

# Coastal & River

| MANAGEMENT UNIT (MU) | ISSUE/IMPORTANCE   | OBJECTIVE  | ACTION/STRATEGY  | RESPONSIBLE AGENCIES     |
|----------------------|--|--|--|--------------------------|
| MU07                 | Eroding Coastline Cat 1,2 & 3  | <ul style="list-style-type: none"> <li>To track shoreline changes, analyze seasonal impacts, identify flood &amp; erosion risks and support sustainable management.</li> </ul>   | <ul style="list-style-type: none"> <li>Frequent observation</li> <li>Preparation for strengthening coastal protection, i.e., add no of groyne &amp; beach nourishment if necessary</li> <li>Maintenance existing structure</li> </ul>  | JPS Melaka<br>JPS Daerah |
|                      | <ul style="list-style-type: none"> <li>Coastal Protection</li> </ul> |  |  |                          |
|                      | <ul style="list-style-type: none"> <li>Setback</li> </ul>            | <ul style="list-style-type: none"> <li>Ensure new developments are positioned at a safe distance from the shoreline to allow for natural shoreline movement and protect properties.</li> <li>Allow flexibility in setback policies to respond to changing shoreline conditions.</li> <li>Enhance the effectiveness of setbacks by combining them with natural shoreline protection strategies.</li> <li>Ensure that setbacks remain effective by regularly monitoring shoreline changes and adapting management practices.</li> <li>Minimize the impact of new developments on the shoreline and support natural processes.</li> <li>Raise awareness about the importance of setbacks and involve stakeholders in shoreline management efforts.</li> <li>Ensure compliance with setback requirements and protect the shoreline effectively.</li> </ul> | <ul style="list-style-type: none"> <li>Develop Comprehensive Setback Guidelines, i.e., Conduct scientific assessments &amp; develop flexible setback guidelines.</li> <li>Incorporate Adaptive Setback Practices, i.e., Design setback areas with buffers &amp; Implement zoning regulations.               <ul style="list-style-type: none"> <li>Muddy Shoreline                   <ul style="list-style-type: none"> <li>With existing bunds; <i>Coastal setback follows the alignment of the bund.</i></li> <li>In already developed areas; <i>Setback is defined by the seaward edge of the development.</i></li> <li>In undeveloped mangrove areas: <i>Setback is established at the landward boundary of the mangroves.</i></li> </ul> </li> <li>Sandy Shoreline                   <ul style="list-style-type: none"> <li>Erosion occurs at a slower rate.</li> <li>In unprotected areas: <i>Setback can be reduced to 30 meters.</i></li> <li>Where roads or critical</li> </ul> </li> </ul> </li> </ul> |                          |

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|--|--|--|---|--|
|  |  |  | <p>infrastructure exist: <i>Setback may be positioned seaward of existing structures.</i></p> <ul style="list-style-type: none"> <li>› In areas with revetments: <i>Setback should align with the revetment line.</i></li> <li>› Setback lines in this study have been adjusted to allow for existing infrastructures and predicted movement of shorelines.</li> <li>• Integrate Natural Erosion Control Measures, i.e., Restore and protect natural habitats &amp; Plant native vegetation</li> <li>• Enhance Shoreline Monitoring and Management, i.e., Conduct periodic shoreline surveys &amp; Adjust setback requirements</li> <li>• Promote Sustainable Development Practices, i.e., Encourage low-impact development techniques &amp; Limit construction activities</li> <li>• Educate and Engage Stakeholders, i.e., Conduct outreach and education programs &amp; Involve stakeholders in planning and decision-making</li> <li>• Implement and Enforce Regulations, i.e., Enforce setback regulations &amp; Review and update regulations regularly</li> <li>• Setback determination shall be guided by the recommendations provided in the Decision Support System (DSS).</li> </ul> |  |
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### Marine Habitats and Biodiversity

The proposed development management strategies for marine habitats and biodiversity at MU07 are as follow.

| MANAGEMENT UNIT (MU) (LOCATION)  | MANAGEMENT OBJECTIVES  | MANAGEMENT STRATEGIES  | ISSUE/IMPORTANCE/REASON   | RESPECTIVE/ RESPONSIBLE AGENCIES   |
|--|--|--|---|--|
| <ul style="list-style-type: none"><li>MU07 (Sg. Udang and Pantai Puteri)</li></ul> | <ul style="list-style-type: none"><li>Turtle Nesting Beach<ul style="list-style-type: none"><li>To conserve and preserve turtle landing sites.</li></ul></li></ul> | <ul style="list-style-type: none"><li>Expedite plans to gazette turtle landing sites at Sg. Udang and Pantai Puteri as protected area.</li></ul>   | <ul style="list-style-type: none"><li>Turtle landing/nesting site in Sg. Udang and Pantai Puteri.</li></ul>   | <ul style="list-style-type: none"><li>Department of Fisheries,</li><li>NGOs,</li><li>Majlis Bandaraya Melaka Bersejarah (MBMB),</li><li>MOTAC Melaka,</li><li>Department of Town and Planning,</li><li>Developers.</li></ul> |
|  |  | <ul style="list-style-type: none"><li>Promote sustainable coastal development at turtle nesting beach.</li><li>Provision of solid waste disposal infrastructure.</li><li>Increase the 'do not litter' signboards at turtle nesting beach.</li><li>Promote turtle awareness and educational programmes in collaboration with relevant agencies.</li><li>No coastal reclamation projects allowed at or adjacent to turtle nesting beaches.</li></ul> | <ul style="list-style-type: none"><li>Turtles are susceptible to various stressors from rapid coastal developments and tourism activities i.e., noise disturbance, light spill, and potential solid waste disposal.</li></ul> |  |

### Fisheries and Aquaculture

The proposed development management strategies for marine capture fisheries and recreational fisheries at MU07 are as follow.

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|--|--|--|---|---|
| <ul style="list-style-type: none"> <li>MU07 (Pantai Kundor, Pantai Jaring, Pantai Rombang and Pengkalan Perigi)</li> </ul> | <b>Marine Capture Fisheries</b> <ul style="list-style-type: none"> <li>To ensure high standards of fish quality, enhanced food safety and nutritional value through provision of better fisheries infrastructures and facilities.</li> </ul> | <ul style="list-style-type: none"> <li>Upgrade the fisheries infrastructures at Pantai Kundor, Pantai Jaring, Pantai Rombang and Pengkalan Perigi fish landing points.</li> </ul>  | <ul style="list-style-type: none"> <li>Lack of fisheries infrastructures at Pantai Kundor, Pantai Jaring, Pantai Rombang and Pengkalan Perigi fish landing points.</li> </ul>   | <ul style="list-style-type: none"> <li>Department of Fisheries.</li> <li>LKIM.</li> <li>Melaka State Government.</li> </ul>                         |
|  | <ul style="list-style-type: none"> <li>To ensure food security and safety.</li> </ul>  | <ul style="list-style-type: none"> <li>Deployment of artificial reefs and Fish Aggregating Devices (FADs).</li> <li>Promote sustainable coastal development through enhancement of fisheries habitat (eco-engineering structures).</li> <li>Minimize coastal developments that can affect <i>Acetes</i> shrimp resources.</li> <li>No coastal reclamation projects allowed at <i>Acetes</i> ground areas.</li> </ul> | <ul style="list-style-type: none"> <li>Coastal development such as reclamation and installation of coastal protection structures (groins/breakwater) can cause adverse impacts on:</li> <li>Fisheries resources and fishermen income.</li> <li><i>Acetes</i> shrimp harvesting activity.</li> </ul> | <ul style="list-style-type: none"> <li>Department of Forestry,</li> <li>Department of Fisheries,</li> <li>Developers.</li> </ul>                    |
| <ul style="list-style-type: none"> <li>MU07 (Pantai Rombang)</li> </ul>  | <b>Recreational Fisheries</b> <ul style="list-style-type: none"> <li>To improve recreational fisheries infrastructures and facilities.</li> </ul>  | <ul style="list-style-type: none"> <li>Upgrade the recreational fisheries infrastructures at Pantai Rombang.</li> <li>Upgrade/Provision of septic tanks/toilets.</li> </ul>  | <ul style="list-style-type: none"> <li>Limited recreational fisheries infrastructures and facilities at Pantai Rombang.</li> </ul>  | <ul style="list-style-type: none"> <li>Melaka State Government</li> <li>MOTAC Melaka</li> <li>Majlis Bandaraya Melaka Bersejarah (MBMB).</li> </ul> |
| <ul style="list-style-type: none"> <li>MU07 (Pantai Puteri)</li> </ul>   | <ul style="list-style-type: none"> <li>To promote good fishing practices in recreational fishing activities.</li> </ul>  | <ul style="list-style-type: none"> <li>Provision of sufficient garbage bins and portable toilets at the recreational beaches.</li> <li>Promote public awareness by organizing environmental talks on coastal</li> </ul>  | <ul style="list-style-type: none"> <li>Lack of solid waste disposal infrastructures and portable toilets.</li> <li>Potential disturbance to turtle landing/nesting areas due to recreational fisheries activities</li> </ul>  | <ul style="list-style-type: none"> <li>Department of Fisheries,</li> <li>Melaka State Government</li> <li>NGOs</li> </ul>                           |

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|------------------------------------|-----------------------|--|---|---|
|                                    |                       | <p>cleanliness and protection of coastal habitats.</p> <ul style="list-style-type: none"> <li>Prohibit fishing tournament/ competitions at the turtle landing sites especially during nesting season.</li> </ul> | particularly during fishing competitions. | <ul style="list-style-type: none"> <li>Fishing Competition Organizer</li> <li>Majlis Bandaraya Melaka Bersejarah (MBMB).</li> <li>NGOs</li> </ul> |

## Water Quality

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|------------------------------------|--|---|---|--|
| MU07                               | Waste Control <ul style="list-style-type: none"> <li>Solid waste and Scheduled Waste Control</li> </ul>  | <ul style="list-style-type: none"> <li>New activities that fall under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015 must submit the EIA report to the Department of Environment for approval.</li> <li>New activities that do not fall under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015 shall submit their development proposal to the Local Authority and conditions on discharge should be imposed on the operators.</li> <li>Provision of Erosion and Sediment Control (ESCP) for land clearing activities</li> <li>Submission of the ESCP plan to the Department of Irrigation and Drainage (DID) for approval prior to start of land clearing and earthwork activities</li> <li>Provision of septic tanks in remote areas</li> <li>Upgrading of existing sanitary facilities</li> <li>Compliance to Malaysian Marine Water Quality Standard</li> <li>Compliance to Standard Kebangsaan Kualiti Air Rekreasi Semulajadi dan Garispanduan bagi Pemantauan Air Rekreasi Semulajadi</li> <li>Environmental Quality (Scheduled Waste) Regulations 2005</li> <li>Compliance with Environmental Quality (Sewage) Regulations 2009</li> </ul> | <ul style="list-style-type: none"> <li>MU07 can be divided into 3 distinctive areas namely the military area, the industry area, and the mix land use activity area.</li> <li>Continuing from MU06, 26.43% of MU07 falls under the military jurisdiction.</li> <li>The WQI within this MU varies from Moderate to Excellent</li> <li>In recent years, the WQI has improved from Moderate to Good and Excellent</li> <li>Although the current WQI is Good and Excellent, all the control measures must be adhered to maintain the good water quality and for future projects.</li> </ul> | <ul style="list-style-type: none"> <li>Department of Environment</li> <li>Department of Agriculture</li> <li>Department of Fisheries</li> <li>Local Council and Authorities</li> <li>Indah Water Konsortium (IWK)</li> <li>National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara, SPAN)</li> </ul> |
|                                    | Sewage Discharge <ul style="list-style-type: none"> <li>Control of sewage discharge</li> </ul>           |   |   |  |
|                                    | Erosion and Sediment Control <ul style="list-style-type: none"> <li>Control the sedimentation</li> </ul> |   |   |  |

## Land Use

| MANAGEMENT UNIT (MU) (LOCATION) | MANAGEMENT OBJECTIVES  | MANAGEMENT STRATEGIES  | ISSUE/IMPORTANCE/REASON  | RESPECTIVE/ RESPONSIBLE AGENCIES  |
|---------------------------------|--|--|--|---|
| Human Settlement                |  |  |  |   |
| MU07                            | <ul style="list-style-type: none"> <li>To manage and control any land use changes along the coast</li> </ul>   | <ul style="list-style-type: none"> <li>Define coastal zoning categories (including residential, commercial, conservation, and mixed-use areas).</li> <li>Establish zoning regulations</li> <li>Control the allowable density type for any development along the coast.</li> <li>Limit land conversion and approval for TOL permit</li> </ul>                             | <ul style="list-style-type: none"> <li>Increase of population along the coastline may impact the existing infrastructure (including road, utilities, and traffic)</li> </ul> | <ul style="list-style-type: none"> <li>MBMB</li> <li>PTD Melaka Tengah</li> <li>PTG Melaka</li> <li>JKR</li> <li>JPS</li> <li>IWK</li> <li>SAMB</li> <li>TNB</li> </ul> |
|                                 | <ul style="list-style-type: none"> <li>To prevent and control erosion.</li> <li>To ensure compliance with environmental regulations regarding hydraulic impact assessments and erosion control.</li> </ul> | <ul style="list-style-type: none"> <li>Construct proper erosion control structures such as retaining walls and sediment control barriers.</li> <li>Conduct regular hydrological studies to identify high-risk erosion zones.</li> <li>Enforce guidelines for land development near water bodies to minimize erosion risks.</li> </ul>                                    | <ul style="list-style-type: none"> <li>Impact from the hydraulic can cause erosion to the settlement</li> </ul>  | <ul style="list-style-type: none"> <li>JPS</li> </ul>   |
|                                 | <ul style="list-style-type: none"> <li>To reduce environmental impact caused by the construction activities on the site</li> </ul>   | <ul style="list-style-type: none"> <li>Prepare an Environmental Impact Assessment (EIA) for any major projects along the coast (based on the DOE requirements).</li> <li>Manage thorough evaluations of EIA before approving construction projects.</li> <li>Adhere to the Environmental Managing Plan (EMP) recommendations as part of the mitigation major.</li> </ul> | <ul style="list-style-type: none"> <li>Any changes to land use due to construction may affect the environment.</li> </ul>  | <ul style="list-style-type: none"> <li>MBMB</li> <li>DOE</li> </ul>   |

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|------------------------------------|--|--|---|---|
|                                    |  | <ul style="list-style-type: none"> <li>Conduct periodical inspection during and after construction.</li> </ul>   |   |   |
|                                    | <ul style="list-style-type: none"> <li>To monitor coastal development</li> </ul>   | <ul style="list-style-type: none"> <li>Conduct periodical inspection.</li> <li>Regulate the law related to any developments along the coast.</li> <li>Implement sustainable zoning regulations to prevent excessive land reclamation.</li> </ul> | <ul style="list-style-type: none"> <li>Coastal development within Melaka coastline possesses adverse impacts towards adjacent mudflat areas.</li> </ul> | <ul style="list-style-type: none"> <li>MBMB</li> <li>PTD Melaka Tengah</li> <li>PTG Melaka</li> </ul> |
| Forest and Mangroves               |  |  |   |   |
| MU07                               | <ul style="list-style-type: none"> <li>To regulate human activities in order to minimize environmental impact</li> </ul> | <ul style="list-style-type: none"> <li>Establish guidelines for tourism, aquaculture, and infrastructure development.</li> <li>Enforce regulations to control pollution, illegal logging, and encroachment.</li> </ul>                           | <ul style="list-style-type: none"> <li>Existence of the human activities within the mangrove forest, and requires proper management</li> </ul>          | <ul style="list-style-type: none"> <li>FDPM</li> <li>MBMB</li> </ul>                                  |



## Recreational & Tourism

| MANAGEMENT UNIT (MU)<br>(LOCATION) | MANAGEMENT OBJECTIVES  | MANAGEMENT STRATEGIES  | ISSUE/IMPORTANCE/REASON   | RESPECTIVE/<br>RESPONSIBLE<br>AGENCIES  |
|------------------------------------|--|--|---|---|
| Activities                         |  |  |   |   |
| MU07                               | <ul style="list-style-type: none"> <li>To manage and control all the business activities to be legal in operations and follow the Standard Operating Procedures</li> </ul> | <ul style="list-style-type: none"> <li>Local authorities need to carry out enforcement operations on illegal business operations.</li> </ul>   | <ul style="list-style-type: none"> <li>Licensing issues related to tourism involving buildings, sites and land use.</li> </ul>  | <ul style="list-style-type: none"> <li>MBMB</li> </ul>  |
|                                    | <ul style="list-style-type: none"> <li>To implement zoning to separate different activities and prevent accidents.</li> </ul>  | <ul style="list-style-type: none"> <li>Provide a gazette area for the water-sport activities such as windsurfing, kayaking, banana-boat rides, and scuba diving lessons.</li> <li>Establish clear safety guidelines and enforce regulations for all water sports.</li> </ul>   | <ul style="list-style-type: none"> <li>There is no specific area that have been dedicated for water-sport activities.</li> </ul>  | <ul style="list-style-type: none"> <li>MBMB</li> </ul>  |
| Attractions                        |  |  |   |   |
| MU07                               | <ul style="list-style-type: none"> <li>To preserve the scenic beauty and environmental quality of tourist areas.</li> </ul>  | <ul style="list-style-type: none"> <li>Implement sustainable practices and stricter environmental regulations to reduce pollution and maintain cleanliness in key tourist zones</li> <li>Encourage the development of hotels and F&amp;B establishments beyond the Core Zone to promote balanced tourism distribution and alleviate congestion</li> <li>Implement sustainable practices and stricter environmental regulations to reduce pollution and maintain cleanliness in key tourist zones</li> <li>Develop and expand accessible beachfront public spaces and parks to enhance recreational opportunities and attract visitors</li> </ul> | <ul style="list-style-type: none"> <li>Inappropriate condition of stalls at several beaches may have result to poor cleanliness and disrupt the scenic view.</li> <li>In some cases, there are huge waste collector provided at the beach which destroy the relaxing view of beach.</li> <li>Public toilets beaches that are unsupervised have a poor hygiene and not well ventilated.</li> </ul> | <ul style="list-style-type: none"> <li>MOTAC</li> <li>Tourism Malaysia</li> <li>MBMB</li> </ul> |

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| Accessibilities                    |  |  |  |   |
| MU07                               | <ul style="list-style-type: none"> <li>To formalize and designate trails for vehicular transport.</li> </ul>                     | <ul style="list-style-type: none"> <li>Create a transit- friendly beaches of public transportation.</li> <li>Formalize and designate trails for vehicular transport.</li> <li>Improve transportation links, signage, and infrastructure to enhance accessibility to popular <i>ikan bakar</i> spots, promoting local cuisine and culture</li> </ul>                          | <ul style="list-style-type: none"> <li>Most of the beaches in Melaka have narrow road or do not have proper road for vehicle access to the beach at all.</li> <li>Limited access to <i>ikan bakar</i> dining spots</li> </ul>  | <ul style="list-style-type: none"> <li>MOTAC</li> <li>Tourism Malaysia</li> <li>MBMB</li> </ul> |
| Amenities                          |  |  |  |   |
| MU07                               | <ul style="list-style-type: none"> <li>To provide an adequate number of facilities and amenities to tourist usage</li> </ul>     | <ul style="list-style-type: none"> <li>Upgrade utilities and regular maintenance amenities at tourist beaches to improve convenience and comfort for visitors</li> <li>Provide an effective signage that is clearly marked, simple and easy to find.</li> <li>Cater proper walkway accessibility along the shoreline and proper paved parking space for visitors.</li> </ul> | <ul style="list-style-type: none"> <li>Only few well-planned and upgraded beach provided facilities for the disabled.</li> <li>Only some parts of the beach areas are equipped with information resources for the swimmers and beachgoers. Providing it is crucial to avoid any emergencies cases and contact references.</li> <li>The provision of basic amenities has no uniformity in terms of design structure that can clearly outstands Melaka beaches.</li> <li>There are some beaches do not have a proper paved area for parking spaces; thus, it is vital in order to preserve the white sandy beach and nearby living creatures.</li> </ul> | <ul style="list-style-type: none"> <li>MOTAC</li> <li>Tourism Malaysia</li> <li>MBMB</li> </ul> |
|                                    | <ul style="list-style-type: none"> <li>To enhance safety measures to ensure a secure and enjoyable visitor experience</li> </ul> | <ul style="list-style-type: none"> <li>Utilize surveillance cameras, panic buttons, and mobile alerts to enhance security.</li> </ul>  | <ul style="list-style-type: none"> <li>The existence of wild crocodile in certain beaches fears the public</li> </ul>  | <ul style="list-style-type: none"> <li>MOTAC</li> <li>Tourism Malaysia</li> <li>MBMB</li> </ul> |

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|---------------------------------------|---|---|--|---|
| Accommodations                        |   |   |  |   |
| MU07                                  | <ul style="list-style-type: none"> <li>To provide sufficient and accommodation with add-on value for the best visitor experiences.</li> </ul> | <ul style="list-style-type: none"> <li>Introduction of high-end accommodation such as hotels and resorts along the Melaka coastline as to upgrade the facilities and ambience for the tourists' experience with Add-on Value</li> </ul> | <ul style="list-style-type: none"> <li>There have been complaints about the inadequate accommodation by the beach which is not as good to be the main attraction for visit purpose there.</li> </ul> | <ul style="list-style-type: none"> <li>MOTAC</li> <li>Tourism Malaysia</li> <li>MBMB</li> </ul> |