



# Managing Port Noise Effects – Experience with the New Zealand Port Noise Standard

Coasts & Ports Australasian  
Conference

Sylvia Allan and  
Keith Ballagh



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# Background

- Prior to 1990
  - Some control of land-based noise under District Schemes (T&CP Act 1977)
  - Little or no control over noise from vessels or on wharves
  - Some attempts at on-site noise management by some ports



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# Background

- Post 1991
  - RMA required effects-based planning for marine areas as well as land
  - Growing concern about port noise: “reverse sensitivity”
  - Integrated management of effects (across mhws) required
  - Port/Standards NZ initiative

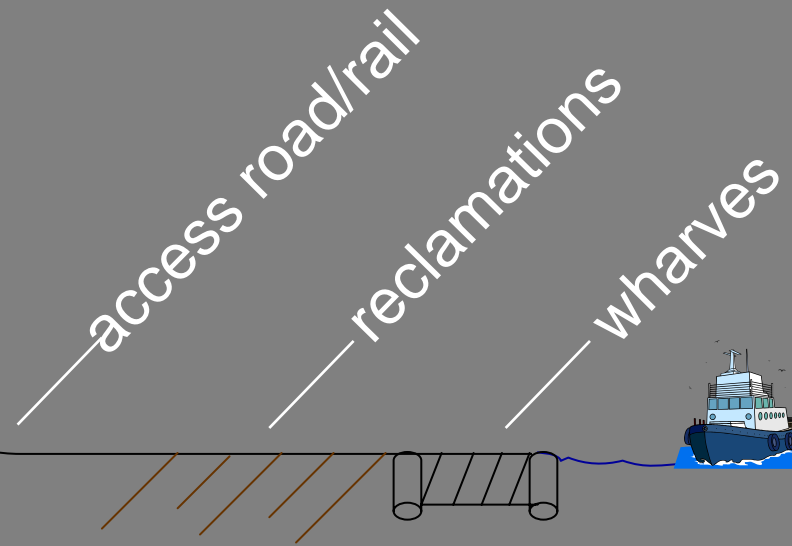


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# Typical Land use Relationship

High value housing  
with coastal views



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# What the Standard Does

- Provides philosophy, methodology and practice suggestions for inputs into plans
- Recognises the unique situation / importance of ports
- 10 (or more) year projection of growth/change
- Inner and outer control boundaries (i.e. affected areas)
- Compliance by ports
- Controls over land uses within both areas
- Promotes noise management planning by ports



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# District and Regional Plan Mechanisms

- Combined Regional/District Council responsibility
- Include in plans:
  - Policy
  - Rules
  - Methods
- Policy to enable ports to generate reasonable noise
  - To alert affected nearby residents that they will be exposed to noise
  - set basis for rules



# District and Regional Plan Mechanisms

- Rules
  - Noise compliance for ports
  - Acoustic insulation requirements and / or land use limitation on land
  - Encouragement for noise management plans



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# Predicting and Modelling Port Noise

## Main Inputs required

- source sound levels (e.g.)
  - Straddle Carriers
  - Ships
  - Trains
  - Cranes
- Ground Contours (2 metre interval contours)
- Operational Information
  - 5 Day scenario
  - Ships visiting and Volume of cargo throughput
  - Day/night

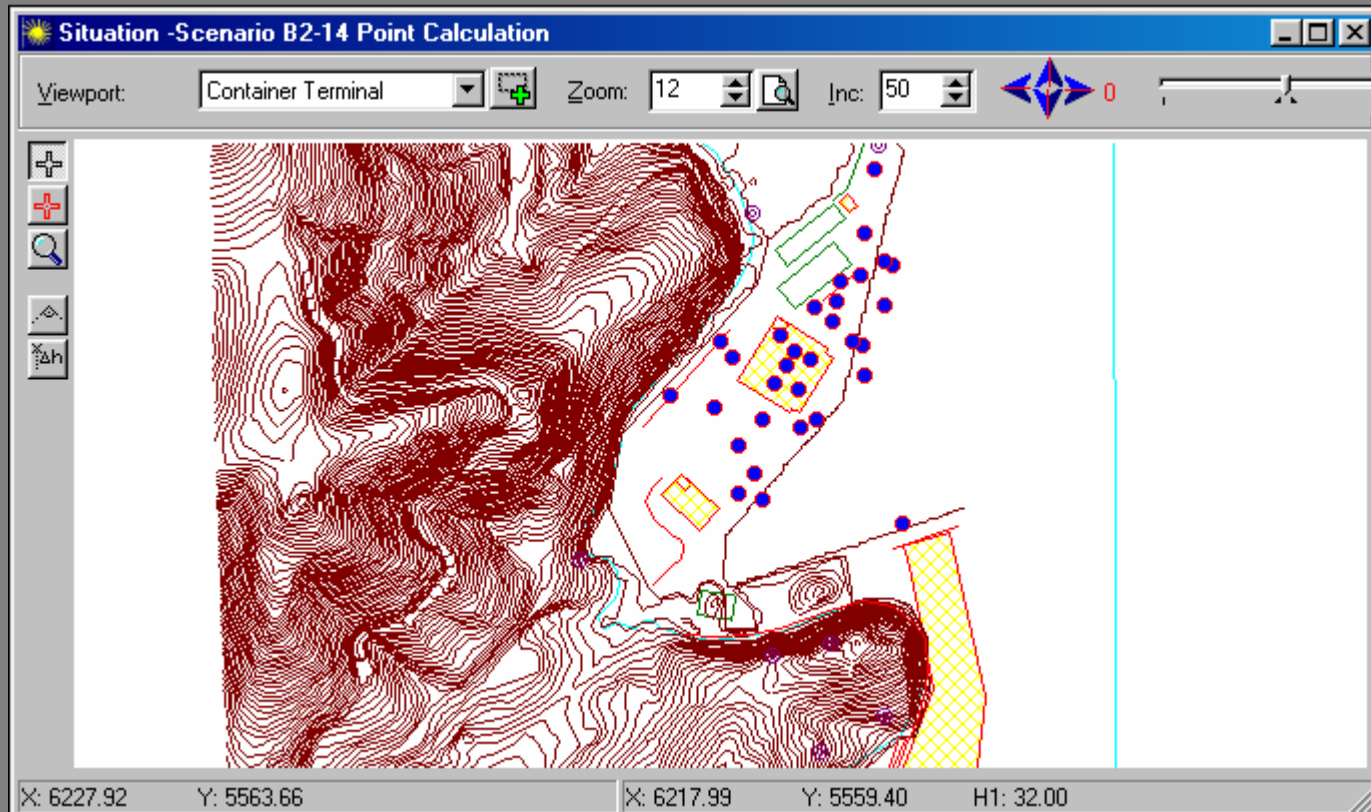


# Example of Operational Inputs

Noise Source	Notes
14 Ships visiting in 5 days each staying an average of 8 hours	Tugs assumed to operate for each arrival and departure
Cranes unloading ship (x 3)	Operate same hours as ship is in port
Tugboats (x 2)	Operate for 20 minutes pulling ship in when it arrives and 20 minutes pulling ship out when it departs
Trains	Fifteen trains in the 5 days
Logging Trucks	80 trucks per day arriving and departing
Log Grabbers	One Grabber normally. Three grabbers when loading a log ship
Reefers	300 boxes operating continuously, 300 boxes cycling 20 minutes on 45 minutes off, randomly distributed over operational area



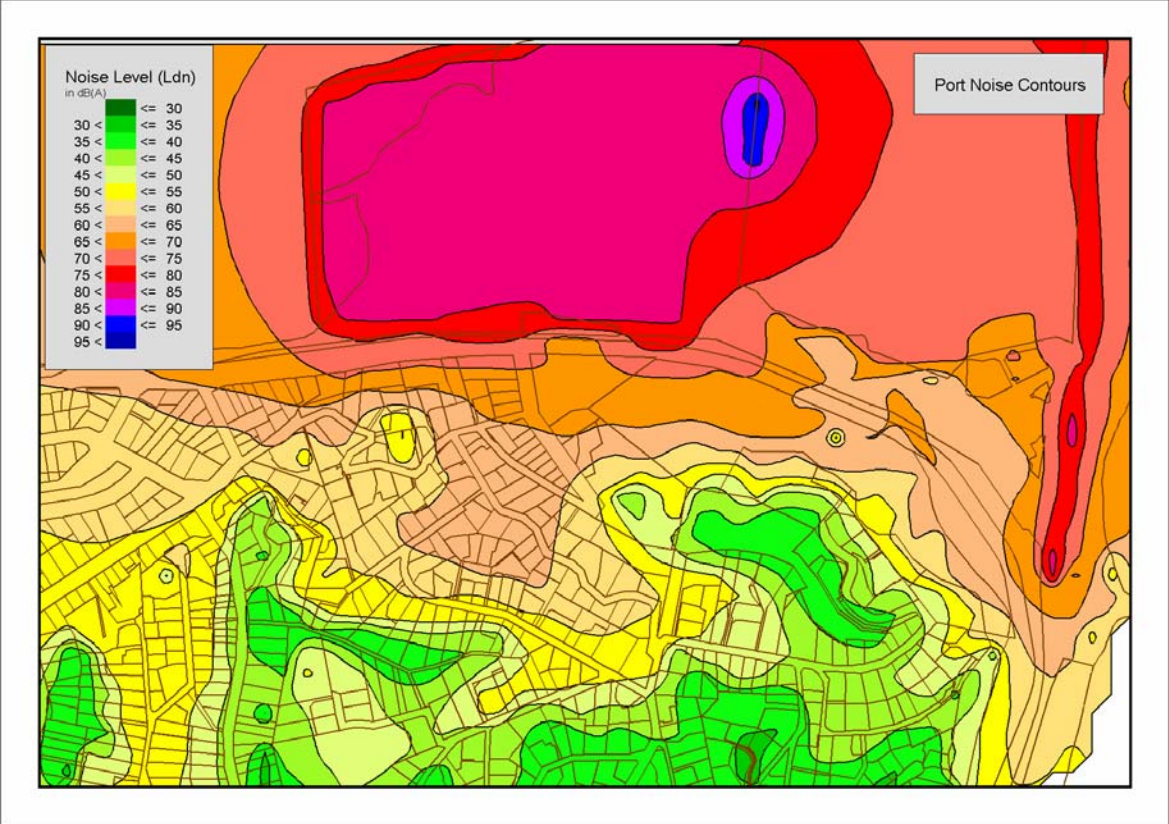
# Noise Model



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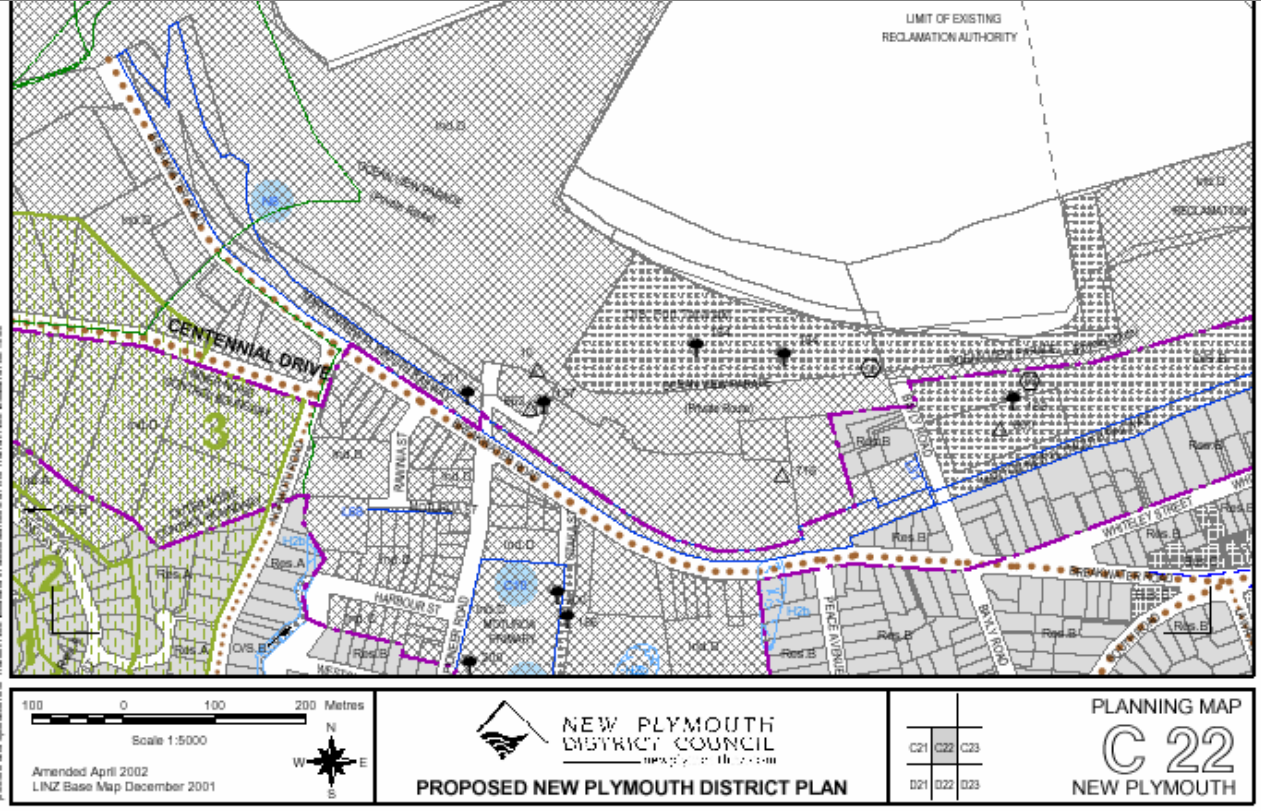
# Noise Contours



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# Noise Boundaries



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# Examples of Implementation

- Port Chalmers
- New Plymouth
- Auckland
- Wellington
- Nelson
- Napier



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# Key Issues in Applying the Standard

- How to co-ordinate regional and district plans?
- Reliability/durability of predictions given ports' changing circumstances
- How to control/manage land uses within inner and outer control boundaries
- Relationships with residents and district/regional councils.



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# Conclusions

- Port Standard has been moderately successful
- Has allowed Ports flexibility as they move to 24 hour 7 day operation
- Noise Boundaries signal to Community where amenity may be affected
- Inadequate in situations where conflict is most difficult because of speed of change of Port situation not able to be reflected in Plan changes
- A review in 2-3 years is recommended to deal with rapid changes in ports and better regional-district integration







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