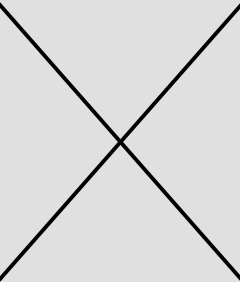


A2.5 PPM for Coasts and the Marine Environment

COASTS AND THE MARINE ENVIRONMENT	Objectively Verifiable Indicators	Means of Verification	Assumptions
<p>Overall Outcome To contribute substantially to the conservation and management of targeted coastal and marine ecosystems in the South West NRM region so they remain healthy and productive, and are effectively co-managed.</p>	<p>Indicators for the Overall Outcome</p> <p>MI-1 Maintain and/or improve the condition of at least 15% of the coastal and marine habitat within the region in the period to 2020.</p> <p>MI-2 Maintain and/or improve public awareness about coastal and marine habitat condition and the status of marine fauna and flora within the region in the period to 2020.</p> <p>MI-3 Stocks of monitored species within the region do not decline in the period to 2020.</p>	<ul style="list-style-type: none"> • State of Environment Report WA. • Annual reports (SWCC). • Report cards or State of Environment reports (SWCC). 	
<p>Management Outcome MM-1 The health and productivity of targeted coastal and marine ecosystems in the South West NRM region is maintained and/or improved to ensure their long-term viability in terms of both their productive and ecological functions in collaboration with an involved, informed and supported NRM Community that includes community members, Indigenous groups and government agencies by ensuring that all targeted coastal ecosystems in the SW are managed according to the best integrated coastal zone management (ICM) practises available, specifically with regard to maintaining and/or improving coastal, estuarine and marine ecosystems and managing and/or reducing the impact of key threats.</p>	<p>Management Outcome Indicators</p> <p>MMI-1 An effective, collaborative Integrated Coastal Zone Management (ICM) system is developed and put into effect for the whole SW region that includes multiple-use management plans for priority coastal, estuarine and marine environments of the SW, including the creation of a network of refuges, are mapped out and set up in close collaboration with all stakeholders by 2020, and managed continuously thereafter.</p> <p>MMI-2 The environmental values of priority coastal, estuarine and marine ecosystems in the SW region are maintained and/or restored by 2030.</p>	<ul style="list-style-type: none"> • Annual reports (SWCC) • Report cards or State of Environment reports (SWCC) • Government agencies (data and reports) 	<ul style="list-style-type: none"> • Collaboration with agencies is feasible and support forthcoming given that ICM is not in use. • Community support and participation continues.

COASTS AND THE MARINE ENVIRONMENT	Objectively Verifiable Indicators	Means of Verification	Assumptions
<p>Appropriate Management Actions</p> <p>MA1 Title (what): Integrated Coastal Zone Management (ICZM). Target (why): ICZM is widely recognised as an approach that reduces costs and increases the effectiveness of coastal management.</p> <p>Appropriate actions (how):</p> <ul style="list-style-type: none"> Promote and support the introduction of the Integrated Coastal Zone Management approach in close cooperation with regional stakeholders following the national guidelines to cover aspects such as tourism; recreational & commercial fisheries; conservation areas; mining of sand in marine environment and along coast; amenity value; spiritual and social well-being (intangible socio-cultural values). <p>Contributes significantly to MM-1. Does not contribute significantly to objectives of other programs.</p>	<p>Potential Management Action Indicators</p> <p>MAI-1a ICZM strategy developed. MAI-1b ICZM strategy implemented through coordination of ICZM at South West level.</p>	<ul style="list-style-type: none"> SWCC (ICM strategy developed; ICM strategy implemented through coordination of ICM at South West level; GIS data). Universities - projects to monitor SW ecosystems. Government agencies (DoF, DoW) WALGA and local governments – surveillance camera monitoring & funds allocated to coast care and buy-backs and WALGA. Fishing community (commercial). Community monitoring. Beach monitoring by schools. Dive club monitoring. Marine resource usage surveys. Biodiversity surveys (ecosystem function). 	<ul style="list-style-type: none"> Funding available for facilitators for groups and for on-ground works. Political willingness as is unpalatable. Community groups willing/able to participate, e.g. in monitoring. Willingness of commercial and recreational sectors to participate. Research agencies interested in collaboration. Community is aware of issues and willing to make change.

COASTS AND THE MARINE ENVIRONMENT	Objectively Verifiable Indicators	Means of Verification	Assumptions
<p>Appropriate Management Actions contd.) MA2 Title (what): Protecting, managing and enhancing priority coastal, estuarine and marine ecosystems. Target (why): Refuges such as “Marine Protected Areas” have consistently been shown to be the most effective way to engage stakeholders in the management and conservation of coastal and marine resources. Appropriate actions (how):</p> <ul style="list-style-type: none"> • Draw up multiple-use plan(s) for priority coastal, estuarine and near-shore marine ecosystems based on best scientific principles and that define suitable uses and management measures, including setting up refuges (“protected areas”) □ • Advocate to set aside coastal and near-shore marine areas as refuges (“protected areas”), not accessible for human use. • Seek subsidies/support for lost income in fishing industry or provide alternatives. • Support creation, protection and enhancement of corridors in the coastal environment (integrate into local government planning). • Support maintenance and improvement of the functions of coastal, estuarine and near-shore marine ecosystems in a holistic manner. • Support protection and enhancement of habitat in coastal, estuarine and near-shore marine areas (community rehabilitation projects; community engagement and capacity building; manage on-ground activities, raise awareness). • Provide support to manage and/or control access to, and usage of, coastal, estuarine and near-shore marine areas (fencing, signage, lobby local government, raise awareness, monitor usage and behaviour, educate re stewardship). • Improve recognition, understanding and management of cumulative impacts on the environment and helping modify planning, environmental impact assessment and development processes where appropriate. • Provide support for baseline data collection on, and research into ecosystem functions of priority assets and the effects of ocean acidification on coastal and inshore marine trophic systems. • Provide support for behavioural change and awareness programs on marine and coastal ecosystem functions and species issues to assist in the better management of those assets. <p>Contributes significantly to MM-1. In addition, contributes significantly to objectives of WM-1 and PM-3.</p>	<p>MAI-2a Number of areas for which multiple-use plans are completed. MAI-2b Number of areas and total area protected, e.g. marine protected areas (MPAs); coastal, estuarine and near-shore marine parks; preservation areas. MAI-2c Percentage of people/businesses impacted by creation of protected areas that receive compensation/ and/or support. MAI-2d Community and political awareness raised. MAI-2e Number of properties purchased (buy-back). MAI-2f Number of properties changing land-use from commercial to ecological function. MAI-2g Number of exotics mapped and controlled. MAI-2h Number of species off endangered list. MAI-2i Number of groups involved. MAI-2j Recommended legislative changes implemented.</p>	<p>MoV contd).</p> <ul style="list-style-type: none"> • Fishing community (commercial). • Community monitoring. • Beach monitoring by schools. • Dive club monitoring. • Marine resource usage surveys. • Biodiversity surveys (ecosystem function). 	<p>Assumptions contd)</p> <ul style="list-style-type: none"> • Denial can be overcome. • Collaboration continues between stakeholders. • Data is analysed and used appropriately. • Impacts from pollution, mining, oil and gas can be controlled. • Effects of climate variability (pH, changing currents, temperature) can be managed. • Impacts of urbanisation can be managed.

COASTS AND THE MARINE ENVIRONMENT	Objectively Verifiable Indicators	Means of Verification	Assumptions
<p>Appropriate Management Actions contd.) MA-3Title (what): Managing the effects of climate variability on coastal and marine resources. Target (why): Contribute to improving the resilience of the region's coastal and marine resources to climate variability. Appropriate actions (how):</p> <ul style="list-style-type: none"> • Implement adaptation and mitigation strategies for the effects of climate variability on coastal, estuarine and near-shore marine ecosystems. • Identify and incorporate risk management strategies for the effects of climate variability into all projects and programs, utilising "best management practice". <p>Contributes significantly to WM-1. In addition, contributes significantly to objectives of BM-2 and AM-2.</p>	<p>MAI-3a Climate variability incorporated into coastal and marine planning. MAI-3b Risk management strategies for incorporating climate variability into coastal and marine management.</p>		

COASTS AND THE MARINE ENVIRONMENT	Objectively Verifiable Indicators	Means of Verification	Assumptions
<p>Priority Assets for Management Action</p> <ul style="list-style-type: none"> • All threatened coastal and marine species and ecological communities listed under the Environment Protection and Biodiversity Conservation Act 1999, including turtles (Green and Leatherback turtles); sharks (Grey Nurse, Great White and Whale sharks); Australian sea lion and whales (Blue, Humpback and Southern Right whale) • Ngari Capes Marine Park; • Geographe Bay, including its seagrass beds • Blackwood Estuary • Vasse-Wonnerup Estuary • Leschenault Estuary • Other priority marine species as follows: <ul style="list-style-type: none"> ○ 1o priority – Little Penguin, West Coast rock lobster, Leeuwin snail and tufa colonies. ○ 2o priority – dolphins, NZ fur seals, cormorants, marine raptors, migratory birds, pelicans, all tern species, hooded plover and the following that are also State priorities – abalone, West Coast demersal scalefish, all marine fish stocks and tailor. • Priority ecosystems: <ul style="list-style-type: none"> ○ 1° priority – coastline of the shires of Augusta/Margaret River, Busselton and Capel, and of the City of Bunbury; all offshore islands; surf breaks with National surf reserve status. ○ 2o priority – LG coastlines – Shires of Harvey, Manjimup, Nannup and Waroona; Inlets – Broke, Hardy and Walpole-Nornalup; Capes – Leeuwin (Geographe), Leschenault and Preston Peninsula; surf breaks alongside iconic beaches. 			<p>Priority threats:</p> <ul style="list-style-type: none"> • Climate change; • Eutrophication caused by nutrient enrichment from range of sources, e.g. outflows from irrigation channels and sewerage; • Ocean acidification; • Changes in hydrology (either due to climate change or man-made); • Governance (lack of strategic collaborative approach to issues by stakeholders, e.g. “Integrated Coastal Zone Management” approach); • Increased population density; • Pollution of sheltered beaches; • Sea change population issues; • Storm surge and shore stabilisation; • Overfishing; • Tourism; and • Uncontrolled public access. <p>• Secondary threats include Inappropriate management of acid sulphate soils; conflict between recreational & commercial uses of near-shore waters; increasing peri urban population; introduced fish species; reduced water flow into estuaries; reduction of river flows; seaweed accumulation; shore stabilisation problems; water quality; recreational fishing; salt water intrusion of coastal wetlands; and sand mining.</p>