

Hull Fouling and Cleaning in New Zealand

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Marine Biosecurity in New Zealand

- Developing policies
- Implementing surveillance and inspection at the border
- Responding to new incursions



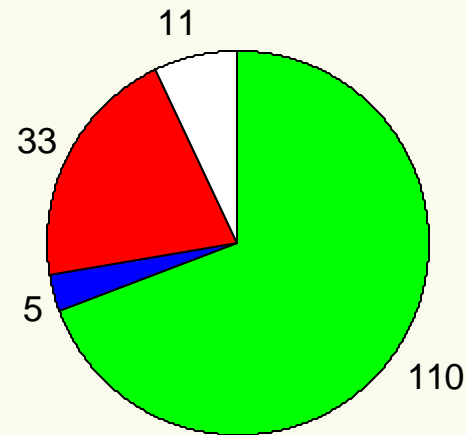
Hull Fouling

- Are hull fouling species reaching New Zealand?
- Are the hull fouling species reaching New Zealand a threat?



Exotic Marine Introductions to NZ

(Cranfield et al 1998)



- Hull Fouling (HF)
- Ballast Water (BW)
- HF or BW
- Other



Modelling Tool

- Biological information
- Environmental information
- Patterns of vector movement
- Impacts



Management of Hull Fouling

- Pre-border / border level
- Post border level
 - Being prepared
 - Hull cleaning



Pre-border / Border

- Information on vessels' origin
 - Do not necessarily know where vessel fouling has been picked up
 - Species distribution
- Information on vessels' duty/maintenance
 - Allows for a risk based approach



Risk Approach

- Fouling is BAD
- No Fouling is GOOD



Predictive duty/maintenance factors

- Time laid up since previous cleaning/antifouling
- Type of vessel
- Speed / length of voyage
- Waters traversed
- Time spent in recipient port



Advantages

- Available information
- Increased acceptance
- Positive incentives for maintaining vessels



Summary

- Hull fouling is a problem
- We are developing a modelling tool
- Need to continue to work at the international level

