

Swan Region Strategy

for

Natural Resource Management

Appendix 7

Community Consultation Workshops

Eastern Hills Subregional Workshop

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Water	Waterways	Lesmurdie falls Surface water Creeks Amount of water (water resources) Streams Rivers Helena river Bailup creek Darkin river Natural drainage lines Susannah brook Gidgegannup brook Piesse brook Cooke's brook Rocky brook Jane brook Wooroloo brook Noble falls Hovea falls Waterfalls	Habitat Fish Environmental flows Streams Lakes Wetlands Dams Supports Bird life Groundwater Associated vegetation Flora and fauna Water quality Water quantity Life support	Tourism (eg Avon Descent) Decreased cost of rehabilitation Land values Dams Groundwater supplies Fishing Tourism Irrigation Aquaculture Water quality Water quantity Life support Future storage	Recreation Visual amenity Lifestyle Water supplies Recreation Relaxation Spiritual connection Swimming Social interaction around water Heritage value Water quality Water quantity Life support	Lack of government resources Private dams Climate change Climate change Quality – nutrients, salinity Steam flow, dams Quantity use change Pollution Salinity Over abstraction Inappropriate planning Poor land management Nutrient export Exotic plant species Exotic animal species Recreation Riparian degradation Sedimentation/erosion Bank degradation Lack of enforcement Poor legislation
Water	Wetlands	Soaks Wetlands Red swamp Darkin swamp	Breeding grounds Bird life Microclimate Flora and fauna Water quality Water quantity Life support	Water supply Summer grazing Tourism Water quality Water quantity Life support	Heritage values Visual amenity Water quality Water quantity Life support	Over abstraction Climate change Inappropriate use Inappropriate planning Aquaculture Weeds (exotic species) Pests (exotic species) Inappropriate fire regimes Pollution Salinity Clearing Urbanisation

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Water	Groundwater	Groundwater Springs	Water table Wetlands Flora and fauna Water quality Water quantity Life support	Bores Water quality Water quantity Life support	Lifestyle Water quality Water quantity Life support	Over abstraction Salinity Pollution Climate change Poor land management Effluent disposal Clearing Inappropriate fire regimes Urbanisation Inappropriate planning Lack of resources Inadequate controls Chemical use/storage Mining/extraction
Water	Water supplies	Lakes Lake leschenaultia Water storage Water supply Fire fighting dams Self supply Private bores Pipehead dam Water for stock Water corporation reticulated supply (public) Private rainwater tanks Irrigation Private dams Mundaring weir Grey water	Environmental flows Sustainability Recycling Water quantity Water quality	Private supply Public supply Recycling Water quantity Water quality Irrigation Domestic - household use Industry Reduced public - health costs Reduced infrastructure - costs for private supply	Health Recycling Water quantity Water quality	Climate change Pollution Poor land management Private dams Population growth Aquaculture Inappropriate water use Inappropriate planning Lack of 'full cost recovery' Inappropriate land use Salinisation Inappropriate aquifer management T.V. advocacy of water features Do It Yourself TV shows European style gardens Resistance to change
Air	Air quality		Supports life support systems Plants and animals need clean air to breathe	Savings in cost of remediation Crop production	Health of population Visual amenity Odour	Pollution Industry Transport (cars) Wood burners Bush fire management techniques Smell
Air	Micro climate		Influences temperature Local weather patterns	Water supply (rainfall and runoff) Energy savings	Perth's climate (internationally renowned) Lifestyle	As above

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Infrastructure		Hospitals Rail Industry Tourism Shopping centres Commercial Banks Youth centre Library Post office Bridges Culverts Underground fuel tanks Agriculture Fences Sporting grounds Septic disposal Dams Surface water drains Aged care Food production Roads Services/utilities Public open space Remnant bush Education facilities	Appropriately designed and constructed features reduces impact on the environment eg. Water sensitive urban design, Bundled cables Waste management	Transport Power Water Telecommunications Trade and commerce Travel Tourism eg Mundaring weir	Property size Homes Places of business Sense of place Travel Employment Lifestyle eg Mundaring weir Spirituality Access	Rural Salinity Erosion Inappropriate planning and development Lack of maintenance Acid sulphate soils Fire Water table changes Dieback/disease Urban Erosion Inappropriate planning and development Acid sulphate soils Water table changes Vandalism Litter Transport Salinity Erosion Inappropriate planning and development Acid sulphate soils Lack of maintenance Flooding Water table changes Utilities Inappropriate planning and development Salinity Lack of maintenance Acid sulphate soils Fire Water table changes Construction of drains Industry Inappropriate planning and development Salinity Erosion Commercial Inappropriate planning and development Flooding Water table changes Vandalism Inappropriate building

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Land	Range of landforms	Hills Woodlands Scarps Grassland Forested valleys Range of landforms Streams	Diversity of ecosystems per landform Uniqueness per landform Landform creates high energy streams	Tourism Range of functions eg tourism, farming, orchards and residential	Aesthetics Easily accessible	Erosion Zoning changes Increased human use – city, within region Changed human use – planned, unplanned Money – government, private and corporate Perception of landform value
Land	Geology	Soils Geology Earthquakes fault lines	Provides the soil and the range of soils Influences watertables Provides minerals Creates different levels of fertility	Provides mineral resources Determines soils type which determines land use Fertility Tourism Mining Geological structure supports red hill dump	Provides recreational opportunities eg walking, rock climbing, mountain bike riding, canoeing, prospecting Access to fossils (education)	Geology Earthquake/landslide Insurance eg tourism participation Soils Pollution – erosion, fertility Salinity Mining Clearing Agricultural practices
Land	Landuse	Range of landuses Percentage of use per purpose Forest areas Maintaining the forest Forest maintenance	Landuse Lungs of the city Supports biodiversity Forest areas Diversity of flora Indigenous fauna	Landuse Lungs of the city (health) Tourism Timber industry	Landuse Recreation Lifestyle Large amounts of good quality untouched environment Forest areas Scenery	Untouched areas eg forest areas Timber industry (wood fires) – government, corporate sector, private Urbanisation Perception by community of forest Increased recreational use Bushfire Rubbish disposal Illegal clearing Spread of disease
Land	Human use	Rural property, family, links and lifestyle Rural areas Open space (non infrastructure-use)	Gidgegannup Large block size Proximity to dense population Lack of pollution Lack of population Access Aboriginal heritage (links to land)	Mining	Country lifestyle (relaxed)	Inappropriate planing and execution of plan Inappropriate use/practices of land – agriculture, mining etc Increased population, placement, infrastructure Inappropriate access Development at all costs Human attitudes, education
Knowledge, skills networks and organisations	Human use	Local knowledge, awareness is very important Network, getting locals involved Skills, knowledge and organisations give you more knowledge Volunteers work better when funds are accessible – encouragement	Skills Protection Volunteers Repair and protect Personal development Creates awareness Strength Nothing to lose and a lot to gain Better environment all round	Skills Cost saving Volunteers Cost savin by combining volunteers and paid Personal development Creates employment Strength More money in the community to create a better place	Skills Learning and imparting knowledge Grow as people Volunteers Make friends Know neighbours Sense of belonging Involve family Personal development Information to community	Local government don't take enough notice eg volunteers stop volunteering, restricts lifestyle choices, lowers elf esteem, division of community, restricts learning, lack of power creates anger and empowerment, affects health Changing of government policies eg drop out, limits potential and self esteem, damage groups, create lack of unity, reduces availability of skills in the community, communication breakdown, high blood pressure, stress, anger, frustration Need to get rid of egos in organisations

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
		<p>Organisations can learn from those with the knowledge</p> <p>Networks encourage friendship</p> <p>Involvement has created further personal development</p> <p>Can discover hidden skills in groups</p> <p>Skills make individual people more informed and community-minded</p> <p>Individuals bring skills to groups</p> <p>Networks have more information, clout and knowledge base</p> <p>Your voice is heard if you are part of a group</p> <p>Organisations are able to access funding</p> <p>Organisation can help those who know little</p> <p>Knowledge is the lynch pin for everything else</p> <p>Volunteer local people working in local area</p> <p>Organisations have a mix of volunteers and paid which brings different ideas</p> <p>Networks provide support more than one group can solve problems possibly better</p> <p>Networks spurn more ideas</p> <p>Organisations bring everyone together</p>	<p>Locals</p> <p>Knowledge</p> <p>Personal interest</p> <p>awareness</p> <p>Close proximity</p> <p>Protection</p> <p>Power</p> <p>Identifies and</p> <p>Solves problems</p> <p>Wellbeing – health</p> <p>Creates healthy and pleasant environment</p>	<p>Locals</p> <p>Cost saving</p> <p>Learning and imparting knowledge</p> <p>Grow as people</p> <p>Volunteers</p> <p>Make friends</p> <p>Know neighbours</p> <p>Sense of belonging</p> <p>Involve family</p> <p>Personal development</p> <p>Information to community</p> <p>Refocus your own employment, goals, lifestyle</p> <p>Develops better attitude</p> <p>Power</p> <p>Long term saving – local, state and federal governments</p> <p>Awareness</p> <p>Wellbeing - health</p> <p>Medical savings</p>	<p>Refocus your own employment, goals, lifestyle</p> <p>Develops better attitude</p> <p>Strength</p> <p>Involves family groups, schools</p> <p>More pleasing environment</p> <p>Locals</p> <p>Builds community</p> <p>Power</p> <p>Teaching by example</p> <p>Access to information</p> <p>Make changes for the future generation</p> <p>Wellbeing – health</p> <p>Mental and physical improvement</p>	<p>Lack of long term funding eg drop out</p> <p>Lack of groups keeping adequate records – can affect funding</p> <p>Burn out eg drop out, no initiative, loss of skills, reduction of power, physical and mental health</p> <p>Losing local knowledge – document</p> <p>Losing support people, organisations, programs</p> <p>Lack of consultation between LGA's, Government agencies and community</p> <p>Not having same long term vision</p>

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Heritage	European heritage	Semi-rural lifestyle Convict wells Village atmosphere Quarries – historical				Ignorance Only just starting to care Missing opportunities to learn Shyness of nyungar teachers Lack of maintenance and or protection Poor legislative protection Under resourced- poor funding Lack of integration in heritage protection Guilt (an obstacle to better cross-cultural relationships) Lack of opportunities to learn about culture
Heritage	Heritage precincts	Parkerville homes (links to land) Blackboy hill (aboriginal campsite, army) Midgegooroo and kalleep munday heritage precincts Hartfield park (mamba reserve) Yagan, norn and went story Hawk valley (kadina brook catchment) Bushmeade rifle range Kadina brook greenway Bellevue farm Bellvue primary school	Protect significant areas and processes Tourism Education tools	Keeps options open for future use and benefit Links people to place – sense of belonging	Links people to place – sense of belonging education tools	Ignorance Only just starting to care Missing opportunities to learn Shyness of nyungar teachers Lack of maintenance and or protection Poor legislative protection Under resourced- poor funding Lack of integration in heritage protection Guilt (an obstacle to better cross-cultural relationships) Lack of opportunities to learn about culture
Heritage	Nyungar stories	Nyungar involvement Custodians – who speaks for this country Beeloo people (munday's group) Traditional associations Nyungar art Nyungar festivals Nyungar dance Nyungar music	Environmental education at it's best eg yagan, norn and went. Integrity in landscape (explains the landscape)	Nyungar benefit from tourism potential Protection of natural processes eg water quality management	Respect Celebration Understanding Wisdom	Ignorance Only just starting to care Missing opportunities to learn Shyness of nyungar teachers Lack of maintenance and or protection Poor legislative protection Under resourced - poor funding Lack of integration in heritage protection Guilt (an obstacle to better cross-cultural relationships) Lack of opportunities to learn about culture

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Heritage	Assets in the making	Cultural interpretation centres Nyungar interpretation centres Natural heritage interpretation centres	Awareness, interest, desire and action - environmental and heritage protection more likely Employment Awareness raising heritage protection	Tourism Education	Education Awareness raising Heritage protection	Ignorance Only just starting to care Missing opportunities to learn Shyness of nyungar teachers Lack of maintenance and or protection Poor legislative protection Under resourced - poor funding Lack of integration in heritage protection Guilt (an obstacle to better cross-cultural relationships) Lack of opportunities to learn about culture
Heritage	Nyngar caring for country	Kaleeps (homegrounds)	Supports special conservation areas and processes Healing Reconciliation	Maintains water quality, sediment/erosion control which saves cost of rehabilitation	Nyungar cultural revival Healing Reconciliation	Ignorance Only just starting to care Missing opportunities to learn Shyness of nyungar teachers Lack of maintenance and or protection Poor legislative protection Under resourced- poor funding Lack of integration in heritage protection Guilt (an obstacle to better cross-cultural relationships) Lack of opportunities to learn about culture
Heritage	Linkages of significant areas	Creeks Railway reserves Wetlands Conservation reserves Greenways Aboriginal sites (not registered) Aboriginal sites (registered) Caves Aboriginal historical associations	Integration of conservation and heritage areas Protection of important areas and processes Cost savings – in having shared vision for an area Attract visitors and keep residents Retention of living traditions and landscapes Respect for people, place and kindred spirits	Water quality benefit Cost savings – in having shared vision for an area Attract visitors and keep residents	Enhanced lifestyle Retention of living traditions and landscapes Respect for people, place and kindred spirits	Ignorance Only just starting to care Missing opportunities to learn Shyness of nyungar teachers Lack of maintenance and or protection Poor legislative protection Under resourced - poor funding Lack of integration in heritage protection Guilt (an obstacle to better cross-cultural relationships) Lack of opportunities to learn about culture

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Biodiversity	Landscape diversity	Biological connections – plateau and scarp, - water flowing, migration, energy exchanges Reserves, private vegetation, roadside vegetation Natural vegetation Stratification vertically and laterally (layering) Wetland and waterways Plantations – cultivated landscapes	Species movement foundation to diversity (matrix)	Land values Tourism Agricultural use eg orchards in valleys Business eg wineries, retreats, worm farms, B&B's	Aesthetics Recreation Heritage	Quarrying Major developments modifying landscapes Drainage Fences
Biodiversity	Genetic diversity		Maintains evolutionary processes – population dynamics	Crops- pollination		Poor revegetation techniques eg provenance
Biodiversity	Ecological diversity	Community diversity Threatened ecosystems Keystone species Focal species eg black cockatoos, balgas, quenda, Unique species – restricted distribution	Maintains life Maintains and supports life	Pollination for crops Water quality Maintenance of soil Air quality Water catchment Affects land values	Ecosystem health – human and environmental connection Heritage Inheritance Spiritual Recreation	Land clearing for: <ul style="list-style-type: none"> • agriculture • urban • utilities • indiscriminate Fragmentation Feral animals Weeds Disease Climate change Changes to fire regimes Hydrological change – water levels, quality, volume Road kills Soil erosion Recreational impacts Edge effects Nutrient losses Nutrient enrichment Wildflower picking Commercial exploitation Fauna taking Lack of awareness of human impacts Rubbish dumping Poor revegetation techniques Divergent viewpoints Divergent knowledge

Assets			Values			Threats
Asset category	Asset subclass	Asset description	Environmental value	Economic value	Social value	
Biodiversity	Species diversity	Threatened species flora	Maintains and supports life Intrinsic value Interrelationships Evolutionary connection to landform	Agricultural use Medicinal species Timber products Tourism Health	Recreational Health Education	Land clearing for: <ul style="list-style-type: none"> • agriculture • urban • utilities • indiscriminate Fragmentation Feral animals Weeds Disease Climate change Changes to fire regime Hydrological change Road kills Soil erosion Recreational impacts Edge effects Nutrient losses Nutrient enrichment Wildflower picking Commercial exploitation Fauna taking Lack of awareness of human impacts Rubbish dumping Poor revegetation techniques Divergent viewpoints Divergent knowledge

Ellenbrookman Subregional Workshop

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Waterways	Brockman river All creeks Ellen brook Marbling brook Yal yal brook Wandena creek	Supports biodiversity Provides habitat Biological filtering Nutrient cycling Intrinsic value Maintains food webs and processes Water supply for wildlife	Tourism Recreation Scientific research Fisheries Industry Real estate prices Drainage (allows development) Water supply Irrigation	Recreation Tourism Sense of place Psychological comfort Education Research/understanding Visual amenity/aesthetics Indigenous use Water supply Opportunity to experience nature Health Local temperature influences	Nutrient enrichment/animal waste Sedimentation/erosion Loss of in stream habitat Drought Loss of riparian vegetation Water diversion/flow Stock management Overuse of resources Pesticides Acid water Waterborne weeds Management – government decision making – ICM practice Poor planning Artificial drainage Flooding Funding
	Water resources	All wetlands Groundwater Groundwater supplies Farm dams Bore water Boorooloo wells	Supports biodiversity Provides habitat Source for all water assets (rainfall) Nutrient cycling Intrinsic environmental values Maintains food webs and processes	Recreation Recreation Scientific research Reduced water costs if harvested (eg rainwater) Industry Real estate prices Drainage (allows development) Water supply	Recreation Society needs water Sense of place Psychological comfort Education (eg teaches value of water) Research/understanding Visual amenity/aesthetics Indigenous use Water supply Opportunity to experience nature and interact Health	Nutrient enrichment/animal waste Drought Chemical contamination Salinity – what's present Salinisation – the process Overuse of resources Acid water
	Wetlands/lakes	Chattering lakes Wannamal lakes system Spoonbill lake Mound springs Chandala lake Needonga lake Spice brook Wootra Lennards brook	Supports biodiversity Provides habitat Biological filtering Rare and unique species Nutrient cycling Intrinsic environmental value Maintains food webs and processes	Tourism Recreation Scientific research Fisheries Industry Drainage (allows development) Water supply	Recreation Tourism Sense of place Psychological comfort Education Research/understanding Visual amenity/aesthetics Indigenous use Water supply Opportunity to experience nature Health	Lack of fire control Nutrient enrichment/animal waste Sedimentation/erosion Salinity – what's present Waterborne weeds

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Biodiversity		Ecosystem services/ ecosystem function/ whole ecosystem Remnant vegetation (including private property Melaleuca park Public open space Julimar forest Avon Valley National Park/ Walyunga National Park Public waterways Frogs Black cockatoos Echidna Water birds Western swamp tortoise Rare plants	Needed for a sustainable future Prevents extinction of species Provides habitat Biological filtering Rare and unique species Nutrient cycling Provides clean air Intrinsic environmental value Maintains food webs and processes Continuity for evolution	Scientific research Water supply New medicines and products Ecosystem services	Recreation Sense of place Psychological comfort Education Research/understanding Visual amenity/aesthetics Indigenous use	Community not valuing biodiversity Clearing and fragmentation Population pressures Urban development Infrastructure development Lack of baseline information Weeds Salinity Pests Agricultural practices Inappropriate fire regimes Nutrient enrichment Sedimentation Pollution – rubbish tips Chemicals Land use change Cats Foxes Domestic animals Poor regulation Lack of coordinated planning Lack of resources Recreation Climate change - as have no control over
Land	Land	Flood plains Landscape amenities Agricultural land Rocks / landforms Escarpment Muehea limestone Granite rocks / outcrops Public open space Gnangara mound	Medium in which everything grows Soil as a filter Supports plant life Provides habitat Rare and unique species Nutrient cycling (soil) Intrinsic environmental value Supports food webs and processes Supports forests Supplies minerals to supplement poor soils	Tourism Prevents erosion Resource extraction Potential developed land Real estate prices Source of plant life (vegies, flowers) Industry/commerce New medicines and products Drainage Provides bulk of food requirements (wheat, rice, meat)	Recreation Tourism Sense of place Psychological comfort Education Research/understanding Visual amenity/aesthetics Indigenous use Clean water supply Heritage Gardening Provides huge employment	Coastal plain Urban development Inappropriate land management practices Nutrient loss Land use change Waterlogging Rising watertable Over clearing Dandaragan plateau Inappropriate land management practices Salinity Acid sulfate soils Fire Soil compaction Management practice (eg horses) neglect Over clearing Darling range Inappropriate land management practices Acidification Salinity Accelerated soil erosion Soil compaction

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
						Land use change Management practice (eg horses) neglect Limestone Industry Urban development Acidification Soil structure decline Loss of soil biota (all living things) Chemicals Lack of enforcement/legislation
Air	Air quality	Clean air Odourless air Human health	Supports life support systems (respiration and photosynthesis) Plants and animals need clean air to breath and photosynthesize Influences temperature Affects weather patterns	Savings in cost of remediation (health) Crop production Water supply (eg rainfall and runoff) Ecosystem services (eg pollination, clean water, pest control)	Health of population Visual amenity/aesthetics Odour Lifestyle	Pollution Bush fire management regimes Transport patterns Heavy industry pollutants Dust Aircraft Smell Wood burners Management practices Removal/protection of veg
Knowledge and skills	Knowledge and skills	Local experience Local knowledge	Knowledge equals power Provides focus for action Allows implementation of best practice Allows allocation of environmental responsibility Creates appreciation of environment	Volunteers provide cost saving for natural resource management Value for money (eg best bang for buck) Corporate stewardship Scientific research Training	Lobbying power Community empowerment Capacity building Ability to justify actions Technical expertise Coordinated community involvement	Local knowledge Cultural change – recalcitrants Funding availability Resistance – irresponsible Lack of understanding of impact of behaviour Generational transfer Lack of understanding of sustainability Public liability risk Local experience Lack of capture process Funding availability Cultural change – recalcitrants Resistance – irresponsible Lack of understanding of impact of behaviour Generational transfer Lack of understanding of sustainability Public liability risk Lack of information transfer Lack of coordination Lack of training opportunities Lack of professional development

Community Consultation Workshops

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Networks and organisations	Community	Wildlife groups Progress association Arts and crafts Waff Agricultural associations Country Womens Assoc Tourism operators Tourism operators Landcare groups School community Rotary Sporting associations Cubs Scouts Industry Horticulture	Assists implementation of best practice On-ground support to community groups Technical expertise	More effective through increased community capacity Sharing of resources Identify priorities therefore most efficient use of resources	Training Capacity building Provide support to each other Increased lobby power	Burnout Funding availability Lack of support structure/leadership Two-way communication Political will Excessive bureaucracy Public liability Lack of recognition Lack of opportunities for involvement Lack of training opportunities Coordination Loss of engagement Aging population Lack of youth participation
Infrastructure	Rural Urban Industry Commercial Transport Utilities	Rail Industry Tourism Shopping centre's Commercial Bank Youth centre Library Post office Buildings Bridges culverts Underground fuel tanks Agriculture Fencing Septic disposal Revegetation Dams Drains (surface water) Rural Perennial - vineyards Food production	Appropriately designed and constructed features reduce impact on the environment (eg water sensitive urban design) Land capability Infrastructure should blend with the environment not destroy	Tourism Transport Power Water Telecommunications Trade and commerce Travel Renewable energy systems (eg wind farms) Dampier to Bunbury gas pipeline	Homes Places of business Sense of place Travel Lifestyle (eg Fremantle) Spirituality Visual amenity/aesthetics Water supply Access	Rural Salinity Erosion Inappropriate planning and development Lack of maintenance Acid sulphate soils Fire Rising watertable Pests Climate change Flooding Urban Erosion Inappropriate planning and development Acid sulphate soils Rising watertable Vandalism Litter Industry Salinity Erosion Inappropriate planning and development Commercial Inappropriate planning and development Flooding Rising water table Vandalism Transport

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
						Salinity Erosion Inappropriate planning and development Lack of maintenance Acid sulphate soils Flooding Rising watertable Utilities Salinity Inappropriate planning and development Lack of maintenance Acid sulphate soils Fire Rising watertable

Urban North Subregional Workshop

Assets			Values		Social	Threats
Category	Sub-class	Asset	Environmental	Economic		
Water	Natural streams rivers, swamps and lakes	Swan river Swamps Lakes Streams	Habitat Filtering Biodiversity – flora and fauna	Recreation Fisheries Tourism Industry Increased value of real estate Research	Recreational Psychological (comfort) Aesthetic Indigenous heritage Education Research / understanding	Fertiliser use Animal waste (domestic, industrial and rural) Air borne pollutants Clearing / development Tourism / recreation, sports, boats Too much water extraction Industry Misuse / incorrect disposal of chemicals Apathy/ lack of education - community, industry and government Contaminated stormwater run-off Climate change Exotic species Past practice Lack of legislation Economics vs politics vs environment Ecosystem disruption Fishing Salinity Water rights
Water	Modified streams and rivers	Ornamental ponds Closed drains Open drains Stormwater Scheme water	Potential habitat corridors Potential filtering	Drainage (allows development) Potential for increased real estate values	Drainage (no floods) Health Opportunity to experience nature and interact Education Research	Fertiliser use Animal waste (domestic, industrial and rural) Air born pollutants Clearing / development Tourism / recreation Too much water extraction Industry Misuse / incorrect disposal of chemicals Apathy/ lack of education (community, industry and government) Contaminated stormwater run-off Climate change Exotic species Past practice Lack of legislation Economics vs politics vs environment Ecosystem disruption

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Groundwater		Supports biodiversity	Water supply	Water supply	Fertiliser use Animal waste (domestic, industrial and rural) Air born pollutants Clearing / development Tourism / recreation Too much water extraction Industry Misuse / incorrect disposal of chemicals Apathy/ lack of education (community, industry and government) Contaminated stormwater run off Climate change Past practice Lack of legislation Economics vs politics vs environment Ecosystem disruption Salinity
Water	Rainwater	Domestic water use	Source for all water assets	Reduces water costs if harvested	Society needs water	Airborne pollutants Industry Misuse / incorrect disposal of chemicals Climate change
Water	Greywater	Greywater	Recycling can reduce pressure on other water	Potential water supply	Teaches value of water	Lack of legislation

Community Consultation Workshops

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Biodiversity	Ecosystem function	Variety of species All linked – interrelationships/ web of life Abundant biodiversity – number of species, number of diverse ecosystems Bushland Complexity and diversity of ecosystems Maintaining viable ecosystems and therefore being sustainable into the future Fringing vegetation along waterways and wetlands Potential corridors Fungi as indicators Wildflowers Indigenous plants Clean groundwater vs polluted	Biodiversity needed for a sustainable future Safety net for humans as a species Natural heritage value (ie biodiversity for biodiversity's sake) Prevent extinction of species Needed to maintain balanced systems The uniqueness of the south-west ecological systems Abundance of life – number of species Balanced systems provide clean air and water Provides habitat	Tourism Scientific research Health benefits through passive recreation in natural environments New medicines and products Natural environment as the 'lungs' of the city Ecosystem services eg clean water, pollination, pest control Community building (through the formation of community environment groups) Sense of place Australian environment as unique experience Educational resource	Tourism Scientific research Wonder of natural systems and processes eg caterpillar to butterfly Passive recreation Community building (through the formation of community environment groups) Sense of place Australian environment as unique experience Educational resource	Weeds Feral animals Fire Urban development Vandalism Pollution Bad management practices Lack of long term vision Horticulture Overuse of fertilisers Ignorance/public perception/ lack of awareness Pesticides and herbicides Unsustainable water management practices Industrial development Genetically modified organism's Climate changes Salinisation of the river Lack of funding Lack of appropriate government policies (all levels)
Biodiversity	Human interaction with biodiversity	Accessibility to nature Communicate understanding of biodiversity All bushland as educational resource Bushland as recreational resource	Needed for a sustainable future Safety net for humans as a species Natural heritage value ie (biodiversity for biodiversity's sake) Prevent extinction of species Maintaining balanced systems Uniqueness abundance of life – no. Of species Clean air and water Provides habitat Inter relations	Tourism Scientific research Health benefits through passive recreation in natural environments New medicines and products Natural environment as the 'lungs' of the city Ecosystem services eg clean water, pollination, pest control Clean water	Scientific research Wonder of natural systems and processes eg caterpillar to butterfly Passive recreation Community building (through the formation of community environment groups) Sense of place Australian environment as unique experience Educational resource Clean water - recreation benefits	Weeds Feral animals Fire Urban development

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Biodiversity	Flora and fauna	Local trees in local parklands Butterflies and insects Local trees along the river Land along the river should be for people and wildlife Riverside gardens should be local plants and bushland Most bio-diverse city in the world for reptiles eg legless lizard Local insects (supported by local plants) Frogs Local insects supporting local birds Native animals	Biodiversity needed for a sustainable future Safety net for humans as a species Natural heritage value 9ie biodiversity for biodiversity's sake) Prevent extinction of species Needed to maintain balanced systems The uniqueness of the south-west ecological systems Abundance of life – number of species Balanced systems provide clean air and water Provides habitat	Tourism Scientific research Health benefits through passive recreation in natural environments New medicines and products Natural environment as the 'lungs' of the city Ecosystem services eg clean water, pollination, pest	Tourism Scientific research Wonder of natural systems and processes eg caterpillar to butterfly Passive recreation Community building (through the formation of community environment groups) Sense of place Australian environment as unique experience Educational resource	Weeds Feral animals Fire Urban development
Biodiversity	Habitat	Trees supporting bird life Birds lead to insect control and economic sustainability Eric singleton bird sanctuary Unburnt bushland as asset All remnant bushland Space for native plants and animals	Biodiversity needed for a sustainable future Safety net for humans as a species Natural heritage value 9ie biodiversity for biodiversity's sake) Prevent extinction of species Needed to maintain balanced systems The uniqueness of the south-west ecological systems Abundance of life – number of species Balanced systems provide clean air and water Provides habitat	Tourism Scientific research Health benefits through passive recreation in natural environments New medicines and products Natural environment as the 'lungs' of the city Ecosystem services eg clean water, pollination, pest control	Tourism Scientific research Wonder of natural systems and processes eg caterpillar to butterfly Passive recreation Community building (through the formation of community environment groups) Sense of place Australian environment as unique experience Educational resource	Weeds Feral animals Fire Urban development

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Land	Landforms	Dunal systems Regional open space - eg Rebold Hill, Mt Eliza Star swamp Remnant vegetation Geophysical features Non-developed Limestone cliffs Coastal dunes Depressions, lakes and wetlands Peat deposits	Bio links – habitats Build houses Stabilise Biodiversity Stabilise coastline Habitat Biodiversity Nutrient stripping Drainage Plant life Evolutionary processes	Industry/commerce education Tourism Real estate value Tourism Businesses Asset protection (eg. stops erosion) Survival of city Mining Drainage Impact on underground assets Gardens Build houses on it but shouldn't be Market gardens	Recreation Aesthetic Potential health threat so don't develop Education Heritage	Erosion Overuse Inappropriate development (rural, urban and capability) Acid sulphate soils Climate change Water levels (increasing and decreasing) Industrial pollution Agricultural/horticultural stock Groundwater abstraction Clearing Recreational use (eg4wd, trail bikes) Illegal dumping (eg litter, car bodies) Bad/short sighted planning policy Humans
Knowledge, skills, networks and organisations	Local groups	Local community groups Bassendean Preservation groups Environment house Residents and ratepayers Lions, rotary, apex, Apace Scouts and guides Birds Australia Wildflower society Friends of groups - Koondoola, Success Hill, Inglewood Triangle, Star Swamp Claisebrook Catchment Group BICM and Bennett Brook Centre	Knowledge Commitment Implementation Appreciation and enhancement	Volunteers Cost savings for NRM	Volunteers Lobbying power	Lack of empowerment Burnout Agency planning processes (discounting community) Marginalisation Lack of publicity Coordination Resources Recognition Apathy and complacency
Knowledge, skills, networks and organisations	Information sources	Local knowledge Local chambers Knowledge of biodiversity Library	Knowledge = power Focus for action Best practice	Value for money Beat bang for the buck Efficiency Tourism	Community empowerment Ability to justify actions 'feel good' factor	Lack of access Lack of coordination (networking) Existence (lack of) Information overload Lack of documentation (especially local) Unwillingness to share (calm) intellectual property rights

Assets			Values			Threats
Category	Sub-class	Asset	Environmental	Economic	Social	
Knowledge, skills, networks and organisations	Indigenous	Culture Environmental knowledge History	Culture Environmental knowledge History	Land rights Tourism	Culture Environmental knowledge History Tourism Acceptance	Marginalisation Insufficient communication Lack of resources Conflict amongst interest groups Social disarray Lack of leadership Community intolerance
Knowledge, skills, networks and organisations	Industry	Alcoa Turf growers Nursery	Environmental responsibility Sponsorship	Triple bottom line accounting Share holder responsibility Corporate stewardship	Social conscience Cooperation	Bad management practices Lack of regulation and enforcement Lack of awareness Too many cowboys European mindset (nurseries) Totally profit driven Oligopoly
Knowledge, skills, networks and organisations	National government	Facilitators and coordinators Environment Australia Affa Green Corp Work for the dole National polities Officers	National environmental policies and strategies eg Kyoto, COAG	Funding nht2 Fiscal policy (enables protection) Capacity building volunteers	Preservation Capacity building volunteers	Change of government Policy change International agreements Lobby groups War on terror Priority change Budget restraints

Community Consultation Workshops

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Knowledge, skills, networks and organisations	State government	Botanic gardens and park authority State polities Urban bushland council Port authority SRT Govt departments WAPC State library Ministry of housing DPI Ecoplan Water Corp Doe Calm Fisheries Web www.	State environmental polices, strategies, statute, law and implementation	Funding eg SCCP	Coordinating community involvement Technical expertise	Change in government Policy change Lack of commitment Lobby groups Budget restraints Election commitment (railway) Priority of environment Fundamental lack of understanding Silo mentality
Knowledge, skills, networks and organisations	Local government	WALGA Perth Biodiversity Project Councillors EMRC Mindarie Local government. Workshops Library	Policy, participation of national and state implementation Regulation and planning	Funding – reserves \$ for \$ Sustainability In kind support	Encourage and support local groups Capacity building by volunteers	Single issue agendas (councillors) Lobby groups Short term views Recalcitrant officers Note core business Budget restraints Silo mentality Lack of resources/knowledge, devolution of responsibility, technical expertise
Knowledge, skills, networks and organisations	Education institutions	UWA ECU Uni's Tafe's (midland) John Forrest Highschool Primary schools	Knowledge/ research Training and education Appreciation of environment	Training Research	Capacity building Technical expertise Voluntary support	Lack of funding (environmental research) Lack of coordination Economic rationalism
Air	Air quality		Supports life support systems Plants and animals need clean air to breathe	Savings in cost of remediation Crop production	Health of population Visual amenity Odour	Pollution Industry Transport (cars) Wood burners Bush fire management techniques Smell
Air	Microclimate		Influences temperature Local weather patterns	Energy savings lifestyle	Water supply (rainfall and runoff) Perth's climate (internationally renowned)	As above

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Infrastructure	Rural Urban Industry Commercial Transport Utilities	Hospitals Rail Industry Tourism Shopping centres Commercial Banks Youth centre Library Post office Bridges Culverts Underground fuel tanks Agriculture Fences Sporting grounds Septic disposal Revegetation Dams Power Surface water drains Aged care Food production Roads Services/utilities Public open space Education facilities Sewerage pumping stations Hotels Golf courses Street scapes Racecourses Airports Brewery Houses Factory units Rrrc/ waste services centre SME's Zoo Churches				Rural Salinity Erosion Inappropriate planing and development Lack of maintenance Acid sulphate soils Fire Rising water table Urban Erosion Inappropriate planing and development Acid sulphate soils Rising water table Vandalism Litter Industry Salinity Erosion Inappropriate planing and development Commercial Inappropriate planing and development Flooding Rising water table Vandalism Transport Salinity Erosion Inappropriate planing and development Lack of maintenance Acid sulphate soils Flooding Rising water table Utilities Salinity Inappropriate planing and development Lack of maintenance Acid sulphate soils Fire Rising water table

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Heritage	Remnant natural resources		Habitat Genetic seed stock Pollution absorption/erosion control	Water as resource - drinking, generates energy, transport Natural environment generates economic value	Recreation - contemplation, retire Creating sense of place Understanding origins Awareness of natural environment and valuing	Development – encroachment People dying – loss of life stories, lack of records Major engineering works/technology insensitive to underlying natural features Legislation policies does not always recognise values of natural or built environment(lags behind) Lack of recognition of the economic value of natural resources Lack of recognition of the economic value of built and cultural heritage Not enough funding for research, inspection therefore value not recognised Waste disposal, pollution human impacts on the environment Lack of respect – don't value Lack of coordination Lack of recording information before change Lack of education regarding local natural environmental and history and culture Information not accessible fragmented, not catalogued Inappropriate though well-intentioned practices Economic exploitation, that is, land values too high to retain old buildings, own space or sacred site Tourism/commercialisation love to death
Heritage	Land		Some waterbodies have remained Biodiversity - migratory birds, frogs, lizards	Increases land values	Understanding of geography Improves amenity Cultural identity through Australian plants and animals and landforms and history	As above
Heritage	Western cultural manifestations	Historic shape of the city reflects rivers and waterbodies History and development of infrastructure/ drainage/ town planning	Current reflects natural Documentary evidence - understanding and therefore management Western society values heritage areas which therefore provides protection	City shape urban landforms, influenced by water elements - rivers, ocean , wetlands, groundwater, geomorphology Drainage infrastructure River for transportation (mostly recreational) Tourism	Current landuses often reflects original landforms and remanet. Documentary evidence gives understanding, sense of place - action Tourism (for locals if heritage based)	As above

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Heritage	Indigenous cultural manifestations		Sites recognised as significant gain protection Understanding of indigenous management practices, season etc	Tourism	Reconciliation between aboriginal and non aboriginal communities Indigenous culture valued and maintaining through tourism - healing Spiritual connection to the land.	As above

South East Subregional Workshop

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Water usage	Stock watering Drinking water Irrigation Bores Dams	Cooling effect Refuge for wildlife eg fish, birds Drinking water for environmental flows Supplementation of wetlands form bores	Agricultural production Public water supply – consumption use Property values Heating from hot water bores eg artesian Aquaculture	Water supply eg lifestyle Recreation eg swimming in dams, fishing Aesthetics Tourism	Climate change Overuse Salinity Increasing population
Water	Waterways	Kent St weir Bull creek Bannister creek Swan river Surface drainage Wungong and tributaries Canning river and tributaries Southern river and tributaries	Wildlife Fauna and flora Ecosystem services eg pollination, carbon exchange Corridor effect Refuge for wildlife (especially during summer)	Ecosystem services Flood prevention Riparian rights Irrigation – licensed and non-licensed Tourism Property values Employment	Tourism Recreation Education Social interaction Community empowerment and capacity building Spirituality	Artificial barriers eg dams, weirs etc Flow regulation and abstraction Nutrients Heavy metals Chemical pollutants Sediment/silt Erosion Weeds/pests (plants and feral animals) Clearing Channelisation/desnagging/ modification Urbanisation Climate change Recreational use Lack of understanding/knowledge
Water	Rainfall	Replenishable (through rainfall) rainfall	Aquifer replenishment Quality Quantity Seasonality – summer/winter flows	Quality Quantity Employment	Quality Quantity Conservation topic	Climate change Clearing Groundwater drawdown (leads to drier soils and lower local are rainfall) Photochemical smog
Water	Wetlands	Forestdale lake Constructed wetlands eg tom bateman Brixton St wetlands	Fauna and flora Ecosystem services Nutrient stripping Summer refuge Ramsar wetland (Forrestdale lake) Breeding ground eg dragonflies, frogs Habitat/refuge Links to groundwater Supports rare species	Nutrient stripping Tourism Aesthetics and property values Flood prevention Stormwater retention and treatment Wetland construction As industry employment	Aesthetics Recreation eg bird watching Spirituality Education Health benefits ie through passive recreation	Groundwater drawdown Weeds (plants and feral animals) Nutrients Heavy metals Chemical pollutants Silt/sediment Drainage/changed water regimes (in and out) Urbanisation and infilling Bushfires Climate change Recreation impacts Acid sulphate soils Inappropriate management Acid rain Lack of understanding/knowledge

Assets			Values			Threats
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Groundwater	Springs Yarradagee aquifer Leederville groundwater Superficial groundwater	Wetland values as surface expressions and supplemented through groundwater Discharge to rivers especially in summer Water quality	Potable water agricultural production – bores, irrigation Supplements dams Industrial production using groundwater Heat exchange eg swimming pool heating (challenge stadium), champion lakes?	Lifestyle eg hobby farms Potable water and rivers commission irrigation of public open space	Nutrients Bores – overuse Lack of understanding Acid sulphate soils Cross contamination of aquifers eg poor bore construction Heavy metals Urban development (quality and recharge of groundwater) Transfer of groundwater between aquifers (eg aqua vital, drinking water supplies) Salt water intrusion
Water	Catchments	Urban catchments Forested catchments	Forested catchments - water quality Forested catchments -flora and fauna Urban catchments provide flushing flows Habitat Climatic influence Ecosystem services	Ecosystem services Lower cost of water (ie minimum treatment) Logging/timber production Honey production Wildflower industry	Forested – recreation Aesthetics tourism	Clearing Dieback Mining Landfill Urbanisation Illegal dumping Bush fires/arson Weeds Climate change Recreation Fragmentation off/roads sedimentation
Air	Air quality		Supports life support systems Plants and animals need clean air to breathe	Savings in cost of remediation (eg health) Crop production	Health of population visual amenity Odour Food supply Recreation	Pollution • industry • transport (cars) • wood burners Bush fire management techniques Stock Smell Acid rain Backyard burning
Air	Microclimate		Influences temperature Local weather patterns	Water supply – rainfall, runoff Energy savings	Perth's climate – internationally renowned Lifestyle	As above

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Infrastructure	Transport Utilities Industry Commercial Rural Urban	Hospitals Rail Industry Tourism Shopping centres Commercial Banks Youth centre Library Post office Bridges Culverts Underground fuel tanks Agriculture Fences Sporting grounds Septic disposal Revegetation Dams Power Surface water drains Aged care Food production Roads Services/utilities Public open space Education facilities Sewerage pumping stations Hotels Golf courses Street scapes Racecourses Airports Brewery Houses Factory units Rrrc/ waste services centre SME's Zoo Churches	Appropriately designed and constructed features reduces impact on the environment eg. Water sensitive urban design	Transport Power Telecommunications Trade and commerce Travel Tourism Shelter Employment	Homes Places of business Sense of place Travel Lifestyle Spirituality Access Education	Transport Salinity Erosion Inappropriate planning and development Acid sulphate soils Lack of maintenance Flooding Water table changing Utilities Salinity Inappropriate planning and development Acid sulphate soils Lack of maintenance Water table changing Fire Construction of drains Industry Inappropriate planning and development Salinity Erosion Commercial Inappropriate planning and development Flooding Changing water table Vandalism Inappropriate building Rural Salinity Erosion Inappropriate planning and development Lack of maintenance Acid sulphate soils Changes to the water table Dieback/disease Urban Erosion Inappropriate planning and development Acid sulphate soils Changes to the water table Vandalism Litter

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Knowledge, skills, networks and organisations	Existing education programs	'care' programs eg ribbons of blue, Coastcare Greenstamp program Education – schools, Tafes, universities Training infrastructure Apace Skills for nature conservation Media	How best to protect the environment by raising awareness Promotes new innovations	Cost savings – cleaner production, eco-efficiency Health costs Healthy environment - increased property values	Change attitudes and values Improve health Aesthetic value - better well being	Lack of funding Lack of political will Lack of evidence that it works Irrelevant information for target audience Lack of availability and access to education information – cross cultural Inappropriate methods and exclusionary practices
Knowledge, skills, networks and organisations	Industry and public	Industry Local businesses (small/medium) General public Agriculture	Change can take place	Collapsed economy Can support local community groups – funding, corporate care days	Change can take place	Lack of awareness/ consultation/ communication/education Lack of commitment to legislation Economic downturn Loss of environmental services eg clean air, clean water Detachment from ethical responsibility Not engaging industry knowledge, intellectual capacity
Knowledge, skills, networks and organisations	Grass roots knowledge	Practical skills on the ground Local knowledge -people Cultural knowledge – indigenous	Don't know what was there before – loss of history Know how	Efficient and effective implementation	Sense of ownership Sense of place Sense of diversity Value for diversity Loss of history – brain drain	Apathy Death Lack of documented knowledge Burnout People moving away Bureaucratization Lack of funds/resourcing Competing interests/changing priorities
Knowledge, skills, networks and organisations	Government	Swan catchment centre Other state government bodies – fisheries, wry, doe, calm Legislation LGA's Environment Australia, NHT, federal government Local MLA's	Research Management Technical advice Policy development On ground support	Employment Funding	Develop networks On ground support	Political expediency, short term political gains, election regimes Budget cuts
Knowledge, skills, networks and organisations	Community action	Scientific knowledge Interaction between community groups and LGA's - networks Friends of groups CRRP Sercul/cccg Catchment groups Recreation organisations Service clubs – rotary, lions, apex, cubs and scouts, girl guides	On ground work Compensates for lack of will elsewhere – gets things done	Can access community grants Volunteer labour Fund raising	Own back yard – sense of place	Loss of funding Lack of appreciation Lack of political will Lack of public support Volunteer burnout Over reliance on community Vandalism

Community Consultation Workshops

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Knowledge, skills, networks and organisations	Multi-cultural knowledge systems	Market gardener way we live and use the landscape – past, present, future Places of worship Understanding of heritage – learning and understanding Recreational heritage eg land clearing Urbanisation – culture of progress (consumerism) Science behind beliefs Gosnells cemetery (Albany hwy)	Learning/ understanding to preserve/protect natural environments Education	Increasing productivity – the more learnt from heritage, the more productive we can be ie recycling, reusing	Sense of place and understanding Acceptance Education	Loss of knowledge – no records, passing on information Not making progressive and productive environmental change Incorrect history (inaccurate) Lack of respect Failure to accept and understand the past and manage the future Failure to educate correctly
Heritage	Structural heritage	Pioneer village, Armadale Araluen, Roleystone Canning dam Belmont and Ascot raceways Convict fence, Shelley Heritage buildings Kent St weir Riverton bridge Woodloes homestead The white house Castledare Clontarf Albany hwy – hwy one Logging trail – canning river Mason's landing Barges on the river (transportation)	Transport – trails Kent St weir – changing environment creates floodplain environmental value	Tourism Income (business) Canning dam (water supply)	Education Tourism Transport Recreation – enjoying historical areas Sense of place Cultural identity	Natural diasters eg fire and flood Acid sulphate soils Lack of knowledge and understanding (education) Lack of funding Age of structure and maintenance Vandalism People, use or misuse
Heritage	Natural heritage	Canning river regional park Forestdale lake – heritage value Brixton St wetlands – heritage listed Treasures orchard Cannington showgrounds – special wireless group ww2 Canning river Bushland remnants and threatened fauna Wireless hill (Melville)	Biodiveristy (connection) Learning from past practices and landuses (disasters) Water supply Health of flora and fauna Natural flooding (riparian zones)	Water supply – farms, people Business – canoeing Tourism Business on river eg kiosk Flooding – damage costs Property values – increase near good conservation areas, decrease near degraded sites	Recreational uses – canoeing, swimming, fishing, coffee Education Aesthetics Mental and physical health – physical exercise, relaxation	Lack of funding Land clearing eg acid sulphate soils, urbanisation, recreation Salinity Pollution eg water and air quality Social recreation (canoeing etc) Drought (lack of water flow) Fragmentation of remnant bush and lack of corridors Bushfires Weeds/pests Dams – artificial environment

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Heritage	Cultural heritage	Noongar heritage sites Afgan burial sites – crrp People – pioneers, noongar Yagan reserve, bull creek Airforce camp near whaleback golf course Industrial, urban environment	Food source Shelter/water and rivers commission tools crafted form environment	Industrialisation	Spiritual (burial sites) Identity Education Gathering – mens' and womens' business Eating, meeting	Land clearing Pollution Bushfires Increased population – urban sprawl Ignorance and intolerance (lack of education) Industrialisation Lost knowledge (not recorded, handed down) Lack of maintenance
Land	Darling range	Valleys Bushland – bush forever sites Landscape views Parks/gardens Araluen botanic park Fire? Quarries Wungong, Churchman's, Bickley, Canning and Victoria dams Granite outcrops Small farms Orchards State forests Gravel pits Salinity? Dams Darling scarp Wind/water erosion? Regional parks on river	Support different ecological systems State forest Water quality Bushland intact Wildlife	Somewhere to profit from different land use Orchards Dams Quarries Mining Logging Land values Views	Somewhere to live View Aesthetics Tourism Recreation Spiritual	Bushland degradation eg bikes, 4wd access, dieback, clearing, logging, fire regimes, weeds, foxes Mining eg poor rehabilitation, dust Urban development eg over-clearing, not aesthetic, cats, dogs, foxes Farming eg nutrient runoff, erosion, sedimentation, loss of deep pools, riparian rights, lack of water supply
Land	Coastal plain	Flood plain Urban development? Foreshore River systems Limestone Palus plain Duplex soils Wetlands eg Forrestdale, new constructed wetlands Bassendean dune system – swales, vegetation communities Sandy soils Acid sulphate soils?	Wetlands, palus plains, flood ways Dun ridges, sandy soils Banksia, melaleucas, eucalypts – supports biodiversity Constructed wetlands	Groundwater supply Riparian rights Property values Water quality Flood control, drains	Urban infrastructure Recreation Aesthetics Spiritual	Wetland degradation eg loss of bird habitat, nutrients, bulrushes, midges, clearing, weeds Vegetation clearing Development on acid sulphate soils Inappropriate land use planning – flooding Industrial waste Ground water – pollution, lowering water level Drought Climate change Loss of palus plains and dune ridges No flooding of floodplain

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Land	Soil types and landuse	Sandy soils Loamy soils Laterite soils Poultry Land use zones Drains Complex soil types Industry Bees	Influences ecological varied biodiversity	Often determines land use – industry, agriculture, acid sulphate soils, urban, environmental etc	Influences development level and intensity and management, degree of urbanisation and community	Water erosion Wind erosion Salinity Acid sulphate soils Water repellency Contaminated sites Inappropriate fertiliser use
Biodiversity	Ecosystem function	Soil organisms Soil type	Biodiversity maintenance Clean air Clean water	Clean air Clean water Tourism	Clean air Clean water Community health Education	Clearing Urbanisation Industrialisation Infrastructure Inappropriate planning Pollution Not valuing biodiversity Apathy
Biodiversity	Diversity	Ecosystem diversity Species diversity Community diversity	Species Communities Ecosystem Provenance	Pharmaceutical Land value	Appreciation Appeal Aesthetics	Fragmentation Limited knowledge Government resources diminishing Weeds Pests Political will
Biodiversity	Flora	Local provenance flora Orchids Fungi Aquatic flora Heathlands	Life support Habitat Food source	Tourism Pharmaceutical Seed bank Honey Bush foods	Education	Clearing Dieback Weeds Lack of community education Sale of biological assets Picking wildflowers Disease Pests Hydrological changes Pollution Recreation (4wd offroading) Quarantine

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Biodiversity	Fauna	Endemic fauna Terrestrial fauna Kangaroos Bandicoot Turtles Wallabies Birds Frogs Snakes Bats Terrestrial macroinvertebrates	Uniqueness Icon species Intrinsic value	Tourism	Sense of place	Pests Quarantine Recreation Feral animals Disease System imbalance Hydrological changes Infrastructure Illegal trade (poaching) Pollution Nutrients Loss of habitat (clearing) Killing/shooting
Biodiversity	Wetlands and waterways	Bannister creek ecosystem Riparian zones Foreshore areas Wetlands Southern river Forestdale lake Canning river Yule brook Aquatic fauna Aquatic macroinvertebrates Ellis brook Wungong brook Wilson wetlands Wright lake	Buffering capacity Diversity	Tourism Land value (proximity)	Sense of place Recreation Aesthetics Spiritual	Artificial drainage Filling Salinity Changing hydrology Pollution Nutrients Climate change Clearing Weeds Pests/ ferals Inappropriate planning Urbanisation
Biodiversity	Woodlands	Marri woodlands Banksia woodlands	Habitat Water balance	Tourism Fire wood? Wood (craft)	Sense of place Recreation Spiritual Education	Dieback Infrastructure Logging Urbanisation Firewood collection Inappropriate planning Recreation Not valuing Inappropriate fire regimes Limited knowledge Lack of resource and funding Hydrology changes

Community Consultation Workshops

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Heritage	People	Non-indigenous people Indigenous community	Indigenous land management	Medicinal Cultural Tourism Education	Spiritual Land management Education	Fear of nature Lack of funding Education Limited knowledge Urban expansion Stress Loss of sense of place Loss of spirituality Lack of tolerance and understanding of culture
Heritage	Appropriate landuse	Bungendore park Reserves Land use Gardens Crown lands Canning river regional park Darling range regional park Bush forever sites	Reduced costs of remediation Ecosystem health Biodiversity protection	Reduced costs of remediation Tourism Increased rate base	Reduced costs of remediation Aesthetics Sense of place	Greed Access to funds Litigation Lack of commitment by LGA's Perception of bush as non-renewable resource Inappropriate short-term planning Short political horizons Political expediency

Coastal Plain Subregional Workshop

Assets		Values			Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Groundwater system	Groundwater flow Groundwater quality Groundwater levels Drinking water (Gnangara mound)	Maintains wetlands and caves Gnangara mound water flows to ocean High quality water Diversity of wildlife and natural bush supported by water	Horticulture drinking water supply Tourism 70% of Perth's water supply Cost to fix wetlands Water supply allows development Drinking water supply Industrial water supply	Good quality of life Passive recreation Spiritual Research Education	Over abstraction of groundwater Development Inappropriate planning Drainage design Climate change Industrial pollution Inappropriate management of landuse activities Nutrients Population growth Heavy metals Activated acid sulphate soils Salinity Lack of education Lack of resources Unrealistic expectations - state and commonwealth Wasteful water use Poor communication between stakeholders Lack of water management planning (big picture planning) Lack of integrated catchment management plan for north coastal region Over abstraction of groundwater
Water	Water bodies	Artificial lakes Wetlands Lakes Wetland systems	Supports biodiversity Natural filter system Supports migratory birds Part of original landscape Critical part of water cycle Fire fighting Linkage to swan coastal plain wetlands Caves Provides habitat Intrinsic value	Aesthetic value - land prices Tourism Research Agriculture Horticulture	Critical for fire fighting	Development Inappropriate planning Drainage design Climate change Industrial pollution Inappropriate management of landuse activities Nutrients Population growth Heavy metals Activated acid sulphate soils Salinity Lack of education Lack of resources Unrealistic expectations - state and commonwealth Wasteful water use Poor communication between stakeholders Lack of water management planning (big picture planning) Lack of integrated catchment management plan for north coastal region

Assets			Values			Threats
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Surface water system	Created wetlands Stormwater drainage (outfalls) Stormwater runoff	Flood control Habitat			Over abstraction of groundwater Development Inappropriate planning Drainage design Climate change Industrial pollution Inappropriate management of landuse activities Nutrients Population growth Heavy metals Activated acid sulphate soils Salinity Lack of education Lack of resources Unrealistic expectations - state and commonwealth Wasteful water use Poor communication between stakeholders Lack of water management planning (big picture planning) Lack of integrated catchment management plan for north coastal region
Water	Recycled water	Aquifer recharge Greywater reuse Wastewater treatment	Water table maintenance	Maintains horticulture Maintains adequate water allocations Tradeable	Drinking water supply maintained Gardens Created wetlands	Nutrients Heavy metals Lack of education Lack of resources Unrealistic expectations - state and commonwealth Wasteful water use Poor communication between stakeholders Lack of water management planning (big picture planning)
Water	Available water resources	Good water quality Rainfall	Maintains wetland levels Supports all life Maintains groundwater levels and ecosystems Cave ecosystems	Horticulture Irrigation Recreation eg irrigated turf Nurseries Market gardens Pine plantations - timber	Supports all life Recreation eg boating, sporting fields, gardens. Aesthetics Landscaping Gardens Household use	Over abstraction of groundwater Development Inappropriate planning Climate change Inappropriate management of landuse activities Population growth Lack of education Lack of resources Unrealistic expectations - state and commonwealth Wasteful water use Poor communication between stakeholders Lack of water management planning (big picture planning) Lack of integrated catchment management plan for north coastal region

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Water	Coast	Coastline Ocean Coastal vegetation	Intrinsic value Groundwater outfall Dynamic balance	Fisheries Port Marinas Real estate	Recreation Real estate	Over abstraction of groundwater Development Inappropriate planning Climate change Industrial pollution Marine oil spills Inappropriate management of landuse activities Nutrients Population growth Coastal erosion Coastal protection structures Heavy metals Lack of education Lack of resources Unrealistic expectations - state and commonwealth Poor communication between stakeholders Lack of water management planning (big picture planning)
Land	Natural and geological features	Variety of landforms Lakes Coastlines, sand dunes Swampland Water permeability Soils Retain natural features Water features Landforms elevation Level of water table Links to biodiversity Geology asset Gnangara mound Tourism eg coastal strip Appearance Space Ecotourism Water resource	Basis of features eg rock, soils vegetation, water table, permeability Biodiversity Internationally significant bicuspate dunal system Water resource	Mineral resources Harbours and breakwaters Ecotourism/ tourism Leisure dollars Lifestyle dollars Traditional uses Wineries Water resources	Mineral sands/ reduction in lead paints Lifestyle Aesthetics Sense of place Built natural environment	Urban development and infrastructure - over clearing, clear felling, poor planning, appearance Over population - appearance Socio-lifestyle - overcrowding Fire in bushland - poor management, policy not to fight fires Lowering of water table - permeability, contaminated drainage, salt water wedge, over pumping through domestic bores Filling in of wetlands Industry - runoff/discharge, industrial wastes, hazardous waste, domestic waste Bushland degradation - weed and seeds, street runoff, excess fertiliser, litter, herbicides/pesticides, baits Bushland land value- not valued, low priority, fragmented, lack of connected corridors, poor education, appearance Tourism - poorly managed, potential for uncontrolled growth, poor education Interconnectedness between umbrella groups and planning.

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Land	Geographical and landuse	Lifestyle Land claims Links between SCC, coastal groups, MRS Interconnectedness between planning groups Land titles Planning for landuse Waste management >60,000yrs ago earlier people	Conservation zones Space Waste management	Drainage contamination Planning for landuse Land claims and land titles Space Waste management	Contaminated lands Planning for landuse Land claims and land titles Space Waste management Values of networks	Urban development and infrastructure - over clearing, clear felling, poor planning, appearance Over population - appearance Socio-lifestyle - overcrowding Lowering of water table - permeability, contaminated drainage, salt water wedge, over pumping through domestic bores Filling in of wetlands Industry - runoff/discharge, industrial wastes, hazardous waste, domestic waste Bushland degradation - weed and seeds, street runoff, excess fertiliser, litter, herbicides/pesticides, baits Bushland land value- not valued, low priority, fragmented, lack of connected corridors, poor education, appearance Tourism - poorly managed, potential for uncontrolled growth, poor education Interconnectedness between umbrella groups and planning.
Land	Flora and fauna	Fire management Fragmented bushland Bushland not valued Loss of bushland from fire Features eg trees, animals Drainage contamination - urban Bush low priority Not fight fire' policies Degradation eg weeds, runoff, excess fertiliser	Biodiversity Fire management and fire fighting Unique Degradation eg weeds and runoff	Ecotourism / tourism Bush medicines Essences Fire management and fire fighting Degradation	Aesthetics Lifestyle Public accessibility Fire management and fire fighting Unique Valued - not enough at present	Urban development and infrastructure - over clearing, clear felling, poor planning, appearance Over population - appearance Socio-lifestyle - overcrowding Fire in bushland - poor management, policy not to fight fires Lowering of water table - permeability, contaminated drainage, salt water wedge, over pumping through domestic bores Filling in of wetlands Industry - runoff/discharge, industrial wastes, hazardous waste, domestic waste Bushland degradation - weed and seeds, street runoff, excess fertiliser, litter, herbicides/pesticides, baits Bushland land value- not valued, low priority, fragmented, lack of connected corridors, poor education, appearance Tourism - poorly managed, potential for uncontrolled growth, poor education Interconnectedness between umbrella groups and planning.

Assets			Values			Threats	
Category	Sub-class	Asset	Environmental	Economic	Social		
Biodiversity	Intact biodiversity systems	Everything is interconnected of the system Self-sustaining system Genetic material Species variety Ecosystems	Hotspot on a world scale Buffers climate changes Habitat Unique species and communities Natural balance Buffers other environmental changes Maintains the web of life Irreplaceable Plant species and communities Allows monitoring of human impacts Ecological functions Seed for restoration Ecosystem services Economy relies on environment	Pest control (and weeds) Protection of property (coastline) Easier/cheaper to maintain than lawns and parks More waterwise than reticulated lawns Fisheries Commercial fishing Allows monitoring of human impacts Clean water (fresh and marine) Employment Midge and mosquito control Honey bees Ecosystem functions Recreation Genetic material for horticulture Waste disposal Genetic material for medicine Flower harvesting Eco-tourism Recreation Tree harvesting Seed for restoration Firewood Photography/art/craft Scientific research Clean air Protects our lifestyle Ecosystem services Economy relies of environment	Recreational fishing Spiritualism Very important to residents Aesthetics Native based studies Recreation Sense of place Inspiration Sense of connection Quality of life Photography/art/craft Education resource Its ours Scientific research Clean air Protects our lifestyle Ecosystem services	Lack of funding Lack of awareness public Lack of awareness land managers Fragmentation Dumping Firewood cutting Enrichment of planting Groundwater extraction Climate change Lack of understanding/knowledge Lack of appreciation Sustainable sized reserves are needed Loss of connection to the environment Humans Lack of strategic planning and management with knowledge/skills Lack of professional staff (on-ground management) Groundwater drawdown Stock (live) Feral animals Domestic pets Garden dumping Use of unprovenced seed/plants Removal of plants (firewood etc) Urban sprawl Unregulated development Dog excreta Salinisation Sand dune blowouts eg sandboarding High fire frequency / intensity	

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Biodiversity	Representative examples of ecological communities	Urban bushland Caves Marine Coastal Wetlands	As above	As above	As above	Reticulation Service corridors Uncontrolled access Weeds Ignorance Lack of funding for bushland maintenance Eutrophication Stormwater drains/sumps (weeds, road runoff) Loss of habitat - destruction, clearing Over population Pollution - marine Pollution - freshwater Pollution - air Pollution - soil Pollution - surface and groundwater Pollution - rain Flower picking Dope production - bushland Excessive seed collection Anti-social behaviour Disease/dieback Chemical spills Lack of community volunteer's Lack of resources Lack of accessible training Lack of importance for environmental education in school curriculum
Knowledge, skills, networks and organisations	Education	Learning precinct Curtin uni Local government community schools network Educators greening WA	Knowledge and prevention Inspiration	Research Use of students Employment opportunities Change of behaviour - cost benefit of.	Planning future Community empowerment Connection - intergenerational Credibility	Process of globalisation - ignoring environment Conflict of priorities conserving environment Intellectual property rights - loss of sharing Lack of communication Red tape Politics Lack of funding Apathy
Knowledge, skills, networks and organisations	Local government	Local government councillors Mindarie regional council Local government environment staff	Leadership Experts	Hold purse strings	Political connection to community	Big business practices Conflict of priorities - conserving environment Intellectual property rights - loss of sharing Lack of communication Lack of support Red tape Politics Lack of funding Lack of consistency - lack of legislative support Discrediting what is not in the political agenda - not giving credence

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Knowledge, skills, networks and organisations	State government	Water and rivers commission Swan river trust Calm Weeds action network Ecoplan Walga Perth biodiversity project Bush forever	Provide direction Coordinate national programs Provide research and advice Address state environment issues eg locust plagues	Define funding priorities Provide funding opportunities	Provide legislation Funding sources that otherwise wouldn't occur Communication vehicle	Conflict of priorities - conserving environment Intellectual property rights - loss of sharing Lack of communication Red tape Politics Lack of funding Lack of consistency - lack of legislative support
Knowledge, skills, networks and organisations	Global / national	Internet – global Greenpeace CSIRO NHT funding bodies Landcare	Research and communication on issues eg global warming issue Coordinate national and international programs Dictate priorities Benchmarking best management practices	Funding Dictate priorities	Lobbying Political will Global community connectedness	Process of globalisation ignoring environment Big business practices Conflict of priorities - conserving environment Intellectual property rights - loss of sharing Different priorities in different countries Lack of funding
Knowledge, skills, networks and organisations	Local	Yellagonga catchment group Local books and resources Environmental consultants Local business Marmion marine park Local radio station Community of friends groups, network Conservation advisory committees Environmental advisory committees Regional newsletter "our bushland"	Understand local knowledge, practical, historical 'doers'	Funding Free expert advice Doers' - volunteers Provides employment and business opportunities Public relations - encourages others to join Increases property values	Education Provides and environment that provides a sense of safety Sense of purpose Sense of community cohesion Creating a sense of pride Aesthetics	Lack of communication Knowledge of what is out there Who is responsible for what - fragmentation Burnout Lack of support Lack of consistent message Red tape Politics Lack of funding Apathy Discrediting what's not in the political agenda - not giving credence

Community Consultation Workshops

Assets			Values			Threats
Category	Sub-class	Asset	Environmental	Economic	Social	
Cultural heritage	Indigenous	Aboriginal significance (yellagonga) Aboriginal sites Aboriginal walk trail Freshwater spring and hillarys Orchestra shell cave Bicentennial trail Aboriginal significance (moora) Aboriginal grave (lake goolelal)	Sustainable management Good custodians Water source protection	Sustainable Tourism Sustainable management	Sense of identity Understanding spirituality Sustainable management	Development Fire Storms Population size Land clearing Tolerance Inappropriate policy Lack of funding Apathy Lack of information and knowledge Fertiliser regimes Inappropriate planning Weeds Pests Disease Pollution Recreation Unrestricted access to natural areas Poor implementation Political processes Lack of political will

Assets			Values		Threats	
Category	Sub-class	Asset	Environmental	Economic	Social	
Cultural heritage	Non indigenous	Caves Wanneroo showgrounds Heritage trail Cockman house Perrys paddock Buckingham house Gloucester house Education institutions Poultry farm Road board office Lime kilns 10th light horse training area Gnangara pine plantation European heritage (sites) Wineries North - south stock route Italian horticultural heritage Whaling station European history (industry) Crayfishing Recreational fishing Wanneroo raceway Nanovich trotting track Hillary's harbour Heritage trees Cemeteries (pinnaroo) Historic churches War memorial Public facilities Historic local government (100yr) Historic schools	Protection through formation of national parks, technology, policy and strategies, networks and organisations Quantity and quality of bushland	Recreation Tourism Horticulture Poultry Water supply (Gnangara mound) Market accessibility Quantity and quality of bushland	Sense of place Urban development Education Quantity and quality of bushland	Development Fire Storms Population size Land clearing Decomposition (old age) Salinity Tolerance Inappropriate policy Lack of funding Apathy Lack of information and knowledge Fertiliser regimes Inappropriate planning Weeds Pests Disease Pollution Recreation Unrestricted access to natural areas Poor implementation Political processes Lack of political will

Assets			Values			Threats
Category	Sub-class	Asset	Environmental	Economic	Social	
Cultural heritage	Coastal marine	Dutch landing site Coastal wrecks	Marine reserves (marion) Unpolluted water Clean beaches Sea grass beds	Crayfishing industry Tourism (whale watching, dive charters) Commercial fisheries	Recreational fishing Boating Clean beaches	Development Fire Storms Population size Land clearing Decomposition (old age) Salinity Tolerance Inappropriate policy Lack of funding Apathy Lack of information and knowledge Fertiliser regimes Inappropriate planning Weeds Pests Disease Pollution Recreation Unrestricted access to natural areas Poor implementation Political processes Lack of political will
Cultural heritage	Natural environment	Natural environment Caves Yanchep national park Neerabup national park	Flora Fauna Ecosystem function Habitat	Tourism Recreation Industry Seed collection Pharmaceutical potential	Sense of place Recreation Education Intrinsic values	Development Fire Storms Population size Land clearing Salinity Tolerance Inappropriate policy Lack of funding Apathy Lack of information and knowledge Fertiliser regimes Inappropriate planning Weeds Pests Disease Pollution Recreation Unrestricted access to natural areas Poor implementation Political processes Lack of political will

Assets			Values			Threats
Category	Sub-class	Asset	Environmental	Economic	Social	
Air	Air quality		Supports life support systems Plants and animals need clean air to breathe	Savings in the cost of remediation (eg health) Crop production	Health of population Visual amenity No odour	Industry pollution Transport pollution Wood burner pollution Bush fire management techniques Stock Acid rain
Air	Climate / weather		Influence temperature and local weather patterns	Water supply - rainfall, runoff Energy savings	Perth's climate internationally renowned Lifestyle	Backyard burnoffs Loss of vegetation Pollution of oceans - algae
Infrastructure	Infrastructure	Rail Bridges Culverts Roads Surface water drains Services/utilities Power Education facilities Hospitals	Appropriately designed and constructed features reduces the impact on the environment eg water sensitive urban design	Transport Power Water Telecommunication Trade and commerce Travel Tourism	Homes Places of business Sense of place Travel Lifestyle Spirituality Access	Salinity Erosion Inappropriate planning and development Fire Lack of maintenance Changes to the water table Acid sulphate soils Dieback/disease Litter

Coastal and Marine Subregional Workshop

Assets			Values			Threats
Category	Subclass	Asset	Environmental	Economic	Social	
Coastal and marine	Coastal vegetation		Areas still vegetated; some areas unique (eg. Port Kennedy, <i>m. Lanceolata</i> and <i>callitris</i> stands, tuart woodland); heath and scrub vegetation; diverse habitat; landscape values; many plants only recorded for dunal systems (eg. <i>Acrotriche cordata</i> ; <i>scaevola crassifolia</i>); providing linear genetic continuity along dunal communities	Protection of dunes and subsequently infrastructure; tourism opportunities	Photography; education through caring for the coast; community dune rehabilitation; provides urban wilderness experience; natural context for Perth beaches	Fire Weeds; Clearing; Sandboarding/4wd; Ecosystem degradation; Dune form degradation; Loss of coastal wetlands; Lack of resources; Lack of genetic provenance; Mulch and garden refuse dumping; Inappropriate species selection for planting; fragmentation of dune systems; Lack of conservation reserves; Lack of biodiversity planning; Feral animals
Coastal and marine	Islands		Seabird breeding; Rottnest island wetlands; garden island; diversity of terrestrial fauna (unique reptiles, amphibians, tammar wallabies, quokkas); woodlands	Rottnest island tourism; recreational scuba diving industry	Feeling of remoteness and on holiday (Rottnest); close proximity to mainland;	Lack of resources; Fire; Coastal erosion; Soil and plant disease; Introduced weeds and pests; Unnatural increases in animal populations (eg. Quokkas - Rottnest; snakes - Carnac is); uncontrolled access
Coastal and marine	Coastal processes and forms		Variety of beach types and forms (sandy beaches, tamala limestone outcrops, safety bay sands, dunes, sheltered bays, exposed coastline, rocky coves, headlands, caves in cliffs, tunnels, scarps); areas of pristine beach, dunes and foredune in many areas; beach geomorphology is unique – driven by surge rather than wave energy; ‘untouched’ coastline in some parts; geology; one of the few cusped formations left in the world; fragile; accretion/erosion cycles; associated flora/fauna with geology; sand dune processes; dynamic nature; sand production and movement; winter storms	Highly protected coastline; clean; community dune restoration; protects the hinterlands from extremes of climate; healthy dunes buffer storms and sea level rise	Wave conditions for surfing; extensive sandy beaches; variety of beach types and conditions from protected waters to surfing beaches; popularity of beaches; pristine white beach sands; clean beaches close to home; beaches dedicated to horses and dogs; good swimming beaches; offers variety of recreation opportunities; community dune restoration	Lack of formalised access in places; Clearing of coastal vegetation for development; dredging for shell sands (success bank), marinas and groynes; Coastal erosion; Sandboarding and 4wding

Assets			Values			Threats
Category	Subclass	Asset	Environmental	Economic	Social	
Coastal and marine	Birds and coastal fauna		Seabirds; breeding areas for seabirds; migratory birds cama/jamba; coastal fauna; nesting sites for birds; free undisturbed passage for migratory birds; displaced populations of birds on islands from mainland	Penguin island nature reserve, tourist facility	Bird watching	Lack of resources; dogs disturbing wildlife; loss of coastal wetlands; development in coastal zone displacing bird populations
Coastal and marine	Mixed use of Perth coastline		Pristine areas; variety of habitats: reefs, beaches, dunes, marine, terrestrial, flora, fauna, Becher wetlands (Port Kennedy); minimal pollution; marine parks for conservation; little man intervention; foredune preservation (with restricted public access) in highly developed area; good condition of our marine environment; resilience to range of uses; unpolluted; ecological function (eg. Nutrient cycling); system as a whole	High real estate values adjacent to coast; restaurants overlooking the ocean; beach cafes; industry; parking facilities; tourism and hospitality and ecotourism; transport; fishing; community dune restoration; industrial water supply; safe harbours; entertainment; port trade; defence related activity; boat building; employment through coastal & marine management; disposal of sewerage and stormwater; biotechnology	Limited high rise buildings; beach café culture; wilderness experience in some areas; scenery/sightseeing; spiritual values; recreation (kite surfing, canoeing, surfing, beach volleyball, diving, sailing, watching waves, walking, jogging, photography, snorkelling, picnics, windsurfing, not jetskiing, boating, fresh air, swimming); aesthetic values; plenty of places to relax and explore; good facilities close beaches; dual use pathways parallel to coast; most people are attracted to the coast; most WA people experience the coast here; part of our lifestyle; public ownership; dog and horse beaches; surf life saving; access to boat ramps and mooring facilities; viewing harbour activities; one of the least developed coastlines in the world; low population; place for stress relief; escape from the city; easily accessible; important for family and community; educational opportunities; research opportunities; inspiration for novelists/artists; access to shallow wrecks; beaches are free (no cost); most of the coastline	Development; Concentrated pressures; Substantial modification of beaches; Highest population pressures in the state; Close proximity to city; Population growth; Industrial discharge; Oil spills (potential); Artificial constructions may only supply a portion of people's needs; Poor planning; Foreshore development; Poor management will have future economic costs; inadequate conservation areas; Lack of resources for conservation; Lack of active management; Canal development; Number of recreational boating activities; Rapid urban expansion in northern suburbs

Assets			Values			Threats
Category	Subclass	Asset	Environmental	Economic	Social	
Coastal and marine	Reef systems		Coral species, support diverse species, create shallow lagoons supporting seagrasses, covers large sections of our coast, nearshore intertidal reefs, offshore reefs; habitat for diverse invertebrate & invertebrate communities; Rottnest island reefs host unique & diverse fish & invertebrate communities, including tropical corals.	Create a barrier effect to the mainland; habitat for key commercial & recreational fishery species, including lobster, abalone, demersal finfish & sharks; reefs at Rottnest island known spawning site for pilchards; recreational scuba diving industry	Close proximity, ease of access for snorkelling; recreational fishing;	Coastal development (eg. Marinas, surf reefs); nutrients and algal growth (eutrophication) point source; Nutrients and algal growth (eutrophication) diffuse source; Sediment loads (turbidity); Sediment loads (smothering and scouring); stormwater discharge; Sewage flow; Residential septic tanks; Extraction of flora/fauna; trampling; Anchoring, fishing lines; Dropping of cray pots; extraction of coral as momentos/aquarium trade
Coastal and marine	Fish biodiversity		Diversity; overlap of temperate and tropical species; baitfish represent an important dietary component for many larger predatory species including fish, cetaceans & birds; demersal finfish (mainly dhufish & pink snapper);	Commercial fishing, aquaculture, sharks commercial (mainly dusky and whiskery); baitfish commercial (mainly pilchards, whitebait, scaly mackerel & blue sprat); nearshore coastal finfish commercial (mainly western sand whiting, western school whiting, king george whiting, sea garfish, mackerel, australian herring, tailor, yellow-eye mullet & sea mullet); demersal finfish commercial fishing	Recreational fishing (nearshore coastal finfish and demersal finfish); recreational diving and snorkelling;	Commercial fishing; Recreational fishing; Pollution; aquaculture; Habitat loss/degradation; Climate change
Coastal and marine	Seagrass habitats		Diversity; habitat for diverse invertebrate & invertebrate communities; major seagrass habitats located in Cockburn sound; benthic primary producer habitat; intertidal and subtidal macroalgal habitats; primary food source at base of food web; shelter and nursery; sediment stabiliser against erosion; biodiversity	Key habitat for commercial & recreational fishery species; especially important as nursery area for juvenile finfish, lobsters & crabs;		Coastal construction (breakwaters, shipping channels, marinas, surf reefs); Nutrients and algal growth (eutrophication) point source (eg. Outfalls); Nutrients and algal growth (eutrophication) diffuse source (eg. Groundwater); Structural damage from: anchoring and mooring, propeller scour, trampling, fishing lines and cray pots; Sediment loads: turbidity from dredging and rivers; sediment loads: smothering from riverine and dredge related sediment

Assets			Values			Threats
Category	Subclass	Asset	Environmental	Economic	Social	
Coastal and marine	Marine fauna		Diversity, weedy seadragons right on our doorstep, marine invertebrates (rock lobsters, etc), migratory fauna (eg. Whales); roe's abalone; blue swimmer crabs; benthic fauna	Rock lobster industry; aquaculture; recreational scuba diving industry	Recreational collection of rock lobsters, abalone	Human disturbance from: boat collisions/noise, recreational activities (eg. Wildlife watching, illegal feeding); entrapment: lobster pots and nets, fishing lines and ropes, bait bands, litter; contaminants: oil spills, pollutants, pathogens; competition for marine resources (food and habitat), commercial and recreational fishing, resumption of habitat (development pressure), by-catch, degradation of critical habitats (eg. Aquaculture, marine pests)
Coastal and marine	Environmental water quality		Good water quality overall; clarity of water to sustain ecosystem processes (eg. Seagrass photosynthesis); ecosystem health (eg biodiversity, biomass and abundance of biota) and function (e.g. Food chains and nutrient cycles).	Industrial water supply; fishing and aquaculture;	Colour of the water, good water quality, clarity of the water; recreation and aesthetics (safe swimming/diving/boating, etc); aesthetic value of water-based activities (beauty, enjoyment, etc)	Nutrient inputs (sewage from vessels, septic tanks via groundwater, swan-canning & peel-harvey discharge aquaculture, industrial outfalls and groundwater, urban stormwater, wastewater outfalls, enclosed marinas); Toxic inputs (boat fuels and oils, hull anti-fouling (tbt), swan-canning & peel-harvey rivers (pesticides), urban stormwater runoff, oil spills, wastewater outfalls, enclosed marinas); Pathogens (sewage from vessels, stormwater, septic tanks via groundwater, wastewater outfalls, enclosed marinas); Litter (commercial and recreational fishing, stormwater, recreational use); Introduced marine pests (bulls, ballast water); Turbidity (riverine suspended sediment loads, riverine tannins, riverine phytoplankton and zooplankton)
Coastal and marine	Climate dynamics and currents		Leeuwin current provides for unique tropical species (corals, algae's, seagrasses and fishes), influence of temperate and tropical currents on marine flora/fauna, unique Rottneest island features as a result of Leeuwin current; sea breeze; winds dispense the pollution; healthy dunes buffer sea level rise; nearshore countercurrents	Tourism to look at corals	Warm Leeuwin current influences our climate (??); Sea breeze (fremantle doctor); climate for outdoor coastal activities; coast cooler in summer than suburbs	Climate change and sea level rise;