APPENDIX 2

OUTCOMES FROM COMMUNITY FORUMS AT ELLEKER, TORBAY AND REDMOND JUNE 2002

1. INFORMATION REQUESTED AND RESEARCH SUGGESTED BY THE COMMUNITY

Salinity

· How much of a problem is salinity in the catchment area?

Water extraction

- · What are the consequences of water extraction?
- · Please provide more information on monitoring results.

Nutrients

- Need more information about the nutrients coming out of horticultural areas.
- Monitoring results from the waste water treatment plant & flushing meadows and water quality below the tree farm.
- Need to monitor nutrient runoff from bluegum plantations to answer how much fertiliser is being used by bluegums?
- Explore R&D options for nutrient reuse/recycling in the catchment.
- Quantify nutrient discharge to the ocean and evaluate the impacts and industry involvement.
- Algal blooms are the nutrients the problem what about light (shading) and water depth?
- Need more specific information on nutrient generators in areas close to the inlets.
- Monitor water quality from point sources and specific land uses.
- Test amount of nutrients used by pasture species, e.g. kikuyu.
- Provide information to landholders on best practice nutrient reduction and improving productivity.

Costs of Change

What are the costs of changing key land uses?

Drainage System

- What would be the impacts of fixing drains on upstream flooding?
- What has worked elsewhere in terms of drainage management?
- Benchmark Torbay against other catchments
- Who decides on when floodgates and Inlet are opened? What are the criteria for deciding?
- How does the Marbellup Brook work and who monitors it?
- Can Marbellup Brook water be diverted back through Lake Powell as it used to?
- What is/could be the role of Manarup in taking excess water?
- Is JAMBA CAMBA in this catchment is Lake Powell listed?

Chemicals

- Is there chemical discharge from bluegums? Is there chemical discharge from railway sleepers?
- Does sump oil from tractors on farms with water frontage go into waterways?

Bar Opening

- Explore existing anecdotal information on bar openings re relevance to Torbay .
- Bar opening does it need natural or artificial opening for better management?

Algae

- Find our cause of smell in Lake Powell.
- Is there a chemical treatment for reducing the smell?
- · Will flushing help?

Fish Stocks

- · What can be done to replenish fish stocks?
- Are Murray Cod good or not to have in the water bodies? need more information.

Education

- Need information on the effect of landuses on the environment and waterways. Need to know this information before industries start up.
- · Need field days/education for new landholders.

2. ENVIRONMENTAL ISSUES IN THE TORBAY CATCHMENT AND POSSIBLE SOLUTIONS

ENVIRONMENTAL ISSUES	POSSIBLE SOLUTIONS
	extraction
Water extraction.	Planning required.
Bore water quality. Need to maintain flows in Marbellup Brook.	
	trients
Nutrient runoff into waterways.	Trial application of zeolites along riparian
Numerit furion into waterways.	corridors.
Water quality not appropriate for irrigating	New farming practices eg. use of Allrock
natives/wildflower due to high nutrient levels.	Increase micro-organisms in the soil.
Fertiliser use - need to apply to get pasture growth -	Apply minimum - soon after season breaks
don't want to be stopped from applying fertiliser.	eg. 90lb/acre for hay, 60lb/acre for pasture.
Finger being pointed to piggeries/dairies etc. BUT	Test nutrients coming off specific land uses.
this is an agricultural catchment where nutrients are	 Test amount of nutrients used by pasture
a critical input. These industries provide	species eg. Kikuyu.
employment and economic income.	 Provide information to landholders on best
	practice nutrient reduction and improving
	productivity.
	 Subsidies to implement best management
	practices.
	Demonstration sites targeted to new
	practices.
Nutrient loss from farmland and low Fe soils.	Claying sandy soils.Education, soil testing, perennials.
Accurate information to target hotspots not	Education, soil testing, perennials. Make information accessible to the public
available.	and promote discussion.
High nutrient levels in waterbodies eg pool in	Trial zeolite application to take out N from
waterways with high N levels.	water column.
waterways with high it levels.	Will allow slow release for plant use.
	Macrophytes (eg pond biofilter) will use N off
	the zeolite. Zeolite flocculant into water, then
	add microbes to break down algae blooms.
Horticulture around lake Powell.	 Protect existing trees by fencing.
	 Paperbarks.
	Industry guidelines.
	Compliance.
Point sources.	 Stream restoration and revegetation (don't
All Parties	use wire tree guards).
Alternative lifestyle people moving into the catchment - additional effluent from small blocks.	Controls/planning guidelines for sub-division
catchment - additional effluent from small blocks.	in Elleker - city rural planning strategy.
Stocking rates influences by \$	Self contained on-site effluent systems.
	ge system
Management of lower drainage district - nutrients	Develop a management plan including how
and water levels and volumes affects a range of	the new plan differs from the current
issues.	management.
	Redesign the three levels of drainage.
	Dredging.
	Open Lake Manarup back into the system.
Pressure to maintain drainage due to urban	Purchase properties in low lying areas and
encroachment.	remove plugs to re-instate free flow toward
	more natural flow system.
Deep drains.	 Restore back to creeks eg. Unndiup Creek.
	 Reinstall ponds, meanders, replant wetlands
	to reduce algae.
Water quality of North Creek drain bridge, siltation,	 Reduce algal blooms.
nutrients.	 Flushing to increase the flow.
Drainage system delivering water too fast - nutrients	 Education and awareness.
get into drains too quickly.	Sluice gates/flow control structures.
Drainage management.	 Drainage design - wetlands, rehabilitate
	swamps, straight in some places and
	meandering in others, use natural swamps
	where possible.

	and ferals
Blackberries on watercourses and other weeds.	۰
Weeds - Watsonia, Taylorina.	 Two way action needed to delete weeds but replant with suitable native vegetation.
Weeds.	 Map week infestations and develop weed management program.
Taylorina, weed invasion in fenced areas Blackberries.	 Water Corporation sprays Watsonia along water reserves.
Watsonia spreading, burning increases Watsonia growth.	 Important to revegetate with natives after week control.
Wild cherry (tree) is spreading via birds through the bush.	
Weeds - Watsonia, Taylorina, Blackberry, Arum Lilly.	 Map weed hotspots. Appropriate management program. environmentally friendly on going vigilance
Council roadside drain management is spreading weeds.	 Education about proper disposal of overburden.
Foxes especially in Bluegums, Emus.	
More foxes, rabbits with bluegum plantations they provide habitat for vermin.	Vermin control or less plantations.
Vermin - foxes, rabbits, cats	
Foxes especially on shire land, cats, domestic ducks.	
	micals
Chemical wash-off from bluegums.	
Chemical sprays from bluegums - effect of	Waterways and aquaculture etc need
overspray on waterways and aquaculture.	protection from sprays.
	We need more information about the damage sprays do to waterways, effect of
	the sprays on the operators, children,
	neighbours, animals and how plantations are
	sprayed.
	Also chemical levels in beef cattle.
	gae
Smell off Lake Powell (also public health issue).	Reduce nutrient inputs. Phoslock treatment.
Lake Powell - nutrients, smells, algae, impact on environment.	
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Nutrients into lakes and inlet.	Compare anecdotal evidence with scientific
	information particularly information from more than 50 years ago.
Reduced water levels in Lake Powell - reduced	Dredge out Lake Powell and Manarup to
flushing and increased blooms.	provide more compensating capacity.
Bar o	pening
Bar opening impact on whiting and other marine	
species - influx of cold water.	
Bar opening - impact on blooms. Bar openings for potato farms.	
Fish	stocks
Trout in creeks preying on marron. Water quality at Inlet mouth ruins fishing - can't eat	
the catch. Fish numbers and species not like they used to be -	
don't catch Murray cod any more.	
Nutrient discharge to the ocean - environmental and industry effects.	
Laws/regulations re nutrient pollution need to be stronger.	
Lake Manarup was let too dry this year (breeding area for mullet).	

Wat	terways
Instability of creek banks.	Fence all creeks - should be heavily subsidised especially labour.
Erosion on watercourses, and banks.	
Riparian degradation.	 Target most degraded riparian areas and provide incentives to restore these areas.
Lack of information about what goes into creeks.	 Monitoring of creeklines with information updated regularly.
General water quality of creeks.	 Eliminate aerial spraying. Fence all creeks - should be heavily subsidised especially labour. Zeolite & microbes for riparian areas. Community awareness program about the effects of fertiliser practices especially for hobby farmers.
Use of creeks for recreation - swimming, marroning.	
Access for marroning potential to damage creeks.	
People do not know what is in the water and what the impact of their land uses is.	 Need to have district monitoring & a monitoring centre so people can get an idea of what is in their creeks.
	getation
Some creeks have no native vegetation.	 Fence and revegetate or grass with perennial pastures eg kikuyu to stop erosion.
Native vegetation dying through lack of fencing.	
Lack of vegetation along creeks.	 Fund fencing, plant vegetation, plant to attract birdlife.
Condition of native vegetation.	 Fence off native vegetation - seek funding opportunities.
Clearing of native vegetation.	Compensation.
Need broadscale revegetation not individual trees.	 Revegetate with native plant species and return fauna to increase tourism.
Overclearing of land.	 Approach farmers to replant. Quality control system to encourage revegetation.
Clearing of hill tops for residences (planning issue).	
Fires leading to erosion.	
	er management
Surface water on farmland.	 Better perennials, combination with alternative grasses. Surface drainage and deep ripping.
Speed of water flow off land.	 Wetlands, dams to slow flow. Flood/sluice gates on creek systems to control flows and hold water back.
Sa	alinity
Salinity?	
Increasing salt levels in creeks when low flow.	
Lowering the groundwater tables is good for salt but not for nutrients.	
	cidity
Soil acidity	Education, soil testing, perennials.
Significant land use change in a short time period	se changes
(eg<5 years) Bluegums are a monoculture with no understorey -	
more nutrients running off from bluegums	

ENVIRONMENTAL ISSUES	POSSIBLE SOLUTIONS	
Salinity		
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Lowering the groundwater tables is good for salt but not for nutrients.		
Acidity		
Soil acidity	 Education, soil testing, perennials. 	
Land use changes		
Significant land use change in a short time period		
(eg<5 years)		
Bluegums are a monoculture with no understorey -		
more nutrients running off from bluegums		

3. ENVIRONMENTAL AND ECONOMIC ISSUES IN THE TORBAY CATCHMENT AND POSSIBLE SOLUTIONS

ENVIRONMENTAL ISSUES	POSSIBLE SOLUTIONS
	changes
Not enough profit from all farming - viability of	 Better management, direct selling, quality
farming.	control.
Viability of fisheries threatened estuaries are fish nurseries.	
Property values are affected by management	
uncertainty.	
Nutrient hotspot areas (piggeries, dairies etc) are	 Soil PRI tests, more waterways and
also high economic production areas therefore can't shut them down or make them feel guilty.	groundwater monitoring to see how much is
	going down the creeks.
	Perennial pastures to use up nutrients. Implement methods to hold fertiliser on the
Nutrient runoff = money down the drain.	 Implement methods to hold fertiliser on the property.
If farmers had more money - more implementation	Tax incentives, rates incentives, investigate
of Landcare.	carbon credits.
	 Developing walks along creeks to attract
	tourists, birdlife.
	Promote bird watching to increase
	awareness and tourists and encourage bird
	watching and publicise and promote bird diversity.
Fencing takes land out from production.	Need spinoffs from fencing and incentives
3	such as reduced rates, compensation for
	land.
	 Identify watering points and options, and
	alternative uses/water sources.
You lose grazing land if you fence creeklines.	
Landuses - considering people's incomes	
(machinery, dairy etc) is it economically viable for them (or with assistance) to implement	
improvements?	
We don't have strategies to deal with potential	Develop multiple strategy with all factors
displacement of landuses identified as hotspots.	considered.
	 Develop economic incentives.
	Need to look 50 years ahead
Lack of farm income means lack of jobs, trees are replacing traditional agriculture.	
Rivers of green may improve social and economic	Education and awareness of the benefits of
values.	rivers of greens.
	Tackle vermin and fire
We haven't identified how to recycle /reuse nutrients	Education and promotion of viable fertiliser
in our catchment. Absentee landholders.	alternatives.
Increasing number of alternative lifestyle residents	
who don't understand problems or agriculture and	
may not have skills in land management.	
More people moving to the district - don't	Need more education/information from
understand farming eg selling and buying weeds at	contact people in the district eg. on drainage
market days.	system and weeds.
	Lots of local people have good information
	to provide to newcomers.
	Distribute Green Skills list of local plants.
Redmond Progress Association dying	ty strength
Fire control - lack of community involvement in fire	
brigade	

ENVIRONMENTAL ISSUES	POSSIBLE SOLUTIONS
Lack of community interest in the project is a lost opportunity for the community to revitalise	Encourage 'world class' speakers to come and provide inspiration. Incorporate 'social' opportunities into volunteer days, forms etc. eg. sausage sizzle. Make sure work is 'visible' to encourage others eg watsonia control on lower road. School children involvement - other schools besides Woodbury Boston ie. Lockyer is school for this catchment and NASHS, have speakers at P&C meetings on the project. Publicise the ways people can help with tear off strip and using the website. What are the needs of the project. List of people skills.
Plannir	ng issues
Mining/industry impacts.	Protest and ban.
Planning issues including: - proposed Quarry environmental and social issues - Elleker - blocks in swamp areas. Gravel vs bitumen roads (positives and negatives for each).	
Other values need to be considered (recreation) in planning and design.	
Changes in landuse and subdivisions.	Buy inappropriate land uses out.
	ral change
Do we have credible change agents/leaders who can influence behavioural change?	 Look for change agents/leaders - find ways to support/reward them
Socialisation of Torbay project needed.	
Belief that creeklines have 'always been like that' (bare of vegetation).	Education, native revegetation looks great!
People don't like being told how to manage their	Education.
land.	- Eddodilori.
Resentment.	
Better information for residents needed.	
	g land uses
Bar opening - fishermen vs spud farmers	
Motorbikes/4WD damaging native vegetation,	
firebreaks.	
	alth
Health risk at Torbay Inlet during algal blooms.	
	ity facilities
Bluegum plantations reduce local population	Subdivision of home block from plantations to
including number of children on school buses.	retain/attract families.
Shift in population with loss of community facilities from plantations, loss of volunteers.	
Present lifestyle could be at risk.	
Recreation values less than they used to be.	

4. ENVIRONMENTAL CHARACTERISTICS OF AN IDEAL, SUSTAINABLE TORBAY CATCHMENT COMMUNITY

Water quality

- Clean water i.e. useable for domestic use and recreation
- · Clean, healthy waterways and water
- 'Clean not green' water
- No/minimal algal blooms in lakes and inlets

- Ocean 100% free of land use associated impacts
- · Able to swim in the creeks and waters.

Drains/water management

- · Remove or revegetate drains they are ugly
- Water retained in the catchment, reduced runoff e.g. wetlands
- · Wetlands, streams fenced to exclude cattle
- · All erosion gone
- · No erosion scars along the waterways
- Unndiup creek back as natural
- Controlled drainage system that meets all needs
- Increased wetlands eg. back of Torbay Hall
- All creeklines in the catchment fenced and revegetated.
- No restrictions placed on local use of water, relating to Water Corporation use of Marbellup
- Well maintained drains
- Wetlands purchased by government and put back for flood and nutrient control.

Aquatic species

- Original species present in water
- · Marron in every creek
- · Lakes and inlets flourish with leaping silver (not gold) fish
- Prawns back in the Inlet
- Water quality supports native species including removing algal blooms.

Flora and fauna

- · Native vegetation & fauna protected
- More trees on farms more native vegetation, on tops of hills, all farms to have 25% vegetation fenced off with trees, understorey, and sedges
- Weeds controlled by vigilant community
- · Regeneration of remnant bush
- All foxes, cats and rabbits eliminated and dogs managed
- · More abundant native wildlife flora and fauna
- Torndirrup and Cape Howe National Parks joined
- More native vegetation fences individual landholders given opportunity to fence their vegetation
- Hollow trees kept for habitat
- Native marsupials back in the bush and frogs back in creeks
- · Lots of birdlife
- Native trees are looked after
- · Green belts created for wildlife corridors.

Whole catchment management

- · Model precincts/ subcatchments foster these through change agents
- Harmonious eco/environment that provides economic and environmental sustainability
- · All needs met
- · Maintain agricultural aspects of the catchment cleaner!

• Economics of this district (farming, dairies, piggeries, aquaculture) flourishing in an economically sustainable way.

5. SOCIAL CHARACTERISTICS OF AN IDEAL, SUSTAINABLE TORBAY CATCHMENT COMMUNITY

Communication

- · Better feedback/ communication
- · Good neighbours
- Community rather than individualism
- Awareness of mutual reliance and shared responsibility eg city vs rural, upper vs lower catchment, on site vs off site effluent disposal
- Increased awareness of everyone in the catchment and that what they do affects the environment
- Strong well informed community through local commerce/ shops, newsletter, local groups local government representatives
- · Well linked with partners from outside of the region through critical contact people
- · Every landowner in the area educated and aware of what we are working towards
- · Ongoing discussion, management, changes in technology, monitor population
- Continuation of very effective monitoring to gauge when things get out of balance.

Involved community

- More active and involved community working together more.
- Greater awareness of residents
- Retain the good, but recognise that there will be change
- Community engaged in protection and development of Torbay
- · Access to ongoing education for landholders.
- · Community 'thriving' re: supporting local halls, progress associations etc
- Big happy community!
- Want everyone in the catchment to feel so good about living here that they look after it
- Sharing community coming together formally and informally
- People taking pride in the place
- More social interactions
- · Encouragement.

Housing/population

- Less subdivision and residential zoning
- More people living on their properties in the catchment leading to improvement property management including better weed control
- Restricted urban development.

Aesthetics

- · Protect naturalness
- No litter (related to store)
- No change to the appearance of the catchment.
- Retain and enhance scenic, natural beauty.

Recreation

- Access to waterways in a sustainable way
- Recreational access maintained, but controlled by environmental considerations e.g. riding trails
- Recreation, beaches and rivers, slower lifestyle
- Maintain special areas in the catchment e.g. Cosy Corner
- · Walk trails around scenic spots
- Greater recreational use of waterways.

6. ECONOMIC CHARACTERISTICS OF AN IDEAL, SUSTAINABLE TORBAY CATCHMENT COMMUNITY

Industry

- · Focus on passive tourism, eco-tourism, instead of other industry
- Encourage tourism but retain agricultural landscape and primary productions as primary land use
- More industries based on natural products
- More value adding eg. pickling cauliflowers
- · People must be able to live and earn in and from the catchment
- · Visible and sustainable low impact business
- · Employment diversity in the catchment
- Increased ecotourism and ecotourism encouraged in the area spinoffs increased awareness of environment
- Appropriate land uses in appropriate places eg bluegums only in right areas this needs long term planning in place
- Planned industrial areas with no noxious industry in the catchment

Land use management

- Lush pastures covered with Angus/Murray Greys/Charolais
- · Better fertiliser practices less bare ground, more perennial pastures
- Great areas of nutrient uptaking pastures/trees, production of grasses more productive catchment
- Farmers getting more return and pushing their land less
- · Farmers using all their nutrients on their properties
- Trees, tree belts for wind breaks leading to improved pasture and cattle production
- Healthier pastures through efficient fertiliser application and use (increased promotion and uptake of alternative fertilisers)
- Best practice for new introduced horticulture or any new landuse.

Issue	Community objectives	Sub-objectives
Algal blooms	Minimise algal blooms	Minimise the transportation of nutrients into waterways Minimise the transportation of sediments into waterways Minimise stratification of waterbodies Reduce the incidence of toxic algal blooms Reduce the incidence of all algal blooms
Water quality and quantity	Maintain Marbellup Brook at a standard suitable for drinking water Ensure there is enough flow in Marbellup Brook to maintain ecological requirements Ensure all other waterways and waterbodies are suitable for recreation, domestic use and agricultural use Ensure Lake Powell, Manerup Lagoon and Torbay Inlet are suitable for the survival and growth of native aquatic plants and animals	Implement best management practices that minimise public health risks and environmental risks associated with use of Marbellup Brook for drinking water Ensure that the environmental services provided by the catchment are paid for by users of those services As for algal blooms above
Drainage management	Manage the drainage district to best meet the needs of current land uses, future land uses, and the environment	Minimise flooding impacts on horticulture Minimise flooding in residential areas Minimise adverse effects of drainage management on fisheries Minimise effect of drainage management on algal blooms Maximise environmental outcomes within constraints associated with appropriate use of land and water resources.
Habitat and biodiversity management	Encourage biodiversity by planting, replanting and protecting remnant vegetation Encourage biodiversity by improving in-stream habitat Minimise the introduction and spread of introduced weeds Minimise the introduction and spread of pest animal species	Increase population sizes and diversity of native terrestrial vertebrate fauna Retain a representative and adequate proportion of pre-European settlement vegetation types Increase population sizes and diversity of native fish and crustacea Improve the condition of foreshore vegetation and in-stream habitat Reduce the impact of weeds on native vegetation Reduce the impact of pest animal species on native fauna
Farming systems	 Assist in ways that both aid the viability of farming and result in better environmental outcomes 	Increase the use of best management practices for agricultural and environmental benefit Minimise nutrient leakage from farmland Minimise erosion on farmland Reduce the impact of weeds on agricultural production
Land use planning	Maintain a prominent role for primary production in the local economy, consistent with environmental values Support planning strategies that are consistent with the promotion of environmental values Encourage an appreciation of natural attractions of the catchment through passive recreation	Influence Town Planning Scheme amendments to avoid a significant loss of the area of land zoned for primary production Implement planning mechanisms that provide protection for remnant vegetation on freehold land. Influence Town Planning Scheme amendments to limit the introduction of further zonings in the Drainage District that compromise the environment Provide high quality and environmentally sensitive recreational amenities within the catchment.
Education and communication	Facilitate a good understanding of the values of the catchment to achieve community change and a proactive attitude toward implementing on-ground works to achieve a shared vision. Increase awareness of appropriate land planning and use Increase understanding of Drainage District management towards a greater appreciation of mutual responsibilities and needs Increase understanding of improved farming systems for profitability and minimising environmental harm Increase understanding of the causes of algal blooms and the effort and time taken to effectively treat them. Ensure research in the catchment is responsive to community needs.	Develop community sustainability indicators that reflect the vision and provide feedback on progress toward achieving the vision. Identify any barriers to project implementation Promote greater dialogue between local government and the community Develop and communicate management scenarios for the drainage district that provide an appreciation of opportunities and constraints Communicate and promote on-farm best management practices Communicate and promote other land use best management practices Communicate required actions, targets and time horizons for the treatment of algal blooms. Ensure effective communication of water quality monitoring results to the community and landholders Collaboratively identify key knowledge gaps requiring research with the local community Actively seek the incorporation of local knowledge in research