

## Corner Inlet Fishery Management Plan Steering Committee

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### **AGENDA ITEM 6.2: ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD) RISK ASSESSMENT**

The aim of this agenda item is to briefly describe the process for undertaking a risk assessment and work through the priority ESD components to identify the priority risks in the fishery, focusing on the ecological and biological aspects of the fishery initially.

The proposed risk assessment framework is a streamlined approach to the *National Ecologically Sustainable Development (ESD) Reporting Framework*. This streamlined approach aims to identify the priority risks for the fishery in a way that is efficient, transparent, objective, uses best available information (which will often be qualitative judgement) and meets the requirements of the Fisheries Act 1995 and national risk management standard.

The streamlined approach uses the Australian risk management standard risk assessment structure which has five steps:

1. Assess the fishery's context
2. Identify risks
3. Analyse risks
4. Evaluate risks
5. Treat risks

Results of risk assessments are used to identify priority areas for the fishery upon which to focus attention and derive strategic and operational objectives in the management plan and subsequent strategies (harvest strategy, monitoring strategy, compliance strategy).

### **RISK ASSESSMENT PROCESS**

#### **Step 1: Assess the fishery's context**

This step details the relevant aspects to the fishery including:

- defining the fishery (species harvested, biological stock(s) and the areas where they occur),
- the relevant, available information for the fishery,
- describing the sectors in the fishery,
- outlining the biological, economic and social objectives, and
- the relevant legislation and policy.

#### **Step 2: Identify risks**

This step identifies the relevant ESD components to the fishery, using the eight components of the *National ESD Reporting Framework*, and the sources of risk that could reasonably be expected to have a significant impact on these ESD components. Each of these components is broken down into more specific sub-components, for which operational objectives could be developed.

ESD COMPONENTS	SUB-COMPONENTS
<b>Ecological well-being</b>	
1. Retained species	<ul style="list-style-type: none"> <li>• Primary (target) species</li> <li>• By-product species</li> </ul>
2. Non-retained species	<ul style="list-style-type: none"> <li>• Protected species</li> <li>• General discards</li> </ul>
3. General ecosystem impacts	<ul style="list-style-type: none"> <li>• Changes to the ecosystem, biodiversity or trophic levels</li> <li>• Effect on habitat</li> <li>• Effect of lost gear, waste and pollutants</li> </ul>
<b>Human well-being</b>	
4. Community wellbeing	<ul style="list-style-type: none"> <li>• Economic benefit</li> <li>• Lifestyle</li> <li>• Industry structure</li> <li>• Infrastructure</li> <li>• Local community benefits</li> </ul>
5. National wellbeing	<ul style="list-style-type: none"> <li>• Economic benefit</li> <li>• Social benefit</li> </ul>
6. Indigenous wellbeing	<ul style="list-style-type: none"> <li>• Cultural values</li> <li>• Native Title</li> </ul>
<b>Ability to achieve</b>	
7. Impacts of environment on industry	<ul style="list-style-type: none"> <li>• Water quality</li> <li>• Habitat modification</li> <li>• Climate change</li> <li>• Social and economic influences</li> </ul>
8. Governance	<ul style="list-style-type: none"> <li>• Management</li> <li>• Legal framework</li> <li>• Consultation</li> <li>• Reporting</li> <li>• Stakeholders</li> </ul>

### **Step 3: Analyse risks**

Typically, a large number of issues are identified from the step 2 and the importance of the issues varies greatly. To determine the priority of issues and the appropriate level of response, risk assessment methodology is used. The methodology assigns levels of likelihood (see Table 1) and consequence (see Table 2) to determine an overall risk score (see Table 3). This score can then be used to decide whether an issue requires specific management or not (Table 4).

**Table 1: General Likelihood Table**

Level	Descriptor
Likely (6)	It is expected to occur
Occasional (5)	May occur
Possible (4)	Some evidence to suggest this is possible here
Unlikely (3)	Uncommon, but has been known to occur elsewhere
Rare (2)	May occur in exceptional circumstances
Remote (1)	Never heard of, but not impossible

**Table 2: General Consequence Table**

Level	General
Negligible (0)	Very insignificant impacts. Unlikely to be even measurable against natural variation
Minor (1)	Possibly detectable but minimal impact on structure/function or dynamics
Moderate (2)	Maximum appropriate/acceptable level of impact (e.g. full exploitation rate for a target species)
Severe (3)	This level will result in wider and longer term impacts now occurring (e.g. recruitment overfishing)
Major (4)	Very serious impacts now occurring with relatively long time frame likely to be needed to restore to an acceptable level
Catastrophic (5)	Widespread and permanent/irreversible damage or loss will occur

**Table 3: Risk Matrix Table**

		Consequence					
		Negligible	Minor	Moderate	Severe	Major	Catastrophic
Likelihood		0	1	2	3	4	5
Remote	1	0	1	2	3	4	5
Rare	2	0	2	4	6	8	10
Unlikely	3	0	3	6	9	12	15
Possible	4	0	4	8	12	16	20
Occasional	5	0	5	10	15	20	25
Likely	6	0	6	12	18	24	30