

Coastal & River

MANAGEMENT UNIT (MU)	ISSUE/IMPORTANCE	OBJECTIVE	ACTION/STRATEGY	RESPONSIBLE AGENCIES
MU05	Eroding Coastline Cat 1 & 2	<ul style="list-style-type: none"> To track shoreline changes, analyze seasonal impacts, identify flood & erosion risks and support sustainable management. 	<ul style="list-style-type: none"> Frequent observation Preparation for strengthening coastal protection, i.e., add no of groyne & beach nourishment if necessary Maintenance existing structure 	JPS Melaka JPS Daerah
	<ul style="list-style-type: none"> Coastal Protection 			
	<ul style="list-style-type: none"> Setback 	<ul style="list-style-type: none"> Ensure new developments are positioned at a safe distance from the shoreline to allow for natural shoreline movement and protect properties. Allow flexibility in setback policies to respond to changing shoreline conditions. Enhance the effectiveness of setbacks by combining them with natural shoreline protection strategies. Ensure that setbacks remain effective by regularly monitoring shoreline changes and adapting management practices. Minimize the impact of new developments on the shoreline and support natural processes. Raise awareness about the importance of setbacks and involve stakeholders in shoreline management efforts. Ensure compliance with setback requirements and protect the shoreline effectively. 	<ul style="list-style-type: none"> Develop Comprehensive Setback Guidelines, i.e., Conduct scientific assessments & develop flexible setback guidelines Incorporate Adaptive Setback Practices, i.e., Design setback areas with buffers & Implement zoning regulations. <ul style="list-style-type: none"> Muddy Shoreline <ul style="list-style-type: none"> With existing bunds; <i>Coastal setback follows the alignment of the bund.</i> In already developed areas; <i>Setback is defined by the seaward edge of the development.</i> In undeveloped mangrove areas: <i>Setback is established at the landward boundary of the mangroves.</i> Sandy Shoreline <ul style="list-style-type: none"> Erosion occurs at a slower rate. In unprotected areas: <i>Setback can</i> 	

			<p><i>be reduced to 30 meters.</i></p> <ul style="list-style-type: none"> › Where roads or critical infrastructure exist: <i>Setback may be positioned seaward of existing structures.</i> › In areas with revetments: › <i>Setback should align with the revetment line.</i> › Setback lines in this study have been adjusted to allow for existing infrastructures and predicted movement of shorelines. • Integrate Natural Erosion Control Measures, i.e., Restore and protect natural habitats & Plant native vegetation • Enhance Shoreline Monitoring and Management, i.e., Conduct periodic shoreline surveys & Adjust setback requirements • Promote Sustainable Development Practices, i.e., Encourage low-impact development techniques & Limit construction activities • Educate and Engage Stakeholders, i.e., Conduct outreach and education programs & Involve stakeholders in planning and decision-making • Implement and Enforce Regulations, i.e., Enforce setback regulations & Review and update regulations regularly • Setback determination shall be guided by the recommendations provided in the Decision Support System (DSS). 	
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Marine Habitats and Biodiversity

The proposed development management strategies for marine habitats and biodiversity at MU05 are as follow.

MANAGEMENT UNIT (MU) (LOCATION)	MANAGEMENT OBJECTIVES	MANAGEMENT STRATEGIES	ISSUE/IMPORTANCE/REASON	RESPECTIVE/ RESPONSIBLE AGENCIES
<ul style="list-style-type: none"> MU05 (Tg. Bidara) 	Turtle Nesting Beach <ul style="list-style-type: none"> To conserve and preserve turtle landing sites. 	<ul style="list-style-type: none"> Expedite plans to gazette turtle landing site at Tg. Bidara as protected area. 	<ul style="list-style-type: none"> Turtle landing/nesting site in Tg. Bidara. 	<ul style="list-style-type: none"> Department of Fisheries, NGOs, Majlis Bandaraya Melaka Bersejarah (MBMB), MOTAC Melaka, Department of Town and Planning, Developers.
		<ul style="list-style-type: none"> Promote sustainable coastal development at turtle nesting beach. Provision of solid waste disposal infrastructure. Increase the 'do not litter' signboards at turtle nesting beach. Promote turtle awareness and educational programmes in collaboration with relevant agencies. 	<ul style="list-style-type: none"> Turtles are susceptible to various stressors from rapid coastal developments and tourism activities i.e., noise disturbance, light spill, and potential solid waste disposal. 	

Fisheries and Aquaculture

The proposed development management strategies for marine capture fisheries and recreational fisheries at MU05 are as follow.

MANAGEMENT UNIT (MU) (LOCATION)	MANAGEMENT OBJECTIVES	MANAGEMENT STRATEGIES	ISSUE/IMPORTANCE/REASON	RESPECTIVE/ RESPONSIBLE AGENCIES
<ul style="list-style-type: none"> MU05 (Balik Batu) 	Marine Capture Fisheries <ul style="list-style-type: none"> To ensure high standards of fish quality, enhanced food safety and nutritional value through provision of better fisheries infrastructures and facilities. 	<ul style="list-style-type: none"> Upgrade the fisheries infrastructures at Balik Batu fish landing point. 	<ul style="list-style-type: none"> Lack of fisheries infrastructures at Balik Batu fish landing points. 	<ul style="list-style-type: none"> Department of Fisheries. LKIM. Melaka State Government.
	<ul style="list-style-type: none"> To ensure food security and safety. 	<ul style="list-style-type: none"> Deployment of artificial reefs and Fish Aggregating Devices (FADs). 	<ul style="list-style-type: none"> Coastal development such as reclamation and installation of coastal protection structures 	<ul style="list-style-type: none"> Department of Forestry,

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		<ul style="list-style-type: none"> Promote sustainable coastal development through enhancement of fisheries habitat (eco-engineering structures). Minimize coastal developments that can affect <i>Acetes</i> shrimp resources. No new coastal reclamation projects allowed along the shoreline. 	<p>(groins/breakwater) can cause adverse impacts on:</p> <ul style="list-style-type: none"> Fisheries resources and fishermen income. <i>Acetes</i> shrimp harvesting activity. 	<ul style="list-style-type: none"> Department of Fisheries, Developers.
<ul style="list-style-type: none"> MU05 (Balik Batu and Tg. Bidara) 	<p>Recreational Fisheries</p> <ul style="list-style-type: none"> To promote good fishing practices in recreational fishing activities. 	<ul style="list-style-type: none"> Provision of sufficient garbage bins and portable toilets at the recreational beaches. Promote public awareness by organizing environmental talks on coastal cleanliness and protection of coastal habitats. 	<ul style="list-style-type: none"> Lack of solid waste disposal infrastructures and portable toilets. 	<ul style="list-style-type: none"> Majlis Bandaraya Melaka Bersejarah (MBMB). NGOs

Water Quality

MANAGEMENT UNIT (MU) (LOCATION)	MANAGEMENT OBJECTIVES	MANAGEMENT STRATEGIES	ISSUE/IMPORTANCE/REASON	RESPECTIVE RESPONSIBLE AGENCIES
MU05	Erosion and Sediment Control <ul style="list-style-type: none"> Control the sedimentation 	<ul style="list-style-type: none"> 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. 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. Provision of Erosion and Sediment Control (ESCP) for land clearing activities Submission of the ESCP plan to the Department of Irrigation and Drainage (DID) for approval prior to start of land clearing and earthwork activities Provision of septic tanks in remote areas Upgrading of existing sanitary facilities Compliance to Malaysian Marine Water Quality Standard Compliance to Standard Kebangsaan Kualiti Air Rekreasi Semulajadi dan Garispanduan bagi Pemantauan Air Rekreasi Semulajadi Compliance with Environmental Quality (Sewage) Regulations 2009 	<ul style="list-style-type: none"> MU05 is very similar to MU4 in terms of its land use activities, continuing the same land use pattern, with heavy concentrations on small-scale tourism activities along the coast. The villages are still scattered in nature, but with a higher density. In recent years, the WQI has improved from Moderate and Good to Excellent Although the current WQI is Excellent, all the control measures must be adhered to maintain the good water quality and for future projects. 	<ul style="list-style-type: none"> Department of Environment Department of Agriculture Department of Fisheries Local Council and Authorities Indah Water Konsortium (IWK) National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara, SPAN)
	Sewage Discharge <ul style="list-style-type: none"> Control of sewage discharge from the chalets / hostels 			

Land Use

MANAGEMENT UNIT (MU) (LOCATION)	MANAGEMENT OBJECTIVES	MANAGEMENT STRATEGIES	ISSUE/IMPORTANCE/REASON	RESPECTIVE/ RESPONSIBLE AGENCIES
Human Settlement				
MU05	<ul style="list-style-type: none"> To reduce coastal erosion 	<ul style="list-style-type: none"> Identify suitable sediment sources (offshore, river dredging, or artificial) for beach nourishment. Design nourishment projects that align with natural coastal processes. 	<ul style="list-style-type: none"> Erosion issues and active coastal processes have caused the degradation of beach land along the area, leading to the loss of public beach spaces. As a result, this tourism coastal area has become less attractive and poses a risk to public safety. 	<ul style="list-style-type: none"> MPAG PTD Alor Gajah PTG Melaka JKR JPS IWK SAMB TNB
	<ul style="list-style-type: none"> To manage and control any land use changes along the coast 	<ul style="list-style-type: none"> Define coastal zoning categories (including residential, commercial, conservation, and mixed-use areas). Establish zoning regulations Control the allowable density type for any development along the coast. Limit land conversion and approval for TOL permit 	<ul style="list-style-type: none"> Increase of population along the coastline may impact the existing infrastructure (including road, utilities, and traffic) 	<ul style="list-style-type: none"> MPAG PTD Alor Gajah PTG Melaka JKR JPS IWK SAMB TNB
	<ul style="list-style-type: none"> To prevent and control erosion. To ensure compliance with environmental regulations regarding hydraulic impact assessments and erosion control. 	<ul style="list-style-type: none"> Construct proper erosion control structures such as retaining walls and sediment control barriers. Conduct regular hydrological studies to identify high-risk erosion zones. Enforce guidelines for land development near water bodies to minimize erosion risks. 	<ul style="list-style-type: none"> Impact from the hydraulic can cause erosion to the settlement 	<ul style="list-style-type: none"> JPS

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	<ul style="list-style-type: none"> To reduce environmental impact caused by the construction activities on the site 	<ul style="list-style-type: none"> Prepare an Environmental Impact Assessment (EIA) for any major projects along the coast (based on the DOE requirements). Manage thorough evaluations of EIA before approving construction projects. Adhere to the Environmental Managing Plan (EMP) recommendations as part of the mitigation major. Conduct periodical inspection during and after construction. 	<ul style="list-style-type: none"> Any changes to land use due to construction may affect the environment. 	<ul style="list-style-type: none"> MPAG DOE
	<ul style="list-style-type: none"> To monitor coastal development 	<ul style="list-style-type: none"> Conduct periodical inspection. Regulate the law related to any developments along the coast. Implement sustainable zoning regulations to prevent excessive land reclamation. 	<ul style="list-style-type: none"> Coastal development within Melaka coastline possesses adverse impacts towards adjacent mudflat areas. 	<ul style="list-style-type: none"> MPAG PTD Alor Gajah PTG Melaka
Forest and Mangroves				
MU05	<ul style="list-style-type: none"> To regulate human activities in order to minimize environmental impact 	<ul style="list-style-type: none"> Establish guidelines for tourism, aquaculture, and infrastructure development. Enforce regulations to control pollution, illegal logging, and encroachment. 	<ul style="list-style-type: none"> Existence of the human activities within the mangrove forest, and requires proper management 	<ul style="list-style-type: none"> FDPM MPAG

Recreational & Tourism

MANAGEMENT UNIT (MU) (LOCATION)	MANAGEMENT OBJECTIVES	MANAGEMENT STRATEGIES	ISSUE/IMPORTANCE/REASON	RESPECTIVE/ RESPONSIBLE AGENCIES
Activities				
MU05	<ul style="list-style-type: none"> To manage and control all the business activities to be legal in operations and follow the Standard Operating Procedures 	<ul style="list-style-type: none"> Local authorities need to carry out enforcement operations on illegal business operations. 	<ul style="list-style-type: none"> Licensing issues related to tourism involving buildings, sites and land use. 	<ul style="list-style-type: none"> MPAG
	<ul style="list-style-type: none"> To implement zoning to separate different activities and prevent accidents. 	<ul style="list-style-type: none"> Provide a gazette area for the water-sport activities such as windsurfing, kayaking, banana-boat rides, and scuba diving lessons. Establish clear safety guidelines and enforce regulations for all water sports. 	<ul style="list-style-type: none"> There is no specific area that have been dedicated for water-sport activities. 	<ul style="list-style-type: none"> MPAG
Attractions				
MU05	<ul style="list-style-type: none"> To preserve the scenic beauty and environmental quality of tourist areas. 	<ul style="list-style-type: none"> Implement sustainable practices and stricter environmental regulations to reduce pollution and maintain cleanliness in key tourist zones Encourage the development of hotels and F&B establishments beyond the Core Zone to promote balanced tourism distribution and alleviate congestion Implement sustainable practices and stricter environmental regulations to reduce pollution and maintain cleanliness in key tourist zones Develop and expand accessible beachfront public spaces and parks to enhance recreational opportunities and attract visitors 	<ul style="list-style-type: none"> Inappropriate condition of stalls at several beaches may have result to poor cleanliness and disrupt the scenic view. In some cases, there are huge waste collector provided at the beach which destroy the relaxing view of beach. Public toilets beaches that are unsupervised have a poor hygiene and not well ventilated. 	<ul style="list-style-type: none"> MOTAC Tourism Malaysia MPAG
Accessibilities				
MU05	<ul style="list-style-type: none"> To formalize and designate trails for vehicular transport. 	<ul style="list-style-type: none"> Create a transit- friendly beaches of public transportation. 	<ul style="list-style-type: none"> Most of the beaches in Melaka have narrow road or do not have proper 	<ul style="list-style-type: none"> MOTAC Tourism

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		<ul style="list-style-type: none"> Formalize and designate trails for vehicular transport. Improve transportation links, signage, and infrastructure to enhance accessibility to popular <i>ikan bakar</i> spots, promoting local cuisine and culture 	<ul style="list-style-type: none"> road for vehicle access to the beach at all. Limited access to <i>ikan bakar</i> dining spots 	<ul style="list-style-type: none"> Malaysia MPAG
Amenities				
MU05	<ul style="list-style-type: none"> To provide an adequate number of facilities and amenities to tourist usage 	<ul style="list-style-type: none"> Upgrade utilities and regular maintenance amenities at tourist beaches to improve convenience and comfort for visitors Provide an effective signage that is clearly marked, simple and easy to find. Cater proper walkway accessibility along the shoreline and proper paved parking space for visitors. 	<ul style="list-style-type: none"> Only few well-planned and upgraded beach provided facilities for the disabled. 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. The provision of basic amenities has no uniformity in terms of design structure that can clearly outstands Melaka beaches. 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. 	<ul style="list-style-type: none"> MOTAC Tourism Malaysia MPAG
	<ul style="list-style-type: none"> To enhance safety measures to ensure a secure and enjoyable visitor experience 	<ul style="list-style-type: none"> Utilize surveillance cameras, panic buttons, and mobile alerts to enhance security. 	<ul style="list-style-type: none"> The existence of wild crocodile in certain beaches fears the public 	<ul style="list-style-type: none"> MOTAC Tourism Malaysia MPAG

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Accommodations				
MU05	<ul style="list-style-type: none"> To provide sufficient and accommodation with add-on value for the best visitor experiences. 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> MOTAC Tourism Malaysia MPAG