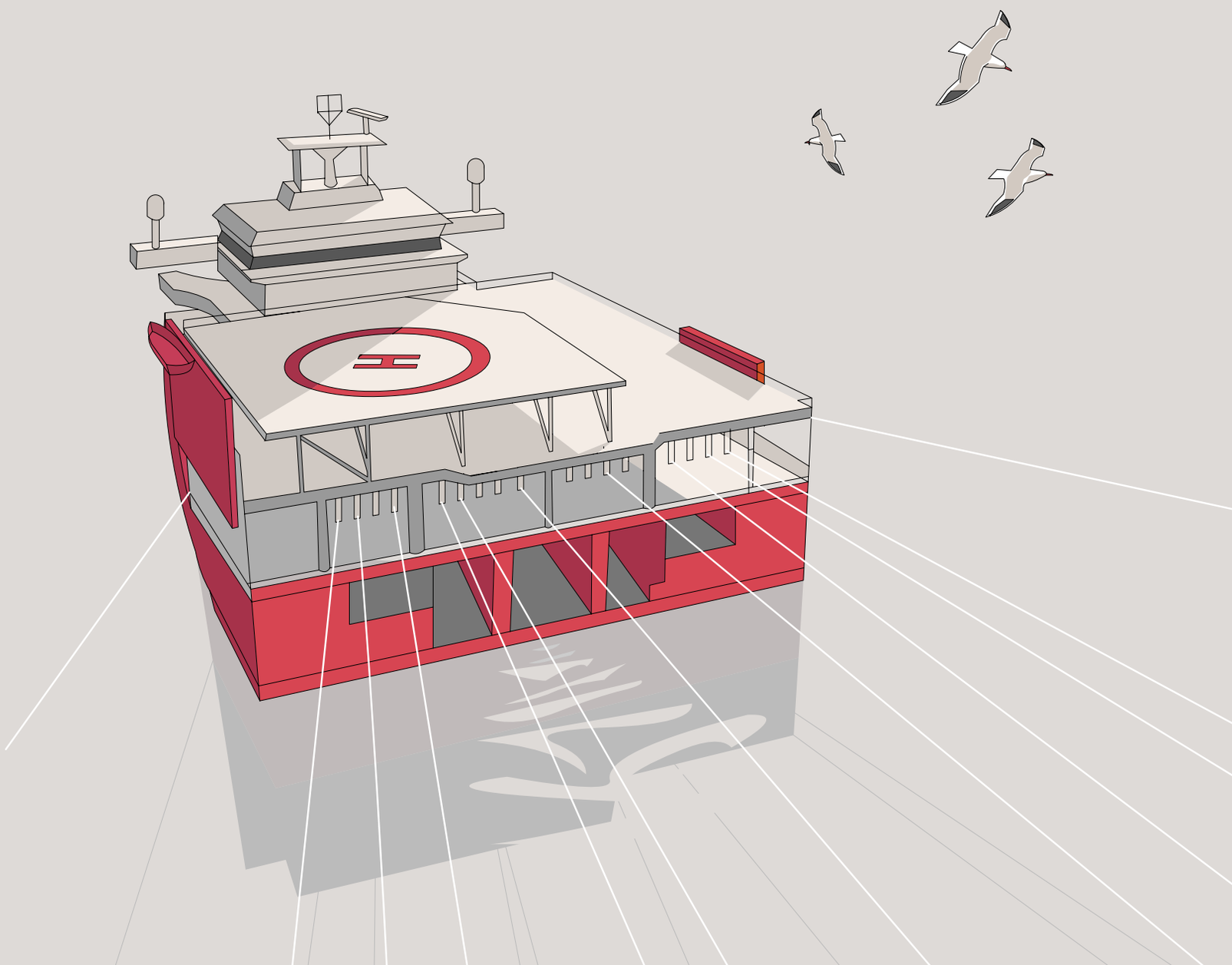
RECOMMENDED GUIDELINES

Coexistence between fisheries and seismic operations



RECOMMENDED GUIDELINES

Coexistence between fisheries and seismic operations

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Norges Fiskarlag

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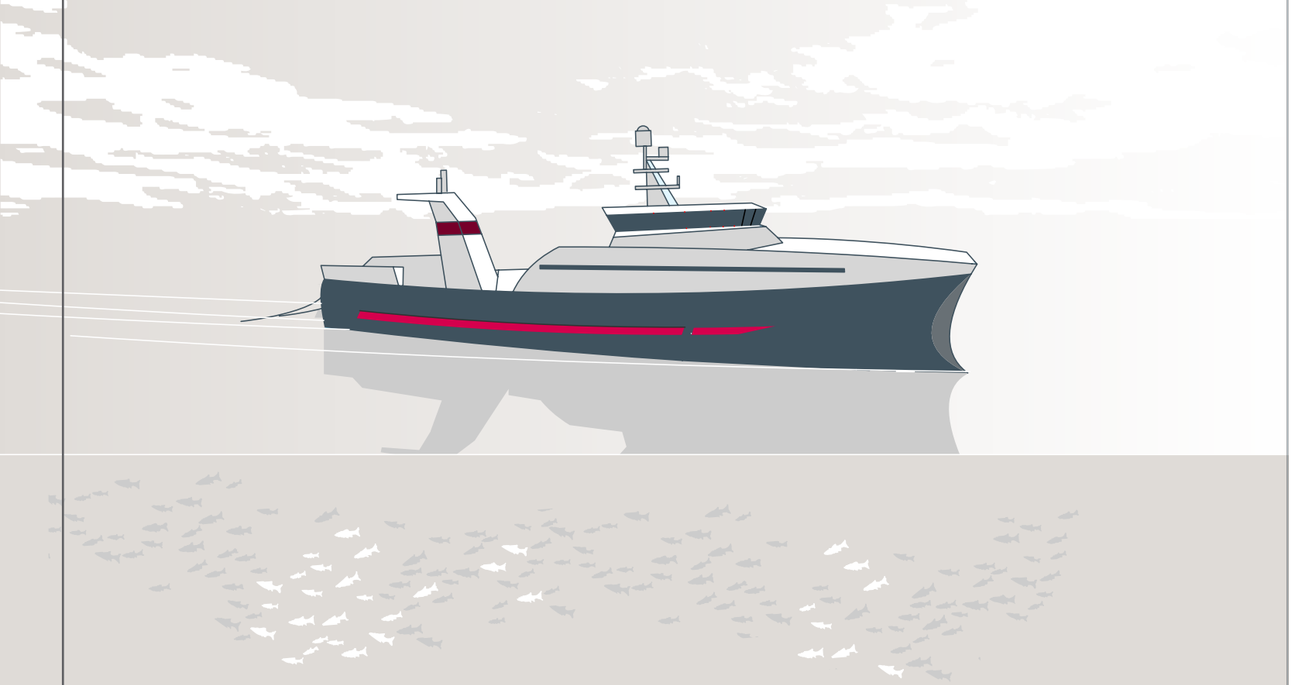


1 About the recommended guidelines

1.1. Purpose

The purpose of the recommended guidelines is to improve coexistence between the petroleum sector and the fishing industry through more shared understanding. It describes how the stakeholders must act during preparation, planning and acquisition of seismic data within applicable guidelines and regulations.

The document describes roles, responsibilities and ways of working that contribute to good dialogue, conflict prevention and effective cooperation.

The guidelines give advice to operators of seismic data acquisition, with particular emphasis on the role of the fisheries liaison officer (FLO). The guidelines aim to ensure the following:

- active involvement of FLOs
- good and predictable working conditions for FLOs
- increased knowledge about fishing activity in survey areas for those responsible on the seismic vessel
- increased knowledge about seismic operations for the fishing fleet
- overview of how the fishing fleet can stay up-to-date on planned seismic activity

1.2. Coexistence and using the guidelines

Representatives from the Norwegian Fishermen's Association and Offshore Norge, including FLOs, started working on these guidelines in October 2025. The work is based on long traditions of cooperation and coexistence. The shared definition can be found below. This first version of the guidelines was completed in April 2026, and updates will be implemented as needed.

Definition of coexistence:

Cooperation to enable fisheries and the oil and gas industry to operate and develop in Norwegian waters, combined with systematic efforts to actively seek common solutions or compromise.

The goal of the recommended guidelines is to support cooperation, improve dialogue between industries and build acceptance for both industries to develop mutual understanding and respect in ongoing work operations. This comprehensive approach aims to ensure that the FLO's role is clear and effective, while the operator and authorities also fulfil their responsibilities. It is based on the Marine Resources Act, the authorities' guidelines and Offshore Norge's guidelines, and facilitates good coexistence between seismic operations and fisheries. More in-depth advice for operators in connection with preparation, planning and implementation of seismic acquisition is described in Offshore Norge Guideliner 136 - Recommended guidelines for coexistence with the fishing sector when conducting seismic surveys.

The recommended guidelines apply for everyone working in seismic operations and fisheries.

1.3. About seismic data acquisition

Several different technologies and methods are used to acquire seismic and other geophysical data from the subsurface. All the different methods are described in the Guidelines for geophysical surveys published in cooperation between the Directorate of Fisheries (Fdir) and the Norwegian Offshore Directorate. The guidelines generally apply for all these different kinds of geophysical surveys, while measures to reduce impacts will vary depending on the type of survey carried out. The most important differences between the methods involve

1. Placement of sensors - Either placed on the seabed as nodes (seabed seismic and electromagnetic (EM) surveys) or towed behind the boat (long cables for traditional "deep seismic surveys" and shorter cables for site surveys)

2. Type of source - electromagnetic source for EM surveys. Pneumatic (compressed air) sources of different sizes, from small sources for site surveys to larger sources for "deep seismic surveys" that can either be seabed seismic surveys or for vessels towing long cables (streamers).

Seismic surveys can be acquired in two different ways, where multi-client surveys are owned and operated by seismic companies and frequently cover larger areas than surveys carried out by oil and gas operators. Due to competition, multi-client surveys are often reported to the authorities closer to the acquisition start-up, but within relevant rules for reporting.

Several authorities and organisations are relevant for work on coexistence between seismic operations and fisheries. Offshore Norge's Guideline 136 includes an overview of most of these authorities and organisations.

1.4. Build trust between the industries

Good coexistence between the industries requires mutual trust and is built through knowledge and understanding of how each industry operates on a daily basis. Shared meeting places are an effective way to achieve this, and we encourage participation in relevant meetings to improve knowledge, dialogue and cooperation, for example the annual meetings of the involved organisations. The guidelines facilitate better knowledge sharing and document best practice. The industry organisations must try to resolve issues through direct internal dialogue. With regards to media/press releases or public announcements about any issues that involve the other side, the parties should be mutually informed in advance.

> **The guidelines facilitate better knowledge sharing and document best practice**

2 The fisheries liaison officer's role

The fisheries liaison officer (FLO) [1] has an important advisory responsibility within the discipline. This role requires in-depth knowledge about fishing activity in the area and the seismic operations, as well as the ability to communicate this knowledge. The FLO must contribute to good coexistence, prevent conflicts and ensure good dialogue between the parties. FLOs must be guaranteed a free and independent position. Assignments as an FLO must be carried out objectively and impartially in the relationship between the client and fishery interests with a high level of integrity and professional expertise.[2]

A fisheries liaison officer must:

- actively participate in the start-up meeting
- give a presentation in the start-up meeting that both clarifies who is in the role, what the role involves and contribute knowledge to crew and operators about the activity, how fishing activity in the area could be affected and what is expected from different roles on board
- familiarise themselves at an early stage with expected fishing activity in the survey area
- be kept up-to-date when or if the operator changes plans
- have a framework to ensure independence and safety in assessments
- keep a detailed log of incidents and communication throughout the assignment
- actively use digital tools during assignments to familiarise themselves with local fishing activity

It is important to ensure that FLOs receive good training in the use of relevant digital tools, such as map plotters, tracking data (VMS and AIS), BarentsWatch, the notification system, etc.

1 A fisheries liaison officer (FLO) is a legal requirement and is described by the Norwegian Offshore Directorate. The Norwegian term is "fiskerikyndig".

2 Section 9 of the Resource Management Regulations

During the seismic operations, the FLO will serve as the connection between fishing vessels and the seismic vessel/operator and must proactively work to prevent and resolve issues in a way that protects the interests of both industries. The Norwegian Coast Guard's Inspection and Investigation Department and the Fisheries Monitoring Centre (FMC) at the Directorate of Fisheries, as well as the Coast Guard's Operations Centre can assist as needed. (Relevant contacts - Norwegian Offshore Directorate).

For more detailed information about how FLOs are involved and participate in seismic surveys, please see Chapter 7 of the Guidelines for conducting seismic surveys on the Norwegian continental shelf (veileder_seismiske_undersokelser.pdf).

> **The FLO must contribute to good coexistence, prevent conflicts and ensure good dialogue between the parties. FLOs must be guaranteed a free and independent position.**

> **Plans should be made from the start to ensure that the work is as efficient as possible, with a focus on conflict-preventing measures.**

3 Different phases in a seismic survey

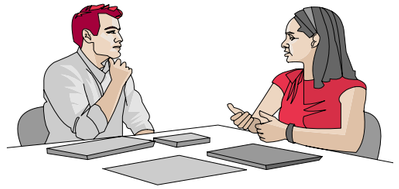
The authorities define the framework for seismic operations. Planning and implementing of seismic operations in Norwegian waters requires good coordination between the operator and the fishery industry. This applies for both multi-client surveys and surveys initiated by oil and gas operators (licence surveys). The Norwegian Offshore Directorate (NOD), the Directorate of Fisheries (Fdir) and the Institute of Marine Research (IMR) organise an annual contact meeting[1] (also called the January Meeting) to inform the companies about fishery resources, important fish stocks and significant fishing activity during the time period and within areas that could be particularly affected by seismic operations.

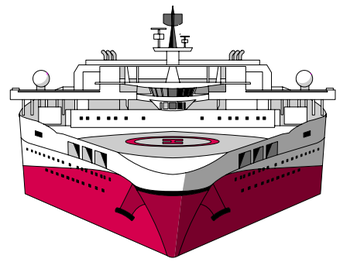
There are four phases in the process for seismic operations: (1) preparation, (2) planning, (3) data acquisition and (4) follow-up. Below you can find a sketch of the phases in planning and implementing seismic surveys, including how the activities are divided during each phase. The different box colours indicate who is responsible for the activity; the authorities, operators or the FLO.

Plans should be made from the start to ensure that the work is as efficient as possible, with a focus on conflict-preventing measures. The FLO will be attached to the project starting from phase 2 and, starting then to play a key role as an adviser in addition to actively contributing to good coexistence.

The working language on seismic vessels is English.

1 Chapter 8, paragraph 8.1 in Guidelines for geophysical surveys.





Phase 1 Preparation

- Establishing a framework with advice for considerations to fisheries and spawning areas.
- Planning seismic operations for an area
- Establishing contact with Fdir (fishing activity) and IMR (spawning grounds) to pre-verify the area
- Initiating dialogue with the fisheries organisations for input on the area
- Procuring seismic survey provider and FLO

Phase 2 Planning

- Collect information about expected fishing activity. Gathering advice for how to adapt the surveys.
- Notification to NOD of seismic operations no later than 5 weeks before start-up.
- Updating the notification system in the event of changes
- Feedback on reporting (and change)
- Inviting FLO and vessels to relevant meetings, with the start-up meeting as a bare minimum
- Active participation at the start-up meeting
- Start-up report to NOD and vessels transit to the field

Phase 3 Data acquisiton

- The survey starts
- Keep FLO up-to-date on plans
- Submitting regular reports to notification system
- Dialogue with Fdir and fisheries organisations in consultation with FLO
- Provide info about planned fishing activities in the survey area
- Dialogue between fishing vessels and seismic vessels, as well as additional vessels to the seismic survey vessel (such as guard vessels and supply vessels.
- Updating the notification system in the event of changes (if the survey is delayed)
- Feedback on the change

Phase 4 Follow-up

- The survey is complete and the vessels sail to port or new projects
- Submitting final report to NOD
- Submitting final report to NOD and Fdir with copies to survey operator, as well as Offshore Norge and the Norwegian Fishermen's Association
- Collecting and summarising experience from FLO

Responsible:

- Authorities
- Operators (multi-client and oil and gas licensees)
- Fisheries liaison officer (FLO)

3.1. Preparations – Phase 1

3.1.1. Start-up and duration

Preparations are initiated once seismic survey planning starts and last until the survey is registered in the NOD's notification system.

3.1.2. Use of ocean area and consequences

Surveys must not be implemented during periods or in areas with expected fishing activity or migration of important fish populations. When this is not possible, the operator must attempt to minimise the occupied ocean area, as well as consider and document measures to reduce potential conflicts with fishing activity and fish migration patterns. In order to reduce the risk of overlapping operations and ensure the best possible coexistence, the planning must include an up-to-date overview of other planned or ongoing surveys in the area, in addition to a mapping of fishing activity, spawning areas and spawning migration (as established by IMR's Advice for anthropogenic sound in the ocean – Knowledge base, assessments and advice).

If nodes will be used, the operator should use this phase to consider whether fishing activity can take place over such nodes. Such considerations should account for the fishing techniques normally used in the area.

Plans must be made for unforeseen incidents. The operation must account for potential delays and increased expenses if plans need to change to avoid or reduce conflict with fishing activity.

The operator should include a verification of the FLO's qualifications in the tender process to ensure that coexistence and conflict resolution are handled competently. FLOs must have relevant competence and an understanding of the surveys, as well as the fishing activities in the relevant area during the given time period.

When procuring a seismic survey provider, the operator should ensure that they are familiar with applicable Norwegian regulations that are relevant for the surveys and also refer to these recommended guidelines.

The authorities establish the framework for how to safeguard the consideration for fishing activities and marine life through guidelines and regulations.

3.1.3. Points of contact and exchanging information

The operator must establish contact with the Directorate of Fisheries and the Norwegian Fishermen's Association as early as possible to keep them informed about the plans and receive input on the need for potential changes. A mutual flow of information between fisheries and seismic operators must be secured through dedicated contacts, dialogue meetings, including information about the type of fishery activities, planned activity and areas of operation.

3.2. Planning – Phase 2

3.2.1. Start-up and duration

The phase when the detailed planning of the survey starts.

3.2.2. Reporting and information

Surveys must be reported to the NOD's notification system as soon as possible, preferably before the deadline of 5 weeks before start-up. Information about the plans must be communicated in a way that ensures that the affected parties can understand it, with a description of the survey area and an explanation of the purpose of the survey.

The FLO plays a key role in the planning phase and must help obtain relevant knowledge about fishing activities in the area where seismic surveys are planned. During this phase, the FLO must give advice on how the survey can be adapted to reduce conflicts. Such advice should also include how many FLOs will be needed in the field based on the nature, scope or timing of the survey, or known fishing activity in the area.

If the plans need to be changed, the FLO must be involved to re-assess the impact on fishing activity. If the plans could affect fishing activities, the Directorate of Fisheries and the Norwegian Fishermen's Association must be contacted and the consideration for fishing interests must be re-evaluated. Changes must be reported as quickly as possible via the NOD's notification system.

3.2.3. Start-up meeting and involvement

The start-up meeting is a key arena to review roles, plans and communication, with particular focus on coexistence and conflict prevention. The FLO, additional vessels and other relevant personnel will participate. During the meeting, the role of the FLO must be clarified as described in these guidelines (see Chapter 2 for the role description). During the meeting knowledge about the activity shall be shared with the crew and operators, how fishing activities in the area could be affected and what is expected from the different roles on board. This includes

familiarity with relevant laws and regulations. We recommend showing the Fdir's video in the meeting - Fishing gear on the Norwegian continental shelf (Fiskeriredskap på norsk sokkel). The meeting must also provide information about the Guidelines for geophysical surveys (Veileder for geofysiske undersøkelser). In this phase, the FLO will participate actively in preparing the operation plan, for example by ensuring that information about fishing activities is included in the plans and by establishing routines for communication with fishing vessels.

The plan for following up incidents in the field must be reviewed during the start-up meeting. The plan should contain notification routines which include the operator's management, as well as dialogue with the Norwegian Fishermen's Association for information and advice. The plan must clarify who is responsible for contacting the different organisations.

3.2.4. Staffing and competence

The (Norwegian) Resource Management Regulations describe the requirement for vessels conducting geophysical surveys to have an FLO on board (Regulations relating to resource management in the petroleum activities (the Resource Management Regulations) - Lovdata).

As part of the process of reporting surveys via the NOD's notification system, the Directorate of Fisheries will assess fishing activities and the need for two FLOs to cover a 24/7 watch. We recommend following such advice. The nature, scope or timing of the surveys could indicate that the operator should consider two FLOs. From practical experience, we recommend two FLOs on board when:

- Significant fishing activities are expected
- A recent graduate FLO is used (for experience transfer)
- There are multiple vessels involved in the operation, for example node handling vessels and seismic source vessels

3.3. Data acquisition - Phase 3

3.3.1. Start-up and duration

The data acquisition phase starts when the seismic acquisition starts and lasts until all data has been acquired.

3.3.2. Communication and points of contact

The FLO has an advisory role in dialogue with support and fishing vessels. Advice from the FLO should be followed. The FLO contributes to operational adaptations if unforeseen incidents occur. The operator must ensure that the FLO has the necessary mandate and means of communication, and that the operation is implemented according to the plans. We recommend assigning the FLO a single cabin and permanent workplace on the bridge with access to a map plotter with AIS and access to internet. The FLO should participate in daily meetings with project managers to provide information about fishing activity and stay up to date on plans. The party chief or captain must be contacted early to ensure that the FLO has the right tools to work effectively.

Once the surveys are completed, we recommend a meeting with the person responsible on board to review experience from the surveys. If there is a need to replace the FLO during the operation, we recommend a handover meeting for experience transfer.

3.3.3. Responsibilities and flow of information

Information must be exchanged on a mutual basis and must include both fishing activities and seismic operations. This means that fishermen have a responsibility to stay up to date on planned activities, and the operator must facilitate structured information-sharing. In this phase, it is in both parties' interests to avoid disturbances in simultaneous operations, whether this affects fishing activity or seismic surveys.

3.3.4. Updates

To reduce the risk of misunderstandings, we recommend that the operator provides updates of plans and the operation status as frequently as possible, preferably with a plan for the next 24 hours. This should be done via the currently used digital platforms at any given time.
The specifics of plans should be reported as quickly as possible via the notification system.

3.3.5. Distance and safety

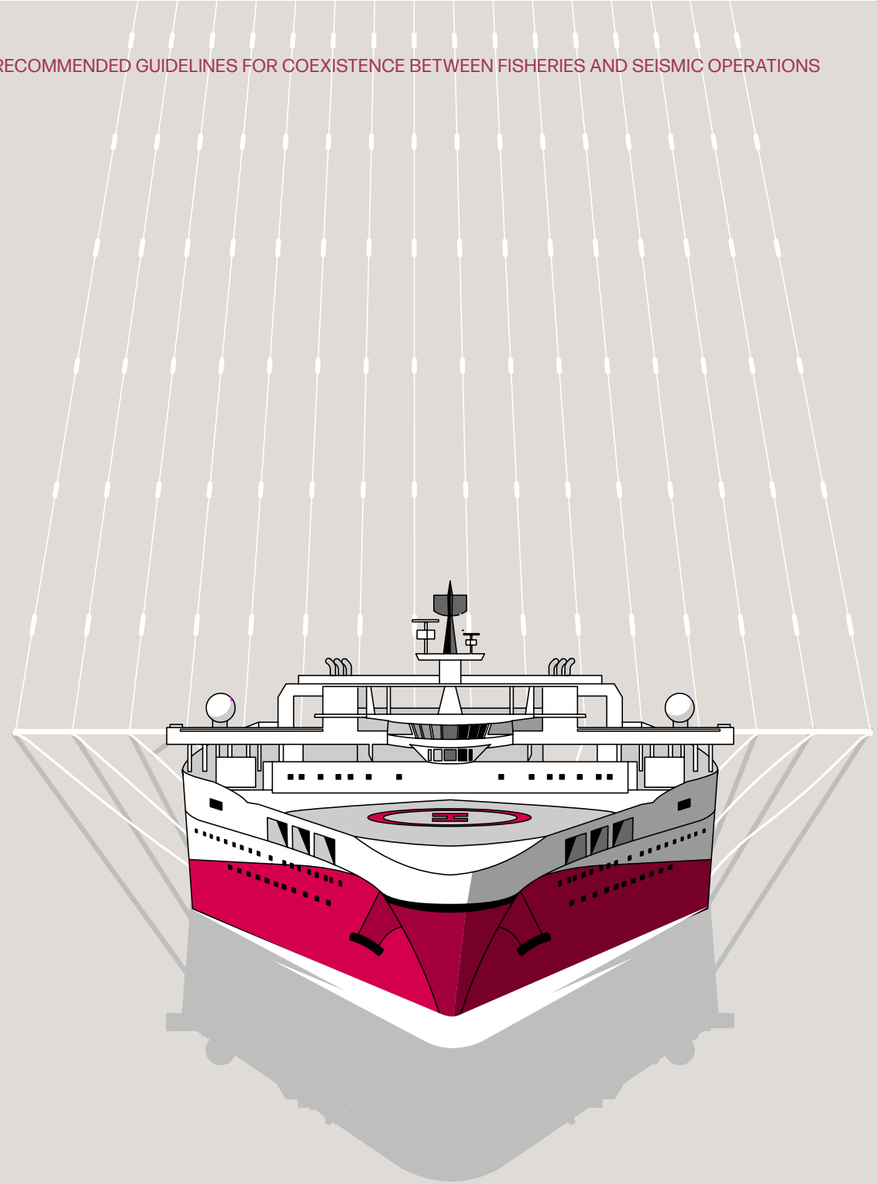
As regards distance and safety considerations, good seamanship is essential throughout the operation. Pay particular attention to Section 8 (2) of the Resource Management Regulations, Requirements for conducting seismic surveys; and Rule 18 of the International Regulations for Preventing Collisions at Sea, Responsibilities between vessels. The relationship between fishery and other activities is also addressed in Section 24 of the (Norwegian) Marine Resources Act, Rules on due care.

Seismic vessels must maintain a prudent distance from fishing vessels and other activities in the area, in line with applicable regulations and safety standards. It is particularly important to ensure that foreign companies are made aware of the special Norwegian rules about preferential rights to fishing activities. What is considered a prudent distance must be assessed case-by-case and will depend on factors such as the type of fishing activity, fishing gear and the situation in the field.

To avoid manoeuvres that will have consequences for fishing activities or the seismic data acquisition, the FLO will need to ensure good lines of communication between involved vessels, particularly as regards use of acreage and manoeuvrability. Early and proactive contact is important to safeguard the needs of both parties. Flexibility by both parties is important. Maintaining a prudent distance is particularly important for seismic vessels with streamers, and there can be no fishing activity with fishing gear on the seabed in areas with reported nodes.

When there are many fishing vessels in same fishing grounds, it is important to maintain a comprehensive overview and not only focus on individual vessels. Structured and predictable information sharing, for example through weekly reports and frequent dialogue between the FLO and fleet, will contribute to good planning and reduce the risk of misunderstandings. Attention must be paid to fishing activities where situations change quickly, such as fishing for pelagic species. Here, vessels can change their course and activity on short notice, and the FLO will therefore need to maintain a high level of situational understanding and provide early information, so that the seismic vessel can adapt its operations if possible.

In more predictable fishing activity with fixed gear, such as nets and lines, the activity has often been known for some time. Necessary considerations must be taken here as well to ensure that the seismic vessel's manoeuvring and operation does not interfere with ongoing fishing activity or gear in the sea.



> **As regards distance and safety considerations, good seamanship is essential throughout the operation**

Active fishing activity means situations where the vessel is setting, hauling or conducting fishing gear, and where its ability to manoeuvre is limited because of fishing gear in the sea. Seeking refers to periods where the vessel is searching for fish. Both situations require adaptation, but in different ways.

3.3.6. Additional vessels

When additional vessels such as guard vessels and supply vessels are used, the operating company is also responsible for informing personnel on additional vessels about special factors that apply for Norway, regulations and procedures for coexistence. We recommend that personnel on board are fluent in Norwegian or English.

3.3.7. Tracking and monitoring

Position reporting (also called tracking) with an Automatic Identification System (AIS)[1] and Vessel Monitoring System (VMS)[2] must be used on both seismic vessels and fishing vessels to provide an overview, prevent conflict and avoid hazardous situations. FLOs also have access to reported fishing gear through BarentsWatch, and it would be beneficial to share this information with seismic vessels. Such information is currently used to plan transit to the survey area.

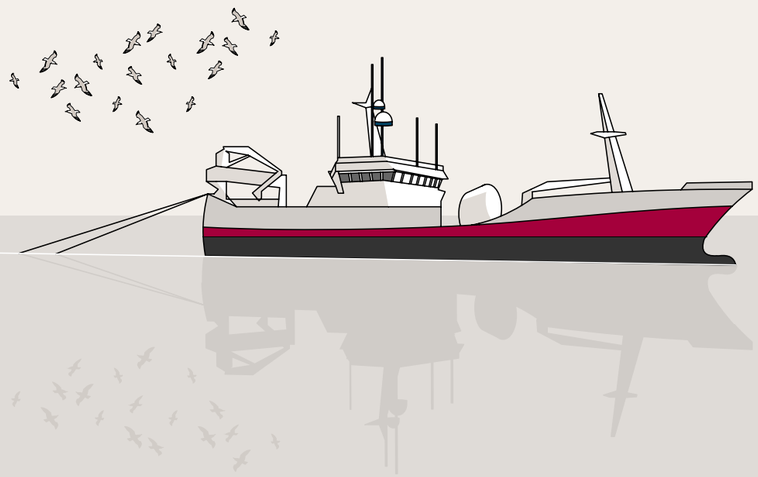
3.3.8. Handling situations in the field

If special situations occur, the FLO is the designated contact point for seeking out solutions and preventing escalation, in cooperation with the operator. It is important to ensure that the FLO keeps a thorough log of these incidents. If a situation occurs as the result of disregarding the FLO's advice, it is important that this is described thoroughly in the FLO's log and report.

Updates about the situation and consultation with the Norwegian Fishermen's Association follow the "Plan for following up incidents in the field", as previously prepared in the planning phase.

1 Regulations relating to navigation and navigational aids for ships and mobile installations - Chapter 4. Navigational aids - Lovdata and Regulations relating to mandatory automatic identification system (AIS) for foreign fishing vessels that land catches at Norwegian ports or operating in Norwegian territorial waters - Lovdata

2 Position reporting (VMS) | Directorate of Fisheries



The follow-up phase involves reporting, evaluation, learning and sharing experience.

It starts once the seismic acquisition is complete and lasts until all reports have been submitted.

3.4. Follow-up – Phase 4

3.4.1. Start-up and duration

The follow-up phase involves reporting, evaluation, learning and sharing experience. It starts once the seismic acquisition is completed and lasts until all reports have been submitted.

The FLO will report their experiences and any conflicts and will contribute toward the evaluation and learning for future operations. The FLO will also prepare a final report, and if a final meeting is held with the person responsible on board, the meeting minutes should be enclosed with the final report.

This report must be submitted to the Norwegian Offshore Directorate and the Directorate of Fisheries according to the Norwegian Offshore Directorate's Manual for FLOs. A copy of the report must be sent to the survey operator for storage according to the Resource Management Regulations. Copies are requested by Offshore Norge and the Norwegian Fishermen's Association. The authorities process reports and appeal cases in line with applicable regulations, and normally present last year's feedback at the annual Fish and Seismic Seminar. The Directorate of Fisheries provides more information about reimbursement applications for occupation of fishing grounds.

The Norwegian Fishermen's Association and Offshore Norge will facilitate an annual gathering of active FLOs to share experiences and build competence.

4 Definition of terms

Automatic Identification System (AIS) — Mandatory system for sharing positions between vessels.

Additional vessels — Vessels that support the primary vessel during the seismic operation. These are vessels such as support vessels, guard vessels, node vessels or similar.

BarentsWatch — Publicly available digital platform that gathers and provides access to data from multiple agencies. Among other things, you can find an overview of fishing activity and fishing gear locations.

Directorate of Fisheries (Fdir) — Fdir (Norwegian: Fiskeridirektoratet) serves as the Ministry of Trade, Industry and Fisheries' advisory and executive body in matters pertaining to fishing. They collaborate with NOD on coexistence for seismic surveys.

Electromagnetic surveys (EM) — Survey method used to map the seabed by recording electromagnetic fields over time. Signals are received using autonomous receiver nodes on the seabed.

Final report — Report prepared by the fisheries liaison officer once the operation is complete.

Fisheries Liaison Officer — Professional responsible for safeguarding fishery interests and coexistence during seismic surveys. (Norwegian: Fiskerikyndig).

Fisheries Monitoring Centre (FMC) — The Directorate of Fisheries' 24/7 surveillance centre, which monitors positions and reporting for Norwegian and foreign fishing vessels.

Geophysical surveys — Surveys that map the subsurface using physical measurement methods, including seismic.

Licence survey — Seismic survey carried out by the operator in connection with exploring for petroleum in licenced areas.

Manoeuvring restrictions — Limited ability to manoeuvre when a seismic vessel is towing equipment.

Map plotter — Navigational tool that shows maps, AIS data and route information.

Marine Resources Act — Law that governs marine resource management.

Multi-client survey — Seismic data acquisition carried out for multiple clients.

Nodes — Sensors placed on the seabed to acquire seismic data.

Node handling vessel — Vessel that handles (deploys and retrieves) nodes on the seabed in connection with OBN seismic surveys.

Norwegian Fishermen's Association — Professional and industry organisation for Norwegian professional fishers.

Norwegian Offshore Directorate (NOD) — Is a government level specialist directorate and public administrative body reporting to the Ministry of Energy. They are responsible for managing the resources on the Norwegian continental shelf (NCS), including the framework for licences and following up geophysical surveys.

Notification system — System used to report planned surveys to the Norwegian Offshore Directorate. The Meldesystem (in Norwegian) is only available in Norwegian.

Offshore Norge — Industry and interest organisation for the oil and gas industry, including seismic companies.

Operation plan	Detailed plan for how a seismic operation will be carried out.
Operator	Company responsible for carrying out a seismic survey.
Party Chief	Head of the seismic operation on board.
Position reporting	Monitoring vessel movements via AIS and VMS.
Resource Management Regulations	Regulations that govern geophysical surveys, including requirements for a fisheries liaison officer.
Seismic operation/ Seismic surveys	Mapping geological structures under the seabed using sound waves. This data is the primary basis for exploring for oil and gas resources. The surveys are mainly split between seabed seismic, deep seismic / traditional seismic, electromagnetic seismic and site surveys. See Guidelines for geophysical surveys from the Directorate of Fisheries and the Norwegian Offshore Directorate for more detailed descriptions.
Source vessel	Vessel that tows and operates the sources in a seismic operation.
Spawning areas / spawning migration	Areas and periods where fish spawn or migrate to spawning grounds.
Start-up meeting	Meeting before an operation starts up to clarify roles, plans and expectations.
Tracking data	Generic term for AIS and VMS data.
Vessel Monitoring System (VMS)	Authority-controlled position reporting system for fishing vessels.

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