

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

Peer-reviewed primary literature

- 1 - [Coutts, A.D.M., Moore, K.M., Hewitt, C.L. 2003. Ships' sea-chests: an overlooked transfer mechanism for non-indigenous marine species? Marine Pollution Bulletin 46: 1504-1515.](#)
- 2 - [Coutts, A.D.M., Taylor, M.D. 2004. A preliminary investigation of biosecurity risks associated with biofouling on merchant vessels in New Zealand. New Zealand Journal of Marine and Freshwater Research 38: 215-229.](#)
- 3 - [Coutts, A.D.M., Dodgshun, T.J. 2007. The nature and extent of organisms in vessel sea-chests: A protected mechanism for marine bioinvasions. Marine Pollution Bulletin 54: 875-886.](#)
- 4 - [Davidson, I.C., McCann, L.D., Fofonoff, P.W., Sytsma, M.D., Ruiz, G.M. 2008a. The potential for hull-mediated species transfers by obsolete ships on their final voyages. Diversity and Distributions 14: 518-529.](#)
- 5 - [Davidson, I.C., McCann, L.D., Sytsma, M.D., Ruiz, G.M. 2008b. Interrupting a multi-species bioinvasion vector: The efficacy of in-water cleaning for removing biofouling on obsolete vessels. Marine Pollution Bulletin 56: 1538-1544.](#)
- 6 - [Davidson, I.C., Brown, C.W., Sytsma, M.D., Ruiz, G.M. 2009b. The role of containerships as transfer mechanisms of marine biofouling species. Biofouling 25\(7\): 645-655.](#)
- 7 - [Davidson, I., Scianni, C., Hewitt, C., Everett, R., Holm, E., Tamburri, M., Ruiz, G. 2016. Mini-review: Assessing the drivers of ship biofouling management – aligning industry and biosecurity goals. Biofouling 32\(4\): 411-428.](#)
- 8 - [Drummond, S.P., Connel, S.D. 2005. Quantifying percentage cover of subtidal organisms on rocky coasts: a comparison of the costs and benefits of standard methods. Marine and Freshwater Research 56\(6\): 865-876.](#)
- 9 - [Feyrer, F., H.B. Matern, and P.B. Moyle. 2003. Dietary shifts in a stressed fish assemblage: Consequences of a bivalve invasion in the San Francisco estuary. Environmental Biology of Fishes 67: 277-288.](#)

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

10 - [Floerl, O., Inglis, G.J., Hayden, B.J. 2005. A risk-based predictive tool to prevent accidental introductions of nonindigenous marine species. Environmental Management 35\(6\): 765-778.](#)

11 - [Floerl, O., Coutts, A. 2009. Potential ramifications of the global economic crisis on human-mediated dispersal of marine non-indigenous species. Marine Pollution Bulletin 58\(11\): 1595-1598.](#)

12 - [Frey, M.A., N. Simard, D.D. Robichaud, J.L. Martin, T.W. Therriault. 2014. Fouling around: vessel sea-chests as a vector for the introduction and spread of aquatic invasive species. Management of Biological Invasions 5\(1\): 21-30.](#)

13 - [Hopkins, G.A., Forrest, B.M. 2010. A preliminary assessment of biofouling and non-indigenous marine species associated with commercial slow-moving vessels arriving in New Zealand. Biofouling 26\(5\): 613-621.](#)

14 - [Lefebvre, K.A., Robertson, A. 2010. Domoic acid and human exposure risks: a review. Toxicon 56\(2\): 218-230.](#)

15 - [Meese, R.J., Tomich, P.A. 1992. Dots on the rocks – a comparison of percent cover estimation methods. Journal of Experimental Marine Biology and Ecology 465\(1\): 59-73.](#)

16 - [Nichols, F.H., J.K. Thompson, and L.E. Schemel. 1990. Remarkable invasion of San Francisco Bay \(California, USA\) by the Asian clam *Potamocorbula amurensis*. II. Displacement of a former community. Marine Ecology Progress Series 66: 95-101.](#)

17 - [Pimentel, D., Zuniga, R., Morrison, D. 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. Ecological Economics 52: 273-285.](#)

18 - [Piola, R. F., and G. A. Hopkins. 2012. Thermal treatment as a method to control transfers of invasive biofouling species via vessel sea chests. Marine Pollution Bulletin 64\(8\): 1620-1630.](#)

19 - [Ruiz, G.M., Fofonoff, P.W., Steves, B., Foss, S.F., Shiba, S.N. 2011. Marine invasion history and vector analysis of California: a hotspot for western North America. Diversity and Distributions 17: 362-373.](#)

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

20 - [Scholin, C.A., Gulland, F., Doucette, G.J., Benson, Sc., Busman, M., Chavez, F.P., Cordar, J., DeLong, R., De Vogelaere, A., Harvey, J., Haulena, M., Lefebvre, K., Lipscomb, T., Loscutoff, S., Lowenstine, L.J., Marin, R., Miller, P.E., McLellan, W.A., Moeller, P.D.R., Powell, C.L., Rowles, T., Silvagni, P., Silver, M., Spraker, T., Trainer, V., Van Dolah, F.M. 2000. Mortality of sea lions along the central California coast linked to a toxic diatom bloom. Nature 403: 80-84.](#)

21 - [Schultz, M.P., Bendick, J.A., Holm, E.R., Hertel, W.M. 2011. Economic impact of biofouling on a naval surface ship. Biofouling 27\(1\): 87-98.](#)

22 - [Sommer, T., C. Armor, R. Baxter, R. Breuer, L. Brown, M. Chotkowski, S. Culberson, F. Feyrer, M. Gingras, B. Herbold, W. Kimmerer, A. Mueller-Solger, M. Nobriga, and K. Souza. 2007. The collapse of pelagic fishes in the upper San Francisco estuary. Fisheries 32: 270-277.](#)

23 - [Sylvester, F., Maclsaac, H.J. 2010. Is vessel hull fouling an invasion threat to the Great Lakes? Diversity and Distributions 16: 132-143.](#)

24 - [Sylvester, F., Kalaci, O., Leung, B., Lacoursie`re-Roussel, A., Murray, C.C., Choi, F.M., Bravo, M.A., Therriault, T.W., Maclsaac, H.J. 2011. Hull fouling as an invasion vector: can simple models explain a complex problem? Journal of Applied Ecology 48: 415-423.](#)

25 - [Trygonis, V., Sini, M. 2012. photoQuad: A dedicated seabed image processing software, and a comparative error analysis of four photoquadrat methods. Journal of Experimental Marine Biology and Ecology 424-425: 99-108.](#)

Technical and/or government documents

26 - [Australian Shipowners Association. 2007. Assessment of Introduced Marine Pest Risks Associated with Niche Areas in Commercial Shipping. Final Report. 24 pgs.](#)

27 - [Coutts, A.D.M. 2002. A biosecurity investigation of a barge in the Marlborough Sounds. Cawthron Report No. 744 prepared for Heli Harvest Limited. 68 pgs.](#)

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

28 - [Davidson, I.C., Ruiz, G., Sytsma, M. 2006. The implications of maritime vessel traffic, wetted surface area, and port connectivity for hull-mediated marine bioinvasions on the US West Coast. Final Report prepared for California State Lands Commission: Marine Invasive Species Program. 42 pgs.](#)

29 - [Davidson, I., Sytsma, M., Ruiz, G. 2009a. Ship fouling: a review of an enduring worldwide vector of nonindigenous species. Final Report prepared for California State Lands Commission: Marine Invasive Species Program. 47 pgs.](#)

30 - [Davidson, I., Ashton, G. Ruiz, G., Scianni, C. 2010a. Biofouling as a vector of marine organisms on the US West Coast: a preliminary evaluation of barges and cruise ships. Final Report prepared for California State Lands Commission. 22 pgs.](#)

31 - [Davidson, I., Ashton, G., Ruiz, G. 2010b. Richness, extent, condition, reproductive status and parasitism of fouling communities on commercial vessels. Interim report prepared for California State Lands Commission. 6 pgs.](#)

32 - [Davidson, I., Ashton, G., Ruiz, G., Scianni, C., Brown, C., Pagenkopp Lohan, K., Fleisher, R. 2013. Richness, extent, condition, reproductive status and parasitism of fouling communities on commercial vessels. Final Report prepared for the California State Lands Commission. 70 pgs.](#)

33 - [Davidson, I., Scianni, C., Ceballos, L., Zabin, C., Ruiz, G. 2014. Evaluating ship biofouling and emerging management tools for reducing biofouling-mediated species incursions. Final Report prepared for California State Lands Commission. 36 pgs.](#)

34 - [Dobroski, N., Brown, C., Nedelcheva, R., Scianni, C., Thompson, J., 2015. 2015 Biennial report on the California Marine Invasive Species Program. Produced for the California State Legislature. 133 pgs.](#)

35 - [Floerl, O., Wilkens, S., Inglis, G. 2010. Development of a template for vessel hull inspections and assessment of biosecurity risks to the Kermadec and sub-Antarctic islands regions. NIWA Report CHC2010-086 prepared for Department of Conservation \(New Zealand\). 58 pgs.](#)

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

- 36 - [Georgiades, E., Kluza, D. 2014. Science underpinning the thresholds proposed in the CRMS: Biofouling on vessels arriving to New Zealand](#). Available at: <http://www.mpi.govt.nz/news-resources/publications.aspx>
- 37 - [Hewitt, C., Campbell, M. 2010. The relative contribution of vectors to the introduction and translocation of invasive marine species. Final Report prepared for the Australian Department of Agriculture, Fisheries and Forestry. 56 pgs.](#)
- 38 - [Hydrex. 2011. The slime factor: shipowners/operators can gain enormous savings through advanced underwater hull maintenance technology](#). Hydrex White Paper No. 2. <http://www.shiphullperformance.org/upload/previewpapers/pdfs/HydrexWhitePaper2-Intro.pdf> Last accessed 19 March 2015.
- 39 - [IMO. 2011. International Maritime Organization Marine Environmental Protection Committee MEPC 62/24/Add.1: Annex 26. 2011 Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species. 25 pgs.](#)
- 40 - [IMO. 2014. International Maritime Organization Marine Environmental Protection Committee MEPC67/INF.3: Annex. Third IMO GHG Study 2014. 328 pgs.](#)
- 41 - [Inglis, G., Floerl, O., Woods, C. 2012. Scenarios of vessel biofouling risk and their management. Produced for New Zealand Ministry of Agriculture and Forestry, Technical paper No. 2012/07. 126 pgs.](#)
- 42 - [Morrisey, D., Gadd, J., Page, M., Floerl, O. Woods, C., Lewis, J., Bell, A., Georgiades, E. 2013. In water cleaning of vessels: biosecurity and chemical contamination risks. Produced for the New Zealand Ministry for Primary Industries. MPI Technical Paper No. 2013/11. 267 pgs.](#)
- 43 - [National System for the Prevention and Management of Marine Pest Incursions. 2009a. National biofouling management guidelines for commercial vessels. Published by the Australian Department of Agriculture, Fisheries and Forestry. 16 pgs.](#)

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

44 - [National System for the Prevention and Management of Marine Pest Incursions. 2009b. National biofouling management guidelines for non-trading vessels. Published by the Australian Department of Agriculture, Fisheries and Forestry. 60 pgs.](#)

45 - [New Zealand Ministry for Primary Industries. 2014. Craft Risk Management Standard: Biofouling on Vessels Arriving to New Zealand. Website: <http://www.biosecurity.govt.nz/files/regs/ships/crms-biofouling-standard.pdf> \(accessed February 19, 2015\).](#)

46 - [Scianni, C., Dobroski, N., Takata, L., Falkner, M. 2010. Analysis of extended layups of commercial vessels operating in California waters: Implications for vessel fouling and species introductions. Poster MP45B-02 presented at 2010 Ocean Sciences Meeting. Portland, USA.](#)

47 - [Scianni, C., C. Brown, A. Newsom, R. Nedelcheva, M. Falkner, and N. Dobroski. 2013. 2013 Biennial report on the California Marine Invasive Species Program. Produced for the California State Legislature. 157 pgs.](#)

48 - [Takata, L., Falkner, M., Gilmore, S. 2006. Commercial vessel fouling in California: Analysis, evaluation, and recommendations to reduce nonindigenous species release from the non-ballast water vector. Final Report prepared for the California State Legislature. 83 pgs.](#)

49 - [Takata, L., Dobroski, N., Scianni, C., Falkner, M. 2011. 2011 Biennial report on the California Marine Invasive Species Program. Final Report prepared for the California State Legislature. 136 pgs.](#)

Book chapters

50 - [Butler, A.J., Canning Clode, J., Coutts, A.D.M., Cowie, P.R., Dobretsov, S. Durr, S., Faimali, M., Lewis, J.A., Page, H.M., Pratten, J., Ready, D., Rittschoff, D., Spratt, D.A., Terlizzi, A., Thomason, J.C. 2010. Techniques for the quantification of biofouling. Pgs 319-332. In: Biofouling. S. Durr, J.C. Thomason, Eds. Wiley-Blackwell, Oxford.](#)

51 - [Finnie, A.A., Williams, D.N. 2010. Paint and coating technology for the control of marine fouling. Pgs 185-206. In: Biofouling. S. Durr, J.C. Thomason, Eds. Wiley-Blackwell, Oxford.](#)

ARTICLE 4.8
BIOFOULING MANAGEMENT TO MINIMIZE THE TRANSFER OF NONINDIGENOUS SPECIES FROM VESSELS ARRIVING AT CALIFORNIA PORTS

OTHER MATERIAL IN RULEMAKING FILE

52 - [Munk, T., Kane, D., Yebra, Y.M. 2009. The effects of corrosion and fouling on the performance of ocean-going vessels: a naval architectural perspective. Pgs 148-176. In Advances in marine antifouling coatings and technologies. C. Hellio and D. Yebra, Eds. Woodhead Publishing Limited, Oxford.](#)

Periodicals and internet-based sources

53 - [Bradsher, K. 2009. Cargo ships treading water off Singapore, waiting for work. New York Times. Published 13 May 2009. \(accessed November 4, 2016\). <http://www.nytimes.com/2009/05/13/business/global/13ship.html>](#)

54 - [NOEP \(National Ocean Economics Program\). 2016. Market – Ocean Economy search. Website: <http://www.oceaneconomics.org/Market/ocean/oceanEcon.asp>](#) (accessed: November 4, 2016).

Technical Advisory Group (TAG) meeting notes

55 - [TAG meeting notes – August 18, 2010](#)

56 - [TAG meeting notes – October 21, 2010](#)

57 - [TAG meeting notes – February 14, 2011](#)

58 - [TAG meeting notes – April 28, 2011](#)

59 - [TAG meeting notes – April 4, 2013](#)