

Marlborough District Council

**Navigation (Vessel Speed) Bylaw
2009**

1 July 2010

This Bylaw is cited as being the Marlborough District Council
Navigation (Vessel Speed) Bylaw 2009.

This Bylaw comes into force at midnight on 1 July 2010.

1.00 **Interpretation**

1.01 In this Bylaw, the following words and expressions shall have the following meanings assigned to them except where the context otherwise requires:

Accredited Expert means an expert accredited by Council in terms of clause 3.04 (d).

Automatic Location Communicator means a device that complies with the appropriate standards and requirements specified by Council and notified to the operators of vessels to which this Bylaw applies.

Defined area means the area to which this Bylaw applies and which is defined in Schedule One.

Council means the Marlborough District Council.

Harbourmaster means the person who from time to time holds such office pursuant to appointment by Council and includes the Deputy Harbourmaster.

Northern Entrance means the stretch of water which lies at the entrance to Queen Charlotte Sound between the geographical points known as Cape Jackson and Cape Koamaru.

Notified means conveyed in writing by delivery, post, facsimile machine or email transmission.

Operator of any Vessel to which this Bylaw Applies means the person who is for the time being responsible for the management of such vessel.

Person who has control of any vessel means the Master in relation to any vessel to which this Bylaw applies. The expression includes any other person in charge of any such vessel.

Speed means speed from point to point disregarding the influences of tide, wind or any other such factors.

Tory Channel Entrance means the stretch of water which lies at the entrance to Tory Channel between the geographical points known as West Head and East Head.

Vessel to which this Bylaw applies means any vessel of the type referred to in Schedule One.

2.00 **Control of Ship's Speed**

2.01 No person who has the control of any vessel to which this Bylaw applies shall:

(a) Operate such vessel; or

(b) Allow such vessel to be operated

in the defined area at a speed in excess of eighteen (18) knots.

3.00 **Permits to Exceed Speed**

3.01 Notwithstanding anything in clause 2.01 of this Bylaw Council may issue a permit in writing for any vessel to which this Bylaw applies to exceed the speed limit specified in clause 2.01.

3.02 Any such permit issued in terms of clause 3.01 of this Bylaw

may contain such conditions, limitations or qualifications as Council may specify in such permit. If any such permit issued in terms of clause 3.01 of this Bylaw is issued for the purpose of allowing vessel testing or trialling then such permit shall be issued on the condition that such testing or trialling shall be for a limited period and shall be on such terms and conditions as Council may reasonably impose.

3.03 In considering whether or not to issue a permit to allow any vessel to exceed the speed limit Council shall have regard to:

- (a) Whether if the vessel were permitted to exceed the speed limit the characteristics of its wake would be likely to be outside those referred to in Schedule Two.
- (b) Generally the characteristics of the wake likely to be produced by such vessel in the defined area at speeds in excess of the speed limit.
- (c) Whether the purpose of the exemption is to allow vessel testing or trialling in the defined area.
- (d) Generally the likely effects on safety if the vessel were permitted to exceed the speed limit.

3.04 For the purpose of considering whether or not to issue a permit to allow any vessel to exceed the speed limit Council may:

- (a) Establish a form of application; and
- (b) Include in that form of application a requirement for an applicant to submit to Council such technical information as Council may require to enable the matters referred to in

clause 3.03 to be addressed.

- (c) Require the applicant to have such technical information independently reviewed by an accredited expert at the cost of the applicant on the basis that the full report of the accredited expert will be made available to Council and the applicant.
- (d) Give accreditation to such independent experts as Council shall consider appropriate to enable any application for a permit to allow any vessel to exceed the speed limit to be independently evaluated.

4.00 **Vessels Required to Carry and Operate Automatic Location Communicators**

- 4.01 Within sixty (60) days of the coming into effect of this Bylaw all vessels to which this Bylaw applies shall carry on board and operate an automatic location communicator whenever such vessel is within the defined area provided however that the operator of any such vessel shall have received at least sixty (60) days prior notification of this requirement.
- 4.02 Where a vessel is required to carry on board and operate an automatic location communicator the person who has control of such vessel shall:
 - (a) Ensure that an automatic location communicator is carried on board the vessel in accordance with this Bylaw.
 - (b) Ensure that the automatic location communicator carried on board the vessel transmits information in accordance with standards and requirements specified by Council in terms of this Bylaw and in accordance with the

manufacturer's specifications.

- (c) Ensure that the automatic location communicator carried on board the vessel operates continuously when the vessel is within the area where such automatic location communicator is required to be operated.

5.00 **Exemptions From Automatic Location Communicators Requirements**

5.01 Notwithstanding anything in clause 4.01 of this Bylaw Council may issue a permit in writing for any vessel to which this Bylaw applies to be exempt from the requirements in clause 4.01.

5.02 Any such permit issued in terms of clause 5.01 of this Bylaw may contain such conditions limitations or qualifications as Council may specify in such permit.

5.03 In considering whether or not to issue a permit exempting any vessel from the requirements in clause 4.01 Council shall have regard to:

- (a) Whether Council will be able to receive other than from any such automatic location communicator information of a kind which such automatic location communicator would give to Council.
- (b) Whether there are in place or will be in place binding and effective arrangements between Council and the operator of any vessel to which this Bylaw applies to ensure that Council will receive on a continuing basis such information as Council may require for enforcement purposes in relation to this Bylaw.

5.04 For the purpose of considering whether or not to issue a permit to exempt any vessel from the requirements in clause 4.01 of this Bylaw Council may:

- (a) Establish a form of application; and
- (b) Include in that form of application a requirement for an applicant to submit to Council such information as Council may require to enable the matters referred to in clause 5.03 to be addressed.

6.00 **Access to Ship's Information**

6.01 The person who has control of any vessel to which this Bylaw applies or appearing at any time to the Harbourmaster to have control of any such vessel shall upon the written request of the Harbourmaster forthwith give access to the records of that vessel to the Harbourmaster or the Harbourmaster's nominee to enable the Harbourmaster or the Harbourmaster's nominee to ascertain from such records to the extent that records contain relevant information:

- (a) The position of the vessel in or in relation to the defined area at any point in time.
- (b) The identity of the person or persons who had the control of the vessel in or in relation to the defined area at any point in time.
- (c) The speed of the vessel in the defined area at any point in time.
- (d) The registered length and registered tonnage of the vessel.

- (e) The speed capabilities of the vessel.

7.00 **Defences**

7.01 It shall be a defence to a prosecution for an offence against these Bylaws if the Defendant proves on a balance of probabilities that:

- (a) The offence occurred as a result of a mechanical or technical failure that could not have been avoided with adequate maintenance; or
- (b) The offence occurred as a result of or in response to an emergency; and
- (c) In the case of either (a) or (b) above the Defendant acted reasonably in the circumstances.

7.02 An emergency for the purposes of this clause of this Bylaw shall be a situation where risk to human life or safety or to vessel safety has arisen.

8.00 **Penalties for Breach of Bylaws**

8.01 Every person who commits a breach of this Bylaw is liable to a fine not exceeding the maximum fine specified for breach of Bylaws in the Local Government Act 1974.

8.02 Where there is a repetitive breach of this Bylaw Council may apply to a Court of competent jurisdiction for an injunction to restrain the further breach of the Bylaw by the person who has committed the repetitive breach.

9.00 **Fees and Charges**

9.01 The operator of every vessel to which this Bylaw applies shall pay to the Marlborough District Council the fees specified in Schedule One in respect of each passage of any vessel into or out of the Tory Channel entrance.

9.02 Subject to Council having issued an invoice to the operator in respect of such fees, such fees shall be payable on a calendar monthly basis and shall be paid within fourteen (14) days of the completion of each calendar month.

9.03 An invoice issued by Council and specifying the number of passages of any vessel for the calendar month in question shall be prima facie evidence that such number of passages occurred. Such prima facie evidence may be displaced by proof on a balance of probabilities that a fewer number or a greater number of passages occurred.

9.04 Council may from time to time by resolution set a fee or fees to be applied in relation to every application for a permit to allow any vessel to exceed the speed limit under clause 3.00 and such fee or fees shall be payable by any applicant in respect of such an application.

9.05 Council may from time to time by resolution set a fee or fees to be applied in relation to every application for a permit to exempt a vessel from compliance with the requirements in clause 4.01 and such fee or fees shall be payable by any applicant in

respect of such an application.

SCHEDULE ONE

Defined Area

The areas of water generally known as *Queen Charlotte Sound* and *Tory Channel* being those areas of water inside the Northern Entrance and inside the Tory Channel Entrance.

Type of Vessel

A high speed craft of a registered length exceeding 30 metres which is capable of a maximum speed, in metres per second (M/s), equal to or exceeding: $3.7 \nabla^{0.1667}$ where: ∇ = displacement corresponding to the design waterline (m³)

Fees and Charges

The fee payable in respect of each passage in terms of clause 9.01 shall be:

- (a) In the case of a vessel which has not been exempted from the requirement to carry and operate an automatic location communicator a sum as set by Council but to a maximum of \$15.00.
- (b) In the case of a vessel which has been exempted from the requirement to carry and operate an automatic location communicator a sum as set by Council but to a maximum of \$5.00

SCHEDULE TWO

A. **Definitions**

In this Schedule Two, the following words and expressions shall have the following meanings assigned to them except where the context otherwise requires:

Approved Wave Gauge means any device approved by Council for the purposes of this Bylaw to measure a *Wave Record*.

IAHR (1989) means the paper entitled "List of Sea-state Parameters" written by the International Association of Hydraulic Research (IAHR) Working Group on Wave Generation and Analysis and published in the Journal of Waterway, Port, Coastal and Ocean Engineering, American Society of Civil Engineers, Volume 115, Number 8, November 1989, pp 793-808.

Mean Water Level means the average vertical displacement in the *Wave Record*.

Significant Wave Height means the average of the highest one-third of the *Wave Heights* in a *Surface Elevation Record*.

Surface Elevation Record means the *Wave Record* relative to the *Mean Water Level*.

Wave Height means the wave height determined from the *Surface Elevation Record* between any two successive zero down-crossings as defined in *IAHR (1989)*.

Wave Period means the time period between two successive zero down-crossings in the *Surface Elevation Record* as defined in *IAHR (1989)*.

Wave Record means any record of vertical displacement of the sea water surface as a function of time derived from measurements made with an *Approved Wave Gauge* at any location within the *Defined Area* under calm conditions at a standard water depth of 3 metres.

B. Maximum Wave Height

The *Wave Height*, H (measured in metres), and the corresponding *Wave Period*, T (measured in seconds), derived from each successive pair of zero down-crossings in any *Surface Elevation Record* attributable to the passage of any *Vessel to which this Bylaw applies* within the *Defined Area* shall comply with the following equation, namely:

$$H \leq 0.5 \times \sqrt{\frac{4.5}{T}}$$

C. Methods of Assessment

Technical information submitted under the provisions of Clause 3.04 of this Bylaw to demonstrate that a vessel will comply with the requirements of Clause B and the equation above may include the results of:

- (a) Accepted and properly calibrated computational or analytical analysis taking account of the specific characteristics of the vessel concerned and the conditions within the *Defined Area* taking account of shoaling, refraction and diffraction effects; or

- (b) Direct measurements of Wave Height and Wave Period specific to the vessel concerned ; or
- (c) Combinations of approaches (a) and (b) above.

D. **Compliance Monitoring**

For the purposes of compliance monitoring, any *Vessel to which this Bylaw applies* shall comply with the provisions of Clause B above based on any *Surface Elevation Record* derived from measurements made with an *Approved Wave Gauge* at any location within the Defined Area under calm conditions with a water depth in the range 1 to 5 metres. Such measurements shall be made by, or under the supervision of, a competent expert experienced in the measurement of waves. Any site at which compliance monitoring measurements are carried shall, in the opinion of the competent professional, not be significantly influenced by the effects of diffraction.

Calm conditions at any measurement point shall be deemed to exist where, immediately prior to and during the time of measurement, the ambient waves caused by wind and other vessels (other than the vessel under evaluation) do not exceed a *Significant Wave Height* of 0.05m assessed over a 5 minute duration or more.

Any wave height assessed at the measurement site shall be adjusted to determine the *Wave Height* applicable in the equation in Clause B above at a standard depth of 3 metres by applying shoaling and refraction analysis. This analysis shall be based on the following methods and assumptions:

- (a) Shoaling analysis shall be based on linear wave theory (also known as Airy wave theory).
- (b) Refraction analysis shall be based on Snell's law assuming that the seabed contours are parallel with the direction of travel of the *Vessel* and that the angle between the wave crest and the seabed contours in very deep water is 55°.
- (c) In order to allow for non-linear effects, an effective water depth of $D + \frac{1}{2}H$, where D is the average water depth and H is the wave height, shall be adopted in the shoaling and refraction analysis where appropriate.
- (d) The effects of bottom friction, viscous effects and turbulence shall be ignored in any shoaling and refraction analysis.
- (e) No adjustments shall be made to the Wave Periods assessed at the measurement site.

E. **Physical Parameters**

For the purposes of any calculation to assess wave characteristics under this Bylaw:

- (a) The *density of sea water* shall be taken as 1025 kg/m^3 ;
- (b) The *kinematic viscosity of sea water* shall be taken as $1.15 \times 10^{-6} \text{ m}^2/\text{s}$;
- (c) The acceleration due to gravity shall be taken as 9.806 m/s^2 ; and
- (d) Other physical parameter values shall be that applicable at a temperature of 15°C.