



annex d: forces shaping the corangamite region

What forces will shape human activity in the Corangamite Region over the next 20 years? The future is uncertain, but taking action today depends on anticipating what *might* happen in the future. This annex reflects the thinking of people living and working in the Region, based on discussion in workshops and written feedback on drafts. It brings together this local knowledge¹⁵ and provides a starting point for testing these conclusions against further Region-specific data, to confirm or refute the possible impacts.

urban migration

trends

Melbourne people are moving to the Region. They are moving to Ballarat and Geelong and their environs for cheaper residential land and more space, and they are moving to the highlands, coast and Otways for weekenders and retirement. The attraction of the Region will rise as Melbourne land values increase, as road and rail links improve and as Melbourne itself grows further west.

Geelong will grow south in a corridor towards Mt Duneed, and in satellite residential areas at Lara and Bannockburn. There will be development west from Torquay, and at Ocean Grove.

On the coast, in coastal towns bounded by State Parks and other public lands such as foreshores, residential density will rise. Some coastal towns may extend up valleys on private land where available.¹⁶ A shift to permanent occupancy of former holiday homes will see a significant rise in resident populations. For example, the population of Anglesea, Lorne and Apollo Bay will rise from 4,000 to more than 11,000.

The foothills of the Otways will see progressive buy up of properties for weekenders and retirement, all the way to the Curdies River. Along the coast rising property values and a lack of rental properties is already leading some residents and workers in the tourism industry to head over the Otways to live in Deans Marsh, Bamba, Winchelsea and Colac. Growth of Warrnambool will see people looking for lifestyle properties in the west of the Otways. Residential lots in towns will be developed, with pressure for sub-division in rural/ residential zones.^{17 18}

Ballarat will grow within the city boundaries, and with new settlers attracted to the hills country. People will come from all socio-economic groups and all age groups, and the resulting mix will be diverse, with some towns and locations attracting particular income levels and developing their own character. The overwhelming majority will rely on income beyond the Region.¹⁹

what might be the impacts?

- More competition for water between urban, agricultural, recreational and environmental uses, and more pressure from waste disposal.
- More pressure on biodiversity.²⁰
- Increased demand for quarry products (limestone, basalt, sand & gravel) sourced from within the Region for housing and infrastructure.

15 NOTE/ Local knowledge is based on personal experience and leads to an understanding of what is happening and might happen. The RCS has drawn together expert knowledge from existing studies, and this will be further built up over the next five years.



16 COMMENT/ P. Bollen, Surf Coast Shire. Both local and state governments are now seeking to restrict the expansion of towns along the coast (refer to the *Victorian Coastal Strategy, Draft Great Ocean Road Strategy and Surf Coast Shire Municipal Strategic Statement*) and minimise the extent to which infill development within towns would negatively alter the landscape values.

17 COMMENT/ CCMA Implementation Committees (ICs): There needs to be more flexibility in relation to the minimum rural lot size of 40 hectares. If this forces people who would prefer a smaller block to buy a larger property beyond what they can manage, the impact on land management will be negative. In other cases, the 40 ha limit stops breaking up of land into small lots that make the landscape as a whole harder to manage well.

18 COMMENT/ P. Bollen, Surf Coast Shire: The Shire's *Rural Strategy* seeks to protect the long term supply of rural land available for agricultural production by limiting proliferation of dwellings and subdivision of land into lots that are too small to be used for this purpose. The Shire would be concerned if lifestyle living to achieve environmental objectives were to be supported at the expense of taking rural land out of production. Rural residential development is encouraged to be located in identified nodes adjacent to townships so as to cater for lifestyle living whilst protecting agricultural land. However, increased demand for rural residential living may push up land prices, thereby making it difficult for farmers to buy and sell land to meet their production requirements.



19 SEE/ Annex A: *Comments - trends in population in the corangamite region.*



20 COMMENT/ G. Hull, DSE SW Region: The pressure of urban growth will be felt on narrow public land reserves such as foreshores; the development of adjoining private land increases public use pressures as well as impacting on nature conservation values.



21 QUESTION/ Who pays for the infrastructure (roads, power, water, sewerage, education and health services) required by growth of residential settlement? Is there an unfair burden on current residents? See Annex A: *Comments - infrastructure costs*.

22 QUESTION/ What parts of the region are well suited to each type of agriculture? SEE CCMA for *Land Resource Assessment Project*.

23 COMMENT/ P. Bollen, Surf Coast Shire: Potential for conflict between the amenity expectations of lifestyle dwellers and legitimate farming activities is a concern gaining increasing attention both overseas and in Australia. There is no easy solution to this problem, however the Shire has recently released a '*Rural Living - What to Expect*' video and booklet which seeks to educate new purchasers of rural land on the amenity impacts they may face. These educative initiatives need to be supplemented by effective planning controls that limit houses in rural areas to those associated with genuine rural activities.

24 QUESTION/ What are the aspirations of urban dwellers for the environment? We're only talking here about those who move to the country, but most of the Region's population live in Geelong and Ballarat. See Annex A: *aspirations of urban and rural communities*.

25 QUESTION/ Have other regions with new settlers ended up with less cohesive communities?

26 QUESTION/ What aspirations do young people have for the environment? After all, they'll be the ones running things in 20 years.

27 COMMENT/ N. English, Surf Coast Shire: Note that not all owners live in Melbourne. In Lorne, 40 percent of absentee landowners live in Geelong and 20 percent in country Victoria.

28 COMMENT/ P. Bollen, Surf Coast Shire: The reverse may be true, as high property values reduce the affordability of housing and lead to increased investment in housing for tourist accommodation. Further work is required to identify the extent and nature of the impacts.



29 SEE/ Annex A: *Comments - dairy industry scenario to 2020*.



30 QUESTION/ What effect will the increase of stocking rates, herd size, milking frequency, and use of large sheds have on the environment?

- Decisions about social, economic and environmental policy driven by the pressures created by private land development, rather than by political or community decisions.²¹
- Existing properties broken up by sub-division or sale of small lots that takes them out of broadacre agricultural production and creates much more intensely settled areas with less native vegetation or biodiversity.²²
- Difficulty in containing weeds, pests and fire as new settlers will have little experience in managing rural property, and in some cases little time or inclination. At the same time, rural services will grow. Those with the money will buy in services like fencing contractors, weed sprayers, grass cutters to maintain their blocks. Services will develop to help people plan for their properties and then manage them.
- Less cohesive and more diverse local communities made up of farmers, townspeople, commuters, weekenders, tourism operators and hobby farmers. They will have different values, different work and different histories.²³ Some will want freedom to do what they want, without worrying about environmental impact. Others will want to do the right thing environmentally,²⁴ and might be quick to judge others on their practices. People will not know each other, and might see each other through stereotypes. ^{25 26}
- In areas around residential centres, new owners on small properties will resist growth of suburbs on their doorstep, because they moved here to get away from suburbia.
- There will be more people looking for work as they move to the coast as permanent residents and seek employment locally.
- People will move in and out of areas close to regional centres. As families grow up, as people need easier access to medical care or as the rural dream turns into too much hard work, people will sell up and move back to town. Others will take their place.
- There will be fewer full-time residents to manage the environment. People resident outside the Region will own more properties in the Region,²⁷ and such people will be less inclined to be involved in planning for the wider catchment. This will throw more responsibility onto full-time residents. Alternatively, there may be more full-time residents as retired people settle in the Region and get involved in planning for their area.²⁸

intensification of economic activity

trends

Agriculture is intensifying production and activity. This does not mean it is expanding in area: it may occupy less land in the Region, as producers give up land not suited to their production.

Dairying will increase production, perhaps doubling output by 2010 ²⁹. There will be consolidation into larger properties, larger herds,³⁰ more mechanisation, more use of feed grown in the Region on the plains³¹ and also imported into the Region. There will be an even closer relationship between producers and



processors, with processors providing technical support and producers working to quality assurance systems.³² There will be a gradual move out of areas not ideally suited to dairying, and a shift of dairying west.

Cropping systems are becoming more intensive. Raised bed cropping has developed rapidly over the last five years and will be adopted more widely on the Basalt Plains³³.

Grazing systems are managing pasture more actively, developing pastures of complementary species and using rotational grazing. These new approaches are more profitable³⁴ and more sustainable, and there will be further innovation as farmers push the boundaries of past practice and as science improves.

Egg producers, poultry and piggeries will be displaced with growth of residential areas in Melbourne and Geelong, and will look for new locations on the plains. This movement is underway in the Surf Coast and Golden Plains Shires,³⁵ and existing operations in Colac Otway Shire are expanding.

Horticulture and viticulture will seek out pockets with suitable soil and water, close to transport routes and labour. They will be new contenders for limited water.³⁶

Serious hobby farmers will buy into the Region to start a business. A *generational change* will see older farmers retire and a younger cohort of owners and managers move in. This has been happening, for example, in dairying. *Corporate farms* will increase and family farms will decrease.³⁷

Forestry plantations will extend further south of the Princes Highway into the foothills of the Otways and north of the Basalt Plain in the Highlands.³⁸ The focus will be production for wood pulp, with 10–20 year rotations. Reduced timber supply from logging in native forests will mean more plantations managed for timber production. There may be a growth of plantations for sawlogs on the plains. *Agroforestry* will increase.³⁹

Aquaculture is growing, but coastal commercial fishing is facing tighter limits, and recreational fishing is at a steady level.⁴⁰

Extractive industries (limestone, basalt, sand and gravel) are growing in response to population growth. There is an interest in *gas and oil* extraction in the Otway Basin, and new proposals for *power generation*.

The *food and fibre industries* will continue to change in response to *global market forces*. There will be closer links between producers and retailers, with quality assurance systems that reassure consumers about the quality of what they are buying. The rise and fall of commodity prices will keep affecting farm incomes and farmers' ability to invest in Landcare.⁴¹

The *convergence of bioscience and information technology* will see rapid advances in gene technologies. Plants and animals will be built for purpose,⁴² and agriculture production systems will fit more variables together to finer tolerances, using much more information technology.

31 QUESTION/ What growth is likely in feed production on the Basalt Plains, for supply to dairying?

32 QUESTION/ What kind of support do processors provide now? How do they see this developing in the future?

33 QUESTION/ What are likely to be the environmental impacts of raised bed cropping? See: Annex A: *Comments - southern farming systems*.

34 QUESTION/ Where's the evidence that these systems are more profitable?

35 COMMENT/ A. Te Wierik, Golden Plains Shire: Council is establishing partnerships with broad-acre farmers and intensive animal industries to address the need for extensive buffers to intensive animal industries and establishing a regional Landcare group for the southern end of the Shire.

36 QUESTION/ Where are horticulture and viticulture likely to grow over the next 20 years? Will their needs for water be significant relative to other users? What might be the growth and impact of organic farming?

37 QUESTION/ How rapidly will corporate farms grow and family farms decline, and what will be the impacts? Will corporate farms have a stronger or weaker environmental ethic and commitment to the local community?

38 COMMENT/ P. Bollen, Surf Coast Shire: Assessment is needed of suitable areas for plantations, so that planning scheme controls can be designed to discourage plantations in areas of high landscape significance or where land is of high agricultural value. There is currently little direction to councils, plantation companies or the community regarding appropriate locations.



39 SEE/ Annex A: *Comments - snapshot of forestry in the otways*.

40 SEE/ Annex A: *Comments - changes in fishing activity*.



41 COMMENT/ Leigh-Moorabool Strategies Workshop. No matter what else happens to have influence on the environment, commodity prices, employment and seasons have undoubtedly the greatest effect on outcomes. SEE/ Annex A: *Comments - farmer profitability drives environmental condition*.

42 QUESTION/ What independent research is being done locally and overseas on long-term effects on soils of genetically engineered (GE) crops? What monitoring is in place now to assess effects of GE crops?



43 QUESTION/ What can be done to preserve agricultural activity even when land values rise?

44 QUESTION/ Do we know that employment in processing will rise? More efficient processes could reduce demand. And if dairy farms move north and west, so will the factories.

45 COMMENT/ R. Holland. EMS's are not likely to be widely adopted unless compulsory. Quality assurance systems focus on food safety, and won't translate into environmental management systems. The other reality is that profitability affects farmers' ability to invest in environmental management, and profitability is strongly affected by global prices and trade barriers.

46 COMMENT/ I. Voigt, DSE SW Region. EMS could become a lot more popular if market signals develop that would act as a driver, especially in sensitive areas/ industries.

47 QUESTION/ Will there also be pressure against intensive animal industries?

Rising land values is one force behind intensification. As land becomes more valuable, the return from its use needs to rise, or the owner is better off selling and using the capital elsewhere. This pushes broadacre farming out and brings in intensive agriculture.⁴³

what might be the impacts?

- Growth of employment for semi-skilled workers. Larger farms and the loss of farming families will bring more demand for semi-skilled labour on farms. Processing of dairy, meat and timber products in regional centres such as Colac will continue to push up employment.⁴⁴
- Competition for water. Producers with large capital investments will seek to reallocate unused water and environmental flows.
- Environmental management systems become standard practice,⁴⁵ reducing environmental impacts from agriculture. Quality assurance required by export markets will slowly extend to the environmental impacts of production of food and fibre.⁴⁶ Younger farmers will be more ready to adopt sustainable practices because of their awareness of environmental impacts. Information technology will allow for closer control of nutrient input and output. As the majority adopt these systems, the minority will face tougher pollution controls.
- Higher danger of environmental "hot spots" as new agricultural systems push closer to the limits of land capacity. Management systems can crash through normal error, and the impacts are larger. Or poorly managed systems can leak nutrient and effluent.
- Conflict with adjacent residential owners over sprays, smells, noise, weeds, vermin, fire risk, movement of animals. Litigation over damage and over local government planning decisions.⁴⁷
- Larger vehicles and more traffic on all roads and bridges. Increased maintenance costs for municipalities.

growth of tourism

trends

Tourism is a dominant economic force in the Otways. Visitation is forecast to double between 2000 and 2010, with a possible six-fold increase over the next 30 years. Traffic on the Great Ocean Road will grow at four per cent a year. The Surf Coast Shire estimates direct employment in tourism at 30 per cent and indirect employment at a further 30 per cent. Higher density development on the coast is almost inevitable.

The Region is popular because of its natural environment and its social character, but both of these are threatened by growth of tourism. In the past, tourism operators, local communities and agencies providing infrastructure have not anticipated and managed the impacts of tourism, but that is starting to change. Shires, the Department of Infrastructure and Geelong Otway Tourism have all begun to think about the sustainability of the tourism industry.



what might be the impacts?

- Pressure, especially during peak holiday periods, on all infrastructure: water supply, wastewater treatment, waste disposal, roads. For example, traffic volumes on the Great Ocean Road during holidays that are two to four times the daily average will mean congestion and time delays.
- Pressure on parks, estuaries, foreshores and the lakes.^{48 49}
- More accommodation and activity in the Otways, not just the coast, as tourism operators convince visitors to stay a day longer in the Region.
- Pressure to stop agricultural and forestry land uses which do not fit tourist expectations of a “rural landscape.”
- Local residents displaced by tourism, with coastal towns losing their character. Alternatively, residents might welcome visitors and make sure they enjoy and appreciate the environment.
- More employment, especially more part-time employment. This might mean more permanent residents, or it might see jobs taken by people from outside the Region during the busy seasons. If employment of locals rises, there will be growth of services in rural towns.

competition for water

trends

Demands for water supply for Geelong and Ballarat will continue to grow, as will the needs of agriculture. Barwon Water projects a rise of 30 per cent in water consumption in Greater Geelong over the next 20 years without additional water conservation, and is currently using most of its water allocation for public drinking water supply. Warrnambool, which is growing, relies on the Otways for its domestic supply. The need for environmental flows will set an upper limit on extraction for economic uses, and reduced summer flows will increase pressure on winter use of flows. The gap between demand and supply will have to be met by reducing urban demand, reusing water, reducing loss in the handling of water or by tapping new sources of supply.

There will be conflict within rural areas between different agricultural users and between these users and flows needed for the environment and recreation.⁵⁰

what might be the impacts?

- The entitlements held by urban water suppliers will be challenged. However, the urban consumer has strong political influence and great purchasing power, and the water market is now oriented to supplying the most profitable uses of water.⁵¹ The price of water will rise, but government, which regulates pricing, have not used pricing to modify demand in the past, and will be reluctant to do so in the future.

48 QUESTION/ What is the past and likely growth rate of tourism across the Region? SEE/ Annex A: *Comments - tourism industry scenario to 2020.*

49 COMMENT/ G. Hull, DSE SW Region: The impacts of tourism are particularly felt along the coast, where there is increasing demands for access and infrastructure with resulting impacts on biodiversity and landscape values. Approximately 70% of all visits to public land in Victoria occur on coastal land and the pressure on the narrow coastal public land strip is significant. The pressure of development creep by coastal townships has the potential to be a significant threat to coastal environments.

50 QUESTION/ What is the water use of each type of agriculture? How efficient is this use?

51 COMMENT/ B. Sadler. Water use by urban authorities has been viewed by some rural landholders as commercial grabbing, whereas agricultural use seems perceived as a universal good.... See Annex A: *Comments - water markets.*



52 QUESTION/ How are environmental flows assessed and enforced, especially as climatic conditions are so variable? For one person's account of what is happening to a stream, see Annex A: *Comments - environmental flow on a small creek.*

53 QUESTION/ What will be the impact of increased construction of dams for commercial and "domestic and stock" use in areas where intensive agriculture and small landholders are increasing? Are there controls on size of dams for 'domestic and stock' use? Do planning overlays take watercourse flows into account when subdivision occurs? What impact will the new Farm Dams legislation have?

54 QUESTION/ What are the options for reducing demand? SEE/ Barwon Water, *Water Resources Development Plan.*

55 COMMENT/ D. Brockenshire, Barwon Water: The Corangamite Region contains a number of the State's fastest growing towns. Located along the Surf Coast and some regional centres, for example Bannockburn, this puts considerable stress on the Region's planning and servicing authorities. In our Region, Apollo Bay's growth and associated demand for additional water resources will result in works that require additional water storage and changes to the Bulk Water Entitlement and water harvesting from the Barham River. The authority will be seeking the support of the CCMA through the RCS and other means to provide this essential resource sustainably. This will require the CCMA's assistance in amending the *Special Water Supply Catchment Area* and improvement works within the catchment to protect the water quality.

56 QUESTION/ What is the evidence for global warming, how fast is it proceeding and what are the likely impacts on the Region? SEE/ Annex A: *Comments - a note on global warming.*

57 QUESTION/ What is known about groundwater systems, and how is groundwater allocated? SEE/ Annex A: *groundwater allocation.*



58 NOTE/ Over the past decade, the environment has maintained among the top half dozen issues of public concern. SEE/ Annex A: *Comments - aspirations of urban and rural communities.*



59 COMMENT/ Leigh-Moorabool Workshop. The environmental ethic might be stronger, but that doesn't mean it is strong. SEE/ Annex A: *Comments - the environmental ethic is not strong.*

- There will be intense competition for summer flows in unregulated streams.⁵² Regulation may be extended to more streams. Impacts of dams on surface water flow will be another point of conflict between neighbours.⁵³ Technologies for reducing use, processing wastewater and reusing water will develop. Regulations that limit reuse of water will be challenged.
- Water conservation will become more critical, since using less water is always a cheaper option than reusing it.⁵⁴
- Infrastructure costs will rise.⁵⁵
- Water quality may be affected by more intensive agriculture and higher numbers of small landholdings. River health may decline. Alternatively, environmental management in intensive agriculture may reduce nutrient flow into streams.
- Impacts on rainfall from global warming are uncertain. Greater evaporation and reduced summer flow are predicted. ⁵⁶
- Groundwater flows will get more attention, particularly the impact of extraction on lakes and wetlands and stock and domestic supply.⁵⁷

stronger environmental ethic

trends

For the Australian public, the environment rates fourth in importance after education, health and unemployment (*Newspoll*, Nov 2000).⁵⁸ There's a shift in values, across all age groups and income levels to a recognition of the importance of the environment.⁵⁹ This new ethic is behind calls for enterprises and government to be more accountable for impacts of their activities on the environment. Government has responded with plans for each aspect of the environment, and the notion of sustainability across economic, environmental and social dimensions has a firm place in government policy and public discourse. People talk about sustainability a lot more.

The environment will continue to be a high profile issue in politics. Over the next twenty years, there will be progressively more understanding of how the environment works. Planning right across government will have to take account of environmental health, and plans will need to be better integrated with each other. Conservation and biodiversity proposals from the larger non-government organisations will continue to influence public thinking and government policy.

There will be more participation in local action to conserve and repair the environment, and local environmental groups will grow.⁶⁰ For most farmers, land management will become a basic element of their business planning.⁶¹ They will speak out more about what they see as unfair restrictions and high costs placed on them for maintaining environmental health compared to people living in cities.⁶²

There will also be waves of anxiety about environmental catastrophe, fuelled by global warming, floods, fires, loss of species, rising oil prices,⁶³ and genetic modification of plants and animals.⁶⁴ Some people will pin their hopes on



technological breakthroughs to reduce environmental impacts. Economic growth will fuel optimism, research and development funding will encourage this expectation, and efficiency improvements from application of existing technologies will reinforce it. Others will become sceptical of technological fixes, challenging the need for continual growth in production and consumption.

Oil prices will rise as fossil fuel reserves fall, but alternative fuel sources will be developed. It is uncertain whether transport costs will rise enough to change the economics of regional industries or commuting.

what might be the impacts?

Here are three alternate scenarios:

- *Sustainability integrated into development.* A stronger environmental ethic will lead to voluntary adoption of good environmental management and tougher formal assessment of new developments against environmental targets at sub-Regional and Regional levels. Communities will work through their differences and develop plans that balance interests, setting a clear agenda for development and targets for environmental health. Community members will learn to accept decisions that do not deliver all of the benefits they seek⁶⁵, but which strike a balance across competing interests.⁶⁶ Environmental impact controls will be increased and enforcement stronger.⁶⁷
- *Strong protection of areas with high environmental value.* The community will vote in politicians with an agenda to protect areas of high conservation value: native forests in the Otways, the lakes, the coast and the ocean.⁶⁸ Greater diversity in the makeup of regional communities will undermine their ability to reach agreement on and advocate for local goals. Conservation will be legislated without providing the expertise and on-ground work to support recovery of the landscape. Tighter statewide controls will be imposed on agricultural and tourism use, even if this damages the local economy, and without taking account of sustainable practices in the Region.
- *Coping with each crisis.* The shift in values towards environmental care will continue to gain momentum, or it will fail to reach the critical mass needed to influence policy and regulation. If so, politicians will see more electoral pain than gain in pushing further than public opinion. In this scenario, everyone muddles along, but environmental condition gradually falls.

60 QUESTION/ What mechanisms can support people who don't join groups? SEE/ Annex A: *Comments - local groups aren't the only way to stimulate environmental action.*

61 QUESTION/ What will trigger farmers to include land management as a basic element of their business?



62 NOTE/ This view was often presented by rural people in RCS stakeholder workshops. RCS consultation with urban people needs to be much stronger, and communities across the Region brought together to talk.



63 COMMENT/ M. Schrieke, Durham Lead. Increased flow of people from cities to semirural areas is predicated on 'cheap' fuel costs continuing. Many experts believe that more than 50% of oil reserves have been already used up, and oil consumption is still rising. Another oil "crisis" or even slowly increasing prices would have major impacts on the Region and alter population densities in rural areas.

64 COMMENT/ T. Overman, CCMA. Some consideration of the global political economy would help to put into context the constraints Australia and the Corangamite Region face.

65 QUESTION/ How will the changing make-up of the Region's communities affect willingness to accept such decisions?

66 COMMENT/ C. Allen, CCMA. Around Sydney, people living on the urban fringes have fuelled a vibrant Bushcare movement that manages local ecosystem remnants and lobbies local government. It has a very different ethic and focus to Landcare. It is driven by a passionate concern for local ecosystems. Members become expert ecosystem managers and effective lobbyists. Local government is very responsive to such groups.

67 NOTE/ More regulation will breed resentment from traditional farmers and a minimum level of compliance by corporate farmers.

68 NOTE/ Conservation is not locking up: Parks have restrictions placed on them to protect them, and people are encouraged to visit and often to assist with management and works.



69 COMMENT/ L. Stray, Maude Landcare. Volunteers simply don't have the time or energy to wade through all the documents we are expected to read. Length of the document does not necessarily indicate quality or value. They are getting thoroughly sick of the pressure to attend meetings, read papers and respond.

70 COMMENT/ P. Pegler, Parks Victoria: This implies that a risk-based approach is only negative. A risk-based approach can be designed to provide informed and strategic investment decision making based on the highest quality available information. It can be designed to maintain the ecological integrity and natural processes within a system by implementing programs that reduce the greatest risks threatening the highest environmental values. A risk-based approach can provide a framework for community-based decision-making that can be applied in a coordinated fashion across the landscape if the community are communicated the rationale behind this approach.

greater complexity

trends

The complexity of *natural resource management* is increasing as human activity increases, as understanding of the causes of environmental impacts rises, and environmental impact becomes a required part of more planning processes. Society is now attempting to educate, regulate and innovate across biophysical, social and economic dimensions.

The complexity of *running a business* increases as the economy globalises, as margins tighten, as production manages more variables and uses more technology, and as regulation increases. Business is more regulated, from occupational health and safety to food safety, from equal employment opportunity to pricing practices.

The complexity of *governance in our lives* is increasing. Policies and regulations are growing. It is harder for citizens and government agencies to know what is required of them and who is responsible for what, within each level of government and between levels.⁶⁹ Environmental regulation is an excellent case study in the duplication, confusion and competition created by increasing complexity.

The complexity of *being a citizen* is increasing. There is more consultation, more papers to be read, more choices. Many government agencies attempt to consult people without integrating their consultation to make it manageable for citizens.

Rising complexity is a long-term trend that does not look like changing any time soon.

what might be the impacts?

- Volunteer community organisers will give up because organising anything on the ground involves too much "administrivia". They are either replaced by organisers paid from the public purse, or not replaced at all. The public gets sick of being consulted and simply stays away. Those with more balanced views depart the scene earlier, leaving the floor to the zealots, who antagonise each other. Public servants put their heads down and stick to their small patches.
- Government develops a risk-based approach to regulation and investment in NRM, based on comprehensive data sets of the landscape and strict targets for environmental health. This takes the community out of the process and puts the technicians into it.⁷⁰ The best land is preserved but anything marginal in its return on public investment is left to the public to look after.
- Alternatively, the complexity gets so great that citizens insist that government integrate its consultation and decision-making processes. Informal agreements between agencies get worked out first, formal service agreements built around locality based goals develop next, and finally, natural resource legislation is integrated across departments and levels of government.

implications

The Forces have implications for the Region's Goals, for Threats to Assets, and for Opportunities.

The Corangamite Region faces increasing competition over its natural resources. More people are living and working in the Region and more are visiting. Each wants a chance to act on their needs and aspirations. Natural resource management is therefore wider than managing impacts on the environment: the scope of the Goals extends to the production and consumption activity of all people in the Region, to the planning and decision making processes through which society weighs up the competing claims of different users, and to the innovation which improves resource use efficiency and reduces environmental impact.

The Forces also influence assessment of Threats to Assets. Consultations have taken account of the Forces in deciding which threats will be most important in the next five years.

Finally, by highlighting the intensification of human activity in the Region, the Forces lead directly to Opportunities for improving natural resource management processes.