Table covers the OGV Seabed Surveys in the Otway and Bass Basins.

Aspect - Planned	Relevant Activities	Potential Impact	Summary of Beach Control Measures
Light emission	Acquisition	Vessel lighting is required for navigational and safety purposes. Artificial light may attract light sensitive species such as shorebirds, seabirds, and turtles.	• Vessel lighting complies with Australian Maritime Safety Authority (AMSA) Marine Orders Part 30 (Prevention of Collisions). • Beach Seabird Lighting Management Plan is implemented on vessels and details: o Non-essential lights are turned off when not in use. o Lighting is directed onto work areas. o Window screens or blinds are closed at night. o Crew environmental induction covers handling and reporting requirements for grounded or injured birds.
Seabed disturbance	Acquisition	Localised seabed disturbance with associated loss of benthic habitat or disturbance to cultural or heritage feature may occur from: • Temporary set-down of equipment on the seabed • Sediment displacement for the collection of samples.	• Seabed surveys, consisting of echo sounder, side scan sonar, sub bottom profiler and magnetometer, to identify and avoid, where possible, any key environmental, heritage or cultural features. • Vessels use dynamic positioning rather than anchor.
Underwater sound	Acquisition	Temporary disturbance to marine fauna may occur from underwater sound emissions from: • Vessel engines and thrusters	• Engines and thrusters are maintained in accordance with manufacturer's instructions via the Planned Maintenance System to ensure they are operating efficiently. • Vessels comply with the Environment Protection and Biodiversity Conservation (EPBC) Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans which details minimum separation distances. • Beach Whale Management Procedure is implemented on vessels and requires:

Aspect - Planned	Relevant Activities	Potential Impact	Summary of Beach Control Measures
			○ Pre-activity survey undertaken for 30 min to identify whales that maybe within the activity area affected by underwater sound. ○ If a whale is sighted, the activity will not commence until no whales have been observed within the activity area affected by underwater sound for 30 minutes or whales have been observed leaving this area. ○ Once the activity has commenced observations are undertaken within the activity area affected by underwater sound. If a whale is sighted within this area the following will occur: ▪ If the vessel can do so it will move away from the whale and maintain a minimum separation distance equal to the activity area affected by underwater sound. ▪ If the vessel cannot move away from the whale, it will reduce thrusters if safe to do so. The activity will cease as soon as it is safe, and the vessel will move out of the activity area affected by underwater sound. • Vessels have a marine mammal observer (MMO) with experience in whale observation, distance estimation and reporting to implement the Beach Whale Management Procedure, for activities undertaken over a period greater than 24 hours. • In addition, vessel crew who act as Officer of the Watch receive training from the MMO in whale observation and distance estimation to assist the MMO during daylight hours.
Physical presence	Acquisition	The physical presence of vessels can result in the displacement of other marine users and snagging of fishing equipment.	• Consultation with relevant person that may be affected by the activity is undertaken as part of developing the environment plan and is ongoing prior to and during the activity to avoid or limit any displacement. • Beach's Fair Ocean Access Procedure details the process whereby a commercial fisher can claim compensation for an economic loss associated with Beach's offshore activities where impacts cannot be avoided. • Vessels comply with: ○ AMSA MO 30: Prevention of collisions requires that onboard navigation, radar equipment, and lighting meets the International Rules for Preventing Collisions at Sea (COLREGs) and industry standards. ○ AMSA MO 27: Safety of navigation and radio equipment gives effect to International Convention for the Safety of Life at Sea (SOLAS) regulations

Aspect - Planned	Relevant Activities	Potential Impact	Summary of Beach Control Measures
			regarding radiocommunication and safety of navigation and provides for navigation safety measures and equipment and radio equipment requirements. • The Australian Hydrographic Office is notified of the activity at least three weeks prior to commencement to enable the promulgation of Notice to Mariners and AusCoast navigational warnings.
Marine discharges	Acquisition	Vessels discharge cooling water, brine, bilge water, deck drainage, putrescible waste, sewage, and grey water. Marine discharges can result in changes in water quality such as increased temperature, salinity, nutrients, chemicals, and hydrocarbons.	• Vessels comply with Protection of the Sea (Prevention of Pollution from Ships) Act 1983 which gives effect to MARPOL Annex IV relating to discharge of noxious liquid substances, sewage, and putrescible waste. • Equipment to treat marine discharges are maintained in accordance with manufacturer's instructions via the Planned Maintenance System to ensure they are operating efficiently. • Oil contaminated water is treated via a MARPOL (or equivalent) approved oily water separator and only discharge if oil content less than 15 ppm. • Sewage discharged at sea is treated via a MARPOL (or equivalent) approved sewage treatment system. • Food waste only discharged when macerated to ≤25 mm and at distance greater than 3 nm from land. • Beach Chemical Management Plan ensures that any chemicals within marine discharges are selected with the lowest toxicity, most biodegradable and least accumulative products that meet the technical requirements of the application.
Atmospheric emissions	Acquisition	Combustion of marine diesel oil (MDO) from vessel engines, generators and deck equipment may cause a localised and temporary decrease in air quality and add greenhouses gas (GHG) into the atmosphere.	• Vessels comply with Marine Orders – Part 97: Marine Pollution Prevention – Air Pollution (appropriate to vessel class) for emissions from combustion of fuel including: o hold a valid International Air Pollution Prevention certificate and a current international energy efficiency certificate. o have a Ship Energy Efficiency Management Plan to reduce emissions. o engine NOx emission levels comply with Regulation 13 of MARPOL 73/78 Annex VI. o low-sulphur (<0.5% m/m) diesel used.

Aspect - Planned	Relevant Activities	Potential Impact	Summary of Beach Control Measures
			• Combustion equipment maintained in accordance with manufacturer's instructions via the Planned Maintenance System to ensure they are operating efficiently.

Aspect - Unplanned	Relevant Activities	Potential Impact	Summary of Beach Control Measures
Introduction and establishment of invasive marine species (IMS)	Acquisition	The introduction of IMS may occur as a result from discharge of vessel ballast water containing foreign species or translocation of foreign species through biofouling on hulls, niches or in-water equipment. The potential impacts of marine pest introduction include: • Change in native marine species diversity and abundance. • Change in commercial fish stocks and associated socio-economic effects. • Changes to conservation values of protected areas.	• Prior to the initial mobilisation for an activity by a vessel or submersible equipment, Beach completes a domestic IMS biofouling risk assessment to: o Validate compliance with regulatory requirements (Commonwealth and State) in relation to biosecurity. o Identify the potential IMS risk profile. o Identify potentially deficiency of IMS controls and additional controls to manage IMS risk profile at low. o Prevent the translocation and potential establishment of IMS into non-affected environments. • Suspected or confirmed IMS introduction are reported to Agriculture Victoria.
Vessel collision or disturbance of fauna	Acquisition	Vessels have the potential for collision with marine mammals which may cause injury or death.	• Vessels comply with the EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans which details minimum separation distances. • Vessels have a MMO with experience in whale observation, distance estimation and reporting to implement the Beach Whale Management Procedure, • In addition, vessel crew who act as Officer of the Watch receive training from the MMO in whale observation and distance estimation to assist the MMO during daylight hours. • Vessel strike causing injury to, or death of a cetacean is reported to the Department of Climate Change, Energy, the Environment and Water.

Aspect - Unplanned	Relevant Activities	Potential Impact	Summary of Beach Control Measures

Loss of containment – marine diesel oil (MDO)	Acquisition	MDO is used in offshore vessels. A collision between a Beach contracted vessel and third-party vessel has the potential to result in a spill of fuel. Causes of a vessel collision may include mechanical failure, loss of dynamic positioning, navigational error or foundering due to weather.	• Vessel collisions are avoided by:
			  ○ Consultation with relevant person that may be affected by the activity is undertaken as part of developing the environment plan and is ongoing prior to and during the activity to ensure they know where activity vessels are and how to contact.
			  ○ The Australian Hydrographic Office is notified of the activity at least three weeks prior to commencement to enable the promulgation of Notice to Mariners and AusCoast navigational warnings.
			  ○ Vessels comply with:
			  ▪ AMSA MO 30: Prevention of collisions requires that onboard navigation, radar equipment, and lighting meets the International Rules for Preventing Collisions at Sea (COLREGs) and industry standards.
			  ▪ AMSA MO 27: Safety of navigation and radio equipment gives effect to SOLAS regulations regarding radiocommunication and safety of navigation and provides for navigation safety measures and equipment and radio equipment requirements.
			  ▪ AMSA MO 21: Safety and emergency arrangements gives effect to SOLAS regulations dealing with life-saving appliances and arrangements, safety of navigation and special measures to enhance maritime safety.
			• Vessels have an automatic identification system (AIS) transceiver enabling them to receive the data broadcasted by surrounding vessels.
			• Vessels contracted to conduct activities only carry marine diesel.
			• The following plans are implemented in the event of a spill:
			  ○ Shipboard Marine Pollution Emergency Plan (SMPEP) or Shipboard Oil Pollution Emergency Plan (SOPEP) (according to class).
			  ○ Beach Offshore Victoria Oil Pollution Emergency Plan (OPEP).
			  ○ Project-specific Operational and Scientific Monitoring Program (OSMP).

Aspect - Unplanned	Relevant Activities	Potential Impact	Summary of Beach Control Measures
Hydrocarbon spill response activities	Acquisition	Spill response strategies may be accompanied by a range of environmental and socio-economic impacts.	Preparedness measures: • Beach undertakes a spill response exercise prior to an activity commencing to test internal and external spill response arrangements and capability. • Beach maintains a current contract with Australian Marine Oil Spill Centre (AMOSC) for access to spill response resources and personnel. • Beach maintains access to spill response capabilities (including capable personnel and equipment) to implement well-specific SCCP) and RWP. Response measures: • NOPSEMA accepted Beach Offshore Victoria OPEP details: o Notification and reporting requirements. o Priority protection areas. o Response strategies including resources and equipment required. o Response actions and responsibilities. o Environmental monitoring requirements as per the NOPSEMA accepted Project-specific OSMP. • Implementation of response strategies is undertaken in consultation with/or under direction of the Commonwealth and/or State Control Agency.