Information specific to a well blowout (worst case discharge scenario) from a platform during base business operations is provided below. For further details, refer to the Bass Strait Environment Plan (AUGO-EV-EMM-002 and AUGO-EV-EMM-004).

1 Field location/oil properties

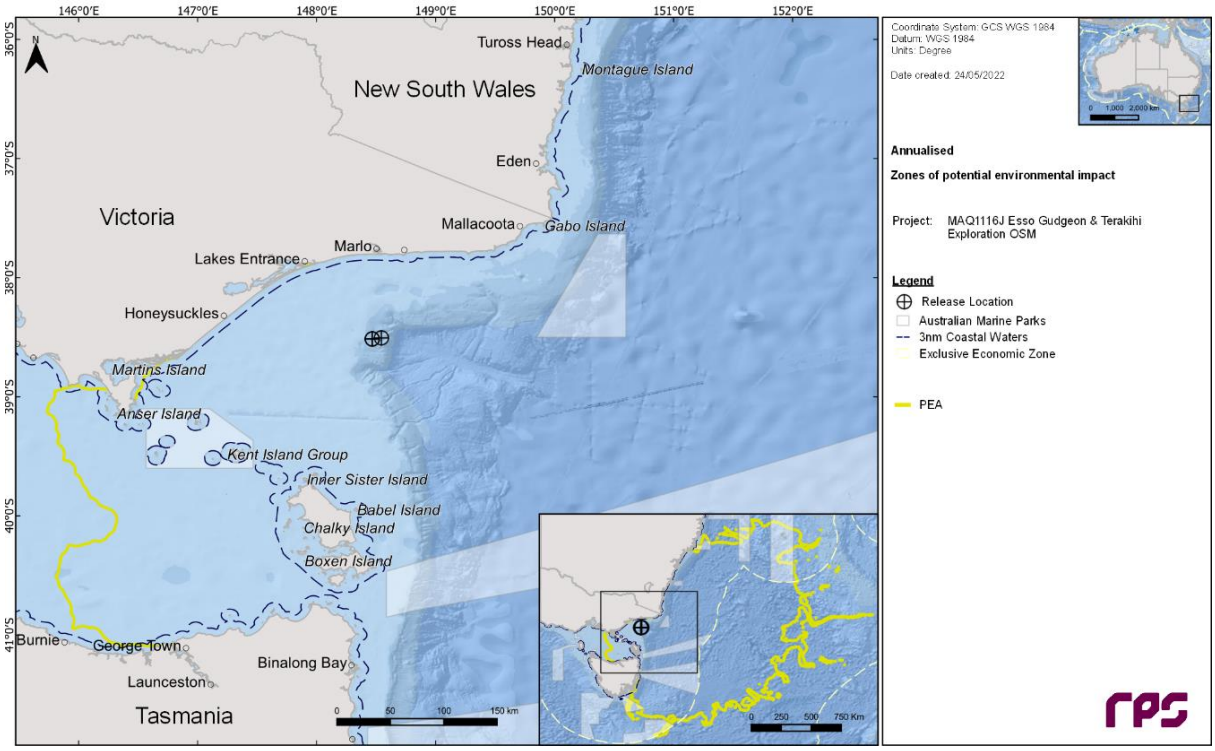

Figure 1-1 Location

Petroleum Production Licence No.	Gudgeon-1	Terakihi-1
Subsea exploration well	VIC/L06	VIC/L20
Coordinates	**Gudgeon-1**	**Terakihi-1**
Latitude	38° 30’ 54” S	38° 30’ 21” S
Longitude	148° 28’ 05” E	148° 32’ 43” E
Oil type and name	**Gudgeon-1 (West Kingfish) ***	**Terakihi-1 (Flounder) ***
Density @ 15˚C	808kg/m^3 (798kg/m^3)	797kg/m^3 (814kg/m^3)
API	43.7 (45.7)	46.0 (42.1)
Dynamic viscosity	- (2.0 cP @ 25°C)	- (3.22 cP @ 25°C)
Pour point	29 ºC (9 ºC)	22 ºC (18 ºC)
Oil property category	Group IV - Persistent Oil (Group II - Light-persistent)	

Composition	Gudgeon-1 (West Kingfish) *	Terakihi-1 (Flounder) *
Aromatics[1]	- (23.0%)	- (12.9%)
Emulsion water content	-	-
Saturates	-	-
Wax content	23.4% (25.0%)	8% (35.6%)
Volatile (BP <180°C)	- (18.8%)	- (10.9%)
Semi-volatile (BP 180 - 265°C)	- (24.4%)	- (13.3%)
Low volatility (BP 265 - 380°C)	- (38.7%)	- (44.4%)
Residual (BP> 380°C)[2]	18.1% (-)	31.4% (-)

* Refer to RPS 2022. Terakihi-1 and Gudgeon-1 Exploration Oil Spill Modelling. Report MAQ1116J, Rev1, 24 June 2022.

1 Soluble, aromatic, hydrocarbons, (including BTEX), tend to evaporate into the atmosphere.

2 Residual hydrocarbons will persist in the marine environment. It will remain in a liquid state when released into the environment over the annual temperatures observed in the Gippsland Basin.

2 What's the worst that could happen?

	Gudgeon-1	Terakihi-1
Modelled Oil Pollution Scenario** (worst case discharge scenario)	Level 3 Spill: A complete loss of well control (tubing flow to surface only) resulting in a release of crude until source control is effective (98 days – based on worst case scenario where relief well drilling is required).	
Oil type and name	West Kingfish crude	Flounder crude
Release rate	2400bbl/day	101.6bbl/day
Spill volume	235,200bbl	99,960bbl
Dominant weathering process	Evaporation	Evaporation
Approximate evaporation rate	(depending on temperature)	
…within the first 12 hours	18.8%	10.9%
…within the first 24 hours	43.2%	24.2%
…over several days	81.9%	68.6%
Probability of contact to any shoreline	14% (at East Gippsland)	56% (at East Gippsland)
Minimum time before shoreline accumulation at the low threshold	261 hours (at East Gippsland) (10.9 days)	156 hours (at East Gippsland) (6.5 days)

	Gudgeon-1	Terakihi-1
Maximum volume ashore	14.9m^3	67.9 m^3
Maximum length of the shoreline		
…at 10g/m^2	58.3km	140.0km
…at 100g/m^2	-	19.0km
…at 1000g/m^2	-	-
Weathering over the duration of loss of well control	(98 days; largest swept area) (based on deterministic modelling)	
Evaporation	58.1%	34.9%
Decay	18.0%	30.9%
Water column	16.7%	30.2%
Surface/Shoreline	<0.1%	1.8%

** Refer to RPS 2022. Terakihi-1 and Gudgeon-1 Exploration Oil Spill Modelling. Report MAQ1116J, Rev1, 24 June 2022.

3 Exposure – Shoreline

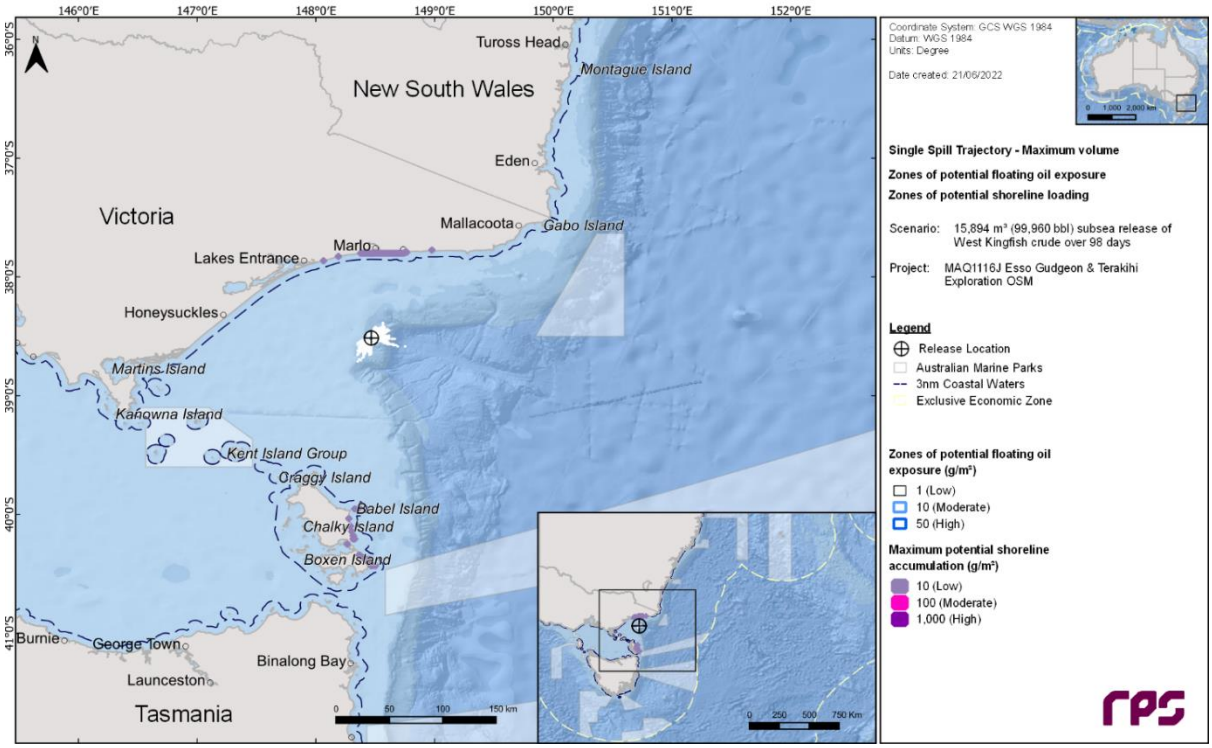

Figure 3-1 Gudgeon-1: Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the largest volume of oil ashore[1]

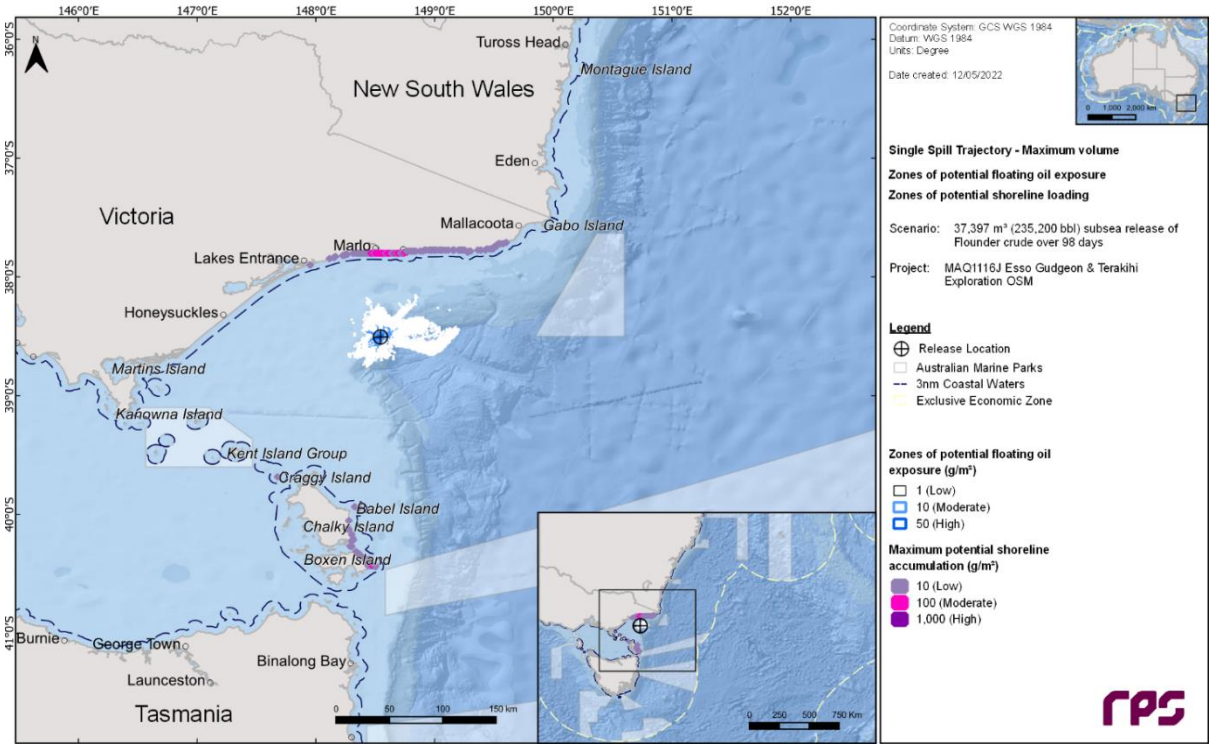

Figure 3-2 Terakihi-1: Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the largest volume of oil ashore[2]

1 Results are based on a 15,894 cubic metres subsea release of West Kingfish crude at the Gudgeon-1 release location over 98 days, tracked for 112 days.

2 Results are based on a 37,397 cubic metres subsea release of Flounder crude at the Terakihi-1 release location over 98 days, tracked for 112 days.

4 Resources at risk

	Receptor	<12 hours	12-48 hours	>48 hours	>1 week
Gudgeon-1					
Minimum time to oil exposure on sea surface at moderate threshold	Biologically Important Areas (BIAs):				
	• Seabirds – foraging	✓	-	-	✓
	• Pygmy blue whale – distribution/foraging	-	✓	-	-
	• Southern right whale – migration	-	-	-	✓
	• Great white shark – distribution	-	✓	-	-
	Key Ecological Features (KEFs):				
	• Upwelling East of Eden	-	-	✓	-

	Receptor	<12 hours	12-48 hours	>48 hours	>1 week
Minimum time to shoreline accumulation of oil at moderate threshold	• East Gippsland	-	-	-	-
	• Cape Conran	-	-	-	-
	• Cape Barren Island	-	-	-	-
	• Cape Howe/Mallacoota	-	-	-	-
	• Bega Valley	-	-	-	-
Terakihi-1					
Minimum time to oil exposure on sea surface at moderate threshold	BIAs:				
	• Seabirds – foraging	✓	-	✓	-
	• Pygmy blue whale – distribution/foraging	✓	✓	-	-
	• Southern right whale – migration	-	✓	-	-
	• Great white shark – distribution	-	-	-	-
	KEFs:				
	• Upwelling East of Eden	-	-	✓	-
Minimum time to shoreline accumulation of oil at moderate threshold	• East Gippsland	-	-	-	✓ (<2)
	• Cape Conran	-	-	-	✓ (<2)
	• Cape Barren Island	-	-	-	✓ (<2)
	• Cape Howe/Mallacoota	-	-	-	✓ (>8)
	• Bega Valley	-	-	-	✓ (>8)

Protection priorities based on sensitivity and predicted consequence (refer to Volume 2), protectable/actionable areas, and minimum time to exposure in this area are:

- **Lakes Entrance** permanently open river mouth to the Gippsland Lakes being a recognised Ramsar site, marine flora and fauna, marshes, wetlands, estuarine habitat, shorebird/seabird colonies, amenity beaches, surf club, commercial fishing, tourism, dive sites, recreational aquatic activities, waterway amenity access.
- **Mallacoota** due to sensitivity of estuary mouth, Hooded plover habitat.
- **Nadgee Lake and Nadgee River** due to pristine coastal landscape within the Nadgee Nature Reserve (New South Wales) and significant Wilderness Area.

The other potentially contacted areas are primarily sandy beaches or river mouths that are not permanently open.

5 Strategic Net Environmental Benefit Analysis and selection of response options

Response option	Benefits	Effectiveness on light crude spill	Viable response?	Net benefit?
Source control	Limit flow of hydrocarbons to environment.	Only viable option to stop flow of oil to the marine environment.	Yes	✓
Surveillance and monitoring	Although surveillance is not an active intervention to treat or remove oil pollution, it is critical to effective response both in the initial stages of an incident and during ongoing response operations.	Surveillance and monitoring used to observe the natural break-up and dissipation of a condensate spill from the Gudgeon-1/Terakihi-1 wells without the need for active intervention.	Yes	✓
Dispersant application	Dispersants act by allowing hydrocarbons to be mixed into the upper layers of the water column, which accelerates the biodegradation process. Removes oil from the water surface, protecting leeward shorelines and providing benefit to sea-surface air breathing fauna. Use of dispersants may eliminate, or minimise oil impacting sensitive resources including Gabo Island.	Oil from the Gudgeon-1/Terakihi-1 wells will in part be removed from the sea surface by evaporation (26% for Gudgeon-1 and 37% for Terakihi-1). Dispersant may be effective on Group IV oils. However, application of dispersant can contribute to water quality degradation through chemical application, without removing surface oil. Dispersants should be applied to fresh oil closest to the source to maximise effectiveness.	Yes	✓
Containment and recovery (vessel-based)	Booms and skimmers to contain surface oil where there is a potential threat to environmental sensitivities. Relies on calm sea conditions, thicknesses >10µm to collect and adequate deployment timeframes. Targeted containment and recovery can be utilised to reduce impact to sensitive areas such as Gabo Island where access for shoreline protection is limited (see	Oil from the Gudgeon-1/Terakihi-1 wells will in part be removed from the surface through evaporation (26% for Gudgeon-1 and 37% for Terakihi-1). Suitable thickness for recovery will be present for only a very short period, making containment and recovery option ineffective. In Bass Strait sea conditions likely to be suitable for containment and recovery	Yes	✓

Response option	Benefits	Effectiveness on light crude spill	Viable response?	Net benefit?
	below: Protection of Sensitive Shoreline Resources).	operations only 50% of the time.		
Protection of sensitive shoreline resources	Booms and skimmers deployed to protect environmental sensitivities. Environmental conditions (e.g. current, waves) limit application.	Oil released at the Gudgeon-1/Terakihi-1 well locations may contact the shoreline along the Ninety Mile Beach (<14% probability at East Gippsland at Low threshold for Gudgeon-1; <9% probability at East Gippsland at moderate threshold for Terakihi-1; none predicted at moderate threshold). Oil spreads rapidly and corralling of surface hydrocarbons close to shore is not expected to be effective and is thus not expected to provide sufficient benefit. However, diverting oil away from inlets or creek/river mouths to protect sensitive sites may be undertaken.	Yes	✓
Shoreline clean-up	Last response strategy to remove oil from the environment due to potential impact.	Oil released at the Gudgeon-1/Terakihi-1 well locations may contact the shoreline along the Ninety Mile Beach (<14% probability at East Gippsland at Low threshold for Gudgeon-1; <9% probability at East Gippsland at moderate threshold for Terakihi-1; none predicted at moderate threshold). There are various shoreline techniques that are appropriate for this type of hydrocarbon, a shoreline clean-up may be effective for reducing shoreline loadings where access is possible, to be assessed on a case-by-case basis.	Yes	✓
Oiled wildlife response	Consists of capture, cleaning and rehabilitation of oiled wildlife. May include hazing or pre-emptive captive management.	Oiled wildlife response is likely to be required. Although the distance of the platform from the coast reduces likelihood of extensive wildlife oiling	Yes	✓

Response option	Benefits	Effectiveness on light crude spill	Viable response?	Net benefit?
		onshore, individuals may become oiled in the vicinity of the spill. Operational monitoring will be used to inform the need for oiled wildlife response to be implemented.		

6 Response resources required

Response option	Strategy	Resource	Timeframe
Source control	Remotely operated vehicle debris clearing/subsea intervention	1 x remotely operated vehicle and 1 x vessel	Estimated 5 days (from call out request to arrival in Victoria)
		Subsea First Response Toolkit and 1 x vessel	Estimated 7 days (from Perth to Barry Beach Marine Terminal via road transport)
		1 x contract well control specialists (Wild Well Control/Oil Spill Response Limited)	2 days (from Singapore)
	Relief well	1 x MODU (via APPEA mutual aid agreement) 1 x contract engineering support specialists (Wild Well Control/Oil Spill Response Limited) Well construction material	Estimated 98 days (via heavy lift vessel from Singapore)
Surveillance and monitoring	Oil Spill Monitoring Program (OSMP) O1.1 Weather and sea state	N/A	
	OSMP O1.2 Trajectory estimation	1 x contracted modeller	
	OSMP Module O1.3 and O4.1 Aerial surveillance	1x observer per aircraft Aircraft to have 100nm range and 3 hour duration	Initial overflight <4 hours service requested. Trained observer <12 hours of spill occurring

Response option	Strategy	Resource	Timeframe
	OSMP Module O1.4 Tracking buoy	1x buoy available	Deployed <12 hours of spill occurring (dependent on weather conditions) (Level 2 and 3 spill)
	OSMP O1.5 Satellite imagery	1 x contract	
	OSMP Module O2.1 and O2.3 Water and oil sampling	1 x vessel 1 x initial sampling kit 1 x contract with laboratory	Samples obtained <24 hours of spill occurring Analysis initiated <24 hours of receipt in laboratory
Aerial dispersant	Dispersant	Maximum 17m^3/day Total volume 1615m^3	1 x air tractor required within 24 hours
	Aircraft	2 x AT-802 air tractors carrying out 5 sorties per day 1 x observation platform	
Offshore containment and recovery	Boom	4 x 200m	1 strike team required within 2 days
	Skimming system	2	
	Vessels	4 (2 strike teams)	
Protection of sensitive shoreline resources*[1]	Personnel	210 Personnel (Peak)	Required within 6 days
	Oil spill response equipment	2200m x Shoreboom	Required within 6 days
		Anchor kits + accessories	
	Vehicles and vessels	12 x utility task vehicle	Required within 6 days
		10 x front end loader/dozer	
Shoreline clean-up*[2]	Personnel	2 x Foreman	50% required within 6 days
		20 x labourers	
	Vehicles and vessels	8 x all-terrain vehicle	Required within 6 days
		8 x truck/vehicle	
		0 x front end loader/dozer	
		7 x dump truck	
		7 x pump	Required within 6 days

Response option	Strategy	Resource	Timeframe
	Oil spill response equipment	68m x inshore boom	
		68m x sorbent boom/snares	
		14m x shoreline flushing pipe	
	Manual equipment	20 x shovels	50% required within 6 days
		20 x rakes	
		20 x picks	
		3066 x plastic bags	
		15 x wheelbarrows	
Oiled wildlife response*3	Personnel	1 x Foreman	4 x Specialised Operators within 7 days
		8 x specialised operators	
	Equipment	1 x oiled wildlife response first strike kit	
		2 x intermediate bulk container	
		1 x response toolkit	
	Vehicles and vessels	2 x utility task vehicle	
		1 x vessel – personnel/equipment	

*1-3 Calculated resources requirement are for planning purposes only. Actual response strategies and resource needs to be determined in consultation with the State control agency.

*1 Based on simultaneous implementation of all Tactical Response Plans from Corringal through to Bega Valley.

*2 Based on peak volume on shoreline with predicted loading of 100mg/m^3 or greater and >10% probability shoreline impact within the sub-local government area. Assumed 15% of the shoreline being cleaned up in any one day (and a continuous re-oiling of the shoreline). 15% shoreline clean up used for planning purposes only. Actual resources to be determined in consultation with State control agency.

Relevant tactical response plan	
	• Corringle • Marlo • Cape Conran • Sydenham Inlet • Point Hicks • Cape Howe/Mallacoota • Bega Valley

7 Oil spill monitoring

Sensitivities		
Probability[1]	**Gudgeon-1**	**Terakihi-1**
>90%	Nil	BIA: • Antipodean albatross - foraging • Black-browed albatross - foraging • Buller's albatross - foraging • Campbell albatross - foraging • Common diving-petrel - foraging • Indian yellow-nosed albatross - foraging • Pygmy blue whale - distribution • Pygmy blue whale - foraging • Shy albatross - foraging • Wandering albatross - foraging • Great white shark - distribution • White-faced storm petrel – foraging • Southern right whale - migration • Short-tailed shearwater - foraging Integrated Marine and Coastal Regionalisation of Australia (IMCRA): • Twofold Shelf KEF: • Upwelling East of Eden
75% - 90%	Nil	BIA: • White-faced storm petrel - foraging
50% - 75%	Nil	Nil
25% - 50%	BIA: • Black-browed albatross - foraging* • Buller's albatross - foraging* • Campbell albatross - foraging* • Common diving-petrel - foraging* • Indian yellow-nosed albatross - foraging* • Pygmy blue whale - distribution* • Pygmy blue whale - foraging*	BIA: • Great white shark - foraging KEF: • Big Horseshoe Canyon IMCRA: • Flinders

Sensitivities		
Probability[1]	**Gudgeon-1**	**Terakihi-1**
	• Shy albatross - foraging* • Wandering albatross - foraging • Great white shark - distribution	
10% - 25%	BIA: • Antipodean albatross - foraging* • Southern right whale - migration IMCRA: • Twofold Shelf	BIA: • Humpback whale - foraging • Wedge-tailed shearwater - foraging • Grey nurse shark - migration • Little penguin - foraging
<10%	BIA: • Short-tailed shearwater - foraging • White-faced storm petrel - foraging • Great white shark - foraging • Grey nurse shark - migration • Humpback shale - foraging • Wedge-tailed shearwater - foraging KEF: • Big Horseshoe Canyon • Canyons on the eastern continental slope • Upwelling East of Eden Local Government Area (LGA): • East Gippsland Interim Biogeographic Regionalisation for Australia: • East Gippsland Lowlands IMCRA: • Flinders Sub-LGA: • Corringle	BIA: • Black petrel - foraging • Crested tern - breeding • Crested tern - breeding • Crested tern - foraging • Flesh-footed shearwater - foraging • Grey nurse shark - foraging • Indo-pacific/spotted bottlenose dolphin - breeding • Little penguin - breeding • Sooty shearwater - foraging • Great white shark - breeding • White-faced storm petrel - breeding Interim Biogeographic Regionalisation for Australia: • Bateman • East Gippsland Lowlands IMCRA: • Batemans Shelf • Freycinet LGA: • East Gippsland • Eurobodalla Marine National Park: • Cape Howe • Point Hicks Marine Park:

Sensitivities		
Probability[1]	**Gudgeon-1**	**Terakihi-1**
		• Batemans RSB: • Beware Reef • New Zealand Star Bank Sub-LGA: • Cape Conran • Corringle • Croajingolong (West) • Eurobodalla • Lake Tyers Beach • Marlo • Point Hicks • Sydenham Inlet
Marine Parks		
Probability[2]	**10-20**	**0-10**
>90%	Nil	Nil
75% - 90%	Nil	Nil
50% - 75%	Nil	Nil
25% - 50%	Nil	Nil
10% - 25%	Nil	Nil
<10%	Australian Marine Park: • East Gippsland • Flinders • Freycinet	Australian Marine Park: • East Gippsland • Flinders • Freycinet • Marine National Park: • Cape Howe • Point Hicks Marine Park: • Batemans RSB: • Beware Reef • New Zealand Star Bank

[1] Probability of contact with dissolved hydrocarbons at moderate threshold (0-10m).

[2] Probability of contact with entrained hydrocarbons at the low threshold.

Sufficient resources are available to undertake monitoring and these are detailed in the Operational and Scientific Monitoring Program.

Modelling indicates that the spill does **not** intersect the coastline until after one week.

However in the unlikely event of a spill, should trajectory modelling predict shoreline contact, sufficient resources are available to be initiated within 48 hours (in most cases sooner). Modules in addition to those required to monitor the spill may be initiated and resources mobilised to priority monitoring locations as determined at the time.