

Conclusion

This report presents a wealth of information. Indeed, there is so much information on specific issues that some readers may well be left wondering:

- Overall, how good or bad is the environment of the Gulf?
- Is it getting better or worse?
- Are management agencies doing enough?
- When can we expect to see an improvement?
- Are there pressures on the Gulf that are unmanaged or unmanageable?
- Are the issues that the Hauraki Gulf Forum identified in its strategic issues document really the key issues for the Gulf or are there other matters that have arisen as a result of the preparation of this report?
- How much do we really know about the Gulf's environment and what's affecting it anyway?

These are not unreasonable questions but they are much harder to answer than might be first thought.

The first point to note is that this report is the *start* of a process, not an end in itself. The Forum will be using the information provided in this report to answer the questions outlined above in the most rigorous way it can. This will inform the future work of the Forum and its constituent parties.

To some extent, the state of the Gulf and whether it is better or worse depends on your reference point. There can be little argument that the environment of the Gulf is degraded when compared to its pre-human or even pre-European state. There has been a massive acceleration of sedimentation of estuaries, contaminants within those sediments have increased, the number of species present has reduced as has the size of specific habitats and populations, access to many coastal areas is

more limited, landscape values and natural character have changed markedly, in some cases irreparably, much cultural heritage has been lost forever and the risk associated with natural hazards has increased.

On the other hand, compared to more recent times many aspects of the Gulf's environment are well protected and are exposed to reduced threats. The state of some places and resources has almost certainly improved (or at least further degradation averted) and some natural systems have been given time to adjust to a new balance. The removal (or control) of many point source discharges, the reduction in lead in sediments, the restoration of islands and their use for species recovery, the recovery in the snapper fishery, and the purchase of coastal land by public agencies, are all signs that management efforts are making a difference. Whether these efforts are enough will be a question for on-going attention by the Forum.

In the future, environmental performance in the Gulf will be able to be assessed against the information contained in this report and a more rigorous assessment of progress may be made.

It is important to record, however, that this report does identify matters that certainly should concern all those with an interest in the Gulf. In particular:

- Although beach monitoring indicates bathing beach water quality is suitable for swimming on the vast majority of time it is monitored, it is also well accepted that water at many beaches adjacent to urbanised catchments is unsuitable for swimming after heavy rain. The Forum will need to support continuing work on catchment planning and stormwater (and wastewater) upgrading programmes.
- Notwithstanding improvement in stormwater and land management,

the rates of sedimentation (and the contamination associated with sediment in urban areas) will continue to have impacts on ecology and water quality. This serves to reinforce the importance of the Forum and the benefit of having a layer of management co-ordination across the entire catchment.

- Biodiversity continues to be subject to a variety of threats. Shell fish depletion is perhaps the most visible issue and seems related to environmental change – most notably sedimentation. One of the greatest challenges for the Forum and its constituent parties is in gathering sufficient information to monitor biodiversity and be certain of cause and effect relationships.
- Coastal development pressure, particularly in areas north of the Auckland metropolitan area and on the Coromandel, will have long term effects on the environment. Traditional planning approaches may not be adequate to protect the values over the long term. Management agencies will need to develop, and are developing, new management tools to protect coastal values. The Forum will need to work to ensure these are implemented expeditiously.

In preparing this report the Forum has learnt a great deal about what, and how information is currently collected and collated by constituent parties and other agencies. It has become apparent that the Forum will need to focus more attention on securing consistency in information collection and on promoting Gulf and Catchment-wide frameworks for environmental monitoring and reporting.

In particular, the Forum will need to give greater consideration to the following information issues:

Water

- Differences in monitoring programmes and guideline interpretation make it difficult to compare bathing beach water quality across the Gulf. This is an on-going issue that will need to be resolved at the national level. In the interim, however, there is potential both to look at alternative state of the environment

indicators of bathing beach water quality (such as the number of waste water overflows) and to increase consistency of approach to measuring and reporting enterococci levels.

- While our understanding of nutrient dynamics in the outer Gulf has improved, there is currently no nutrient monitoring in near shore areas of the Firth of Thames or around the Coromandel Peninsula. Baseline monitoring of estuaries on the Coromandel Peninsula and Firth of Thames could be useful to determine whether there are any nutrient management issues for these water bodies. In addition, new methods such as remote sensing may assist in developing a broader picture of nutrient dynamics for the wider Gulf.
- Local authorities' resource consent databases are not currently designed in a way that allows critical information on waste water discharges (and other issues) to be extracted efficiently. Consequently state of the environment reports cannot include information on cumulative contaminant loads that might provide a useful indicator for the state of the Gulf. Furthermore many databases do not geo-reference the locations of consented activities meaning that the information cannot be interrogated using Geographic Information Systems.
- Although there is good information on historic sedimentation rates for many Auckland and eastern Coromandel harbours estuaries, there is little information on sedimentation rates and dynamics within the Firth of Thames.
- There is little quantitative information of the effects of waste water, particularly septic tanks, throughout the Hauraki Gulf. Information on sewer overflows and pump station failures is also difficult to obtain.

Biodiversity

- Information on the Gulf's biodiversity is piecemeal. The information that does exist has various limitations, it may: only cover parts of the Gulf; focus on particular species or habitats (to the exclusion of others); be limited in time (and therefore not allow trends to

be determined or a sense of historical perspective); or be collected under varying conditions or methodologies (making comparison over time or between places difficult).

- Regular monitoring information focuses on indicator species which reflect estuarine health rather than species diversity. There is little or no monitoring of species or habitats outside estuaries and little or no monitoring for biodiversity *per se*.
- Spatial framework(s) are under development but either (like the MEC) do not provide direct species data or, like the INMARC provide species/habitat information only within near shore environments.

Natural Character and Landscape

- While there is some qualitative information available about natural character, there is no information on the state of different coastal environments along the Gulf's coastline, e.g., the state of beaches, rocky and cliffed coastlines, sheltered harbours and estuaries, etc.
- Natural character assessments undertaken to date have generally focused on marine farming areas (e.g. the Firth of Thames and Tamaki Strait - Waiheke Channel). The demand for marine farming in some ways has created a default priority for natural character assessments. While this is understandable there are other priority areas that are being neglected (e.g. beach and dune systems). Outside of the marine farming areas and north-eastern Rodney District, natural character has not been assessed in any comprehensive manner. Within these areas the assessments have not covered the ecological-biotic component of natural character.
- Landscape assessments have been undertaken by a number of city and district councils, often to address a particular issue or in relation to the development of district plans. Past approaches to such assessments has been varied, although more standardised methodologies for landscape assessment are emerging. Generally landscape

assessment appears to be carried out in greater detail within the Auckland Region (at both the local regional levels). In the Waikato, regional landscape assessment is more broad brush.

Access

- Local authorities do not tend to keep, in any easily accessible form, information on how many esplanade reserves and strips had been established each year and the length of coastline they cover. Similarly, it is difficult to obtain information on how many times esplanade reserves are reduced in width or waived during the subdivision consent granting process.
- There are no recent counts of boat ownership or boating participation within the Gulf.
- Very few of the Gulf's parks or tracks have reliable visitor counts meaning that the use of parks cannot be reliably reported.
- Only North Shore City regularly surveys its residents by asking how often they use beaches and what activities they undertake there.

Cultural Heritage

- There is a broad range of cultural heritage sites within the Gulf, but a lack of co-ordination of recording and processing data relating to them.
- Auckland Region has developed a comprehensive cultural heritage data base which is being used as a vital management tool but no similar development has been achieved in the Waikato Region. Hence there is an inconsistency of data and management capacity for cultural resources across the Gulf.
- Although coastal subdivision appears to have the greatest impact on cultural heritage sites within the Gulf, information of the cumulative impacts of other activities is incomplete.

Coastal Hazards

- The Hauraki Gulf is subject to a variety of coastal hazards. All are significant and are a factor of the dynamic (changeable) nature of the coastline.

- Coastal hazards are not managed by managing nature but by managing human activities – where we place infrastructure and the type of works involved.
- Coastal hazards are site specific, management needs to reflect this.
- Management of coastal hazards is one of the biggest challenges for regulatory agencies and the community.

Future Action

The Forum's second State of the Environment Report will be compiled in 3 years time. The Forum will work to resolve these information issues prior to that so that its second report can benefit from even greater information availability and reliability. Although the second report will look to update much of the information provided in this report to illustrate change over time, it is anticipated that it will be more focused and less descriptive than the information provided in the preceding pages.