

## Module 5. Fisheries resources

### 5.1 Development in a declared fish habitat area state code

#### 5.1.1 Purpose

Declared fish habitat areas protect, manage and link fish habitat types within an individual location, and create a comprehensive, adequate and representative network of protected fish habitats along the Queensland coast.

The purpose of this code is to ensure development that occurs in declared fish habitat areas is managed to support the fish stocks on which Queensland’s fishing and seafood industry sectors rely. The code is designed to ensure that development:

- (1) is managed to support fish stocks
- (2) maintains the integrity, structure and fish habitat values of all fish habitat areas, and ensuring these areas are given significant protection from physical disturbance.

#### 5.1.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
All development completely or partly within a declared fish habitat area	Table 5.1.1

**Table 5.1.1: All development completely or partly within a declared fish habitat area**

Performance outcomes	Acceptable outcomes
<p><b>PO1</b> There is a demonstrated right to propose development in the <u>declared fish habitat area</u>.</p> <p>Editor’s note: Further guidance on rights in the context of fisheries resources and fish habitats is provided in the policy provisions of <i>Management of declared fish habitat areas (FHMOP 002)</i> Department of Primary Industries and Fisheries, 2008.</p>	<p><b>AO1.1</b> Development is for public infrastructure that has no alternative viable route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>OR</p> <p><b>AO1.2</b> Works are for a legitimate public health or safety issue and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p> <p>OR</p> <p><b>AO1.3</b> The following can be demonstrated:</p> <ol style="list-style-type: none"> <li>(1) tenure is held for the land directly abutting the <u>declared fish habitat area</u></li> <li>(2) tenure has been granted over the area of work or a resource entitlement or resource allocation has been granted for the resource being developed.</li> </ol>
<p><b>PO2</b> Development is only undertaken for a <u>prescribed purpose</u> in a <u>declared fish habitat area</u> and, does not significantly impact on the natural condition of <u>fish habitat</u> and natural processes of the area.</p> <p>Editor’s note: Further guidance on prescribed development purposes in a declared fish habitat area is provided in the policy provisions of <i>Management of declared fish habitat areas (FHMOP 002)</i> Department of Primary Industries and Fisheries, 2008.</p>	<p><b>AO2.1</b> Development is for one of the following purposes:</p> <ol style="list-style-type: none"> <li>(1) restoring the <u>fish habitat</u> or natural processes</li> <li>(2) managing <u>fisheries resources</u> or <u>fish habitat</u></li> <li>(3) researching, including monitoring or educating</li> <li>(4) ensuring public health or safety</li> <li>(5) providing public infrastructure to facilitate <u>fishing</u></li> <li>(6) providing subterranean public infrastructure if the surface of the area can be restored, after the completion of the works or activity, to its condition before the performance of the works or activity</li> <li>(7) constructing a temporary structure</li> <li>(8) maintaining a structure that was constructed before the area was</li> </ol>

Performance outcomes	Acceptable outcomes
	declared to be a <u>fish habitat</u> area (9) maintaining a structure, other than a structure mentioned in paragraph (8) that has been lawfully constructed (10) if the <u>land</u> is in a <u>management B area</u> – constructing a permanent structure on <u>tidal land</u> or within the management area, or depositing material for beach replenishment in the management area. Editor's note: A <u>resource allocation authority</u> is required under the Fisheries Act 1994 before development can proceed.
<b>PO3</b> The development will not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity of <u>fisheries resources</u> .	<b>A03.1</b> Suitable habitat conditions, including but not limited to water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish habitats</u> . AND <b>A03.2</b> Herbicides are not used on, and will not drift onto, <u>tidal land</u> or wetlands or into <u>waterways</u> . AND <b>A03.3</b> <u>Fish</u> will not become trapped or stranded as a result of development. OR <b>A03.4</b> Risks of <u>fish</u> stranding occurring have been identified and are demonstrably manageable.
<b>PO4</b> Development maintains or enhances community access to <u>fisheries resources</u> and <u>fish habitats</u> , such as through <u>fishing</u> access and linkages between the commercial <u>fishery</u> and infrastructure, services and facilities.	<b>A04.1</b> The development does not impact on existing infrastructure or existing community access arrangements for <u>declared fish habitat areas</u> . OR <b>A04.2</b> The development improves community access to fisheries resources and fish habitats (e.g. provision of public fishing platforms, public boardwalks).
<b>PO5</b> Development that has the potential to impact the operations and productivity of Queensland commercial or recreational <u>fisheries</u> mitigates any adverse impacts due to adjustment of <u>fisheries</u> . Editor's note: The <i>Guideline on fisheries adjustment</i> provides advice for proponents on relevant fisheries adjustment processes and is available by request from the Department of Agriculture and Fisheries.	<b>A05.1</b> Affected <u>fisheries</u> , and the impacts on those <u>fisheries</u> , are identified. AND <b>A05.2</b> Fair and reasonable compensation to commercial fishers is determined. AND <b>A05.3</b> The impact of the development on commercial <u>fisheries</u> and recreational fishers is mitigated.
<b>Restoring the fish habitat or natural processes</b>	
<b>PO6</b> Development that is restoring the <u>fish habitat</u> or natural processes minimises impacts on the <u>declared fish habitat area</u> . Editor's note: Development to restore <u>fish habitat</u> areas includes: (1) reinstating tidal profiles for allowing restoration of <u>marine plant</u> communities (2) restoring tidal flows and inundation patterns. Editor's note: The vast majority of restoration works are likely to be authorised self-assessable works under the self-assessable code <i>MPO6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i> , Department of Agriculture, Fisheries and Forestry, 2013, with an endorsed restoration plan (no development application required).	<b>A06.1</b> Restoration work will not result in the substitution of <u>fish habitats</u> . AND <b>A06.2</b> Prior to restoration works, the area of disturbance does not show evidence of adequate natural recovery. AND <b>A06.3</b> Restoration works are specifically for the benefit of <u>fish habitats</u> , <u>fisheries</u> productivity and natural ecological processes within the <u>declared fish habitat area</u> . AND <b>A06.4</b> Restoration works are undertaken in disturbed areas that are in degraded condition and the works will result in increased <u>fisheries</u> productivity. AND <b>A06.5</b> Proposed restoration works are feasible, are likely to be successful,

Performance outcomes	Acceptable outcomes
	and the benefits of the restoration works outweigh the impacts of conducting the work. AND <b>A06.6</b> Any restoration proposed in a <u>declared fish habitat area</u> includes a post-works monitoring and maintenance program appropriate for the scale of the restoration works.
<b>PO7</b> Excess sediment from restoration or <u>marine plants</u> that are required for a restoration project are obtained and managed to avoid further disturbance within the <u>declared fish habitat area</u> .	<b>A07.1</b> Excess sediment from restoration is disposed of lawfully outside of the boundaries of a <u>declared fish habitat area</u> . AND <b>A07.2</b> <u>Marine plants</u> for revegetation purposes are obtained from within a <u>declared fish habitat area</u> only if: <ol style="list-style-type: none"> <li>(1) no alternative source of <u>marine plants</u> from outside the <u>declared fish habitat area</u> is feasible</li> <li>(2) the removal of <u>marine plants</u> is assessed to have minimal impact on the <u>declared fish habitat area</u></li> <li>(3) the <u>marine plants</u> are to satisfy local provenance.</li> </ol> Editor's note: Vegetation to be used within a restoration project should comply with any relevant provisions of the <i>National policy for the translocation of live aquatic organisms</i> . See <i>Management and protection of marine plants and other tidal fish habitats (FHMOP 001)</i> , Department of Primary Industries and Fisheries, 2007 for specific guidance on <u>marine plant translocation</u> .
<b>PO8</b> Benthic disturbance, as a result of development in a <u>fish habitat</u> area enables the area to be restored to the condition and profile that existed before the disturbance from development. Editor's note: Such disturbances include but are not limited to those associated with provision of subterranean infrastructure, or temporary structures.	<b>A08.1</b> Surface sediment type is restored to match the surrounding or pre-works sediment profile to aid recolonisation by flora and fauna. AND <b>A08.2</b> Any disturbance to <u>waterway</u> banks is suitably protected from erosion. AND <b>A08.3</b> The total surface area of substrate disturbance is minimised (for example, corridor width trench and any adjacent temporary spoil stockpile).
<b>PO9</b> Development resulting in drainage or disturbance of acid sulfate soil prevents adverse impacts on <u>fisheries resources</u> and <u>fish habitats</u> .	<b>A09.1</b> Run-off and leachate from disturbed or oxidised acid sulfate soils is contained, treated and not released to a <u>waterway</u> or other <u>fish habitat</u> . AND <b>A09.2</b> Management of acid sulfate soil is consistent with the current version of the <i>Queensland acid sulfate soils technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002. Editor's note: <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002 provides further guidance on the management of acid sulfate soils.
Managing fisheries resources or fish habitats	
<b>PO10</b> Management of <u>fisheries resources</u> or <u>fish habitats</u> in a <u>declared fish habitat area</u> benefits or minimises impacts on the <u>declared fish habitat area</u> .	<b>A010.1</b> There is a demonstrated overriding need for development that involves managing <u>fisheries resources</u> or <u>fish habitat</u> within the <u>declared fish habitat area</u> . AND <b>A010.2</b> Management of <u>fisheries resources</u> or <u>fish habitat</u> in a <u>declared fish habitat area</u> is undertaken by the state or community groups for public benefit. AND <b>A010.3</b> Management of fisheries resources or fish habitats benefits the <u>declared fish habitat area</u> .

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	Editor's note: Such management may include managing public access, controlling marine pests or improving water quality.
<b>Researching, including monitoring or educating</b>	
<p><b>PO11</b> Development to support research, including monitoring or educating, within the <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p> <p>Editor's note: Research and monitoring works may be self-assessable works under the self-assessable code <i>MPO5: Works for educational, research or monitoring purposes in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Employment, Economic Development and Innovation, 2011.</p>	<p><b>AO11.1</b> Development for education or research is directly related to education or research about one or more of the following, and is necessary to achieve the desired educational or research outcome:</p> <ol style="list-style-type: none"> <li>(1) <u>fish</u> or <u>fisheries</u></li> <li>(2) <u>fish habitat</u></li> <li>(3) general biological or ecosystem values or processes within the area</li> <li>(4) survey works for existing property boundary definition and investigation of impacts of development on the <u>declared fish habitat area</u>.</li> </ol> <p>AND</p> <p><b>AO11.2</b> For permanent educational structures (for example, educational signs or boardwalks) within a <u>declared fish habitat area</u>, the:</p> <ol style="list-style-type: none"> <li>(1) structure is publicly owned and for public benefit</li> <li>(2) educational benefits justify the impacts, or</li> <li>(3) the structure is strategically located to achieve a high level of community use, benefit or awareness.</li> </ol> <p>OR</p> <p><b>AO11.3</b> Works for education or research:</p> <ol style="list-style-type: none"> <li>(1) are limited in nature, frequency and extent</li> <li>(2) are temporary</li> <li>(3) allow for the <u>fish habitat</u> to quickly recover through natural processes without any requirement for restoration works</li> <li>(4) allow for the <u>fish habitat</u> to be restored, if relevant, at the completion of the project.</li> </ol>
<b>Ensuring public health or safety</b>	
<p><b>PO12</b> Development that is ensuring public health or safety (other than works for mosquito control) within the <u>declared fish habitat</u> minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>AO12.1</b> Works for a public health issue are:</p> <ol style="list-style-type: none"> <li>(1) formally endorsed by Queensland Health or the relevant local government</li> <li>(2) necessary, as all alternative options that do not require works in a <u>declared fish habitat area</u> have been considered and are not viable or not achievable in the available timeframes for an urgent response to the public health issue.</li> </ol> <p>AND</p> <p><b>AO12.2</b> Works for a public safety purpose have no viable alternative options and are only for:</p> <ol style="list-style-type: none"> <li>(1) signage or aids to navigation to warn the public of a safety hazard (for example, within a <u>waterway</u> to warn of submerged rocks, crocodiles, marine stingers)</li> <li>(2) preventing an impending public safety issue (for example, beach cleaning to remove dangerous items such as syringes)</li> <li>(3) removal of a hazard to public safety that has resulted from a specific unforeseen event (for example, a fallen tree that is a danger to safe navigation, sediment deposited by a flood that is a danger to safe access to a public boat ramp; cleanup of an oil spill)</li> <li>(4) construction of a public marine stinger net to enable safe community use of the <u>declared fish habitat area</u></li> <li>(5) placement of a cyclone mooring identified under a cyclone contingency</li> </ol>

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	plan by the <u>harbour master</u> or controlling port authority or corporation, and located in accordance with a cyclone mooring plan.
<b>Public infrastructure to facilitate fishing</b>	
<b>PO13</b> Development that is public infrastructure to facilitate <u>fishing</u> minimises impacts on the <u>declared fish habitat area</u> .	<b>AO13.1</b> There is a demonstrated overriding need for public infrastructure to facilitate <u>fishing</u> , the development has a direct link to the activity of <u>fishing</u> and: <ol style="list-style-type: none"> <li>(1) is a public jetty, pontoon, boat ramp or <u>fishing</u> platform</li> <li>(2) the proposed location has been identified as the most suitable through a strategic planning document</li> <li>(3) associated infrastructure that does not have a physical requirement to be within a <u>declared fish habitat area</u> is not located in the <u>declared fish habitat area</u> (for example, boat trailer parks, car parks, rest rooms).</li> </ol> AND <b>AO13.2</b> The structure does not require dredging within the <u>declared fish habitat area</u> for access.
<b>Providing subterranean public infrastructure</b>	
<b>PO14</b> Development that is providing subterranean public infrastructure to transect the <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u> .	<b>AO14.1</b> Works for the construction of subterranean public infrastructure will: <ol style="list-style-type: none"> <li>(1) be placed below the existing substrate surface level</li> <li>(2) have no viable alternative route that does not require works within a <u>declared fish habitat area</u></li> <li>(3) allow satisfactory restoration of the substrate surface.</li> </ol>
<b>Constructing a temporary structure</b>	
<b>PO15</b> Development for a temporary structure minimises impacts on the <u>declared fish habitat area</u> .	<b>AO15.1</b> A temporary structure is located in part of the <u>declared fish habitat area</u> for which the applicant can demonstrate a level of ‘rights’ or interests. AND <b>AO15.2</b> A temporary structure has a documented and measurably lesser impact on the <u>declared fish habitat area</u> than all other reasonable options. AND <b>AO15.3</b> The temporary structure is for a public benefit project. AND <b>AO15.4</b> A temporary structure is in place for no more than six weeks. OR <b>AO15.5</b> Structures with a demonstrated negligible impact (for example, a temporary pipeline placed on the substrate surface of a <u>declared fish habitat area</u> where there is no damage through access or any outflow from the pipe into the area) may be left in place for up to six months. AND <b>AO15.6</b> A temporary structure is appropriately designed such that all of its components are contained within the approved area and can be completely removed from the <u>declared fish habitat area</u> within six weeks of completion of works. AND <b>AO15.7</b> To minimise impacts on the <u>declared fish habitat area</u> , a temporary structure is in place only at a time that avoids or minimises conflict with known <u>fish</u> migration periods (if relevant to the structure type and design proposed). AND <b>AO15.8</b> A temporary <u>waterway</u> barrier that prevents tidal flow is not be left in place for longer than 30 business days.

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	AND <b>AO15.9</b> Once the structure is removed, the tidal profile is restored to allow natural recolonisation by <u>marine plants</u> and fauna.
<b>Maintenance of structures</b>	
<p><b>PO16</b> Maintenance of a structure in or partially in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p> <p>Editor's note: The relevant structure being maintained may be a structure that was constructed before the area was declared to be a <u>declared fish habitat area</u>.</p> <p>Editor's note: Some maintenance works may be self-assessable works under the self-assessable code <i>MPo2: Maintenance works on existing lawful structures in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Agriculture, Fisheries and Forestry, 2013.</p>	<p><b>AO16.1</b> Maintenance works includes:</p> <ol style="list-style-type: none"> <li>(1) the trimming of <u>marine plants</u>, immediately adjacent to the relevant structure, that impinge on the safe use of that structure, or</li> <li>(2) temporary disturbance of the <u>declared fish habitat area</u> for the purpose of accessing the structure (for example, an access track), provided the disturbance is necessary and minimised the disturbed area will be satisfactorily restored within 14 days of conclusion of maintenance works, or</li> <li>(3) relocation or exchange of the structure, if there is a clear net benefit to the <u>declared fish habitat area</u>.</li> </ol>
<b>Certain permanent structures and beach replenishment within the declared fish habitat area management B area only</b>	
<p><b>PO17</b> Development that is constructing a permanent structure within a <u>declared fish habitat area (management B area)</u> only, minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>AO17.1</b> A permanent structure:</p> <ol style="list-style-type: none"> <li>(1) is proposed in a part of the <u>declared fish habitat area</u> where the applicant can demonstrate a legal right or interest over that part of the <u>declared fish habitat area</u> that is greater than the legal right or interest of another member of the community</li> <li>(2) has a demonstrated overriding requirement to be in the <u>declared fish habitat area</u></li> <li>(3) is demonstrated to be of the smallest size necessary to serve the overriding functional requirement</li> <li>(4) has a measurably lower level of predicted impact on the <u>declared fish habitat area</u> than all other reasonable options.</li> </ol>
<p><b>PO18</b> Development that is depositing material for beach replenishment in a <u>declared fish habitat area (management B area)</u> only) minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>AO18.1</b> Beach replenishment in a <u>declared fish habitat area</u>:</p> <ol style="list-style-type: none"> <li>(1) is carried out in the <u>management B area</u> and the applicant can demonstrate a level of rights for the area</li> <li>(2) is for the control of existing or imminent erosion</li> <li>(3) is carried out on a high-energy, sandy sediment shoreline with biological communities adapted to mobile sediments</li> <li>(4) does not create terrestrial <u>land</u> for the placement of structures (for example, park infrastructure), unless for a sacrificial dune or beach where this forms an integral part of erosion control design and will minimise the frequency and impact of ongoing erosion control activities on the <u>declared fish habitat area</u> and all other reasonable options would have a greater impact on the <u>management B area</u>. <p>AND</p> <p><b>AO18.2</b> The beach replenishment:</p> <ol style="list-style-type: none"> <li>(1) sources suitable replenishment material from a distance of greater than 100 metres* outside a <u>declared fish habitat area</u> or from works within a <u>declared fish habitat area</u> that have been authorised for another purpose</li> <li>(2) identifies a source of replenishment material for future maintenance</li> <li>(3) does not involve dredging or use of other techniques such as 'beach scraping or sand pushing' to obtain replenishment material within a <u>declared fish habitat area</u></li> <li>(4) will not require maintenance more often than every two years.</li> </ol> <p>*Editor's note: Excluding where sediment is sourced from a navigation channel.</p> </li></ol>

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<b>Boardwalks</b>	
<p><b>PO19</b> Development that is for a boardwalk in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>A019.1</b> The benefits of the boardwalk will outweigh any adverse impacts to the <u>declared fish habitat area</u>.</p> <p>AND</p> <p><b>A019.2</b> The boardwalk will be:</p> <ol style="list-style-type: none"> <li>(1) publicly owned and for public benefit</li> <li>(2) strategically located to achieve a high level of community use or benefit or awareness of the <u>fish habit</u> area</li> <li>(3) for education or for providing public access to prevent uncontrolled disturbance of the <u>declared fish habitat area</u>.</li> </ol> <p>AND</p> <p><b>A019.3</b> The boardwalk will:</p> <ol style="list-style-type: none"> <li>(1) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration to the substrate</li> <li>(2) maintain existing tidal hydrology.</li> </ol> <p>Editor's note: Guidance on how to meet the acceptable outcomes is included in <i>Fisheries guidelines for fish-friendly structures (FHG 006)</i>, Department of Primary Industries and Fisheries, 2006.</p>
<b>Bridges</b>	
<p><b>PO20</b> For a development for a bridge in a <u>declared fish habitat area</u> (management B area only):</p> <ol style="list-style-type: none"> <li>(1) the development minimises impacts on the <u>declared fish habitat area</u></li> <li>(2) there is an overriding need for the bridge to be located in the <u>management B area</u>.</li> </ol>	<p><b>A020.1</b> Bridges in a <u>declared fish habitat area</u> are located in the management B area of the <u>declared fish habitat area</u>.</p> <p>AND</p> <p><b>A020.2</b> The bridge is located on or between <u>lands</u> for which the applicant can demonstrate rights.</p> <p>AND</p> <p><b>A020.3</b> The bridge:</p> <ol style="list-style-type: none"> <li>(1) abutments are outside the <u>management B area</u></li> <li>(2) is supported on piles only (not culverts, pipes or causeways) and the number of bridge piles within the <u>management B area</u> is minimised</li> <li>(3) is designed to direct all water run-off from the surface of the bridge for treatment outside the <u>declared fish habitat area</u></li> <li>(4) has minimal impacts on vessel access upstream from the <u>declared fish habitat area</u>.</li> </ol>
<b>Dredging or extracting sediment (for restoring fish habitats or natural processes)</b>	
<p><b>PO21</b> Dredging or extracting in a <u>declared fish habitat area</u> restores <u>fish habitats</u> or natural processes.</p> <p>Editor's note: Applicants should review <i>MPo6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>—a self-assessable code may be applicable and not require a development application. See also prescribed development purpose—Restoring the <u>fish habitat</u> or natural processes.</p>	<p><b>A021.1</b> Dredging or extracting sediment from a <u>declared fish habitat area</u> is only for the purpose of restoring <u>fish habitats</u> or natural processes.</p>
<b>Fishing platforms</b>	
<p><b>PO22</b> Development that is for a public <u>fishing platform</u> in a <u>declared fish habitat area</u> minimise impacts on the <u>declared fish habitat area</u>.</p>	<p><b>A022.1</b> The proposed location for a public <u>fishing platform</u> in a <u>declared fish habitat area</u>:</p> <ol style="list-style-type: none"> <li>(1) has been assessed to the most the most suitable location through a strategic planning approach</li> </ol>

Performance outcomes	Acceptable outcomes
	<p>(2) reflects an existing community requirement for the structure, which has been demonstrated and documented</p> <p>(3) is supported by an incorporated recreational <u>fishing</u> group for the area.</p> <p>AND</p> <p><b>A022.2</b> Public <u>fishing</u> platforms in a <u>declared fish habitat area</u>:</p> <p>(1) do not require dredging</p> <p>(2) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration.</p>
<p><b>PO23</b> Development that is for a private <u>fish</u> platform in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>A023.1</b> Private <u>fishing</u> platforms in a <u>declared fish habitat area</u> are located within <u>management B areas</u> of the <u>declared fish habitat areas</u> only.</p> <p>AND</p> <p><b>A023.2</b> Private <u>fishing</u> platforms:</p> <p>(1) originate from a lot adjoining the <u>declared fish habitat area</u> for which the applicant can demonstrate rights</p> <p>(2) do not extend from a lot that already has a jetty, pontoon or boat ramp.</p> <p>AND</p> <p><b>A023.3</b> Private <u>fishing</u> platforms:</p> <p>(1) do not require dredging</p> <p>(2) do not adversely affect navigation for community access to the <u>declared fish habitat area</u></p> <p>(3) have a total permanent footprint of less than 40 square metres</p> <p>(4) do not extend through a <u>marine plant</u> fringe of more than 15 metres in width (measured perpendicular to the shore)</p> <p>(5) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration.</p>
<b>Industrial water inlets or outlets</b>	
<p><b>PO24</b> Industrial water inlet or outlet structures are compatible with the <u>management B area</u>, and minimise impacts on <u>management B areas</u>.</p>	<p><b>A024.1</b> Industrial water inlet or outlet structures may be located in a <u>management B area</u> if:</p> <p>(1) the structures, including intake or discharge pipes and necessary associated pipes and transfer pipes, originate from adjoining <u>land</u> for which the applicant can demonstrate rights</p> <p>(2) <u>fish</u> health and productivity and the potential use of exposed <u>fish</u> for food or <u>aquaculture</u> purposes are not reasonably expected to be compromised by the proposed use of the structure</p> <p>(3) alternatives for reuse and or disposal outside the <u>declared fish habitat area</u> are impractical.</p> <p>AND</p> <p><b>A024.2</b> Industrial water inlet or outlet structures:</p> <p>(1) use only buried pipelines, surface laid pipeline systems or elephant trunk systems</p> <p>(2) do not require intake channels or dredging unless the excavation is necessary to install a buried pipeline and the substratum surface of the <u>declared fish habitat area</u> is satisfactorily restored</p> <p>(3) have an intake or outlet volume of water that has minimal impact on natural hydrology within the <u>declared fish habitat area</u>.</p>
<b>Jetties, pontoons and boat ramps (public) – management A and B areas</b>	
<p><b>PO25</b> Development that is for a public jetty, pontoon or boat ramp in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>A025.1</b> Public jetties, pontoons and boat ramps have:</p> <p>(1) a direct link to the activity of <u>fishing</u></p> <p>(2) a proposed location that has been identified as the most suitable through a strategic planning approach</p>

Performance outcomes	Acceptable outcomes
	<p>(3) a demonstrated existing community requirement for the structure.</p> <p>AND</p> <p><b>A025.2</b> Public jetties, pontoons and boat ramps:</p> <p>(1) do not require additional dredging within the <u>declared fish habitat area</u> for access</p> <p>(2) do not include associated infrastructure that does not have a physical requirement to be within a <u>declared fish habitat area</u></p> <p>(3) have vessel staging areas that are appropriate for the size of the boat ramp</p> <p>(4) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration.</p>
<p><b>PO26</b> Development that is for a private jetty, pontoon or boat ramp in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p>	<p><b>A026.1</b> Private jetties, pontoons and boat ramps are located within <u>management B areas of declared fish habitat areas</u> only.</p> <p>AND</p> <p><b>A026.2</b> Private jetties, pontoons and boat ramps:</p> <p>(1) originate from an adjoining lot for which the applicant can demonstrate rights</p> <p>(2) do not extend from a lot that already has a jetty, pontoon, boat ramp or adjacent mooring unless the new structure is replacing an existing structure.</p> <p>AND</p> <p><b>A026.3</b> Private jetties, pontoons and boat ramps:</p> <p>(1) do not require dredging to use the structure</p> <p>(2) have a total permanent footprint of less than 40 square metres</p> <p>(3) extend through a <u>marine plant</u> fringe less than 15 metres wide measured perpendicular to the shore (jetties and pontoons) and the jetty or pontoon access walkway is less than 2 metres wide</p> <p>(4) for boat ramps – extend through a mangrove fringe less than 3 metres wide measured perpendicular to the shore, and the total area of <u>marine plant</u> disturbance required for construction is less than 45 square metres</p> <p>(5) have pedestrian decking surfaces that allow a minimum of 40 per cent light penetration</p> <p>(6) do not adversely affect navigation.</p>
<b>Marina and port facilities – management A and B areas</b>	
<p><b>PO27</b> Development is not a marina or port.</p>	<p>No acceptable outcome is prescribed.</p>
<b>Moorings (public or cyclone)</b>	
<p><b>PO28</b> Development that is for public vessel or cyclone moorings in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p> <p>Note: Moorings for restoration purposes are likely to be authorised under <i>MPO6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Agriculture, Fisheries and Forestry, 2013 as an endorsed rehabilitation plan.</p>	<p><b>A028.1</b> Vessel moorings located in the <u>declared fish habitat area</u> demonstrate an overriding community need.</p> <p>AND</p> <p><b>A028.2</b> Cyclone mooring are:</p> <p>(1) specifically identified under the relevant port cyclone contingency plan by the controlling authority (for example, a port authority)</p> <p>(2) located in accordance with any cyclone mooring plan (identifying current and future demand) prepared by the controlling authority</p> <p>(3) only used during a cyclone event or other genuine emergency situation</p> <p>(4) available for use by other vessels when authorised by the relevant regional <u>harbour master</u> in the event of a cyclone.</p> <p>OR</p> <p><b>A028.3</b> Moorings for restoring the <u>fish habitat</u> or natural processes of the <u>declared fish habitat area</u>:</p>

Performance outcomes	Acceptable outcomes
	(1) are a component of a project aimed at restoring a particular habitat type within the <u>declared fish habitat area</u> (such as a coral habitat) that has been degraded through vessel anchor damage (2) are public moorings (3) comply with the criteria under <i>Restoration of fish habitats: Fisheries guidelines for marine areas (FHG 002)</i> , Department of Primary Industries, 1998.
<p><b>PO29</b> Development that is for private vessel moorings in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p> <p>Editor's note: Where appropriate, designated moorings areas (DMAs) are in place to accommodate private and individual moorings.</p> <p>Editor's note: <u>Environmentally friendly moorings</u> in a DMA within a <u>management B area</u> are authorised under self-assessable code <i>Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants (MPo6)</i> Department of Agriculture, Fisheries and Forestry, 2013.</p>	<p><b>A029.1</b> Private vessel moorings are only located in <u>management B areas of declared fish habitat areas</u>.</p> <p>AND</p> <p><b>A029.2</b> A private vessel mooring in a <u>management B area</u>:</p> <ol style="list-style-type: none"> <li>(1) is located directly adjacent to a lot for which the applicant can demonstrate rights</li> <li>(2) is not located adjacent to a lot that already has a jetty, pontoon, boat ramp or adjacent mooring, unless the mooring is replacing these structures</li> <li>(3) is entirely within an extension of the side boundaries of the applicant's property and on the same side of the <u>waterway</u> as the premises</li> <li>(4) will not interfere with <u>foreshore</u> access</li> <li>(5) has an <u>environmentally friendly mooring</u> design</li> <li>(6) does not require dredging to use the mooring.</li> </ol> <p>OR</p> <p><b>A029.3</b> A private vessel mooring in a <u>management B area</u>:</p> <ol style="list-style-type: none"> <li>(1) is located within a government approved <u>designated mooring area</u></li> <li>(2) has an <u>environmentally friendly mooring</u> design</li> <li>(3) does not require dredging to use the mooring.</li> </ol>
<b>Mosquito control – management A and B areas</b>	
<p><b>PO30</b> Development that is works for mosquito control in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u>.</p> <p>Note: <i>MPo6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Agriculture, Fisheries and Forestry, 2013, authorises, and includes particular requirements for, self-assessable works for mosquito control for public health purposes.</p> <p>Editor's note: An approval is not required for pest management using pesticides or biological control of mosquitoes undertaken in accordance with <i>The lawful use of physical, pesticide and biological controls in a declared fish habitat area (FHACoPo1)</i>, Department of Primary Industries and Fisheries, 2005.</p>	<p><b>A030.1</b> For works for mosquito control in a <u>declared fish habitat area</u>, there is an overriding need for the works.</p> <p>AND</p> <p><b>A030.2</b> Works for mosquito control:</p> <ol style="list-style-type: none"> <li>(1) do not include works for the control of other nuisance pest insect species (for example, midges)</li> <li>(2) are identified as required to be carried out in the <u>declared fish habitat area</u> under a mosquito management plan developed in accordance with the <i>Mosquito management code of practice for Queensland</i>, Local Government Association of Queensland, 2012. <p>Note: Guidance on how to meet the acceptable outcomes is available in the <i>Mosquito management code of practice for Queensland</i>, Local Government Association of Queensland, 2012.</p> <p>AND</p> <p><b>A030.3</b> Runnelling works will comply with the policy guidelines in <i>Departmental procedures for permit applications assessment and approvals for insect pest control in coastal wetlands (FHMOP 003)</i>, Department of Primary Industries, 1996. A runnel must include:</p> <ol style="list-style-type: none"> <li>(1) increase tidal flushing</li> <li>(2) follow lines of natural water flow</li> <li>(3) be no deeper than 30 centimetres</li> <li>(4) have a 3:1 width:depth ratio</li> <li>(5) a spoon shape with gently sloping concave sides</li> </ol> </li></ol>

Performance outcomes	Acceptable outcomes
	(6) be designed to appropriately manage and dispose of acid sulfate soils.
<b>Aids to navigation</b>	
<b>PO31</b> Development that is for constructing an aid to navigation in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u> .	<b>A031.1</b> The location of the aid to navigation is: <ol style="list-style-type: none"> <li>(1) endorsed in writing by Maritime Safety Queensland</li> <li>(2) necessary, as all alternative options that do not require works in a <u>declared fish habitat area</u> have been considered, and are not viable or do not achieve timeframes for an urgent response to a public safety hazard.</li> </ol>
<b>Overhead electricity and communication cables</b>	
<b>PO32</b> Development that is for overhead electricity and communication cables in a <u>declared fish habitat area</u> minimises impacts on the <u>declared fish habitat area</u> .	<b>A032.1</b> Overhead electricity and communication cables: <ol style="list-style-type: none"> <li>(1) span the <u>declared fish habitat area</u>, or</li> <li>(2) if it is not possible to span the <u>declared fish habitat area</u> – are located in the <u>management B area</u></li> </ol> AND <b>A032.2</b> For overhead electricity and communication cables: <ol style="list-style-type: none"> <li>(1) rights over the works area can be demonstrated (for example, a power infrastructure easement)</li> <li>(2) future maintenance of the cables and their support infrastructure will not involve major adverse impacts on the <u>declared fish habitat area</u>.</li> </ol> AND <b>A032.3</b> The development: <ol style="list-style-type: none"> <li>(1) minimises impacts through measures, such as using the maximum cable span length and minimising disturbance required for access</li> <li>(2) involves no permanent filling (for example, the construction of permanent raised pads for the support structures or access causeways)</li> <li>(3) ensure that any associated warning signs do not require <u>marine plant</u> disturbance, unless this would compromise the purpose of the warning sign.</li> </ol>
<b>Reclamation – management B areas only</b>	
<b>PO33</b> Filling of <u>tidal land</u> is only to occur as a result of beach replenishment in <u>management B areas</u> .	<b>A033.1</b> Filling of <u>tidal land</u> as a result of beach replenishment may occur in a <u>management B area</u> if: <ol style="list-style-type: none"> <li>(1) all other reasonable options would have greater measurable impact on the <u>management B area</u></li> <li>(2) the filled <u>land</u> is not for the placement of structures or infrastructure</li> <li>(3) the filled <u>land</u> is to be a sacrificial dune or beach that is an integral part of erosion control design, and will minimise the frequency or impact of ongoing replenishment or other erosion control activities on the <u>management B area</u>.</li> </ol>
<b>Revetments, groynes and gabions (managing fisheries resources or fish habitat)</b>	
<b>PO34</b> Revetments, groynes and gabions for the purpose of managing <u>fisheries resources</u> or <u>fish habitat</u> in a <u>declared fish habitat area</u> are designed and located to minimise impacts on the <u>declared fish habitat area</u> .	<b>A034.1</b> Revetments, groynes and gabions for the purpose of managing <u>fisheries resources</u> or <u>fish habitat</u> : <ol style="list-style-type: none"> <li>(1) are constructed as part of a government agency or community group project to manage <u>fisheries resources</u> or <u>fish habitats</u>, or</li> <li>(2) are for a fisheries or <u>fish habitat</u> management purpose, or</li> <li>(3) are undertaken by a government agency or community groups for public benefit, or</li> <li>(4) ensure feasible and measurable benefits outweigh the associated impacts.</li> </ol> AND <b>A034.2</b> Erosion control structures in <u>management B areas</u> :

Performance outcomes	Acceptable outcomes
	(1) result in no further permanent loss of <u>fish habitats</u> beyond the footprint of the structure (2) include rehabilitation of disturbed <u>fish habitats</u> to the greatest extent possible.
<b>Revetments, groynes and gabions (erosion control)</b>	
<p><b>PO35</b> Revetments, groynes and gabions built for erosion control in a declared <u>fish habitat</u> minimise impacts on the <u>declared fish habitat area</u>.</p> <p>Editor's note: From a <u>fish habitat</u> perspective, erosion protection structures (for example, gabions) that also serve to maintain or establish bank vegetation (for example, mangroves) may have greater benefit than structures focused at only achieving erosion protection. In addition, filled geotextile fabric may have benefits over harder materials in some circumstances, including easier removal where required.</p> <p>Editor's note:</p> <p>(1) Further detail on <u>fish</u>-friendly structures is provided in <i>Fisheries guidelines for fish-friendly structures (FHG 006)</i>, Department of Primary Industries and Fisheries, 2006 for a discussion of the benefits of geotextile fabric.</p> <p>(2) Further detail on erosion control and regularisation is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p>	<p><b>A035.1</b> Revetments, groynes and gabions built for erosion control are located in <u>management B areas</u> of <u>declared fish habitat areas</u>.</p> <p>AND</p> <p><b>A035.2</b> Erosion control structures are:</p> <p>(1) located in a part of the <u>management B area</u> for which the applicant can demonstrate a level of rights or interests (for example, adjoining property)</p> <p>(2) located where there is evidence of significant erosion, or there is an immediate threat of significant erosion, which would result in the loss of one or more of the following—</p> <p>(a) the opportunity to preserve the ability to use the <u>land</u> for its existing or approved purpose</p> <p>(b) infrastructure, structures or buildings that are not expendable or not able to be relocated</p> <p>(3) located where there is an inadequate erosion buffer zone and managed retreat is not possible</p> <p>(4) the best available erosion management solution from both the erosion management and <u>fish habitat</u> management perspectives.</p> <p>AND</p> <p><b>A035.3</b> Erosion control structures:</p> <p>(1) include minimal regularisation of the <u>foreshore</u> boundary required to maintain a consistent alignment with adjacent properties as part of an erosion control strategy for the location</p> <p>(2) result in no further permanent loss of <u>fish habitats</u> beyond the footprint of the structure</p> <p>(3) include rehabilitation of disturbed <u>fish habitats</u> to the greatest extent possible.</p>
<b>Signs</b>	
<p><b>PO36</b> Signs in a declared <u>fish habitat</u> minimise impacts on the <u>declared fish habitat area</u>.</p>	<p><b>A036.1</b> For signs in a <u>declared fish habitat area</u>, there is an overriding community benefit involved in locating the sign in the <u>declared fish habitat area</u> if they are for:</p> <p>(1) warning the public of a hazard or danger, or</p> <p>(2) research or education:</p> <p>(a) where the educational benefits outweigh any impacts</p> <p>(b) where strategically located to achieve a high level of community use or benefit or awareness.</p> <p>AND</p> <p><b>A036.2</b> Signs do not involve disturbance of <u>marine plants</u> unless this would compromise the purpose of a warning sign (for example, the viewing arc).</p>
<b>Stormwater outlets</b>	

Performance outcomes	Acceptable outcomes
<p><b>PO37</b> Stormwater outlets built in a <u>declared fish habitat area</u> are designed and located to minimise impacts on the <u>declared fish habitat area</u>.</p>	<p><b>AO37.1</b> Stormwater outlets are located in <u>management B areas of declared fish habitat areas</u>.</p> <p>AND</p> <p><b>AO37.2</b> Stormwater outlet structures:</p> <ol style="list-style-type: none"> <li>(1) originate from adjoining <u>land</u> for which the applicant can demonstrate rights</li> <li>(2) are only used if stormwater storage, re-use and disposal on terrestrial <u>land</u> outside the <u>declared fish habitat area</u> is impractical.</li> </ol> <p>AND</p> <p><b>AO37.3</b> The stormwater outlets:</p> <ol style="list-style-type: none"> <li>(1) incorporate current best practice water quality treatment techniques or apparatus</li> <li>(2) incorporate measures (for example, retention basins) upstream of the <u>declared fish habitat area</u> to reduce water velocities and discharge volumes (for example, retention basins).</li> </ol>
<b>Tidal aquaculture – management A and B areas</b>	
<p><b>PO38</b> Development that is tidal <u>aquaculture</u> is not supported in <u>declared fish habitat areas</u>.</p>	<p><b>AO38.1</b> Placing of structures that constitute tidal works within licensed oyster areas in <u>management B areas</u> complies with the <i>Oyster industry management plan for Moreton Bay Marine Park</i>, Department of Primary Industries and Fisheries, 2008.</p>
<b>Water impoundment structures (permanent) – management A and B areas</b>	
<p><b>PO39</b> Development is not for a permanent dam, weir, bund or other water impoundment structure in a <u>declared fish habitat area</u>.</p>	<p>No acceptable outcome prescribed.</p>
<b>All development – environmental offsets</b>	
<p><b>PO40</b> Impacts to <u>declared fish habitat areas</u> or <u>legally secured offset areas</u> for <u>declared fish habitat areas</u>, including the <u>fisheries resources</u> and <u>fish habitats</u> that they contain, are avoided or mitigated and an <u>environmental offset</u> is provided for any <u>significant residual impact</u>.</p>	<p><b>AO40.1</b> Residual impact to <u>declared fish habitat areas</u> or <u>legally secured offset areas</u> for <u>declared fish habitat areas</u>, including the <u>fisheries resources</u> and <u>fish habitats</u> that they contain, is comprehensively and accurately documented to demonstrate that impacts are avoided or, where this cannot be achieved, impacts are minimised.</p> <p>OR</p> <p><b>AO40.2</b> Where residual impact to <u>declared fish habitat areas</u> or <u>legally secured offset areas</u> for <u>declared fish habitat areas</u>, including the <u>fisheries resources</u> and <u>fish habitats</u> that they contain, is accurately documented and it cannot be demonstrated that impact can be reasonably avoided or minimised, an <u>environmental offset</u> is provided for any <u>significant residual impact</u>.</p> <p>Editor's note: Applications for development should identify whether there is likely to be a <u>significant residual impact</u> and a need for an <u>environmental offset</u> having regard to Section 3.7 (Declared fish habitat areas and highly protected zones of State marine parks) of the <i>Significant Residual Impact Guideline</i> and the relevant <i>Queensland Environmental Offsets Policy</i>.</p>
<b>Additional requirements for development within a strategic environmental area</b>	
<p><b>PO41</b> Where clearing of <u>marine plants</u> or <u>legally secured offset areas</u> for <u>marine plants</u> cannot be avoided and the extent of clearing has been minimised, an <u>environmental offset</u> is provided for any significant residual impact from the clearing.</p>	<p><b>AO41.1</b> Clearing of <u>marine plants</u> or <u>legally secured offset areas</u> for <u>marine plants</u> is reasonably minimised and an <u>environmental offset</u> is provided for any significant residual impact from the clearing.</p> <p>AND</p> <p><b>AO41.2</b> Clearing of <u>marine plants</u> is limited to the minimum area required for the works and to allow for maintenance.</p>

Performance outcomes	Acceptable outcomes
<b>PO42</b> Natural regeneration of any cleared or work area is facilitated wherever possible.	<b>AO42.1</b> There is no impediment to the natural regeneration of native plant species in the area of clearing and works following completion of works.
<b>PO43</b> Development avoids or minimises adverse impacts on <u>fish</u> passage during works and the carrying out of the activity.	No acceptable outcome is prescribed.
<b>PO44</b> Development avoids or minimises impacts on <u>fish habitat</u> values.	<b>AO44.1</b> Works are located, designed and constructed to minimise impacts on <u>fish habitat</u> values and function.
<b>PO45</b> Development avoids or minimises impacts on natural drainage lines or flow paths, during construction and operation.	No acceptable outcome is prescribed.
<b>PO46</b> Development avoids or minimises any adverse impacts from pollutants on environmental values and water quality objectives for receiving waters (surface and groundwater) on site or leaving a site.	<p><b>AO46.1</b> Development demonstrates <u>best practice environmental management</u> to meet relevant environmental values and water quality objectives of <i>the Environmental Protection (Water) Policy</i>.</p> <p>OR</p> <p><b>AO46.2</b> All stormwater, wastewater, discharges and overflows leaving the site are:</p> <ol style="list-style-type: none"> <li>(1) treated to the quality of the receiving waters prior to discharge, or</li> <li>(2) reclaimed or re-used such that there is no export of pollutants to receiving waters.</li> </ol>

## 5.2 Constructing or raising waterway barrier works in fish habitats state code

### 5.2.1 Purpose

The purpose of this code is to ensure that development of waterway barrier works; such as bridges, culvert crossings, causeways, bunds, levees, weir and dams, is designed and located to protect fish habitats and the connectivity between fish habitats, thus sustaining fisheries access and productivity. This code is designed to ensure that:

- (1) access for fish along waters and into key fish habitats is maintained and restored
- (2) the ability for fish to move through the waterway network and access alternative habitats is maintained and restored (longitudinal connectivity)
- (3) connectivity between main waterway channels and other aquatic habitats (for example, inundated floodplains) is maintained and restored (lateral connectivity).

Editor's note: For guidance on how to determine development that this code applies to see the Department of Agriculture, Fisheries and Forestry 2014 fact sheets:

- *Maintaining Fish Passage in Queensland: What is a Waterway?*
- *Maintaining Fish Passage in Queensland: What is a Waterway Barrier Work?*
- *Maintaining Fish Passage in Queensland: What is not a Waterway Barrier Work?*

### 5.2.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Operational work	Table 5.2.1

Table 5.2.1: Operational work

Performance outcomes	Acceptable outcomes
<b>All assessable waterway barrier works</b>	
<p><b>PO1</b> The development will not increase the risk of mortality, <u>disease</u> or injury or compromise the health and productivity of <u>fisheries resources</u>.</p>	<p><b>AO1.1</b> The development ensures that one or more of the following is achieved:</p> <ol style="list-style-type: none"> <li>(1) the <u>waterway barrier works</u> includes a <u>fish way</u> that adequately provides for the movement of <u>fish</u> across the barrier works, or</li> <li>(2) the movement of <u>fish</u> across the <u>waterway barrier works</u> is adequately provided for in another way, or</li> <li>(3) the height of the <u>waterway barrier works</u> allows enough water to flow across the barrier works to adequately provide for the movement of <u>fish</u> across the barrier works, or</li> <li>(4) the <u>waterway barrier works</u> is intended to exist only for a temporary period, and the level of disruption to <u>fish</u> movement in the area is acceptable, or</li> <li>(5) it is not necessary or desirable, for the best management, use, development or protection of <u>fisheries resources</u> or <u>fish habitats</u>, for the <u>waterway barrier works</u> to provide for the movement of <u>fish</u> across the barrier works.</li> </ol> <p>AND</p> <p><b>AO1.2</b> Suitable habitat conditions, such as water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish habitats</u>.</p> <p>AND</p> <p><b>AO1.3</b> Cumulative effects of <u>waterway barrier works</u> do not impede <u>fish</u> movements, and will not affect reproductive success, health or mortality by depleting <u>fish</u> energy reserves.</p> <p>AND</p> <p><b>AO1.4</b> <u>Fish</u> will not become trapped or stranded as a result of development.</p> <p>OR</p> <p><b>AO1.5</b> Risks of <u>fish</u> stranding occurring have been identified and are demonstrably manageable.</p>
<p><b>PO2</b> Development maintains or enhances the community access to <u>fisheries resources</u> and <u>fish habitats</u>, through for example <u>fishing</u> access and linkages between commercial fisheries and infrastructure, services and facilities.</p>	<p><b>AO2.1</b> The development does not impact on existing infrastructure or access required by commercial or recreational <u>fishing</u>.</p>
<p><b>PO3</b> Development that has the potential to impact on the operations and productivity of commercial or recreational fisheries mitigates any adverse impacts due to adjustment of fisheries.</p> <p><i>Editor's note: The <u>Guideline on fisheries adjustment</u> provides advice for proponents on relevant fisheries adjustment processes and is available by request from the Department of Agriculture and Fisheries.</i></p>	<p><b>AO3.1</b> Affected fisheries, and the impacts on those fisheries are identified.</p> <p>AND</p> <p><b>AO3.2</b> Fair and reasonable compensation to commercial fishers is determined.</p> <p>AND</p> <p><b>AO3.3</b> The impact of the development on commercial fisheries and recreational fishers is mitigated.</p>
<p><b>PO4</b> When the purpose of a <u>waterway</u> barrier is no longer relevant, or the design life of the structure is complete and the structure is not intended to be re-lifed, the <u>waterway</u> barrier will be removed.</p>	<p><b>AO4.1</b> At the end of the viable operation of the development, the <u>waterway</u> barrier (and where appropriate any <u>fish way</u>) will be removed from the <u>waterway</u> and <u>fish habitats</u> and <u>fish</u> passage will be reinstated to previous or better levels.</p> <p>OR</p> <p><b>AO4.2</b> If the barrier remains in place, <u>fish</u> passage provision in accordance with the approved design and operation is maintained as long as the barrier</p>

Performance outcomes	Acceptable outcomes
<p><b>PO5</b> Development demonstrates appropriate rights and an overriding public need for the development, including consideration of any impacts beyond the footprint of the constructed development.</p> <p>Editor's note: For example, dams and weirs affect <u>fish habitats</u> up and downstream from the structure by pooling and restricting water flows.</p>	<p>remains.</p> <p><b>AO5.1</b> The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impact on <u>fish habitats</u> have been properly considered.</p> <p>AND</p> <p><b>AO5.2</b> The following can be demonstrated:</p> <ol style="list-style-type: none"> <li>(1) tenure is held for the <u>land</u> directly abutting the <u>waterway</u> where the works will be carried out and has the applicant has full riparian access rights on both sides of the barrier</li> <li>(2) tenure has been granted over the area of work, or</li> <li>(3) resource allocation or resource entitlement has been granted for the resource being developed.</li> </ol> <p>AND</p> <p><b>AO5.3</b> Development is for public infrastructure.</p> <p>OR</p> <p><b>AO5.4</b> Development is for public infrastructure for which there is no alternative viable route that does not require <u>waterway barrier works</u>.</p> <p>OR</p> <p><b>AO5.5</b> Development is for a legitimate public health or safety issue and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p>
<p><b>PO6</b> Development minimises stream crossings.</p>	<p><b>AO6.1</b> Where multiple <u>waterway barrier works</u> are demonstrated to be essential, these are located a minimum of 100 metres apart (including existing structures).</p>
<p><b>PO7</b> Development avoids non-essential hardening or unnatural modification of channels.</p>	<p><b>AO7.1</b> The development does not involve the channelisation of meandering <u>waterways</u>.</p> <p>AND</p> <p><b>AO7.2</b> Where channels need to be significantly modified, the development simulates natural watercourses by including meanders, pools, riffles, shaded and open sections, deep and shallow sections, and different types of substrata. Natural features such as rock outcrops and boulders are retained or recreated.</p>
<p><b>PO8</b> Impacts on water quality in <u>declared fish habitat areas</u> are minimised.</p>	<p><b>AO8.1</b> Development involves erosion and sediment control measures.</p> <p>Editor's note: Erosion and sediment control should be in accordance with the <i>Best practice erosion and sediment control guidelines</i>, International Erosion Control Association Australasia, 2008.</p>
<p><b>PO9</b> Development resulting in drainage or disturbance of acid sulfate soil is managed to prevent impacts on <u>fisheries resources</u> and <u>fish habitats</u>.</p>	<p><b>AO9.1</b> Run-off and leachate from disturbed or oxidised acid sulfate soils is contained, treated and not released to a <u>waterway</u> or other <u>fish habitat</u> in accordance with the <i>Queensland acid sulfate soils technical manual: Soil management guidelines</i>, Department of Natural Resources and Mines, 2002.</p>
<b>All development – environmental offsets</b>	
<p><b>PO10</b> Impact to <u>fish</u> passage or <u>legally secured offset areas</u> for <u>fish</u> passage is avoided, or mitigated and an <u>environmental offset</u> is provided for any <u>significant residual impact</u>.</p>	<p><b>AO10.1</b> Residual impact to fish passage or <u>legally secured offset areas</u> for <u>fish</u> passage, including the <u>fisheries resources</u> and <u>fish habitat</u> they contain, is comprehensively and accurately documented to demonstrate that impact is avoided or, where this cannot be achieved, that impacts are minimised.</p> <p>OR</p> <p><b>AO10.2</b> Where residual impact to fish passage or <u>legally secured offset areas</u> for <u>fish</u> passage, including the <u>fisheries resources</u> and <u>fish habitat</u> they contain, is accurately documented and it cannot be demonstrated that impact can be reasonably avoided or minimised, an <u>environmental offset</u> is provided for any <u>significant residual impact</u>.</p>

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	Editor's note: Applications for development should identify whether there is likely to be a <u>significant residual impact</u> and a need for an <u>environmental offset</u> having regard to Section 3.8 (Waterway providing for fish passage) of the <i>Significant Residual Impact Guideline</i> and the relevant <i>Queensland Environmental Offsets Policy</i> .
<b>Incorporation of fish ways</b>	
<b>PO11</b> Where the <u>waterway barrier works</u> will be a barrier to <u>fish</u> movement, provisions are made for adequate <u>fish</u> movement by incorporating a <u>fish way</u> or <u>fish ways</u> for the works.	No acceptable outcome is prescribed.
<b>PO12</b> Any <u>fish way</u> proposed as part of the development is demonstrated to be a feasible and reliable solution that will provide adequate <u>fish</u> passage.  Editor's note: Further information about the importance of <u>fish</u> passage and design considerations can be found in the book <i>From sea to source: International guidance for the restoration of fish migration highways</i> .	<b>AO12.1</b> A person or <u>entity</u> that is suitably qualified and experienced in <u>fish</u> passage biology and <u>fish way</u> design and delivery demonstrates and verifies that any <u>fish way</u> design will provide adequate <u>fish</u> passage. AND <b>AO12.2</b> Development uses a <u>fish way</u> design that has been successfully implemented under similar conditions (such as flows and <u>fish</u> communities) and has been demonstrated to provide adequate <u>fish</u> passage through actual scientific monitoring. AND <b>AO12.3</b> Development provides for the installation of monitoring equipment, such as traps and lifting equipment, access for monitoring, and a monitoring program of sufficient rigour to: (1) demonstrate the success of the <u>fish way</u> and <u>fish</u> passage at the site (2) provide the basis for optimising operation of the works and <u>fish way</u> . AND <b>AO12.4</b> The <u>fish way</u> design maximises flexibility for future adjustments that may be needed once in place. AND <b>AO12.5</b> The owner or operator demonstrates the means and commitment to promptly rectify any faults found in the <u>fish way</u> during commissioning, monitoring and operation, if these lead to inadequacies in the <u>fish</u> movement that are provided. AND <b>AO12.6</b> Any tailwater control structures such as a gauging weir, rock bar or stream crossings are fitted with a <u>fish way</u> or designed to allow <u>fish</u> passage. AND <b>AO12.7</b> Any existing in-stream structure downstream of the proposed <u>waterway barrier works</u> , which increases the barrier effect to <u>fish</u> passage through changes in flow characteristics, is fitted with adequate <u>fish</u> passage facilities.
<b>PO13</b> Lateral (upstream and downstream) and longitudinal <u>fish</u> movement is provided for.	<b>AO13.1</b> More than one <u>fish way</u> is provided, for example, to provide up and downstream <u>fish</u> passage or to provide <u>fish</u> passage under a range of flow regimes.
<b>PO14</b> Any <u>fish way</u> is capable of operating whenever there is flow in the <u>waterway</u> (inflow or release), the dam is above dead storage level, and the <u>fish way</u> will be operational for as long as the <u>waterway</u> barrier is in position.	<b>AO14.1</b> The operational range of a <u>fish way</u> is sufficient having regard to the hydrology of the site and the <u>fish</u> movement characteristics (in particular timing of movements in relation to seasons and hydrographs). AND <b>AO14.2</b> The lower operational range of the <u>fish way</u> is down to at least 0.5 metres below minimum headwater drawdown level (dead storage or

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	<p>minimum off-take level, whichever is lower) and to at least 0.5 metres below minimum tail water level at the site.</p> <p>AND</p> <p><b>AO14.3</b> Upstream and downstream <u>fish ways</u> will be operated whenever there are inflows into the impoundment or release out of the impoundment, and during overtopping events.</p> <p>AND</p> <p><b>AO14.4</b> All releases are directed firstly through the <u>fish way</u> as a priority over the outlet works, with the <u>fish way</u> being operated whenever a release is made through it, regardless of whether the release volume is less than the optimal minimum release for <u>fish way</u> operation.</p> <p>AND</p> <p><b>AO14.5</b> The <u>fish way</u> is designed such that non-operation duration (for example, less than two weeks) and incidents due to maintenance issues (for example, siltation, debris, breakdowns, sourcing of parts) are minimised.</p> <p>AND</p> <p><b>AO14.6</b> <u>Fish ways</u> are monitored and maintained to ensure that the <u>fish way</u> is operational at all times.</p>
<p><b>PO15</b> Any <u>fish way</u>, and all associated componentry are designed to be durable, reliable and adequately protected from damage from high flow and flood events, to prevent or minimise non-operation.</p>	<p><b>AO15.1</b> Development ensures that mechanisms are in place to ensure that operational issues in <u>fish ways</u> are promptly rectified for the life of the <u>fish way</u>.</p> <p>AND</p> <p><b>AO15.2</b> The quality of materials and components for construction of the <u>fish way</u> are appropriate for the intended service life of the <u>fish way</u>.</p>
<p><b>PO16</b> Any <u>fish way</u> is located in a position and manner that maximise the attraction and movement of <u>fish</u>, while also enabling access for monitoring, maintenance and operating purposes.</p>	<p><b>AO16.1</b> Modelling demonstrates, by showing the likely flow patterns and adjacent to the <u>fish way</u> entrance, the location of the <u>fish way</u> entrance is optimal for <u>fish</u> attraction across the operational range of the <u>fish way</u>.</p> <p>AND</p> <p><b>AO16.2</b> Outlet works are adjacent to the <u>fish way</u>, but are positioned and designed so as not to interfere with <u>fish</u> access and attraction to the <u>fish way</u> entrance during outlet releases.</p> <p>AND</p> <p><b>AO16.3</b> Spillway overtopping flows initiate and terminate adjacent to the <u>fish way</u> or are directed parallel to the <u>fish way</u> entrance.</p> <p>AND</p> <p><b>AO16.4</b> Spillway flows are transferred to <u>fish way</u> releases as soon as possible during a flow recession.</p> <p>AND</p> <p><b>AO16.5</b> There is a continuous attraction flow at all times at the <u>fish way</u> entrance when the <u>fish way</u> is operating.</p> <p>AND</p> <p><b>AO16.6</b> Attraction flow velocities are sufficient and variable to attract the whole <u>fish</u> community.</p> <p>AND</p> <p><b>AO16.7</b> Appropriate light levels are maintained at <u>fish way</u> entrances.</p>

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	<p>AND</p> <p><b>AO16.8</b> Additional means of <u>fish</u> attraction are included in the <u>fish way</u> design if appropriate.</p> <p>AND</p> <p><b>AO16.9</b> The <u>fish way</u> entrance is accessible under all flow conditions within its operating range.</p> <p>AND</p> <p><b>AO16.10</b> <u>Fish</u> attracted to the spillway are able to access the <u>fish way</u> without having to swim back downstream.</p> <p>AND</p> <p><b>AO16.11</b> Water supply for the <u>fish ways</u> and attraction flows are sourced from surface quality water or equivalent quality water.</p> <p>AND</p> <p><b>AO16.12</b> There are adequate holding chamber dimensions for the <u>fish</u> biomass (for lock, lift, trap and transfer type <u>fish ways</u>).</p> <p>AND</p> <p><b>AO16.13</b> The <u>fish way</u> has adequate hydraulic conditions for all <u>fish</u> within and throughout the <u>fish ways</u>.</p>
<p><b>PO17</b> The seasonal and flow-related biomass of the <u>fish</u> community at the location of the <u>waterway barrier works</u> has been surveyed, and has been catered for in the design of the <u>fish way</u>.</p>	<p><b>AO17.1</b> The <u>fish way</u> design, operation and capacity will avoid or acceptably minimise failure to pass any members of the <u>fish</u> community, for example, due to size, class or swimming ability.</p> <p>AND</p> <p><b>AO17.2</b> Future increases in <u>fish</u> biomass are quantified and catered for in the design of the <u>fish way</u> (for example, in capacity or flexibility of operation).</p>
<p><b>PO18</b> <u>Fish ways</u> and other means of <u>fish</u> passage at <u>waterway barrier works</u> cater for the whole <u>fish</u> community taking into account species, size classes, life stages and swimming abilities.</p>	<p><b>AO18.1</b> The seasonal and flow-related composition of the <u>fish</u> community at the location of the <u>waterway barrier works</u> is well understood and catered for.</p> <p>AND</p> <p><b>AO18.2</b> The <u>fish way</u> design, operation and capacity will avoid or acceptably minimise any delays in <u>fish</u> movement.</p>
<p><b>PO19</b> Development does not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity in <u>fish</u>.</p>	<p><b>AO19.1</b> All pathways providing <u>fish</u> passage at a proposed <u>waterway barrier works</u> are safe for <u>fish</u> to pass.</p> <p>AND</p> <p><b>AO19.2</b> <u>Fish</u> passage will not adversely impact on the wellbeing of <u>fish</u>.</p> <p>AND</p> <p><b>AO19.3</b> The designs of all components of <u>waterway</u> barriers, including but not limited to spillway, stilling basin, apron and dissipation structures, are developed and implemented with safe downstream <u>fish</u> passage as a key design consideration.</p> <p>Note: A stepped spillway (including sheet pile weirs) is not an acceptable solution as high mortalities and injuries to <u>fish</u> have been associated with such designs.</p> <p>AND</p> <p><b>AO19.4</b> There is adequate minimum tailwater depth at the toe of the spillway (for example, stilling basin) at commencement to spill (for example, 30 per cent of the head difference).</p>

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	<p>AND</p> <p><b>AO19.5</b> Intake and outlet works adjacent to the <u>waterway</u> barrier are screened or otherwise designed and placed to prevent <u>fish</u> passing through or becoming trapped in these works.</p> <p>AND</p> <p><b>AO19.6</b> Intake screen dimensions are such that small <u>fish</u> are not drawn through the outlet works and velocities are low enough that <u>fish</u> are not impinged or entrained on the screens.</p> <p>AND</p> <p><b>AO19.7</b> The <u>fish way</u> exit is located so as to avoid entrainment in any outlet work screens and avoid <u>fish</u> being washed back over the spillway during overtopping.</p> <p>AND</p> <p><b>AO19.8</b> Cover is provided for <u>fish</u> moving from the exit.</p> <p>AND</p> <p><b>AO19.9</b> <u>Fish</u> exit upstream and downstream <u>fish ways</u> at the water level over the full range of tailwater and headwater levels.</p> <p>AND</p> <p><b>AO19.10</b> Trash and debris are excluded from the upstream <u>fish way</u> exit and downstream <u>fish way</u> entrance with designs that ensure that <u>fish</u> can access the exits and entrances, and that the <u>fish way(s)</u> are not blocked or damaged by trash or debris.</p> <p>AND</p> <p><b>AO19.11</b> Adequate minimum depth is maintained through the <u>fish way</u>.</p> <p>AND</p> <p><b>AO19.12</b> The risk of <u>fish</u> kills arising from the works are minimised (for example, through entrapment of <u>fish</u> upstream or between works).</p> <p>AND</p> <p><b>AO19.13</b> Contingency plans in case of mechanical or electrical failure of <u>fish ways</u> are in place.</p> <p>AND</p> <p><b>AO19.14</b> The <u>fish way</u> design, operation and capacity will avoid or acceptably minimise predation within and upon the <u>fish</u> community using the <u>fish way</u>.</p>
<b>Inherent barrier design and provision of fish passage</b>	
<p><b>PO20</b> <u>Fish</u> passage is provided for:</p> <ol style="list-style-type: none"> <li>(1) in the inherent design of the <u>waterway barrier works</u></li> <li>(2) over the in-situ life of the barrier in that position through adequate construction and maintenance of the barrier.</li> </ol>	<p><b>AO20.1</b> Development avoids or minimises loss of, or modification to, <u>fish habitat</u>.</p> <p>AND</p> <p><b>AO20.2</b> The <u>drownout</u> characteristics of the <u>waterway</u> barrier allow for adequate <u>fish</u> passage at the site.</p> <p>AND</p> <p><b>AO20.3</b> At <u>drownout</u>, the conditions at the barrier are such that:</p> <ol style="list-style-type: none"> <li>(1) the tailwater and headwater levels across the weir are essentially equal</li> <li>(2) velocities are sufficiently low for <u>fish</u> passage (e.g. 0.3 metres/second) at or close to the edge of the spillway crest</li> <li>(3) the weir is fully submerged to a sufficient depth to allow for <u>fish</u> passage, and for the species and size classes of <u>fish</u> moving through the site to cross the weir</li> </ol>

Performance outcomes	Acceptable outcomes
	<p>(4) to the degree that provides for adequate <u>fish</u> passage at the site.</p> <p>AND</p> <p><b>AO20.4</b> The frequency, timing and duration of <u>drownout</u> conditions are adequate for the movement requirements of the <u>fish</u> community moving past the barrier.</p> <p>AND</p> <p><b>AO20.5</b> Delays to <u>fish</u> passage when there are flows in the system but no <u>fish</u> passage in the rising hydrograph are accurately defined for the design, and avoided or limited to a maximum of three days.</p> <p>AND</p> <p><b>AO20.6</b> In assessing whether the inherent barrier design provides adequate <u>fish</u> passage, impacts on lateral and longitudinal <u>fish</u> movement are considered.</p>
<p><b>PO21</b> The use of floodgates is avoided or minimised.</p>	<p><b>AO21.1</b> There is an overriding need for new floodgates, and other alternatives are unviable.</p> <p>AND</p> <p><b>AO21.2</b> Hydraulic conditions through the floodgates are adequate for <u>fish</u> passage.</p> <p>AND</p> <p><b>AO21.3</b> Floodgates are designed and operated as (tidally activated) automatic floodgates.</p> <p>AND</p> <p><b>AO21.4</b> The invert of the floodgate is at bed level.</p> <p>AND</p> <p><b>AO21.5</b> Floodgates allow for <u>fish</u> passage over an adequate duration of the tidal cycle.</p> <p>AND</p> <p><b>AO21.6</b> The operation of the floodgate will not result in impacts on water quality that may impact on <u>fish</u> or <u>fish habitat</u>.</p>
<p><b>PO22</b> <u>Waterway</u> barriers that are bridges are designed, constructed and maintained to provide adequate <u>fish</u> passage for the site and:</p> <p>(1) <u>fish</u> passage is provided for the life of the crossing</p> <p>(2) hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the crossing at all flows up to the <u>drownout</u> of the structure.</p> <p>Editor's note: For guidance on when a bridge is and is not considered to be waterway barrier work see the Department of Agriculture, Fisheries and Forestry 2014 fact sheets <i>Maintaining Fish Passage in Queensland: What is a Waterway Barrier Work?</i> and <i>Maintaining Fish Passage in Queensland: What is not a Waterway Barrier Work?</i></p>	<p><b>AO22.1</b> A bridge that is designed to allow adequate <u>fish</u> passage is preferentially installed to a culvert.</p> <p>AND</p> <p><b>AO22.2</b> In-stream bridge structures such as piles are minimised.</p> <p>AND</p> <p><b>AO22.3</b> Bridge support piles are not constructed within the low-flow channel or so that they constrict the edges of the low-flow channel.</p> <p>AND</p> <p><b>AO22.4</b> Bridge abutments do not extend into the <u>waterway</u> beyond the toes of the banks.</p> <p>AND</p> <p><b>AO22.5</b> Bank revetment works do not extend into the <u>waterway</u> beyond the toes of the banks.</p> <p>AND</p> <p><b>AO22.6</b> Permanent access or erosion control structures within the main channel adjacent to the bridge are set at or below bed level, roughened to approximately simulate natural bed conditions, and maintained so that there are no drops in elevation at their edges or joins with the stream bed.</p>

Performance outcomes	Acceptable outcomes
<p><b>PO23</b> <u>Waterway</u> barriers that are culverts provide adequate <u>fish</u> passage for the site, and:</p> <ol style="list-style-type: none"> <li>(1) <u>fish</u> passage is provided for the life of the crossing</li> <li>(2) hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the crossing at all flows up to the <u>drownout</u> of the structure.</li> </ol> <p>Editor's note: For further guidance see the Department of Agriculture, Fisheries and Forestry 2014 fact sheet <i>Maintaining Fish Passage in Queensland: What is a Waterway Barrier Work?</i></p>	<p><b>AO23.1</b> Culverts are only installed where the site conditions do not allow for a bridge.</p> <p>AND</p> <p><b>AO23.2</b> The combined width of the culvert cell apertures are equal to 100 per cent of the main channel width.</p> <p>AND</p> <p><b>AO23.3</b> The culvert crossing and associated erosion protection structures are installed at no steeper gradient than the <u>waterway</u> bed gradient.</p> <p>AND</p> <p><b>AO23.4</b> For the life of the culvert crossing, relative levels of the culvert invert, apron and scour protection and the stream bed are kept so that there are no drops in elevation at their respective joins.</p> <p>AND</p> <p><b>AO23.5</b> The base of the culvert is:</p> <ol style="list-style-type: none"> <li>(1) buried a minimum of 300 millimetres to allow bed material to deposit and reform the natural bed on top of the culvert base, or</li> <li>(2) the base of the culvert is the stream bed, or</li> <li>(3) the base of the culvert cell is roughened throughout the culvert floor to approximately simulate natural bed conditions.</li> </ol> <p>AND</p> <p><b>AO23.6</b> The outermost culvert cells incorporate roughening elements such as baffles on their bankside sidewalls.</p> <p>AND</p> <p><b>AO23.7</b> Roughening elements are installed on the upstream wingwalls on both banks to the height of the upstream obvert or the full height of the wingwall.</p> <p>AND</p> <p><b>AO23.8</b> Roughening elements provide a contiguous lower velocity zone (no greater than 0.3 metres/second) for at least 100 millimetres width from the wall through the length of the culvert and wingwalls.</p> <p>AND</p> <p><b>AO23.9</b> In-stream scour protection structures are roughened throughout to approximately simulate natural bed conditions.</p> <p>AND</p> <p><b>AO23.10</b> Culvert alignment to the stream flow minimises water turbulence.</p> <p>AND</p> <p><b>AO23.11</b> There is sufficient light at the entrance to and through the culvert so that <u>fish</u> are not discouraged by a sudden descent into darkness.</p> <p>AND</p> <p><b>AO23.12</b> The depth of cover above the culvert is as low as structurally possible, except where culverts have an average recurrence interval (ARI) greater than 50 years.</p> <p>AND</p> <p><b>AO23.13</b> For culvert crossings designed with a flood immunity &gt;ARI 50, <u>fish</u> passage is provided up to culvert capacity.</p> <p>AND</p>

Performance outcomes	Acceptable outcomes
	<p><b>AO23.14</b> Adequate design (for example, culvert aperture) and maintenance measures are in place for the life of the crossing to keep crossings clear of blockages through a regular inspection program in order to retain <u>fish</u> passage through the crossing.</p> <p>AND</p> <p><b>AO23.15</b> Crossings within the bed and banks do not incorporate culverts.</p>
<p><b>PO24</b> <u>Waterway</u> crossings other than bridges or culverts provide adequate <u>fish</u> passage for the site and:</p> <p>(1) <u>fish</u> passage is provided for the life of the crossing</p> <p>(2) hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the crossing at all flows up to the <u>drownout</u> of the structure.</p> <p>Editor's note: For guidance on when a waterway crossing is not considered to be waterway barrier work see the Department of Agriculture, Fisheries and Forestry 2014 fact sheet <i>Maintaining Fish Passage in Queensland: What is not a Waterway Barrier Work?</i></p>	<p><b>AO24.1</b> The crossing is built at or below bed level so that the surface of the crossing is no higher than the stream bed at the site.</p> <p>AND</p> <p><b>AO24.2</b> For the life of the crossing, relative levels of the crossing, any bed erosion or scour protection and the stream bed are kept so that there are no drops in elevation at their respective joins.</p> <p>AND</p> <p><b>AO24.3</b> The crossing and associated erosion protection structures are installed at no steeper gradient than the <u>waterway</u> bed gradient.</p> <p>AND</p> <p><b>AO24.4</b> The crossing and associated erosion protection structures are roughened throughout to approximately simulate natural bed conditions.</p> <p>AND</p> <p><b>AO24.5</b> The lowest point of the crossing is installed at the level of the lowest point of the natural stream bed (pre-construction), within the footprint of the proposed crossing.</p> <p>AND</p> <p><b>AO24.6</b> There is a height difference from the lowest point of the crossing to the edges of the low flow section of the crossing to channel water into the low flow section.</p> <p>AND</p> <p><b>AO24.7</b> The level of the remainder of the crossing is no higher than the lowest point of the natural stream bed outside of the low flow channel.</p>
<p><b>PO25</b> All <u>waterway</u> barriers are designed, constructed and maintained to provide adequate <u>fish</u> passage for the site and <u>fish</u> passage is provided for the life of the barrier.</p>	<p><b>AO25.1</b> Hydraulic conditions (depth, velocities and turbulence) from the downstream to the upstream limit of the structure allow for <u>fish</u> passage of all <u>fish</u> attempting to move through the barrier at all flows up to the <u>drownout</u> of the structure.</p> <p>AND</p> <p><b>AO25.2</b> Aperture size of openings (for example, at screens or trash racks) ensures adequate <u>fish</u> passage.</p> <p>AND</p> <p><b>AO25.3</b> Hydraulic conditions are such that adequate <u>fish</u> passage is provided.</p> <p>AND</p> <p><b>AO25.4</b> Flows across, or releases out of, the structure are such that adequate <u>fish</u> passage is provided in terms of timing, frequency and duration, as well as water volume and depth.</p> <p>AND</p> <p><b>AO25.5</b> Water quality across the barrier allows for <u>fish</u> passage.</p>

Performance outcomes	Acceptable outcomes
<b>Temporary waterway barrier works</b>	
<p><b>PO26</b> The temporary <u>waterway barrier works</u> will exist only for a temporary period and cause a minimal and acceptable disruption to <u>fish</u> movement in the area, during the period of installation.</p> <p>Editor’s note: Code for self assessable development <i>Temporary waterway barrier works (WWBW02)</i>, Department of Employment, Economic Development and Innovation, 2010 and the GIS data layer ‘Queensland Waterways for Waterway Barrier Works’ provide guidance on the length of time that a temporary barrier may be acceptable in particular streams.</p>	<p><b>AO26.1</b> Temporary <u>waterway barrier works</u> can be in place at a given site for no more than 12 months.</p> <p>AND</p> <p><b>AO26.2</b> In tidal waters, to ensure significant impacts on upstream and downstream habitats are avoided, the temporary <u>waterway barrier works</u> will not completely block the <u>waterway</u> for more than 3 weeks, unless steps taken to ensure water exchange occurs (such as breaching of the bund or pumping water), to prevent upstream <u>marine plants</u> and benthos being submerged in freshwater, or the barrier is sufficiently permeable.</p> <p>AND</p> <p><b>AO26.3</b> Delays to <u>fish</u> movement are avoided at times when <u>fish</u> are known to be undertaking upstream spawning migrations, even on very small or zero flow events or river rises. <u>Waterway barrier works</u> are scheduled out of this period, or other provision for <u>fish</u> movement is made (for example, the use of a partial barrier, periodic barrier, stream diversion or <u>fish way</u>).</p> <p>AND</p> <p><b>AO26.4</b> Where there are species at the site that require downstream movement during works, provisions are made to allow those species to move downstream.</p> <p>AND</p> <p><b>AO26.5</b> Water diversion around the site or through the barrier is implemented if the barrier is in position for more than four weeks, and there is any flow in the system for the purpose of ensuring that vegetation die-off, decomposition and associated reduction in water quality does not become an issue upstream of the barrier, in areas where there is more than 30 per cent coverage of terrestrial grasses within the ponded area.</p> <p>AND</p> <p><b>AO26.6</b> Where there are aquatic macrophytes immediately downstream of the barrier and those macrophytes would ordinarily be submerged or partially submerged, water will need to be passed across the barrier at all times to avoid their desiccation.</p> <p>AND</p> <p><b>AO26.7</b> On removal of a temporary barrier, full movement for <u>fish</u> is reinstated.</p> <p>AND</p> <p><b>AO26.8</b> On removal of a temporary barrier, the <u>waterway</u> bed and banks are returned to their original profile and stability, so that long-term <u>fish</u> movement at the site is not compromised.</p>
<p><b>PO27</b> <u>Fish</u> movement is required past temporary <u>waterway barrier works</u> where the duration of the barrier is greater than that allowed for under the code for self assessable development <i>Temporary waterway barrier works (WWBW02)</i>, Department of Agriculture, Fisheries and Forestry, April 2013.</p> <p>Editor’s note: Code for self assessable development <i>Temporary waterway barrier works (WWBW02)</i>, Department of Agriculture, Fisheries and Forestry, April 2013, and the GIS data layer ‘Queensland waterways for waterway barrier works’ provide</p>	<p><b>AO27.1</b> Development provides for adequate <u>fish</u> movement through the incorporation of a <u>fish way</u> or <u>fish ways</u> for the works.</p> <p>AND</p> <p><b>AO27.2</b> The barrier:</p> <ol style="list-style-type: none"> <li>(1) is a partial barrier</li> <li>(2) does not constrict the area or flows of a low flow channel</li> <li>(3) all work will be completed (and the barrier removed) during low flows when the flow will be contained wholly within a low flow channel. This would require a predictable flow regime where the likelihood of flow events during the works is very small (for example a 1 in 20 year probability).</li> </ol>

Performance outcomes	Acceptable outcomes
guidance on the acceptable length of time that a temporary barrier may remain in place in particular streams.	AND <b>AO27.3</b> The barrier is opened periodically every five days for at least 48 hours to allow <u>fish</u> movement and water exchange. AND <b>AO27.4</b> <u>Fish</u> movement is provided for via a stream diversion.
<b>PO28</b> Erosion control elements of the temporary <u>waterway barrier works</u> do not impact on <u>fish</u> passage.	<b>AO28.1</b> The use of gabions is avoided to prevent <u>fish</u> entrapment on receding flows.
<b>PO29</b> <u>Fish</u> passage is not necessary or desirable, for the best management, use, development or protection of <u>fisheries resources</u> or <u>fish habitats</u> , for the temporary <u>waterway barrier works</u> to provide for the movement of <u>fish</u> across the barrier works. Editor's note: 'Other barriers' referred to in the <i>Fisheries Act 1994</i> may be applied to existing natural barriers that preclude upstream <u>fish</u> movement. Provision of upstream <u>fish</u> movement at barrier works on the site of a waterfall that does not <u>drownout</u> is not necessary, providing that the works do not impact on climbing <u>fish</u> species (for example, with the installation of smooth surfaces or overhangs).	<b>AO29.1</b> It is demonstrated through an appropriate level of scientifically designed and executed <u>fish</u> survey by a suitably qualified and experienced <u>entity</u> that there are no <u>fish</u> in the area during any flow regimes. AND <b>AO29.2</b> The conditions at the site causing <u>fish</u> to be absent are not able to be remediated while the proposed barrier is in place. OR <b>AO29.3</b> There are other barriers in the area where the <u>waterway barrier works</u> is, or is to be, located which prevent movement of <u>fish</u> located in the area. AND <b>AO29.4</b> Other barriers in the area of the <u>waterway barrier works</u> could not reasonably be expected to be modified or removed in the future to restore <u>fish</u> passage. AND <b>AO29.5</b> <u>Fish</u> passage is not provided where this would introduce <u>fish</u> (including <u>non-endemic fish</u> or <u>noxious fish</u> ) into an area where these species were not previously found, and this would be more detrimental to the existing <u>fish</u> community than the effect of the barrier.
Construction	
<b>PO30</b> The construction of <u>waterway barrier works</u> does not limit the movement or wellbeing of <u>fish</u> .	<b>AO30.1</b> Work does not commence during times of elevated flows. AND <b>AO30.2</b> Excavation work in unbunded tidal areas is to be scheduled to occur within two hours either side of low tide. AND <b>AO30.3</b> In-stream work is scheduled for the driest time of the year. AND <b>AO30.4</b> In-stream construction is completed as quickly as possible to lessen the impact on <u>fish</u> and habitats, and timed to minimise conflict with <u>fish</u> migrations. AND <b>AO30.5</b> Routes for the developments are planned to minimise the impact on <u>fish</u> passage and <u>fish habitat</u> (for example, roads and railways minimise crossings and avoid crossings in environmentally sensitive areas).
<b>PO31</b> The development does not cause, or minimises direct or indirect disturbance to the bed and banks adjacent to the approved footprint of works.	<b>AO31.1</b> Removal of stream-bank vegetation and disturbance to the natural banks and bed of the <u>waterway</u> is avoided or minimised. AND <b>AO31.2</b> Disturbance to the outer bank of <u>waterway</u> beds during work and while gaining access is minimised.

Performance outcomes	Acceptable outcomes
	<p>AND</p> <p><b>AO31.3</b> Heavy machinery is excluded from fragile areas and areas which host <u>fisheries resources</u>.</p> <p>AND</p> <p><b>AO31.4</b> After completion of the in-stream works, all areas of the bed and banks of the <u>waterway</u> that are outside of the approved permanent footprint of the works, and which have been disturbed as a result of the construction or raising of the <u>waterway barrier works</u>, are returned to their original profile and stabilised to promote regeneration of natural <u>fish habitats</u>.</p> <p>AND</p> <p><b>AO31.5</b> By the completion of works, the profiles of the bed and banks are reinstated to natural stream profiles and stability.</p> <p>AND</p> <p><b>AO31.6</b> The <u>waterway</u> bed will be retained with natural substrate, or reconstructed with substrate comparable to the natural substrate size and consistency.</p> <p>AND</p> <p><b>AO31.7</b> Vegetation and cover will be rapidly re-established so that the native plant community at the site can recover or be enhanced (for example, by using native species).</p> <p>AND</p> <p><b>AO31.8</b> <u>Fish habitats</u>, including <u>fisheries resource</u> values, will be able to naturally regenerate to pre-works conditions.</p> <p>Editor’s note: Monitoring of the success of <u>fish habitat</u> regeneration, within and adjacent to the work site, will be a development permit condition.</p>
<b>Additional requirements for development within a strategic environmental area</b>	
<p><b>PO32</b> Sediment and other polluting material must be captured during construction and operation of a <u>waterway</u> barrier.</p>	<p><b>AO32.1</b> During construction:</p> <ol style="list-style-type: none"> <li>(1) environmental safety measures such as silt curtains are used to capture sediments</li> <li>(2) materials that are pollutants (such as debris, chemicals, or construction material) are not stored in the stream bed, unless they are to be used immediately.</li> </ol> <p>AND</p> <p><b>AO32.2</b> After construction the stream bed and banks are protected to prevent erosion or slumping, by ensuring:</p> <ol style="list-style-type: none"> <li>(1) the <u>waterway</u> bed is lined with the original top soil retained during the construction</li> <li>(2) materials that are pollutants (such as debris, chemicals, or construction material) are removed from the location and appropriately treated and disposed of as waste outside the <u>strategic environmental area</u> – for example to a managed landfill</li> <li>(3) temporary barriers are removed after use and the natural materials either returned to their original location in the <u>strategic environmental area</u>, or if not taken from the <u>strategic environmental area</u>, appropriately treated and disposed of as waste outside the <u>strategic environmental area</u> – for example to a managed landfill.</li> </ol>
<p><b>PO33</b> The works do not impede <u>fish</u> passage, particularly during critical periods that are</p>	<p><b>AO33.1</b> Works (except temporary works required for less than 20 business days) that are not drowned out regularly must contain a <u>fish way</u>, the design of which</p>

Performance outcomes	Acceptable outcomes
important for breeding, feeding, nursery and recruitment of indigenous <u>fish</u> species.	is approved by the Department of Agriculture and Fisheries. AND <b>AO33.2</b> Any <u>fish way</u> must be operational at all times except where natural flows would have prevented <u>fish</u> passage. AND <b>AO33.3</b> In the case of drought, any <u>fish</u> trapped in the impoundment must be rescued. AND <b>AO33.4</b> Vegetation and cover is retained or replaced to pre-work levels and conditions. AND <b>AO33.5</b> All works are constructed during periods when <u>fish</u> passage is least affected.
<b>PO34</b> Development avoids or minimises any adverse impacts on environmental values and water quality objectives for receiving waters (surface and groundwater) on site or leaving a site from pollutants.	<b>AO34.1</b> Development demonstrates <u>best practice environmental management</u> to meet relevant environmental values and water quality objectives of the <i>Environmental Protection (Water) Policy</i> . OR <b>AO34.2</b> All stormwater, wastewater, discharges and overflows leaving the site are: (1) treated to the quality of the receiving waters prior to discharge, or (2) reclaimed or re-used such that there is no export of pollutants to receiving waters.

### 5.3 Removal, destruction or damage of marine plants state code

#### 5.3.1 Purpose

The purpose of this code is to ensure the protection of marine plant communities that are fisheries resources and to ensure development provides ecosystem services that support fisheries productivity.

#### 5.3.2 Criteria for assessment

Development mentioned in column 1 below must be assessed against the assessment criteria in the table mentioned in column 2.

Column 1	Column 2
Material change of use	Table 5.3.1
Operational work	Table 5.3.1
Reconfiguring a lot	Table 5.3.1

**Table 5.3.1: Operational work (including operational work as part of a material change of use or reconfiguring a lot)**

Performance outcomes	Acceptable outcomes
<b>PO1</b> Development avoids and protects <u>fish habitats</u> and <u>fisheries resources</u> .	<b>AO1.1</b> A buffer surrounding <u>fish habitats</u> is provided and has a minimum width of: (1) For tidal <u>fish habitats</u> — (a) 100 metres above <u>highest astronomical tide</u> outside an urban area, or

Performance outcomes	Acceptable outcomes
	<p>(b) 50 metres above <u>highest astronomical tide</u> within an urban area</p> <p>(2) non-tidal <u>fish habitats</u>—</p> <p>(a) 50 metres above <u>bankfull width</u> outside an urban area or</p> <p>(b) 25 metres above <u>bankfull width</u> within an urban area.</p> <p>Editor's note: Guidelines to assist with determining the appropriate buffer widths:</p> <p>(1) <i>Fisheries guidelines for fish habitat buffer zones (FHG 003)</i>, Department of Primary Industries, 2000</p> <p>(2) <i>Queensland wetland buffer planning guideline</i>, Department of Natural Resources and Mines, 2011.</p>
<p><b>PO2</b> There is a demonstrated right to propose development within or adjacent to the public <u>fish habitats</u> and <u>fisheries resources</u>.</p> <p>Editor's note: Further guidance on rights in context of <u>fisheries resources</u> and <u>fish habitats</u> is provided in the policy provisions of <i>Management of declared fish habitat areas (FHMOP 002)</i>, Department of Primary Industries and Fisheries, 2008.</p>	<p><b>AO2.1</b> The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impacts on <u>fish habitats</u> have been properly considered.</p> <p>OR</p> <p><b>AO2.2</b> Development is for public infrastructure.</p> <p>OR</p> <p><b>AO2.3</b> Development is for public infrastructure for which there is no alternative viable route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>OR</p> <p><b>AO2.4</b> Development is for a legitimate public health or safety issue, and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p> <p>OR</p> <p><b>AO2.5</b> The following can be demonstrated:</p> <p>(1) tenure is held for the <u>land</u> directly abutting the <u>tidal land</u> and has full riparian access rights, or</p> <p>(2) tenure has been granted over the area of work, or</p> <p>(3) resource entitlement or resource allocation has been granted for the resource being developed, or</p> <p>(4) for private development work that is a jetty, pontoon or boat ramp, no other maritime access structure adjoins the property.</p>
<p><b>PO3</b> There is an overriding functional requirement for the development or part of the development to be located on <u>tidal lands</u>.</p> <p>Editor's note: Development components that have a functional requirement to be located over <u>fish habitats</u> are acceptable. For example car park areas (including for boat ramps), parklands, marina offices, spoil disposal or amenity facilities do not depend on their location to be on or over <u>tidal lands</u> to function, where alternatives of lesser impact exist.</p>	<p><b>AO3.1</b> Development is for maritime infrastructure (for example, jetty, boat ramp, moorings).</p> <p>OR</p> <p><b>AO3.2</b> Development is lineal or nodal infrastructure required to cross or be located within a <u>waterway</u> or tidal area (for example, bridge, culvert crossing, stormwater outlet, pipeline).</p> <p>OR</p> <p><b>AO3.3</b> The access is required for the construction of the marine or lineal infrastructure.</p>
<p><b>PO4</b> Development maintains or enhances community access to <u>fisheries resources</u> and <u>fish habitats</u>, such as through <u>fishing access</u> and linkages between the commercial <u>fishery</u> and infrastructure, services and facilities.</p>	<p><b>AO4.1</b> The development does not impact on existing infrastructure or access required by <u>fishing sectors</u>.</p>
<p><b>PO5</b> Development that has the potential to</p>	<p><b>AO5.1</b> Affected fisheries, and the impacts on those fisheries, are identified.</p>

Performance outcomes	Acceptable outcomes
impact on the operations and productivity of Queensland commercial or recreational fisheries mitigates any adverse impacts due to adjustment of fisheries.	AND <b>AO5.2</b> Fair and reasonable compensation to commercial fishers is determined. AND <b>AO5.3</b> The impact of the development on commercial fisheries and recreational fishers is mitigated. Editor's note: The <i>Guideline on fisheries adjustment</i> provides advice for proponents on relevant fisheries adjustment processes and is available by request from the Department of Agriculture and Fisheries.
<b>PO6</b> The development will not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity of <u>fisheries resources</u> .	<b>AO6.1</b> <u>Fish</u> will not become trapped or stranded as a result of development. AND <b>AO6.2</b> Risks of <u>fish</u> stranding occurring have been identified, and are demonstrably manageable. AND <b>AO6.3</b> Suitable habitat conditions, such as water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish habitats</u> . AND <b>AO6.4</b> Herbicides are not used on, and will not drift onto, <u>tidal land</u> or wetlands, or within <u>waterways</u> .
<b>PO7</b> Development resulting in drainage or disturbance of acid sulfate soil is managed to prevent impacts on <u>fisheries resources</u> and <u>fish habitats</u> .	<b>AO7.1</b> Run-off and leachate from disturbed or oxidised acid sulfate soils is contained and treated, and not released to a <u>waterway</u> or other <u>fish habitat</u> . Editor's note: Management of acid sulfate soil is consistent with the current <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.
<b>PO8</b> Development of, or adjacent to, <u>fish habitats</u> avoids the unnecessary loss, degradation or fragmentation of <u>fish habitats</u> and their values and the loss of <u>fish</u> movement.  Editor's note: For more information, refer to relevant <u>fish habitat</u> management operational policies and <u>fish habitat</u> guidelines: (1) <i>Management and protection of marine plants and other tidal fish habitats (FHMOP 001)</i> , Department of Primary Industries and Fisheries, 2007 (2) <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i> , Department of Primary Industries and Fisheries, 2007 (3) <i>Dredging, extraction and spoil disposal activities (FHMOP 004)</i> , Department of Primary Industries, 1998 (4) <i>Departmental procedures for permit applications assessment and approvals for insect pest control in wetlands (FHMOP 003)</i> , Department of Primary Industries, 1996 (5) <i>Fisheries guidelines for fish-friendly structures (FHG 006)</i> , Department of Primary Industries and Fisheries, 2006	<b>AO8.1</b> The development does not directly impact <u>fish habitats</u> and is located: (1) above the <u>highest astronomical tide</u> for tidal <u>fish habitat</u> , or (2) above <u>bankfull width</u> for non-tidal <u>fish habitats</u> (freshwater). OR <b>AO8.2</b> Where impacts on <u>fish habitats</u> cannot be avoided, development meets the following criteria: (1) the location, design and work methods will result in the smallest impact possible to <u>fish habitats</u> (2) development does not increase the risk of transfer of, or impacts from, pest <u>fish</u> and other relevant pest species (3) tidal and freshwater inundation and drainage patterns, extent and timing are maintained such that ecological processes continue (4) works or development will not restrict <u>fish</u> access to <u>fish habitats</u> or <u>fisheries resources</u> (5) tidal or freshwater <u>fish habitats</u> will not be substituted for another type of habitat, for example, creation of mangrove communities from other tidal <u>fish habitats</u> (6) works are undertaken to avoid both seagrass flowering periods and <u>fish</u> spawning and migration periods (7) impacts are mitigated where possible.

Performance outcomes	Acceptable outcomes
<b>Public infrastructure to facilitate fishing</b>	
<b>PO9</b> Development provides public use and access to <u>fisheries resources</u> .	<p><b>AO9.1</b> Structures over <u>tidal land</u> are located over areas naturally devoid of <u>marine plants</u>, or areas that have undergone existing disturbance or degradation.</p> <p>AND</p> <p><b>AO9.2</b> Development that is public infrastructure to facilitate <u>fishing</u> has a direct link to the activity of <u>fishing</u>, and:</p> <ol style="list-style-type: none"> <li>(1) is a public jetty, pontoon, boat ramp or <u>fishing platform</u></li> <li>(2) the proposed location has been identified as the most suitable through a strategic planning approach</li> <li>(3) there is an existing community requirement for the structure</li> <li>(4) the development will result in the smallest impact possible to <u>fish habitats</u>.</li> </ol> <p>AND</p> <p><b>AO9.3</b> Avoidance of disturbance, whether that disturbance is permanent or temporary, for access paths, tracks or dredging navigable access.</p> <p>AND</p> <p><b>AO9.4</b> If development results in <u>fish habitat</u> disturbance, there is an overriding requirement for the development to be located within the <u>tidal land</u>, wetlands or a <u>waterway</u>.</p> <p>AND</p> <p><b>AO9.5</b> The long-term operability and impact of the use of the development will not require additional new development and associated impacts will not result in the need for dredge navigation access to the proposed jetty in the future.</p>
<b>Public infrastructure (linear and nodal)</b>	
<b>PO10</b> Development provides a public benefit.	<b>AO10.1</b> The applicant is an <u>entity</u> or has the authority to act on behalf of an <u>entity</u> .
<b>PO11</b> There is an overriding requirement for the development to be located on <u>tidal land</u> or other <u>fish habitats</u> .	<p><b>AO11.1</b> There is no other viable alternative route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>AND</p> <p><b>AO11.2</b> The development has a functional requirement to be located on <u>tidal land</u>, within a <u>waterway</u> or over <u>fish habitats</u>.</p>
<b>Public infrastructure – waterway crossings</b>	
<b>PO12</b> Development maintains existing tidal inundation and drainage patterns and extent.	<p><b>AO12.1</b> Bridge crossings are designed with abutments above the <u>highest astronomical tide</u>.</p> <p>AND</p> <p><b>AO12.2</b> Culvert crossing are designed with the size and number of culverts such that it is the entire width of the <u>waterway</u>, the obvert being above the <u>highest astronomical tide</u> and the invert being equal to natural bed level, or a maximum of 300 millimetres below natural bed level.</p> <p>AND</p> <p><b>AO12.3</b> Development is a bed level crossing of 15 metres in width or less.</p>
<b>PO13</b> Development provides for <u>fish</u> passage.	No acceptable outcome is prescribed.
<b>Public infrastructure – pipeline or subterranean infrastructure</b>	
<b>PO14</b> Public infrastructure that is a pipeline	<b>AO14.1</b> The public infrastructure will be placed below the existing natural

Performance outcomes	Acceptable outcomes
or subterranean infrastructure maintains existing tidal hydrology, including inundation and drainage patterns and extent.	substrate surface level, and natural substrate and surface levels will be reinstated. AND <b>AO14.2</b> The public infrastructure will not cause <u>waterway</u> bed or bank scour or <u>waterway</u> bed or bank erosion.
<b>Public infrastructure – dredging or extracting sediment</b>	
<b>PO15</b> Works for public infrastructure that are dredging or extracting material are undertaken so as to avoid impacts on <u>marine plants</u> .	<b>AO15.1</b> Works for public infrastructure are for capital dredging, are proposed by a public <u>entity</u> and are for a demonstrated need. AND <b>AO15.2</b> Works are maintenance dredging consistent with a previously lawfully dredged area, or otherwise approved profiles for navigational purposes. AND <b>AO15.3</b> Works are undertaken to avoid both seagrass flowering periods and <u>fish spawning</u> and migration periods.
<b>PO16</b> Disposal of dredge spoil is undertaken in a manner that avoids impacts on <u>marine plants</u> .	<b>AO16.1</b> Dredge spoil is not disposed of on tidal land. OR <b>AO16.2</b> Spoil disposal will occur at a designated, approved spoil disposal site. OR <b>AO16.3</b> Spoil disposal occurs as part of a beach replenishment program supported by a strategic planning process.
<b>Private infrastructure – dredging or extracting sediment</b>	
<b>PO17</b> Works for dredging or extracting sediment for private infrastructure are only undertaken where there is an overriding public need exists for the work.	<b>AO17.1</b> Works for private infrastructure will provide public or community benefit. AND <b>AO17.2</b> The works are a component of private development works and there is an overriding public need for the dredging component of the development to occur. AND <b>AO17.3</b> The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i> ), and the impact on <u>fish habitats</u> have been properly considered. Editor's note: (1) For example, private marina facilities or development that is open to the general public and facilitates public access for <u>fishing</u> purposes and future maintenance dredging is within the approved footprint of the facility, and is the least impact option based on <u>fisheries resources</u> and <u>fish habitats</u> . (2) Dredging for access to private structures is not supported.
<b>Public infrastructure – erosion control and beach replenishment</b>	
<b>PO18</b> Public infrastructure for erosion and beach replenishment works is provided to address existing significant and imminent erosion, maintain natural shoreline and <u>foreshore</u> processes and existing <u>fish habitat</u> values. Editor's note: Further detail on erosion control is provided in <i>Tidal fish habitats, erosion control and</i>	<b>AO18.1</b> Public infrastructure for erosion and beach control replenishment provides an erosion buffer zone and facilitates managed retreat. Editor's note: Further guidance on erosion control is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i> , Department of Primary Industries and Fisheries, 2007. AND <b>AO18.2</b> The cause of shoreline and <u>foreshore</u> erosion is identified and treated.

Performance outcomes	Acceptable outcomes
<p><i>beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p>	<p>AND</p> <p><b>AO18.3</b> Development provides a riparian buffer zone with a minimum width of:</p> <ol style="list-style-type: none"> <li>(1) for tidal <u>fish habitats</u>:               <ol style="list-style-type: none"> <li>(a) 100 metres above the <u>highest astronomical tide</u> outside an urban area, or</li> <li>(b) 50 metres above the <u>highest astronomical tide</u> within an urban area</li> </ol> </li> <li>(2) for non-tidal <u>fish habitats</u>:               <ol style="list-style-type: none"> <li>(a) 50 metres above <u>bankfull width</u> outside an urban area, or</li> <li>(b) 25 metres above <u>bankfull width</u> an urban area.</li> </ol> </li> </ol> <p>AND</p> <p><b>AO18.4</b> An erosion control structure is provided to address a short-term significant erosion risk that will result in the loss of buildings, structures or infrastructure that are not expendable or relocatable.</p> <p>AND</p> <p><b>AO18.5</b> Erosion control works:</p> <ol style="list-style-type: none"> <li>(1) minimise disturbance to <u>fish habitats</u> and <u>fisheries resources</u></li> <li>(2) result in no further loss of <u>fish habitats</u> (for example, through reclamation of <u>tidal land</u>)</li> <li>(3) maximise <u>fish habitat</u> enhancement or creation through <u>fish</u> friendly design</li> <li>(4) minimise disruption to community use of the area.</li> </ol> <p>AND</p> <p><b>AO18.6</b> Erosion control structures:</p> <ol style="list-style-type: none"> <li>(1) are located where the applicant can demonstrate a level of rights or interest</li> <li>(2) are located parallel to the shoreline and as far landward as possible. Minor regularisation may be supported</li> <li>(3) are located landward of, or adjoining, the existing <u>land</u> profile</li> <li>(4) incorporate <u>fish</u>-friendly design.</li> </ol> <p>AND</p> <p><b>AO18.7</b> Development does not involve the placement of sand on soft-sediment shorelines to create an artificial beach unless the site has a demonstrable history of sand placement for public recreation purposes.</p>
<p><b>PO19</b> Erosion control and beach replenishment that requires filling of <u>tidal land</u> is avoided where possible, and impact on <u>tidal land</u> is minimised.</p>	<p><b>AO19.1</b> Minor filling is required to regularise a shoreline or <u>foreshore</u> as part of erosion control activities.</p> <p>AND</p> <p><b>AO19.2</b> Filling of <u>tidal land</u> is for the creation of dune or beach above <u>highest astronomical tide</u> and the filling:</p> <ol style="list-style-type: none"> <li>(1) is part of an erosion control strategy, or</li> <li>(2) does not create terrestrial <u>land</u> for the placement of structures or for terrestrial activities, or</li> <li>(3) is an integral part of the erosion control design, or</li> <li>(4) will minimise replenishment frequency or impact to <u>fish habitats</u>, or</li> <li>(5) will remove the need for other erosion control works that will have a greater impact on <u>fish habitats</u>.</li> </ol> <p>AND</p> <p><b>AO19.3</b> Placement of sand is required for the effective functioning of an erosion control structure.</p>
<p>Private development work</p>	

Performance outcomes	Acceptable outcomes
<p><b>PO20</b> Maritime infrastructure providing for private access avoids impacts on <u>marine plants</u> and <u>fish habitat</u>.</p>	<p><b>AO20.1</b> Structures over <u>tidal land</u> are located over areas that are naturally devoid of <u>marine plants</u>.</p> <p>OR</p> <p><b>AO20.2</b> Development work associated with a private jetty or pontoon has a maximum <u>marine plant</u> disturbance area of 30 square metres. The <u>marine plant</u> disturbance area has a maximum width of two metres along the shoreline (<u>highest astronomical tide</u> height) and a maximum length of 15 metres from the shoreline (perpendicular).</p> <p>OR</p> <p><b>AO20.3</b> Private development work that is a boat ramp has a maximum <u>marine plant</u> disturbance area of 45 square metres. The area below the <u>highest astronomical tide</u> is not to exceed 45 square metres (that is, no other <u>fish habitats</u> are to be disturbed or modified).</p> <p>AND</p> <p><b>AO20.4</b> The long-term operability and impact of the use of the development will not require additional new development and associated impacts, for example, a proposed private jetty will not result in the need to dredge navigation access to the proposed jetty in the future.</p> <p>AND</p> <p><b>AO20.5</b> Only one maritime access structure will adjoin the property.</p>
Temporary development	
<p><b>PO21</b> The design of the temporary development results in the smallest possible disturbance to <u>fish habitat</u> and <u>fisheries resources</u>.</p>	<p><b>AO21.1</b> Temporary development:</p> <ol style="list-style-type: none"> <li>(1) will have lesser impact on the <u>tidal lands</u> or <u>fish habitats</u> than all other reasonable options</li> <li>(2) is designed to minimise impacts to <u>fish habitat</u> and fisheries productivity</li> <li>(3) will be in place or undertaken for the shortest possible time, having regard to the nature of the development</li> <li>(4) is designed to avoid filling or reclamation of <u>tidal lands</u></li> <li>(5) can and will be completely removed from <u>tidal land</u> and <u>fish habitats</u></li> <li>(6) will be carried out during a time that avoids or minimises conflict with known <u>fish</u> migration or spawning periods.</li> </ol> <p>AND</p> <p><b>AO21.2</b> Disturbed <u>land</u> profiles will be restored to allow original inundation and drainage patterns.</p> <p>AND</p> <p><b>AO21.3</b> The development provides for regeneration or restoration of <u>fish habitat</u> and <u>fisheries resource</u> values.</p> <p>AND</p> <p><b>AO21.4</b> The development will not result in the permanent substitution of <u>fish habitat</u>.</p> <p>AND</p> <p><b>AO21.5</b> The development provides for a post-works monitoring and maintenance program.</p>
Public health or safety	
<p><b>PO22</b> Development that is ensuring public health or safety is undertaken in a manner that minimises impacts on <u>fish habitat</u> and <u>fisheries resources</u>.</p> <p>Note: The following are not considered public</p>	<p><b>AO22.1</b> Development for a public health issue:</p> <ol style="list-style-type: none"> <li>(1) is endorsed in writing by Queensland Health or the relevant local government</li> <li>(2) is necessary, as all alternative options that do not require removal or disturbance of <u>marine plants</u> have been considered and are not viable</li> </ol>

Performance outcomes	Acceptable outcomes
<p>health or safety issues:</p> <p>(1) management of 'nuisance' issues (for example, biting midge control, or the management of odours from decaying vegetation)</p> <p>(2) <u>foreshore</u> erosion, unless its control is required as a short-term emergency response to a catastrophic event that presents an immediate threat to public safety through undermining of dwellings or infrastructure. In such cases, the emergency provisions of the <i>Sustainable Planning Act 2009</i> may apply. Where possible, erosion management measures should be developed prior to public safety becoming an issue</p> <p>(3) <u>capital</u> dredging for navigation.</p>	<p>or achievable in the available timeframes for an adequate response to the public health issue</p> <p>(3) if the development is for a long-term response with permanent or ongoing impacts to <u>fish habitats</u> – ensures an agreed program to identify and implement measures to reduce the impacts of the response over time on the area.</p> <p>AND</p> <p><b>AO22.2</b> Development for a public safety purpose has no viable alternative options and is for:</p> <p>(1) signage or aids to warn the public of a safety hazard (for example, within a <u>waterway</u> to warn of submerged rocks, crocodiles, marine stingers), or</p> <p>(2) preventing an impending public safety issue (for example, beach cleaning to remove dangerous items such as syringes), or</p> <p>(3) the mitigation of a hazard to public safety that has resulted from a specific unforeseen event (for example, a fallen tree that is a danger to safe navigation), or</p> <p>(4) placement of a cyclone mooring identified under a cyclone contingency plan by the <u>harbour master</u> or controlling port authority or corporation, and is located in accordance with the plan.</p>
Restoration works	
<p><b>PO23</b> Restoration works to reinstate <u>fish habitats</u>, fisheries productivity and natural ecological processes to a pre-existing natural condition are undertaken in a manner that mitigates impacts on <u>marine plants</u> and <u>fish habitats</u>.</p> <p>Editor's note: For further guidance refer to <i>Restoration of fish habitats: Fisheries guidelines for marine areas (FHG 002)</i>, Department of Primary Industries, 1998. Restoration works authorised through an endorsed restoration plan under the code for self-assessable development <i>MPo6 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Agriculture, Fisheries and Forestry, 2013, do not require a development permit.</p>	<p><b>AO23.1</b> Works will not result in additional <u>fish habitat</u> disturbance, removal or degradation.</p> <p>AND</p> <p><b>AO23.2</b> <u>Land</u> profiles are restored to original inundation and drainage patterns.</p> <p>AND</p> <p><b>AO23.3</b> Works are undertaken to encourage <u>fish habitats</u> and <u>fisheries resource</u> values to naturally regenerate.</p> <p>AND</p> <p><b>AO23.4</b> <u>Fish habitat</u> restoration work will not result in the substitution of <u>fish habitats</u>.</p> <p>AND</p> <p><b>AO23.5</b> Physical restoration of <u>fish habitats</u> (for example, replanting) is undertaken where natural regeneration is, or is likely to be, unsuccessful.</p> <p>AND</p> <p><b>AO23.6</b> Permanent structures (for example, boardwalk) to facilitate restoration works:</p> <p>(1) provide a means of managing an identified impact or degrading process</p> <p>(2) retain natural ecological processes</p> <p>(3) are the least impact alternative available.</p> <p>AND</p> <p><b>AO23.7</b> Works include a post-works monitoring and maintenance program, appropriate for the scale of the restoration works.</p> <p>AND</p> <p><b>AO23.8</b> <u>Marine plants</u> used in restoration works are collected within a 100 kilometre radius of the site to maintain the genetic integrity of the restoration site and local <u>marine plant</u> communities.</p>
Works for aesthetic purposes or to provide for views	
<p><b>PO24</b> Removal, trimming or damage to</p>	<p><b>AO24.1</b> Works are undertaken in accordance with a mangrove management</p>

Performance outcomes	Acceptable outcomes
<p><u>marine plants</u> to provide views or for aesthetic purposes is undertaken in a manner that maintains the integrity of <u>fish habitat</u>.</p>	<p>strategy endorsed by Fisheries Queensland.</p>
<p><b>All development – environmental offsets</b></p>	
<p><b>PO25</b> Impacts to <u>marine plants</u> or <u>legally secured offset areas</u> for <u>marine plants</u> are avoided or mitigated, and an <u>environmental offset</u> is provided for any <u>significant residual impact</u>.</p>	<p><b>AO25.1</b> Residual impact to <u>marine plants</u> or <u>legally secured offset areas</u> for <u>marine plants</u> is comprehensively and accurately documented to demonstrate that impact is avoided or, where this cannot be achieved, that impacts are minimised.</p> <p>OR</p> <p><b>AO25.2</b> Where residual impact to <u>marine plants</u> or <u>legally secured offset areas</u> for <u>marine plants</u> is accurately documented and it cannot be demonstrated that impact can be reasonably avoided or minimised, an <u>environmental offset</u> is provided for any <u>significant residual impact</u>.</p> <p>Editor's note: Applications for development should identify whether there is likely to be a <u>significant residual impact</u> and a need for an <u>environmental offset</u> having regard to Section 3.9 (Marine plants) of the <i>Significant Residual Impact Guideline</i> and the relevant <i>Queensland Environmental Offsets Policy</i>.</p>
<p><b>Additional requirements for development within a strategic environmental area for specified works</b></p>	
<p><b>PO26</b> Development minimises clearing of <u>marine plants</u> including beyond the extent of operational work. Natural regeneration of any cleared or work area is facilitated wherever possible.</p>	<p><b>AO26.1</b> Clearing of <u>marine plants</u> is limited to the minimum area required for the works and to allow for maintenance.</p> <p>AND</p> <p><b>AO26.2</b> There is no impediment to the natural regeneration of native plant species in the area of clearing and works following completion of works.</p>
<p><b>PO27</b> Development avoids or minimises adverse impacts on <u>fish</u> passage during works and the carrying out of the activity.</p>	<p>No acceptable outcome is prescribed.</p>
<p><b>PO28</b> There is nil net loss in <u>marine plants</u> as a result of development.</p>	<p><b>AO28.1</b> Any <u>marine plant</u> damaged during construction is replaced at the completion of the development with the same species of plant in the disturbed area outside of the footprint of the development.</p>
<p><b>PO29</b> Development does not impact on <u>fish habitat</u> values.</p>	<p><b>AO29.1</b> Development in tidal waters is located, designed and constructed to ensure that the activities do not impact on <u>fish habitat</u> values and function.</p>
<p><b>PO30</b> Development avoids or minimises any adverse impacts from pollutants on environmental values and water quality objectives for receiving waters (surface and groundwater) on site or leaving a site.</p>	<p><b>AO30.1</b> Development demonstrates <u>best practice environmental management</u> to meet relevant environmental values and water quality objectives of the <i>Environmental Protection (Water) Policy</i>.</p> <p>OR</p> <p><b>AO30.2</b> All stormwater, wastewater, discharges and overflows leaving the site are:</p> <ol style="list-style-type: none"> <li>(1) treated to the quality of the receiving waters prior to discharge, or</li> <li>(2) reclaimed or re-used such that there is no export of pollutants to receiving waters.</li> </ol>

## 5.4 Reference documents

### Guidelines

Department of Primary Industries 1998 [Restoration of fish habitats: Fisheries guidelines for marine areas FHG 002](#)

Department of Primary Industries 2000 [Fisheries guidelines for fish habitat buffer zones FHG 003](#)

Department of Primary Industries and Fisheries 2006 [Fisheries guidelines for fish-friendly structures FHG 006](#)

Department of Primary Industries and Fisheries 2005 [\*The lawful use of physical, pesticide and biological controls in a declared fish habitat area \(FHACoPo1\)\*](#)

Local Government Association of Queensland 2012 [\*Mosquito management code of practice for Queensland\*](#).

## Policies

Department of Primary Industries and Fisheries 2007 [\*Management and protection of marine plants and other tidal fish habitats \(FHMOP 001\)\*](#)

Department of Agriculture, Fisheries and Forestry [\*Management of declared fish habitat areas \(FHMOP 002\)\*](#)

Editor's note: Responsibility of Department of National Parks, Recreation, Sport and Racing

Department of Agriculture, Fisheries and Forestry 1996 [\*Departmental procedures for permit applications assessment and approvals for insect pest control in coastal wetlands \(FHMOP 003\)\*](#)

Department of Environment and Heritage Protection 2014 [\*Queensland Environmental Offsets Policy\*](#)

Department of Primary Industries 1998 [\*Dredging, extraction and spoil disposal activities: Departmental procedures for provision of fisheries comments \(FHMOP 004\)\*](#)

Department of National Parks, Recreation, Sport and Racing 2013 [\*Operational policy – Marine resource management: Fish habitat area selection, assessment, declaration and review\*](#)

Department of Primary Industries and Fisheries 2007 [\*Tidal fish habitats, erosion control and beach replenishment \(FHMOP 010\)\*](#)

Department of Primary Industries and Fisheries 2008 [\*Oyster industry management plan for Moreton Bay Marine Park\*](#)

Australian Government, Ministerial Council on Forestry, Fisheries and Aquaculture 1999 [\*National policy for the translocation of live aquatic organisms\*](#)

## Self-assessable codes

Department of Primary Industries and Fisheries 2005 [\*The lawful use of physical, pesticide and biological controls in a declared fish habitat area \(FHACoPo1\)\*](#)

Department of Employment, Economic Development and Innovation 2011 [\*Removal of dead marine wood from unallocated State land for trade or commerce \(MPo1\)\*](#)

Department of Employment, Economic Development and Innovation 2013 [\*Maintenance works on existing lawful structures \(other than powerlines and on-farm drains\) in a declared fish habitat area or involving the removal, destruction or damage of marine plants \(MPo2\)\*](#)

Department of Employment, Economic Development and Innovation 2011 [\*On-farm drain maintenance works involving the removal, destruction or damage of marine plants \(MPo3\)\*](#)

Department of Agriculture, Fisheries and Forestry 2012 [\*Maintenance works on powerlines and associated infrastructure in a declared fish habitat area or involving the removal, destruction or damage of marine plants \(MPo4\)\*](#)

Department of Employment, Economic Development and Innovation 2011 [\*Works for educational, research or monitoring purposes in a declared fish habitat area or involving removal, destruction or damage of marine plants \(MPo5\)\*](#)

Department of Agriculture, Fisheries and Forestry 2013 [\*Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants \(MPo6\)\*](#)

Department of Employment, Economic Development and Innovation 2011 [\*Minor waterway barrier works \(WWBW01\)\*](#)

Department of Agriculture Fisheries and Forestry, April 2013 [\*Temporary waterway barrier works \(WWBW02\)\*](#)

Department of Employment, Economic Development and Innovation 2012 [\*Regularly constructed temporary waterway barrier works \(lower Burdekin\) \(WWBW03\)\*](#)

## Other references

Department of Agriculture, Fisheries and Forestry 2014 fact sheet [Maintaining Fish Passage in Queensland: What is a Waterway?](#)

Department of Agriculture, Fisheries and Forestry 2014 fact sheet [Maintaining Fish Passage in Queensland: What is a Waterway Barrier Work?](#)

Department of Agriculture, Fisheries and Forestry 2014 fact sheet [Maintaining Fish Passage in Queensland: What is not a Waterway Barrier Work?](#)

Department of Employment, Economic Development and Innovation 2010 [Declared fish habitat area network strategy 2009-14: Planning for the future of Queensland's declared fish habitat area network](#)

Department of Agriculture, Fisheries and Forestry 2012 [Declared fish habitat area network assessment report 2012](#)

Department of National Parks, Recreation, Sport and Racing 2013 [Declared fish habitat area network progress report – June 2013](#)

Department of Natural Resources and Mines 2002 [Queensland acid sulfate soil technical manual: Soil management guidelines](#)

International Erosion Control Association Australasia 2008 [Best practice erosion and sediment control](#) document

Department of Environment and Resource Management 2011 [Queensland wetland buffer planning guideline](#)

[Fish habitat area summaries](#) available from the Department of National Parks, Recreation, Sport and Racing website

International Ecohydraulics Symposium 2012 [From Sea to Source: International guidance for the restoration of fish migration highways](#)

Editor's note: The From Sea to Source document is 36mb

Department of Agriculture, Fisheries and Forestry 2013 [Guideline on fisheries adjustment as a result of development](#)

Editor's note: This document is available from the Department of Agriculture and Fisheries upon request.

SEQ Catchments [website](#) and factsheet

## 5.5 Glossary of terms

**Aquaculture** see the *Fisheries Act 1994*.

Editor's note: Means the cultivation of live [fisheries resources](#) for sale other than in circumstances prescribed under a Regulation.

**Bankfull width** see the Sustainable Planning Regulation 2009.

Editor's note: [Bankfull width](#) has the meaning given by the minor [waterway barrier works](#) code.

**Best practice environmental management**, for an activity, see the *Environmental Protection Act 1994*, section 21.

Editor's note: In deciding [best practice environmental management](#) of an activity is the management of the activity to achieve an ongoing minimisation of the activity's environmental harm through cost-effective measures assessed against the measures currently used nationally and internationally for the activity.

In deciding the [best practice environmental management](#) of an activity, regard must be had to the following measures:

- (1) strategic planning by the person carrying out, or proposing to carry out, the activity
- (2) administrative systems put into effect by the person, including staff training and monitoring and review of the systems
- (3) public consultation carried out by the person
- (4) product and process design
- (5) waste prevention, treatment and disposal.

The above matters do not limit the measures to which regard may be had in deciding the [best practice environmental management](#) of an activity.

**Declared fish habitat area** see the *Fisheries Act 1994*.

Editor's note: [Declared fish habitat area](#) means an area that is declared under the *Fisheries Act 1994* to be a [fish habitat](#) area. Section 120 of the *Fisheries Act 1994* deals with declaration of [fish habitat](#) areas.

**Designated mooring area** see Management of declared fish habitat areas (FHMOP 002).

Editor's note: [Designated mooring area](#) means an area designated for moorings under an agreement, plan or legislation by the Department of Agriculture and Fisheries, Department of Transport and Main Roads and/or any other relevant agencies.

**Disease** see the *Fisheries Act 1994* Section 94.

Editor's note: Disease means:

- (1) a disease, parasite, pest, plant or other thing (the disease) that has, or may have, the effect (directly or indirectly) of killing or causing illness in fisheries resources, or in humans or animals that eat fisheries resources infected with or containing the disease
- (2) a chemical or antibiotic residue, or
- (3) a fish or plant species that may compete against fisheries resources or other fisheries resources to the detriment of the fisheries resources or other fisheries resources.

**Drownout** means when the tailwater and headwater levels across a weir are essentially equal, velocities are sufficiently low at, or close to, the edge of the spillway crest and the weir is fully submerged to a sufficient depth to allow for fish passage and for the species and size-classes of fish moving through the site to cross the weir.

**Entity** see the *Fisheries Act 1994*, Schedule.

Editor's note: Entity includes an entity established under the law of the Commonwealth or another state.

**Environmental attribute** see the *Regional Planning Interests Act 2014*.

Editor's note: Environmental attribute, for an area, means an attribute of the environment identified as an environmental attribute for the area under a regional plan or regulation.

**Environmental offset** see the *Environmental Offsets Act 2014*.

Editor's note: Environmental offset means an activity undertaken to counterbalance a significant residual impact of a prescribed activity on a prescribed environmental matter.

**Environmentally friendly moorings** means moorings that cause less damage to a seagrass bed, by ensuring there is minimal contact with the sea floor, while still being able to safely secure vessels.

Editor's note: for more information on environmentally friendly moorings see the SEQ Catchments website and factsheet.

**Fish** see the *Fisheries Act 1994* Section 5.

Editor's note: Fish:

- (1) means an animal (whether living or dead) of a species that throughout its life cycle usually lives:
  - (a) in water (whether freshwater or saltwater), or
  - (b) in or on foreshores, or
  - (c) in or on land under water.
- (2) includes:
  - (a) prawns, crayfish, rock lobsters, crabs and other crustaceans
  - (b) scallops, oysters, pearl oysters and other molluscs
  - (c) sponges, annelid worms, bêche-de-mer and other holothurians
  - (d) trochus and green snails.
- (3) does not include:
  - (a) crocodiles, or
  - (b) protected animals under the *Nature Conservation Act 1992*, or
  - (c) pests under the *Pest Management Act 2001*, or
  - (d) animals prescribed under a Regulation not to be fish.
- (4) also includes:
  - (a) the spat, spawn and eggs of fish
  - (b) any part of fish or of spat, spawn or eggs of fish
  - (c) treated fish, including treated spat, spawn and eggs of fish
  - (d) coral, coral limestone, shell grit or star sand
  - (e) freshwater or saltwater products declared under a Regulation to be fish.

**Fish habitat** see the *Fisheries Act 1994*.

Editor's note: **Fish habitat** includes land, waters and plants associated with the life cycle of fish, and includes land and waters not presently occupied by fisheries resources.

**Fish way** see the *Fisheries Act 1994*.

Editor's note: **Fish way** means a fish ladder or another structure or device by which fish can pass through, by or over waterway barrier works.

**Fisheries resources** see the *Fisheries Act 1994*.

Editor's note: **Fisheries resources** includes fish and marine plants.

**Fishery** see the *Fisheries Act 1994*, section 7.

Editor's note: **Fishery** means activities by way of fishing, for example, activities specified by reference to all or any of the following:

- (1) a species of fish
- (4) a type of fish by reference to sex, size or age or another characteristic
- (5) an area
- (6) a way of fishing
- (7) a type of boat
- (8) a class of person
- (9) the purpose of an activity
- (10) the effect of the activity on a fish habitat, whether or not the activity involves fishing
- (11) anything else prescribed under a Regulation.

**Fishing** see the *Fisheries Act 1994*.

Editor's note: **Fishing** includes:

- (1) searching for, or taking, fish
- (2) attempting to search for, or take, fish
- (3) engaging in other activities that can reasonably be expected to result in the locating, or taking, of fish
- (4) landing fish (from a boat or in another way), bringing fish ashore or transshipping fish.

**Foreshore** see the *Fisheries Act 1994*.

Editor's note: **Foreshore** means parts of the banks, bed, reefs, shoals, shore and other land between high water and low water.

**Harbour master** see the *Transport Operations (Marine Safety) Act 1994*.

Editor's note: **Harbour master** means a person who is appointed under the *Transport Operations (Marine Safety) Act 1994* as a harbour master.

**Highest astronomical tide** means the highest level of the tides that can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.

**Land** includes foreshores and tidal and non-tidal land.

**Legally secured offset area** see the *Environmental Offsets Act 2014*.

**Management B area** see the Fisheries Regulation 2008.

Editor's note: A **Management B area** means an area within a declared fish habitat area identified by the words 'management B' on the fish habitat area plan mentioned in schedule 3 for the declared fish habitat area.

**Marine plant** see the *Fisheries Act 1994*, section 8.

Editor's note: **Marine plant** includes the following:

- (1) a plant (a tidal plant) that usually grows on, or adjacent to, tidal land, whether it is living, dead, standing or fallen
- (2) material of a tidal plant, or other plant material on tidal land
- (3) a plant, or material of a plant, prescribed under a Regulation or management plan to be a marine plant.

A marine plant does not include a plant that is a declared pest under the *Land Protection (Pest and Stock Route Management) Act 2002*.

**Non-endemic fish** means fish originating from anywhere outside the catchment under consideration.

**Resource allocation authority** means a resource allocation authority issued, and in force, under part 5, division 3, subdivision 2A of the *Fisheries Act 1994*.

**Significant residual impact** see the *Environmental Offsets Act 2014*.

Editor's note: Generally, a significant residual impact is an adverse impact, whether direct or indirect, of a prescribed activity on all or part of a prescribed environmental matter that—

- (1) remains, or will or is likely to remain, (whether temporarily or permanently) despite on-site mitigation measures for the prescribed activity; and
- (2) is, or will or is likely to be, significant.

**Strategic environmental area** see the *Regional Planning Interests Act 2014*.

Editor's note: a strategic environmental area is an area that –

- (1) contains 1 or more environmental attributes for the area
- (2) is either—
  - (a) shown on a map in a regional plan as a strategic environmental area, or
  - (b) prescribed under regulation.

**Tidal land** see the *Fisheries Act 1994*.

Editor's note: Tidal land includes reefs, shoals and other land permanently or periodically submerged by waters subject to tidal influence.

**Translocation** means the movement of live aquatic organisms (including all stages of the organism's life cycle and any derived viable genetic material):

- (1) beyond its accepted distribution
- (2) to areas which contain genetically distinct populations, or
- (3) to areas with superior parasite or disease status.

**Waterway** see the *Fisheries Act 1994*.

Editor's note: Waterway includes a river, creek, stream, watercourse or inlet of the sea. For further guidance see the Department of Agriculture, Fisheries and Forestry 2014 fact sheet *Maintaining Fish Passage in Queensland: What is a Waterway?*

**Waterway barrier works** see the *Fisheries Act 1994*, Schedule.

Editor's note: Waterway barrier works means a dam, weir or other barrier across a waterway if the barrier limits fish stock access and movement along a waterway. For further guidance see the Department of Agriculture, Fisheries and Forestry 2014 fact sheets *Maintaining Fish Passage in Queensland: What is a waterway barrier work?* and *Maintaining Fish Passage in Queensland: What is not a waterway barrier work?*

## 5.6 Abbreviations

EFM – Environmentally friendly mooring

GIS – Geographic information system

SEMP – Shoreline erosion management plan