# UNITARY PLAN CONTROLS ON SEWAGE DISCHARGE FROM VESSELS

## REVIEW OF IMPLEMENTATION METHODS

## AND

## EVALUATION OF OPTIONS

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# 1 Purpose

The Resource Management (Marine Pollution) Amendment Regulations (1998) (as amended) provide the national framework of restrictions for the managing discharges of sewage from vessels. Regional Councils are responsible for implementing and enforcing the regulations. Regional Councils' can include rules in their plans to increase the depth sewage can be disposed and increase the distance from mean high water springs. Auckland Council is in the process of preparing the Unitary Plan. The unitary plan change is the opportunity to determine if the new plan should or should not include further restrictions on discharging sewage from vessels.

To inform this decision, the Council has requested a review and analysis of existing information and recommendations on a preferred option. The review includes:

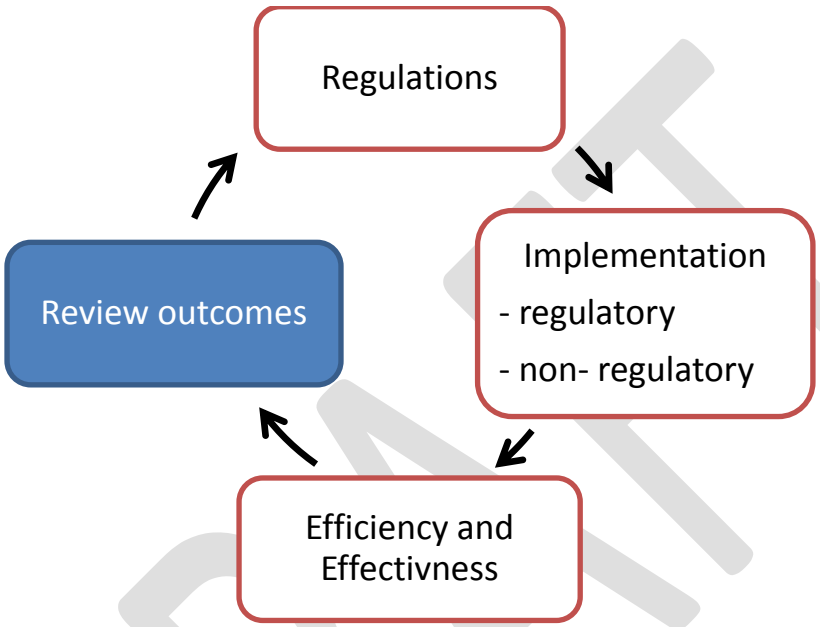
- demonstrating the effectiveness of current Marine Pollution Regulations.
- outlining the enforcement options of existing regulations.
- comparing approaches of other Regional Councils on the issue.
- identifying options for managing sewage discharges from vessels, including an assessment of pros and cons which includes consideration of:
    a. estimation of costs for Council and vessel owners;
    b. environmental and cultural benefits;
    c. practicality of implementation and enforcement; and
    d. any possible follow-on effects for example public awareness campaigns could lead to increased demand for pump-out facilities.
- recommend a preferred approach.

This desktop review did not include:

- Consultation with Tangata Whenua, Food Standards Authority, Department of Conservation, Recreational boating industry, Aquaculture industry and key stakeholders, and
- Additional research into sewage collection or disposal systems.

## 1.1 Objectives

This project will follow the approach of the plan review cycle, outlined below, with a focus on reviewing the effectiveness and efficiency of the implementation of the Resource Management (Marine Pollution) Regulations 1998. The objectives of the review were to collate and evaluate implementation methods, both regulatory and non-regulatory, by regional councils and stakeholders. The evaluation will identify management options for the discharge of sewage from vessels for Auckland's coastal marine environment.




The review includes:

- an outline of the international law, national regulation and planning mechanisms that govern the management of sewage discharge from vessels including: International for the Prevention of Pollution from Ships (MARPOL), Resource Management (Marine Pollution) Regulations 1998, Hauraki Gulf Marine Park Act 2002 and the New Zealand Coastal Policy Statement 2010;
- a summary of the key issues of the discharge of sewage from vessels;
- an overview of non-regulatory implementation;
- a national overview of the implementation of the regulations by Regional Councils and Unitary Authorities;
- an analysis of seven Regional Councils and Unitary Authorities implementation methods which have included objectives, policies and rules, other methods in their statutory plans, to manage the discharge of sewage from vessels;
- an overview of Regional Councils and Unitary Authorities enforcement issues;

- a discussion and evaluation of the options for managing the discharge of sewage from vessels; and

- recommended approach.

This review is limited to:

- sewage as defined in Section 2 (a) of the Resource Management (Marine Pollution) Regulations 1998, as drainage and other wastes from any form of toilet, urinal or toilet scupper, and
- includes all ships as defined Section 2 (1) of the Maritime Transport Act 1994.

# 2 Key issues with the discharge of sewage from vessels

Auckland has coastal resources that attract local, regional, national and international tourists. The Hauraki Gulf is part of the "Auckland City of Sails" experience. A recent study by the Auckland City estimated economic values of the Hauraki Gulf as:

- tourism value $1.672 billion;
- marine recreational at $550 million; and
- recreational fishing $104 million (Auckland Council 2012).

The Hauraki Gulf includes a range of "nature experiences", examples include;

- dolphin watching;
- sailing;
- kayaking;
- diving;
- fishing; and
- harbour and islands tours.

The discharge of sewage from vessels has the potential to have an adverse effect on tourist perceptions who are seeking out "natural" or an "eco" experience.

Auckland has a high concentration of recreational and boating activities. It is estimated that there is at least 132,000 boats and watercraft in Auckland (Beca, 2012), and 35% of New Zealand's population lives around the Hauraki Gulf (Auckland Council, 2012).

Auckland has approximately;

- 169 boat ramps;
- 70 marine mooring areas (Auckland Council website); and
- 15 marinas

This includes Westhaven Marina, the fifth largest marina in the world (Murray 2009). It is expected that the demand for recreational boating will continue to grow, and with it, the need to manage sewage from vessels.

During holiday periods there are concentrations of boats in safe anchorages in and around the harbour, islands and the outer Hauraki Gulf. Robust information on the systems for managing sewage from these vessels is not available. In particular, information is not available on:

- the proportion of vessels with sewage collection and/or treatment systems; or,
- the size of boats and their capacity for the installation of holding tanks.

However, it can be assumed that the proportion of small vessels, that have a limited capacity to install installation of holding tanks, is greater in the inner gulf.

In the outer islands, of the Hauraki Gulf, the collection and disposal of sewage from vessels is problematic. In 2004, a study was commissioned by Auckland Regional Council on the management of wastewater at remote locations. The study assumed that all boats have holding tanks and can pump-out sewage. It found that:

- vessels moored at that outer islands generate an estimated of 76,000 to 550,000 litres of waste water during summer;
- the outer islands do not have the infrastructure to support wastewater from vessels;
- volumes of wastewater increased during fishing or sailing events;
- wastewater treatment options for nine remote locations, could cost between $150,000 – $300,000 per site, (Ormiston 2004).

Sewage is discharged into seawater, it rapidly breaks down, but the extent to which it can be diluted, degraded and dispersed varies with the physical conditions of the coastal environment (MfE 2002).

The main risk posed by sewage being discharged from vessels relates to human health effects during bathing and through the consumption of contaminated seafood.

Swimmers and other people in contact with sewage risk skin infections, respiratory problems and infections by disease causing bacteria, viruses and parasites (MfE 2002). Water borne diseases spread by sewage include:

- Hepatitis A;
- Girdia;
- Cryptosporidium;
- Typhoid; and
- Cholera.

Shellfish are filter feeders, which can concentrate the disease causing organisms that occur in sewage (MfE 2002). This poses a risk to the recreational boating community and to the local communities who gather seafood.

Contamination of marine farms can place the wider public and export market at risk. Sewage and other pollutants are measured at marine farms and if levels exceed safety guidelines the marine farm can be closed or have a restricted harvest. Aquaculture in the Hauraki Gulf generates $99

million for the regional economy (Auckland Council, 2011). Closure of marine farms due to sewage discharges, from vessels, would lead to a negative economic impact for the business owner and the broader economy. It could also affect New Zealand's reputational values.

Maori values are strongly connected with water quality. They believe that water not only supports human and marine life, but also has a spiritual component.

When discussing water, Maori refer to the "life force" or "Mauri" of the water. Mauri is intrinsically linked with the ability to harvest food from the water, mahinga kai (food gathering).

> "Many Māori consider water as the source of life and sustenance. Māori believe that water contains a mauri (life-force) that joins physical and spiritual elements and links water to every other part of the natural world. Water is a taonga (treasure) because it carries the lifeblood of the land; the well-being of all living things depend on it. Maintaining water quality in the best possible condition, so that a river or lake and its ecosystems are healthy, is an issue of major concern for many Māori (http://www.teara.govt.nz/glossary#mauri)"

A five year research project, by Pauling (2011) documented Maori perspectives and preferences for waste management. Although, this research focused on sewage from land based treatment plants, it provides insight into cultural values of water and how uniformed decisions have been to offensive to cultural values. Pauling notes that over half of the first 10 cases of the Waitangi Tribunal were related to the discharge of sewage and its impact on food gathering values (mahinga kai). These cases illustrate the commonly held view within Maori that the discharge of waste to water is unacceptable.

Pauling used several quotes in his report to reflect perspectives on wastewater. A quote from a Waitangi Tribunal case helps explain the special relationship Maori have with water and their concern with sewage impacting food gathering:

> *The mauri of water used to carry waste is seen to have been destroyed and the water maintains its 'toilet bowl' quality even after it has been technically treated. When waste water is put directly into waterways the mauri of the waterway is harmed and possibly destroyed. Therefore, wastewater should not be put into water which is used for food gathering or other purposes. Jeff Murray of Te Kawerau a Maki (in Kapea 1994).*

The general public also finds the discharge of untreated sewage unacceptable. The discharge of sewage from vessels affects the aesthetic values of Auckland coastal marine environment. A large section of the community believes that vessels should not discharge untreated sewage at all. This was quantified in the 2006 the ARC's environmental awareness phone survey. The majority, 83% agreed with the statement "that boats with holding tanks should not dispose of sewage". This is a clear message that any discharge of sewage is not acceptable.

> The survey asked two questions regarding to this issue:
>
> Question 1
>
> 'Are you aware that it is legal to discharge untreated sewage from boats as long as the boat is 500 m from shore, marine farm or is 200 m from a marine reserve and is in at least 5 m of water?'

Yes – 40%

Question 2:

'How strongly do you agree or disagree with the following statement:

- boats should have a holding tank for sewage and should not discharge untreated sewage into the water, even if complying with the legal requirements?'

  - **strongly agree - 52%,**
  - **agree - 31%,**
  - disagree – 11%,
  - strongly disagree - 3%,
  - don't know - 3%

In 1998, the Government issued the Resource Management (Marine Pollution Regulations) to manage the discharge of pollution into the marine environment. Regional councils and unitary authorities are responsible for the implementation of these regulations. There are two key issues with the application of regulations in the Auckland Region:

- the buffer zones established by the 500m distance in the regulations, leave small areas within certain harbours, embayment's, or estuaries where it is lawful to discharge untreated sewage from boats; and,

- they do not require vessels to have a sewage treatment or collection device on board. Therefore, enforcement of the existing regulations is problematic, due to the:
  - range of methods to collect and dispose of sewage; and
  - difficulty in identifying the source of discharges;

## 2.1 Summary of key issues

The summary the key issues with the discharge of sewage from vessels:

- sewage of vessels can impact on the tourism values of Hauraki Gulf ($1,672 billion), marine recreation ($550 million); and recreational fishing ($104 million);

- Auckland has a large boating community, which will continue to increase and escalate sewage disposal issues;

- boating communities congregate in safe anchorages, which have poor tidal circulation;

- there is a limited capacity to provide sewage collection and disposal facilities at remote locations in the Hauraki Gulf;

- sewage from vessels pose a risk to human health;

- sewage discharges from vessels could have a negative economic impact on marine farmers and the broader regional economy;
- sewage discharged into water adversely effects Maori cultural values;
- the general public believe that the discharge of sewage from vessels is unacceptable;
- The buffer zones in the regulations leave small areas within certain harbours, embayments, or estuaries where it is lawful to discharge untreated sewage from boats; and
- enforcement of the existing regulations is problematic, due to:
    - the range of methods used to collect and dispose of sewage; and
    - the difficulty with identifying the source of discharges.

# 3 Regulations

The discharge of sewage from vessels is managed under the following regulations and planning instruments:

- international Law;
- Resource Management (Marine Pollution) Regulations 1998;
- Hauraki Gulf Marine Park Act 2002;
- New Zealand Coastal Policy Statement 2010; and,
- Regional Council's Coastal Plans and Unitary Authorities' Coastal Plans.

## 3.1 International Law

Since 1960, New Zealand has been a member of the International Maritime Organisation (IMO). The IMO is the United Nations agency responsible for improving maritime safety and preventing pollution from ships (www.imo.org). In 1973 The IMO established the convention for The International for the Prevention of Pollution from Ships, commonly referred to as MARPOL. The Convention's six annexes manage:

- pollution by oil (I);
- noxious chemicals (II);
- goods in package form (III);
- sewage (IV);
- garbage (V); and
- air pollution (VI).

The first two Annexes, prevent pollution by oil (I) and control pollution by noxious liquid substances (II). These must be accepted by countries that ratify MARPOL. The other annexes are voluntary. Therefore, any country that has ratified MARPOL must comply with the regulations, wherever they sail.

New Zealand is party to Annexes I,II,III and V, but has not yet acceded to Annex IV and VI (Wells 2012, pers.com). Therefore, New Zealand is not obligated to fully implement the requirements of Annex IV, which includes a complete ban on discharging untreated sewage from vessels within 12 nautical miles from land.

MARPOL Annex V, Regulation 11 contains requirements to:

> *control pollution of the sea by sewage; the discharge of sewage into the sea is prohibited,*
>
> - *except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land;*
>
> - *sewage which **is not** comminuted or disinfected has to be discharged at a distance of more than **12 nautical miles** from the nearest land (www.imo.org).*

To give effect to MARPOL Annex I,II,III and V, New Zealand developed and implemented the Resource Management (Marine Pollution) Regulations 1998, which provides a more permissive approach to the discharge of sewage from all ships and offshore installations, than Annex IV.

When ships are operating in New Zealand's coastal marine area, the local regulations prevail (Regulation 11, Annex IV, MARPOL). This means that the Resource Management (Marine Pollution) Regulations 1998 regulate the discharge of ships of *all sizes* within the coastal marine area (PCE 2003).

The Resource Management (Marine Pollutions) Regulations 1998 will be amended in the near future to include provisions that formally ratify Annex V, to manage garbage from vessels and offshore installations (Marshall, Maritime NZ pers,com).

## 3.2 Resource Management (Marine Pollution) Regulations 1998

The Resource Management (Marine Pollution) Amendment Regulations 1998 provide the legislative framework for managing harmful substances from the operation of vessels and offshore installations (within 12 nautical miles). Regional Councils are responsible for the implementation and enforcement of the regulations. The Resource Management (Marine Pollution) Regulations first came in to effect in 1998. In 2002, they were amended to provide further protection for:

- marine farms;
- customary fishing reserves; and,
- marine reserves.

In 2011, the Resource Management (Marine Pollution) Regulations were amended to include:

- a new Schedule 1 with a new definition and requirements for noxious liquid substances;
- an alteration of definitions of harmful substances;
- an international measurement guideline for testing Grade A sewage discharges; and,
- additional systems for Grade B sewage discharges.

Section 2 of The Resource Management (Marine Pollution) Regulations 1998 defines sewage, in relation to a ship or offshore installation as:

(a) drainage and other wastes from any form of toilet, urinal, or toilet scupper;
(b) drainage from washbasins, washtubs, and scuppers located in any dispensary, sick bay, or other medical premises;
(c) drainage from spaces containing living animals;
(d) waste waters mixed with the drainage and wastes specified in paragraphs (a), (b), or (c).

This review is limited to "sewage" as defined in Section 2 (a) of the Resource Management (Marine Pollutions) Regulations 1998, as:

- drainage and other wastes from any form of toilet, urinal or toilet scupper.

The Resource Management (Marine Pollution) Regulations 1998 does not include the definition of a ship. However, the Resource Management Act 1991 refers to the defines ships under section 2(1) of the Maritime Transport Act 1994.

Section (2)1 states:

ship means every description of boat or craft used in navigation, whether or not it has any means of propulsion; and includes—

(a) a barge, lighter, or other like vessel:

(b) a hovercraft or other thing deriving full or partial support in the atmosphere from the reaction of air against the surface of the water over which it operates:

(c) a submarine or other submersible

Section 11, 12 and 12a of the Resource Management (Marine Pollution) Regulations 1998 govern the discharge of sewage from vessels.

Section 11 prohibits the discharge of sewage, unless that discharge is more than 500 metres seaward from Mean High Water Springs (MHWS) or any marine farm or mataitai reserve or 200 metres from any marine reserve. Section 11 (3) (b) includes the provision for regional councils, to increase these distances seaward and increase water depth, through their coastal plans. However, distances cannot be decreased.

Sewage can be stored in holding tanks, which then can be discharged within permitted areas or disposed of in pump-out facilities at marinas or wharves. Sewage can also be directly discharged into permitted areas.

Section 11 Discharge of sewage in coastal marine area

(1) Before 1 July 2000, any person may discharge sewage in the coastal marine area from a ship or offshore installation, unless that discharge is within 500 metres (0.27 nautical miles) of a marine farm.

(2) On or after 1 July 2000, no person may discharge sewage in the coastal marine area from a ship or offshore installation unless that discharge occurs—

(a) more than 500 metres (0.27 nautical miles) seaward from mean high water springs; and

(b) more than 500 metres (0.27 nautical miles) from a marine farm; and

(c) in water depths greater than 5 metres; and

(d) more than 200 metres (0.108 nautical miles) from a marine reserve, except the marine reserve constituted by the Marine Reserve (Kermadec Islands) Order 1990; and

(e) more than 500 metres (0.27 nautical miles) from an area that the Minister of Fisheries has declared by notice in the Gazette to be a mataitai reserve under regulations made under section 186 of the Fisheries Act 1996.

(3) A rule may only be included in a regional coastal plan or a proposed regional coastal plan relating to the discharges under this regulation if—

(a) the rule increases the distances seaward or increases the depth specified in subclause (2) for any harbours, estuaries, embayments, or other parts of a region, or increases the distances from a marine farm, marine reserve, or mataitai reserve specified in subclause (2), for all or any part of the year; and

(b) the rule takes effect on or after 1 July 2000.

Section 11(3) (a) allows timing restrictions of discharge of sewage for all or any part of the year. The inclusion of an option to include a partial time restriction provides for additional requirements during high boating seasons or during harvesting of seafood from marine farms or mataitai reserves. Including a partial time restriction could be useful for specific areas within the coastal marine environment. However, this could also lead to confusion and non-compliance.

Section 12 allows the discharge of Grade A treated sewage as specified in Schedule 5 and 6 of the Resource Management (Marine Pollution) Regulations 1998 provides the highest level of treatment within the regulations.

Section 12 Discharge of Grade A treated sewage in coastal marine area:

(1) Any person may discharge Grade A treated sewage in the coastal marine area from a ship or offshore installation, but must not discharge it within 100 metres of a marine farm.

(2) Despite subclause (1), a rule may be included in a regional coastal plan or a proposed regional coastal plan if the rule—

(a) relates to discharges of Grade A treated sewage in the internal waters of Fiordland (as defined in section 4 of the Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977); and

(b) restricts where those discharges may take place, being a distance of at least 100 metres from a marine farm; and

(c) does not relate to vessels operated by the New Zealand Defence Force.

(3) For the purposes of subclause (2), Fiordland means the coastal marine area between Awarua Point and Sandhill Point.

Grade A treated sewage means sewage discharged from a treatment system included in Schedule 5 or Schedule 6 that is maintained and operated in good working order and in accordance with any instructions of the system's manufacturer.

Schedule 6 defines Grade A sewage treatment systems as:

> Any system that, when tested under International Maritime Organisation Resolution MEPC.2(VI), meets, or exceeds, the following standards:
>
> (a) a faecal coliform standard where the geometric mean of the faecal coliform count does not exceed 250 faecal coliforms per 100 millilitres of water; and
>
> (b) a suspended solids standard where the geometric mean of the total suspended solids content, when suspended solids are analysed by gravimetric methods, does not exceed—
>
> > (i) 50 milligrams per litre of water when analysed on shore; or
> >
> > (ii) 100 milligrams per litre of water more than the suspended solids content of the ambient water used for flushing when analysed on board a ship; and
>
> (c) a biochemical oxygen demand count where the geometric mean of 5-day biochemical oxygen demand of the samples of sewage does not exceed 50 milligrams per litre of water.
>
> Any system that meets or exceeds the standards in section 4 of the following guidelines, when tested under section 5 of the guidelines: the Revised Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants set out in the Annex of the International Maritime Organization resolution MEPC.159(55) adopted on 13 October 2006 (see, for example, Annex 26 of the report of the Marine Environment Protection Committee on its fifty-fifth session dated 16 October 2006 (MEPC 55/23)).

Grade A sewage treatment systems are generally installed on cruise ships and large vessels (MfE, 2002). The regulations allow Grade A sewage to be discharged, unless it is within 100m of a marine farm. A special provision enables Environment Southland's regional plan to include further restrictions for the internal waters of Fiordland. Other regional councils cannot make their rules for the discharge of Grade A sewage stricter than the regulations (PCE 2003).

Section 12 A allows the discharge of Grade B treated sewage, unless it is within 500 metres of a marine farm or mataitai reserve. Section 12 A (2) includes the provision for regional councils, within their coastal plans, to increase these distances seaward and increase water depth.

12A Discharge of Grade B treated sewage in coastal marine area:

> (1) Any person may discharge Grade B treated sewage in the coastal marine area from a ship or offshore installation, but must not discharge it—
>
> > (a) within 500 metres (0.27 nautical miles) of a marine farm; or
> >
> > (b) within 500 metres (0.27 nautical miles) of an area that the Minister of Fisheries has declared by notice in the Gazette to be a mataitai reserve under regulations made under section 186 of the Fisheries Act 1996.

(2) A rule may only be included in a regional coastal plan or a proposed regional coastal plan relating to discharges under this regulation if the rule does either or both of the following:

(a) specifies the distances from mean high-water springs or the depth where those discharges may take place for all or any part of the year, being distances of at least 500 metres (0.27 nautical miles) from—

(i) a marine farm; or

(ii) a mataitai reserve:

(b) increases the distance from a marine farm or a mataitai reserve where those discharges may take place for all or any part of the year, being at a distance of more than 500 metres (0.27 nautical miles).

Grade B treated sewage means sewage discharged from a treatment system included in Schedule 7 that is maintained and operated in good working order and in accordance with any instructions of the system's manufacturer. Schedule 7 includes a list of manufacturing companies, their names, addresses and details of the accepted models.

The Grade B models currently include:

- Delta Marine Head.
- Lectra/San, and
- Pursan.

A study was commissioned by Ministry for the Environment in 2002 to evaluate a Grade B treatment system (Lectra/San model was tested) ability to remove viruses in sewage (Greening, 2002).

The study found:

- the systems remove viruses in sewage when they are operated in optimal conditions and used correctly;
- 15/20 pumps are required to move sewage material fully into the tanks for treatment;
- treatment should occur immediately;
- that it is unclear if Lectra/San systems are being used correctly; and
- that retaining the restriction to discharge of sewage from Grade B systems at least 500m from marine farms would reduce the risks from potential systems that are incorrectly operated .

Further work with boat operators on the correct use of Grade B systems would improve the effectiveness of these systems.

## 3.3 Hauraki Gulf Marine Park Act 2002

Auckland Councils administrative boundaries include part of the Hauraki Gulf Marine Park. When considering any potential policy changes on the discharge of sewage from vessels, it is necessary to give effect to the Hauraki Gulf Marine Park Act 2002.

The purpose of the Hauraki Gulf Marine Park Act is to:

- integrate the management of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments;
- establish the Hauraki Gulf Marine Park;
- establish objectives for the management of the Hauraki Gulf, its islands, and catchments;
- recognise the historic, traditional, cultural, and spiritual relationship of the tangata whenua with the Hauraki Gulf and its islands;
- establish the Hauraki Gulf Forum.

Key sections in the Hauraki Gulf Marine Park Act are Sections 7 and 8. Section 7 recognises the national significance of Tikapa Moana, the Hauraki Gulf, and the importance of interrelationships between the Gulf, its islands and catchments, in sustaining the life supporting capacity of the environment. The Act specifies that life supporting capacity includes the capacity to:

- provide for the historic, traditional, cultural, and spiritual relationship of the tangata whenua;
- provide for the social, economic, recreational, and cultural well-being of people and communities;
- use the resources of the Gulf; and,
- maintain the soil, air, water, and ecosystems of the Gulf.

The park includes the rohe of several iwi and is administrated by a range of central and local government organisations. The Act seeks to ensure that all parties work together to recognise and sustain the life-supporting capacity of the Hauraki Gulf. The establishment of the Hauraki Gulf Forum is a key mechanism used to facilitate integrated management of the Gulfs resources.

When considering discharge of sewage from vessels, the Hauraki Gulf Forum (2009) provides guidance on how regional plans can recognise the traditional and spiritual relationships of Tangata Whenua, by:

- providing for traditional values by identifying traditional landmarks and ensuring their preservation;
- recognising spiritual associations can be provided for by;

- seeking methods that enable spiritual based Maori values to be respected (such as how human waste is treated); and
- developing processes to enable concepts as mauri (life force of water) to be included in environmental management.

Through the provisions of the Resource Management (Marine Pollution) Regulations 1998, Councils protect the traditional values of mataitai reserves, customary fishing areas reserves, by prohibiting untreated sewage and treated sewage.

To further recognise the traditional and spiritual values of Tangata Whenua, in relation to sewage discharge from vessels, the Council could include the following provisions in their plans:

- additional traditional landmarks could be protected, through the extension of buffer zones;
- the concept of mauri in objectives and policies;
- objectives and policies to encourage land based treatment systems to support boating activities. This could include:
    - the requirement to install land based toilets at high use boat ramps and boating destinations; and,
    - land base treatment plants at the outer islands.
- These actions could be complemented by an education and awareness campaign to improve the cultural understanding of the impact of sewage on water and seafood. The campaign could also be linked to the general public's concerns of the discharges of untreated sewage in the water.

Consultation with Tangata Whenua on the issues of sewage discharge from vessels would provide further insight and provide local perspectives and preferences to management options.

## 3.4 New Zealand Coastal Policy Statement 2010

The purpose of the New Zealand Coastal Policy Statement 2010 (NZCPS) as outlined in the Section 56 of the RMA is 'to state policies in order to achieve the purpose of this Act in relation to the coastal environment of New Zealand'. Local government plans and policies are required to give effect to the NZCPS. The NZCPS 2010 includes 7 objectives and 29 policies, to provide national direction on the sustainable management of the coast for local government. The NZCPS provides for the sustainability and safeguarding of natural resources.

The objectives and policies that are relevant to managing discharges of sewage from vessels are objectives 1, 6 and 7 and policies 4, 6, 8, and 23.

Objective 1 outlines the need to safeguard the integrity, form, function and resilience of coastal ecosystems by maintaining, enhancing and protecting of natural features and water quality in the marine environment.

Objective 1

To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:

- maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;
- protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and
- maintaining coastal water quality and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity.

The existing buffer zones of 100-500m in the regulations, provide a level of protection for inshore environments. Sensitive coastal environments and areas with poor water quality issues in the Auckland Region have not been identified.

Objective 6 enables people and communities to provide for their social, economic and cultural wellbeing through a range of appropriate uses and developments.

Objective 6

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:

- the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;
- some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities;
- functionally some uses and developments can only be located on the coast or in the coastal marine area;
- the coastal environment contains renewable energy resources of significant value;
- the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;
- the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;
- the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and
- historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.

Objective 6 is relevant to discharge of sewage from vessels as it specifically provides for the health and wellbeing of people and communities, recognises their dependence on natural resources, and the functional need to use the coastal marine environment.

Objective 7 ensures that local authorities recognise New Zealand's commitment to international agreements in our delivery of coastal and marine management.

> Objective 7
>
> To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area.

This is relevant to discharge of sewage from vessels as the Resource Management Marine Pollution Regulations 2002 is New Zealand's response to complying with requirements of MARPOL (International Convention for the Prevention of Pollution From Ships).

Policies 4,6,7,8 and 23 of the New Zealand Policy Statement 2011 are relevant to the discharge of sewage from vessels. These provide for:

- integration through working collaboratively with other bodies and agencies (Policy 4).
- activities in the coastal environment Policy 6 recognises the:
  - functional need of boating and shipping to be located in the coastal environment;
  - need to maintain and enhance the public open space and recreational qualities and values of the coastal marine area; and,
  - use and development of the coastal marine area has on the potential to contribute to the social, economic and cultural wellbeing of people and communities.
- strategic planning to identify areas where future use and development is appropriate and inappropriate (Policy 7).
- the need for aquaculture to have high water quality (Policy 8 (b) (i)) and its need to have land based facilities associated with marine farming (Policy 8 (b)(ii)).
- the maintenance of water quality for aquaculture by ensuring it's not adversely affected by coastal development (Policy 8 (ii).
- port activities which require systems to service national and international shipping (Policy 9).
- the prevention of untreated human sewage (Policy 23 (2) (a)).
- the prevention of treated human sewage unless there has been consideration of alternatives and informed by an understanding of tangata whenua values and the effects on them (Policy 23 (2) (b) (i) (ii).
- early and meaningful consultation with tangata whenua when considering the discharge of treated sewage into the coastal marine environment (Policy 23 (3).

- the inclusion of objectives, policies and rules in regional/unitary planning documents;
- the requirement for ports, marinas and other marine facilities to provide for the collection of sewage and waste from vessels (Policy 23 (5) (c)).
- a consideration of the need for facilities for the collection of sewage and other wastes for recreational and commercial boating (Policy 23 (5) (d)).

Policy 7 encourages councils to use strategic planning to assist with the management of pressures and impacts, through the identification of areas that are appropriate or inappropriate uses. The discharge of sewage from vessels has been identified to adversely affect aesthetic and cultural values. Further work on identifying areas of significant amenity value to the public and cultural value to Tangata Whenua, Auckland City would assist with identifying areas of that are inappropriate for the discharge of sewage from vessels.

Policy 8 is currently addressed in The Resource Management (Marine Pollution) Regulations 1998 by the restricting the discharge sewage near marine farms. The restrictions include a buffer zone to protect marine farms from sewage contamination. There has been no additional research to identify if these limits are adequate, or they need to be extended.

Policy 23 is a key policy for the discharge of sewage from vessels. The Policy 23(2) does not allow for the discharge of untreated sewage into the coastal marine environment. In contrast the Resource Management (Marine Pollution) Regulations 1998 allows for untreated discharge of sewage from vessels, in particular circumstances. It is possible that the purpose of Policy 23 (2) was to address human sewage from land based sewage treatment plants. However, as it stands, the New Zealand Coastal Policy Statement 2010 and Resource Management (Marine Pollution) Regulations 1998 are inconsistent.

Policy 23 (2)

In managing discharge of human sewage, <u>do not</u> allow

a) Discharge of human sewage directly to water in the coastal environment without treatment.

b) The discharge of treated human sewage to water in the coastal environment, unless:

i. there has been adequate consideration of alternative methods, sites and routes for undertaking the discharge; and

ii. informed by an understanding of tangata whenua values and the effects on them.

To manage the inconsistency between the regulations and the New Zealand Coastal Policy Statement 2010, Council could;

- advocate a change to the regulations, at a national level, to require boats to have treatment systems; and/or;
- advocate a change to the NZCPS, to recognise the Resource Management (Marine Pollution) Regulations;

- include objectives, policies and education campaigns that focus on boats to include holding tanks or treatment systems; and

- work with the marine boat building industry to improve their design and building of all size boats to include a waste treatment or collection system as good environmental practice.

Policy 23 (5) is also a key policy in relation to discharge of sewage from vessels, as it requires Regional Councils, to ensure ports, marinas and other maritime facilities to provide for the collection of sewage from vessels, and for it to be safely disposed.

> Policy 23 (5) In managing discharges from ports and other marine facilities:
>
> > (a) require operators of ports and other marine facilities to take all practicable steps to avoid contamination of coastal waters, substrate, ecosystems and habitats that is more than minor;
> >
> > (b) require that the disturbance or relocation of contaminated seabed material, other than by the movement of vessels, and the dumping or storage of dredged material does not result in significant adverse effects on water quality or the seabed, substrate, ecosystems or habitats;
> >
> > (c) require operators of ports, marinas and other relevant marine facilities to provide for the collection of sewage and waste from vessels, and for residues from vessel maintenance to be safely contained and disposed of; and
> >
> > (d) consider the need for facilities for the collection of sewage and other wastes for recreational and commercial boating.

Policy 20.4.6 Auckland Regional Plan: Coastal includes the provision for new or redeveloped marine facilities to include systems for collecting and disposing of sewage. Policy 20.4.6 gives effect to Policy 23 (5) of the New Zealand Coastal Policy Statement 2010 and should be retained in any future policy framework for the discharge of sewage from vessels.

# 4 Implementation

The implementation and adoption of the Resource Management (Marine Pollution) Regulations 1998 has included a mixture of regulatory and non-regulatory measures by:

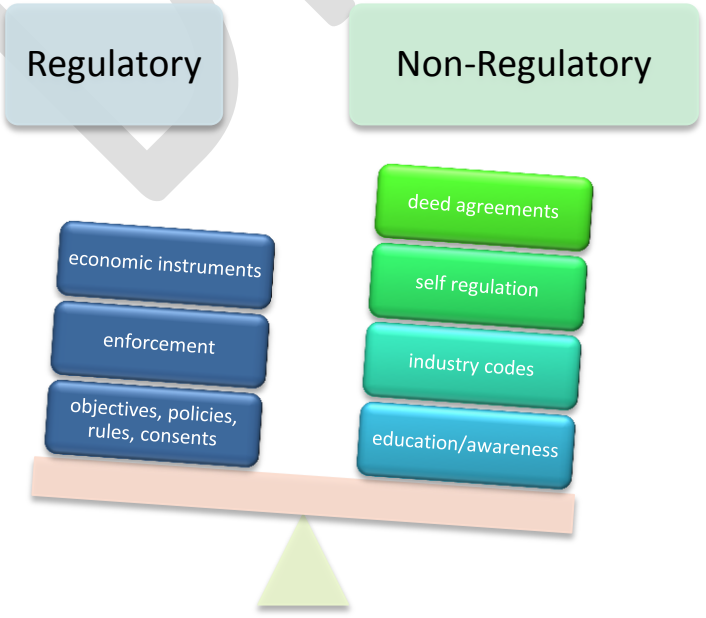
- Ministry for the Environment;
- Maritime NZ;
- Regional and unitary councils;
- Marina Operators Association;
- Marina owners;
- Yachting clubs; and,
- other stakeholders.

The response has included a range of measures such as:

- environmental education and awareness campaigns;
- objectives and policies in statutory plans;
- additional rules in statutory plans;
- liaison with territorial authorities and other agencies;
- liaison with industry and stakeholders;
- deeds of agreement with industry;
- voluntary codes of practice;
- economic instruments (financial contributions); and,
- research and investigation.

There is a mixture of regulatory and non-regulatory solutions. The non-regulatory measures, when driven by industry or stakeholders, can provide a cost effective method of achieving the purpose of the regulations and in some cases aim for higher standards.

**Figure One:** Conceptual illustration of the balance between regulatory and non-regulatory implementation methods for managing sewage from vessels.



## 4.1 Education and Awareness

The Ministry for the Environment were the lead agency in developing the regulations. The Ministry provides a national role through:

- improving public awareness of the regulations;
- cross-departmental liaison with other government departments and agencies; and
- supporting local government with implementation.

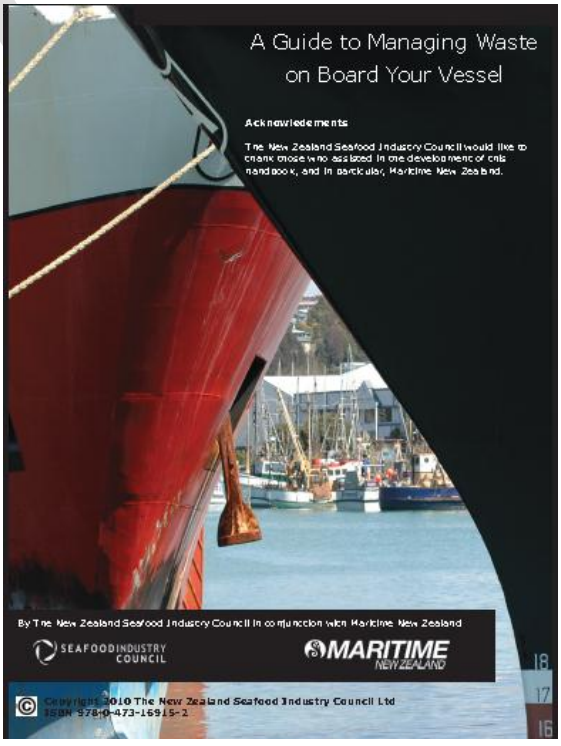
When the regulations were introduced the Ministry produced two information booklets that detailed the regulations and the issues. The booklets also included technical requirements related to the installation of holding tanks and sewage treatment systems. Key messages from that material were:

- sewage is a source of pollution; and,
- responsible boat owners have several options available to meet the regulations, rather than dumping untreated sewage in the coastal marine environment.

The Ministry for the Environment is interested in gathering information on the number of vessels that have installed holding tanks or Grade B treatment systems (Wells, 2012.MfE, pers.com). This would measure the uptake of the regulations. Currently, this information is not available.

Maritime NZ has a lead role with managing marine pollution and actively promotes educational campaigns for boating safety, which also include messages about managing sewage. Maritime NZ collaborates with the following agencies:

- Seafood Industry Council (waste management handbook);
- Water Safety NZ;
- Biosecurity NZ;
- Discover boating (Marine Industry website); and
- The Ministry for the Environment.




The Waste Management Handbook for Inshore Vessels was produced by the Seafood Industry Council in conjunction with Maritime NZ in 2010.

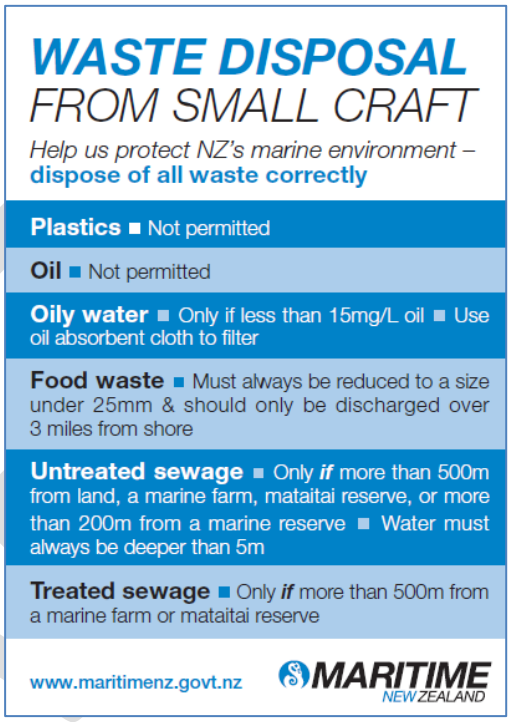
Chapter 3 outlines the issues with sewage and includes the regulations and practical management options for sewage management, such as:

- not to discharge sewage near shellfish beds;
- using holding tanks can enable inshore fishing;
- future proof vessels from further restrictions; and,
- provides technical advice on holding tanks.

The language of the waste management document is clear, concise and leads the reader towards practical solutions.

Maritime NZ have also produced a range of educational tools to inform the public, which include:

- stickers (an example adjacent) ;
- school education packages;
- an educational DVD; and
- information Booklets.




From the information booklet includes clearly communicated messages such as:

> **"The water is our playground, sports arena, holiday spot and a great source of food**. Marine pollution law requires that we respect and care for the marine environment to ensure it is sustained for our children and grandchildren. Remember, you can be fined or prosecuted for offences".

This simple message is reinforced with consequences. Any future education campaign would benefit from agency integration to build on existing programmes.

## 4.2 Voluntary Action

### 4.2.1 Marina Industry

New Zealand Marina Operators Association website hosts two relevant sites, the clean marina programme and a clean boating programme. Auckland Council provided support for these programmes when were initiated. Both websites provide information on sewage management and includes;

- a list of marinas that have pump-out facilities;
- methods to encourage good boating habits to protect the marine environment; and
- statements that explain how the boating community value and rely on coastal resources.

The following statement, from the clean boating website, summarises the programmes connection with the coast and boat owners responsibilities:

> "New Zealand has one of the highest levels of recreational boating activities in the world. We have over 15,000km of coastline making New Zealand the 10th longest coastline of all countries in the world. As boating continues to increase in popularity, it becomes increasingly important to educate boaters about environmentally sound boating practices

and to motivate changes in behaviour that help reduce pollution from boat operation and maintenance". www.cleanboating.org.nz

The website also includes tag lines to remind boat owners that their behaviour makes a difference, such as:

- Your boating habits make a difference!; and
- Remember Pump it, Don't dump it!

The clean marina programme includes two levels of an accreditation system, clean marine status and clean marina pledge. The New Zealand Marina Operators Association supply education booklets and self-assessment guidance to work towards these levels. The uptake in Auckland has been high with the following clubs and marinas joining and achieving the following levels:

- Clean marina status:
- Westhaven.
- Clean marina pledge:
- Bucklands Beach Yacht Club;
- Pine Harbour;
- Orakei;
- Hobson;
- Gulf Harbour;
- Half Moon Bay; and
- Bayswater.

Currently, the New Zealand Marina Operators Association represents 10,000 marina berths and sees themselves as a link between environmental agencies and the boating community (cleanboating website).

The voluntary work of the Marina Operators Association is encouraging, as it assists with improving environmental boating practices. Continued support for the clean marina and cleaning boating programmes would assist with exposing boat owners to environmental messages from their own industry.

New Zealand's largest marina, Westhaven, has a "no discharge" policy, within the marina. The outlines the shared responsibility operators and boaties have in caring for the environment:

> "Even if your vessel is equipped with marine sanitation devices, any discharge from such devices is not permitted within the marina. The quality of the marina and our harbour waters can be degraded by boat sewage, grey water, cleaning products, spilled fuel, rubbish and the introduction of exotic organisms"

> "These materials not only degrade the marina and surrounding environment, but also diminish our enjoyment of the harbour. Marina operators cannot protect our environment alone. Each one of us must share the responsibility for pollution prevention. Sometimes it is as simple as doing things a little differently" www.westhaven.co.nz/environment.

The use of a self-imposed industry standard of "no discharge" within the marina, establishes a benchmark of action, for boat owners. The no discharge applies for all waste. Although, the regulations already apply within these areas the "no discharge policy" reinforces them by sending a simple and strong message to boat owners.

By improving the environmental practices of the boats owners at the marinas, it could be assumed that environmental practices are improved elsewhere. Further work with Westhaven Marina, on boating practices at destinations, could assist with developing practical solutions to manage the discharge of sewage from vessels.

### 4.2.2 Blue Flag

The Blue Flag programme is an international programme, supported by the United Nations Environmental Programme, which provides an environmental quality status to:

- beaches;
- marinas;
- whale watching boats; and
- boat owners.

It is managed in New Zealand by the Foundation for Environmental Education. The Blue Flag award is based on achieving compliance with 24 criteria covering (ww.blueflag.org) the following:

- environmental education and information;
- water quality;
- environmental management; and,
- safety and services.

In New Zealand, only two marinas have achieved the Blue Flag status they included:

- the Landing, Okahu Bay;
- Westhaven Marina.

Uptake of the Blue Flag programme is low in New Zealand. However, the concept is a useful tool for marinas to demonstrate their environmental practices.

Blue Flag also includes a voluntary code of conduct for boat owners. The boat owner receives a Blue flag to fly on their boat to demonstrate that they have signed the code. Each country can adapt the code to address their particular issues.

In the code, the boat owner agrees not to:

- throw garbage into the sea or along the coast;
- release toilet water in coastal waters and sensitive areas;

- release poisonous or toxic waste (oil, paint, used batteries, cleaning agents, etc.) in the sea and deliver waste to the containers in the marina;
- engage in forbidden fishing practices and respect periods when fishing is prohibited; and
- buy or use objects made from protected species or from archaeological underwater findings.

The code asks the boat owner to agree to:

- promote and use recycling facilities (glass, paper, etc.);
- use the most environmentally friendly products that are available and work efficiently;
- instantly report pollution or other violation of environmental regulations to the authorities;
- protect animals and plants in the sea, including no disturbance of breeding birds, seals or other marine mammals;
- respect vulnerable and nature protected areas;
- avoid damaging the sea floor (when anchoring, etc.);
- avoid disturbing fishery or fishing gear; and
- encourage other boaters to take care of the environment.

The concept of a voluntary code for boat owners is an option that would require a great deal of buy in by the boat owner. Promotion through schools may be the way to get the buy in by parents, grandparents, friends and family. The children in the school groups would also be the "enforcement" mechanism by the constantly reminding family members of their agreement.

### 4.2.3 Pump-out facilities for sewage

The Resource Management (Marine Pollution) Regulations have been in place since 1998. Fourteen years later, 7 out of 14 marinas, in the Auckland Region provide for the collection and disposal of sewage from vessels. They include:

- Gulf Harbour Marina, Whangaparaoa;
- Orakei Marina, Auckland;
- Outboard Boating Club, Auckland;
- Bayswater Marina, Auckland;
- Viaduct Harbour Marina, Auckland;
- Westhaven Marina, Auckland; and
- Half Moon Bay Marina, Auckland.

The cost of the installation and maintenance of pump-out facilities is high. This review has not included research on the use of pump-out facilities. Ten years ago, the MfE booklet, stated that the use of pump-out facilities is low. Consultation with marinas would assist with determining the use of the pump-out facilities and establishing if there are any issues with their regular use.

#### 4.2.4 Other stakeholders

Interest groups and boating associations were active participants in the initial regulatory consultation process and are engaged with the implementation of regulations by councils.

Yachting New Zealand recommends that holding tanks be emptied further offshore than the minimum distance, and when under way (Yachting NZ website). This is a practical approach to assist their members with ensuring they comply with the regulations.

The websites of the smaller boat clubs do not tend to include any detail on environmental practices. Further work with small boat clubs may improve awareness.

# 5 Regional Councils: A comparison of approaches

Regional Councils are responsible for the implementation of the Resource Management (Marine Pollution) Regulations 1998. The regulations give the Councils the options of:

- including additional restrictions within their regional coastal plans; and
- relying on the regulations; or,
- a combination of both options.

Regional councils can also include;

- objectives and policies to manage the adverse effects of the discharge of sewage from vessels; and
- include a wide range of non-regulatory methods to achieve environmental outcomes.

In discussion with coastal planners, from Regional and Unitary Authorities and research of their respective websites, identified that:

- **12%** (2 Regional Councils) include policies and also rely on the Resource Management (Marine Pollution) Regulations 1998 to manage the discharge of sewage in their coastal marine environments;
- **35%** (4 Regional Councils and 2 Unitary Councils) include objectives, policies and rules, and also rely on the Resource Management (Marine Pollution) Regulations 1998 to manage the discharge of sewage in their coastal marine environments;
- **53%** (6 Regional Councils and 3 Unitary Councils) rely solely on the Resource Management (Marine Pollution) Regulations 1998.

Table 1: List of Regional Councils' or Unitary Authorities that include policies and or rules in their planning provisions.

| Regional or Unitary Council | Policies Only | Policies and Rules |
|---|---|---|
| **Auckland Council** | Yes | No |
| **Northland Regional Council** | | Yes |
| **Environment Waikato** | | No |
| **Taranaki Regional Council** | | No |
| **Manawatu-Wanganui Regional Council** | | No |
| **Wellington Regional Council** | | No |
| **Bay of Plenty Regional Council** | | Yes |
| **Gisborne Council** | | Yes |
| **Hawkes Bay Regional Council** | | Yes |
| **Tasman District Council** | | No |
| **Nelson City Council** | | No |
| **Marlborough District Council** | | Yes |
| **Canterbury Region** | | Yes |
| **West Coast Region** | | No |
| **Otago Region** | | No |
| **Southland Region** | Yes | No |
| **Total 16** | **2 (Yes)** | **6 (Yes) / 10 (No)** |

## 5.1 Auckland Council

### 5.1.1 Planning provisions

The Auckland Regional Plan: Coastal plan does not include specific objectives, policies and rules to manage the discharge of sewage from vessels. This means that the Resource Management (Marine Pollution) Regulations 1998 are the default regulations for managing discharge of sewage from vessels in the Auckland Region.

Chapter 20 of the Auckland Regional Plan Coastal outlines the issues, objectives, policies and rules of the discharge of contaminants. Section 20.1.3 includes the purpose and requirements of the Resource Management (Marine Pollution) Regulations 1998, which provide the hierarchy of regulation for discharging sewage from vessels.

> 20.1.3 Marine Pollution Regulations 1998
>
> *In addition to the provisions of this Plan there are the Marine Pollution Regulations. The purpose of these Regulations is to enable New Zealand to implement international obligations including MARPOL and the London Dumping Convention. Amendments to the RMA inserted new sections 15A, 15B and 15C which restrict the dumping and discharging of specified substances in the coastal marine area from vessels and off-shore installations (including sewage from vessels). The Regulations 'override' the provisions within this Plan and in some cases the RMA prohibits rules being made where there is a regulation. The Marine Pollution Regulations are included as Appendix F.*

Chapter 20 includes an Issues section, which provides the background context for managing point-source discharges through rules in the Auckland Regional Plan: Coastal.

The Auckland Regional Plan: Coastal includes Policy 20.4.6 which provides for the inclusion (but does not require) of facilities to dispose of sewage when new facilities are designed or upgraded.

> 20.4.6 Where appropriate, provision should be made in locations such as new ports, marinas, and other areas (e.g. wharves), or at the time of significant upgrading of these facilities, for those vessels using these facilities, to ensure the adequate and convenient collection and appropriate disposal of:
>
> a) sewage from vessels; and
>
> b) rubbish from vessels; and
>
> c) recyclable material including waste oils; and
>
> d) residues from vessel construction and maintenance; and
>
> e) spills from refuelling operations and refueling equipment.

Policy 20.4.6 has been a key policy to facilitate 50% of Auckland's marinas to include pump-out facilities. Policy 20.4.6 is an effective policy as it facilitates the collection and disposal of sewage and should be retained in any future policy framework for managing the discharge of sewage from vessels.

### 5.1.2 Non-Regulatory

The Auckland Regional Plan: Coastal includes Section 20.6, Other Methods. This section includes a range of alternative, non-regulatory methods, other than policies and rules, to achieve the objectives of the chapter.

Method 20.6.1 includes a commitment to develop, in consultation with stakeholders, a broad and practical approach to managing sewage discharges from commercial and recreational vessels.

> 20.6 Other Methods
>
> 20.6.1 The ARC will:
>
> a) develop in consultation with the boating community and boating industry representatives, a comprehensive and practical approach to dealing with sewage and other contaminant discharges from commercial and recreational vessels to the coastal marine area once Government Regulations have been introduced to control the discharge of contaminants from vessels.

Section 20.6.1 creates a platform to discuss the issue of discharging sewage from vessels with stakeholders. Since the implementation of the regulations, engagement with the boating community over the discharge of sewage from vessels has been focused on delivering education and awareness programmes. Continued dialogue with stakeholders adds values to policy development. Exchanging information, about regulations and boating practices, can inform the development of practical policies and rules that improve environmental quality.

Methods Section 20.6.5 aims to manage any impacts of emergency overflows from sewage pump stations that discharge into Coastal Protection Areas 1 or 2.

> 20.6.5 The ARC shall require appropriately higher margins of protection at sewage pump stations with emergency overflows discharging into any Coastal Protection Area 1 or 2.

Method Section 20.6.5 recognises the intrinsic values of Coastal Protection Areas.

When the Resource Management Marine Pollution Regulations came into effect, Auckland Regional Council decided that it was not cost effective to prepare a plan change specifically for the discharge of sewage from vessels. Instead, Auckland Regional Council focused on using an education campaign to raise awareness of the adverse effects of discharge of sewage from vessels. Auckland Regional Councils “Hold it” 1999 campaign included:

- an information stand at the Boat Show;
- booklets on the regulations; and
- distributing posters.

The effectiveness of the campaign has not been quanitfed but all of the material produced was distributed to boat owners during the Boat Show and to boat clubs after that event.

### 5.1.3 Enforcement

Discussions with staff at Auckland's Harbour Master's office provided advice on the practicalities of enforcing the regulations.

"It is difficult to enforce the regulations, because you can't prove who made the discharge" (Geoff, pers.com. AC, 2012).

"To enforce the regulations they need to be measurable, without requiring a specific system on board, then enforcement is impossible" (Geoff, pers.com 2012).

In the past, Auckland Council has had public complaints about discharges from:

- moored boats;
- spectator boats during international sailing events; and,
- commuter ferries.

No enforcement action has been taken in Auckland with in relation to sewage from vessels. No offender has been caught in the act of discharging.

## 5.2 Northland Regional Council

Northland Regional Council (NRC) uses planning instruments and education campaigns to manage the discharge of sewage from vessels into their coastal waters.

### 5.2.1 Planning Provisions

In 2004, Northland Regional Council first responded to the Resource Management (Marine Pollution) Regulations 1998, through a plan change process, to:

- manage coastal water quality (discharges of sewage from vessels was identified as an issue in Northland Regional Councils State of the Environment Report 2002);
- manage small geographic areas within the harbours and embayment's that were not covered by the Resource Management (Marine Pollution) Regulations and therefore allowed the discharge of untreated sewage;
- support the cultural values of tangata whenua; and
- provide clarity and certainty for stakeholders.

The Northland Regional Council's Coastal Plan includes rules, which prohibit the discharge of untreated sewage within all Northland Harbours and the Bay of Islands. Northland Regional Councils Coastal Plan divides the coastal marine environment into management areas and includes rules for specific activities within each of these management areas. The discharge of untreated sewage with Marine 1 (Protection) Management Areas and Marine 2 (Conservation) Management Areas are prohibited activities (Table 2).

**Table 2: Rules within the Northland Regional Coastal Plan on the Discharge of untreated sewage.**

| Reference | Northland Coastal Plan Management Area | Classification |
|---|---|---|
| 31.3 | Marine 1 (Protection) Management Areas | |
| 31.3.6 (j,k,l) | Discharges of untreated sewage | Prohibited |
| 31.4 | Marine 2 (Conservation) Management Areas | |
| 31.4.6 (o,p,r,s) | Discharges of untreated sewage | Prohibited |

Sewage that has been treated with Grade A and Grade B systems still can be discharged within Marine Management Area 1 and Marine Management Area 2. The remaining section of Northland's coastal marine environment defaults to the Resource Management (Marine Pollution) Regulations 1998.

However, The Northland Regional Coastal Plan also includes Rule 31.4.6 (t), which allows the discharge of untreated sewage in the case of boating emergency.

> Rule 31.4.6 (t) states, the discharge of untreated sewage in emergency areas of Whangaruru and Whangaroa are only permitted when:
>
> - wind conditions at the mouth of the harbour are above 25 knots, and
> - sea swells exceed three metres, the discharge takes place during the first three hours of an outgoing tide; and,

- the Northland Regional Council is notified as soon as possible.

#### *5.2.1.1 Proposed Plan Change 2012*

Northland Regional Council is due to announce a variation to their Regional coastal plan in July 2012, to the objectives, policies and rules that manage Mooring and Marina Management Areas.

The aim of the variation is:

- to improve the Council's ability to enforce the regulations;
- give stakeholders the means to comply;
- provide clarity and certainty for stakeholders; and
- provide further reassurances for the aquaculture industry.

The proposed plan change includes rules to:

- prohibit overnight stays, on moored vessels unless the vessel has:
  - holding tank, with a locked off discharge valve;
  - Grade A or B treatment systems; or
  - a portable toilet; and
- requires the appropriate disposal of waste, after five consecutive nights at the mooring.

The draft proposed rule is:

(i) No person shall stay overnight on a vessel while on the mooring unless:

(a) the vessel is equipped with a sewage treatment system which is specified in Schedule 5 and 7, or is compliant with Schedule 6, of the Resource Management (Marine Pollution) Regulations and which is installed, maintained and operated in accordance with manufacturers instructions, or;

(b) If the vessel is equipped with a sewage holding tank, an effective outlet sealing device is installed to prevent sewage discharges; this device remaining activated in the sealed state or position at all times while the vessel is moored, or;

(c) the vessel has a portable toilet on board[1]

(ii) No person may stay overnight on a moored vessel if one or more people have stayed overnight on board the vessel for more than five nights, and within the five nights the vessel has not:

a) pumped out all of the sewage from the vessel's holding tank at a sewage pump-out facility (if the vessel has a holding tank); or

b) disposed of all of the sewage from all the vessel's portable toilets[2] at an authorised disposal site (if the vessel has a portable toilet); or

c) navigated into waters where the discharge of sewage from the vessel is permitted and disposed of all its sewage into those waters.

In discussion with Council Staff, the marinas that council consulted with, support the proposed plan change initiative (B.Lee, 2012 NRC, pers.com).

The Northland Regional Council contacted all the iwi authorities and a range of hapu and whanau groups whom previously expressed interest in moorings issues, but the Council did not receive any responses. However, the broad concept of reducing the discharge of human waste into the coastal marine environment is generally consistent with Tangata Whenua values in the region.

As part of the plan change process Northland Regional Council hosted several workshops with Northland stakeholders and stakeholders in Auckland. The main concern raised by boat owners was the method of enforcement. Stakeholders where concerned with random spot checks would occur in the middle of night. The boating community also suggested a sticker or some sort of signage to illustrate their compliance with the discharge regulations. This consultation process provided an opportunity to explain the formal enforcement process with the boating community (B.Lee, 2012 NRC pers.com).

### 5.2.2 Enforcement

Council Staff, at Northland Regional Council agree that enforcement of the regulations is difficult (B.Lee. 2012, NRC pers.com). Northland has had two relevant cases that have received high levels of media attention.

The first case was a sailor who was fined $750.00 in 2009, when holiday makers had photographic evidence of the sailor regularly discharging untreated sewage in to a marina. The holiday maker, who made the complaint, told the Northern Advocate:

> *"This sort of behaviour needs to be stopped. It is not acceptable for any boat to discharge sewage into our waters," the woman said. She hoped it would be a "wake up call" for all yachties who disposed of raw sewage in "our waters".*
>
> The accused said that:
>
> *he intended to write to the council and explain the situation. "I'd like to see them try and prove it,".*

The second case related to sewage contaminating oysters in marine farms in Waikare Inlet. In 2001, several of the marine farms in Waikare inlet were shut down for a link with gastro-enteritis from the consumption of oysters. The marine farms were then reopened with a “restricted” classification (Inns, 2007). This meant:

- a limited ability to harvest; and
- a reduction in the economic viability of the business.

The marina farmers sued the Far North District Council, claiming that discharges from the Council’s failing sewage treatment plant were responsible for three cases of sickness in the community (Inns,2007). The High Court did not grant in favour of the marine farmers and noted that sewage had possibly entered the inlet from several sources such as:

- leaching from septic tanks;
- leaching from long drop toilets; and
- sewage from vessels (Inns 2007).

Both cases illustrate the difficulties with attributing the source of the discharges of sewage to a specific activity. The Waikare Inlet case, illustrates that the marine environment can be the receiver of sewage contamination by a wide number of sources.

### 5.2.3 Non-Regulatory

Northland Regional Council provides educational information on managing the discharge of sewage from vessels. This includes:

- summer marine pollution surveys;
- promotion of education materials at high-use maritime locations; and
- website information and other boating websites, which includes:
    - information on how to comply with the regulations;
    - risk of diseases through the exposure of untreated sewage;
    - maps of the restricted areas; and,
    - lists the six the pump-out facilities for boat owners.

Non-regulatory measures also include economic mechanisms such as:

- supporting, through financial contributions, the installation of pump-out facilities at existing marina areas (www.nrc.govt.nz).

## 5.3 Bay of Plenty Regional Council

Bay of Plenty Regional Council uses a combination of statutory planning mechanisms and education campaigns to manage the effects of the discharge of sewage from vessels into their coastal waters.

The Resource Management (Marine Pollution) Regulations 1998 were relatively new and recently amended in 2002, when the Proposed Bay of Plenty Regional Coastal Plan was in the processes of being finalised. The Regional Coastal Plan became fully operative in 2003 and the Council chose to include policies and rules to:

- provide direction on new regulations;
- assist with clarity for stakeholders; and
- support Iwi values in the Bay.

### 5.3.1 Planning Provisions

Rule 5 (9.2.4 (e) of Bay of Plenty Regional Coastal Environment Plan prohibits the discharge of untreated sewage within Tauranga and Ōhiwa Harbours.

> Rule 5 in the Regional Coastal Environment Plan states that the discharge of untreated sewage from vessels is a prohibited activity in the Tauranga and Ōhiwa harbours within 500 metres seaward of the harbour entrances. For the purpose of this rule, the entrances are defined respectively as:
>
> • lines drawn across the Tauranga entrances at respectively U13 748 109, U13 763 091, U14 883 926 and U14 902 926
>
> • a line drawn across the Ōhiwa Entrance at W15 738 492,W15 760 487.

The Bay of Plenty Regional Coastal Environment Plan includes Policy 13.2.3 q which requires new or redeveloped marinas to include sewage disposal facilities and method for appropriate disposal for vessels.

> Policy 13.2.3(q) All of the following should be installed at new marinas:
>
> - oil spill containment and clean-up equipment;
> - adequate provision for immediate isolation of fuel dispensers and
> - reticulations in the event of leakage, rupture or general failure;
> - hard-standing bunding and sumps in order to prevent the discharge to the coastal marine area of contaminants associated with boat careening, repair and maintenance;
> - facilities for the collection of sewage, bilge water and rubbish and methods for their appropriate disposal.

The Bay of Plenty Regional Coastal Environment Plan includes Policy 13.2.3 (r), which requires consideration of the installation of facilities for sewage disposal at high use boat ramps.

> Policy 13.2.3 (r) Consideration should be given to the installation of vessel waste disposal facilities at frequently used boat ramps (see chapter 9 – Coastal Discharges).
>
> In April of 2012, Bay of Plenty Regional Council completed a review of the efficiency and effectiveness of the Regional Coastal Environment Plan. The review determined that Policy 13.2.3 (r) has been effectively implemented and recommended that the policy should be changed into the other methods section of the plan, as it now relates to existing structures (BOP Strategic Policy Publication 2012).

Adoption of this policy by Auckland Council could support the installation of a range of facilities such as land based toilet facilities and/or sewage collection at high use boat ramps. The installation and use of land based toilets, at popular boating destinations, could be a cost effective method for collecting sewage of passengers from small to medium sized vessels

Chapter 9 of the Regional Coastal Environment Plan explains that discharge of sewage from vessels in the remaining coastal marine environment is regulated through the Resource Management (Marine Pollution) Regulations 1998. The preamble suggests that the issue is mainly related to recreational boats; that the discharge of untreated sewage should be discouraged, and that the effects are mainly limited to cultural and aesthetic.

The coastal plan includes reference to research (not referenced) that demonstrates waterways can include a high concentration of recreational boats without holding tanks, and still be suitable for recreational activities.

> Coastal Plan – Discharges section Chapter 9
>
> The discharge of sewage from boats appears to be a problem mainly limited to recreational vessels, as most commercial ships have holding tanks and discharge outside of inner coastal waters. The effects of these discharges appear to be mainly cultural and aesthetic, as research has shown that where there have been high concentrations of recreational vessels without holding tanks the surrounding waters have still been suitable for recreational use. Nevertheless it is desirable that the practice of discharging sewage from boats directly into inner coastal waters (in particular harbours and estuaries) be discouraged. The Resource Management (Marine Pollution) Amendment Regulations 2002 control most sewage discharges from vessels. These regulations should be consulted. A rule in this plan extends the effect of the regulations to include a prohibition of discharges of untreated sewage from vessels into harbours and estuaries. Refer also to policies 13.2.3(q) and (r) which relate to the installation of vessel waste disposal facilities.

Bay of Plenty Coastal Environment Plan also includes a method to make the boat building industry to include holding tanks as a compulsory. However, the boating industry have not responded to this method and it is likely that the method will be removed during the next planning review cycle (Noble, 2012. pers.com).

### 5.3.2 Enforcement

In discussion with staff, enforcement of the regulations is difficult due to the lack of ability to identify boats that are responsible for the discharge (Noble, 2012.pers.com). For example, if a member of the public notices a suspected plume of effluent in the water, it is almost impossible for staff to link this discharge to a specific vessel (Noble, 2012. pers.com).

Council staff rarely receive calls about the unauthorised discharge of sewage from vessels, but those that are received relate mainly to live-a-board boats.

### 5.3.3 Non-Regulatory

Bay of Plenty Regional Council include non-regulatory measures such as:

- education of the regulations and the rules within the Harbours;
- collaboration with local authorities on waste and boat cleaning facilities;
- liaison with stakeholders; and,
- developing with local authorities and industry a Marine Industries Best Management Practice guidelines, which includes sewage discharges.

The education messages are generally combined with boat safety information.

## 5.4 Gisborne

Gisborne District Council has adopted an approach of using statutory planning tools to manage the discharge of sewage from vessels. The Coastal Environment Plan includes provisions to recognise that:

- the importance of water quality to Iwi;
- public concern about water quality; and
- the provisions of MARPOL 73/78.

### 5.4.1 Planning Provisions

The Gisborne District Council, Coastal Environment Plan (3.4.2B) recognises that discharges of contaminants to air, land or water can result in adverse effects on:

- perceptions about amenity values of the coastal environment;
- natural character of the coastal environment;
- coastal flora and fauna;
- Maori perceptions of the Mauri of water;
- recreational opportunities; and
- the health of people exposed to contaminants.

The recognition of Maori perceptions about the Mauri (life force) of the water recognises the offensive nature of sewage discharges.

The Coastal Environment Plan prohibits the discharge of untreated sewage within Poverty Bay.

> The discharge of untreated sewage, from a ship or off-shore installation within the internal waters of Poverty Bay within 1000 metres seaward of mean high water springs, is a prohibited activity for which no resource consent will be granted.

### 5.4.2 Enforcement

No information available.

### 5.4.3 Non-Regulatory measures

No information available.

## 5.5 Hawkes Bay Regional Council

The Hawkes Bay Regional Coastal Plan includes additional planning provisions for managing the discharge of sewage from vessels. The purpose of including additional provision was to ensure:

- clarity for stakeholders, and
- consistency with the New Zealand Coastal Policy Statement.

### 5.5.1 Planning Provisions

The Hawkes Bay Regional Coastal Plan, Rule 158, prohibits the discharge of sewage within:

- conservation areas (estuaries and reefs);
- harbours;
- specific management areas (ports, aquaculture and harbour management areas); and
- in or within a marine reserve.

Rule 158

Discharge of sewage from ships or off-shore installations into specified areas, Prohibited 6-1 to 6-7; 16-1. Rule 158 Discharge of sewage from ships or offshore installations into specified areas:

- within the Porangahau Estuary (SCA1) or
- inside, or within 500m of the seaward extent of the banks of, the Wairoa River, Whangawehi Harbour, or Waikokopu Harbour or
- in or within 500m of an Aquaculture Management Area.
- in or within 500m of the Port Management Area or
- in or within 500m of the Harbour Management Area or
- in or within 500m of Pania Reef (SCA13) or
- in or within 500m of Te Angiangi Marine Reserve.

The remaining coastal marine environment, for discharge of sewage from vessels is regulated by the Resource Management (Marine Pollution) Regulations 1998.

### 5.5.2 Enforcement

No information available.

### 5.5.3 Non- Regulatory

No information available.

## 5.6 Marlborough District Council

The Marlborough District's Regional Policy Statement identifies three groups of activities which may affect water quality based on the origin of the contaminant. They are:

- run-off from land;
- discharges from boats and water-based activities; and
- point source discharges from land.

The Marlborough Sounds a high use recreational boating area. The District Council uses both regulatory and non-regulatory measures to manage the discharge of sewage from vessels

### 5.6.1 Planning Provisions

The Coastal plan in Marlborough District recognises that the discharge of sewage from vessels is a key issue for the community. Objectives and anticipated outcomes, of the Coastal Plan, aim to ensure that water quality is of high standard to:

- enable the gathering or cultivating of shellfish for human consumption (9.3.2, Objective 1); and
- maintain and enhance the recreational values of the coastal marine area (Anticipated environmental effects).

The plan includes Rule 35.5.3, which classifies the discharge of sewage in Coastal Marine Zones one and two as non-complying activities.

> 35.0 Coastal Marine Zones One and Two
>
> NOTE: Resource Management (Marine Pollution) Regulations 1998 introduced pursuant to sections 15A, 15B and 15C of the Resource Management Act 1991 control discharges and dumping from ships. The regulations limit the nature and extent of discharges and dumping, in that part of Coastal Marine Zones 1 and 2 that is coastal marine area. The Council is responsible for administering and enforcing these regulations.
>
> 35.5.3 Discharges of Human Sewage to the Coastal Marine Area
>
> 35.5.3.1 Any discharge of untreated human sewage to the coastal marine area, is a Non-Complying Activity.
>
> 35.5.3.2 Any discharge to the coastal marine area in respect of which the applicant may desire to rely on section 107(2)(a) is Non-Complying Activity.

### 5.6.2 Enforcement

No information available.

### 5.6.3 Non-regulatory

Marlborough District Council has non-regulatory measures that include education of boat owners and users. The Council website has a "Safe Boating" guide, which primarily focuses on navigation,

but includes information about restrictions on the discharge of untreated sewage, and encourages boat operators to use pump-out facilities.

Safe Boating messages include:

- reinforcing the regulations – “discharging untreated sewage from any vessel within 500 metres of the shore or any other structure in the water or in depths less than 5 metres is prohibited” and,
- all boat users are encouraged to use human waste pump-out facilities located at the fuel jetties.

## 5.7 Environment Canterbury

Environment Canterbury was part of the local government forum that was consulted during the development of the national Resource Management (Marine Pollution) Regulations 1998. Environment Canterbury's preferred approach was for the regulations to require a sewage treatment system on vessels to enable:

- compliance; and
- the ability to enforce the regulations.

Environment Canterbury's argued that their preferred option had the benefit of being clear and concise for stakeholders (Gregory, 2012, pers.com).

Environment Canterbury did respond to the Resource Management (Marine Pollution) Regulations 1998, by including rules to increase the distance and depth of disposal within specific areas.

### 5.7.1 Planning Provisions

Environment Canterbury's Regional Coastal Plan describes what the Resource Management (Marine Pollution) Regulations 1998 require, including:

- a centralised approach to dumping of waste or other matter that Regional Plans must be consistant with;
- restricting the Regional Council to not include permitted rules for dumping of waste or other matter; and,
- provision for regional coastal plan to increase the depths or distances offshore for untreated and treated sewage.

Environment Canterbury note that Lyttelton and Akaroa Harbours are already protected from such discharges by virtue of being either within 500 metres of the shore or having a water depth of 5 metres or less. The Council also highlight, that further investigations and consultation may lead to additional areas being added.

Policy 7.3 of Environment Canterbury Regional Coastal Plan addresses water quality, with the purpose of developing a process for investigation and consultation to identify and define areas with the coastal marine environment that require:

- specific water quality standards to be set and maintained;
- areas that should be protected from discharges of untreated sewage from vessels; and,
- coastal marine areas that have particular cultural values identified by Tangata Whenua that require protection.

Rule 7.7 prohibits the discharge of sewage from vessels within specific areas of the Regional Council's administrative boundaries.

> Rule 7.7 Prohibited Activities for which no Resource Consent shall be granted:

The discharge of sewage that is not treated sewage, into water, or onto or into land in the Coastal Marine Area, from a ship or offshore installation, is a prohibited activity where it occurs within any of the following bays and harbours of Banks Peninsula enclosed by lines across their headlands and within a 1000 metres of the shore:

- Te Oka Bay, Peraki Bay, Flea Bay, Otanerito Bay, Le Bons Bay, Okains Bay, Little Akaloa Bay, Pigeon Bay and Port Levy.

Environment Canterbury's Regional Coastal Plan adopted this approach to achieve:

- water quality classifications as defined in the plan;
- maintain areas of existing high water quality; and
- assist with the interpretation and enforcement of the Regulations.

### 5.7.2 Enforcement

Council staff spoken to noted that "It is difficult to prove which boat discharged sewage unless the operators have been caught during the act"(Gregory, 2012. pers.com). Council staff expressed frustration with the lack of ability to enforce the regulations (Gregory, 2012. pers.com).

There have been two incidents in the Region, where the boat owners have been caught in the act of discharging sewage; one was a tourist operator and other a ferry company.

A local ferry operator discharged sewage into the Harbour and was reported to the Council by the passengers. The outcome was the installation of bigger holding tanks to reduce the future incidents of non-compliance.

The other was a tourist operator prior to a day trip to see dolphins. This was seen from the shore by tourists viewed the incident and reported to Council. In lieu of a fine, and to avoid unwanted media attention, the company contributed to the installation of pump-out facilities on the main wharf.

These two incidents demonstrate that tourists and the general public find the discharge of human sewage offensive enough to complain to the local authorities.

### 5.7.3 Non- Regulatory

Environment Canterbury's website includes an eight minute You Tube video and brochures on:

- boating safety messages;
- specific bylaws for each location; and
- biosecurity messages.
- Bylaw information for each area in the region differs from area to area (Lakes, harbours, rivers, estuaries and coastline) and boat owners are expected to learn all the rules and comply with them. The video and the safety brochures focus on the bylaws and boating safety and do not include rules or how to manage sewage from vessels.

## 5.8 Environment Southland

Environment Southland manages 3,0000 kilometres of coastal water, which includes Fiordland, a World Heritage Area (www.es.govt.nz). Fiordland's inland waters are recognised through additional provisions within the Resource Management (Marine Pollution) Regulations 1998 (Section 12 (2) (a).

Environment Southland's Regional Coastal Plan recognises the overarching nature of the Resource Management (Marine Pollution) Regulations 1998 and specially state that their Coastal Plan cannot be inconsistent with these regulations. The Regional Coastal Plan also recognises that the regulations allow Council to include rules in their coastal plan but states that:

- including rules would not be efficient or effective means of managing the activity (discharge of sewage from vessels).

Chapter 7 of the Regional Coastal Plan (Discharges) outlines the approach the Environment Southland takes to managing the discharge of sewage from vessels, which includes:

- policies to discourage the discharge of sewage from vessels;
- non-regulatory deed of agreement between the NZ Cruise Ship Industry;
- resource consents for commercial boat operators, where consent conditions refer the operators to the provisions of the Resource Management (Marine Pollution) Regulations; and
- general education of fishing and recreational boat owners on the regulations.

The Regional Coastal Plan also states that where Environment Southland considers the regulations to be ineffective they will advocate for a change to the Regulations.

### 5.8.1 Planning Provisions

Policy 7.3.2.12 strongly discourages the discharge of human sewage into coastal waters from ships and explains the discharge of human sewage is:

- culturally abhorrent to Maori, and
- generally unacceptable to others.

> Policy 7.3.2.12 - Discharges of human sewage and ballast water into coastal waters from ships
>
> Strongly discourage discharges of human sewage and ballast water into coastal waters from ships.
>
> Explanation - The discharge of human sewage into coastal waters is culturally abhorrent to Maori and generally unacceptable to others.

Policy 7.3.2.13 encourages boat owners to manage the adverse effects of the discharge of sewage through the use of onboard sewage collection, and treatment systems.

Policy 7.3.2.13 encourages the discharge of sewage through the use of onboard sewage collection and treatment systems.

Encourage the use of systems onboard ships for the collection, storage, treatment and transfer of human sewage to avoid, wherever practicable, mitigate or remedy the adverse effects of discharging sewage into the coastal marine area.

The explanation for Policy 7.3.2.13 repeats the offensive nature of discharging human sewage to Maori and the general public. The explanation also addresses the argument that there are limited collection and treatment systems available, and highlights that boat owners, have alternative options available other than the direct discharge of effluent into the coastal marine environment. The explanation encourages the adoption of these systems to assist with avoiding, wherever practicable, mitigating or remedying the adverse effects of discharge of sewage into the coastal environment.

Chapter 16, (On surface, water activities) includes Policies, rules and subsequently resource consents, to manage the increasing number of commercial operators, which can generate adverse effects such as:

- discharge of contaminants, include rubbish and sewage;
- creation of noise;
- the occupation and use of space;
- creation of wakes;
- diminished water quality;
- disturbance of the seabed or foreshore;
- loss of public opportunity;
- habitat depletion;
- loss of landscape and amenity values (including the loss of remoteness values); and
- reduce the wilderness experience for tourists.

Depending on the location and the timing of the activity, the activity status of rules can range from prohibited, non-complying or discretionary.

Rule 16.2.1 of the Coastal Plan manages the competing use of space within Doubtful Sound by allocating a specific number of visiting days to operators per month.

The Coastal Plan does not restrict allocation days in other parts of Fiordland, however, most of those resource consents limit the number of trips allowed per year or per day if it is a day trip operator in Milford Sound (Galbraith, 2012. ES, pers. com).

Overnight mooring is prohibited in Hall Arm, Doubtful Sound to maintain water quality, reduce the discharge of contaminants, include rubbish and sewage and mitigate the loss of landscape and amenity values.

However, in practice, commercial operators have installed holdings and use them appropriately (Galbraith, 2012. ES, pers. com).

In the future, Environment Southland will update their Regional Coastal Plan to:

- potentially include additional restrictions of the discharge of sewage from vessels, especially in the inland waters, as the existing buffer zones are inadequate for inlets and estuaries,
- improve water quality through the implementation of water quality standards, and
- give effect to the New Zealand Coastal Policy Statement 2010 and the Fresh Water Policy Statement 2011 (Galbraith, 2012, ES, pers. com).

Environment Southland's scientists are working on a land-water project to manage non-point discharges and are approaching this issue on a catchment by catchment. The approach is designed to improve the discharges into the marine environment. This information will assist with the development of water quality standards for the region (Galbraith, 2012. pers. com).

Environment Southland has approached the management of sewage discharges from vessels in a unique way, due to their high tourism values. They are the only regional council who manage commercial operations through rules and resource consents (Galbraith, 2012. pers.com).

In areas of natural character or high tourism values, this approach, provides further clarity to operators of their responsibilities and reassures stakeholders that the discharge of sewage from commercial vessels is managed.

### 5.8.2 Enforcement

Environment Southland management approach to the discharge of sewage includes:

- regulatory measures, to manage commercial boating operations; and
- non-regulatory, through a deed of agreement, to manage the cruise shipping industry.

Environment Southland compliance officers find it difficult to manage the discharge of sewage from recreational and fishing boats.

For example, compliance staff responded to a recreational boat that was moored overnight, and had a party on board. They were told that toilet was not used. Compliance officers would prefer boats to be required to have holding tanks (Galbraith, 2012. pers. com).

### 5.8.3 Non- Regulatory

Environment Southland have a non-regulatory agreement with the Cruise Ship Industry, the purpose of the agreement is to:

- enable managed access to unique parts of New Zealand's coastal marine area and a World Heritage area;

- foster and promote the sustainable management of the internal waters of Fiordland in a manner consistent with the principles and provisions of the Regional Coastal Plan and Resource Management Act;

- meet Environment Southland's coastal management and control obligations in the coastal marine area generally;

- provide a collaborative management framework between Environment Southland and cruise ship owners and/or operators allowing as far as possible the management and growth of cruise ship operations in the internal waters of Fiordland.

The agreement includes a range of restrictions, including but not limited to:

- the numbers and timing of vessels within any waterway, passage, fiord, bay or inlet to one at a time, and

- includes "zero discharge" policy within the Southland coastal marine area (Schedule 2.3 and Schedule 6.2.3).

The agreement reminds the Cruise industry that they are obligated to comply with both local regulations and international conventions but are bound to the details of the deed. The deed also states that failure to comply with the terms of the agreement may result in the need for the Cruise Ship to apply for a resource consent to operate within Southland's coastal marine environment (Section 3 (3.3)).

The deed is a unique approach which enables the Regional Council to impose higher standards than the regulations of a "zero discharge" policy. This provides an additional level of protection for coastal water quality. The deed is clear and concise and is an alternative non-regulatory approach that is effective and measurable. Non-compliance also triggers a regulatory response.

# 6 Findings

An overview of the regulations governing the discharge of sewage from vessels and a review of implementation methods by regional and unitary authorities found that:

- the Resource Management (Marine) Pollution Regulations 1998 applies to all sizes of vessels within the 12 nautical mile limit;
- the Resource Management (Marine) Pollutions Regulations 1998 are inconsistent with the New Zealand Coastal Policy Statement 2010;
- sewage into coastal waters impacts on the mauri of the water and ability to gather food / mahinga kai;
- non-compliance offends the public and tourists to the extent that they are willing to complain to the authorities;
- the marine environment is subject to various sources of sewage;
- the marina operators association have taken a proactive approach to environmental practices, including managing the discharge of sewage from boats;
- non-regulatory and voluntary measures can generate higher standards for boat owners than regulations;
- local government policies have been effective at increasing the number of sewage collection facilities available to boat owners at marinas and at high use boat ramps;
- the boating industry did not respond to a planning method, requesting compulsory holding tanks, but are working with councils to develop industry guidelines;
- national and regional education and awareness campaigns exist and are integrated between central government departments and agencies;
- Maritime New Zealand are interested in integrating national awareness programmes with regional initiatives;
- the inability to enforce regulations frustrates regional and unitary authorities;
- Local government has responded to the Resource Management (Marine) Pollution Regulations 1998 with:
    - **12%** of Regional Councils including policies, and also relying on the Resource Management (Marine Pollution) Regulations 1998 to manage the discharge of sewage in their coastal marine environments;
    - **35%** of Regional Councils (4) and Unitary Authorities (2) include objectives, policies and rules, and also relying on the Resource Management (Marine Pollution) Regulations 1998 to manage the discharge of sewage in their coastal marine environments;

- **53%** of Regional Councils (6) and Unitary Councils (3) relying solely on the Resource Management (Marine Pollution) Regulations 1998.

- Regional Councils that have adopted objectives, policies and/or rules to manage the discharge of sewage generally are aiming to provide:
  - a practical approach to regulations that are difficult to enforce;
  - clarity to stakeholders;
  - the means for stakeholders to comply;
  - for the provision of the cultural values of tangata whenua; and
  - reassurance for general public that the discharge of sewage, from vessels is managed.
- A number of Regional councils are currently;
  - developing or further strengthening existing water quality standards;
  - considering further restrictions to improve inadequacies of buffer zones in the regulations, and
  - developing with industry, a Marine Industries Best Management Practice guidelines, which includes addressing the discharge of sewage from vessels.
- The Ministry for the Environment is interested in gathering information on the number of vessels that have installed holding tanks or Grade B treatment systems; and,
- Grade B sewage treatment systems need to work at optimal conditions and be operated correctly to be effective.

# 7 Discussion of Options

Thirteen options were identified for managing discharges of sewage from vessels in the Auckland Region and assessed against the following criteria:

- the extent to which the option addresses Auckland's key issues;
    - cultural values;
    - aesthetic values;
    - tourism experience;
    - concentration of boats in harbours, bays and estuaries; and,
    - limited ability to provide cost effective collection and disposal at isolated areas within the Hauraki Gulf;
- whether the option give effects to the regulatory requirements;
- the extent to which the option enforceable;
- how practical is the option to implement;
- potential consequences from implementation on infrastructure; and,
- an indicator of high or low costs to council and boat owners.

## 7.1 Options

The first option is the current regulations which represent the status quo or the baseline situation. The options have been split into regulatory and non-regulatory solutions. Each option is assessed against the baseline.

| Summary of Options for managing the discharge of sewage from vessels. | | | |
|---|---|---|---|
| **Baseline** | a | | **Status quo.** |
| | | | maintaining status quo; relying on the regulations, existing policy and non-regulatory initiatives. |
| Regulatory | | | |
| | b | | **Include specific objectives and policies.** |
| | | i. | objectives that recognise cultural and aesthetic values. |
| | | ii. | policies that require and enable the toilet facilities at high use boat ramps and at boating destinations, during development or redevelopment. |
| | | | |
| | c | | **Include rules to increase the width of the buffer zone to:** |
| | | i. | remove gaps that allow untreated sewage in some harbours. |
| | | ii. | prohibit discharges within 2 km of the mean high water spring tide level. |
| | | iii. | prohibit discharges in high use areas. |
| Non-Regulatory | | | |
| | d | | **Include a range of other methods.** |
| | | i. | Develop with industry and implement a code of practice for commercial operators. |
| | | ii. | general education and awareness campaign, encouraging the use of: |
| | | | holding tanks and pump-out facilities, and, |
| | | | portable toilets for small –medium size boats. |
| | | iii. | targeted education and awareness programme focussing on schools and local boat clubs. |
| | | | |

## 7.2 Option a: Status quo

Auckland Council's current approach to managing the discharge of sewage from vessels is to rely on the provisions of the Resource Management (Marine Pollution) Regulations 1998, existing policy and the non-regulatory initiatives.

Pros (+)

- The regulations recognise and provide for the social, economic, recreational, and cultural well-being of people and communities who use the coastal marine environment by providing protection of specific areas through buffer zones, and a range of options for boat owners to collect and dispose of their sewage.
- The regulations prohibit discharges within 500 m of the mean high water spring tide level, and in water less than 5 m deep. This buffer gives effect to the New Zealand Coastal Policy Statement 2010, which requires councils to identify areas that are inappropriate for use and development.
- Prohibiting the discharge of untreated sewage within buffer zones recognises cultural and aesthetic values;
- The buffer zones protect the nearshore coastal environment from the discharge of sewage from vessels;
- The buffer zones reduce the discharge of sewage in bays, harbours and estuaries, where concentrations of boats can occur;
- The buffer zones provide a reasonable level of protection for:
    - marine farms;
    - customary fishing reserves; and,
    - marine reserves.
- Policy 20.4.6 requires the installation of sewage collection and disposal systems to be considered for new and redeveloped marinas. It is anticipated, that this will lead to the percentage of pump-out facilities increasing over time;
- Non-regulatory measures have been effective at increasing awareness.
    - 50% of marinas include pump-out facilities;
    - The marina industry is encouraging boat owners to have good environmental practices.
    - Existing national campaigns provide regulatory information to boat owners.

- The existing regulations are simple and clear for stakeholders to understand, and cost effective for the council and boat owners.

Cons (-)

- There are small gaps in the buffer zones that create anomaly areas were untreated sewage can be discharged.
- Boat owners are allowed to discharge untreated sewage in potentially sensitive areas.
- The regulations are difficult to enforce.
- The extent of pump-out facility usage is unclear.

## 7.3 Option b: specific objectives and policies

Regulatory provisions could be added to strengthen objectives and policies on specific issues.

Objectives could be added that recognise sewage from vessels can result in adverse effects on:

- cultural values of Tangata whenua;
- mauri (life force) of the coastal marine environment; and
- mahinga kai (the ability to gather food);
- perceptions about aesthetic values of the coastal environment; and
- recreational and tourism activities.

Policies could be added that require and enable the installation of toilet facilities at:

- high use boat ramps, and,
- boating destinations, during special events, development or redevelopment.

Pros (+)

- recognises the provisions of the Hauraki Gulf Marine Park Act 2002 and the New Zealand Coastal Policy Statement 2010;
- provides clarity for stakeholders, Tangata Whenua and the boating community;
- supports existing non-regulatory implementation methods;
- provides further options for enforcement; and
- currently cost effective and efficient to do, as the updated objectives and policies can be included during the unitary plan change process.

Cons (-)

- objectives and policies alone do not remove the legal ability of boat owners to discharge untreated sewage; and,
- objectives and policies alone may not achieve the desired changes in boating behaviour.

## 7.4 Option c: include rules

Including rules with the plan provides a clear message to boat owners about specific areas that are valued within the Auckland Region. Rules could increase the distance from mean high water springs to:

i. remove gaps that allow untreated sewage in some harbours;

ii. extend the buffer zone to 2km from mean high water springs;

iii. protect specific areas of high use.

Each option is evaluated against the baseline.

**i. Include a rule to increase the distance from mean high water springs to remove gaps that allow untreated sewage in some harbours.**

Pros (+)

- removes ambiguity within harbours;
- consistent with Northland Regional Council's approach;
- removes the ability of commercial operators to discharge sewage within this area;
- still provides areas where sewage can be discharged, further out to sea;
- should increase the use of sewage collection facilities; and
- provides an incentive for boat owners to install on-board treatment, but does not force them to.

Cons (-)

- only removes small areas that are already surrounded by buffer zones.
- still difficult to monitor and determine non-compliance.

**ii. Increase the buffer zone to 2km from mean high water springs**

Pros (+)

- increases the distance that the discharge of sewage is prohibited and therefore strengthens the message that it is not appropriate to discharge sewage in inshore waters;
- practical, as it still provides nearby areas where vessels can discharge sewage, if required;
- low cost to council;
- provides an incentive for boat owners to install on-board treatment, but does not force them to.

Cons (-)

- increases the distance that boats must travel to discharge sewage; and,
- still difficult to monitor and determine non-compliance.

**iii. Include a rule to prohibit discharges in high use areas.**

Existing data on recreational boat use could be used to identify high use areas, where sewage discharges from vessels could be prohibited.

Pros (+)

- significantly increases the distance where the discharge of sewage would be prohibited and therefore strengthens the message that it is not appropriate to discharge sewage in inshore waters;
- provides an incentive for boat owners to install on-board treatment, but does not force them to.
- low cost to council.

Cons (-)

- in some locations, the distance to areas where sewage could be discharged would increase significantly;
- more confusing than other options;
- may increase non-compliance.

## 7.5 Option d: Non-regulatory methods

Adopting non-regulatory methods can foster goodwill and potentially produces better outcomes than regulation. Non-regulatory options include:

i. In association with the industry, develop and implement a code of practice for commercial operators;

ii. general education and awareness campaigns, that encourage the use of:

   a. holding tanks and pump-out facilities; and

   b. portable toilets for small – medium sized boats;

iii. targeted education and awareness programme focussing on schools and local boat clubs.

**i. develop, with industry and implement a code of practice for commercial operators**

Pros (+)

- encourages operators to self-regulate and manage their environmental effects;
- could incorporate wider management issues (e.g. rubbish, navigation safety, creation of boat wakes, amenity values, noise etc.);

- recognises cultural, aesthetics and tourism values;
- may result in higher standards than the regulations “no discharge policies” in a wide range of locations;
- could support existing environmental practices;
- creates a forum to discuss and resolve issues;
- low long-term cost for council.

Cons (-)

- additional burden for commercial operators; and,
- requires concentrated effort and time to develop and implement.

**ii. general education and awareness campaign, encouraging the use of:**

a. holding tanks and pump-out facilities; and

b. portable toilets for small – medium boats;

An education and awareness campaign should base messages about sewage disposal around the offensiveness of sewage disposal and the desire of the boating community to maintain the natural values of the coastal environment. The most effective medium for communicating with boat owners is through popular boating magazines. Using the option of articles to inform boat owners is low cost and has the ability to reach a high number of boat users.

Pros (+)

- could be used to bring about a cultural change in relation to sewage disposal;
- could be used to highlight practical measures for small to medium boats;
- involves active community engagement;
- builds on existing national campaigns; and,
- would inform the community about the regulations and available methods of disposal.

Cons (-)

- outcomes will depend upon the effectiveness of the campaign and uptake by the community;
- an programme is likely to be required to reinforce messages, which would incur an ongoing cost for the council.

**iii. targeted education and awareness programme focussing on schools and local boat clubs**

This method aims to foster good environmental practices and educate the future boating community.

Pros (+)

- it recognises cultural and aesthetics values;
- it improves community participation;
- it could encourage boat clubs to work towards the adoption of a “clean boat club” status;
- it directly engages with boat owners and educates them on sewage disposal;
- it increases the awareness of the next generation of boat owners; and
- it should progressively modify behaviour in relation to sewage disposal.

Cons (-)

- it relies on the adoption by schools, interest of teachers and boating clubs;
- it would require preparing and adding new material to existing curriculum, where responsible disposal of sewage could get lost within a wider group of information;
- it would need ongoing support from council to ensure its effectiveness and longevity.

When considering the implementation of an education and awareness option with schools and boat clubs it is necessary to consider the low likelihood of uptake by the schools. In terms of cost effectiveness, focusing on a specific education campaign for boat clubs may produce better results.

# 8 Recommendations

Overall, it is recommended that Auckland Council adopts a combination of regulatory and non-regulatory approaches for managing sewage discharges from vessels. Recommended regulatory responses include:

- adding objectives that recognise cultural and aesthetic values,
- adding policies that progressively lead to toilet facilities being provided at all high use boat ramps; and,
- adding a rule that increases the width of the buffer zone, to further recognise the cultural offensiveness of sewage discharges in inshore waters. Two options are provided for this.

However, the desired environmental outcomes are unlikely to be achieved unless there is a high level of community acceptance. Non-regulatory methods are therefore an essential tool for progressively changing the boating communities attitudes and behaviour on sewage discharges, increasing the uptake of sewage containment and treatment systems, and encouraging self regulation. Recommended components of a community engagement programme include:

- supporting existing environmental programmes, such as clean marinas and clean boating;
- working with commercial operators to develop a code of practice for the discharge of sewage;
- supporting a general education and awareness campaign to familiarise the boating public with the sewage regulations, and with sewage containment and treatment systems and use boating magazines as the most effective medium; and,
- targeted education and awareness campaign with local boat clubs.

These options should be "ground truthed" with stakeholders, in particular;

- Tangata Whenua,
- the boating community; and
- Food Standards Authority and Aquaculture NZ Ltd.

Stakeholders may support the current options or assist in developing alternative solutions that better reflect their perspectives and preferences. Consultation should be approached in a manner that builds upon existing relationships and encourages a high level of voluntary compliance.

# 9 References


Auckland Council (2012): Towards a Total Economic Valuation for the Hauraki Gulf, Project's Phase One Report. Research Investigations and Monitoring Unit (RIMU).

Bay of Plenty Regional Council (2012) Regional Coastal Environment Plan: Strategic Policy Publication. ISSN: 1176 4112

Beca (2012). Auckland Recreational Boating Study. Prepared for Auckland Council.

Environment Southland (2008) Deed of Agreement between The New Zealand Cruise Ship Industry and Environment Southland.

Greening, G. E. (2002) Report on the Evaluation of the Lectra/San ® Marine Sewage treatment System for removal of Viruses in sewage. Prepared for Ministry for the Environment, by the Communicable Disease Group, Institute of Environmental Science and Research Ltd.

Inns, J. (2007) NZ Aquaculture Marine Farmers - creek without a paddle? Issue: 15.

Referenced Environment Court Case: Tindall and others v Far North District Council, 20/20/06, Winkelmann J.

Ministry for the Environment (2002) Hold it…We're Cleaning up the Coast – Dealing with Seage safely and responsibly on your boat.

Ministry for the Environment (1999) Hold it…We're Cleaning up the Coast – Sewage systems for Recreational Boats.

Ormiston and Associates. (2004) Management of Recreational Boat Wastewater at remote locations in the Hauraki Gulf, for Auckland Regional Council Report. Reference 158/2087.

Pauling, C. (2010) Tiaki Para: a study of Ngāi Tahu values and issues regarding waste. Ataria. Lincoln, N.Z: Manaaki Whenua Press, Landcare Research.

Parliamentary Commissioner for the Environment (2003). Just cruising? Environmental Effects of Cruise Ships. Wellington: Parliamentary Commissioner for the Environment.

The New Zealand Seafood Council., Maritime NZ. (2010). Waste Management Handbook for Inshore Vessels; a resource for inshore vessels opertors.

# 10 Appendix 1: New Zealand Coastal Policy Statement 2010

Policy 4: Integration

Provide for the integrated management of natural and physical resources in the coastal environment, and activities that affect the coastal environment. This requires:

a.co-ordinated management or control of activities within the coastal environment, and which could cross administrative boundaries, particularly: i.the local authority boundary between the coastal marine area and land;

ii.local authority boundaries within the coastal environment, both within the coastal marine area and on land; and

iii.where hapū or iwi boundaries or rohe cross local authority boundaries;

b.working collaboratively with other bodies and agencies with responsibilities and functions relevant to resource management, such as where land or waters are held or managed for conservation purposes; and

c.particular consideration of situations where: i.subdivision, use, or development and its effects above or below the line of mean high water springs will require, or is likely to result in, associated use or development that crosses the line of mean high water springs; or

ii.public use and enjoyment of public space in the coastal environment is affected, or is likely to be affected; or

iii.development or land management practices may be affected by physical changes to the coastal environment or potential inundation from coastal hazards, including as a result of climate change; or

iv. land use activities affect, or are likely to affect, water quality in the coastal environment and marine ecosystems through increasing sedimentation; or

v. significant adverse cumulative effects are occurring, or can be anticipated.

Policy 6 Activities in the coastal environment

1.In relation to the coastal environment:

a. recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural well-being of people and communities;

b. consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment;

c. encourage the consolidation of existing coastal settlements and urban areas where this will contribute to the avoidance or mitigation of sprawling or sporadic patterns of settlement and urban growth;

d. recognise tangata whenua needs for papakāinga3, marae and associated developments and make appropriate provision for them;

e. consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area;

f. consider where development that maintains the character of the existing built environment should be encouraged, and where development resulting in a change in character would be acceptable;

g. take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;

h. consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;

i. set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and

j. where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value.

2. Additionally, in relation to the coastal marine area: a.recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations;

b.recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;

c.recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;

d.recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and

e. promote the efficient use of occupied space, including by: i.requiring that structures be made available for public or multiple use wherever reasonable and practicable;

ii.requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and

iii.considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay.

Policy 7

Strategic Planning

1. In preparing regional policy statements, and plans: a.consider where, how and when to provide for future residential, rural residential, settlement, urban development and other activities in the coastal environment at a regional and district level; and b.identify areas of the coastal environment where particular activities and forms of subdivision, use, and development: i.are inappropriate; and

ii.may be inappropriate without the consideration of effects through a resource consent application, notice of requirement for designation or Schedule 1 of the Resource Management Act process; and provide protection from inappropriate subdivision, use, and development in these areas through objectives, policies and rules.

2. Identify in regional policy statements, and plans, coastal processes, resources or values that are under threat or at significant risk from adverse cumulative effects. Include provisions in plans to manage these effects. Where practicable, in plans, set thresholds (including zones, standards or targets), or specify acceptable limits to change, to assist in determining when activities causing adverse cumulative effects are to be avoided.

Policy 8 Aquaculture

Recognise the significant existing and potential contribution of aquaculture to the social, economic and cultural well-being of people and communities by:

(a) including in regional policy statements and regional coastal plans provision for aquaculture activities in appropriate places in the coastal environment, recognising that relevant considerations may include:

(i) the need for high water quality for aquaculture activities; and

(ii) the need for land-based facilities associated with marine farming;

(b) taking account of the social and economic benefits of aquaculture, including any available assessments of national and regional economic benefits; and

(c) ensuring that development in the coastal environment does not make water quality unfit for aquaculture activities in areas approved for that purpose.