

Environmental Commitment

Safe, Responsible, Productive

Planning

Planning and preparation begin months before the survey starts



Permitting

Following the rules for each location is a requirement.



Risk assessment

Operational, environmental and commercial aspects of the survey are covered.



Sound modeling

Output and propagation of sound is documented for the survey location.



Assess impact for time and place

Our assessments are based on desk research and face-to-face consultations.



Consultations

We listen and talk to local stakeholders to minimize impact and interference with fisheries and others.



SURVEY PLAN
RISKS & MITIGATION

Operating

Safe, reliable seismic operations minimize impact on sea life, climate and other ocean activities



Reliable partner

PGS' safe, modern seismic ships permit fast and accurate surveys, with minimal impact on the environment.

SURVEY PLAN
RISKS & MITIGATION

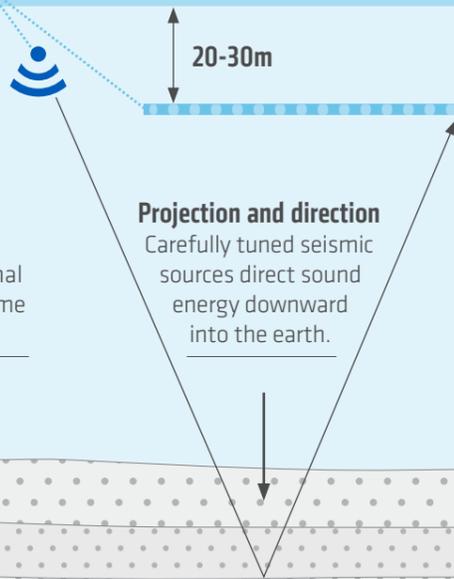
Planning for reality

We mitigate any risks highlighted in the survey plan, and continue to monitor activities in the area to adjust for reality.



Survey soft start

We give advance warning to marine life by increasing signal strength from low to full volume over at least 20 minutes.



Projection and direction

Carefully tuned seismic sources direct sound energy downward into the earth.



Watch, listen & report

Trained marine mammal observers enforce the safety zone with visual and acoustic monitoring.



Safety first

Our risk management system helps us identify hazards, assess risk and introduce appropriate safety measures.



Escort vessels

Our support vessels scout the area, coordinating activity and communicating with fishing boats in the vicinity.



Shut down

The survey stops if marine mammals are spotted within the safety zone (normally 500 m).

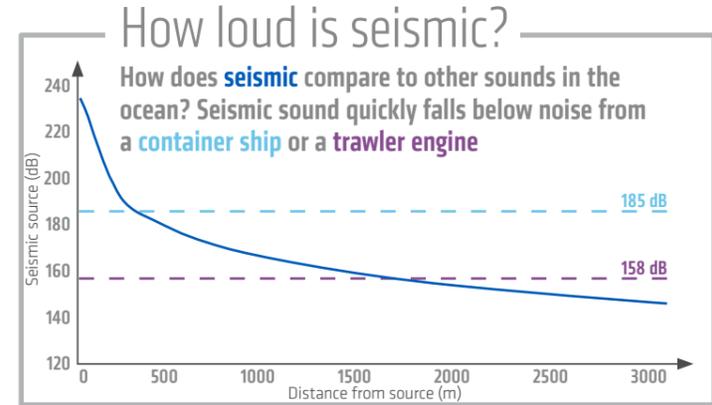


Towed recording equipment 6-8km



Sound Exposure Level

Sound travels but fades out with distance.



What is seismic?

Like medical ultrasound, seismic surveys use sound to image structures deep in the earth



Learning

Comparing project logs with the risks and mitigations flagged in the survey plan, we assess what can be improved next time.



Learning loop for future operations



Supporting ocean research

PGS shares water temperature, salinity, currents and weather data with ocean researchers.

Careful preparation and good survey planning result in minimal impact on the environment and other activities in the area.

