SUMMARY OF PUBLIC SUBMISSIONS TO THE STATE SUSTAINABILITY STRATEGY

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(Please note: quotes from submissions are indicated by italics)

NATURAL RESOURCES

Sustainable Agriculture (including Agroforestry)

Ellen Brook Integrated Catchment Group 200203498	• Farmers and pastoralists must be encouraged to adopt more sustainable methods through developing secure long-term markets	• Improve land management through promotion of technological advances in information systems to encourage that adoption of precision farming practices
K.G. and I.C Johnson 200203898	• The issue that solving problems of unsustainability requires the problems to be linked to social organisations willing to do something to correct them. In the case of Landcare programs there is a challenge to organise and mobilise volunteers willing to contribute to bushland care in a way that is scientifically and agronomically justified. • Need to locate and organise urban and rural people able and willing to assist with bushland care.	• Sustainability Coordinator positions for each project could: identify and recruit volunteers and other labour sources; liase with owners or managers of the problem area; arrange to get access for volunteers onto the site; provide necessary equipment; arrange for qualified people to supervise tasks. • Insurance could be provided on a state-wide basis for people who are unpaid for their work which is in the public interest, though it must be adequate for claims against personal or property damage and to care for workers in the event of an accident
John McBain 200204124	• Viticulture in the Margaret River region is a predominant economic activity, however, some industry practices fail to meet best practice standards. For example the construction of many large dams to meet expanding industry demand has reduced natural waterflows that are an essential component of land and ocean ecosystems; the use and misuse of agricultural chemicals killing marron and frogs. • There is an imperative to enhance the existing perception of 'clean and green' produce to ensure the viticulture industry is sustainable and profitable. The image of clean and green agriculture would assist the viability of the industry in the face of future oversupply of grapes into the local, state and national markets • Viticulture has many significant social and economic benefits for the region and will continue to be a cornerstone for the region's development	• Establishment of a government funded Sustainability Department in the Margaret River Centre for Wine Excellence or as a separate institution. It could be partly located in a South West timber town where funds are allocated in the state budget for those communities. Such a Department should: 1. Be practically based (e.g. Viticultural section on an existing organic vineyard) 2. Use existing facilities where feasible (e.g. the use of school computers at Margaret River Senior High School where the Centre is proposed to be based) 3. Be economically viable through: the production of wine; intellectual property serving as a basis for consultancy; media documentaries

Alex Growden 200204544	• Discourage continuous cropping to reduce the impact on land. Encourage crop rotation through wheat and sheep farming and use less chemicals against weeds • Plant more trees	• Reward farmers who build contour banks and dams to catch excess water on their properties • Government Inspectors or Officials should be employed to encourage farmers to be more accountable for sustaining land
K.D Walsh 200204451	• Production of food for our consumption and export is dependent on careful management of soil resources • Best Practice examples in agriculture include: Agro-forestry (though more research is required to assess impacts on soil and water supplies and issues in transport and harvesting); Organic vineyards, herb farms, fruit and vegetable producers; Biodymamic beef production; biological pest control; chemical and antibiotic free chickens and eggs	• Currently there are opportunities to pursue sustainable agricultural activities such as organic and biodynamic horticulture and agriculture. These sustainable means of production are viable and increasingly in demand both in Australian and International markets
Kim Reid 200204452	• Currently the heavy use of herbicide, fungicide and pesticide chemicals in the establishment of new vineyards presents a barrier to sustainability. The large amount of chemical use is affecting water quality and inadequate cleaning and calibration techniques are resulting in some of the toxins entering the waterways. • Examples of better farm management techniques include physical (hoeing and mulching) and biological (guinea fowl to control insects, increasing predatory insect populations) control methods are more sustainable	• AgWA should conduct farm visits to educate farmers on more efficient means of controlling pests, weeds and diseases • Farmers should work in their community to share ideas on better management techniques • A service should be provided for farmers to dispose of their left over and unidentifiable farm chemicals. • If an annual collection of chemicals was held, up to date advise of chemical use could be provided in conjunction.
Brian Bucktin 200204123	• Growing non-toxic cannabis be allowed, with supervision. Cotton product5ion should be vigorously discouraged	• The Sustainability Policy Unit should: 1. Recommend the phasing out of unsustainable agricultural methods with a movement towards sustainable organically based food production. Organic food production is comparatively labour intensive, which results in more jobs. 2. Widely disseminate the need and wisdom of paying more for 'clean green' food. Food that benefits public health reduces public health costs in the future

Stuart Hawkins 200204122	• Previously the management of nutrients has been addressed though community education. This has failed as indicated though reduced water quality and increases in incidences of toxic alga, midge and mosquito plagues are detected	• A licensing procedure to effectively regulate fertilizer applications within the catchments should be introduced
Men of Trees 200204767	• Farmers should realise that feeding sprouted grain to sheep and cattle yields three times the nutritional value than dry grain • Floating partly filled water bottles on a dam reduces surface evaporation	• Place an immediate ban on further land clearing for broad acre farming. Subsidise farmers for loss of income where necessary • Introduce a 'burning tax' on any further land clearing to encourage the shredding of cleared vegetation to return it to the soil as humus
Jodi Ogilvie 20025061	• Agricultural land rehabilitation deserves more attention	• There is a need to increase the role of environmental organisations in land rehabilitation • Incentives should be provided for farmers who revegetate degraded areas of land • Information and education for farmers of the benefits of rehabilitation are required • Government subsidy for biodynamic farming to increase the adoption of biodynamic farming and reduce the dependence on chemical pesticides and fertilisers
Wetlands Conservation Society (Inc) 200205351	• More emphasis is needed on the need to conserve biodiversity and water resources in the State Sustainability Strategy. • *WA has an appalling record for mismanaging its biodiversity and water resources* • Urgent action is needed to prevent the loss of large areas of the wheatbelt and pastoral zone to salinity and / or desertification. *The fight against salinity is not being waged with sufficient resources at present and this should be rectified as part of the Sustainability Strategy*	• Government should keep its promise to complete an inventory of WA wetlands and should go beyond this to monitor and manage this natural heritage effectively • The Sustainable Agriculture Strategy needs to be completed and implemented and the Agriculture Act amended to ensure this happens
George Kailis 200204233	• WA is Clean and Green and therefore has a unique niche market for those affluent markets that seek such guarantees	• WA Government needs to make an unambiguous stand on genetically engineered food and take a pro-active 'Clean and Green' WA/Australian approach to the economic rationalisation of WA/Australian agriculture, rather than adopt the USA model of genetic engineering and always coming last in the genetic engineering race with USA and massive big GE spenders

George Kailis 200204234 (This submission is based on the work of Professor Jules Pretty from the University of Essex entitled '*The United Kingdom's Experience with Agri-Environmental Stewardship Schemes: Lessons and Issues for the United States and Europe*')	• The adoption and spread of sustainable agriculture shows clear increases in food production that benefits households from increased food production and consumption • Food production increases have occurred through one or more of five different mechanisms: 1. Intensification of a single component of aa farm system (with little change to the rest of the farm)- e.g. home garden intensification, the introduction of fish ponds or dairy cow 2. Addition of a new productive element to a farm system such as trees on boundaries, which boosts total farm productivity but does not affect the productivity of traditional crops 3. Better use of natural resources especially water (through water harvesting, irrigation scheduling, water stressing) and land (reclaiming formerly unproductive land), increasing the area of dryl- and cropping and / or increased supply of water for irrigated crops 4. Improvements in yields of staples through introducing regenerative elements into farm systems (e.g. legumes). Proportional yield increases are greatest in rain-fed systems (though starting from a lower base) that in irrigated systems 5. Improvements in per hectare yields through introduction of new and locally appropriate crop varieties and animal breeds	• Sustainable agriculture does not have all the solutions but great progress has been made in recent years. With further support through national policy reforms, these benefits to food security and attendant improvements to natural, social and human capital could spread to much larger numbers of farmers and rural people in the next decade • *National (or state) agricultural policies that put sustainable agriculture policies firmly on centre stage, with appropriate support, incentives, institutional reform, would begin to see nations throughout the world and their people reap substantial dividends (Pretty, 2001:90)*

George Kailis 200204230	• Nutrient recycling in Agriculture is environmentally responsible. Organic agriculture is a profitable alternative to conventional agriculture and it also provides solutions to an array of worldwide concerns such as soil quality, global warming, groundwater pollution, poverty alleviation and preservation of human health. Rodale Institute trials reveal that after a transitional period of about four years, crops grown under organic systems are as efficient, economical and financially competitive and sometimes better than those grown conventionally. Organically systems are also better for the soil (improving the quality) and the environment. Organic systems can actually out-produce conventional systems in years of less than optimal growing conditions such as drought. • Organic farming systems causes long term changes in the character of the soil promote plant health, increase microbial activity and a greater diversity of micro organisms and may positively affect the way in which elements such as carbon and nitrogen are cycled in the soil • The ERA farming system works with nature through soil and plant management practices to produce ecologically clean, safe and healthy food, with rewards for everyone in the food chain • Australia has the largest area of farmland certified organic in the world, with more than 7 million hectares • Supermarkets are reacting to demand for organically produced food in the market place and currently demand outstrips supply. The consumer is driven to purchase organically produced food because of the health and environmental benefits	

George Kailis 200205086	• Pollen drift from genetically modified crops must be seriously investigated. A scientist from AgWA found a 1 in 26000 change of canola pollen drift. Sustainability of agriculture un-polluted with GE, according to AgWA differs from other information where on a farm scale the current recommended isolation distance of 100m will maintain cross-pollination levels at below 0.5% in the majority of fully fertile crops.	
Dr Robin IW Collin 200205458	• Arable land is declining as a result of salt and suburban sprawl. The Suburban sprawl is directly related to Perth's population growth • Australia as a whole has adequate rainfall over only 11% of its area for agriculture. Only 6% of this area is amenable to primary production. The poor soils in Western Australia due to their ancient and weathered nature make them poorly suited to European farming practices	• Increasing inner city housing density limits suburban sprawl into arable land • Sustainable commercial development of indigenous products is important to the conservation of the Western Australian environment. For example the use of sandalwood, indigenous crustaceans (marron, crayfish), Kangaroo, emus all represent possible sustainable industries especially in terms of environmental conservation. There are many other examples of potential industries that may promote environmentally sustainable harvesting and others which require regulations to protect them from overexploitation.
Clint Garrett 200205462	• WA's farming community is making better progress in trying to undo past mistakes then farmers in SA. • It is pleasing to see the corporate sponsorship of WA's greening programs.	• Assist farmers to find less damaging ways of producing the food we need.
Jeanette Conacher 200203853	• *Agricultural management practices – a coordinated and State-wide (and cross-agency?) framework required based on catchments or bioregions), with formal policy or legislation to support it> manage at regional level. Investigate other State and New Zealand models. Revisit, broaden Draft Agricultural Management Act and State NRM framework*	•

Ord Land and Water 200204039	• Ord Land and Water (OLW) encourages and leads in the adoption of the Ord Land and Water Management Plan which includes agricultural best practices, increasing water efficiency and quality and a LA21 environmental policy for the Shire. • Sustainability very worthwhile for agriculture especially with issues such as fish kills, rising water tables, salt, declining yields etc – *industry has accepted that the current farm management system needs to be reviewed to ensure economical security* • Degradation is in the formative stage and prompt action will reverse the trend • In response the Ord Plan (developed cooperatively with community and other stakeholders) addresses the question of how irrigated agriculture can be made sustainable • Economic stability and security are prime reasons to seek sustainability (in the form of increased plant and soil health, higher yields and a quality and marketing advantage from agriculture not dependent on chemical solutions) • Impact of environmental degradation on the social aspects of the community is yet to be fully realised. Problems of Aboriginal health and social instability can be partly attributed to environmental degradation and ensuing access problems • Best management practices are being developed in the Ord region including locally designed bag and slot limits for the recreational fishery, tourism industry codes, agricultural practices, the Ord Land and Water Management Plan and the Ord River Waterways Management Group	• sustainability needs to be built up from the community but advocacy, education and resources must come from the Government – it is not longer part time work for volunteers, medium to long term personnel are needed

Guy Izzett 200206619	• *I work in the horticulture industry and have seen many changes in the last few years. Farmers are as keen now as any member of the public to reduce the use of chemicals both as sprays and as chemical fertilizer* • Soil is unbelievably poor, particularly the coastal strip and irrigation water is being sucked up. The area will become useless as farmland. Soils hold no water and even manure and compost don't help. • Farmers are interested in producing organic crops • Industry: compost manufactures are developing • Councils are combining to produce compost from green waste • Chemical companies the Ag Vet Coys are producing softer chemicals • Small companies are producing fish kelp and probiotic soil enhancers • Small Fert Coys are producing Rock based fertiliser • Worm farms can supply worms in a compost mix • They all are going down their own narrow paths in similar directions but not communicating, too busy making a buck to see big picture • But they are looking towards sustainable farming which is what local and overseas consumers and exporters want. • The technology is available now to stop salinity, improve soil structure, reduce chemical and water leaching, reduce water requirements – all interrelated • Farmers see organic farming as too great a risk and uneconomic and have no idea how to implement it • See national strategy for management of Ag Vet chemicals 1998 which canvases how to overcome barriers to sustainability and R&D for it	• R&D is needed into sustainable profitable organic farming. Facilities are available eg Medina Research Station • Government needs to coordinate a group to pool funds, resources and expertise (see submission for possible group members that could all benefit)

Teresa Tompkins 200207497	• Destruction of our forests, overfarming, synthetic fertilisers/pesticides, introduction of stock, and rising salinity levels are contributing factors in the degradation of our soils. • Genetically modified farming methods (and foods) are not natural. We need to correct present problems, not create future problems.	• Government needs to look more closely at alternative farming methods. • Organic farming is far more suitable for our environment and will enrich soils by creating a more natural eco system, and although more labour intensive will provide job opportunities in farming communities.

Greening Australia (WA) 200207139	• *An ecologically sustainable landscape is one in which social and economic aspirations of the community are met without compromising the persistence of the natural biota and associated ecosystem functions at a landscape scale.* • *See submission for best practice example 'Living Landscapes Program'.* • *Greening Australia (WA) believes that current agricultural land-use practices are far from sustainable. Consequently, we believe that it is necessary to formulate a new vision for our rural landscapes prior to examining the methods required to achieve this vision.* • *Requirements for maintaining the unique biological wealth of the south-west should set the framework within which other aspirations are met i.e. requirements for ecological sustainability should limit the actions that are taken to meet economic and social goals.*	• Fully integrate protection of conservation values into other land-management systems rather than confine it to a number of government-managed reserves. • *Sustainable landscapes need:* 1. *Areas designated for nature conservation, protection of ecosystem function and provision of ecosystem services;* 2. *Areas of "benign production"- low impact land-uses designed to manage land-degradation and protect and enhance conservation areas while generating income for land-holders (farm forestry, carbon farming, timber products, wildflowers etc);* 3. *Areas of intensive production (eg. cropping) carefully located in the most appropriate parts of the landscape. The area allocated to these types of landuses should not exceed the capacity of the conservation and benign production land uses to absorb the impacts of these intensive land uses;* 4. *Areas for infrastructure located in appropriate parts of the landscape.* • *Attempts to gain acceptance and implementation of landscape visions should be undertaken locally, but must be conducted in a context that ensures local processes aggregate upwards to generate regional solutions.* *Benign production areas should:* • *be designed to protect areas used for nature conservation as well as areas used for production;* • *be located on recharge areas, areas subject to erosion, and areas of low agricultural productivity;* • *be diverse in their structure and composition to maximise their biodiversity benefits.* *Benign production could comprise some or all of the following types of activities:*

Sustainable Population Australia (WA) 200207135		• Australia is largely a disease free land. *This low incidence of diseases allows Australia to produce export breeding stock and biologically based products that are acceptable as 'disease free' in purchasing countries.* • *The Government should adopt a much more active and aggressive stance in opposing the forces of globalization, such as the World Trade Organization, that seek to destroy this disease free environment in the name of free trade. It should exert the utmost pressure on the Federal Government to do likewise.*
Brian Fleay 200206989		• *The increased productivity in agriculture has been achieved by greater energy intensity, principally through use of petroleum products (Pimentel 1994).* • *The energy intensity of WA agriculture is high and increasing, mostly dependent on oil based fuels.* • *Existing wheatbelt farm practices and crops are not viable on BOTH salinity and oil dependence grounds. What alternative energy options are there? How does this interface with alternative farm practices and crops compatible with arresting salinity and commercially viable farm communities? This is arguably the most significant sustainability issue in Western Australia. It will take decades to effect the transition.* • *The dependence of agriculture and the food chain on petroleum products along with land degradation from salinity and related issues are the most important issues on the sustainability agenda for Western Australia.*

BioEnergy Australia 200207138	• *Biomass has long been identified as a sustainable source of renewable energy. Recent advances in biomass to bioenergy technology and the Federal Government's renewable energy legislation now make biomass to bioenergy commercial.* • *BioEnergy has adopted a multi-species approach where thinnings are to be used for bioenergy and later thinning and the final crop will be used for veneer and sawn timber production. The BioEnergy approach provides early cash flow from bioenergy, biomass supply for MDF and charcoal production and long-term cash flow from high-value timber species.*	*<u>Why BioEnergy's Project is Sustainable</u>* • *Reduce reliance on fossil fuels: Reduce carbon emissions through the replacement of fossil fuels with renewable biomass for energy generation; Reduce carbon emissions through the replacement of fossil fuels for silicon smelting industry with biomass as carbon source.* • *Reduce native forest logging for charcoal manufacture: Reduce reliance on native forest resource for charcoal manufacture in silicon and iron smelting industries with biomass as a carbon source.* • *Reduce native forest logging for wood products: Reduce reliance on logging of native forest resources which will be replaced with harvests of high valued timber species for sawnwood and veneer production from plantations.* • *Reduce nutrient loading: Reduce movement of nutrients and phosphorous from the Swan Coastal Plain into the Peel Harvey Estuary, Lake Clifton and Koombana Bay water bodies through the process of nutrient stripping from regular harvests of biomass.* • *Reduce offshore disposal of waste water: Re-use of waste water through the development of waste water irrigated plantations and transporting of nutrient load off site through regular harvests of biomass.* • *Reduce salinity: The biomass species is salt tolerant and can thus be planted in areas of the Swan Coastal Plain that are becoming or at the risk of becoming saline.* • *Reduce flooding: Dense plantings of the biomass species combined with low stocking levels of the high valued timber species will assist in de-watering areas of the Swan Coastal Plain and reduce reliance on the extensive channel system to remove excess water from the system that drains high phosphorous loads into the environmentally sensitive Peel Harvey Estuary, Lake Clifton and Koombana Bay water bodies.*

National Association for Sustainable Agriculture (NASAA) Certified Organic 200206966	• NASAA supports the submission written by Kathe Purvis on behalf of the Organic Growers Association of WA and believes her examples are only the tip of the iceberg of what can be achieved and what is being achieved by certified organic and biodynamic farmers in WA.	• *With support from Government through the Agriculture Department a great deal more could be achieved and in a shorter time frame.*
Donna Elliott 200206826		• Permaculture has benefits all round and should be used in agriculture (see submission for details).

Organic Growers Association WA 200206302	• *Sustainability is a worthwhile pursuit. In a State where salinity, acidity, depletion of biodiversity, pollution of waterways and erosion are major issues due to past and current farming practices, farming in a sustainable manner cannot be under valued.* • *For the practitioner using sustainable methods there is the satisfaction of renewing and maintaining the full health of the land so that it can provide an income for ongoing generations.* • *Re-building the soil to full health requires time and usually money. At present there are no incentives for farmers, already feeling the financial squeeze of poor seasons, low yields and possibly pressure from the banks, to convert to more sustainable methods.* • *Several broad acre farmers in the West Australian wheatbelt have been gradually converting their land to organic management practices. They have resisted the economic pressures, ignoring the short-term gains that heavy cropping cycles can nett, to ensure the long-term sustainable health of their land.* • *Business has shown an interest in organics for its economic potential.* • *Anne Lyster of Casuarina Valley, Manjimup, one of the states largest apple producers, intends to set up an organic apple orchard as a small part of its overall production. This orchard would conform to certification standards and sell into the organic market place. If managed as a supportive, inclusive venture, this type of support from large successful operations validates the smaller grower, opens larger markets and possibly provides packing and transporting breaks for the smaller operators. They in turn have experience and knowledge of use to the larger grower, who is new to this type of production. If managed as a competitive venture, the larger operation can control the market and wipe the smaller growers out within a few seasons.* • See submission for best practice examples.	• *Commercial opportunities driven by market demand are numerous for organic agriculture. Recognition, support and ongoing commitment from government can help to make these opportunities a reality.* • *Growers and processors currently involved in the Organic industry have a wealth of information and experience. Unfortunately there is no structure in place to co-ordinate the exchange of knowledge accumulated by individuals within the industry. There is also no formal recognition or financial reimbursement in most cases for the passing on of this valuable information.* • *The government needs to develop a link to people working within the organic industry so that the real issues can be understood and addressed. Government has the ability to learn what the issues are and to develop policies and strategies to build the industry as well as to provide relevant information and education to the general public.* • Government should be precautionary towards the introduction of genetically modified crops. *If these crops are allowed into this state without appropriate research into the implications of each individual crop, it will have serious consequences for the local organic industry. Under current certification standards the use of genetically modified crops is not permitted. Contamination by neighbouring crops could lead to decertification.* • The need for data collection on exact amount of organic produce being exported from WA. Estimates are A$5-6 million annually. • Need for specific funding to organic/sustainable farming practices. • Most operators become researchers by default. *Research and development by government bodies should include* × *assisting the conversion process* × *carrying out research to gain understanding of how organic systems work below and above the ground* × *assessing the true cost of conventional farming compared to organic* × *researching the use of organic methods to remedy land degradation* • *A strategic plan for Western Australia that deals with long-term sustainability could provide a framework to encourage more primary producers into sustainable practices.* Suggestions to improve and assist the current organic industry: ***1.*** *The development of a peak body to create networking, education*

Blackwood Basin Group 200206687	*The Oil Mallee Industry is leading the way in utilising some of the wheatbelt's Eucalyptus species to develop a new sustainable industry which will provide resources for creating electricity, reducing salinity, producing natural oils and has the potential to rebuild communities within the wheatbelt.*	*The Blackwood Basin Group is in the process of implementing Zone Management Systems throughout the Blackwood Basin. Nine zones have been created within the basin and each individual zone represents an area of land with similar biological, physical and social features sharing common landcare issues. Zone Action Plans are being developed for each new zone, just as catchment plans are designed for a catchment by a catchment group, a community run Zone Management Committee will set goals, conduct a cost/benefit analysis and implement an Action Plan.* *Zones within the Blackwood Basin will help with landcare in the following way;* § *The new Zone Management System will bring people together who face similar landcare issues, enabling them to unite in identifying solutions.* § *Due to the common biophysical features of each zone, landcare funds can be targeted where they are most needed* § *Lessons learnt in one area or catchment of a zone can be communicated to other areas with similar issues within the zone* § *The community will be able to take responsibility and set their own landcare priorities* § *Data on the biophysical nature of each zone can be applied in a readily useable form* § *Each zone has an exit water point to help monitoring and evaluation* *The Blackwood Basin Group is also currently investigating the establishment of an EMS (Environmental Management System) Pilot Project for the Blackwood Basin Region.* *The establishment of an EMS in the Basin will give participant landowners access to a management tool and resources that will demonstrably improve land management processes and land management practices. It will also provide participants with access to a unique brand and better commercial outcomes through participation in the scheme as well as a mechanism to encourage links between Blackwood Basin Group objectives and farm management practices (Pracsys –EMS strategic outline, phase 1 report, March 2002).* *At the Environmental Management Systems in Agriculture Conference in Ballina, NSW in November 2001 a number of issues were flagged and some of these included:* § *Economic growth and environmental sustainability must be balanced with a greater emphasis placed on consumer recognition of the effort made to conserve resources.* § *The identification that ISO 14000 is an appropriate standard to apply to an on-farm EMS, but a voluntary and multi-level approach*

Plastics and Chemicals Industries Association 200206990		• *"A focus on Western Australia" talks about a productive agriculture sector. Perhaps "efficient and productive" may be more desirable in the context of the SD philosophy since it is generally agreed that agriculture has had the single greatest impact on the State's environment. Long term we need efficiency and plans for rehabilitation of the land.*

J.E. Wajon 200206629	• *Our present agricultural system is not sustainable, predominantly because of over clearing and inappropriate land practices, leading to salinity and loss of biodiversity.* • *We should be treating uncleared native vegetation as if it was vital infrastructure – something that we will need more of in the future, something that protects our investment in agriculture (through provision of fresh water, dry land and pest control for example) and something that the community should pay for. Its retention is at the heart of sustainability.* • *We also need to pay attention to the continuing viability of rural communities which are being torn asunder by a variety of public and private practices. We need to provide them with ecologically sustainable alternatives to current agricultural pursuits. However we need to ensure that these pursuits are also sustainable.* • *Irrigated agriculture using brackish water from areas of high water tables could be feasible in appropriate areas in the Wheatbelt. The ground water in currently or potentially affected areas has a range of salinities. This water may be suitable for irrigation of a variety of crops, such as citrus crops, and even possibly grains such as wheat and barley. Obviously, the salt tolerance of potential crops, and the salinity of available ground waters would need to be evaluated, but there is no reason why WA farmers could not grow two wheat crops per year, for example. Cereal cropping in Australia is generally constrained by lack of water. Admittedly, special strains of wheat may be required, but that should not be a serious impediment given that farmers in other parts of the world grow two or even three crops of certain grains per year, and Australia has an excellent research capability.* • *The yield from two crops on the same acreage should presumably be able to pay for the infrastructure of water abstraction and irrigation. Further, if this idea were successful, only half the land area would need to be farmed to obtain the same yield. The other half could revert to native bush, or could be used to plant tea trees or blue gums. This would speed the recovery of the ground*	• *It is time that the many arms of government pulled together rather than apart. Many government departments and policies seem to working at cross-purposes, with some departments trying to reverse the damage caused by others. For example, remnant vegetation is still being cleared in the agricultural area, when both the Federal and State Governments are spending billions of dollars replanting cleared areas to reverse land degradation and salinisation.* • *any further clearing in agricultural areas should be banned;* • *the Government should be trying to persuade farmers in economically marginal areas to stop farming and the opportunity should be taken to return the land to native vegetation, rather than propping up an unsustainable enterprise. If necessary, farmers should be offered money to leave the land, not to stay on it. But before they leave, they should be asked (and paid if necessary) to return at least some portion of the farm to native vegetation to near original condition;* • *drought assistance (whether State or Federal) offered to farmers should be conditional on them permanently reserving a portion of their land, say 10% at least, as native vegetation (in pristine condition). This would include fencing as a minimum. A conservation covenant should then be placed on that portion of their land. If there is no uncleared remnant vegetation on their property, a portion of the drought assistance should be used to establish (by revegetation) native vegetation that was once local to their area;* • *more weeds, especially environmental weeds, should be declared "noxious" and the current legislation and regulations that require owners to remove declared noxious weeds from their property should be enforced. This would be assisted by reducing the tolerance of weeds in grains accepted at receival stations from the current 5% to a much lower figure, such as 0.5%, or creating (or increasing) a price differential for weed-free grain. Such economic incentives would make it worthwhile for farmers to control weeds on their property, which would result in reduced weed spread to remnant native vegetation;* • *technologies that turn weeds into a resource and are exportable should be developed. Possibilities include turning weeds into stock feed, harvesting grains such as lupins and canola (which are commercial crops) from non-farm areas such as road reserves and waste land;* • *reversal of land degradation and weed control should be linked to sustainability;* • *uncleared Crown land should not be regarded as wasteland or*

Sylvia Tetlow 200206685	• *It is well documented that clearing our fragile soils to plant crops and pastures has resulted in the rise of watertables, waterlogging and salinity which not only destroys the crops they were cleared for along with the farmers livelihood but also the soil health and biodiversity which is a natural heritage belonging to all West Australians.*	• *In trying to deal with the issue of salinity and waterlogging, most of the attention has been focused on rising groundwater and how to get rid of it - pumping, relief well, drains and planting saltbush and lucerne.* • *This is caking a reactive approach.* • *I am concerned that very little attention and funding has been put into the area of surface water control and management in order to prevent rainfall infiltrating and adding to the groundwater.* • *Before white settlement, the native vegetation did this job but now that has been cleared there is a need for engineering options - contour banks, surface drains and other earthworks to prevent ponding and infiltration, run-off and erosion.* • *Huge investments need to be made in surface water control to help prevent further infiltration of water into groundwater. This is taking a pro-active approach.* • *A wheat and sheep farmer with in the West-Arthur - Kojonup Shire is growing wildflowers on a sandy paddock. He employs four people for six months of the year in this industry.* • *He has admitted that 3% of his farm in wildflowers is bringing in 50% of the income as he exports them overseas.* • *Growing wildflowers was profitable for this farmer and hence he invested in this industry.* • *It is fortunate that these perennial plants with a deep root system can also keep the groundwater from rising and provide habitat for native birds (although this was not the farmer's primary aim).* • *So what is needed is an agricultural system that is compatible with our fragile environment and is also profitable for the landowner.* • *To achieve sustainability through economic means requires financial backing from the government. It requires Government to lead the way and demonstrate to farmers their options in new industries that are compatible with our environment.* • *This means investing in research, establishing the markets and infrastructure and creating market links.* • *It also requires educating and financially supporting farmers while they make the transition from traditional wheat and sheep to the new sustainable industries of deep rooted perennials - wildflower, sandalwood, quondong, oil mallees, olives and others.* • *Because the cost of transport is expensive there needs to be Government investment in infrastructure in country towns away from the coastal area.* • *For example the oil mallee processing plant can only service farmers within 100km radius otherwise it is uneconomical to*

WWF Australia 200206515		• *WWF recommends that the government responds to and acts on advice from the environmental and agricultural industry groups concerning the establishment of a suite of voluntary initiatives that build the capacity of the farming communities to address environmental objectives.* • *We recommend trials of the most promising schemes. WWF recommends the investigation of the "conservation auction" or "bush tendering" approach in WA, as one implementation mechanism to deliver regional natural resource management targets at a local scale across the landscape. This is a mechanism that can facilitate tightly targeted actions (types and location) by encouraging individual landowners to develop innovative proposals to provide environmental and salinity benefits.*
Peel Preservation Group 200205797		• *The future of our productive agricultural and grazing land will be enhanced by education and encouragement of sustainable farming practices by researching alternative, more diverse cropping and adoption of farming methods suitable to Australian conditions, rather than continuing to pursue European style farming in our dry conditions and less fertile soils.* • *The introduction of harsher penalties for over clearing and support of EDO's proposed land clearing reforms.* • *Immediate steps to reverse loss of agricultural land to salinity.* • *Improve access to technologies which can locate, predict and warn localities of the likelihood of expansion of salinity if unsustainable agricultural practices continue.* • *The introduction of land tax relief for farmers, graziers and environmentalists to encourage the setting aside of native bushland for conservation.* • *State government support of local government in their desire to protect regional bio-diversity, the retention of wildlife corridors, nodal development and the maintenance of tourism potential.* • *Confining woodchipping to plantation timber*

WA No-Tillage Farmers Association 200206522	• *The no-tillage cropping system, that incorporates stubble rentention, has resulted in significantly reduced wind and water erosion simultaneous to improved farm profitability and crop reliability in WA agricultural cropping districts. Improved soil structure, increased carbon storage and biological activity have all resulted from the no-tillage cropping system.* • *Weeds, herbicide resistance, diseases, input costs, and salinity still threaten the economic viability of grain-growing in Western Australia. Many of these issues are a result of repeated sowing of the same crop type due to a lack of profitable alternatives available to growers. A reversion to tillage in an attempt to lessen the impact of some of these challenges is constantly being promoted, and threatens to undo many of the benefits that no-tillage has produced.* • *Allied to a reintroduction of tillage is the continued practice of stubble burning, a practice that reduces soil carbon and nutrient levels, and increases greenhouse gas emissions.* • *Lack of soil moisture is a challenge for farmers planting winter and summer crops in WA. Greenhouse predictions indicate more variability in winter rain and increasing summer rainfall.* • *These factors make it even more critical to research, develop and promote integrated farming systems that include diverse crop types, rotations with maximum stubble retention, no-tillage sowing methods and "smarter" chemical usage.*	• *To develop efficient systems in Australian urban centres and on Australian farms that are better adapted to Australian ecosystems, soils and climates. Although WANTFA Farming Systems concentrates on farms, the principles are adaptable to towns and cities* *It is not desirable to prescribe a set recipe for all farms for a number of reasons including;* • *Systems need to be adapted to suit individual skills and ecosystems.* • *There are many unknowns. We believe that we are on the first rung of a long ladder to the "perfect sustainable state".* • *Our understanding of what is required will improve over time. Saying we want to achieve sustainability is a very important outcome of the 1990s.* • *Therefore we recommend that a set of principles be established as a guide. They need to be extended through practical examples, research and demonstration.* *WANTFA Farming Systems® – WANTFA has adopted a set of five principles to guide farming systems development and farmers. These are* • *Minimise soil disturbance* • *Diversify rotations* • *Maximise stubble retention* • *Smarter chemical use* • *Maximise (in situ) water use* *By using the above principles, WANTFA desires to attain at least the following benefits* § *Sustained profits for the long term* § *Increased water usage and less salinisation* § *Better soil structure and health, without erosion* § *Increased organic matter with increased carbon sequestration* § *Increased biodiversity* § *Higher infiltration of rain* § *Less weather and commodity price dependence for farmers* § *Lower input costs* § *More microbial activity* • *Renewable Energy – a long-term goal is for each farm to be dependant only on renewable energy captured on the farm.*

Andrew Thomson 200206383	• *Many field officers in the Department of Agriculture lack an environmental ethic and regard those that do as being "odd".* • *The ignorance o f most of the community in regard to issues such as salinity is alarming.* • *This was clearly illustrated in a chapter on Katanning in a recent book on salinity where trees were cut down to make way for a rose garden and lawns while the water table is rising to the surface bringing up salt which is causing buildings to crumble. Land can no longer be built on.*	
Judy Blyth 200206516	• *Last weekend, I was looking at the engineering works at Lake Toolibin - The diversionary channel waiting to direct the first saline water away from the precious lake; the pumps right in the middle of the lake bed itself, in an effort to keep the salty water deep underground.* • *If it all works, and Toolibin can be saved as a freshwater lake, lakes below it will eventually get the salt that would have further contaminated it. I am sure it is all worth the effort for the sake of the WA wheat belt's last real freshwater lake - but the scheme must be very costly - and the scale of the salination problem of WA so vast, that I do wonder how the larger problem can be addressed.*	• *A more educated populace could certainly help our economy to mature, leaving our dependence on extractive industries further and further behind us as we grew into a more tertiary, service-oriented economy.* • *Our methods of agriculture need to swing to more organic farming and generally more in harmony with the land. It is painful to see so much salt scalding in the wheatbelt, and while there is a huge effort going into replanting trees in some injured landscapes, the scale required to reverse to trend to salination is probably beyond us as a society.* • *For the sake of sustainable agriculture, we must solve this huge problem. Growing food in an environmentally sustainable way, has to have a very high priority.*

Jo Pepper 200206630	*Our state government deserves praise for promoting organic agriculture at the Centre for new Industries Development, where Steven McCoy is employed. However, I believe this is totally at odds with the Biotechnology research area of the Department of Agriculture, for a number of reasons including:* § *Consumers are NOT demanding genetically modified food, and the golden rule that all markets are led by consumer demand needs to be remembered;* § *Some of the world's most imminent scientists have commented on the dangers of genetically modified food. (See website: www.natural-law.ca/genetic/ScientistsonDangers.html)* § *Insurance companies will not insure GM crops – Allan Mason, CEO of Insurance Council of Australia commented on ABC radio's The World Today, 21/06/2000 that there is no past track record to assess the level of risk and an appropriate premium cannot be calculated. Claims may take many years to manifest, just as asbestos claims have done.* § *Other reasons, in particular genetic pollution, outlined in a letter to a rural newspaper regarding the Department of Agriculture 'GM-Free Zones' discussion paper, which I'll not repeat here but will attach a copy with this document.* • *The Federal Government has sadly been backing GM research to the hilt, to the tune of $250 million per annum, compared to the organic industry (which has a market increasing in demand) receiving less than $300,000 pa for research, development and marketing. (Source: GeneEthics Network, Australian Conservation Foundation Habitat supplement Dec 2000)* • *It is ridiculous that this situation is so out of balance, considering the organic farming sector is one of the fastest growing in the economy.* • *It is also totally unacceptable that some government agencies are accepting funding from Multi-National Corporations with vested interests in genetically engineered food crops. With many scientists supporting GM technology it is no longer from an unbiased, purely scientific viewpoint.*	• *I believe government can play a bigger role in facilitating change to be more sustainable by increased funding and research into biological/organic agriculture. Many countries such as Germany, UK and Croatia are already subsidising organic agriculture and refusing GM crops and products.* • *At a state level, I believe funding must be increased for the organic sector, which is truly sustainable and proven worldwide, and dramatically cut in the Biotechnology sector, for all the reasons mentioned above.* *The government can encourage sustainable farming practises through providing subsidies for farmers in the following areas:* • *Full soil analysis including all trace minerals by an INDEPENDENT laboratory (not a fertilizer company), say, every three years. Farmers can then work on correcting the deficiencies that are common in our depleted Western Australian soils;* • *Similarly, occasional soil samples tested for microbial biomass, which influences crop yield, as is carried out by soil scientists at Centre for Land Rehabilitation at UWA;* • *Use of alternatives to chemically-produced phosphate fertilizers, which end up in our waterways through run-off. Sustained release mineral fertilizers and compost-based preparations are better alternatives.* • *Continued funding for on-ground actions in catchment groups, as is provided by the Natural Heritage Trust.* *Examples of demonstrating sustainable practises that I am aware of include:* 1. *Deep ripping, or deep tillage, which is gaining a resurgence among broadacre farmers due to consistently showing better crop and pasture growth, normally inhibited by soil compaction. AGRDC-funded research project at Merredin has shown that deep tillage with an "amelioration package" comprising gypsum and nutrients achieved significant crop yields. Retention (rather than burning) of stubble, where plant residues are returned to the soil after harvest, in combination with natural products that encourage bacteria to multiply, break down the stubble and return nutrients.* 2. *An Agriculture Department publication entitled 'The Use of Native Perennial Grasses on farms in the Wheatbelt of Western Australia', by Roy Butler of the Dryland Research Institute at Merredin. This discussion paper is to raise awareness of and interest in native perennial grasses*

Rosa de Graaf 200206617		• *Encourage Agroforestry – use the land for suitable (flowers, fruit, nuts) trees and incorporate livestock. Saving the land from degradation, excessive fertilizers- stock will fertilize land and have suitable shelter.* • *Govt outlets for purchasing – at low cost (and even lower for large quantities for farmers) suitable trees for their land. Information also to be freely available.* • *Encourage production of macadamias, avocados, mangoes i.e. more trees rather than animals as a lot of degradation is caused by our domestic livestock.* • *Organic farming is another wonderful way to obtain natural undefiled produce – more and more people are looking for organic 'safe' and 'free range' products.* • *Again this will help to keep a clean environment – above and within and below the earth.* • *This along with crop rotation – will save our environment from salinity, pollution form pesticides, herbicides, fertilizers, hormones and concentrated amounts of animal manures.*
SALINITY		
Ellen Brook Integrated Catchment Group 200203498	• Reversal of salinity and development of economic opportunities and community revival may be assisted by the regional dispersal of industry (compared to centralisation of industry in places such as Kwinana)	
Cornelia Major 200204125	• Fund programmes to reverse salinity	
Alex Growden 200204544	• More attention needs to be paid to the increase in salt-affected areas in the wheatbelt. • People would like to see that the land is sustained as one of our most vital resources • Discourage continuous cropping to reduce the impact on land. Encourage crop rotation through wheat and sheep farming and use less chemicals against weeds	• Education of younger farmers to ensure the full impacts of salinity (e.g. loss of native flora and fauna) are appreciated, not only loss of productivity • Use local co-ordinators to supervise unskilled seasonal workers to revegetate saline land to attract a workforce to small towns with no tourist attractions • Re-assessing and policing of the disposal of saline waters from town sites to reduce negative impacts on surrounding farms

Brett Ranford 200204126	• Remediation of salinity and soil erosion in the Wheatbelt is a long term objective that will cost a lot of money. Research into appropriate plants and trees that can tolerate salty conditions and subsequent widespread plantings of these species must occur to begin the reversal of salinity.	
Kim Reid 200204452	• Government funded research programmes focussing on salinity in rural areas could assist farmers to gain a better understanding of land management practices that prevent problems associated to salinity and possibly produce more employment opportunities	
Darralyn Ebsary 200204764	• Examples of projects that help remediate salinity: 1. Oil Mallee Project- tree plantings help combat salinity and provide an opportunity for a viable industry if harvesting, treating and purification of the oil mallee vegetation becomes financially viable. Is it not possible to financially push it to prosperous fruition 2. Lake Toolibin project is supported by local people and Government agency but is a delay and lack of financial resources going to undo such important research and practice?	• Desalinate saline groundwater from the Wheatbelt to decrease rising water tables, use the desalinated water to support stock or possible alternative industries
Michael Hegarty 200204667	• Farmers need more of an incentive to plant trees on their land because without a sufficient incentive they are nor going to give up their land to plant more trees on • The lag time effect of salinity acts as a disincentive to plant trees as the benefits of planting are realised much later. • The chain reaction of impacts from salinity will worsen because nothing is being done about salinity • The problem of salinity won't be solvable in the near future, but we can stop it from getting worse	• Government should buy back scattered areas of land through the wheatbelt to plant trees on to reduce the impact of salinity • There is a need for better public awareness of the salinity problem that will affect our whole community if we do not take it more seriously.

Wetlands Conservation Society (Inc) 200205351	• More emphasis is needed on the need to conserve biodiversity and water resources in the State Sustainability Strategy. • *WA has an appalling record for mismanaging its biodiversity and water resources* • Urgent action is needed to prevent the loss of large areas of the wheatbelt and pastoral zone to salinity and / or desertification. *The fight against salinity is not being waged with sufficient resources at present and this should be rectified as part of the Sustainability Strategy*	
Danielle Brown 200204665	• Salinity needs to be addressed and more research is required to reach a positive solution	
Guy Izzett 200206619	• Salinity affects great areas and no head has ever been taken of the warnings	
Institution of Engineers, Australia 200206827	• Dryland salinity primarily due to use of European farming methods • It is not clear whether all 16 recommendations from recent Salinity Action Plan have been taken up by government. *Another review of the government programs assisting the problem may need to be conducted.* • See best practice example Toolibin Lake community action group who repaired salinity damage and revegetated	• Further investment in new methods of managing salinity
Teresa Tompkins 200207497	•	• Salinity must be addressed on a local and global level. • Forests need to be protected as they are an important part of the world's eco-system (clearing of forests results in soil degradation, erosion, fluctuations in the water table, rising salinity levels, and so on). • Implement major tree planting with a diversity of trees suited to each specific area. This would contribute to improvements in employment and education, soil structure, fauna habitat and flora and possibly salinity.

Blackwood Basin Group 200206687	• *The results of desertification include the emergence of ecological refugees. These refugees consist of people from rural communities who have been displaced by the destruction of their local environment. They are forced to move to the city to find employment, but will ultimately not be able to achieve this goal. This increase in displaced individuals will result in the government of the day focusing on humanitarian aid and not the sustainable development and innovative opportunities which are needed to break the cycle of intragenerational inequity (the rich getting richer and the poor getting poorer).*	• The Zone Action Planning process (see submission entry under ***Agriculture***), which incorporates fencing of remnants and waterways and implementing high water use farming, can make a positive contribution to addressing salinity issues in the wheatbelt. • *The Oil Mallee project in the wheatbelt is also having a significant effect on salinity through the planting of high water use Eucalyptus species and with the added benefit of establishing a new sustainable industry in the upper reaches of the Blackwood Basin.* • Without continued research, onground work and innovative ideas, the wheatbelt will eventually suffer the effects of desertification due to unsustainable landuse practices that are being felt on a global scale. • *Greater emphasis and input from all levels of the community, government and industry needs to be implemented to identify the new emerging industries and projects required to revive and sustain communities in the wheatbelt.* • *Solar energy is an under utilised resource in need of innovative ideas to convert to practical application. The wheatbelt has access to copious quantities of solar energy and a suggestion could be to develop a clean 'energy' industry from this resource to replace fossil fuels now.*
Lisa Clarke 200204546		• *Salinity is a huge problem for Australia. If the Mallee is the answer & planting them will cure salinity, then great, but first test it and make sure it's not just another band-aid. We want solutions - not myths.*

Clive Malcolm 200206723	• *I believe there have been serious misconceptions about the sustainability of revegetation of saline land and fortunately I have some very old research sites still surviving from which important new insights can be obtained.* *Long term sustainability of revegetated saltland:* • *Starting in 1955, there was a specific research programme at the Western Australian Department of Agriculture on revegetation of saline land. References of relevance are in my publication list (Appendix 1) which includes a high proportion of the relevantliterature.* • *Plants have been identified which are capable of growing on virtually all salt-affected land in the farming areas except salt lakes. Establishment techniques have been developed and innovative grazing management methods are in use.* • *In the course of this research a total of about 280 research sites, mainly on private land, were used and a database with details of these sites is currently being produced with funding assistance from the CRC for Plant Based Management of Dryland Salinity (See Appendix 2). In the preparation of the database old sites will be visited to determine what changes have occurred over the years. In many cases the sites have remained fenced for decades with some controlled grazing being permitted by the farmers.* • *Although only a few sites have been visited to date it has become apparent that stands offorage shrubs or puccinellia on saline land have survived in good condition for periods of up to at least 41 years. There is also evidence of recruitment of native grasses and other native plants including fungi and lichens. Casual observation of the use of revegetated areas by white fronted chats, ants, lizards and kangaroos indicates that although in some cases the revegetation species are not endemic they provide habitat which benefits wildlife.* *Environmental benefits:* • *The most serious environmental consequences of salt encroachment are soil erosion, loss of*	• *I submit that substantial areas of the salt-affected land in Western Australian farming areas can be revegetated for forage production or biological conservation and that the revegetated areas will be long term sustainable.* • *I further submit that the revegetation will result in many benefits for the farmers, the community and the environment.* • *I recommend that revegetation of saline land should be included in the State's sustainability policy.* • There is strong evidence that certain species of plants (such as Saltbush and Bluebush) have great potential to abate salinity whilst allowing sustainable land use: Ø *In 1955 I was taken by the late S. T. (Tom) Smith to the property of the late Bevan Parker (brother of the late Dr Lex Parker) East of Jilakin Lake and with extensive areas of salt-affected land. Bevan had encouraged the spread of bluebush (Maireana brevifolia) on his saline land and made regular use of it by grazing his sheep on it in conjunction with dry pasture and stubble. He also fed hay on the bare areas resulting in the establishment of more bluebush from trapped seeds. Bevan's sheep were the cause of complaint from his shearers because they were so large, he had peak cuts of wool per head and peak prices for his wool and he attributed these achievements to the use of bluebush. Locals referred to him as 'Bluebush Parker'…The plant indications are that on this site a stand of M. brevifolia grazed in autumn is a long term sustainable land use, in this case at least 41 years.* Ø *On the site North of Kellerberrin (Table 1) five species of Atriplex were planted at five spacings in 1976 …The overall result is that the stand is at least as dense 24 years later as it was after the increase in salt in the root zone was measured in 1978. No soil analytical data have been obtained since 1978 but the plant indications are that a stand of Atriplex spp on this site is a long term sustainable form of land use, in this case 26 years. The site appears to be typical of many saline areas in the central wheatbelt.* Ø Research concludes revegetation of valley floors is the best way to lower watertables in at least some wheatbelt valley floor types … *It is likely that these conclusions apply to a substantial proportion of the saline land in*

Margaret Carmody 200206623		• *Please see Narembeen farmer, John Hall, about his enormous success with deep drains.* • *$4 Mil to be spent over the next four years looking at drainage options and, part of the WA State Salinity strategy is setting up the Rapid Catchment Appraisal so that by 2005 all of the agricultural area is assessed and farmers to be provided with and assessment of risk and likely costs.* • *Farmers know the risk and likely costs already. This merely avoids major capital works expenditure for four more years and minimal funds are outlaid over a medium period of four years.* *What needs to be done now?* • *Immediate action to curtail the spending of public funds on "busy research projects" and expensive seminars. If it were economically viable the farmer (private enterprise) would already be doing it.* • *The bringing together of those farmers who have successfully used deep drainage, private engineering companies and scientists who can see the big picture with government Ministers Kim Chance, Judy Edwards, Alannah MacTiernan and Premier Gallop.* • *Ecology becomes economic.* • *Privately driven and federally funded so we stay focused on task.* • *Leadership from the country and government is imperative. It is out there, it is highly motivated in saving the rapidly disappearing natural environment and it is experienced in the best methods of saving the land.* • *Government agencies have had free run with the $30 + Million pumped into the problem annually and we are in crisis. It is now time to call on those farmers and government scientists who can see the solution to help make major decisions.*

The Environmental Alliance 200206616	• *To address the serious ecological and land degradation issues affecting WA it is essential that we develop new agricultural systems. The future agricultural landscape of WA will reflect a new way of doing agriculture based around deep-rooted perennials, preferably native species.* • *Western Australia's agricultural systems must also adapt to climate change. The recently released report 'Warnings from the Bush' by the Climate Action Network Australia outlines some of the expected impacts of climate change in WA. Climate change is expected to have a significant impact on agricultural systems and biodiversity in WA. It is essential that when planning for future agricultural management we address changed rainfall, frost and temperature patterns.* ***Elements of a future sustainable landscape:*** • *Landscape scale management;* • *Highly biodiverse;* • *Retention of remaining native vegetation, which is well managed and augmented by biodiversity plantings, connected by corridors;* • *Healthy rivers and streams;* • *High yielding high value crops grown to soil type;* • *New deep rooted perennial crops; and* • *Working within the constraints of the natural environment, not against it.* *Salinity:* • *New research is better defining the scale of the salinity. It appears inevitable that further areas will be lost to salinity as the cost of saving some areas at risk is beyond government and community resources. We therefore need a framework with which to make salinity investment decisions. Such a framework has recently been endorsed by Cabinet and is currently being ground-truthed in the Avon region and at a statewide scale.* • *We need to move away from notions that we can reverse the damage that has been done by simply throwing more resources at the symptoms of the*	• *The Strategy must facilitate the development of a new vision for the WA landscape that is highly biodiverse, based on landscape scale management and deep rooted perennials.* • *Research and development is urgently required to develop commercially viable native perennial species.* • *Farming communities must be supported through the process of change.* • *Salinity investment must aim to protect high value public assets such as biodiversity, water resources, infrastructure and high value farmland. Our limited resources need to be carefully invested within an investment framework.* • *The social impacts of salinity need to be urgently addressed.* • *Research and development is required into commercially viable alternative crops.* ***Mechanisms for driving new agriculture:*** • *Provision of incentives, such as rate relief, and stewardship payments. Support for revegetation and remnant vegetation protection;* • *Implementation of recommendations from reports such as Native Vegetation Working Group to enable remnant vegetation protection and management, and revegetation;* • *Establishment of an environmental levy;* • *Development and implementation of sustainability strategies and NRM plans for each region of WA;* • *Provision of expertise and facilitation to regional areas;* • *Requirement for establishment and achievement of biodiversity and river health targets;* • *Establishment and implementation of effective monitoring programs;* • *Availability of locally relevant information ideally through personal contact on farm;* • *Research and development for alternative deep rooted perennial native vegetation that is commercially viable;* • *Developing farming systems based on deep rooted perennials;* • *Better regulation – we need NRM legislation (see page 55);* • *Requirement for pastoralists to produce and implement plans for ecologically sustainable management;* • *Monitoring tools easily accessible to farmers and pastoralists – including requirement to monitor for biodiversity;* • *Environmental Management Systems – properly accredited;* • *Soil mapping;* • *Farming to soil type;*

Biotechnology and Genetically Modified foods

Dr Alan Howgrave-Graham 200205459	• *I do not believe biotechnology (which overlaps many disciplines) can be ignored as another alternative for enhancing Western Australia's sustainability* • Currently there is no formal biotechnology strategy for Western Australia. This emerging and potentially lucrative field was formerly considered to be a low priority by state government. • How can Western Australia best harness its resources (human and infrastructure) to facilitate economic growth through biotechnology, as well as competitively attract funding and expertise to the state?	
George Kailis 200204232 This submission is based on statements made by Mr Doug Shears, Chairman ICM Agribusiness group, in The Age, Melbourne.	• Modified food is a risk to Australia's clean image. • Benefits of GM food are unproven. Australia is running the risk of "embracing a technology too early in an area where the costs to industry and the community may outweigh the benefits."	• WA government status on genetically engineered food in WA should stop being ambiguous and should take a pro-active "Clean and Green" WA/Australia approach to economic rationalisation of WA/Australian agriculture, rather than adopting the US model of GE and always coming last in the GE technology race with the US and massive GE spenders. • We cannot beat others at their own GE game so we should go with our best asset i.e. the eprception and partial reality (yet to be completed holistically) that WA/Australia is "Clean and Green" and therefore a unique niche marketer for those affluent markets who seek such guarantees. • Government should impose a moratorium on the introduction of GM organisms into Australia's food chain because the nation's unique position in international markets is at risk of being undermined. • Consumers around the world are expressing concern about GM foods and looking for countries (like Australia) that can supply conventional produce. Australia's canola exports have increased sharply due to concern with GM foods in Europe. • Australia must utilise this economic advantage. • While doubt persists about adopting GM technology in Australia, we should take a strategic pause and think about our future and our immediate opportunities.

Christine Heal 200208952		• I am especially opposed to the releasing of altered micro-organisms into the environment, as they are not recoverable. • On using this technology to produce substitutes for different materials, possibly plastics, I am open to considering them.

Jo Pepper 200206630	*Our state government deserves praise for promoting organic agriculture at the Centre for new Industries Development, where Steven McCoy is employed. However, I believe this is totally at odds with the Biotechnology research area of the Department of Agriculture, for a number of reasons including:* § *Consumers are NOT demanding genetically modified food, and the golden rule that all markets are led by consumer demand needs to be remembered;* § *Some of the world's most imminent scientists have commented on the dangers of genetically modified food. (See website: www.natural-law.ca/genetic/ScientistsonDangers.html)* § *Insurance companies will not insure GM crops – Allan Mason, CEO of Insurance Council of Australia commented on ABC radio's The World Today, 21/06/2000 that there is no past track record to assess the level of risk and an appropriate premium cannot be calculated. Claims may take many years to manifest, just as asbestos claims have done.* § *Other reasons, in particular genetic pollution, outlined in a letter to a rural newspaper regarding the Department of Agriculture 'GM-Free Zones' discussion paper, which I'll not repeat here but will attach a copy with this document.* • *The Federal Government has sadly been backing GM research to the hilt, to the tune of $250 million per annum, compared to the organic industry (which has a market increasing in demand) receiving less than $300,000 pa for research, development and marketing. (Source: GeneEthics Network, Australian Conservation Foundation Habitat supplement Dec 2000)* • *It is ridiculous that this situation is so out of balance, considering the organic farming sector is one of the fastest growing in the economy.* • *It is also totally unacceptable that some government agencies are accepting funding from Multi-National Corporations with vested interests in genetically engineered food crops. With many scientists supporting GM technology it is no longer from an unbiased, purely scientific viewpoint.*	• *I believe government can play a bigger role in facilitating change to be more sustainable by increased funding and research into biological/organic agriculture. Many countries such as Germany, UK and Croatia are already subsidising organic agriculture and refusing GM crops and products.* • *At a state level, I believe funding must be increased for the organic sector, which is truly sustainable and proven worldwide, and dramatically cut in the Biotechnology sector, for all the reasons mentioned above.* *The government can encourage sustainable farming practises through providing subsidies for farmers in the following areas:* • *Full soil analysis including all trace minerals by an INDEPENDENT laboratory (not a fertilizer company), say, every three years. Farmers can then work on correcting the deficiencies that are common in our depleted Western Australian soils;* • *Similarly, occasional soil samples tested for microbial biomass, which influences crop yield, as is carried out by soil scientists at Centre for Land Rehabilitation at UWA;* • *Use of alternatives to chemically-produced phosphate fertilizers, which end up in our waterways through run-off. Sustained release mineral fertilizers and compost-based preparations are better alternatives.* • *Continued funding for on-ground actions in catchment groups, as is provided by the Natural Heritage Trust.* *Examples of demonstrating sustainable practises that I am aware of include:* 3. *Deep ripping, or deep tillage, which is gaining a resurgence among broadacre farmers due to consistently showing better crop and pasture growth, normally inhibited by soil compaction. AGRDC-funded research project at Merredin has shown that deep tillage with an "amelioration package" comprising gypsum and nutrients achieved significant crop yields. Retention (rather than burning) of stubble, where plant residues are returned to the soil after harvest, in combination with natural products that encourage bacteria to multiply, break down the stubble and return nutrients.* 4. *An Agriculture Department publication entitled 'The Use of Native Perennial Grasses on farms in the Wheatbelt of Western Australia', by Roy Butler of the Dryland Research Institute at Merredin. This discussion paper is to raise awareness of and interest in native perennial grasses*

Sustainable Fisheries and Aquaculture

Ellen Brook Integrated Catchment Group 200203498		• Stronger laws and regulations to protect and control fisheries stocks, and greater use of marine parks as reserves for biodiversity conservation
K.D Walsh 200204451	• An example of Best practice management in fishing is the licensing requirements for aquaculture farms and for fishing	
Environmental Alliance 200206616		• *The Alliance supports the thrust of the "Policy for the implementation of Ecologically Sustainable Development for Fisheries & Aquaculture within Western Australia" (Department of Fisheries, in press) with one important reservation. This is the lack of a clear strategy to ensure the establishment of a decision support system for ecosystem-based rather than stock-based management.* • *The achievement of ecosystem-based management is hampered by the absence of an overarching, bio-regional, marine planning system and the lack of integration between the implementation of the marine reserve system (by CALM Marine Conservation Branch), fisheries management and the Commonwealth's Oceans Policy.* • *The economic wild fisheries of WA are probably fully exploited. Further increases in the value of production will have to be based on product development and marketing (value adding), sustainable aquaculture and fish habitat enhancement. There are marked conflicts between economic efficiency and social objectives in fisheries, as there are for most other areas of natural resource utilization.*

Sustainable Forests and Plantations

Ellen Brook Integrated Catchment Group 200203498	• Improve status of RFA and removal of uncertainties associated to it to assist rural communities in South-West	

Lindsay Snow 200204448	• Current Government stance on reduced or ceased logging in old growth forests is a large step forward • Future job prospects in eco-tourism, tree-farming and eco-studies must be exploited	• Government must continue investing in old growth forest research to find better forest management and use strategies • Training and education for willing farmers to demonstrate the commercial benefits of tree farming should be provided • Government should absorb some of the initial costs of tree farm establishment
John McBain 200204124		• Gain a block of State Forest to be managed in accordance with the WAFA policy. This proactive step would set new precedents for community resource management. Potential to have benefits for include community, culture and educational objectives. For example the construction of nesting boxes in areas where habitat has been lost from logging practices. This could be a co-operative venture between schools, conservationists, displaced timber workers and their families. Such an initiative could aid healing community division that has arisen as a result of forest campaigns
Ruth Balding 200205374	• *Many existing penalties are so low that they are seen as a joke, viewed as small change or are incorporated into the costs of an enterprise and it's business as usual.* An example of sufficient fining is the recent successful prosecutions of illegal abalone poaching with large fines imposed. This has sent the appropriate messages to the community about the value of the resource	• Phase out issuing licenses for harvesting from natural areas. For example harvesting native flora for the cut flower industry from state owned public land. Assistance for commercial growers to cultivate native flora for the cut flower industry • Protection of native flora in public areas due to their role in the tourism industry and the potential to generate income for the state • Introduce more stringent penalties for illegally harvesting from nature to reflect the value and importance of this resource to the entire state
Dr Robin IW Collin 200205458	• Further work is needed to develop a sustainable logging industry	

Timber 2002 Inc 200206718	• 'Sustainability' tends to be confused with the process of 'conservation' and should be pursued with reference to balance of input and output • *Private forestry and re-vegetation development in all rainfall and soil types must have commercial outcomes to make it happen* Issues: • Market the concept to a wider audience ie community at large, specifically urban areas • Equity in market process is essential • Educational program to teachers, school and wider community to gain better understanding of issues and benefits of sustainability Best practice examples: • Integrated tree farming where timber part of whoel farm plan – timber as commercial crop, shelter, shade, addressing land degradation, carbon sequestration and improving farm productivity • Community roundtables addressing biomass for renewable energy in Great Southern, South West and Perth, discussing how the community wants to see the use of renewable energy production in their regions. An effective way of ascertaining community values.	Role of Local Government: • Recognition of sustainable environment within strategic plans and policies • Recognition of rate payers performance by local citizen and business awards Role of State Government: • Policy development discussed with community, industry and government • Ensure emotive response to sustainability does not jeopardise important commercial outcomes • Provide a fair and equitable accreditation system • Provide marketing tools for promotion of sustainability • Assist industry in well thought out Communication Strategy Role of Business: • Ensure all commercial practice in manufacturing and processing timber are environmentally sound according to global regulations • Wood waste is disposed of either as fuel for power (electricity) or other products • Use of chemicals operates within 'Good Neighbour Approach' and in line with an industry protocol and Code of Practice • Promote industry Code of Practice to industry, Government and community and ensure sustainability is addressed Sustainability in the Great Southern private forestry industry: • Carbon sequestration investment opportunities • Salinity tax or tax incentive schemes to help finance commercial, sustainable tree crops • Value-adding Further recommendations: • Natural products/community art eg bush furniture • Indigenous opportunities – commercial farm forestry (native timbers) • Renewable energy incentives in schools, homes and businesses • Marketing incentives from local government, rate incentives, recycling • Businesses work in partnership with government by being included in policy development and have ownership of decisions • No need to establish new institutions to establish sustainability debate. Make it all encompassing within the realms of Government, business and community

Teresa Tompkins 200207497	• Forests (including mangrove forests) and their destruction are a major environmental issue.	• Clearfelling, logging, clearing and burning of old growth and non-old growth forests must cease today. • If logging is to continue, it needs to be selectively cleared and sustainably managed. • Strategies must be in place to ensure there is sustainable management within the Government and timber industry, by people educated in conservation management. • Clearfelling, clearing and burning practices of past and present must stop. • Change present unsustainable practices. • We need to look at timber as a sustainable natural resource.

Tony Pedro 200206992	• *Based on my experience of these forest types, I believe that fuel reduction burning for the protection of private property is in fact counterproductive. This is due to the sharp increase in fuel loads after a prescribed burn due to an unnaturally high and uniform germination of understory plants over the large areas normally subject to much too frequent fire regimes.* • *A serious concern of mine is the significant levels of greenhouse emissions associated with the unnecessary and ecologically destructive prescribed burning in these areas.* • *The mechanism used by CALM and their selected scientific community to establish the past fire history of Karri and Tingle forests is problematic, and inappropriate for this ecosystem type, an issue compounded by a consistent misinterpretation and misappropriation of traditional aboriginal fire management in Southwest forests.* • *Also, the current method used by CALM to measure fuel loads (i.e. measuring dead biomass only) in Karri and Tingle forests is inappropriate for forests of this type, leading to;* • *A failure to recognise the long-term decrease in fuel following a fire, due to the death and subsequent decomposition of the majority of short-lived understory species.* • *The aboriginal peoples used fire very strategically and with a degree of control we do not begin to understand.* • *Aboriginal fire management was described to me by an elder who I met at a CALM fire seminar, and who I respect enormously. On completion I asked why he did not contradict the CALM policy of supposedly following aboriginal broad scale burning in the southwest forests. Initially he ignored my enquiry, but then under much pain with tears in his eyes he explained that what was suggested as following his ancestors fire management was so far from the truth that he did not bother to even try and correct the government policy. I will tell you how we did it he said.* *"When we were ready to leave our summer or winter*	• *These delicate ecosystems, the only ones of their type left in the world, cannot continue to support the inappropriate fire regimes imposed on them under the management of CALM.* • Aboriginal fire management techniques *is the degree of skill that I believe we will have to learn, as well as developing more appropriate fire fighting equipment to suit the terrain and conditions of Southwest forests.* • *In no other industry on Earth do we use equipment so out of date and poorly designed for the job than that that used for bushfire suppression in the Southwest forests.* *Three main recommendations with respect to fire management in Southwest forests* *1) Effort should be made to maintain examples of long unburned forest areas in the Southwest. These areas should form the basis of investigations, which compare fuel levels over time in unburned areas with those under current fire management. A new technique for measuring fuel levels in Southwest forests should be developed for this purpose, which must take into account both living and dead biomass in appropriate weightings. The long-term effects of prescribed burning on the ecology of forest areas should also be compared against the unburned areas to increase our knowledge of the relationships between fire regimes and forest species. The precautionary principle should be exercised with respect to prescribed burning in Southwest forests from now on.* *2) Research into fire ecology and the relationship between prescribed burning and fuel levels should be conducted by independent organisations such as university ecology departments or the Kings Park Herbarium. A research institution of this type should be funded independently of the department of CALM to ensure no conflict of interest jeopardizes the research outcomes as I believe has been the case with CALM and CSIRO fire ecology research to date.* *3) The use of effective ground and air-based fast response fire fighting equipment should be seriously considered as an alternative to ecologically damaging and effectively fuel increasing prescribed burning. This type of equipment must be coupled with effective early bushfire detection methods to enable firefighting before small manageable fires develop into wildfires.*

Rosa de Graaf 200206617		• *Selective clearing of land, tree felling instead of bulldozing whole areas, destroying all life in its path!* • *Trees should not be pruned or cut down at springtime i.e. nesting season. Planting more trees for timber.* • *I am also concerned about the threatened 1,700 (some 400 yr old) Tuart trees at Busselton – which Cable Sands- want to destroy (+5000 peppermint trees). Included in that destruction would be all native plants and animals, insects, lizards.* • *No amount of money or even rehabilitation can save the (or replace) lives of all that lives in, and depend on that area- that's their HOME.* • *In 1976 the State Govt, endorsed all recommendations made by the Conservation through Reserves Committee, which said that the area should be conserved and that mining should be barred.* • *We really must stop exploiting and plundering the land and do more to look after it and educate everybody else to do the same, and we will make progress. Please help- I know I will!*
WWF Australia 200206515	• *Business and industry in WA should also play a leadership role in developing and implementing voluntary environmental standards for natural resource management e.g. through internationally recognised accreditation mechanisms such as the Marine Stewardship Council (MSC) and Forest Stewardship Council (FSC).* • *The FSC label is the only internationally recognised label that signifies that forest products has been sourced from sustainably managed forests.* • *There is a growing demand for FSC products in the USA and Europe that is currently outstripping supply. Over 18 million hectares of forest have been certified to the FSC standard – ranging from small community-owned forest operations to major national forests – in temperate and tropical climates. Non-wood forest products, such as honey, are also being certified.*	• *WWF recommends that relevant industries, the government, NGOs and other Stakeholders* - *facilitate the extension of MSC to other fisheries in WA;* - *participate in the development of a national FSC initiative;* - *participate in the feasibility study for mining certification* • *There is interest from some small forest plantation growers in WA to pursue an FSC approach and there is growing support for FSC national initiative.* • *We therefore believe that there is considerable potential for the FSC to be influential in raising the environmental standards in plantation forests in WA and to act as an additional incentive to promote appropriate new planting as a contribution to the State Salinity Action Plan. In the longer term, it would be appropriate to consider the applicability of an FSC process to the management of native forests.*

Denmark Environment Centre 200206299	• *The logging of old growth forests has long been recognised as an unsustainable practice.* • *Given that less than 10% of Western Australia's forests are still standing, it is plainly unreasonable to continue to log our native forests. Given that only 15% of timber harvested is actually put to a positive use, there simply isn't enough native forest to support the timber industry beyond a few more years.* • *Over harvesting of timber and the ongoing practice of burning forests on a regular basis both add to the loss of our old growth forests and associated ecosystems.*	• *It is important to ensure that all people who wish to work are able to do so. A substantial levy on native timbers would both reduce the rate of logging and provide income for the establishment of more sustainable manufacturing processes for paper, construction materials and minerals processing.*
Mary Gray 200206686	• *WA timber products too cheap, cheap imports from natural forests permitted.*	
South Coast Environment Group 200209228	• *The establishment and protection of wilderness areas in the Southwest will pose new challenges with respect to fire management in this region. It must be accepted that there is some risk to wilderness areas associated with the possibility of a wildfire in these areas where vehicle access would destroy the integrity of the wilderness.* • *The risk of wildfire will be a price we have to pay for the conservation of wilderness areas.*	*Recommendations:* • *CALM policy with regard to dieback management should be immediately reviewed.* • *Fire management in Southwest forest should be independently reviewed on an on going basis.* • *The precautionary principle should be applied more consistently with respect to fire management of Southwest forests, and long unburned areas should be protected from fire as a matter of importance.* • *Adaptive and location specific fire management techniques must be developed for wilderness areas. Such approaches must be based on the two principles of early detection and fast response.* *Mining in National Parks—Recommendations:* • *The Labour government of this State is urged to display commitment to its election promise of no new mining leases to be granted in national parks, by revoking any exploration leases which currently exist in National Parks.* • *Lake Jasper should be immediately be reinstated as part of the D'Entrecasteaux National Park*

Sustainable Mining and Petroleum Production

Ellen Brook Integrated Catchment Group 200203498	• Inevitable change in the Mining sector must be planned and managed	

The Chamber of Minerals and Energy 200203417	• State government partnership with the Chamber of Minerals and Energy- no-one from Government has formally approached them on this issue. A formal partnership would allow a detailed exploration of the role industry can play in moving toward greater sustainability, and highlight the many initiatives already being undertaken by industry. • To be truly consistent with sustainability, the emphasis in rehabilitation would be on turning the land post-mining into the most productive economic, social and environmental asset for the community. As such it should not be assumed implicitly that all land should be returned to its pre-mined state. It might be preferable, for example, to turn a piece of land into a carbon sequestering non-native forest, or into a park for public amenities, depending on the needs and desires of local community. • Mining, Minerals and Sustainable Development project currently conclude that eventually, the minerals and energy industry must move towards strong sustainability (a situation where all three factors for sustainability must be maintained or improved in their own right) in all its efforts. • Minerals companies lead the State's efforts to embrace sustainability principles especially in the push for 'eco-efficiency (producing the same goods with fewer resources with less waste and pollution). This on-ground demonstration of commitment has been enhanced through corporate initiatives such as-: Corporate sustainability statements and development policies; annual corporate sustainability reports, and; joining the Minerals Industry Code for Environmental Management.	• The greatest challenge for the industry is likely to lie in linking the pursuit of sustainable development to the delivery of short-term financial success. • *'I personally believe that sustainability is the most important issue facing… industry… in the 21st century. We look at it not just as a requirement, but as an incredible opportunity. I see a day when everything my company does- our facilities, our products, our services- contributes to a sustainable future. We have an opportunity to have a major positive impact on society. We cannot afford to miss this opportunity' (William Clay Ford Jr., Chairman, Ford Motor Company.)* • *'A recent international survey by PriceWaterhouseCoopers found that almost 75% of senior executives in the mining and minerals industry believe that pursuing a more sustainable approach is critical to their business survival.'*

Rio Tinto 200206517	• Rio Tinto has adopted sustainability principles and has many examples of sustainability in practice (examples are outlined in the submission) • Rio Tinto WA Future Fund is based on principles of sustainability with the aim of supporting programs that can contribute to the future development of WA, the welfare of its people and overall economic prosperity. The fund supports projects including the Global Centre for Sustainability (forum for research and sharing best practice examples), Conservation Volunteers of Australia in NW of WA and Biodiversity Mapping and Regional Sustainability in the Pilbara • Hamersley Iron is a case study in planning for sustainability. It has developed an evaluation methodology to incorporate social, economic and environmental criteria in its decision-making processes. • There has been gradual recognition that a healthy economic bottom line will only come if environmental and social goals are pursued in tandem. The growth of factors such as ethical investment, community expectations and human rights movements are driving significant change in the resources sector • Benefits of sustainability include increased employment, economic prosperity, more pristine environment, more connected communities and improved health and education standards. • Partnerships between industry, government and communities are a way of pursuing sustainability and all have responsibility to facilitate change through working together	
Environmental Alliance 200206616		See submission under heading ***Financial Reform and Economic Instruments.***

Sustainable Tourism (including National Parks)

K.D Walsh 200204451	• An example of best practice in National Park management is the management practices in John Forrest National Park	
Danielle Brown 200204665	• Conservation and protection of our coastal waters, such as Ningaloo Reef, Exmouth needs to be addressed • There is a need for a balance to be achieved between the natural environments and tourism or ecotourism so the environment is not threatened by social pressures.	
Clint Garrett 200205462	• WA's change in attitude toward environmental protection is pleasing. CALM's management of the environment is impressive, and though not perfect shows clear evidence of a significant commitment to the environment. • WA's efforts in weed and feral animal control are impressive. WA's baiting programs dwarf anything being done in SA.	
Lisa Clarke 200204546	• *We take it for granted that the trees, forests and bushland that we continue to destroy are the same resources that give us precious oxygen.* • *Not only does the bush bring us much needed visual relief & a sense of freedom - it also contains a multitude of biodiversity which depends on this bushland for its' habitat.*	• *We must learn to value our bushland and find other ways of utilising this unique asset.* • *Tourism (especially passive recreation) will play a major roll in the battle for sustainability. Perhaps people will come to Australia to learn how to become more sustainable.* • *My government would be wise to realize the value of our regionally significant & locally significant bushland now, before it's too late. Protect our land from further degradation.*
Cesira Leigh & Glen Ryan 200206726		• *Development of a wholly sustainable eco-tourism industry, with minimum training and operational requirements for operators throughout the industry.* • *Funding and support would need to be obtained from Local through to State Government for the transition to 'eco' and the ongoing training requirements needed to ensure that operations continue sustainably.*
Notre Dame - Edmund Rice Centre 200206397		• *Tourism in WA's sensitive and biological diverse ecosystems should be conducted in a sustainable manner*

Protecting Aquatic Systems AND Sustainable Coastal and Marine Environments

South West Catchments Council (SWCC) 200206791	• SWCC is a regional natural resource management (NRM) group seeking sustainable management of natural resources • It has produced a SW Regional Strategy for NRM through extensive community contribution •	• A whole of government approach is needed and government to take leadership role • Regional communities have an important partnership role with government in natural resource management because of their day to day interaction, dependence an knowledge • They also have pivotal role as coordinators of strategic regional activity for NRM. SWCC provides a forum.conduit between stakeholders to support links between onground action and planning and decision-making • They can help channel investment towards strategies that make a difference • These partnerships have potential to deliver real outcomes through negotiated NRM Business Plans within the government's Investment Framework guidelines • Formalise support for a state/regional NRM framework
John Snowden 200204671		• Placement of rubbish bags at boat ramps and in car parks would reduce the amount of rubbish going into the marine environment
Danielle Brown 200204665	• Conservation and protection of our coastal waters, such as Ningaloo Reef, Exmouth needs to be addressed • There is a need for a balance to be achieved between the natural environments and tourism or ecotourism so the environment is not threatened by social pressures	

Lisa Clarke 200204546		• *So many once-wonderful beaches have been turned into Industrial sites (unsightly at best), which have destroyed existing reef life & turned white sand into grey-black muck.* • *Surely most of these big businesses that used this land for such purposes could have found somewhere a little less needed, inspiring or alive as our beaches or bushland.* • *Then I wonder, why didn't our Government notice that these beaches were being polluted & dying? Why aren't there severe penalties for causing such irreparable damage? My Government would not allow this - would they?* • *Please make laws and enforce them - to protect our beautiful beaches and bushland.*
WWF Australia 200206515	• *Education of the general public of most ocean ecology, issues, threats and methods of conservation needs to be increased dramatically to raise the level of awareness of the ocean and coast as vulnerable, finite resource.* • *The proposed Biodiversity Strategy for Western Australia, or an integrated business plan for ocean management as recommended above, would be potential avenues to explore varying community values of the ocean, and increase understanding of its biological and physical values.*	*WWF recommends that, in the framework of the State Sustainability Strategy, the State Water Conservation Strategy sets out a framework for action, including* • *the future legislative requirements and institutional frameworks for delivering Integrated Catchment Management* • *the actions needed to reduce water consumption and increase water efficiency in all sectors* • *the application of economic instruments to maintain and enhance environmental values, as part of ESD* • *WWF recommends that an overarching vision and plan is developed for WAs oceans, based on ecosystem management principles, that sets goals, objectives and targets for both the development of the plan and its implementation.* • *WWF recommends that a Coastal Strategy is finalised from the various draft documents currently available and others in writing, incorporating recommendations of the Coastal Taskforce and additional reports from the Coastal Planning Coalition.* • *WWF recommends that the Ningaloo/ Cape Range Region initiative is supported as a case study for regional sustainability under the State Sustainability Strategy.*
Save Ningaloo Campaign 200206625		• See submission under heading ***Coastal Development***

Diane Matthews 200206303	*Recommendations from a Submission by Canning River Residents Environment Protection Assoc. (CRREPA) to the Review of the Swan River Trust, March, 2002. CRREPA believes that the implementation of these recommendations will provide the necessary support and encouragement that is required to secure the sustainability of volunteer rivercare groups, who provide the basis for the social component for the sustainable management of our river system and against which sustainable development can be gauged.* • *That an equitable working partnership be forged by the Swan River Trust between the Trust, any local government authority with responsibility for river foreshore maintenance, and local rivercare groups;* • *the SRT actively encourages the formation of, and recruitment of members to, rivercare groups;* • *the SRT actively provides technical information on rivercare matters to rivercare groups and relevant local government authorities;* • *the SRT actively communicate with rivercare groups and relevant local government authorities to identify suitable project sites and to assist with sourcing funding;* • *the SRT foster an equitable, working partnership between Dept for the Environment and Heritage and the Dept of Education, Sport and Recreation, and encourage enforcement of penalties.* *In view of the above it was astonishing to learn very recently that the Swan River Trust and the Western Australian Planning Commission in collaboration with local government are to "provide a long term planning framework. This will guide the use of the rivers and the use and development of adjacent land to ensure protection of the river landscape, its amenity and environmental values." (Letter from Geoff Totterdell, Chairman SRT dated 15/4/2002). Apparently this document, The Swan and Canning Rivers Precinct Policy Plan, has been in development since 1997. Astonishing, because this letter was the first any of us had heard of it, in spite of continuous requests for a more collaborative approach by agencies to riverine management. For such a Plan to be successful and achievable I very much hope that it incorporates the principles of sustainability*	

Ruth Balding 200205374	• *Many existing penalties are so low that they are seen as a joke, viewed as small change or are incorporated into the costs of an enterprise and it's business as usual.* An example of sufficient fining is the recent successful prosecutions of illegal abalone poaching with large fines imposed. This has sent the appropriate messages to the community about the value of the resource • The government has to get the proposal for development in the Ningaloo Reef area right before anything proceeds. *Currently developments seem to be allowed to totally impose themselves on and dominate the coastline*	• *A coastal development strategy is urgently required especially for the Perth region and areas of higher populations… developments along the coast appear to be a free for all*

Save Ningaloo Campaign 200206625	• The Save Ningaloo Campaign is driving the sustainability 'push' for the region, through the Future Ningaloo project. *This work has begun and has strong support in the region and the wider community. Strong relationships have already been built with key researchers, tertiary institutions and practitioners to advance this endeavour.* • *The description of the Future Ningaloo project in this submission is indicative only and does not encompass the total work that the Save Ningaloo Campaign has conducted on sustainable alternatives for the region.* • *Further opportunities to discuss the Future Ningaloo approach, and explore potential synergies with the State Sustainability Unit, would be welcomed.* • *The guiding principles of Future Ningaloo are the key tenets of sustainability, the elements of natural resource management and the crucial importance of intensive community involvement in decision-making, leading to empowerment and "ownership" of the issues.* • *The framework which is guiding the project is discussed, with particular reference to convening a steering group, setting a vision, undertaking the crucial research and planning work that has so far been lacking in the region, and investigating mechanisms to implement plans and monitor performance.* • *Exciting opportunities exist to infuse this planning process with the most meaningful and applicable principles of sustainability.* • There are opportunities to apply sustainable technologies to the existing infrastructure needs of Coral Bay.	• *This submission contends that the Cape Range – Ningaloo Reef region provides the perfect vehicle for highlighting, to the rest of the State, the benefits which can accrue from the active pursuit of sustainability.* • *Further, that the region is currently at a crossroads and that current threats and conflicts drive a 'once only' opportunity for 'getting it right' in the jewel in the crown of the Western Australian coastline.* • *The timing of the State Sustainability Strategy is fortuitous because it presents the Government, the community and industry with unique opportunities to establish this globally important place as an icon of sustainability and a showcase of Western Australian technology and expertise.* *GOVERNMENT:* • *The role of government should be one of leadership, predicated upon clear community participation in direction setting and an unflinching resolve to deliver the outcomes determined by stakeholders in that process.* • *At this early stage of the sustainability revolution, government should be 'kick-starting' opportunities, particularly in areas of high environmental value, and doubly so in areas where ecological integrity can translate so directly into economic benefit.* • *This will require 'investment' by government. Investment in thorough and integrated planning, adequate land and marine management, development of appropriate infrastructure and marketing of the resultant benefits, including spin-off technologies, processes, etc.* • *Government agencies have a vital role to play if sustainability is to be achieved in the Cape Range – Ningaloo reef region. To some extent they must be relieved of the (often) unrealistic expectations that society has of them and freed to participate in the process of design for a sustainable future (within their statutory bounds).* • *Integral to the successful delivery of community expectations, agencies must have more opportunity to participate in the process with the community and less responsibility for managing the process. Government agencies, historically, have difficulty taking carriage of such processes, facilitating unbiased results, fostering real vision whilst adhering to their governing Act.* *BUSINESS:* • *Businesses in the region are awakening to the 'real' opportunity before them; that their future prosperity will rely upon intact*

Peel Preservation Group 200205797		*The coast must have an Act of its own. The size and importance of Western Australia's Coast demands a legal framework to cover :-* • *Future urban development and re-development along coast, estuaries and adjacent waterways to have minimum foreshore reserves of at least 150 metres, with similar protection for significant wetlands and mudflats.* • *Establishment of Marine Parks to protect marine species and escosystems,* • *Limits on fish size and take for professional and recreational users,* • *Total banning of pollutant discharge into rivers, estuaries and ocean (this includes government operated wastewater outfalls).*
Guilderton Community Association 200206717		Please see submission under heading ***Urban and Regional Growth Management***

Environmental Alliance 200206616		• *The Alliance supports the thrust of the "Policy for the implementation of Ecologically Sustainable Development for Fisheries & Aquaculture within Western Australia" (Department of Fisheries, in press) with one important reservation. This is the lack of a clear strategy to ensure the establishment of a decision support system for ecosystem-based rather than stock-based management.* • *The achievement of ecosystem-based management is hampered by the absence of an overarching, bio-regional, marine planning system and the lack of integration between the implementation of the marine reserve system (by CALM Marine Conservation Branch), fisheries management and the Commonwealth's Oceans Policy.* • *The economic wild fisheries of WA are probably fully exploited. Further increases in the value of production will have to be based on product development and marketing (value adding), sustainable aquaculture and fish habitat enhancement. There are marked conflicts between economic efficiency and social objectives in fisheries, as there are for most other areas of natural resource utilization.*

Sustainable Rangelands Management and Other Natural Resource Management Issues

Ellen Brook Integrated Catchment Group 200203498		• Downstream benefits generated by catchment management should result in the transfer of funds back to those catchments
Brett Ranford 200204126	• It is now that the research, policies and technology need to be implemented to ensure availability of necessities for the current and future population of Western Australia • Implementation of sustainable resource use will take time, some solutions to problems will be put into place in the short term, however many of the solutions to problems will take a long time	
Brian Bucktin 200204123	• Any industries that deplete the natural resource base should be discouraged	

Stuart Hawkins 200204122		• Currently penalties for environmental degradation (e.g. land clearing) and environmental pollution are inconsistent with the benefits that are gained from these actions, and also inconsistent with public beliefs of what acceptable penalties for these actions are. Urgent review of penalties is required to make degradation and pollution of environment a real cost and provide a disincentive to polluters.
Maxine Dawson 200205139	• *Sustainability means being careful about how we use our natural resources now, so that we and other life forms will continue to be able to live on earth for as long as possible*	
Ruth Balding 200205374	• *If we don't start to focus on sustainability then our resource base and natural environment will continue to decline.* • There is a general perception that was reiterated in the consultation paper that Western Australia is blessed with an abundance of resources. The perpetuation of this general perception does not aid bringing sustainability to the fore. Why do we have to limit our consumption if we have many resources to meet all of our needs? The government therefore has a role in clarifying the issue of sustainability and how it impacts on our everyday lives.	• Phase out issuing licenses for harvesting from natural areas. For example harvesting native flora for the cut flower industry from state owned public land. Assistance for commercial growers to cultivate native flora for the cut flower industry
Christine Heal 200205705	• Efforts of conservationists are often maligned in their attempts to save natural areas, and those with economic interests in continuing existing practices are threatened by change	

Rio Tinto 200206517		Stakeholder survey - environment: • WA has great skills and knowledge in environmental management that can be shared internationally and used to create a centre of excellence • Need for ore research on environmental matters • Government, business, community and environmental groups need to work together to find solutions for environmental problems • Salinity is having an enormous environmental and social impact on the community • Currently there are few incentives for farmers and other land managers to consider the impact of their activities on the environment
Kimberley Land Council 200207045		• See ***32. Indigenous issues and Sustainability***

Kath Mathwin 200206626		• *Government's role is to provide leadership. One way of doing this is to look after all the reserves (including roadsides) which it is in any way responsible for, weeds and feral animals controlled or elimated on all Government property.* • *Money and effort, wisely committed now, will be repaid many times the over in ten, twenty or a hundred years from now. We should not be costing future generations anything.* • *Government's role is to seek out people with understanding and experience in sustainable land use and listen to them, until Government really understands and admits the seriousness of the problems faced, and recognises that most of these problems can be overcome by already tried and proven landcare methods, which will be cost effective in the long term.* • *Government needs to ensure the preservation of all remaining native growth, reserves, roadsides, and on private property where owners are unable to cope. All remaining native remnants should be declared sacred and treated accordingly. They are at least as valuable a part of our heritage as old buildings* • *Government needs to bring in legislation which will fully protect all remaining flora and fauna.* • *Government needs support and work with environmental NGO's, to fund coordinators for LCDC's or equivalent local organizations, to provide efficient and knowledgeable agencies, giving easily accessible information on sustainable agricultural and environmental practices and able to promote successful ventures.* • *Government needs to see that job security and continuity for people in these areas of expertise is assured, continual changing conditions and personnel means that work done and experience gained is lost, that projects are not finished and that confidence and enthusiasm are destroyed, both for advisers and advice receivers* • *Government could facilitate the establishment of a Centre for a Sustainable Future, where information, encouragement advice and support could be found. Community Landcare Centres (Sustainable Landcare Centres would be a better name) are still needed in at least every Shire.* • *Role of Business includes being open to change, to be prepared to put "sustainable" practices into their farms or other businesses, to do this they need to be confident that it will work without costing them their financial sustainability!* • *Role of Community is to accept and participate in proven sustainable practices, even though change is something we all*

Rosa de Graaf 200206617		• *Encourage Shires to plant more suitable trees- instead of having so much lawn.* • *Whatever you do – to solve or implement the solutions, make them exiting realistic and rewarding – e.g. encourage planting of cheap (for garden) or free (for verge) native trees. Shires could have such a horticultural nursery going. Help and advice freely given.* • *The unemployed could also be helping – say one day a fortnight or so – just don't call it 'work for the Dole!' Give a choice to single parents, pensioners t register for volunteer projects – many might just volunteer.* • *Shires could have a horticulturist/land rehabilitation/manager employed and use some volunteers to plant up their Shires and help those in the Shire that need help. All will benefit form these projects. Imagine- a real helpful Shire/Govt! (Perhaps assist in setting up local rehab groups)* • *Many will learn various skills in the process – whether they are young or old, and most importantly – the people involved will gain self-esteem, a sense of an important achievment iwht combined effort. Wouldn't this not also aid in creating a more sociable and stable community- maybe less – violence, theft and destruction?* • *Whenever or where-ever you want to get the message across- let the people know that they are all needed and let their work for society and environment be recognized in some way.*

The Environmental Alliance 200206616		*Natural Resource Management:* • *The Strategy must facilitate the development of a new vision for the WA landscape that is highly biodiverse, based on landscape scale management and deep-rooted perennials.* • *Research and development is urgently required to develop commercially viable native perennial species.* • *Farming communities must be supported through the process of change.* • *Government must support community access to the latest research, data and technology to enable improved land management.* • *Salinity investment must aim to protect high value public assets such as biodiversity, water resources, infrastructure and high value farmland. Our limited resources need to be carefully invested within an investment framework.* • *The social impacts of salinity need to be urgently addressed.* • *Research and development is required into commercially viable alternative crops.* • *The conservation of urban bushland should have greater priority in planning decisions.*

Land clearing

R&S Cleverley	•	• landholders (including government) be required to pay for "real costs" of environmental degradation from land clearing, "real cost" being financial expenditure necessary to rehabilitate the land to condition prior to clearing.
Teresa Tompkins		• Local Governments need to take a more sustainable look at land clearing for urban, industrial and rural development. Address clearing, especially on a local level, as large pockets of woodland and native bush are being lost to development.
Greening Australia (WA) 200207139		• Need to strengthen legislation in relation to the clearing of native vegetation in urban and rural areas.
Mary Gray 200206686		Landclearing a priority sustainability issue for WA: • *WA landscape grossly overcleared in south west* • *Land clearing continuing* • *Substantial Greenhouse Gas emissions from clearing* • *Absence of strict clearing controls which enact and enforce WA commitment to goals and targets of the National Strategy for the Conservation of Australia's Biological Diversity and the NHT Partnership Agreement. Specifically failure to meet the requirement of 'no net loss of vegetation quality or quantity'* • *Galloping salinity and land degradation due to overclearing in*

		south west • *Inappropriate and unsustainable agricultural enterprises and practices in most areas* • *Failure of farmers to appreciate and manage their farms as ecosystems and as closed systems which are sustainable* • *Failure of government to provide legislative framework and incentives for ESD and sustainable farming*
Halliburton KBR 200206710		• *Land clearing for agricultural and residential purposes needs to be curtailed with much more strident controls.*
J.E. Wajon 200206629	• *In this area, it is also time that the many arms of government pulled together rather than apart, which seems to be happening with so many developments. Many government departments and policies seem to working at cross-purposes. For example, we are rapidly destroying our best Banksia woodland for housing, yet many already degraded areas, particularly unproductive near-urban farmland, remain undeveloped.* • *There is too much cleared or partly cleared degraded land in urban and outer urban areas that is not used for any productive purpose, including housing. Many rural properties also appear degraded and very unproductive. There is a need to use these areas first for any in-fill and new housing.* • *A condition should therefore be placed on privately owned property in urban or urban-deferred developmental zones, which is either partly or fully cleared or contains bushland in poor condition and does not contain any threatened or significant flora, that cause should be shown every five years why it should not be developed by the owner for housing. This is to make previously cleared land available for housing prior to any new land being cleared in areas where there is already "unproductively" used land.*	• *Local Councils and the WA Planning Commission should more closely scrutinise development applications, including for houses, roads and other infrastructure, to ensure that the best use is made of available land. A process should be established so that all applications to clear bushland are advertised, assessed and approved by a statutory body, in a manner similar to, but more thorough than, that being used to gain approval for rural land clearing. Clearing urban bushland should require development approval under town planning schemes and the MRS. There should be a right of third party appeal against the grant of approval to clear bushland.* • *the creation of waste land through un-necessary clearing should be eliminated;* • *un-necessarily wide verges and setbacks should be eliminated;* • *triangular lots of land that can not be utilised productively should be eliminated;* • *development should be consolidated to minimise the need for clearing;* • *cleared land, degraded bushland in poor condition or relatively unproductive farmland should be used first before any bushland in good to excellent condition is cleared for intensive development;* • *all matters affecting or likely to affect the environment as a consequence of clearing and development should be considered before an application is approved;* • *developers should not be allowed to undertake wholescale*

		clearing of land for urban development, only to replace a proportion of the cleared land with planted exotic, or even native, vegetation. The local ecosystem is much more interesting and viable; • *the WA Planning Commission or other statutory body should be able to impose and enforce binding conditions, such as clearing restrictions, fencing requirements and the provision of bush corridors, as part of the condition of subdivision approval.* • *A levy should also be introduced on any bushland that is to be cleared. This levy should be on a sliding scale, with the levy increasing as the bushland condition increases. This levy should be used to purchase and reserve bushland in good condition, especially those areas recommended in Bush Forever. On the other hand, local councils should offer rate relief if bushland in good or excellent condition is reserved by the owner for conservation purposes. State Government should also offer financial assistance to Local Councils.* • *A penalty of environmental degradation should also be introduced to ensure developers and owners do not destroy, or allow the destruction/degradation of, vegetation un-necessarily.*