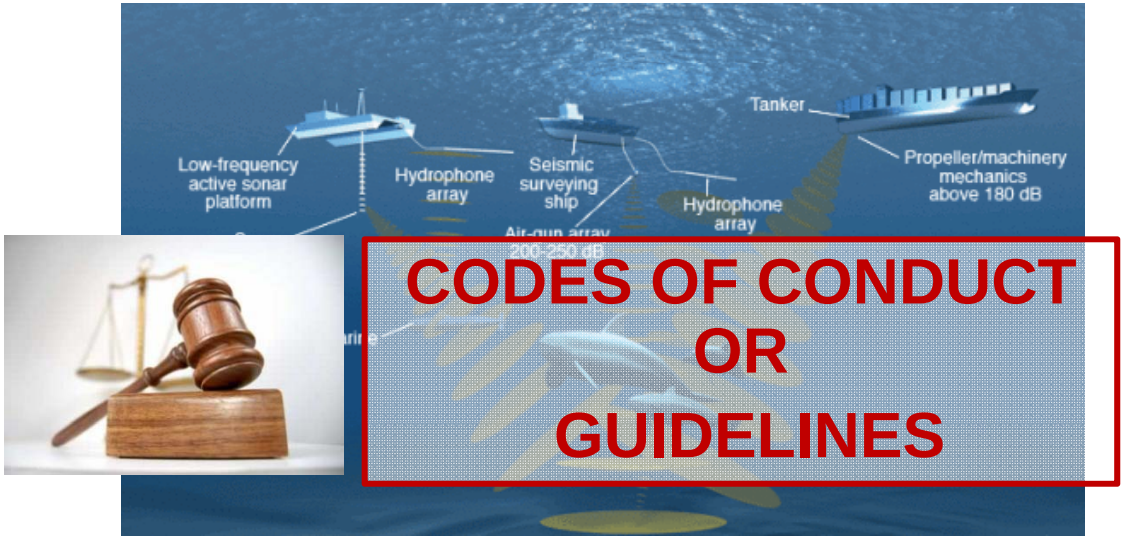
Oceanographic cruises
&
Acoustic Risks to Marine Mammals :

IFREMER Policy

C. Ducatel, O. Quédec,

Ifremer, Centre de Brest

Potential Acoustic Risks



Permit requests & at-sea **operation procedures :**

- in national waters ➔ **local rules** to be applied when existing
- in international waters or non-regulated national waters ➔ **self-regulation** based on state-of-the-art and recommendations

Legal context in France


Trente-troisième année. — N° 303. Le numéro : Cinq centimes. Vendredi 8 Novembre 1901.

JOURNAL OFFICIEL

DE LA RÉPUBLIQUE FRANÇAISE

ÉDITION COMPLÈTE
Paris et Départements : Un an, 40 fr. ; 6 mois, 20 fr. ; 3 mois, 10 fr.
Union postale : Un an, 76 fr. ; 6 mois, 38 fr. ; 3 mois, 19 fr.

ÉDITION PARTIELLE
Paris et Départements : Un an, 18 fr. ; 6 mois, 10 fr. ; 3 mois, 5 fr.
Union postale : Un an, 54 fr. ; 6 mois, 28 fr. ; 3 mois, 14 fr.

L'ÉDITION COMPLÈTE comprend : 1° le JOURNAL OFFICIEL proprement dit; 2° le Compte rendu in extenso des séances du Sénat; 3° les Annexes du Sénat; 4° le Compte rendu in extenso des séances de la Chambre; 5° les Annexes de la Chambre; 6° les Tables annuelles délivrées gratuitement aux abonnés d'un an. — L'ÉDITION PARTIELLE comprend : 1° le JOURNAL OFFICIEL proprement dit; 2° le Compte rendu in extenso des séances du Sénat; 3° le Compte rendu in extenso des séances de la Chambre.

Les abonnements partent des 1er et 16 de chaque mois. — Envoyer le montant net en un mandat-poste à l'Administration.

JOINDRE LA DERNIÈRE BANDE aux renouvellements et réclamations

DIRECTION, RÉDACTION ET ADMINISTRATION
A PARIS, QUAI VOLTAIRE, N° 31

POUR LES CHANGEMENTS D'ADRESSE AJOUTER SOIXANTE CENTIMES

French national regulation = a Decree stating the **protection of MMs** (*Arrêté du 1er juillet 2011*)

- States the interdiction of killing/wounding animals and destructing their habitat - as well as capturing, harassing …
- Lists the species concerned
- Gives **no practical constrains** in terms of objective quantified requirements

An unsatisfactory situation: rules of the game are unclear

➔ **Volunteer application** of self-regulations: Navy, oil industry…

➔ Ifremer had to define its **own code of conduct**

➔ Difficulties in **practical risk assessment** & cruise organization

➔ Preliminary contact taken recently (2014) with the concerned Departments (Environment, Research…) in view of building a practical applicable regulation

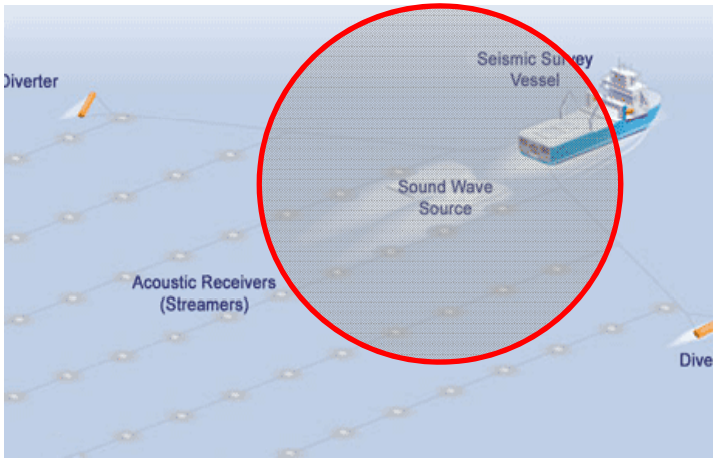
Ifremer Policy

- **2004-7 : Preliminary studies, and synthesis report**
  - State of the art about UWA risks to MMs
  - State of the art about applicable regulations
  - Risk assessment for Ifremer's own activity at-sea
- **2007-11 : Building Ifremer's self-regulation**
  - Control of Ifremer "noisy" operations at-sea
  - Design of **monitoring & mitigation** procedures ➔seismic cruises
- **2011: Definition of protocol & mitigation measures**
  - Systematic application to all IFR cruises featuring seismic sources
  - Updates according to current evolutions of the context
  - MMO training

Ifremer Protocol

Preliminary risk analysis of the cruise application:

- Avoid sensitive areas & biologically key periods
- Quantify objective exposure risks
- Provide recommendations



Risk analysis:

- Analysis of the operational context
  - Source characteristics
  - Animal species and repartition
- Modelling of the sound source radiation
- Comparison with thresholds
- Determination of a safety radius (= exclusion zone)

Depending on results ➔ mitigation procedures (Y/N)

Ifremer Protocol – Mitigation measures

- **Marine Mammal Observers** : qualified independent operators
- **Pre-watch** (at least 30 min) before starting

- **Ramp-up** (="*soft-start*" : gradual power increase)
  - 30 to 45 min, depending on the source
- During operation, **visual monitoring** within the exclusion area (**safety radius,** typically 500 m) :
  - When marine mammals are observed within this area : **Shut-down**
  - After a shut-down : pre-watch & soft-start
- More recently : **Passive Acoustic Monitoring**
  - For High-power seismic sources
  - Operated at night-time

- **Report** of observations and incidents, to be written by MMOs

Ifremer self-regulation : Results/Assessment

~30 seismic cruises (out of 50 applied)

No major issue

- No MM stranding – not even significant reactions observed
- No serious conflicts with scientists, crews, MMOs
- A few frictions with local authorities & NGOs

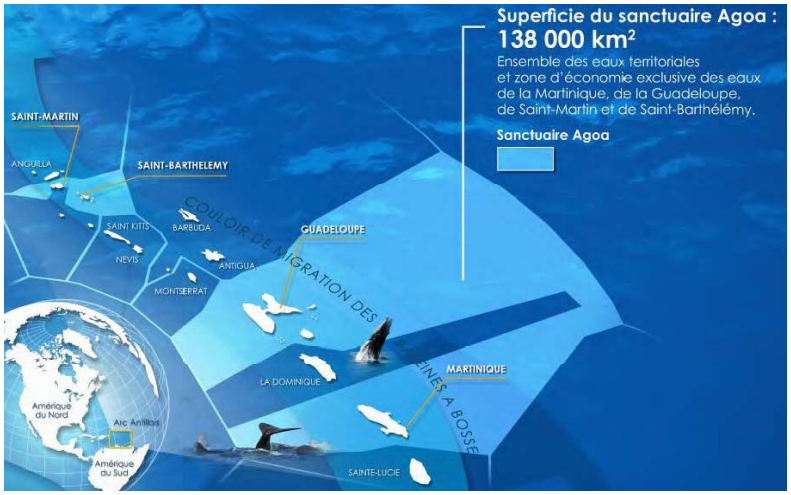
Actual impact on cruises

- ➔ **Minor for scientific** operations
- ➔ **Noticeable for administrative** procedures
  - Increase of complexity in authorization procedures
  - Delays in diplomatic procedures and authorization delivery

Practical difficulties met in cruise preparation:

- Finding qualified/available MMOs
- Extra-cost – supported by applicants…
- Main difficulty met = **lack of clear regulation!!!**

Context Evolution



More and **more protected areas**, sanctuaries…

Protected areas : often **without a clear regulation**

- Logically more demanding than in ordinary waters
- Local regulation fixed without technical background
- Possibly irrelevant/inapplicable recommendations

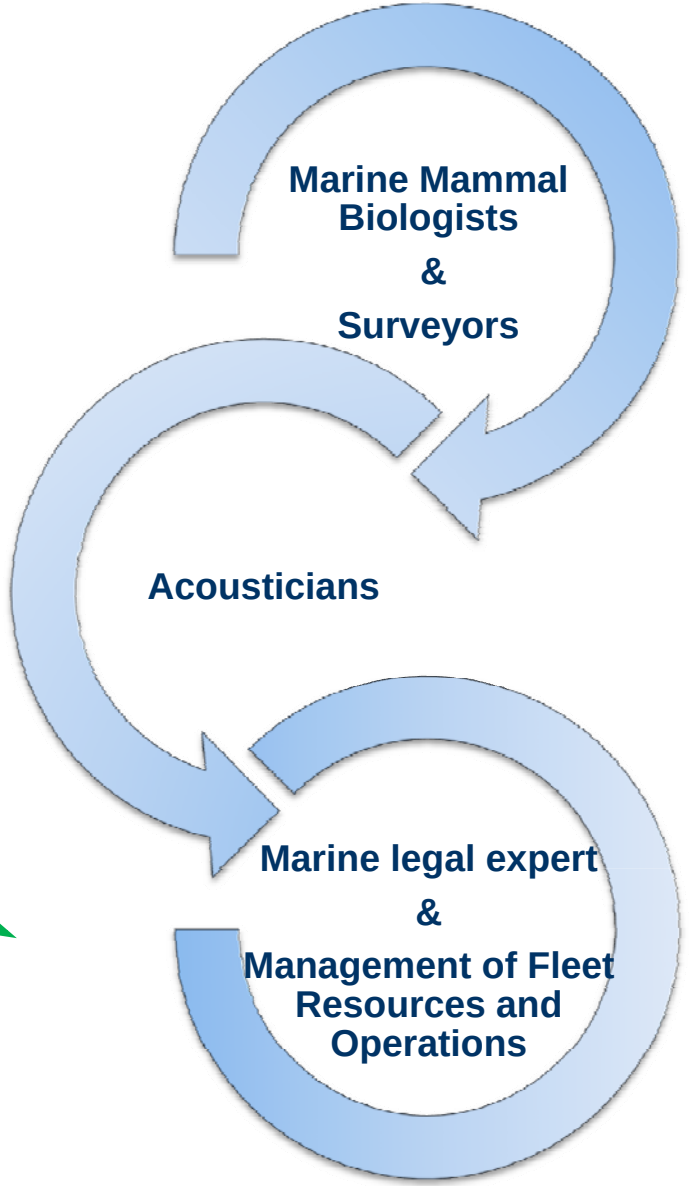
Changes in requirement levels:

- Physiological risk control = not enough any more
- Control of **behavorial changes** now expected …
- Not only seismic sources : now **echosounders** …

Evolution of the scientific background to regulation : thresholds updated, …

Towards an OFEG (OFEG-Tech ?) CoC?

A dedicated working group with specialists from the scientific research institutes



Suggestions…

- **Sharing relevant information :**
  - Follow-up, interpretation and conclusions of current trials & studies about impact of acoustic equipment on marine life
  - Sonar performances modeling
  - Mitigation measures : description, operational issues, results, …
  - Authorization procedures
  - At-sea observation reports

- **Agreement on an appropriate Code of Conduct / Protocol ?**
  - Agreement on sound sources to be considered
  - Common references to access to MMs data
  - Common solutions for mitigation : project of a dedicated MMO & PAM Operator training to share them on scientific cruises ?

For discussion…