

**Gadus Associates'
Bibliography of the Effects of Fishing Gear
on the Seabed and Benthic Communities**

2002 Edition

Available on the Web at:
<http://home.istar.ca/~gadus/ImpactBiblio.pdf>

compiled by

Trevor Kenchington
Gadus Associates,
Musquodoboit Harbour,
Nova Scotia. CANADA

November 2002



Gadus Associates’ Bibliography of Seabed Impacts of Fishing Gear

This bibliography attempts to be a complete listing of all scientific literature that addresses the direct impacts of fishing gear on the seabed and on benthic communities, with global extent and covering all types of gears – from bare hands and bleach up to the most sophisticated trawls. As presented here, it is a simple listing of material but it has been cut down from an annotated version prepared for Gadus Associates’ clients.

At first glance, the “seabed impacts” of fishing gear appear to comprise a well-defined topic with straightforward bounds that can clearly define the extent of a bibliography. Closer inspection shows, however, that matters are not quite so simple. The present listing includes books and papers which touch on the direct impacts of fishing gear on the seabed itself and on non-commercial species of animals and plants which live on or in that seabed. It extends (though in a very incomplete fashion) to studies that deal with the impacts of one type of fishing gear on benthic species targeted by other fisheries (such as studies of the destruction of lobsters by scallop dredges). It does not, however, include literature that is concerned with:

- Direct effects of gear on target species nor those on bycatch species similar in basic nature to the target, such as crabs caught in lobster traps or scallops in clam dredges,
- Bycatches of finfish or other vertebrates, whether commercial species or not, even if those species burrow into or live directly on the seabed,
- Damage to or mortality of uncaught target animals, even if those animals are part of the benthos,
- Ecosystem effects arising from the depletion of target or bycatch species (save for an incomplete coverage of the literature on the consequences of harvesting organisms, such as seaweeds, that provide three-dimensional structure to seabed habitats),
- Effects on midwater or surface ecosystems,
- Ghost-fishing or other negative effects from lost gear,
- Seabed impacts of non-fishing activities (e.g. harbour dredging, aggregate dredging, the mining of coral rock), though the harvesting of maerl, as a living resource, is included,
- Seabed impacts of fishing boats, such as propeller damage to seagrass beds, or
- Instrumentation for seabed studies,

except when the item in question also addresses the topic of seabed impacts as here delimited. (A few items that fall outside a strict interpretation of these limits are listed because they appeared as part of a volume that itself was dedicated to the topic at hand.)

The compiler has personally examined some 200 of the items listed. The relevance of many of the others to the issue of seabed impacts can be confirmed by inspection of their titles alone. However, some others are included here on the strength of citations of them in the works of other authors. Thus, it is likely that a handful of the entries do not belong in this bibliography.

Besides items in the primary scientific literature, this bibliography includes books, “grey literature” reports and papers which appeared in identifiable series, and contractor reports, even if they are confidential to the clients for whom they were prepared. That latter tend to be final, having to appear at the end of some contract, and contain much of interest to students of seabed impacts. Other unpublished documents, conference presentations and the like are not included, nor is any material that has only been published electronically. The listing does not generally include the copious non-scientific material that touches on seabed

**Gadus Associates’
Bibliography of Seabed Impacts of Fishing Gear**

impacts, though items previously cited in the scientific literature are included (making annotations of them available, in the full version of the bibliography, to readers of the papers that cite them).

Users of this bibliography should understand its limitations. There is much to be learnt of the impacts of fishing gear on marine ecosystems by studying the effects of other perturbations, both natural and anthropogenic, of the seabed and its benthic communities. A full understanding of gear impacts certainly requires attention to much of the literature on how benthic ecosystems operate in the absence of disturbance. Knowledge of the autecology of the species affected is also crucial, as is an understanding of experimental design, statistical analysis, the technology for data collection at sea and, of course, of the commercial fisheries, their gears, their techniques and the policies and practices by which they are managed. None of the relevant literature is listed here unless, in addition to whatever other topics, an item makes some mention of an issue that falls within the narrowly-defined scope of this bibliography.

Regretfully, a further caution is necessary: The scientific literature is not the error-free statement of fact that it is sometimes represented to be. All publications in any field, no matter how prestigious the author and the journal, need to be evaluated on their merits and not blindly accepted as being above criticism. However, reports on the seabed impacts of fishing gear need particular care. In compiling this bibliography, it has become sadly clear that the literature on this topic is riddled with inappropriate statistical analyses, incorrect inferences drawn from experiments of all kinds, conclusions which appear founded in their authors’ prior convictions, rather than in the data gathered, and even a distressing number of simple misrepresentations of cited work. **The inclusion of any item in this listing should not, therefore, be taken as any kind of endorsement. In the compiler’s judgement, the conclusions in most of those seabed-impacts reports which he has personally examined should be rejected.**

The present listing contains 1019 items. A chronological tabulation of publication dates shows that considerably more listed items were published in each of the 1970s, 1980s and 1990s than over all time up to the start of each of those decades:

Publication Years	Items in Bibliography
Up to 1969	47
1970 to 1979	97
1980 to 1989	198
1990 to 1999	562
2000 to date	115
No Date	1

It now seems unlikely that this pattern will be continued in the first decade of the new millennium, though the total production of the years 2000 to 2009 may yet equal or exceed that of the 1990s. It follows from this distribution of publication dates that our present perceptions of the seabed impacts of fishing gears are largely products of the 1990s. Those

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

perceptions essentially reversed around the start of that decade, from a general scientific consensus that seabed impacts were unimportant to a broad view that they are very serious. It is too soon to say whether or not there will be a swing back towards some intermediate conclusion by 2010 or indeed a shift to some third perspective.

The present bibliography was initially founded on a combination of Kenchington's (1995) brief summary of the then-existing literature and an unpublished list of trawling-related papers maintained by Dr. Don Gordon, Bedford Institute of Oceanography. Its annotated version was first prepared for World Wildlife Fund Canada in 1997. In 1998-99, it was reworked, updated and extended for a group of fishing-industry interests in Nova Scotia, with generous permission from the previous client. It has since been maintained and expanded by Gadus Associates as an in-house project. Preparation of the current, non-annotated version has been supported by the Fisheries Survival Fund.

During its long evolution, development of the literature list has been greatly aided though contributions supplied by John Caddy, Don Gordon, Rich and Beth Langton and Jean-Jacques Maquire, as well as thorough searching of the various published bibliographies listed below. Finally, Richard Hoffmann, of York University, provided a Medievalist's expertise to sort out the bibliographic details of the oft-cited 1376 petition to King Edward of England concerning trawling impacts. All judgements about which items to include or exclude and all inferences drawn in this introduction remain the sole responsibility of the compiler.

This bibliography is certainly incomplete, particularly for items published in 2002, and it most likely contains errors. Users are requested to notify the compiler of any additions or corrections, by e-mail to Gadus@istar.ca. If they are available, reprints would be greatly appreciated. They can be mailed to:

Gadus Associates,
R.R.#1, Musquodoboit Harbour,
Nova Scotia B0J 2L0, CANADA

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Adkins, B.E., R.M. Harbo & R.M. Bourne (1983) An evaluation and management considerations of the use of a hydraulic clam harvester on intertidal clam populations in British Columbia. *Canadian Manuscript Report of Fisheries and Aquatic Sciences* 1716: vi+32p.
- Agardy, M.T. (1994) Advances in marine conservation: the role of marine protected areas. *TREE* 9: 267-270.
- Agardy, M.T. (1997) *Marine Protected Areas and Ocean Conservation*. R.G. Landes Company & Academic Press, Georgetown, Texas: xiv+244p.
- Alcala, A.C. & E.D. Gomez (1979) Recolonization and growth of hermatypic corals in dynamite blasted coral reefs in the Central Visayas, Philippines. In: *Proceedings of the International Symposium on Marine Biogeography and Evolution in the Southern Hemisphere, 17-20 July 1978, Auckland, New Zealand*. DSIR Inf. Ser. 137(2): 645-661.
- Alcala, A.C. & E.D. Gomez (1987) Dynamiting coral reefs for fish: A resource-destructive fishing method. In: *Human Impacts on Coral Reefs: Facts and Recommendations*. Antenne Museum, French Polynesia: 51-60.
- Alexander, A.B., H.F. Moore & W.C. Kendall (1914) Otter-trawl fishery. *Report of the US Commissioner of Fisheries*, Appendix VI: 97p.
- Allen, P.L. (1995) An assessment of hydraulic cockle dredging on the macroinvertebrate faunas of Traeth Lafan, North Wales. *Contract Science Report* 64, Countryside Council for Wales. Contract FC 73-01-86: 85p.
- Allen, W.H. (1992) Increased dangers to Caribbean marine ecosystems. Cruise ship anchors and intensified tourism threaten reefs. *BioScience* 42(5): 330-335.
- Allison, W. (1990) Fisheries and coral reefs: A Jamaican tragedy. *Rasain* 10: 147-140.
- Alton, M.S. (1974) Bering Sea benthos as a food resource for demersal fish populations. In: D.W. Hood & E.J. Kelly (eds.) *Oceanography of the Bering Sea. Occasional Publication, Institute of Marine Science, University of Alaska* 2: 257-277.
- Ambrose, W.G., M. Dawson, C. Gailey, P. Ledkovsky, S. O'Leary, B. Tassanari, H. Vogel & C. Wilson (1998) Effects of baitworm digging on the soft-shelled clam, *Mya arenaria*, in Maine: Shell damage and exposure on the sediment surface. *Journal of Shellfish Research* 17: 1043-1049.
- Amos, C.L. & E.L. King (1984) Bedforms of the Canadian eastern seaboard: A comparison with global occurrences. *Marine Geology* 57: 167-208.
- Anderson, F.E. & D.S. McLusky (1981) Physical recovery of an intertidal area disturbed by baitworm harvesting. *Stirling University technical report* GR3/4061, submitted to the Natural Environment Research Council: 47p.
- Anderson, F.E. & L.M. Meyer (1986) The interaction of tidal currents on a disturbed intertidal bottom with a resulting change in particulate matter quantity, texture and food quality. *Estuarine, Coastal and Shelf Science* 22: 19-29.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Andrew N.L. & J.G. Pepperell (1992) The by-catch of shrimp trawl fisheries. *Oceanography and Marine Biology Annual Review* 30: 527-565.
- Andrews, G. (1997) Development of Mafia Island Marine Park. In: O. Linden & C.G. Lundin (eds.) *The journey from Arusha to Seychelles: Successes and failures of integrated coastal zone management in Eastern Africa and Island States*. The World Bank, Environmental Department, Washington, DC: 241-254.
- Anon. (1780-1832) *Rotuli Parliamentorum: Ut et Petitiones, et Placita in Parlamento*. London.
- Anon. (1885) *Report of the Commissioners Appointed to Inquire and Report upon the Complaints that have been Made by Line and Drift Net Fishermen of Injuries Sustained by Them in their Calling Owing to the Use of the Trawl Net and Beam Trawl in the Territorial Waters of the United Kingdom*. Eyre and Spottiswoode, London.
- Anon. (1921) The history of trawling: its rise and development from the earliest times to the present day. *Fishing Trade Gazette & Poultry, Game & Rabbit Trades Chronicle* (March 19, 1921) 38(1974): 21-71.
- Anon. (1928) *Report of the Royal Commission Investigating the Fisheries of the Maritime Provinces and the Magdalen Islands*. Ottawa: 90p.
- Anon. (1964) Special report relative to restricting the use of beam or otter trawls, the appointment, powers and duties of shellfish constables, the control and eradication of dogfish, the taking of lobsters and the enforcement of certain laws relative to fish by local police. *Commonwealth of Massachusetts Department of Natural Resources* No. 3703: 45-79.
- Anon. (1971) The heavy tickler chain — right or wrong? *World Fishing* 20(10): 8-10.
- Anon. (1973) Effects of trawls and dredges on the seabed. *ICES CM* 1973/B:2.
- Anon. (1984) A review of the effects of fishing activities on the marine environment. *Report prepared by Dobrocky Seatech for the Environmental Protection Service, Atlantic Region, Dartmouth, Nova Scotia: 61p*.
- Anon. (1987a) [Effects of the fishery for cockles in the Dutch Wadden Sea.] *RIN-rapport* 87/18. [In Dutch.]
- Anon. (1987b) Sixth report of the Benthos Ecology Working Group. *ICES CM* 1987/L:26.
- Anon. (1988a) Report of the Study Group on the Effects of Bottom Trawling. *ICES CM* 1988/B:56.
- Anon. (1988b) Report of the Benthos Ecology Working Group. *ICES CM* 1988/L:15.
- Anon. (1989a) Report of the Benthos Ecology Working Group. *ICES CM* 1989/L:19.
- Anon. (1989b) The impact of bottom trawling on American lobsters off Duxbury Beach, MA (October 1, 1989). *Unpublished report of Massachusetts Division of Marine Fisheries*.
- Anon. (1990a) Report of the Benthos Ecology Working Group. *ICES CM* 1990/L:95.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Anon. (1990b) Report of the ICES Working Group on the Effects of Marine Aggregate Extraction on Fisheries. *ICES CM* 1990/E:35.
- Anon. (1990c) Ninth report of the Benthos Ecology Working Group. *ICES CM* 1990/L:15.
- Anon. (1990d) Scientific and Technical Committee for Fisheries, Special Meeting of November 1990. Chapter 11 - Effects of beam trawling on the sea bed. *Commission of the European Communities* SEC(90)2498: 18-23.
- Anon. (1990e) Effects of beam trawling on the sea bed. *Scientific and Technical Committee for Fisheries, Special Meeting of November 1990. Commission of the European Communities* SEC(90)2498: 18-23.
- Anon. (1991) Report of the Study Group on Ecosystem Effects of Fishing Activities. *ICES CM* 1991/G:7.
- Anon. (1992a) Report of the ICES Working Group on the Effects of Extraction of Marine Sediments on Fisheries. *ICES Cooperative Research Report* 182: ii+78p.
- Anon. (1992b) Report of the Study Group on Ecosystem Effects of Fishing Activities. *ICES CM* 1992/G:11.
- Anon. (1992c) Report of the Study Group on Ecosystem Effects of Fishing Activities. *ICES Cooperative Research Report* 200: ii+120p.
- Anon. (1992d) Mussel fishery in the Wadden Sea. *Common Wadden Sea Secretariat, Working Document* 1992. Wilhelmshaven.
- Anon. (1993) Report of the Working Group on Ecosystem Effects of Fishing Activities. *ICES CM* 1993/G:4.
- Anon. (1994a) Report of the Working Group on Ecosystem Effects of Fishing Activities. *ICES CM* 1994/Assess/Env:1.
- Anon. (1994b) Sensitivity of species to physical disturbance of the seabed - preliminary report. *ICES CM* 1994/L:4, Annex 8.
- Anon. (1995a) Report of the Benthos Ecology Working Group. *ICES CM* 1995/L:3.
- Anon. (1995b) Report of the Study Group on Ecosystem Effects of Fishing Activities, Copenhagen, Denmark, 7-14 April, 1992. *ICES Cooperative Research Report* 200: 120p.
- Anon. (1995c) *Proceedings of the Industry Workshop on the Review of Groundfish Gear and Harvesting Technology*. Department of Fisheries & Oceans, Ottawa: 231p.
- Anon. (1996a) Report of the Working Group on Ecosystem Effects of Fishing Activities. *ICES CM* 1996/Assess/Env:1.
- Anon. (1996b) Detection of trawl marks on the seafloor by using side-scan sonar. *Report of Marine Geological Assistance*: 65p.
- Anon. (1996c) Report of the Benthos Ecology Working Group. *ICES CM* 1996/L:5.
- Anon. (1997) Fisheries bycatch: consequences and management. *Alaska Sea Grant College Program Report* No. 97-02, University of Alaska, Fairbanks.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Anon. (1998a) Report of the Working Group on Ecosystem Effects of Fishing Activities. *ICES CM 1998/ACMP/ACME:1*.
- Anon. (1998b) Report of the Benthos Ecology Working Group. *ICES CM 1998/E:1*.
- Anon. (1999a) *An Assessment of Trawling Technology in Canada*. DFO Program Planning and Coordination, Fisheries Management, Department of Fisheries & Oceans, Ottawa:iv+45p.
- Anon. (1999b) *Minimizing Sea Bottom Impacts of Trawling Gear*. Department of Fisheries & Oceans, Ottawa.
- Anon. (1999c) 'Effects of trawling' report summarized. *Queensland Fisherman* 17(1): 20-28.
- Anon. (1999d) Gear Locker: Trawling: Never mind the naysayers. Today's trawls have lower bycatch and are habitat friendly. *National Fisherman* 80(8): 52.
- Anon. (2000) Report of the Working Group on Ecosystem Effects of Fishing Activities. *ICES CM 2000/ACME:2*. 95 p.
- Anon. (2002) Workshop on the Effects of Fishing Gear on Marine Habitats off the Northeastern United States, October 23-25, 2001, Boston, Massachusetts. *Northeast Fisheries Science Center Reference Document 02-01*: 86 p.
- Appeldoorn, R. S., M. Nemeth, J. Vasslides & M. Scharer (2000) The Effect of Fish Traps on Benthic Habitats off La Parguera, Puerto Rico. *Department of Marine Science, University of Puerto Rico, Mayaguez*: 29p.
- Arcamo, S.V.R. (1994) *Managing coastal resources in Ormoc Bay, Philippines*. Coastal Zone Canada '94, Cooperation in the Coastal Zone: Conference Proceedings. 1: 345-359.
- Arcement, G. & V. Guillory (1993) Ghost fishing in vented and unvented blue crab traps. *Proceedings of the Louisiana Academy of Sciences* 56: 1-7.
- Ardizzone, G.D. (1985) Analysis of the fisheries of the Central Tyrrhenian Sea. *FAO Fisheries Report* 336: 51-60.
- Ardizzone, G.D. & A. Mugiolo (1981) Modificazioni di una prateria a *Posidonia oceanica* (L.) Delile del Medio Tirreno sottoposta ad attivita di pesca a strascico. *Atti XIII Congr. Sci. It. Biol. Mar., Cefalu*.
- Ardizzone, G.D. & A. Mugiolo (1982) Modificazioni di una prateria a *Posidonia oceanica* (L.) Delile del Medio Tirreno sottoposta ad attivita di pesca a strascico. *Naturalista sicil. S. IV, VI (Suppl.)* 3 : 509-515.
- Ardizzone, G.D. & P. Pelusi (1983a) Regression of a Tyrrhenian *Posidonia oceanica* prairie exposed to nearshore trawling. *Rapport et Prôcess verbeaux de Réunion CIESM* 28(3): 175-177.
- Ardizzone, G.D. & P. Pelusi (1983b) Fish populations exposed to coastal bottom trawling along the Middle Tyrrhenian Sea. *Rapport et Prôcess verbeaux de Réunion CIESM* 28(5): 107-110.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Ardizzone, G.D. & P. Pelusi (1984) Yield and damage evaluation of bottom trawling on *Posidonia* meadows. In: C-F. Boudouresque, A.J. de Grissac, & J. Olivier (eds.) *International Workshop on Posidonia oceanica Beds*: 63-72.
- Ardizzone, G.D., P. Tucci, A. Somaschini & A. Belluscio (2000) Is bottom trawling partly responsible for the regression of *Posidonia oceanica* meadows in the Mediterranean Sea? In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 37-46.
- Armstrong, D.A., T.C. Wainwright, G.C. Jensen, P.A. Dinnel & H.B. Anderson (1993) Taking refuge from bycatch issues: red king crab (*Paralithodes camtschaticus*) and trawl fisheries in the eastern Bering Sea. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 1993-2000.
- Arntz, W.E. von & W. Weber (1970) *Cyprina islandica* (Mollusca: Bivalvia) als Nahrung von Dorsch und Kliesche in der Kieler Bucht. *Ber. Dt. Wiss. Komm. Meeresforsch.* 21(H 1-4): 193-209. [Translated as: *Fisheries Research Board of Canada Translation Series No. 1985*]
- Arntz, W., E. Rachor & S. Kuhne (1994) Mid- and long-term effects of bottom trawling on the benthic fauna of the German Bight. *NIOZ Rapport* 1994-11: 59-74.
- Aschan, M.M (1988) The effect of Iceland scallop (*Chlamys islandica*) dredging at Jan Mayen and in the Spitsbergen area. *ICES CM* 1988/K:16.
- Aschan, M.M (1989) Further results on the impact of scallop dredging on the benthos in the waters around the Jan Mayen and Spitsbergen area. *ICES CM* 1989/L:19, Annex 13.
- Atkinson, R.J.A. & R.D.M. Nash (1990) Some preliminary observations on the burrows of *Callinassa subterranea* (Montagu) (Decapoda: Thalassinidea) from the west coast of Scotland. *Journal of Natural History* 24:403-413.
- Ault, J., J. Serafy, D. DiResta, & J. Dandelski (1997) Impacts of commercial fishing on key habitats within Biscayne National Park. *Annual Report. Cooperative Agreement No. CA-5250-6-9018*: iii + 80 p.
- Auster, P.J. (1988) A review of the present state of understanding of marine fish communities. *Journal of Northwest Atlantic Fisheries Science* 8: 67-75.
- Auster, P.J. (1996) The impacts of fishing gear on the seafloor. *Sea Wing Habitats* 10(4).
- Auster, P.J. (1997) The impacts of fishing gear on seafloor habitats. *Sea Wind: Ocean Voice International* 10(4): 20-22.
- Auster, P.J. (1998) A conceptual model of the impacts of fishing gear on the integrity of fish biomass. *Conservation Biology* 12: 1198-1203.
- Auster, P.J. (2001) Defining thresholds for precautionary habitat management actions in a fisheries context. *North American Journal of Fisheries Management* 21: 1-9.
- Auster, P.J. & R.W. Langton (1999) The effects of fishing on fish habitat. In: L.R. Benaka (ed.) *Fish Habitats: Essential Fish Habitat and Rehabilitation*. American Fisheries Society Symposium 22.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Auster, P.J. & R.J. Malatesta (1995) Assessing the role of non-extractive reserves for enhancing harvested populations in temperate and boreal marine systems. *In: N.L. Shackell & J.H.M. Willison (eds.) Marine Protected Areas and Sustainable Fisheries: Proceedings of the symposium on marine protected areas and sustainable fisheries conducted at the Second International Conference on Science and the Management of Protected Areas, Dalhousie University, Nova Scotia, Canada, 16-20 May 1994.* Science and Management of Protected Areas Association, Wolfville, Nova Scotia: 82-89.
- Auster, P.J., R.J. Malatesta & I.G. Babb (1994) The impacts of mobile gear on benthic habitat complexity. *Gulf of Maine News* Fall 1994: 16-24.
- Auster, P.J., R.J. Malatesta & C.L.S. Donaldson (1994) Small-scale habitat variability and the distribution of postlarval silver hake, *Merluccius bilinearis*. *In: D. Stevenson & E. Braasch (eds.) Gulf of Maine Habitat: Workshop Proceedings. UME-NH Sea Grant Report UNHMP-T/DR-SG-94-18:* 82-86.
- Auster, P.J., R.J. Malatesta, R.W. Langton, L. Watling, P.C. Valentine, C.L.S. Donaldson, E.W. Langton, A.N. Shepard & I.G. Babb (1995) The impacts of mobile fishing gear on low topography benthic habitats in the Gulf of Maine (northwest Atlantic): A preliminary assessment. *Northwest Atlantic Fisheries Organization SRC Document 95/21*, Serial No. N2528.
- Auster, P.J., R.J. Malatesta, R.W. Langton, L. Watling, P.C. Valentine, C.L.S. Donaldson, E.W. Langton, A.N. Shepard & I.G. Babb (1996) The impacts of mobile fishing gear on seafloor habitats in the Gulf of Maine (northwest Atlantic): Implications for conservation of fish populations. *Reviews in Fisheries Science* 4: 185-202.
- Auster, P.J., R.J. Malatesta, S.C. LaRosa, R.A. Cooper & L.L. Stewart (1991) Microhabitat utilisation by the megafaunal assemblage at a low relief outer continental shelf site — Middle Atlantic Bight, USA. *Journal of Northwest Atlantic Fisheries Science* 11:59-69.
- Auster, P.J. C. Michalopoulos, P.C. Valentine & R.J. Malatesta (1998) Delineating and monitoring habitat management units in a temperate deep-water marine protected area. *In: N.W. Munro & J.H.M. Willison (eds.) Linking Protected Areas with Working Landscapes, Conserving Biodiversity.* Science and Management of Protected Areas Association, Wolfville, Nova Scotia: 169-185.
- Auster, P.J. & N.L. Shackell (1997) Fishery reserves. *In: J. Boreman, B.S. Nakashima, J.A. Wilson & R.L. Kendall (eds.) Northwest Atlantic Groundfish: Perspectives on a Fishery Collapse.* American Fisheries Society, Bethesda: 159-166.
- Auster, P.J. & N.L. Shackell (2001) Marine protected areas for the temperate and boreal northwest Atlantic: The potential for sustainable fisheries and conservation of biodiversity. *Northeastern Naturalist* 7: 419-434.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Auster, P.J., L. Watling & A. Rieser (1996) Comment: the interface between fisheries research and habitat management. *North American Journal of Fisheries Management* 17 : 591-595.
- Bagenal, T.B. (1958) An analysis of the variability associated with the Vigneron-Dahl modification of the otter trawl by day and by night and a discussion of its action. *Journal du Conseil International pour l'Exploration de la Mer* 24: 62-79.
- Balcom, B.A. (1997) Technology rejected: Steam trawlers and Nova Scotia, 1897-1933. In: J.E. Candow & C. Corbin (eds.) *How Deep is the Ocean? Historical essays on Canada's Atlantic Fishery*. University College of Cape Breton Press, Sydney: 185-194.
- Ball, B., G. Fox & B. Munday (2000) Long- and short-term consequences of a *Nephrops* trawl fishery on the benthos and environment of the Irish Sea. *ICES Journal of Marine Science* 57: 1315-1320.
- Ball, B., B. Munday & I. Tuck (2000) Effects of otter trawling on the benthos and environment in muddy sediments. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 69-82.
- Barber, C.W. & V.R. Pratt (1998) Poison and profits: cyanide fishing in the Indo-Pacific. *Environment* 40(8): 4-9.
- Barnette, M.C. (1999) Gulf of Mexico fishing gear and their potential impacts on essential fish habitat. *NOAA Technical Memorandum NMFS-SEFSC-432*.
- Barnette, M.C. (2001) A review of the fishing gear utilized within the Southeast Region and their potential impacts on essential fish habitat. *NOAA Technical Memorandum NMFS-SEFSC-449*.
- Bas, C. (1993) Present situation of the fishing stocks in North-West Mediterranean (Alicante-Elba). Ecological and fishing impact. In: *Symposium Mediterranean Seas 2000, Santa Margherita Ligure, 23-27 September 1991. Ist.Sci.Ambientali Mar.*: 121-135.
- Baulch, H. (1999) Clear-cutting the ocean floor: trawling gear devastates the world's continental shelves. *Alternatives Journal* 25(3) : 7.
- Bech, G. (1995) Retrieval of lost gillnets at Ilulissat Kangia. *NAFO Scientific Council Research Document* 95/67.
- Becker, G.A. (1990) Die Nordsee als physikalisches System. In: J.L. Lozán, W. lenz, E. Rachor, B. Watermann & H. von Westernhagen (eds.) *Warnsignale aus der Nordsee*. Parey, Berlin: 11-27
- Behnken, L. (1993a) Southeast Alaska trawl closure: a case study in risk-averse management. *Sea Wind: Ocean Voice International* 7(1): 8-14.
- Behnken, L. (1993b) Photos of southeast Alaska fishing bank habitat sensitive to trawl damage. *Sea Wind* 7(2): 25-28.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Beleidsgericht Ecologisch Onderzoek Noordzee [BEON] (1990) Effects of beamtrawl fishery on the bottom fauna in the North Sea. *BEON Rapport* 8: 57p.
- Beleidsgericht Ecologisch Onderzoek Noordzee [BEON] (1991) Effects of beamtrawl fishery on the bottom fauna in the North Sea. II. The 1990 studies. *BEON Rapport* 13: 85p.
- Beleidsgericht Ecologisch Onderzoek Noordzee [BEON] (1992) Effects of beamtrawl fishery on the bottom fauna in the North Sea. III. The 1991 studies. *BEON Rapport* 16: 27p.
- Bell, L.A.J. (1985) Coastal zone management in Western Samoa. *In: Report of the Third South Pacific National Parks and Reserves Conference Held in Apia, Western Samoa, 1985. Volume 2, Collected Key Issue and Case Study Papers.* South Pacific Regulatory Environment Programme, Noumea: 57-73.
- Belliveau, D.J., T.G. Milligan, P. Cranford, M. Chin-Yee, G. Steeves, D.L. McKeown, P. Vass & D.K. Muschenheim (1997) New equipment for benthic habitat studies. *Oceans '97, I.E.E.E.*, New York 1: 374-379.
- Bennett, B.A. & C.G. Attwood (1991) Evidence for recovery of a surf-zone fish assemblage following the establishment of a marine reserve on the southern coast of South Africa. *Marine Ecology Progress Series* 75:173-181.
- Bennett, F. (1998) Changes to the sea floor in the Chatham area. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England.* Conservation Law Foundation, Boston, Mass.: 115-116.
- Berghahn, R. (1990) On the potential impact of shrimping on trophic relationships in the Wadden Sea. *In: M. Barnes & R.N. Gibson (eds.) Trophic Relationships in the Marine Environment, Proceedings of the 24th European Marine Biology Symposium.* Aberdeen University Press.
- Berghahn, R. & R. Vorberg (1993) [Effects of the shrimp fisheries in the Wadden Sea.] *In: M. v. Lukowicz (ed.) Influence of Fisheries upon Marine Ecosystems.* 57: 103-126. [In German.]
- Bergin, A. & M. Haward (1995) Outlook 95, Part 2. Environmental implications for the fishing industry. *Australian Fisheries* 54(5): 14-18.
- Bergman, M.J.N. (1991) Long term effects of beamtrawl fishing on the benthic ecosystem in the North Sea. *In: Effects of Beamtrawl Fishery on the Bottom Fauna in the North Sea, II: the 1990 studies.* *BEON-RAPPORT* 13: 69-89.
- Bergman, M.J.N., M. Fonds, S. Groenewold, H.J. Lindeboom, C.J.M. Philippart, P. van der Puyl, & J.W. van Santbrink (1997) Effects of trawl fisheries on the benthic ecosystem. *Annu.Rep.Netherlands Institute of Sea Research.*
- Bergman, M.J.N., M. Fonds, M. Hup, W. Lewis, P. van der Puyl, A. Stam & D. den Uyl (1990) Direct effects of beamtrawl fishing on benthic fauna in the North Sea - a pilot study. *In: Effects of beamtrawl fishery on the bottom fauna of the North Sea.* *BEON-rapport* 8: 33-57.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Bergman, M.J.N., M. Fonds, M. Hup & A. Stam (1990) Direct effects of beamtrawl fishing on benthic fauna in the North Sea. *ICES CM1990/Mini:11*.
- Bergman, M.J.N. & M. Hup (1992) Direct effects of beamtrawling on macrofauna in a sandy sediment in the southern North Sea. *ICES Journal of Marine Science* 49: 5-11.
- Bergman, M.J.N., H.J. Lindeboom, G. Peet, P.H.M. Nelissen, H. Nijkamp & M.F. Leopold (1991) Beschermde gebieden Noordzee – Noodzaak en mogelijkheden. *NIOZ Rapport 1991-3: 195p*.
- Bergman, M.J.N. & J.W. van Santbrink (1994) Direct effects of beam trawling on macrofauna in sandy areas off the Dutch coast. *In: S.J. de Groot & H.J. Lindeboom (eds.) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. IMPACT Report 1994. NIOZ Report 1994-11. RIVO-DLO Report C026/94: 179-208.*
- Bergman, M.J.N. & J.W. van Santbrink (2000) Fishing mortality of populations of megafauna in sandy sediments. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues.* Blackwell Science, Oxford: 49-68.
- Bergman, M.J.N. & J.W. van Santbrink (2000) Mortality in megafaunal benthic populations caused by trawl fisheries on the Dutch continental shelf in the North Sea in 1994. *ICES Journal of Marine Science* 57: 1321-1331.
- Berkeley, S.A., D.W. Pybas & W.L. Campos (1985) Bait shrimp fishery of Biscayne Bay. *Florida Sea Grant College Program Technical Paper* 40.
- Berthou, P. & D. Hamon (*in press* 1992) Etude de l'impact des engins de pêche traînants en zone côtière. Cas particulier du dragage en baie de Saint-Brieuc (Manche Ouest). [Source unknown.]
- Bett, B.J. (2000) Signs and symptoms of deepwater trawling on the Atlantic margin. *In: Man-Made Objects on the Seafloor 2000.* Society for Underwater Technology, London: 107-118.
- Beukema, J.J. (1995) Long-term effects of mechanical harvesting of lugworms *Arenicola marina* on the zoobenthic community of a tidal flat in the Wadden Sea. *Netherlands Journal of Sea Research* 33: 219-227.
- BioMaerl Team (1998) Maerl grounds: Habitats of high biodiversity in European seas. *Third European Marine Science and Technology Conference, Lisbon 23-27 May 1998, Project Synopses* 1: 170-178.
- Blaber, S.J.M, D.T. Brewer, C. Burrige, D. Caesar, M. Connell, D. Dennis, G.D. Dews, J. Glaister, N. Gribble, B.J. Hill, D.A. Milton, R. Pitcher, I.R. Poiner, J.P. Salini, M. Thomas, S. Veronise & T.J. Wassenberg (1994) *Final Report to the Great Barrier Reef Marine Park Authority on 1992-93 Research:* 62p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Blaber, S.J.M., D.T. Brewer, C. Burrige, D. Caeser, M. Connell G.D. Dews, J. Glaister, N. Gribble, B.J. Hill, D.A. Milton, R. Pitcher, I.R. Poiner, J.P. Salini, M. Thomas, S. Veronise & T.J. Wassenberg (1995) The effects of prawn trawling in the far northern section of the Great Barrier Reef. *Final Report to the Great Barrier Reef Marine Park Authority on 1993-94 (Year 3) Research: Draft Version 1*: 105p.
- Blaber, S.J.M., D.P. Cyrus, J.-J. Albaret, Chong Ving Ching, J.W. Day, E. Elliott, M.S. Fonseca, D.E. Hoss, J. Orensanz, I.C. Potter & W. Silvert (2000) Effects of fishing on the structure and functioning of estuarine and nearshore ecosystems. *ICES Journal of Marine Science* 57: 590-602.
- Black, K.P. & G.D. Parry (1994) Sediment transport rates and sediment disturbance due to scallop dredging in Port Phillip Bay. *Memoirs of the Queensland Museum* 36: 327-341.
- Black, K.P. & G.D. Parry (1999) Entrainment, dispersal and settlement of scallop dredge sediment plumes: Field measurements and numerical modelling. *Canadian Journal of Fisheries and Aquatic Sciences* 56: 2271-2281.
- Blackburn, J. & D. Schmidt (1988) Injury and apparent mortality rates from incidental trawl catches of halibut, king crab, and Tanner crab in the Kodiak area, 1977-81. *Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report* 4K88-21.
- Blair, S.M., B.S. Flynn & S. Markley (1990) Characteristics and assessment of dredge related mechanical impact to hard-bottom reef areas off northern Dade County, Florida. In: W.C. Jaap (ed.) *Diving for Science 1990. Proceedings of the American Academy of Underwater Sciences Tenth Annual Scientific Diving Symposium, October 4-7, 1990, University of South Florida, St. Petersburg, Florida* : 5-14.
- Blom, W.C. (1982) [Beam trawl resistance.] *RIVO internal report* TO 82-03. [In Dutch.]
- Boaden, P.J.S. & M.T. Dring (1980) A quantitative evaluation of the effects of *Ascophyllum* harvesting on the littoral ecosystem. *Helgolander Meeresuntersuchungen* 33: 700-710.
- Boehlert, G.W. (1996) Biodiversity and the sustainability of marine fisheries. *Oceanography* 9: 28-35.
- Bohlen, W.F. & K.B. Winnick (1984) Observations of near-bottom suspended matter concentration at the FVP site central Long Island Sound predisposal material area: 18 April, 1983—29 June, 1983. *Report prepared for the Science Applications Institute, Newport, Rhode Island* 100p.
- Botsford, L.W., J.C. Castilla & C.H. Peterson (1997) The management of fisheries and marine ecosystems. *Science* 277: 509-515.
- Botha, L. & A.I.L. Payne (1980) Comparative efficiency of beam and otter trawls at catching demersal fish off South West Africa. *Fisheries Bulletin, Division of Sea Fisheries, South Africa* 13: 25-30.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Bradshaw, C., L.O. Veale, A.S. Hill & A.R. Brand (2000) The effects of scallop dredging on gravelly seabed communities. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 83-104.
- Bradstock, M. & D.P. Gordon (1983) Coral-like bryozoan growths in Tasman Bay, and their protection to conserve commercial fish stocks. *New Zealand Journal of Marine and Freshwater Research* 17: 159-163.
- Brailovskaya, T. (1998) Obstacles to protecting marine biodiversity through marine wilderness preservation: Examples from the New England region. *Conservation Biology* 12: 1236-1240.
- Brambati, A. & G. Fontolan (1990) Sediment resuspension induced by clam fishing with hydraulic dredges in the Gulf of Venice (Adriatic Sea). A preliminary experimental approach. *Bollettino Di Oceanologia Teorica Ed Applicata* 8(2): 113-121.
- Brand, A.R., E.H. Allison & E.J. Murphy (1991) North Irish Sea scallop fisheries: a review of changes. *In: S.E. Shumway & P.A. Sandifer (eds.). An International Compendium of Scallop Biology and Culture*. World Aquaculture Society, Baton Rouge, LA: 204-218.
- Brand, A.R. & S.J. Hawkins (1996) Assessment of the effects of scallop dredging on benthic communities. *Interim Report to Ministry of Agriculture, Fisheries and Food*.
- Breen, P.A. (1985) Ghost fishing by Dungeness crab traps: A preliminary report. *Canadian Manuscript Report of Fisheries and Aquatic Sciences* 1848: 51-55.
- Breen, P.A. (1987) Mortality of Dungeness crabs caused by lost traps in the Fraser River Estuary, British Columbia. *North American Journal of Fisheries Management* 7: 429-435.
- Breen, P.A. (1990) A review of ghost fishing by traps and gillnets. *In: R.S. Shomura & M.L. Godfrey (eds.) Proceedings of the Second International Conference on Marine Debris. NOAA Technical Memorandum NOAA-TM-SWFSC-154: 571-599*.
- Breeze, H., D.S. Davis & M. Butler (1997) Distribution and status of deep sea corals off Nova Scotia. *Ecology Action Centre (Halifax) Marine Issues Committee Special Publication* 1: vi+58p.
- Breitburg, D. (1996) Consumer mobility and the relative importance of consumption and competition following physical disturbance. *Marine Ecology Progress Series* 138: 83-92.
- Brewer, D., S. Eayrs, R. Mounsey & Y.-G. Wang (1996) Assessment of an environmentally friendly, semi-pelagic fish trawl. *Fisheries Research* 26: 225-237.
- Brewer, D.T., S.J. Eayrs, N.J.F. Rawlinson, J.P. Salini, M. Farmer, S.J. Blaber, D.C. Ramm, I. Cartwright & I.R. Poiner (1997) Recent advances in environmentally friendly trawl gear research in Australia. *In: D.A. Hancock, D.C. Smith,*

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- A. Grant & J.P. Beumer (eds.) *Developing and Sustaining World Fisheries Resources: The state of science and management*. CSIRO: 537-543.
- Brey, T. (1991) The relative significance of biological and physical disturbance: an example from intertidal and subtidal sandy bottom communities. *Estuarine, Coastal and Shelf Science* 33: 339-360.
- Brey, T., W.E. Arntz, D. Pauly & H. Rumohr (1990) *Arctica (Cyprina) islandica* in Kiel Bay (Western Baltic): growth, production and ecological significance. *Journal of Experimental Marine Biology and Ecology* 136: 217-235.
- Bridger, J.P. (1970) Some effects of the passage of a trawl over the seabed. *ICES CM* 1970/B:10.
- Bridger, J.P. (1972) Some observations on the penetration into the sea bed of tickler chains on a beam trawl. *ICES CM* 1972/B:7.
- Britton, J.C. & B. Morton (1994) Marine carrion and scavengers. *Oceanography and Marine Biology: An Annual Review* 32: 369-434.
- Brothers, G. (1992) Lost or abandoned fishing gear in the Newfoundland aquatic environment. *Report of the Symposium on Marine Stewardship in the Northwest Atlantic*. Department of Fisheries and Oceans, St. Johns, Newfoundland, Canada.
- Brown, R.A. (1989) Bottom trawling in Strangford Lough: problems and policies. In: C.C. ten Hallers & A. Bijlsma (eds.) *Distress Signals: Signals from the environment in policy and decision-making, 3rd North Sea Seminar*. Amsterdam: 117-127.
- Brown, B. & W.H. Wilson (1997) The role of commercial digging of mudflats as an agent for change of infaunal intertidal populations. *Journal of Experimental Marine Biology and Ecology* 218: 49-61.
- Bryceson, I. (1978) Tanzanian coral reefs at risk. *New Scientist* 80(1124): 115.
- Brylinsky, M., J. Gibson & D.C. Gordon (1994) Impacts of flounder trawls on the intertidal habitat and community of the Minas Basin, Bay of Fundy. *Canadian Journal of Fisheries and Aquatic Sciences* 51: 650-661.
- Bublitz, C.G. (1996) Quantitative evaluation of flatfish behaviour during capture by trawl gear. *Fisheries Research* 25: 293-304.
- Bull, M.F. (1986) Scallop enhancement programme approaches first harvesting. *Catch* 13(3): 10-12.
- Bullimore, B. (1985) An investigation into the effects of scallop dredging within the Skomer Marine Reserve. *Report prepared for the Nature Conservancy Council by the Skomer Marine Reserve Subtidal Monitoring Project. SMRSMP Report* 3: 39p.
- Burrell, V.G. (1975) Faunal studies of North and South Santee River prior to and after hard clam harvesting by hydraulic dredges. *SCWMRD, MRD January report*: 4p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Burrell, V.G. (1975) Recruitment studies of North and South Santee River after hard clam *Mercenaria mercenaria* harvesting by hydraulic escalator dredges. *SCWMRD, MRD January report*: 3p.
- Butcher, T., J. Matthews, J. Glaister & G. Hamer (1981) Study suggests scallop dredges causing few problems in Jervis Bay. *Australian Fisheries* 40(9): 9-12.
- Butler, M. (1998) Deep sea corals off Nova Scotia. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 129-131.
- Butler, M. & S. Gass (2001) How to protect corals in Atlantic Canada. In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) *Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 156-165.
- Butman, B. & M. Noble (1979) Observations of currents and bottom sediment mobility in the offshore Middle Atlantic Bight, 1976-1977 In: H.J. Knebel (ed.) *Middle Atlantic Outer Continental Shelf Environmental Studies, Vol. III: Geologic Studies*. Virginia Institute of Marine Science, Gloucester Point, Virginia: 1-46.
- Cadée, G.C. (1977) Effect of bait-digging on the worm *Heteromastus*. *Wadden Bulletin* 12: 312-313.
- Cadée, G.C., J.P. Boon, C.V. Fischer, B.P. Mensink & CC. Ten Hallers-Tjabbes (1995) Why the whelk (*Buccinum undatum*) has become extinct in the Dutch Wadden Sea. *Netherlands Journal of Sea Research* 34(4): 337-339.
- Caddy, J.F. (1968) Underwater observations on scallop (*Placopecten magellanicus*) behaviour and drag efficiency. *Journal of the Fisheries Research Board of Canada* 25: 2123-2141.
- Caddy, J.F. (1970) Records of associated fauna in scallop dredge hauls from the Bay of Fundy. *Fisheries Research Board of Canada Technical Report* 225: 11p.
- Caddy, J.F. (1973) Underwater observations on tracks of dredges and trawls and some effects of dredging on a scallop ground. *Journal of the Fisheries Research Board of Canada* 30: 173-180.
- Caddy, J.F. & T.D. Iles (1973) Underwater observations on herring spawning grounds on Georges Bank. *ICNAF Research Bulletin* 10: 131-139.
- Calud, A., G. Rodriguez, R. Aruelo, G. Aguilar, E. Cinco, N. Armada & G. Silvestre (1989) Preliminary results of a study of the municipal fisheries in Lingayen Gulf. In: *Towards Sustainable Development of the Coastal Resources of Lingayen Gulf, Philippines. Proceedings of the Asian/UN Coastal Resources Management Project Workshop, Bauang, La Union, Philippines, 25-27 May, 1988. ICLARM Conference Proceedings* 17: 3-29.
- Cameron, W.M. (1955) An investigation of scallop-drag operation with underwater television equipment. *National Research Council Canada, Radio & Electrical Engineering Division Pamphlet* ERB-378/6: 7p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Campbell, D.G. (1977) Bahamian chlorine bleach fishing: a survey. *In: Proceedings, Third International Coral Reef Symposium*. Rosentiel School of Marine and Atmospheric Science, University of Miami. Miami, Florida: 593-595
- Camphuysen, C.J., K. Ensor, R.W. Furness, S. Garthe, O. Huppe, G. Leaper, H. Offringa & M.L. Tasker (1993) Seabirds feeding on discards in winter in the North Sea. *Netherlands Institute for Sea Research*.
- Camphuysen, C.J. & S. Garthe (2000) Seabirds and commercial fisheries: Population trends of piscivorous seabirds explained? *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 163-184.
- Canadian Fisheries Consultants Ltd. (CFC Ltd.) (1994) Summary Report: Fishing Gear and Harvesting Technology Assessment. *Report prepared for Fishing Industry Services Branch, Department of Fisheries & Oceans, Ottawa and published by the Department: ii+13p*.
- Canadian Seabed Research Ltd. (1993) Fishing-related bottom disturbance study, Bras D'Or Lakes. *Contractor report to Department of Fisheries and Oceans: iv+40p*.
- Canadian Seabed Research Ltd. (1995) Fishing related seafloor disturbances, Western Bank, Scotian Shelf. *Contractor report to Department of Fisheries and Oceans*.
- Cappo, M., D.M. Alongi, D. Williams & N. Duke (1998) A review and synthesis of Australian fisheries habitat research. Volume 2: Scoping Review, Issue 4: Effects of Harvesting on Biodiversity and Ecosystems. FRDC 95/055.
- Carpenter, K.E. & A.C. Alcala (1977) Philippine coral reef fisheries resources, Part 2, Muro-ami and kayakas reef fisheries, benefit or bane? *Philippine Journal of Fisheries* 15: 217-235.
- Carr, H.A. (1988) Long term assessment of a derelict gillnet found in the Gulf of Maine. *Oceans '87, I.E.E.E., New York: 984-986*.
- Carr, H.A., E.A. Amaral, A.W. Hulbert & R. Cooper (1985) Underwater survey of simulated lost demersal and lost commercial gill nets off New England. *In: R.S. Shomura & H.O. Yoshida (eds.), Proceedings of the Workshop on the Fate and Impact of Marine Debris, 26-29 November 1984, Honolulu, Hawaii. NOAA-TM-NMFS-SWFC-54: 438-447*.
- Carr, H.A., A.J. Blott & P.J. Caruso (1992) A study of ghost gillnets in the inshore waters of southern New England. Pages *In: MTS '92: Global Ocean Partnership*. Marine Technology Society. Washington, D.C.: 361-366.
- Carr, H.A. & R.A. Cooper (1987) Manned submersible and ROV assessment of ghost gillnets in the Gulf of Maine. *Oceans '87, I.E.E.E., New York: 622-624*.
- Carr, H.A. & J. Harris (1997) Ghost fishing gear: have fishing practices during the past few years reduced the impact? *In: J.M. Coe & D.B. Rogers (eds.) Marine Debris, Sources, Impacts, and Solutions*. Springer, New York: 141-151.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Carr, H.A. & H. Milliken (1998) Conservation engineering: Options to minimize fishing's impacts to the sea floor. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 100-103.
- Castilla, J.C. & L.R. Duran (1985) Human exclusion from the rocky intertidal zone of central Chile: the effects on *Concholepas concholepas* (Gastropoda). *Oikos* 45: 319-399.
- Causey, B.D. (1990) Biological assessments of damage to coral reefs following physical impacts resulting from various sources, including boat and ship groundings. *In: Diving for Science 1990. Proceedings of the American Academy of Underwater Sciences Tenth Annual Scientific Diving Symposium, October 4-7, 1990*. University of South Florida, St. Petersburg, Florida: 49-57.
- Cesar, H., C.G. Lundin & S. Bettencourt (1997) Indonesian coral reefs- an economic analysis of a precious but threatened resource. *Ambio* 26: 345-350.
- Chapman, C.J., J. Mason & J.A.M. Kinnear (1977) Diving observations on the efficiency of dredges used in the Scottish fishery for the scallop, *Pecten maximus* (L). *Scottish Fisheries Research Report* 10: 16p.
- Chesapeake Bay Program (1995) *Guidance for Protecting Submerged Aquatic Vegetation in Chesapeake Bay from Physical Disruption*. Annapolis, Maryland: 28p.
- Chittenden, M.E. & W.A. Van Engel (1972) Effect of a tickler chain and tow duration on trawl catches of the blue crab, *Callinectes sapidus*. *Transactions of the American Fisheries Society* 101: 732-734.
- Chopin, F., D.L. Alverson, Y. Inoue, T. Arimoto, P. He, P. Suuronen & G.I. Sangster (1997) Sources of unaccounted mortality in fish capture technologies. *In: Developing and Sustaining World Fisheries Resources. The State of Science and Management*. Commonwealth Scientific and Industrial Research Organization, Collingwood (Australia): 149-156.
- Chopin, F.S. & T. Arimoto (1995) The condition of fish escaping from fishing gears-a review. *Fisheries Research* 21: 315-327.
- Chopin, F., Y. Inoue & P. He (1996) Future directions in conservation technology. *Contributions Res. Fish. Eng.* (2): 59-67.
- Chopin, F., Y. Inoue, Y. Matsushita & T. Arimoto (1996) Sources of accounted and unaccounted fishing mortality. *In: Solving Bycatch: Considerations for Today and Tomorrow*. Alaska Sea Grant College Program Report No. 96-03, University of Alaska, Fairbanks: 41-47.
- Christian, P.A., J.B. Rivers, M.V. Rawson, D.L. Harrington & L.G. Parker (1985) Trawling off the southeastern U.S. coast. *Georgia Sea Grant Marine Extension Bulletin* 8: 28p.
- Christie, H., E. Rinde, S. Fredriksen & A. Skadsheim (1994) [Ecological consequences of kelp trawling: Re-establishment of kelp forest, epiphytes and holdfast fauna after kelp trawling at the Rogaland coast.] *NINA-OPPDRAGSMELD.* (295): 33p. [In Norwegian with English summary.]

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Chubb, C.F. (1994) Reproductive biology: Issues for management. *In: B.F. Phillips, J.S. Cobb & J. Kittaka (eds.) Spiny Lobster Management*. Blackwell, Oxford: 191-212.
- Churchill, J.H. (1989) The effect of commercial trawling on sediment resuspension and transport over the Middle Atlantic Bight continental shelf. *Continental Shelf Research* 9: 841-864.
- Churchill, J.H. (1998) Sediment resuspension by bottom fishing gear. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 134-137.
- Churchill, J.H., P.E. Biscayne & F. Aikman (1988) The character and motion of suspended particulate matter over the shelf-edge and upper slope off Cape Cod. *Continental Shelf Research* 8: 789-809.
- Churchill, J.H., C.D. Wirick, C.N. Flagg & L.J. Pietrafesa (1994) Sediment resuspension over the continental shelf east of the Delmarva Peninsular. *Deep-Sea Research* 41: 341-363.
- Cimberg, R.L., T. Gerrodette & K. Muzik (1981) Habitat requirements and expected distribution of Alaska coral. *Research Unit Report #601, prepared for Office of Marine Pollution Assessment, Alaska Office*.
- Clark, B.M., B.A. Bennet & S.J. Lamberth (1994) A comparison of the ichthyofauna of two estuaries and their adjacent surf zones, with an assessment of the effects of beach-seining on the nursery function of estuaries for fish. *South African Journal of Marine Science* 14: 121-131.
- Clarke, K.R. & R.M. Warwick (1994) *Change in Marine Communities: An approach to statistical analysis and interpretation*. Natural Environmental Research Council, Plymouth Marine Laboratory, Plymouth.
- Coen, L.D., R.E. Giotta, M.W. Luckenbach & D.L. Breitburg (1999) Oyster reef function, enhancement, and restoration: Habitat development and utilization by commercially- and ecologically-important species. *Journal of Shellfish Research* 18: 712.
- Coffen-Smout, S.S. (1998) Shell strength in the cockle *Cerastoderma edule* L. under simulated fishing impacts. *Fisheries Research* 38: 187-191.
- Coffen-Smout, S.S. & E.I.S. Rees (1999) Burrowing behaviour and dispersion of cockles *Cerastoderma edule* L. following simulated fishing disturbance. *Fisheries Research* 40: 65-72.
- Coleman, F.C. & D.H.S. Wehle (1983) Caught by accident: The fishermen's unwanted harvest. *Oceans* 16(4): 65-69.
- Collie, J.S. (1998) Studies in New England of fishing gear impacts on the sea floor. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 53-62.
- Collie, J.S., G.A. Escanero, L. Hunke & P.C. Valentine (1996) Scallop dredging on Georges Bank: Photographic evaluation of effects on benthic fauna. *ICES CM* 1996/Mini:9.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Collie, J.S., G.A. Escanero & P.C. Valentine (1997) Effects of bottom fishing on the benthic megafauna of Georges Bank. *Marine Ecology Progress Series* 155: 159-172.
- Collie, J.S., G.A. Escanero & P.C. Valentine (2000) Photographic evaluation of the impacts of bottom fishing on benthic epifauna. *ICES Journal of Marine Science* 57: 987-1001.
- Collie, J.S., S.J. Hall, M.J. Kaiser & I.R. Poiner (2000) A quantitative analysis of fishing impacts on shelf-sea benthos. *Journal of Animal Ecology* 69: 785-798.
- Collier, J.A. & D.M. McLaughlin (1983) A mechanical oyster harvester for South Carolina estuaries. *Journal of the World Mariculture Society* 14: 297-301.
- Conlan, K. (1994) Seafloor disturbance by ice scour in the Canadian High Arctic. *Field report, Canadian Museum of Nature*.
- Conner, W.G. & J.L. Simon (1979) The effects of oyster shell dredging on an estuarine benthic community. *Estuarine and Coastal Marine Science* 9: 749-758.
- Cook, W. (1991) Studies on the effects of hydraulic dredging on cockle and other macroinvertebrate populations 1989-1990. *Unpublished report to the North Western and North Wales Sea Fisheries Committee* (U.K.)
- Cooper, C. (1993a) Seabed disturbances from fishing activities. *Industry Services and Native Fisheries (Department of Fisheries & Oceans, Scotia-Fundy Region) Project Summary* 41.
- Cooper, C. (1993b) Seabed disturbance from mobile fishing gear in the Bras D'Or Lakes. *Industry Services and Native Fisheries (Department of Fisheries & Oceans, Scotia-Fundy Region) Project Summary* 44.
- Cornish, A.S. & D. Mckellar (1998) A history of fishing with explosives and poisons in Hong Kong waters. *Naga* 21(3): 4-9.
- Cotter, A.J.R., P. Walker. P. Coates, W. Cook & P.J. Dare (1993) An experiment on the effects of tractor dredging on cockles in Burry Inlet, South Wales. *ICES CM* 1993/K:24.
- Cotter, A.J.R., P. Walker. P. Coates, W. Cook & P.J. Dare (1997) Trial of a tractor dredger for cockles in Burry Inlet, South Wales. *ICES Journl of Marine Science* 54: 72-83.
- Craeymeersch, J.A. (1993) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. *BEWG*.
- Craeymeersch, J.A. (1994) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. *In: S.J. de Groot & H.J. Lindeboom (eds.) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. NIOZ Report* 1994-11: 209-236.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Craeymeersch, J.A., G.J. Piet, A.D. Rijnsdorp & J. Buis (2000) Distribution of macrofauna in relation to the micro-distribution of trawling effort. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues.* Blackwell Science, Oxford: 187-197.
- Cranfield, H.J., K.P. Michael & I.J. Doonan (1999) Changes in the distribution of epifaunal reefs and oysters during 130 years of dredging for oysters in Foveaux Strait, southern New Zealand. *Aquatic Conservation: Marine and Freshwater Ecosystems* 9: 461-484.
- Crawford, R.E., N.E. Stolpe & M.J. Moore (1998) The environmental impacts of boating: Proceedings of a workshop held at Woods Hole Oceanographic Institution, December 7-9, 1994. *Technical Report* WHOI-98-03.
- Creed, J.C. & A.F.G. Amado (1999) Disturbance and recovery of the macroflora of a seagrass (*Halodule wrightii* Ascherson) meadow in the Abrolhos Marine National Park, Brazil: An experimental evaluation of anchor damage. *Journal of Experimental Marine Biology and Ecology* 235(2): 285-306.
- Creutzberg, F., G.C.A. Duineveld & G.J. van Noort (1987) The effect of different numbers of tickler chains on beam-trawl catches. *Journal du Conseil International pour l'Exploration de la Mer* 43: 159-168.
- Cryer, M., G.N. Whittle & R. Williams (1987) The impact of bait collection by anglers on marine intertidal invertebrates. *Biological Conservation* 42: 83-93.
- Currie, D.R. & G.D. Parry (1994) The impact of scallop dredging on a soft sediment community using multivariate techniques. *Memoirs of the Queensland Museum* 36: 316-326.
- Currie, D.R. & G.D. Parry (1996) Effects of scallop dredging on a soft sediment community: a large-scale experimental study. *Marine Ecology Progress Series* 134: 131-150.
- Currie, D.R. & G.D. Parry (1999a) Impacts and efficiency of scallop dredging on different soft substrates. *Canadian Journal of Fisheries and Aquatic Sciences* 56: 539-550.
- Currie, D.R. & G.D. Parry (1999b) Changes to benthic communities over 20 years in Port Phillip Bay, Victoria, Australia. *Marine Pollution Bulletin* 38: 36-43.
- Daan, N. (1989) The ecological setting of North Sea fisheries. *Dana* 8: 17-31.
- Daan, N. (1991) Theoretical approach to the evaluation of ecosystem effects of fishing in respect of North Sea benthos. *ICES CM* 1991/L:27.
- Daan, N., P.J. Bromley, J.R.G. Hislop & N.A. Nielsen (1990) Ecology of North Sea Fish. *Netherlands Journal of Sea Research* 26: 343-386.
- Daan, N., & K. Richardson (eds.) (1996) Changes in the North Sea ecosystem and their causes: Århus 1975 revisited. *ICES Journal of Marine Science* 53: 1-1225.
- Dahl, K., T. Borchardt, N. Dankers & H. Farke (1994) Status, trends, regulation and ecological effects of the Wadden Sea fishery. *Ophelia* Supplement 6: 87-97.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Dahm, E. (1993) [Effects of set nets and trawl nets on marine organisms and their environment.] *In: M. v. Lukowicz (ed.) Arbeiten des Deutschen Fischerei-Verbandes [Influence of Fisheries upon Marine Ecosystems.] 57: 23-41. [In German.]*
- Dare, P.J. (1974) Damage caused to mussels (*Mytilus edulis*) by dredging and mechanized sorting. *Journal du Conseil International pour l'Exploration de la Mer* 35: 296-299.
- Dare, P.J. (1992) A review of the effects of molluscan dredge fisheries upon benthos and substrates. *ICES Study Group* 1992: 10p.
- Dare, P.J., D. Key & P.M. Conner (1993) The efficiency of spring-loaded dredges used in the western English Channel fishery for scallops, *Pecten maximus* (L.). *ICES CM* 1993/B:15.
- Darnel, R.M. (1992) Ecological history, catastrophism, and human impact on the Mississippi/Alabama continental shelf and associated waters: A review. *Gulf Research Report* 8: 375-386.
- Davis, G.E. (1977) Anchor damage to a coral reef on the coast of Florida. *Biological Conservation* 11: 29-34.
- Dawson-Shepard, A.R., R.M. Warwick, K.R. Clarke & B.E. Brown (1992) An analysis of fish community responses to coral mining in the Maldives. *Environmental Biology of Fish* 33: 367-380.
- Dayton, P.K. (1996) Environmental impacts of fishing on marine communities: Working Group report. *In: T. Wray (ed.) Proceedings of the Solving the Bycatch Workshop, September 25-27, 1995, Seattle, Washington.* Alaska Sea Grant, Fairbanks, Alaska: 321-325.
- Dayton, P.K. (1998) Reversal of the burden of proof in fisheries management. *Science* 279(5352): 821-822.
- Dayton, P.K., S.F. Thrush, M.T. Agardy & R.J. Hofman (1995) Environmental effects of marine fishing. *Aquatic Conservation: Marine and Freshwater Ecosystems* 5: 205-232.
- DeAlteris, J., L. Skrobe & C. Lipsky (1999) The significance of seabed disturbance by mobile fishing gear relative to natural processes: a case study in Narragansett Bay, Rhode Island. *In: L. Beneka (ed.) Fish Habitat: Essential fish habitat and rehabilitation. American Fisheries Society Symposium* 22: 224-237.
- de Clerk, R. & P. Hovart (1972) On the effects of tickler chains. *ICES CM* 1972/B:15.
- de Fontaubert, C., D. Downes & T.S. Agardi (1996) *Protecting Marine and Coastal Biodiversity and Living Resources under the Convention on Biological Diversity.* Center for International Environmental Law, World Wildlife Fund & I.U.C.N., Washington, D.C.
- De Graaf, U.H. & J.F. De Veen (1973) *Asterias rubens* and the influence of the beam trawl fishery on the bottom fauna. *ICES CM* 1973/K:37.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- De Grave, S. & A. Whitaker (1999) Benthic community re-adjustment following dredging of a muddy-maerl matrix. *Marine Pollution Bulletin* 38: 102-108.
- de Groot, S.J. (1972) Some further experiments on the influence of the beam trawl on the bottom fauna. *ICES CM* 1972/B:6.
- de Groot, S.J. (1973) De invloed van trawlen op de zeebodem. *Visserij* 26(7): 401-409.
- de Groot, S.J. (1984a) Invloed van bodemvistuigen op het bodemleven. *Visserij* 37(5/6): 278-285.
- de Groot, S.J. (1984b) The impact of bottom trawling on benthic fauna of the North Sea. *Ocean Management* 9: 177-190.
- de Groot, S.J. (1995) On the penetration of the beam trawl into the sea bed. *ICES CM* 1995/B:36.
- de Groot, S.J. & J.M. Apeldoorn (1971) Some experiments on the influence of the beam trawl on the bottom fauna. *ICES CM* 1971/B:2.
- de Groot, S.J. & H.J. Lindeboom (eds.) (1994) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. *NIOZ-Rapport 1994-11, RIVO-DLO Report C026/94*: 257p.
- de Groot, S.J., H.J. Lindeboom, H. Rumohr, W. Arntz, H. Polet, W. Zevenboom, R.H.D. Lambeck, S. Hall, B. Spencer, R. Hughes, U. Damm & B.F. Keegan (1998) Impact 2: The effects of different types of fisheries on the North Sea and Irish Sea ecosystem. In: K.G. Barthel, H. Barth, M. Bohle-Carbonell, C. Fragakis, E. Lippiatou, P. Martin, G. Ollier, M. Weydert (eds.). *Third European Marine Science and Technology Conference (MAST Conference), Lisbon, 23-27 May 1998: Project synopses Vol. 5: Fisheries and Aquaculture (AIR: 1990-94) -- Selected projects from the research programme for Agriculture and Agro-Industry including Fisheries, European Commission DG 12 Science, Research and Development, Luxembourg (Luxembourg)* 207-212.
- de Jonge, V.N. & D.J. de Jonge (1992) Role of tide, light and fisheries in the decline of *Zostera marina* L. in the Dutch Wadden Sea. In: N. Dankers, C.J. Smit & M. Scholl (eds.) *Present and Future Conservation of the Wadden Sea. Proceedings of the 7th International Wadden Sea Symposium, Ameland, 1990*. 20: 161-176.
- de Jong, S.A. & G.W.N.M. van Moorsel (1992) Short- and long-term recovery of geomorphology and macrobenthos of the Klaverbank (North Sea) after gravel extraction; 1988-1991. *Report to BEWG*.
- de Moor, G., J. Lanckneus & L. van de Linde (1992) Detection of trawl marks on the seafloor of the southern North Sea: Analysis of a time series of side-scan sonar recordings. Part I and Part II. *Report of Research Unit Marine Geomorphology, University of Ghent*: 11 & 38p.
- De Sylva, D.P. (1954) The live bait shrimp fishery of the northeast coast of Florida. *State of Florida Board of Conservation Technical Series* 11.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- de Veen, J.F. (1976) On changes in some biological parameters on the North Sea sole (*Solea solea* L.). *Journal du Conseil International pour l'Exploration de la Mer* 37: 60-90.
- De Vlas, J. (1982) De effecten van de kokkelvisserij op de bodemfauna van Waddenzee en Oosterschelde. *RIN-Rapport* 82/19: 99p.
- De Vlas, J. (1987) Effects of cockle fisheries on the macrobenthos in the Wadden Sea. *Biologische Meddelelser* 31: 215-228.
- de Vooy, C.G.N. & J. van der Meer (1998) Changes between 1931 and 1990 in by-catches of 27 animal species from the southern North Sea. *Journal of Sea Research* 39: 291-298.
- de Vooy, C.G.N., I.I.J. Witte, R. Dapper & H.W. van der Veer (1991) [Long-term changes in uncommon fish species in the south-eastern North Sea]. *NIOZ Report* 1991-6. [In Dutch.]
- de Vooy, C.G.N., I.I.J. Witte, R. Dapper, J. van der Meer & H.W. van der Veer (1993) [Long-term changes in the south-eastern North Sea: Trends in invertebrates between 1931 and 1990]. *NIOZ Report* 1993-17. [In Dutch.]
- De Wolf, P. & M. Mulder (1985) Spatial variation of macrobenthos in the southern North Sea. *Estuaries* 8(2B):64A. [Abstract only]
- Demestre, M., P. Sanchez & M.J. Kaiser (2000) The behavioural response of benthic scavengers to otter-trawling disturbance in the Mediterranean. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 121-129.
- Demestre, M., P. Sanchez, M. Ramon & M.J. Kaiser (*In press* 2000). The impact of otter trawling on mud communities in the NW Mediterranean. *ICES Journal of Marine Science*.
- Demory, D. (1971) Abandoned crab pots near Cannon Beach, Oregon. *Fish Commission of Oregon, Research Division, Shellfish Investigation Information Report* 70-6.
- Dennis, G.D. & T.J. Bright (1988) The impact of a ship grounding on the reef fish assemblage at Molasses Reef, Key Largo National Marine Sanctuary, Florida. In: *Proceedings of the Sixth International Coral Reef Symposium, Townsville, Australia, 8-12 August 1988*. 2: 213-218.
- Dickson, J.O. (1996) Country report – The Philippines. Research and development projects in fishing technology. *Contrib. Res. Fish. Eng.* 2: 28-30.
- Dobrocky Seatech (1984) A review of the effects of fishing activities on the marine environment. *Report prepared for the Environmental Protection Service, Atlantic Region*: 61p.
- Dobbs, F.C. & R.H. Findlay (1993) Analysis of microbial lipids to determine biomass and detect the response of sedimentary microorganisms to disturbance. In: P.F. Kemp *et al.* (eds.) *Handbook of Methods in Aquatic Microbial Ecology*: 347-358.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Dons, C. (1944) Norges korallrev. *Det Kongelige Norske vidskabernes selskabs, Forhandlinger*. 16: 37-82p.
- Dorsey, E.M. & J. Pederson (1998a) Introduction. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 1-6.
- Dorsey, E.M. & J. Pederson (1998b) Summary of discussion and recommendations from the conference. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 140-143.
- Doughty, W. (1998) Observations of a fisherman and spotter pilot in the Gulf of Maine. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 121-122.
- Drew, S.C. & R.E. Larson (1994) Worldwide trawl and dredge study. *Contract report prepared by Marine Data System*: 8 p.
- Drobeck, K.G. & M.L. Johnston (1982) Environmental impact of hydraulic escalator dredging on oyster communities. *University of Maryland, Chesapeake Biological Laboratory, Solomons, Maryland, UMCEES Report 82-5 CBL*: 51p.
- Duncan, C. (2001) Offshore marine conservation, 'Darwin Mounds' and beyond. *Marine Conservation* 5: 14-15.
- Dugan, J.E. & G.E. Davis (1993) Applications of marine refugia to coastal fisheries management. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 2029-2042.
- Duineveld, G.C.A., A. Kunitzer, & R.P. Heyman (1987) *Amphiura filiformis* (Ophiuroidea: Echinodermata) in the North Sea. Distribution, present and former abundance and size composition *Netherlands Journal of Sea Research* 21: 317-329.
- Duineveld, G.C.A., A. Kunitzer, U. Niermann, P.A.W.J. de Wilde & J.S. Grey (1991) The macrobenthos of the North Sea. Distribution, present and former abundance and size composition *Netherlands Journal of Sea Research* 28: 53-65.
- Duplisea, D.E., S. Jennings, S.J. Malcolm, R. Parker & D.B. Sivyer (2001) Modelling potential impacts of bottom trawl fisheries on soft sediment biogeochemistry in the North Sea. *Geochemical Transactions* 14: 1-6.
- Dupouy H. (1982) Etude comparée des dragues à coquilles Saint-Jacques utilisées en France. *La Pêche Maritime* 61(1249): 213-218.
- Dupouy H. (1982) Comparative study of scallop drags used in France. *Canadian Translations of Fisheries and Aquatic Sciences* 4901: 11p.
- Durako, M.J., M.O. Hall, F. Sargent & S. Peck (1992) Propeller scars in seagrass beds: An assessment and experimental study of recolonization in Weedon Island State Preserve, Florida. In: F.J. Webb (ed.) *Proceedings of the Nineteenth Annual Conference on Wetland Restoration and Creation, Hillsborough Community College, Plant City, Florida*: 42-53.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Dyckjaer, S.M., J.K. Jensen & E. Hoffman (1995) Mussel dredging and effects on the marine environment. *ICES CM* 1995/E:13.
- Dyrynda, P. & K. Lewis (1995) *Ecological studies within the Crymlyn Burrows SSSI (Swansea Bay, Wales): impacts of mechanized cockle harvesting*. Marine Environment Research Group, University of Wales, Swansea: 15p.
- Eckmayer, W.J. (1977) Oyster reef cultivation for cultch material. *Alabama Marine Resources Bulletin* 12: 23-30.
- Efanov, S.F. (1981) Herring of the Gulf of Riga: the problem of escapement and mechanical impact of the trawl. *ICES CM* 1981/J:7.
- Eldredge, L.G. (1987) Poisons for fishing on coral reefs. In: B. Salvat (ed.) *Human Impacts on Coral Reefs: Facts and Recommendations*. Antenne Museum, French Polynesia: 61-66.
- Eleftheriou, A. (2000) Marine benthos dynamics: Environmental and fisheries impacts: introduction and overview. *ICES Journal of Marine Science* 57: 1299-1302.
- Eleftheriou, A. & M.R. Robertson (1992) The effects of experimental scallop dredging on the fauna and physical environment of a shallow sandy community. *Netherlands Journal of Sea Research* 30: 289-299.
- Emerson, C.W. & J. Grant (1992) The control of soft-shell clam (*Mya arenaria*) recruitment on intertidal sandflats by bedload sediment transport. *Limnology and Oceanography* 36: 1288-1300.
- Engel, J. (1998) Potential impacts of commercial trawling on a benthic community in Monterey Bay National Marine Sanctuary. *MS Thesis, Moss Landing Marine Laboratories/San Francisco State University*.
- Engel, J. & R. Kvitek (1998) Effects of otter trawling on a benthic community in Monterey Bay National Marine Sanctuary. *Conservation Biology* 12: 1204-1214.
- Eno, N.C., D. MacDonald & S.C. Amos (1996) A study on the effects of fish (Crustacea/Mollusc) traps on benthic habitats and species. In: *Report to European Commission Directorate General XIV, Studies Contract 94/076*: 43p.
- Eno, N.C., D. MacDonald, J.A.M. Kinnear, S.C. Amos, C.J. Chapman, R.A. Clark, F.P.D. Bunker & C. Munro (2001) Effects of Crustacean traps on benthic fauna. *ICES Journal, of Marine Science* 58: 11-20.
- Erzini, K, C.C. Monteiro, J. Ribeiro, M.N. Santos, M. Gaspar, P. Monteiro & T.C. Borges (1997) An experimental study of gill net and trammel net 'ghost fishing' off the Algarve (southern Portugal). *Marine Ecology Progress Series* 158: 257-265.
- ESGEMAR (1995) Assessment of the effect of trawling on *Posidonia oceanica* grounds in relation to the benthic and demersal communities. *Final Report EC-DG XIV Study Contract No. TR/MED921/012*: 110p.
- Evans, P.L., M.J. Kaiser & R.N. Hughes (1996) Behaviour and energetics of whelks, *Buccinum undatum* (L.), feeding on animals killed by beam trawling. *Journal of Experimental Marine Biology and Ecology* 197: 51-62.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Fader, G.B.J. & S.S. Pecore (1988) Surficial geology of the Abegweit Passage area of Northumberland Strait, Gulf of St. Lawrence. *Atlantic Geoscience Centre, Open File No. 2087*: 4p.
- Fanning, K.A., K.L. Carder & P.R. Betzer (1982) Sediment resuspension by coastal waters: a potential mechanism for nutrient recycling on the ocean's margins. *Deep-Sea Research* 29: 953-965.
- Feder, H.M., A.S. Naidu, S.C. Jewitt, J.M. Hameedi, W.R. Johnson & T.E. Whitledge (1994) The northeast Chukchi Sea: benthos-environmental interactions. *Marine Ecology Progress Series* 111: 171-190.
- Fiege, D., V. Neumann & J. Li (1994) Observations on coral reefs of Hainan Island, South China Sea. *Marine Pollution Bulletin* 29(1-3): 84-89.
- Findlay, R.H., G.M. King & L.E. Watling (1989) Efficacy of phospholipid analysis in determining microbial biomass in sediments. *Applied and Environmental Microbiology* 55: 2888-2893.
- Firth, A. & B. Ferrari (1992) Archaeology and Marine Protected Areas. *International Journal of Nautical Archaeology* 21: 76-69.
- Fisheries Resource Conservation Council [FRCC] (1994) Conservation aspects of groundfish gear technologies in eastern Canada. *FRCC Discussion Paper FRCC94.TD.4*: vi+39p.
- Fisheries Resource Conservation Council [FRCC] (1997) A report on gear technology in eastern Canada. *FRCC Report FRCC.97.R.1*: i+49p.
- Fishing Technology Unit (1996) Groundfish harvesting technologies: An annotated bibliography. *Fishing Technology Unit (Marine Institute, Memorial University of Newfoundland) Report 11/94*: xii+147p.
- Flint, R.W. & J.A. Younk (1983) Estuarine benthos: long-term community structure variations, Corpus Christi Bay, Texas. *Estuaries* 6: 126-141.
- Floderus, M.J. & L. Pihil (1990) Resuspension in the Kattegat: Impact of variation in wind climate and fishery. *Estuarine, Coastal and Shelf Science* 31: 487-498.
- Fogarty, M.J. & S.A. Murawski (1998) Large-scale disturbance and the structure of marine systems: fishery impacts on Georges Bank. *Ecological Applications* 8(1) Supplement: S6-S22.
- Fonds, M. (1991) Measurements of catch composition and survival of benthic animals in beam trawl fishery for sole in the southern North Sea. In: Effects of Beamtrawl Fishery on the Bottom Fauna in the North Sea, II: the 1990 studies. BEON-RAPPORT 13: 53-68.
- Fonds, M. (1994) FAR Research Project: Mortality of fish and invertebrates in beam trawl catches and the survival changes of discards. In: S.J. de Groot & H.J. Lindeboom (eds.) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. *NIOZ Report 1994-11. RIVO-DLO Report C026/94*: 131-146.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Fonds M. & S. Groenewold (1996) The production of food for opportunistic scavenging species by beamtrawl fishery in the southern North Sea. *In: Quality Status Report North Sea*.
- Fonds M. & S. Groenewold (2000) Food subsidies generated by the beam-trawl fishery in the southern North Sea. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 130-150.
- Fonds M., B.L. Verboom & K. Groeneveld (1992) Catch composition and survival of fish and benthic invertebrates in commercial beam trawls for sole and plaice fishery in the southern North Sea. *In: Effects of Beam Trawl Fishery on the Bottom Fauna in the North Sea – The 1991 Studies. BEON rapport 16: 17-22*.
- Fonseca, M.S., G.W. Thayer, A.J. Chester & C. Foltz (1984) Impact of scallop harvesting on eelgrass (*Zostera marina*) meadows: implications for management. *North American Journal of Fisheries Management 4: 286-293*.
- Fonteyne, R. (2000) Physical impact of beam trawls on seabed sediments. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 15-36.
- Fosså, J.H., P.B. Mortensen & D.M. Furevik (2000) *Lophelia*-coral reefs in Norway. Distribution and effects of fishing. *Fisken og Havet 2000(2): 94p*.
- Fowler, S. (1989) Nature conservation implications of damage to the seabed by commercial fishing operations. *Marine Science Branch, Nature Conservancy Council, England, Report 79*.
- Franklin, A. (1972) The cockle and its fisheries. *MAFF Laboratory Leaflet 26: 33p*.
- Franklin A. & G.D. Pickett (1978) Studies on the indirect effects of fishing on stocks of cockles, *Cardium edule*, in the Thames Estuary and Wash. *MAFF Fisheries Research Technical Report 42: 9p*.
- Freeze, L., P.J. Auster, J. Heifetz & B.L. Wing (1999) Effects of trawling on seafloor habitat and associated invertebrate taxa in the Gulf of Alaska. *Marine Ecology Progress Series 182: 119-126*.
- Frid, C.L.J. & R.A. Clark (2000) Long-term changes in North Sea benthos: discerning the role of fisheries. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 198-216.
- Frid, C.L.J., R.A. Clark & J.A. Hall (1999) Long-term changes in the benthos on a heavily fished ground off the NE coast of England. *Marine Ecology Progress Series 188: 13-20*.
- Frid, C.L.J. & S.J. Hall (1999) Inferring changes in North Sea benthos from fish stomach analysis. *Marine Ecology Progress Series 184: 183-188*.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Frid, C.L.J., S. Hansson, S.A. Ragnarsson, A. Rijnsdorp & S.A. Steingrímsson (1999) Changing levels of predation on benthos as a result of exploitation of fish populations. *Ambio* 28: 578-582.
- Frid, C.L.J., K.G. Harwood, S.J. Hall & J.A. Hall (2000) Long-term changes in the benthic communities on North Sea fishing grounds. *ICES Journal of Marine Science* 57: 1303-1309.
- Friedlander, A.M., G.W. Boehlert, M.E. Field, J.E. Mason, J.V. Gardner & P. Dartnell (1999) Sidescan-sonar mapping of benthic trawl marks on the shelf and slope off Eureka, California. *U.S. Fishery Bulletin* 97: 786-801.
- Froggia, C. (1989) Clam fisheries with hydraulic dredges in the Adriatic Sea. In: J.F. Caddy (ed.) *Marine Invertebrate Fisheries: Their Assessment and Management*. Wiley, New York: 507-521.
- Froggia, C. & S. Bolognini (1987) Clam fishery with hydraulic dredges in the Adriatic Sea. *Evolution of Technology in Italian Fisheries: Studies and Reviews*. General Fisheries Council for the Mediterranean, Rome, Italy. 62: 37-40.
- Fuller S.D. & P. Cameron (1998) Marine benthic seascapes: Fishermen's perspectives. *Ecology Action Centre (Halifax) Marine Issues Committee Special Publication 3*: iv+64p.
- Fuller S.D., E.L.R. Kenchington, D.S. Davis & M. Butler (1998) Associated fauna of commercial scallop grounds in the Lower Bay of Fundy. *Ecology Action Centre (Halifax) Marine Issues Committee Special Publication 2*: vi+85p.
- Futch, C.R. & D. S. Beaumariage (1965) A report on the bait shrimp fishery of Lee County, Florida. *Florida Board of Conservation Marine Laboratory Maritime Base, Bayboro Harbor, St. Petersburg, Florida* FBCML No.: 65-1.
- Galvez, R.E. (1991) Blast fishing and government response in Lingayen Gulf. In: *Towards an Integrated Management of Tropical Coastal Resources. ICLARM Conference Proceedings* 22: 430.
- Galvez, R.E. & M.S.M. Sadorra (1988) Blast fishing: A Philippine case study. *Tropical Coastal Area Management* 3(1): 9-10.
- Galvez, R.E., T.G. Hingco, C. Bautista & M.T. Tungpalan (1989) Sociocultural dynamics of blast fishing and sodium cyanide fishing in two fishing villages in the Lingayen Gulf area. In: G. Silvestre, E. Miclat & T.E. Chua (eds.) *Towards Sustainable Development of the Coastal Resources of Lingayen Gulf, Philippines. ICLARM Congerence Proceedings* 17: 43-62.
- Ganz, A. (1980) Otter trawl induced lobster damage evaluation. *Final report to Department of Commerce, NOAA, NMFS, Comm. Fish. Res. Dev. Act., R.I. Project 3-279-R/3-310-R*: 28p.
- Garrison, G. (1998) Reef fishes of St. John, U.S. Virgin Islands. In: M.J. Mac, P.A. Opler, C.E. Puckett Haecker & P.D. Doran (eds.) *Status and Trends of the Nation's Biological Resources*. U.S. Department of the Interior, U.S. Geological Survey, Washington, D.C.: 325-327.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Gaspar, M.B., M. Castro & C.C. Monteiro (1998) Influence of tow duration and tooth length on the number of damaged razor clams *Ensis siliqua*. *Marine Ecology Progress Series* 169: 303-305.
- Gaspar, M.B., C.A. Richardson & C.C. Monteiro (1994) The effects of dredging on shell formation in the razor clam *Ensis siliqua* from Barrinha, Southern Portugal. *Journal of the Marine Biological Association of the United Kingdom* 74: 927-938.
- Gaspar, M.B. *et al.* (1999) Effect of tooth spacing and mesh size on the catch of the Portuguese clam and razor clam dredge. *ICES Journal of Marine Science* 56: 103-110.
- Geatz, R. (1997) Anti-blast grants: Donations curb Komodo blast fishing. *Nature Conservancy* 47(6): 33.
- Gell, W. (1998) Bottom trawling on hard substrates. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 85-86.
- Getmanenko, V.A., Eh.G. Yanovsky & G.G. Grote, -G.G. (1996) [The impact of semi-automatic dredge trawling on zoobenthos of the East Sivash (the Azov Sea)]. *Hydrobiol.J.* 32: 54-60. [In Russian with English and Ukrainian summaries.]
- Ghertsos, K., C. Luczak, J.-M. Dewarumez & J.-C. Dauvin (2000) Influence of spatial scales of observation on temporal change in diversity and trophic structure of fine-and communities from the English Channel and the southern North Sea. *ICES Journal of Marine Science* 57: 1481-1487.
- Gibbs, P.J., A.J. Collins & L.C. Collett (1980) Effect of otter prawn trawling on the macrobenthos of a sandy substratum in a New South Wales estuary. *Australian Journal of Marine and Freshwater Research* 31: 509-516.
- Gibson, R.N. (1994) Impact of habitat quality and quantity on the recruitment of juvenile flatfishes. *Netherlands Journal of Sea Research* 32: 191-206.
- Gilkinson K. (1999) Impact of otter trawling on infaunal bivalves living in sandy bottom habitats on the Grand Banks. *PhD Thesis, Memorial University of Newfoundland*.
- Gilkinson K., M. Paulin, S. Hurley & P. Schwinghamer (1997) Impacts of trawl door scouring on infaunal bivalves: Results of a physical trawl door model/dense sand interaction. *Journal of Experimental Marine Biology and Ecology* 224: 291-312.
- Gill, G.A., M.A. Allison, R.D. Lehman & T.M. Dellapenna (1999) The impact of trawling on the sediment-water exchange of nutrients and trace metals in Galveston Bay. *Laboratory for Oceanographic and Environmental research, Texas A&M University at Galveston*.
- Giovanardi, O., F. Pravoni & G. Franceschini (1998) "Rapido" trawl fishing in the Northern Adriatic: preliminary observations of the effects on macrobenthic communities. *Acta Adriatica* 39: 37-52.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Gislason, H. (1994) Ecosystem effects of fishing activities in the North Sea. *Marine Pollution Bulletin* 29: 520-527.
- Gislason, H. & J. Rice (1998) Mini-Symposium on Ecosystem Effects of Fishing, 1996: Introduction. *ICES Journal of Marine Science* 55: 329.
- Gislason, H., M. Sinclair, K. Sainsbury & R. O'Boyle (2000) Symposium overview: Incorporating ecosystem objectives within fisheries management. *ICES Journal of Marine Science* 57: 468-475.
- Gittings, S.R., T.J. Bright & B.S. Holland (1990) Five years of coral recovery following a freighter grounding in the Florida Keys. In: *Diving for Science 1990: Proceedings of the American Academy of Underwater Sciences Tenth Annual Scientific Diving Symposium, October 4-7, 1990*. University of South Florida, St. Petersburg, Florida: 89-105.
- Glémarec, M., Y. Le Faou & F. Cuq (1997) Long-term changes of seagrass beds in the Glenan Archipelago (South Brittany). *Oceanologica Acta* 20(1): 217-227.
- Glude, J.B. (1954) Observations on the effect of a Maryland soft clam dredge on the bottom. *U.S. Fish and Wildlife Service, Manuscript*: 4p.
- Glude, J.B. & W.S. Landers (1953) Biological effects on hard clams of hand raking and power dredging. *U.S. Fish and Wildlife Service, Special Scientific Report: Fisheries* 110: 43p.
- Glynn, P.W. (1994) State of coral reefs in the Galapagos Islands: Natural vs anthropogenic impacts. *Marine Pollution Bulletin* 29(1-3): 131-140.
- Gomez, E.D., A.C. Alcala & H.T. Yap (1987) Other fishing methods destructive to coral. In: B. Salvat (ed.) *Human Impacts on Coral Reefs: Facts and Recommendations*. Antenne Museum, French Polynesia: 67-75.
- Gomez, E.D., P.M. Alino, H.T. Yap & W.Y. Licuanan (1994) A review of the status of Philippine reefs. *Marine Pollution Bulletin* 29(1-3): 62-68.
- Goñi, R. (1998) Ecosystem effects of marine fisheries: An overview. *Ocean and Coastal Management* 40(1): 37-64.
- Goñi, R. (2000) Fisheries effects on ecosystems. In: C.R.C. Sheppard (ed.). *Seas at the Millennium: An Environmental Evaluation. Vol. 3, Global Issues and Processes*. Pergamon Press: 117-133.
- Goodcharles, M.F. (1971) A study of the effects of a commercial hydraulic clam dredge on benthic communities in estuarine areas. *Florida Department of Natural Resources, Technical Series* 64: 51p.
- Goodwin, C.L. & W. Shaul (1978) Some effects of the mechanical escalator shellfish harvester on a subtidal clam bed in Puget Sound, Washington. *Washington Department of Fisheries, Progress Report* 53: 23p.
- Goodwin, C.L. & W. Shaul (1980) Studies of mechanical clam harvest on an intertidal beach near Port Townsend, Washington. *Washington Department of Fisheries, Progress Report* 119: 26p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Goodwin, L. (1978) Some effects of subtidal geoduck (*Panope generosa*) harvest on a small experimental plot in Puget Sound, Washington. *Washington Department of Fisheries, Progress Report* 66: 21p.
- Goodwin, L. (1997) *Revision of the Environmental Impact Statement of the Puget Sound Commercial Geoduck Fishery, 1985*. Washington State Departments of Fish and Wildlife and Natural Resources: 66p, plus appendices and tables.
- Gordon, D.C., P. Schwinghamer, T.W. Rowell, J. Prena, K. Gilkinson, W.P. Vass & D.L. McKeown (1998) Studies in eastern Canada on the impact of mobile fishing gear on benthic habitat and communities. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 63-67.
- Gordon, D.C., K.D. Gilkinson, E.L.R. Kenchington, J. Prena, C. Bourbonnais, K. MacIsaac, D.L. McKeown & W.P. Vass (2002) Summary of the Grand Banks otter trawling experiment (1993–1995): Effects on benthic habitat and communities. *Canadian Technical Report of Fisheries & Aquatic Sciences* 2416: 72p.
- Gorman, T.B. & J.J. Graham (1977) *F.R.V. Kapala Cruise Report No. 41*. New South Wales State Fisheries, Sydney.
- Goudey, C.A. & G. Loverich (1987) Reducing the impact of Alaskan groundfish trawls. *Oceans '87, I.E.E.E., New York* 2: 632-637.
- Graham, M. (1955) Effect of trawling on animals of the sea bed. *Deep-Sea Research, Supplement to volume 3*: 1-6.
- Gray, J.S. (2000) Effects of trawling on the coastal environment: the need for management action. *Marine Pollution Bulletin* 40: 93.
- Greene, L.E. & J.M. Shenker (1993) The effects of human activity on the temporal variability of coral reef fish assemblages in the Key Largo National Marine Sanctuary. *Aquatic Conservation: Marine and Freshwater Ecosystems* 3(3): 189-205.
- Greenstreet, S.P.R. & S.I. Rogers (2000) Effects of fishing on non-target fish species. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 217-234.
- Greenstreet, S.P.R., F.B. Spence & J.A. McMillan (1999a) Fishing effects in northeast Atlantic shelf seas: Patterns in fishing effort, diversity and community structure. V. Changes in structure of the North Sea groundfish species assemblage between 1925 and 1996. *Fisheries Research* 40: 153-183.
- Greenstreet, S.P.R., F.B. Spence, A.M. Shanks & J.A. McMillan (1999b) Fishing effects in northeast Atlantic shelf seas: Patterns in fishing effort, diversity and community structure. II. Trends in fishing effort in the North Sea by UK registered vessels landing in Scotland. *Fisheries Research* 40: 107-124.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Grehan, A.J., A. Freiwald & the ACES Consortium (2001) The Atlantic Coral Ecosystem Study (ACES): Forging a new partnership between scientists and principal stakeholders. *In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 95-105.
- Gristina, M., G. Garofalo, G. Bono & D. Levi (2000) Effects of commercial trawl fishing in the Strait of Sicily on the diversity of demersal resources. *ICES CM* 2000/T:13.
- Groenemold, S. & M. Fonds (2000) Effects on benthic scavengers of discards and damaged benthos produced by the beam-trawl fishery in the southern North Sea. *ICES Journal of Marine Science* 57: 1395-1406.
- Gruffydd, LL.D (1972) Mortality of scallops on a Manx scallop bed due to fishing. *Journal of the Marine Biological Association of the United Kingdom* 52: 449-455.
- Guard, M. & M. Masaiganah (1997) Dynamite fishing in southern Tanzania, geographical variation, intensity of use and possible solutions. *Marine Pollution Bulletin* 34(10): 758-762.
- Guigné, J.Y., P. Schwingamer, Q. Liu & V.H. Chin (1993) High resolution and broadband processing of acoustic images of the marine benthos. *Proceedings of the Institute of Acoustics* 15 (Part 2): 237-252.
- Guillén, J.E., A.A. Ramos, L. Martínez & J. Sánchez Lizaso (1994) Antitrawling reefs and the protection of *Posidonia oceanica* (L.) Delile meadows in the western Mediterranean Sea: Demands and aims. *Bulletin of Marine Science* 55: 645-650.
- Guthrie, J.F. & C.W. Lewis (1982) The clam-kicking fishery of North Carolina. *Marine Fisheries Review* 44(1): 16-21.
- Hagler, M. (1995) Deforestation of the deep, fishing and the state of the oceans. *Ecologist* 25 (2-3): 74-79.
- Haig-Brown, A., S. Chambers, M. Drouin & B. Warren (1999) The future of trawling. *Pacific Fishing* 20(12): 30-46.
- Hall, S.J. (1994) Physical disturbance and marine benthic communities: Life in unconsolidated sediments. *Oceanography and Marine Biology Annual Review* 32: 179-239.
- Hall, S.J. (1999) *Effects of Fishing on Marine Ecosystems and Communities*. Fishing News Books, Oxford.
- Hall, S.J., D.J. Basford & M.R. Robertson (1990) The impacts of hydraulic dredging for razor clams *Ensis* sp. on an infaunal community. *Netherlands Journal of Sea Research* 27: 119-125.
- Hall, S.J. & M.J.C. Harding (1997) Physical disturbance and marine benthic communities: The effects of mechanical harvesting of cockles on non-target benthic infauna. *J. Applied Ecology* 34: 497-517.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Hall, S.J., I.R. Poiner, M.J. Kaiser, J.S. Collie & F. Pantus (*In press* 2000) Global distribution and ecological significance of bottom-fishing disturbance. *ICES Journal of Marine Science*
- Hall, S.J., D. Raffaelli & S.F. Thrush (1993a) Patchiness and disturbance in shallow water benthic assemblages. *In: A.G. Hildrew, D. Raffaelli & P.S. Giller (eds.) Aquatic Ecology: Scale, Pattern and Process*. Blackwell, Oxford: 333-375.
- Hall, S.J., M.R. Robertson, D.J. Basford & S.D. Heaney (1993b) The possible effects of fishing disturbance in the northern North Sea: An analysis of spatial patterns in community structure around a wreck. *Netherlands Journal of Sea Research* 31: 201-208.
- Hall-Arber, M. & J. Pederson (1999) Habitat observed from the decks of fishing vessels. *Fisheries* 24(6): 6-13.
- Hall-Spencer, J. (1995) Evaluation of the direct impact of fishing gears on the substratum and on the benthos. *European Commission Report Reference No. PEM/93/08*: 120p.
- Hall-Spencer, J. (1998) Conservation issues relating to maerl beds as habitats for molluscs. *Journal of Conchology Special Publication 2*: 271-286.
- Hall-Spencer, J., V. Allain & J.H. Fosså (2002) Trawling damage to northeast Atlantic ancient coral reefs. *Proceedings of the Royal Society of London Series B* 269: 507-511.
- Hall-Spencer, J., C. Froggia, R.J.A. Atkinson & P.G. Moore (1999) The impact of Rapido trawling for scallops, *Pecten jacobaeus* (L.), on the benthos of the Gulf of Venice. *ICES Journal of Marine Science* 56: 111-124.
- Hall-Spencer, J.M. & P.G. Moore (2000a) Impact of scallop dredging on maerl grounds. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 105-117.
- Hall-Spencer, J.M. & P.G. Moore (2000b) Scallop dredging has profound, long-term impacts on maerl habitats. *ICES Journal of Marine Science* 57: 1407-1415.
- Halliday, I.A. (1995) Influence of natural fluctuations in seagrass cover on commercial prawn nursery grounds in a subtropical estuary. *Marine and Freshwater Research* 46: 1121-1126.
- Hamon, D., P. Berthou & S. Fifas (1991) Etude de l'impact des engins de pêche traînants en zone côtière. Cas particulier du chalutage en baie de Saint-Brieuc (Manche Ouest). *ICES CM* 1991/B:27.
- Hansson, M., M. Lindegarth, M. Valentinsson & M. Ulmestrand (2000) Effects of shrimp-trawling on abundance of benthic macrofauna in Gullmarsfjorden, Sweden. *Marine Ecology Progress Series* 198: 191-201.
- Harper, D.E. & S.H. Hopkins (1976) The effects of oyster shell dredging on macrobenthic and nektonic organisms in San Antonio Bay. *In: A.H. Bouma (ed.) Shell Dredging and its Influence on Gulf Coast Environments*. Gulf Publishing Company, Houston, Texas: 232-279.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Harris, A.N. & I.R. Poiner (1991) Changes in species composition of demersal fish fauna of southeast Gulf of Carpentaria, Australia, after 20 years of fishing. *Marine Biology* 111: 503-519.
- Harrison, P.H., K.W. Strong & K.A. Jenner (1991) A review of fishing related disturbance on the Grand Banks of Newfoundland. *Contractor's report to the Department of Fisheries and Oceans*.
- Hastings, K., P. Hesp & G.A. Kendrick (1995) Seagrass loss associated with boat moorings at Rottneest Island, Western Australia. *Ocean and Coastal Management* 26: 225-246.
- Haven, D.S. (1970) A study of hard and soft clam resources of Virginia. *U.S. Fish & Wildlife Service, Comm. Fish. Res. Develop., Act. Ann. Rep., Contr. no. 3-77-R-1*: 69p.
- Heesen, H.J.L. (1988) Fishery effects. In: W. Salomons *et al.* (eds) *Pollution of the North Sea: An Assessment..* Springer-Verlag, Berlin: 538-550.
- Heifetz, J. (ed.) (1997) Workshop on the potential effects of fishing gear on benthic habitat. *Alaska Fisheries Science Center, National Marine Fisheries Service, NOAA, Processed Report 97-04*: 17 p.
- Heilgenberg, T. (1987) Effects of mechanical and manual harvesting of lugworms *Arenicola marina* L. on the benthic fauna of tidal flats in the Dutch Wadden sea. *Biological Conservation* 39: 165-177.
- Heip, C., D. Basford, J.A. Craeymeersch, J.-M. Dewarumez, J. Dörjes, P. de Wilde, G. Duineveld, A. Eleftheriou, P.M.J. Herman, U. Niermann, P. Kingston, A. Künitzer, E. Rachor, H. Rumohr, K. Soetaert & T. Soltwedel (1992) Trends in biomass, density and diversity of North Sea macrofauna. *ICES Journal of Marine Science* 49: 13-22.
- Heise, S., C. Koch, P. Krost & L. Piker (1996) [Influences of fisheries and aquaculture on the marine environment]. *Umweltbundesamt, Berlin* 46: 136p. [In German]
- Hemmings, C.C. (1973) Direct observation of the behaviour of fish in relation to fishing gear. *Helgol. Wissen. Unter.* 24: 348-360.
- Herrington, W.C. (1932) Conservation of immature fish in otter trawling. *Transactions of the American Fisheries Society* 62.
- Herrington, W.C. (1947) The role of intraspecific competition and other factors in determining the population level of a major marine species. *Ecological Monographs* 17: 317-323.
- Hess, N.A., C.A. Ribic & I. Vining (1999) Benthic marine debris, with an emphasis on fishery-related items, surrounding Kodiak Island, Alaska, 1994-1996. *Marine Pollution Bulletin* 38: 885-890.
- Hewitt, J.E., R.D. Pridmore, S.F. Thrush & V.J. Cummings (1997) Assessing the short-term stability of spatial patterns on macrobenthos in a dynamic estuarine system. *Limnology and Oceanography* 42: 282-288.
- High, W.L. (1981) Wreck-netters capture more fish than they know. *National Fisherman* November 1981: 122.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- High, W.L. (1985) Some consequences of lost fishing gear. *In: R.S. Shomura & H.O. Yoshida (eds.) Proceedings of the Workshop on the Fate and Impact of Marine Debris, 26-29 November 1984, Honolulu, Hawaii.* NOAA-TM-NMFS-SWFC-54: 430-437.
- High, W.L. (1998) Observations of a scientist/diver on fishing technology and fisheries biology. *NOAA, NMFS, AFSC Processed Report 98-01: 47p.*
- Higman, J.B. (1952) Preliminary investigations of the live bait shrimp fishery of Florida Bay and the Keys. *Report to the Florida State Board of Conservation by the Marine Laboratory, University of Miami: 8p.*
- Higman, J.B. (1955) Observations on the live bait shrimp industry of Pasco and Pinellas Counties, Florida. *Report to the Florida State Board of Conservation by the Marine Laboratory, University of Miami: 4p.*
- Hill, A.S., A.R. Brand, L.O. Veale & S.J. Hawkins (1997) Assessment of the effects of scallop dredging on benthic communities. *University of Liverpool Final Report to MAFF, Contract CSA 2332: 112p.*
- Hill, A.S., A.R. Brand, U.A.W. Wilson, L.O. Veale & S.J. Hawkins (1996) Estimation of by-catch composition and the numbers of by-catch animals killed annually on Manx scallop fishing grounds. *In: S.P.R. Greenstreet & M.L. Tasker (eds.) Aquatic Predators and Their Prey.* Fishing News Books, Oxford: 111-115.
- Hill, A.S., L.O. Veale, D. Pennington, S.G. Whyte, A.R. Brand & R.G. Hartnoll (1999) Changes in Irish Sea benthos: possible effects of 40 years of dredging. *Estuarine Coastal and Shelf Science* 48: 739-750.
- Hily, C., P. Potin & J.-Y. Floc'h (1992) Structure of subtidal algal assemblages on soft-bottom sediments: fauna/flora interactions of role of disturbances in the Bay of Brest, France. *Marine Ecology Progress Series* 85: 115-130.
- Hingco, T.G. & R. Rivera (1991) Aquarium fish industry in the Philippines: Toward development or destruction? *ICLARM Conference Proceedings* 22: 249-253.
- Hoffman, E. (1994) A marine ecosystem and an economic and ethnological analysis of the consequences of utilizing its biological resources. *ICES CM.*
- Hoffman, E. & P. Dolmer (2000) Effect of closed areas on distribution of fish and epibenthos. *ICES Journal of Marine Science* 57: 1310-1314.
- Holland, F. (1997) Reef wreckers. *New Scientist* 156(2105): 5.
- Hollingsworth, C.E. (ed.) (2000) Ecosystem effects of fishing. *ICES Journal of Marine Science Symposium Edition* 57: 465-792.
- Holme, N.A. (1983) Fluctuations in the benthos of the western English Channel. *Proceedings 17th European Marine Biology Symposium, Brest, France, 27 September – 1 October, 1982. Oceanologica Acta special issue: 121-124.*
- Holmes, B. (1997) Destruction follows in trawlers' wake. *New Scientist* (2086): 4.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Holtmann, S.E., J.J.M. Belgers, B. Kracht & R. Daan (1996) The macrobenthic fauna in the Dutch sector of the North Sea in 1995 and a comparison with previous data. *Reports of the Netherlands Institute of Sea Research*
- Holstein, J.D. (1979) Kokkelvisserij in de Nederlandse kustwateren. *Visserij* 32(7/8): 482-499.
- Horwood, J.W. (2000) No-take zones: A management context. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 302-311.
- Houghton, R.G., T. Williams & R.W. Blacker (1971) Some effects of double beam trawling. *ICES CM* 1971/B:5.
- Howell, R. (1985) The effect of baitdigging on the bioavailability of heavy metals from the surface of intertidal marine sediments. *Marine Pollution Bulletin* 16: 292-295.
- Hsiao, Y.M., J.E. Easley & T. Johnson (1987) Testing for harmful effects of clam and scallop harvesting techniques in the North Carolina bay scallop fishery. *North American Journal of Fisheries Management* 7: 187-193.
- Huber, M.E. (1994) An assessment of the status of the coral reefs of Papua New Guinea. *Marine Pollution Bulletin* 29(1-3): 69-73.
- Hudson, J.H. & R. Diaz (1988) Damage survey and restoration of M/V *Wellwood* grounding site, Molasses Reef, Key Largo National Marine Sanctuary, Florida. In: *Proceedings of the Sixth International Coral Reef Symposium, Townsville, Australia, 8-12 August 1988*. 2: 231-236.
- Hughes, R.N. & M.I. Croy (1993) An experimental analysis of frequency-dependent predation (switching) in the 15-spined stickleback, *Spinachia spinachia*. *Journal of Animal Ecology* 62: 341-352.
- Hurley, S.J., K.D. Gilkinson & M.J. Paulin (1997) Shell strength index tests on selected Grand Banks bivalves. *Contract report for Department of Fisheries and Oceans, C-Core Publication* 96-C35.
- Hutchings, P.A. (1990) Review of the effects of trawling on macrobenthic epifaunal communities. *Australian Journal of Marine and Freshwater Research* 41: 111-120.
- Industrial Science Division (1990) The impact of commercial trawling on the benthos of Strangford Lough. *Industrial Science Division (Lisburn, County Antrim, Northern Ireland), Interim Report* No. TI/3160/90.
- Ismail, N.S. (1985) The effects of hydraulic dredging to control oyster drills on benthic macrofauna of oyster grounds in Delaware Bay, New Jersey. *Internationale Review der Gesamten Hydrobiologie* 70: 379-395.
- Jaap, W.C. & J. Wheaton (1975) Observations on Florida reef corals treated with fish-collecting chemicals. *Florida Marine Research Publications* 10: 18p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Jackson, M.J. & R. James (1979) The influence of bait digging on cockle, *Cerastoderma edule*, populations in North Norfolk. *Journal of Applied Ecology* 16: 671-679.
- Jamieson, G.S. & A. Campbell (1985) Sea scallop fishing impact on American lobsters in the Gulf of St. Lawrence. *U.S. Fishery Bulletin* 83: 575-586.
- Jamieson, G.S., M. Etter & R.A. Chandler (1981) The effect of scallop fishing on lobsters in the western Northumberland Strait. *Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) Research Document* 81/71.
- Jenkins, G.P., G.J. Edgar, H.M.A. May & C. Shaw (1993) Ecological basis for parallel declines in seagrass habitat and catches of commercial fish in western Port Phillip Bay, Victoria. In: D.A. Hancock (ed.) *Sustainable Fisheries Through Sustaining Fish Habitat*. Australian Government Publishing Service, Canberra: 124-136.
- Jenkins, S.R., B.D. Beukers-Stewart & A.R. Brand (2001) Impact of scallop dredging on benthic megafauna: A comparison of damage levels in captured and non-captured organisms. *Marine Ecology Progress Series* 215: 297-301.
- Jenner, K., K.W. Strong & P. Pocklington (1991) A review of fishery related seabed disturbance in the Scotia-Fundy Region. *Industry Services and Native Fisheries Branch, Scotia-Fundy Region, Department of Fisheries & Oceans, Project Report* 166: pag.var.
- Jennings, S., J. Alvsvåg, A.J.R. Cotter, S. Ehrich, S.P.R. Greenstreet, A. Jarre-Teichmann, N. Mergardt, A.D. Rijnsdorp & O. Smedstad (1999) Fishing effects in northeast Atlantic shelf seas: Patterns in fishing effort, diversity and community structure. III. International trawling effort in the North Sea: An analysis of spatial and temporal trends. *Fisheries Research* 40: 125-134.
- Jennings, S. & A.J.R. Cotter (1999) Fishing effects in northeast Atlantic shelf seas: Patterns in fishing effort, diversity and community structure. I. Introduction. *Fisheries Research* 40: 103-106.
- Jennings, S., T.A. Dinmore, D.E. Duplisea, K.J. Warr & J.E. Lancaster (2001) Trawling disturbance can modify benthic production processes. *Journal of Animal Ecology* 70: 459-475.
- Jennings, S. & M.J. Kaiser (1998) The effects of fishing on marine ecosystems. *Advances in Marine Biology* 34: 201-352.
- Jennings, S., M.J. Kaiser & J.D. Reynolds (2001) *Marine Fisheries Ecology*. Blackwell Science, Oxford:
- Jennings, S. & J.M. Lock (1996) Population and ecosystem effects of fishing. In: N.V.C. Polunin & C.M. Roberts (eds.) *Reef Fisheries*. Chapman and Hall, London: 193-218.
- Jennings, S. & N.V.C. Polunin (1996) Impacts of fishing on tropical reef systems. *AMBIO* 25: 44-49.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Jennings, S. & N.V.C. Polunin (1997) Impacts of predator depletion by fishing on the biomass and diversity of non-target reef fish communities. *Coral Reefs* 16: 71- 82.
- Jennings, S. & J.D. Reynolds (2000) Impacts of fishing on diversity: From pattern to process. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 235-250.
- Jennings, S., K.J. Warr, S.P.R. Greenstreet & A.J.R. Cotter (2000) Spatial and temporal patterns in North Sea fishing effort. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 3-14.
- Johnson, S.W. (1990) Distribution, abundance, and source of entanglement debris and other plastics on Alaskan beaches, 1982-88. In: R.S. Shomura & M.L. Godfrey (eds.) *Proceedings of the Second International Conference on Marine Debris, 2-7 April 1989, Honolulu, Hawaii*. NOAA Technical Memorandum NMFS NOAA-TM-NMFS-SWFSC-154: 331-348.
- Johnston, S.A. (1981) Estuarine dredge and fill activities, a review of impacts. *Environmental Management* 5: 427-440.
- Jolley, J.W. (1972) Exploratory fishing for the sunray venus clam, *Macrocallista nimbosa*, in northwest Florida. *Florida Department of Natural Resources Technical Series* 67: 1-42.
- Jones, G. & S. Candy (1981) Effects of dredging on the macrobenthic infauna of Botany Bay. *Australian Journal of Marine and Freshwater Research* 32: 379-398.
- Jones, J.B. (1992) Environmental impact of trawling on the seabed: A review. *New Zealand Journal of Marine and Freshwater Research* 26: 59-67.
- Jones, M.M. (1995) Fishing debris in the Australian marine environment. *Marine Pollution Bulletin* 30(1): 25-33.
- Jones, N.S (1950) Marine bottom communities. *Biological Reviews* 25: 283-313.
- Jones, R.J., T. Kildea & O. Hoegh-Guldberg (1999) PAM chlorophyll fluorometry: A new *in situ* technique for stress assessment in scleractinian corals, used to examine the effects of cyanide from cyanide fishing. *Marine Pollution Bulletin* 38: 864-974.
- Jones, R.J. & A.L. Steven (1997) Effects of cyanide on corals in relation to cyanide fishing on reefs. *Marine and Freshwater Research* 48: 517-522.
- Josenhans, H., J. Zevenhuizen & B. MacLean (1991) Preliminary geological observations from recent surveys in the Gulf of St. Lawrence. *Continental Shelf Research* 11.
- Joubin, L. (1922a) Les coraux de mer profonde nuisibles aux chalutiers. *Notes et Mémoires. Office scientifique et technique des pêches maritimes*. 18: 16p.
- Joubin, L. (1922b) Distribution géographique de quelques coraux abyssaux dans les mer profonde occidentales européennes. *Compte rendu hebdomadaire des séances de l'Académie des sciences*. 175: 930-933.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Judy, C.C. (1989) Environmental assessment of oyster shell dredging in the upper Chesapeake Bay. *Journal of Shellfish Research* 8: 480. [Abstract only]
- Kaiser, M.J. (1996a) Starfish damage as an indicator of trawling intensity. *Marine Ecology Progress Series* 134: 303-307.
- Kaiser, M.J. (1996b) Effects of trawling on marine ecosystems. *Environmental Conservation* 23: 366-367.
- Kaiser, M.J. (1998) Significance of bottom-fishing disturbance. *Conservation Biology* 12: 1230-1235.
- Kaiser, M.J. (2000) The implications of the effects of fishing on non-target species and habitats. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 383-392.
- Kaiser, M.J., P.J. Armstrong, P.J. Dare & R.P. Flatt (1998) Benthic communities associated with a heavily fished scallop ground in the English Channel. *Journal of the Marine Biological Association of the United Kingdom* 78: 1045-1059.
- Kaiser, M.J., G. Broad & S.J. Hall (2001) Disturbance of intertidal soft-sediment benthic communities by cockle hand raking. *Journal of Sea Research* 45: 119-130.
- Kaiser, M.J., B. Bullimore, P. Newman, Lock & S. Gilbert (1996) Catches in 'ghost fishing' set nets. *Marine Ecology Progress Series* 145: 11-16.
- Kaiser, M.J., K. Cheney, F.E. Spence, D.B. Edwards & K. Radford (1999) Fishing effects in northeast Atlantic shelf seas: Patterns in fishing effort, diversity and community structure. VII. The effects of trawling disturbance on the fauna associated with the tubeheads of serpulid worms. *Fisheries Research* 40: 195-205.
- Kaiser, M.J. & S.J. de Groot (1999) *Effects of Fishing on Non-target Species and Habitats*. Fishing News Books, Oxford.
- Kaiser, M.J., D.B. Edwards, P.J. Armstrong, K. Radford, N.E.L. Lough, R.P. Flatt & H.D. Jones (1998) Changes in megafaunal benthic communities in different habitats after trawling disturbance. *ICES Journal of Marine Science* 55: 353-362.
- Kaiser, M.J., D.B. Edwards & B.E. Spencer (1996) A study of the effects of commercial clam cultivation and harvesting on benthic infauna. *Aquatic Living Resources* 9: 57-63.
- Kaiser, M.J., A.S. Hill, K. Ramsay, B.E. Spencer, A.R. Brand, L.O. Veale, K. Prudden, E.I.S. Rees, B.W. Munday, B. Ball & S.J. Hawkins (1996) Benthic disturbance by fishing gear in the Irish Sea: a comparison of beam trawling and scallop dredging. *Aquatic Conservation of Marine and Freshwater Ecosystems* 6: 269-285.
- Kaiser, M.J. & J. Horwood (1997) Damage limitation in the deep. *New Scientist* 156(2103): 55.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Kaiser, M.J., I. Laing, S.D. Utting & G.M. Burnell (1998) Environmental impacts of bivalve mariculture. *Journal of Shellfish Research* 17: 59-66.
- Kaiser, M.J. & K. Ramsay (1997) Opportunistic feeding by dabs within areas of trawl disturbance: possible implications for increased survival. *Marine Ecology Progress Series* 152: 307-310.
- Kaiser, M.J., K. Ramsay & R.N. Hughes (1998) Can fisheries influence interspecific competition in sympatric populations of hermit crabs? *Journal of Natural History* 32: 521-531.
- Kaiser, M.J., K. Ramsey, C.A. Richardson, F.E. Spence & A.R. Brand (2000) Chronic fishing disturbance has changed shelf sea benthic community structure. *Journal of Animal Ecology* 69: 494-503.
- Kaiser, M.J., K. Ramsay & B.E. Spencer (1996) Short-term ecological effects of beam trawl disturbance in the Irish Sea: a review. *ICES CM* 1996/Mini:5.
- Kaiser, M.J., S.I. Rogers & J.R. Ellis (1999) Importance of benthic habitat complexity for demersal fish assemblages. In: L. Beneka (ed.) *Fish Habitat: Essential fish habitat and rehabilitation. American Fisheries Society Symposium* 22: 212-223.
- Kaiser, M.J., S.I. Rogers & D.T. McCandless (1994) Improving quantitative surveys of epibenthic communities using a modified 2 m beam trawl. *Marine Ecology Progress Series* 106: 131-138.
- Kaiser, M.J., F.E. Spence & P.J.B. Hart (2000) Fishing gear restrictions and conservation of benthic habitat complexity. *Conservation Biology* 14: 1512-1525.
- Kaiser, M.J. & B.E. Spencer (1993a) A preliminary assessment of the immediate effects of beam trawling on a benthic community in the Irish Sea. *ICES CM* 1993/B:38.
- Kaiser, M.J. & B.E. Spencer (1993b) Opportunistic feeding on benthos by fishes after the passage of a 4-m beam trawl. *ICES CM* 1993/G:27.
- Kaiser, M.J. & B.E. Spencer (1994) Fish scavenging behaviour in recently trawled areas. *Marine Ecology Progress Series* 112: 41-49.
- Kaiser M.J. & B.E. Spencer (1995) Survival of by-catch from a beam-trawl. *Marine Ecology Progress Series* 126: 31-38.
- Kaiser M.J. & B.E. Spencer (1996a) Behavioural responses of scavengers to beam trawl disturbance. In: S.P.R. Greenstreet & M.L. Tasker (eds.) *Aquatic Predators and their Prey*. Fishing News Books, Oxford: 116-123.
- Kaiser, M.J. & B.E. Spencer (1996b) The effects of beam-trawl disturbance on infaunal communities in different habitats. *Journal of Animal Ecology* 65: 348-358.
- Kanehiro, H., T. Tokai & K. Matuda (1995) Marine litter composition and distribution on the seabed of Tokyo Bay. *Fish. Eng. (Japan)/Suisan Kogaku* 31(3): 195-199.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Kauwling, T.J. & G.J. Backus (1979) Effects of hydraulic clam harvesting in the Bering Sea. *Report prepared for the North Pacific Fishery Management Council, Tetra Tech Report TC3324*: 183p.
- Keegan, B.F., B. Van Marlen, M.J.N. Bergman, W. Zevenboom, R. Fonteyne, K. Lange & J. Browne (1998) Reduction of adverse environmental impact of demersal trawls. *In: Third European Marine Science and Technology Conference, Lisbon, 23-27 May 1998*. Fisheries and Aquaculture (FAIR: 1994-98) Vol. 6. European Commission DG 12 Science, Research and Development, Luxembourg (Luxembourg): 313-314
- Kenchington, E.L.R., J. Prena, K.D. Gilkinson, D.C. Gordon, K. MacIsaac, C. Bourbonnais, P.J. Schwinghamer, T.W. Rowell, D.L. McKeown & W.P. Vass (2001) The effects of experimental otter trawling on the macrofauna of a sandy bottom ecosystem on the Grand Banks of Newfoundland. *Canadian Journal of Fisheries and Aquatic Sciences* 58: 1043-1057.
- Kenchington, T.J. (1991) Some effects of bottom trawling on the availability of cod biomass to an inshore longline fishery: A discussion. *Northwest Atlantic Fisheries Organization SCR Document 91/101*, Serial No. N1993.
- Kenchington, T.J. (1995) A summary of the published evidence relating to habitat modification by fish draggers. *In: J. Richman (ed.) Let's Fix It*. South West Nova Fixed Gear Association, Shelburne, Nova Scotia: 109-116.
- Kenchington, T.J. (1997) The effects of bottom fishing on seabed communities: The scientific evidence. *Gadus Associates report prepared for the Endangered Spaces Campaign of World Wildlife Fund Canada*: iv+138p.
- Kenchington, T.J. (1999) The seabed impacts of fishing gear: The scientific evidence. *Gadus Associates report prepared for National Sea Products Ltd., Clearwater Fine Foods Inc. and the Seafood Producers Association of Nova Scotia*: viii+218p.
- Kenchington, T.J. & R.G. Halliday (1994) A survey of fishing practices in the Scotia-Fundy Region groundfish longline fisheries. *Canadian Manuscript Report of Fisheries and Aquatic Sciences* 2225: 642p.
- Kendall, J. (1998) Scallop dredge fishing. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 90-93.
- Ketchen, K.S. (1947) An investigation into the destruction of grounds by otter trawling gear. *Fisheries Research Board of Canada, Progress Reports of the Pacific Coast Stations* 73: 54-56.
- Kimani, E.N. (1995) Coral reef resources of east Africa: Kenya, Tanzania and the Seychelles. *Naga* 18(4): 4-7.
- Kimker, A. (1994) Tanner crab survival in closed pots. *Alaska Fishery Research Bulletin* 1(2): 179-183.
- Kingsford, M.J., A.J. Underwood & S.J. Kennelly (1991) Humans as predators on rocky reefs in New South Wales, Australia. *Marine Ecology Progress Series* 72: 1-14.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Klemanowicz, K.J. (1985) Effects of a mechanical oyster harvester on macrofaunal community structure. *MS Thesis, The College of Charleston, Charleston, South Carolina*: 102p.
- Klemanowicz, K.J. & G.H. Steele (1984) Effects of a mechanical oyster harvester on macrofaunal community structure. *Journal of Shellfish Research* 4: 92.
- Korotkow, W.K. & W.N. Martyschewski (1977) Results obtained by use of the underwater device "Atlant" for the study of how fish behave and how trawl net operate. *Fischerei-Forschung Schriftenreihe* 15: 39-43.
- Koslow, J.A., G.W. Boehlert, J.D.M. Gordon, R.L. Haedrich, P. Lorance & N. Parin (2000) Continental slope and deep-sea fisheries: Implications for a fragile ecosystem. *ICES Journal of Marine Science* 57: 548-557.
- Koslow, J.A. & K. Gowlett-Holmes (1998) The seamount fauna of southern Australia: Benthic communities, their conservation and impacts of trawling. *CSIRO Final Report to Environment Australia and the Fisheries Research Development Corporation, FRDC Project 95/058*: 104p.
- Koslow, J.A., K. Gowlett-Holmes, J.K. Lowry, T. O'Hara, G.C.B. Poore & A. Williams (2001) Seamount benthic macrofauna off southern Tasmania: Community structure and impacts of trawling. *Marine Ecology Progress Series* 213: 111-125.
- Kostylev, V.E., B.J. Todd, G.B.J. Fader, R.C. Courtney, G.D.M. Cameron & R.A. Pickrill (2001) Benthic habitat mapping on the Scotian Shelf based on multibeam bathymetry, surficial geology and sea floor photographs. *Marine Ecology Progress Series* 219: 121-137.
- Kotliar, N.B. & J. A. Wiens (1990) Multiple scales of patchiness and patch structure: a hierarchical framework for the study of heterogeneity. *OIKOS* 59: 253-260.
- Koutsoubas, D., C. Dounas, C. Arvanitidis, S. Kornilios, G. Petihakis, G. Triantafyllou & A. Eleftheriou (2000) macrobenthic community structure and disturbance assessment in Gialova Lagoon, Ionian Sea. *ICES Journal of Marine Science* 57: 1472-1480.
- Krieger, K.J. (2001) Coral (*Primnoa*) impacted by fishing gear in the Gulf of Alaska. In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) *Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 106-116.
- Kröncke, I. (1990) Macrofauna standing stock of the Dogger Bank. A comparison: II. 1951-1952 versus 1985-1987. Are changes in the community of the northeastern part of the Dogger Bank due to environmental changes? *Netherlands Journal of Sea Research* 25: 189-198.
- Kröncke, I. (1995) Long-term changes in North Sea benthos. *Senckenbergiana Maritima* 26(1-2): 73-80.
- Krost, P. (1990) [The impact of otter-trawl fishery on nutrient release from the sediment and macrofauna of Kieler Bucht (Western Baltic).] *Inst. für Meereskunde, Kiel Univ.*: 185p. [In German]

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Krost, P. (1990) [The impact of otter-trawl fishery on nutrient release from the sediment and macrofauna of Kieler Bucht (Western Baltic).] *Berichte aus dem Institut für Meereskunde an der Christian-Albrechts-Universität Kiel* 200: 167p. [In German]
- Krost, P. (1993) [The consequences of bottom trawl fisheries for the sediment and its exchange processes as well as for the benthic communities of Kiel Bight.] *In: Lukowicz, M.von (ed.) Einfluss der Fischerei auf Marine Oekosysteme* (57): 43-60. [In German]
Also sometimes cited as: *Arbeiten des Deutschen Fischerei-Verbandes* (57): 43-60.
- Krost, P., M. Bernhard, F. Werner & W. Hukriede (1990) Otter trawl tracks in Kiel Bay (Western Baltic), mapped by side-scan sonar. *Meeresforschung Reports on Marine Research* 32: 344-353.
- Krost, P. & H. Rumohr (1990) Effects on the benthos of physical disturbance of the sea bed. Annex to the Ninth Report of the Benthos Ecology Working Group. *ICES CM* 1990/L:95: 75-77.
- Kruse, G.H. & A. Kimker (1993) Degradable escape mechanisms for pot gear: a summary report to the Alaska Board of Fisheries. *Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report* 5J93-01.
- Kyte, M., P. Averill & T. Hendershott (1975) The impact of the hydraulic escalator shellfish harvester on an intertidal soft-shell clam flat in the Harraseeket River, Maine. *Department of Marine Research, Augusta, Maine, Project Completion Report*: 54p.
- Kyte, M.A. & K.K. Chew (1975) A review of the hydraulic escalator shellfish harvester and its known effects in relation to the soft shell clam, *Mya arenaria*. *Division of Marine Resources, University of Washington* WSG 75-2.
- Laban, C. & H.J. Lindeboom (1991) Penetration depth of beam trawl gear. *BEON Rapport* 13: 37-52.
- Lae, R. (1995) Climate and anthropogenic effects on fish diversity and fish yields in the central delta of the Niger River. *Aquatic Living Resources* 8: 43-58.
- Laist, D.W. (1996) Marine debris entanglement and ghost fishing: a cryptic and significant type of bycatch. *In: Solving Bycatch: Considerations for Today and Tomorrow. Alaska Sea Grant College Program Report* No. 96-03: 33-39.
- Laist, D.W., T.E. Bigford, G.W. Robertson & D.R. Gordon (1986) Management of corals and coral ecosystems in the United States. *Coastal Zone Management* 13(3-4): 203-239.
- Lambert, J. & P. Goudreau (1995) Performance of the New England hydraulic dredge for the harvest of Stimpson's surf clams (*Mactromeris polynyma*). *Canadian Industry Report of Fisheries and Aquatic Sciences* 235: vii+28p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Langan, R. (1998) The effect of dredge harvesting on eastern oysters and the associated benthic community. *In: E.M. Dorsey & J. Pederson (eds.) Effects of Fishing Gear on the Sea Floor of New England.* Conservation Law Foundation, Boston, Mass.: 108-110.
- Lange, K. & O. Gabriel (1997) Investigations with a modified roller gear for beamtrawls. *Informationen fur die Fischwirtschaft* 44(4): 168-170.
- Lange, K. & T. Mentjes (1998) Reduction of the adverse environmental impact of demersal trawls. *Informationen fur die Fischwirtschaft* 45(3): 121-122.
- Langton, R.W. (1994) Fishing effects on demersal fish habitats. *In: R.W. Langton, J.B. Pearce & J.A. Gibson (eds.) Selected living resources, habitat conditions, and human perturbations of the Gulf of Maine. NOAA Technical Memorandum NMFS-NE-106: 7-8.*
- Langton, R.W. & P.J. Auster (1999a) Marine fishery and habitat interactions: To what extent are fisheries and habitat interdependent. *Fisheries, Bethesda* 24(6): 14-21.
- Langton, R.W. & P.J. Auster (1999b) Managing essential fish habitat: what are the next steps? *Fisheries* 24(6): 30-31.
- Langton, R., P.J. Auster & D.C. Schneider (1995) A spatial and temporal perspective on research and management of groundfish in the northwest Atlantic. *Reviews in Fisheries Science* 3: 201-229.
- Langton, R.W., R.K. Knowles & K.J. Ward (1989) Examination and ecology of potential nursery areas along coastal Maine for groundfish. *Report for Maine Department of Marine Resources* 3-426H: 114 p.
- Langton, R.W. & W.E. Robinson (1988) Ecology of the sea scallop, *Placopecten magellanicus* (Gmelin, 1791) in the Gulf of Maine, U.S.A. – a preliminary report. *In: I. Babb & M. DeLuca (eds.) Benthic Productivity and Marine Resources of the Gulf of Maine. National Undersea Research Program Research Report* 88-3: 243-255.
- Langton, R.W. & W.E. Robinson (1990) Faunal associations on scallop grounds in the Gulf of Maine. *Journal of Experimental Marine Biology and Ecology* 144: 157-171.
- Langton, R.W., R.S. Steneck, V. Gotceitas, F. Juanes & P. Lawton (1996) The interface between fisheries research and habitat management. *North American Journal of Fisheries Management* 16: 1-7.
- Laurenson, L.J.B., P. Unsworth, J.W. Penn & R.C.J. Lenanton (1993) The impact of trawling for saucer scallops and western king prawns on the benthic communities in coastal waters off south-western Australia. *Fisheries Research Report, Fisheries Department of Western Australia, Report* 100: 93p.
- Lawrence, P., K.W. Strong, P. Pocklington, P. Stewart & G. Fader (1989) A photographic atlas of the eastern Canadian continental shelf: Scotian Shelf and Grand Banks of Newfoundland. *Geological Survey of Canada Open File* 2054.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Le Danois, E. (1948) *Les profondeurs de la mer*. Paybot, Paris: 303p.
- Leach, M. (1998) Bottom longline fishing. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 96-98.
- Lenihan, H.S. & M. Fiorenza (2000) Biological effects of shellfish harvesting on oyster reefs: resolving a fishery conflict by ecological experimentation. *Fishery Bulletin* 98: 86-95.
- Lenihan, H.S. & C.H. Peterson (1998) How habitat degradation through fishery disturbance enhances impacts of hypoxia on oyster reefs. *Ecological Applications* 8(1): 128-140.
- Levin, L.A. (1984) Life history and dispersal patterns in a dense subfaunal polychaete assemblage: Community structure and response to disturbance. *Ecology* 65: 1185-1200.
- Levitan, D.R. (1992) Community structure in times past: Influence of human fishing pressure on algal-urchin interactions. *Ecology* 73: 1597-1605.
- Levy, S. (1998) Watery wastelands. *New Scientist* 158: 40-44.
- Lewis, A.R. (1998) Effects of experimental coral disturbance on the population dynamics of fishes on large patch reefs. *Journal of Experimental Marine Biology and Ecology* 230: 91-110.
- Lindeboom, H.J. (1989) Towards a clean but empty North Sea. *Proceedings of the Third North Sea Seminar, Rotterdam*.
- Lindeboom, H.J. (1995) Protected areas in the North Sea: An absolute need for future marine research. *Helgoländer Meeresuntersuchungen* 49: 591-602.
- Lindeboom, H.J. (2000) The need for closed areas as conservation tools. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 290-301.
- Lindeboom, H.J. & S.J. de Groot (eds.) (1998) IMPACT-II: The effects of different types of fisheries on the North Sea and Irish Sea benthic ecosystems. *NIOZ-Rapport 1998-1, RIVO-DLO Report C003/98*: iv+404p.
- Lindgarth, M., D. Valentinsson, M. Hansson & M. Ulemstrand (2000a) Effects of trawling disturbance on temporal and spatial structure of benthic soft-sediment assemblages in Gullmarsfjorden, Sweden. *ICES Journal of Marine Science* 57: 1369-1376.
- Lindgarth, M., D. Valentinsson, M. Hansson & M. Ulemstrand (2000b) Interpreting large-scale experiments on effects of trawling on benthic fauna: An empirical test of the potential effects of spatial confounding in experiments without replicated control and trawled areas. *Journal of Experimental Marine Biology and Ecology* 245:155-169.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Lindholm, J.B. (1999) Habitat-mediated survivorship of juvenile Atlantic cod (*Gadus morhua*): Fish population responses to fishing-induced alteration of the seafloor in the northwest Atlantic and implications for the design of marine protected areas. *Dissertation Abstracts International Part B: Science and Engineering* 59(12): 6168.
- Lindholm, J.B., P.J. Auster & L.S. Kaufman (1999) Habitat-mediated survivorship of juvenile (0-year) Atlantic cod *Gadus morhua*. *Marine Ecology Progress Series* 180: 247-255.
- Lindholm, J., P. Auster, L. Kaufman & M. Ruth (1998a) Post-settlement survivorship of juvenile Atlantic cod and the design of Marine Protected Areas. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 123-128.
- Lindholm, J., P. Auster, L. Kaufman & M. Ruth (1998b) A modelling approach to the design of marine refugia for fishery management. In: N.W. Munro & J.H.M. Willison (eds.) *Linking Protected Areas with Working Landscapes, Conserving Biodiversity*. Science and Management of Protected Areas Association, Wolfville, Nova Scotia.
- Lindholm, J., P. Auster, M. Ruth & L. Kaufman (2001) Modeling the effects of fishing and implications for the design of marine protected areas: Juvenile fish response to variations in seafloor habitat. *Conservation Biology* 15: 424-437.
- Lindley, J.A., J.C. Gamble & H.G. Hunt (1995) A change in the zooplankton of the central North Sea (55° to 58° N): A possible consequence of changes in the benthos. *Marine Ecology Progress Series* 119: 299-303.
- Linnane, A., B. Ball, B. Munday, B. van Marlen, M. Bergman & R. Fonteyne (2000) A review of potential techniques to reduce the environmental impacts of demersal trawls. *Irish Fisheries Investigations (New Series)* 7: 39p.
- Long, B.G., D.M. Dennis, T.D. Skewes & I.R. Poiner (1996) Detecting an environmental impact of dredging on seagrass beds with a BACIR sampling design. *Aquatic Botany* 53: 235-243.
- Lopez, J.E. & J. Mejuto (1988) Infaunal benthic recolonization after dredging operations in La Corunna Bay, NW Spain. *Cahiers de Biologie Marine* 29: 37-49.
- Lough, R.G., P.C. Valentine, D.C. Potter, P.J. Auditore, G.R. Bolz, J.D. Neilson & R.I. Perry (1989) Ecology and distribution of juvenile cod and haddock in relation to sediment type and bottom currents on eastern Georges Bank. *Marine Ecology Progress Series* 56: 1-12.
- Low, L.L., R.E. Nelson & R.E. Narita (1985) Net loss from trawl fisheries off Alaska. In: R.S. Shomura & H.O. Yoshida (eds.) *Proceedings of the Workshop on the Fate and Impact of Marine Debris, 26-29 November 1984, Honolulu, Hawaii*. NOAA-TM-NMFS-SWFC-54: 130-153.
- MacConnaughey, R.A., K.L. Mier & C.B. Drew (2000) An examination of chronic trawling effects on soft-bottom benthos of the eastern Bering Sea. *ICES Journal of Marine Science* 57: 1377-1388.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- MacDonald, D.S. (1993) Ecological studies on the effects of scallop dredging on the benthos of the north Irish Sea. *PhD Thesis, University of Liverpool*: 224p.
- MacDonald, D.S., M. Little, N. C. Eno & K. Hiscock (1996) Disturbance of benthic species by fishing activities: a sensitivity index. *Aquatic Conservation: Marine and Freshwater Ecosystems* 6: 257-268.
- MacKenzie, C.L. (1982) Compatibility of invertebrate populations and commercial fishing for ocean quahogs. *North American Journal of Fisheries Management* 2: 270-275.
- Maclean, J.L. (1988) Blast fishing and poisoning threaten the Philippines' last undersea wilderness area. *Naga* 11(4): 14-15.
- MacPhail, J.S. & J.C. Medcof (1962) Fishing efficiency trials with a hydraulic clam (*Mya*) rake. *Fisheries Research Board of Canada Manuscript Report* 724: 16p.
- Magorrian, B.H. (1995) The impact of commercial trawling on the benthos of Strangford Lough. *Doctoral dissertation, The Queen's University of Belfast*.
- Maier, P.P., P.H. Wendt, W.A. Roumillat, G.H. Steele, M.V. Levisen & R. Van Dolah (1998) *Effects of Subtidal Mechanical Clam Harvesting on Tidal Creeks*. South Carolina Department of Natural Resources, Marine Resources Division: 38p.
- Main, J. & G.I. Sangster (1979a) The value of direct observation techniques by divers in fishing gear research. *Scottish Fisheries Research Report* 12: 15p.
- Main, J. & G.I. Sangster (1979b) A study of bottom trawling gear on both sand and hard ground. *Scottish Fisheries Research Report* 14: 15p.
- Main, J. & G.I. Sangster (1981) A study of the sand clouds produced by trawl boards and their possible effect on fish capture. *Scottish Fisheries Research Report* 20: 20p.
- Main, J. & G.I. Sangster (1982) Multi-level bottom trawl for species separation using direct observation techniques. *Scottish Fisheries Research Report* 26: 17p.
- Main, J. & G.I. Sangster (1983) Fish reactions to trawl gear – A study comparing light and heavy ground gear. *Scottish Fisheries Research Report* 27: 17p.
- Malakoff, D. (1998) Papers posit grave impact of trawling. *Science* 282: 2168.
- Malatesta, R.J., P.J. Auster & B. Carlin (1992) Analysis of transect data for microhabitat correlations and faunal patchiness. *Marine Ecology Progress Series* 87: 189-195.
- Malatesta, R.J., P.J. Auster & S.C. LaRosa (1994) Temporal variation in microhabitat use by a coastal megafaunal assemblage (Middle Atlantic Bight, USA): An experimental approach. *In: Proceedings of the American Academy of Underwater Sciences, Costa Mesa, California*. American Academy of Underwater Sciences: 41-58.
- Manire, C.A. & R.E. Hueter (1995) Human impact on the shark nursery grounds of Tampa Bay. *Florida Science* 58: 107.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Manning, J.H. (1957) The Maryland soft-shell clam industry and its effects on tidewater resources. *Maryland Dep. Res. Ed., Resource Studies Report* 11: 25p.
- Manning, J.H. & E.E. Dunnington (1955) The Maryland soft-shell clam fishery: A preliminary investigational report. *Proceedings of the National Shellfish Association* 46: 100-110.
- Manning, J.H. & K.A. McIntosh (1960) Evolution of a method of reducing the powering requirements of soft-shelled clam dredging. *Chesapeake Science* 1: 12-20.
- Manning, J.H. & H.T. Pfitzenmeyer (1958) The Maryland soft-shell clam industry: Its potentials and problems. *Proceedings of the National Shellfish Association* 48(145): 110-114.
- Manzi, J.J., V.G. Burrell, K.J. Lemanowicz, N.H. Hadley & J.A. Collier (1985) Impacts of a mechanical harvester on intertidal oyster communities in South Carolina. *Final Report: Coastal Energy Impact Program, Contract # CEIP-83-06*. Governor's Office, Columbia, South Carolina.
- Mapstone, B., C. Davies & J. Robertson (1997) The effects of line fishing on the Great Barrier Reef: available evidence and future directions. In: *The Great Barrier Reef- Science, Use and Management. A National Conference. Proceedings. Volume 1. Invited Papers*. GBRMPA, Townsville: 178-194.
- Margetts, A.R. & J.P. Bridger (1971) The effect of a beam trawl on the sea bed. *ICES CM* 1971/B:8.
- Martin, M.A., J.L. Sanchez Lizaso & A.A. Ramos Espla (1997) Quantification of the impact of otter trawling on *Posidonia oceanica* (L.) Delile, 1813 seagrass meadows. *Publicaciones Especiales Instituto Espanol de Oceanografia* 23: 243-253. [In Spanish with English abstract]
- Matishov, G.G. & L.G. Pavlova (1994) Degradation of ecosystems of the north European seas under the effects of fishing and pathways for their recovery. *Izvestiya Akademii Nauk Seriya Biologicheskaya* 1: 119-126.
- May, A.W. (1967) Effects of offshore fishing on the inshore Labrador cod fishery. *ICNAF Research Bulletin* 4: 67-75.
- May, E.B. (1973) Environmental effects of hydraulic dredging in estuaries. *Alabama Marine Research Bulletin* 9: 1-85.
- Mayer, L.M., D.F. Schick, R.H. Findlay & D.L. Rice (1991) Effects of commercial dragging on sedimentary organic matter. *Marine Environmental Research* 31: 249-261.
- McAllister, D.E. (1988) Environmental, economic and social costs of coral reef destruction in the Philippines. *Galaxea* 7: 161-178.
- McAllister, D.E. (1991) Questions about the impacts of trawling. *Sea Wind* 5(2): 28-32.
- McAllister, D.E. (1995) Status of the world ocean and its biodiversity. *Sea Wind* 9: 1-72.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- McAllister, D.E. & A. Alfonso (2001) The distribution and conservation of deep-water corals on Canada's west coast. *In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 126-144.
- McAllister, D.E. & G. Spiller (1994) Trawling and dredging impacts on fish habitat and bycatch. *In: P.G. Wells & P.J. Ricketts (eds.) Coastal Zone Canada*, Coastal Zone Canada Association, Dartmouth 4: 1709-1718.
- McCandless, D.T. (1992) Impact of bottom fishing on the benthos. *M.S. Thesis, University of Wales, Bangor*.
- McConnaughey, R.A., K.L. Mier & C.B. Dew (2000) An examination of chronic trawling effects on soft-bottom benthos of the eastern Bering Sea. *ICES Journal of Marine Science* 57: 1377-1388.
- McIntyre, A.D. & A. Eleftheriou (1968) The bottom fauna of a flatfish nursery ground. *Journal of the Marine Biological Association of the United Kingdom* 48: 113-142.
- McKay, D.W. (1992) Report on a survey around Scotland of potentially exploitable burrowing bivalve molluscs. *Fisheries Research Services Report* 1/92.
- McKenna, J.E. (1997) Influence of physical disturbance on the structure of coral reef fish assemblages in the Dry Tortugas. *Caribbean Journal of Science* 33(1-2): 82-97.
- McKenzie, C.L. (1982) Compatibility of invertebrate populations and commercial fishing for ocean quahogs. *North American Journal of Fishery Management* 2(3): 270-275.
- McKeown D.L. & D.C. Gordon (1997) Grand Banks otter trawling impact experiment: II. Navigation procedures and results. *Canadian Technical Report of Fisheries and Aquatic Sciences* 2159: xi+79p.
- McLoughlin, R.J., P.C. Young, R.B. Martin & J. Parslow (1991) The Australian scallop dredge: estimates of catching efficiency and associated indirect fishing mortality. *Fisheries Research* 11: 1-24p.
- McLusky, D.S., F.E. Anderson & S. Wolfe-Murphy (1983) Distribution and population recovery of *Arenicola marina* and other benthic fauna after bait digging. *Marine Ecology Progress Series* 11: 173-179.
- McManus, J.W. (1988) Coral reefs of the ASEAN region: Status and management. *Ambio* 17(3): 189-193.
- McManus, J.W., L.A.B. Meñez, K.N. Kesner-Reyes, S.G. Vergara & M.C. Ablan (2000) Coral reef fishing and coral-algal phase shifts: Implications for global reef status. *ICES Journal of Marine Science* 57: 572-578.
- McManus, J.W., R.B. Reyes & C.L. Nanola (1997) Effects of some destructive fishing methods on coral cover and potential rates of recovery. *Environmental Management* 21(1): 69-78.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- McManus, L. & L.A. Menez (1989) Status of coralline resources in Lingayen Gulf. *ICLARM Conference Proceedings* 17: 63-70.
- McNeill, S.E. & J.D. Bell (1992) Comparison of beam trawls for sampling macrofauna of *Posidonia* seagrass. *Estuaries* 15: 360-367.
- McPhee, G.K. (1978) Synopsis of biological data for the winter flounder, *Pseudopleuronectes americanus* (Walbaum). *NOAA Technical Report NMFS Circular* 414: 43p.
- McShane, P. (1981) The effect of scallop dredging on the macrobenthos of a muddy environment in Port Phillip Bay. *Technical Report, Marine Science Laboratories, Queenscliff* 4: 16p.
- Medcof, J.C. (1961) Effects of hydraulic escalator harvester on undersized soft-shell clams. *Proceedings of the National Shellfish Association* 50: 151-161.
- Medcof, J.C. & N.F. Bourne (1964) Causes of mortality of the sea scallop *Placopecten magellanicus*. *Proceedings of the National Shellfish Association* 53: 33-50.
- Medcof, J.C. & J.F. Caddy (1971) Underwater observations on the performance of clam dredges of three types. *ICES CM* 1971/B:10.
- Medcof, J.C. & J.F. Caddy (1974) Underwater observations on performance of clam dredges of three types. *Fisheries Research Board of Canada Manuscript Report* 1313: 9p.
- Medcof, J.C. & J.S. MacPhail (1967) Fishing efficiency of clam hacks and mortalities incidental to fishing. *Proceedings of the National Shellfish Association* 55: 53-72.
- Mensink, B.P., C.V. Fisher, G.C. Cadée, M. Fonds, C.C. Ten Hallers-Tjabbes & J.P. Boon (2000) Shell damage and mortality in the common whelk *Buccinum undatum* caused by beam trawl fishery. *Journal of Sea Research* 43: 53-64.
- Merrett, N.R. & R.L. Haedrich (1997) *Deep-Sea Demersal Fish and Fisheries*. Chapman and Hall.
- Messieh, S.N., T.W. Rowell, D.L. Peer & P.J. Cranford (1991) The effects of trawling, dredging and ocean dumping on the eastern Canadian continental shelf seabed. *Continental Shelf Research* 11: 1237-1263.
- Meyer, D.L., M.S. Fonseca, P.L. Murphey, R.H. McMichael, M.M. Byerly, M.W. Lacroix, P.E. Whitfield & G. W. Thayer (1999) Effects of live-bait shrimp trawling on seagrass beds and fish bycatch in Tampa Bay, Florida. *U.S. Fishery Bulletin* 97: 193-199.
- Meyer, T.L., R.A. Cooper & K.J. Pecci (1981) The performance and environmental effects of a hydraulic clam dredge. *Marine Fisheries Review* 43(9): 14-22.
- Meyer, T.L., E.L. Anderson, J.W. Ropes & W.C. Phoel (1987) Underwater observations of a surf clam, *Spisula solidissima* (Dillwyn), community and the relative efficiency of a prototype airlift clam sampler. *Marine Fisheries Review* 43(9): 14-22.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Michaelis, H. (1978) Recent biological phenomena in the German Waddensea. *Rapport et Prôcess vérbéux de Réunion Conseil Internationale pour l'Exploration de la Mer* 172: 276-277.
- Miller, C. (2001) Marine Protected Area framework for deep-sea coral conservation. In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) *Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 145-155.
- Miller, R.O. (1987) Cruise report — Arctic Prowler: Teleglobe Canada survey for TAT-9. *Geological Survey of Canada Open File* 2013: 26p.
- Millner, R.S. (1985) The use of anchored gill and tangle nets in the sea fisheries of England and Wales. *Directorate of Fisheries Research, Lowestoft, England, Laboratory Leaflet* 57: 27p.
- Millner, R.S. & C.L. Whiting (1996) Long-term changes in growth and population abundance of sole in the North Sea from 1940 to the present. *ICES Journal of Marine Science* 53: 1185-1195.
- Mirarchi, F. (1998) Bottom trawling on soft substrates. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 80-84.
- Mistakidis, M.N. (1956) Survey of the pink shrimp fishery in Morcombe Bay. *Lancashire and Western Sea Fishery Joint Committee*: 14p.
- Moore, C.G., G.R. Saunders & D.B. Harries (1998) The status and ecology of reefs of *Serpula vermicularis* L. (Polychaeta: Serpulidae) in Scotland. *Aquatic Conservation: Marine and Freshwater Ecosystems* 8(5): 645-656.
- Moore, D.R. & H.R. Bullis (1983) A deep water coral reef in the Gulf of Mexico. *Bulletin of Marine Science of the Gulf and Caribbean* 10(1): 125-128.
- Moore, G. & S. Jennings (eds.) (2000) *Commercial Fishing: The Wifer Ecological Implications*. British Ecological Society (Ecological Issues Series) & Blackwell Science Ltd., Oxford: v+66p.
- Moore, J. (1990) Experimental studies of the impact of hydraulic cockle dredging on intertidal sediment flat communities. *Field Studies Council Research Report* FSC/RC/2/90.
- Moore, J. (1991) Studies of the impact of hydraulic cockle dredging on intertidal sediment flat communities. Final Report. *Nature Conservancy Council, CSD Report* No. 1256: 46p.
- Moran, M.J. & P.C. Stephenson (2000) Effects of otter trawling on macrobenthos and management of demersal scalefish fisheries on the continental shelf of north-western Australia. *ICES Journal of Marine Science* 57: 510-516.
- Moreno, C.A., J.P. Sutherland & H.F. Jara (1984) Man as predator in the intertidal zone of southern Chile. *Oikos* 42: 155-160.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Moreno, C.A., K.M. Lunecke & M.I. Lepez (1986) The response of an intertidal *Concholepas concholepas* (Gastropoda) population to protection from man in southern Chile and the effects on benthic sessile assemblages. *Oikos* 46: 359-364.
- Morgan, M.J., E.M. DeBlois & G.A. Rose (1997) An observation on the reaction of Atlantic cod (*Gadus morhua*) in a spawning shoal to bottom trawling. *Canadian Journal of Fisheries and Aquatic Sciences* Vol. 54(Supplement 1): 217-223.
- Morrell, T. (1998) Lobster trap fishing. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 94-95.
- Morton, B. (1994) Perturbated intertidal and shallow subtidal benthic communities in Hong Kong: The significance of gastropod scavengers. In: *Proceedings of the Second International Conference on the Marine Biology of the South China Sea, Guangzhou, China, 1993*. Ocean Press, Beijing.
- Morton, B. (1996) The subsidiary impacts of dredging (and trawling) on a subtidal benthic molluscan community in the southern waters of Hong Kong. *Marine Pollution Bulletin* 32(10): 701-710.
- Mouldane, A. (1978) A study of the effect of dredging on the benthic macrofauna in Saldanha Bay. *South African Journal of Science* 74: 106-108.
- Mounsey, R.P. & J. Prado (1997) Eco-friendly demersal fish trawling systems. *Fishery Technology* 34(2): 1-6.
- Munoz-Perez, J.J. et al. (2000) Position and monitoring of anti-trawling reefs in the Cape of Trafalgar (Gulf of Cadiz, SW Spain). *Bulletin of Marine Science* 67, 761-772.
- Munro, C. (1992) The reefs of Lyme Bay. Report on the nature conservation importance of the nearshore reefs and threats to the reef communities from mobile fishing gear. *Devon Wildlife Trust Report*.
- Munro, J.L., J.D. Parrish & F.H. Talbot (1987) The biological effects of intensive fishing upon reef fish communities. In: B. Salvat (ed.) *Human Impacts on Coral Reefs: Facts and Recommendations*. Antenne Museum, French Polynesia: 41-49.
- Murawski, S.A. & F.M. Serchuk (1989) Environmental effects of offshore dredge fisheries for bivalves. *ICES CM* 1989/K:27.
- National Research Council (1994) *Improving the Management of U.S. Marine Fisheries*. National Academy Press, Washington, D.C.
- National Research Council (1995) *Understanding marine biodiversity: A research agenda for the nation*. National Academy Press, Washington, D.C.
- Naughton, J. (1985) Blast fishing in the Pacific. *South Pacific Commission Fisheries Newsletter* 33: 16-20.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- New Hampshire Fish and Game Department (NHFGD) (No date) An assessment of the short term effects of otter trawling on large epibenthic invertebrates. *Completed Report of the New Hampshire Fish and Game Department*.
- Newton, R.S. & A. Stephanon (1975) Application of side-scan sonar in marine biology. *Marine Biology* 31: 287-291.
- Nickell, T.D. & P.G. Moore (1992) The behavioural ecology of epibenthic scavenging invertebrates in the Clyde Sea area: laboratory experiments on attractions to bait in moving water, underwater TV observations *in situ* and general conclusions. *Journal of Experimental Biology and Ecology* 159: 15-35.
- Nickerson, R.B. & T.J. Brown (1979) The effects of an experimental hydraulic harvester on marginal and submarginal razor clam (*Siliqua patula* Dixon) habitat on the Copper River Delta, Cordova, Alaska. *Information Leaflet, Alaska Department of Fish and Game* 179: 19p.
- Nielsen, A. (1990) *Coupon Bight Aquatic Preserve Management Plan*. Florida Department of Natural Resources, Contract NA89AA-D-CZ-228: 188p.
- Nilsson, H. & R. Rosenberg (*In press 2000*). The impact of trawling on marine soft bottoms analyzed with sediment-profile-imaging. *ICES Journal of Marine Science*.
- Nishihara, M. (1987) Natural and human interference with the coral reef and coastal environments in Okinawa. *Galaxea* 6: 311-321.
- Norse, E.A. (1996) A river that flows to the sea: The marine biodiversity movement. *Oceanography* 9: 5-9.
- Norse, E.A. (1997) Bottom trawling: The unseen worldwide plowing of the seabed. *New England Biolabs Transcript* 8(2): 8-9.
- Norse, E.A. & L. Watling (1999) Impacts of mobile fishing gear: the biodiversity perspective. In: L.R. Benaka (ed.) *Fish Habitat: Essential Fish Habitat and Rehabilitation*. American Fisheries Society Symposium 22, Bethesda, MD: 31-40.
- North Sea Task Force (1993) *North Sea Quality Status Report 1993*. Oslo and Paris Commissions, London. Olsen & Olsen, Fredensborg, Denmark.
- Northeast Region Essential Fish Habitat Steering Committee (2002) Workshop on the effects of fishing gear on marine habitats off the northeastern United States, October 23–25, 2001, Boston, Massachusetts. *Northeast Fisheries Science Center Reference Document* 02-01: v+86p.
- Northridge, S. (1991) The environmental impacts of fisheries in the European community waters. *MRAG Ltd. Report to the European Commission's Directorate General Environment, Nuclear Safety and Civil Protection*.
- Nzali, L.M., R.W. Johnstone & Y.D. Mgaya (1998) Factors affecting scleractinian coral recruitment on a nearshore reef in Tanzania. *Ambio* 27(8): 717-722.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- O'Boyle, R., K. Drinkwater, B. Petrie, T. Rowell & P. Vass (1992) The Atlantic Fisheries Adjustment Program. *Science Review of the Bedford Institute of Oceanography, the Halifax Fisheries Research Laboratory, and the St. Andrews Biological Station*. Department of Fisheries and Oceans, Dartmouth: 68-74.
- O'Brien, D.W.F. (1997) Fish bombing in Hong Kong—investigation and detection. *In: Proceedings of the First International Symposium on Marine Conservation*. Hong Kong Marine Conservation Society: 68-78.
- O'Connell, V.M., W. Wakefield & H. Greene (1998) The use of a no-take marine reserve in the eastern Gulf of Alaska to protect essential fish habitat. *In: M. Yoklavich (ed.) Marine harvest refugia for west coast rockfish: a workshop. NOAA Technical Memorandum NMFS-SWFSC-255: 127-134*.
- Oehman, M.C., A. Rajasuriya & O. Linden (1993) Human disturbances on coral reefs in Sri Lanka: A case study. *AMBIO* 22: 474-480.
- Orru, P. (1990) [Evidence for the degradation by drag-net fishing of the continental shelf of Orosei Gulf (eastern Sardinia)]. *In: A. Cossu, V. Gazales, & I. Milella (eds.) Parchi Marini del Mediterraneo: Aspetti Naturalistici e Gestionali: 247-255*. [In Italian.]
- Orth, R.J., K.A. Moore, D.J. Wilcox & J.R. Fishman (1998) Chincoteague Bay, Virginia: Effectiveness of the SAV sanctuary and revegetation of SAV habitat disturbed by clam dredging. *Unpublished report to Virginia Marine Resources Commission: 6p + figures*.
- Pajaro, M, C.M. Nozawa & R. Purgatorio (1995) Preliminary findings on the conservation status of some tropical marine aquarium fishes. *Third National Symposium in Marine Science of the Philippine Association of Marine Science, Philippine Scientist*.
- Palanques, A., J. Guillén & P. Puig (2001) Impact of bottom trawling on water turbidity and muddy sediment of an unfished continental shelf. *Limnology and Oceanography* 46: 1100-1110.
- Papatheodorou, G. (1997) [Seafloor remote sensing techniques and their applications on fisheries research]. 5th. *Hellenic Symposium on Oceanography and Fisheries. Kavala, Greece, April 15-18, 1997. Proceedings. Volume 2. Fisheries, Aquaculture, Inland Waters*. NCMR Association of Employees, Athens, Greece: 37-40. [In Greek with English summary.]
- Parrish, F.A. & T.K. Kazama (1992) Evaluation of ghost fishing in the Hawaiian lobster fishery. *U.S. Fishery Bulletin* 90: 720-725.
- Parry, G.D. & D.R. Currie (1992a) Interim report on the effects of scallop dredging on Port Phillip Bay. *Internal Report, Marine Science Laboratories, Queenscliff* 193: 67p.
- Parry, G.D. & D.R. Currie (1992b) The effect of scallop dredging on Port Phillip Bay. *Newsletter of the Australian Society of Fish Biology* 22(2): 46.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Paul, L.M.B. (1984) Investigations into escape vent effectiveness and ghost fishing in captive populations of the spiny lobster *Panulirus marginatus*. *Proceedings of the Resource Investigations of the Northwest Hawaiian Islands. University of Hawaii Honolulu, Hawaii Sea Grant Report MR-84-01*: 283-295.
- Paulin, M.J., K.D. Gilkinson & S.J. Hurley (1995) Physical model of trawl door/seabed interaction. *Contract report for Department of Fisheries and Oceans, C-Core Publication 95-C15*.
- Pearson, T.H., A.B. Josefson & R. Rosenberg (1985) Petersen's benthic stations revisited. I. Is the Kattegatt becoming eutrophic? *Journal of Experimental Marine Biology and Ecology* 92: 157-206.
- Pecci, K.J., R.A. Cooper, C.D. Newell, R.A. Clifford & R.J. Smolowitz (1978) Ghost fishing of vented and unvented lobster, *Homarus americanus*, traps. *Marine Fisheries Review Paper* 1307.
- Pederson, J. & M. Hall-Arber (1999) Fish habitat: A focus on New England fishermen's perspectives. In: L. Beneka (ed.) *Fish habitat: Essential fish habitat and rehabilitation. American Fisheries Society, Symposium* 22: 188-211.
- Pendleton, C. (1998) "The Edge of the Bottom" – Heavily trawled and consistently productive. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 138.
- Peres, J.-M. (1984) La regression des herbiers a *Posidonia oceanica*. In: C.F. Boudouresque, A.J. de Grissac & J. Olivier (eds.) *International Workshop on Posidonia oceanica Beds*. GIS Posidonie, Marseille 1: 445-454.
- Perkins, E.J. (1988) The impact of suction dredging upon the population of cockles, *Cerastoderma edule*, in Auchencairn Bay. *Report to the Nature Conservancy Council, Scotland Headquarters, from Solway Marine Investigations, Maryport, Cumbria*.
- Pet-Soede, L. & M.V. Erdmann (1998) Blast fishing in southwest Sulawesi, Indonesia. *Naga* 21(2): 4-9.
- Peterson, C.H., H.C. Summerson & S.R. Fegley (1983) Relative efficiency of two clam rakes and their contrasting impacts on seagrass biomass. *U.S. Fishery Bulletin* 81: 429-434.
- Peterson, C.H., H.C. Summerson & S.R. Fegley (1987) Ecological consequences of mechanical harvesting of clams. *U.S. Fishery Bulletin* 85: 281-298.
- Pfitzenmeyer, H.T. & K.G. Droebeck (1967) Some factors influencing reburrowing activity of soft-shell clam, *Mya arenaria*. *Chesapeake Science* 8: 193-199.
- Philippart, C.J.M. (1998) Long-term impacts of bottom fisheries on several by-catch species of demersal fish and benthic invertebrates in the south-eastern North Sea. *ICES Journal of Marine Science* 55: 342-352.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Pickett, G. (1973) The impact of mechanical harvesting on the Thames Estuary cockle fishery. *MAFF Laboratory Leaflet (New Series) 29*: 22p.
- Piet, G.J., J. Craeymeersch, J. Buijs & A.D. Rijnsdorp (1998) Changes in benthic invertebrate assemblage following the establishment of a protected area, the "plaice box". *ICES CM 1998/V:2*.
- Piet, G.J. & A.D. Rijsdorp (1998) Changes in the demersal fish assemblage in the south-eastern North Sea following the establishment of a protected area ("plaice box"). *ICES Journal of Marine Science 55*: 420-429.
- Piet, G.J., A.D. Rijnsdorp, M.J.N. Bergman, J.W. van Santbrink, J. Craeymeersch & J. Buijs (2000) A quantitative evaluation of the impact of beam trawling on benthic fauna in the southern North Sea. *ICES Journal of Marine Science 57*: 1332-1339.
- Pilskaln, C.H., J.H. Churchill & L.M. Mayer (1998) Resuspension of sediment by bottom trawling in the Gulf of Maine and potential geochemical consequences. *Conservation Biology 12*: 1223-1229.
- Pipitone, C., F. Badalamenti, G. D'Anna & B. Patti (1996) Divieto di pesca a strascico nel Golfo di Castellammare (Sicilia Nord-Occidentale): alcune considerazioni. *Biologia Marina Mediterranea 3*: 200-204.
- Pitcher, C.R., C.Y. Burrige, T.J. Wassenberg & I.R. Poiner (1997) The effects of prawn trawl fisheries on GBR seabed habitats. In: *The Great Barrier Reef, Science, Use and Management, a National Conference Proceedings*. Great Barrier Reef Marine Park Authority, Townsville: 107-123.
- Pitcher, C.R., I.R. Poiner, B.J. Hill & C.Y. Burrige (2000) Implications of the effects of trawling on sessile megazoobenthos on a tropical shelf in northeastern Australia. *ICES Journal of Marine Science 57*: 1359-1368.
- Poiner, I.R., J. Glaister, C.R. Pitcher, C. Burrige, T. Wassenberg, N. Gribble, B. Hill, S.J.M. Blaber, D.M. Milton, D. Brewer & N. Ellis (1998) The environmental effects of prawn trawling in the far northern section of the Great Barrier Reef: 1991-1996. Final report to GBRMPA and FRDC. *CSIRO Division of Marine Research, Queensland Department of Primary Industries Report*: 554 p.
- Poiner, I.R. & R. Kennedy (1984) Complex patterns of change in the macrobenthos of a large sand bank following dredging. *Marine Biology 78*: 335-352.
- Pope, J.G., D.S. MacDonald, N. Daan, J.D. Reynolds & S. Jennings (2000) Gauging the impact of fishing mortality on non-target species. *ICES Journal of Marine Science 57*: 689-698.
- Porter, K. (1998) A better urchin drag. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 117-118.
- Pranovi, F. & O. Giovanardi (1994) The impact of hydraulic dredging for short-necked clams, *Tapes* spp., on an infaunal community in the lagoon of Venice. *Sci. Marc. Barc. 58*: 345-353.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Pranovi, F. & O. Giovanardi (1995) [The bivalve fishery in Venice Lagoon: Effects and consequences]. *Biol. Mar. Mediterr.* 2: 121-122. [In Italian with English summary.]
- Pranovi, F., O. Giovanardi & G. Franceschini (1998) Recolonization dynamics in areas disturbed by bottom fishing gears. *Hydrobiologia* 375/376: 125-135.
- Pranovi, F., S. Raicevich, G. Franceschini, M.G. Farrace & O. Giovanardi (2000) Rapido trawling in the northern Adriatic Sea: Effects on benthic communities in an experimental area. *ICES Journal of Marine Science* 57: 517-524.
- Pratt, V.R. (1996) The growing threat of cyanide fishing in the Asia Pacific Region and emerging strategies to combat it. *Coastal Management of Tropical Asia* 6: 9-11.
- Prena, J., T.W. Rowell, P. Schwinghamer, K. Gilkinson & D.C. Gordon (1996) Grand Banks otter trawling impact experiment: I. Site selection process, with a description of macrofaunal communities. *Canadian Technical Report of Fisheries and Aquatic Sciences* 2094: viii+38 p.
- Prena, J., P. Schwinghamer, T.W. Rowell, D.C. Gordon, K.D. Gilkenon, W.P. Vass & D.L. McKeown (1999) Experimental otter trawling on a sandy bottom ecosystem of the Grand Banks of Newfoundland: analysis of trawl bycatch and effect on epifauna. *Marine Ecology Progress Series* 181: 107-124.
- Pringle, J.D. (1978) Aspects of the ecological impact of *Chondrus crispus* (Florideophyceae) harvesting in eastern Canada. In: A. Jensen & J.R. Stein (eds.) *Proceedings of the 9th International Seaweed Symposium, Santa Barbara, California*. Science Press, Princeton, N.J.: 225-232.
- Pringle, J.D. & D.J. Jones (1980) The interactions of lobster, scallop and Irish moss fisheries off Borden, Prince Edward Island. *Canadian Technical Report of Fisheries and Aquatic Sciences* 973: 17p.
- Pringle, J.D., D.J. Jones & P. Rowe (1981) Fishing power and ecological impact on Gulf *Chondrus* (Irish moss) of modified *Chondrus* dragrakes. *Canadian Manuscript Reports of Fisheries and Aquatic Sciences* 1601: 80p.
- Pringle, J.D., J. Murchison & D. Jones (1979) A study to develop a replacement for the basket dragnet for *Chondrus* harvesters of the southern Gulf of St. Lawrence. *Fisheries and Marine Service Manuscript Report* 1496: 56p.
- Pringle, J.D. & R.E. Semple (1976) A preliminary assessment of the ecological impact of an experimental *Chondrus* (Irish moss) harvester off coastal Prince Edward Island. *Science Branch, Invertebrate and Plants Division, Technical Report Series* MAR/T;76-1.
- Pringle, J.D. & R.E. Semple (1987) Dragraking impact on Irish moss (*Chondrus crispus*) frond size structure. *CAFSAC Research Document* 87/91.
- Pringle, J.D. & G.J. Sharp (1980) Multi-species resource management of economically important marine plant communities of eastern Canada. *Helgolander Meeresuntersuchungen* 33: 711-720.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Probert, P.K. (1984) Disturbance, sediment stability and trophic structure of soft-bottom communities. *Journal of Marine Research* 42: 893-921.
- Probert, P.K., D.G. McKnight & S.L. Grove (1997) Benthic invertebrate bycatch from a deep-water trawl fishery, Chatham Rise, New Zealand. *Aquatic Conservation* 7: 27-40.
- Pyle, R.L. (1993) Marine aquarium fish. In: A. Wright & L. Hill (eds.) *Nearshore Marine Resources of the South Pacific*. Institute of Pacific Studies, Suva: 135-176.
- Quandt, A. (1999) Assessment of fish trap damage on coral reefs around St. Thomas, USVI. *University of the Virgin Islands, St. Thomas USVI*: 14p.
- Rachor, E. (1989) Effects on the benthos of commercial fishing for sandeel. *ICES CM* 1989/L:19, Annex 17.
- Rachor, E. (1990) Changes in sublittoral zoobenthos in the German Bight with regard to eutrophication. *Netherlands Journal of Sea Research* 25: 209-214.
- Raloff, J. (1996) Fishing for answers. Deep trawls leave destruction in their wake - but for how long? *Science News* 150(17): 268-271.
- Ramas, G.C. (1964) Effects of blastfishing. *Underwater Naturalist* 6(2): 31-33.
- Ramm, D.C., R.P. Mounsey, Y. Xiao & S.E. Poole (1993) Use of a semi-pelagic trawl in a tropical demersal trawl fishery. *Fisheries Research* 15: 301-313.
- Ramsey, K. (1999) Responses of benthic scavengers to fishing disturbance by towed gears in different habitats. *Journal of Experimental Marine Biology and Ecology* 224: 73-89.
- Ramsay, K. & M.J. Kaiser (1998) Demersal fishing disturbance increases predation risk for whelks (*Buccinum undatum* L.). *Journal of Sea Research* 39: 299-304.
- Ramsay, K., M.J. Kaiser & R.N. Hughes (1996) Changes in hermit crab feeding patterns in response to trawling disturbance. *Marine Ecology Progress Series* 144: 63-72.
- Ramsay, K., M.J. Kaiser & R.N. Hughes (1997) A field study of intraspecific competition for food in hermit crabs (*Pagurus bernhardus*). *Estuarine, Coastal and Shelf Science* 44: 213-220.
- Ramsay, K., M.J. Kaiser & R.N. Hughes (1998) Responses of benthic scavengers to fishing disturbance in different habitats. *Journal of Experimental Marine Biology and Ecology* 224: 73-89.
- Ramsay, K., M.J. Kaiser, P.G. Moore & R.N. Hughes (1997) Consumption of fisheries discards by benthic scavengers: Utilization of energy subsidies in different marine habitats. *Journal of Animal Ecology* 66: 884-896.
- Ramsay, K., M.J. Kaiser, C.A. Richardson, L.O. Veale & A.R. Brand (*In Press 2000*). Shell scars on dog cockles (*Glycymeris glycymeris* L.): An *in situ* record of historic fishing disturbance. *Marine Ecology Progress Series*.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Ramsay, K., M.J. Kaiser, A.D. Rijnsdorp, J.A. Craeymeersch & J. Ellis (2000) Impact of trawling on populations of the invertebrate scavenger *Asterias rubens*. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 151-162.
- Ramsey, K *et al.* (2000) Can shell scars on dog cockles (*Glycymeris glycymeris* L.) be used as an indicator of fishing disturbance? *Journal of Sea Research* 43: 167-176.
- Rangeley, R.W. (1994) The effects of seaweed harvesting on fishes: a critique. *Environmental Biology of Fishes* 39: 319-323.
- Rauck, G. (1985) [What are the effects of bottom trawls on sea-bottom and zoobenthos?] *Fischerblatt*. 37(5): 155-158. [In German]
- Rauck, G. (1985) Wie schädlich ist die Seezungenbaumkurre für Bodentiere? *Information Fischereiwissenschaft* 32(4): 165-168.
- Rauck, G. (1988) Welchen Einfluß haben Grundschleppnetze auf den Meeresboden und Bodentiere? *Inf.Fischw.* 35: 104-106.
- Redant, F. (1987) A bibliography on the effects of bottom fishing gear and harvesting techniques on benthic biota. *ICES CM 1987/L:26*, Annex 6.
- Rees, E.I.S. (1996) Environmental effects of mechanised cockle fisheries: a review of research data. *A report commissioned by the Marine Environment Protection Division, Ministry of Agriculture, Fisheries and Food, London*: 42p.
- Rees, H.L. (1987) A survey of the benthic fauna inhabiting gravel deposits off Hastings, southern England. *ICES CM 1987/K:19*.
- Rees, H.L. & P.T. Dare (1993) Sources of mortality and associated life cycle traits of selected benthic species: A review. *Fisheries Research Data Report, Directorate of Fisheries Research, Lowestoft* (33): 36p.
- Rees, H.L. & A. Eleftheriou (1989) North Sea benthos: A review of field investigations into the biological effects of man's activities. *Journal du Conseil International pour l'Exploration de la Mer* 45: 284-305.
- Rees, H.L., A. Nicholaidou & P. Laskaridou (1977) The effects of storms on the dynamics of shallow water benthic associations. In: B.F. Keegan, P.O. Ceidigh & P.J.S. Boaden (eds.) *Biology of Benthic Organisms*. Pergamon: 465-474.
- Reeves, J.C. & G.S. DiDonato (1972) Effects of trawling in Discovery Bay, Washington. *Washington Department of Fisheries Technical Report No. 8*: 45 p.
- Reise, K. (1982) Long-term changes in the macrobenthic invertebrate fauna of the Wadden Sea: Are polychaetes about to take over? *Netherlands Journal of Sea Research* 16: 29-36.
- Reise, K. & A. Schubert (1987) Macrobenthic turnover in the subtidal Wadden Sea: The Norderaue revisited after 60 years. *Helgolander Meeresuntersuchungen* 41: 69-82.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Reisen, W. & K. Reise (1982) Macrobenthos of the subtidal Wadden Sea: revisited after 55 years. *Helgolander Meeresuntersuchungen* 35: 409-423.
- Reizopoulou, S., M. Thessalou-Lagaki & A. Nicolaidou (1996) Assessment of disturbance in Mediterranean lagoons: An evaluation of methods. *Marine Biology* 125: 189-197.
- Relini, G., M. Relini & G. Torchia (2000) The role of fishing gear in the spreading of allochthonous species: the case of *Caulerpa taxifolia* in the Ligurian Sea. *ICES Journal of Marine Science* 57: 1421-1427.
- Rester, J.K. (ed.) (2000) Annotated Bibliography on Fishing Impacts to Habitat. *Gulf States Marine Fisheries Commission* (73): ii+164p.
- Rice, J.C. (2000) Evaluating fishery impacts using metrics of community structure. *ICES Journal of Marine Science* 57: 682-688.
- Rice, M.A., C. Hickox & I. Zehra (1989) Effects of intensive fishing effort on the population structure of quahogs, *Mercenaria mercenaria* (Linnaeus 1758), in Narragansett Bay. *Journal of Shellfish Research* 8: 345-354.
- Richards, A.H. (1994) Problems of drift-net fisheries in the South Pacific. *Marine Pollution Bulletin* 29(1-3): 106-111.
- Richter, I.U. (1999) Model experiments for the analysis of the interaction between fishing gear elements and the over-dragged sediment. *ICES/SCOR Symposium, Ecosystem Effects of Fishing*, April 1999, St. John's, Newfoundland: 14 p.
- Riemann, B. & E. Hoffman (1991) Ecological consequences of dredging and bottom trawling in the Limfjord, Denmark. *Marine Ecology Progress Series* 69: 171-178.
- Rijnsdorp, A.D., A.M. Buijs, F. Storbeck & E. Visser (1996) Micro-scale distribution of beam trawl effort in the southern North Sea between 1993 and 1996 in relation to the trawling frequency of the sea bed and the impact on benthic organisms. *ICES CM* 1996/Mini 11.
- Rijnsdorp, A.D., A.M. Buijs, F. Storbeck & E. Visser (1997) The micro- distribution of the Dutch beam trawl fishery between April 1993 and March 1996. *Reports of the Netherlands Institute for Fisheries Research, Ijmuiden*.
- Rijnsdorp, A.D., A.M. Buys, F. Storbeck & E.G. Visser (1998) Micro-scale distribution of beam trawl effort in the southern North Sea between 1993 and 1996 in relation to the trawling frequency of the sea bed and the impact on benthic organisms. *ICES Journal of Marine Science* 55: 403-419.
- Rijnsdorp, A.D., P.J. de Groot & F.A. van Beek (1991) The micro-distribution of beam trawl effort in the southern North Sea. *ICES CM* 1991/G:49.
- Rijnsdorp, A.D., & F.A. van Beek (1991) Changes in growth of North Sea plaice (*Pleuronectes platessa* L.) and sole (*Solea solea* L.). *Netherlands Journal of Sea Research* 27: 441-457.
- Rijnsdorp, A.D., & P.I. van Leeuwen (1994) Changes in growth of North Sea plaice and its relation to density, eutrophication, beam trawl effort, and temperature. *ICES CM* 1994/G:9.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Rijnsdorp, A.D., & P.I. van Leeuwen (1996) Changes in growth of North Sea plaice since 1950 in relation to density, eutrophication, beam-trawl effort, and temperature. *ICES Journal of Marine Science* 53: 1199-1213.
- Rijnsdorp, A.D., P.I. van Leeuwen, N. Daan & H.J.L. Hessen (1996) Changes in abundance of demersal fish species in the North Sea between 1906-1909 and 1990-1995. *ICES Journal of Marine Science* 53: 1054-1062.
- Rijnsdorp, A.D. & B. Vingerhoed (2001) Feeding of plaice *Pleuronectes platessa* L. and sole *Solea solea* (L.) in relation to the effects of bottom trawling. *Journal of Sea Research* 45: 219-229.
- Risk, M.J., D.E. McAllister & L. Behnken (1998) Conservation of cold- and warm-water seafans: threatened ancient gorgonian groves. *Sea Wind* 12(1): 2-21.
- Roberts, C.M. (1995) Effects of fishing on the ecosystem structure of coral reefs. *Conservation Biology* 9: 988-995.
- Roberts, J.M., S.M. Harvey, P.A. Lamont, J.D. Gage & J.D. Humphery (2000) Seabed photography, environmental assessment and evidence for deep-water trawling on the continental margin west of the Hebrides. *Hydrobiologia* 441: 173-183.
- Roberts, M. (1997) Coral in deep water. *New Scientist* 155(2100): 40-43.
- Robichaud, D.A., A.M. Williamson & D.E. Graham (1987) Characteristics of the St. Marys Bay lobster stock in relation to scallop gear impact. *Canadian Manuscript Report of Fisheries and Aquatic Science* 1955: 17p.
- Robin, J.-P. (1992) The brown shrimp fishery of the Loire Estuary: Production and by-catch of juvenile fish. *Fisheries Research* 13: 153-172.
- Robinson, R.F. & C.A. Richardson (1998) The direct and indirect effects of suction dredging on a razor clam (*Ensis arcuatus*) population. *ICES Journal of Marine Science* 55: 970-977.
- Robinson, S. 1999. The battle over bottom trawling. *National Fisherman* August 1999: 24-25.
- Roddick, D.L. & R.J. Miller (1992) Spatial and temporal overlap of the American lobster (*Homarus americanus*) and sea scallop (*Placopecten magellanicus*) as related to the impact of inshore scallop dragging. *Canadian Journal of Fisheries and Aquatic Science* 49: 1486-1492.
- Rogers, A.D. (1999) The biology of *Lophelia pertusa* (Linnaeus, 1758) and other deep-water reef-forming corals and impacts from human activities. *International Review of Hydrobiology* 84: 315-406.
- Rogers, S.I. (1997) A review of closed areas in the United Kingdom Exclusive Economic Zone. *Scientific Services Technical Report*, No. 106. Centre for Environment, Fisheries and Aquaculture Science, Lowestoft, UK: 20 p.
- Rogers, S.I., M.J. Kaiser & S. Jennings (1998) Ecosystem effects of demersal fishing: A European perspective. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 68-78.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Rogers, S.I., D. Maxwell, A.D. Rijnsdorp, U. Damm & W. Vanhee (1999) Fishing effects in northeast Atlantic shelf seas: Patterns in fishing effort, diversity and community structure. IV. Can comparisons of species diversity be used to assess human impacts on demersal fish faunas? *Fisheries Research* 40: 135-152.
- Rose, C., A. Carr, D. Ferro, R. Fonteyne & P. MacMullen (2000) Using gear technology to understand and reduce unintended effects of fishing on the seabed and associated communities: background and potential directions. In: *ICES Working Group on Fishing Technology and Fish Behavior report, ICES CM 2000/B:03*.
- Rostron, D.M. (1993) The effects of tractor towed cockle dredging on the invertebrate fauna of Llanrhidian Sands, Burry Inlet. *Report to Countryside Council for Wales, Bangor, Gwynedd*: 71p, plus appendix.
- Rothschild, B.J., J.S. Ault, P. Gouilletquer & M. Heral (1994) Decline of the Chesapeake Bay oyster population: A century of habitat destruction and overfishing. *Marine Ecology Progress Series* 111: 29-39.
- Rowell, T.W., P. Schwinghamer & D.C. Gordon (1993) Canadian project to evaluate the impacts of mobile fishing gear on benthic habitat. *BEWG*
- Rowell, T.W., P. Schwinghamer, M. Chin-Yee, K. Gilkinson, D.C. Gordon, E. Hartgers, M. Hawryluk, D.L. McKeown, J. Prena, D.P. Reimer, G. Sonnichsen, G. Steeves, W.P. Vass, R. Vine & P. Woo (1997) Grand Banks otter trawling impact experiment: III. Sampling equipment, experimental design, and methodology. *Canadian Technical Report of Fisheries and Aquatic Sciences* 2190: viii+36p.
- Rowell, T.W., P. Schwinghamer, K. Gilkinson, D.C. Gordon, E. Hartgers, M. Hawryluk, D.L. McKeown, J. Prena, W.P. Vass & P. Woo (1996) Investigating the impact of otter trawling on the benthic communities of the Grand Banks. *Canadian Technical Report of Fisheries and Aquatic Sciences*.
- Rubec, P.J. (1986) The effects of sodium cyanide on coral reefs and marine fish in the Philippines. In: McLean, J.L., L.B. Dizon & L.V. Hosillos (eds.) *The First Asian Fisheries Forum*. Asian Fisheries Society, Manila 4: 233-254.
- Rubec, P.J. (1988) Cyanide fishing and the international marine life alliance net-training program. *Tropical Coastal Area Management* 3(1): 11-13.
- Ruffin, K.K. (1995) The effects of hydraulic clam dredging on nearshore turbidity and light attenuation in Chesapeake Bay, MD. *Master's Thesis, University of Maryland*: 97p.
- Rumohr, H. (1989) Information on impact of trawling on benthos in Kiel Bay. *ICES CM* 1989/L:19, Annex 18.
- Rumohr, H. & P. Krost (1991) Experimental evidence of damage to benthos by bottom trawling with special reference to *Arctica islandica*. *Meeresforschung*. 33: 340-345.
- Rumohr, H. & T. Kujawski (2000) The impact of trawl fishery on the epifauna of the southern North Sea. *ICES Journal of Marine Science* 57: 1389-1394.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Rumohr, H., H. Schomann & T. Kujawski (1994) Environmental impact of bottom gears on benthic fauna in the German Bight. *NIOZ Rapport* 1994-11: 75-86.
- Russ, G.R. & A.C. Alcala (1989) Effects of intense fishing pressure on an assemblage of coral reef fishes. *Marine Ecology Progress Series* 56: 13-27.
- Russell, D. (1997) Hitting bottom. *Amicus Journal* 18(4): 21-25.
- Ruth, M. (1993) [Effects of mussel fisheries on the community structure of mussel stocks in the Wadden Sea of Schleswig-Holstein (Germany) – potential consequences for the ecosystem.] In: M. v. Lukowicz (ed.) *Influence of Fisheries upon Marine Ecosystems*. 57: 85-102. [In German.]
- Sadzinski, R., M. Naylor, D. Weinrich, J.H. Uphoff, H. Speir & D. Goshorn (1996) Effects of haul seining on submerged aquatic vegetation in upper Chesapeake Bay. *Maryland Department of Natural Resources, Fisheries Technical Report* 20.
- Saeger, J. (1993) The Samar Sea, Philippines: a decade of devastation. *Naga* 16(4): 4-6.
- Saila, S.B. (1995) New England groundfisheries -- what next? *Maritimes* 38(2): 1-3.
- Saila, S.B., V.L. Kocic & J.W. McManus (1993) Modeling the effects of destructive fishing practices on tropical coral reefs *Marine Ecology Progress Series* 94: 51-60.
- Sainsbury, K.J. (1987) Assessment and management of the demersal fishery on the continental shelf of northwestern Australia. In: J.J. Polovina & S. Ralston (eds.) *Tropical Snappers and Groupers: Biology and fisheries management*. Westview Press, Boulder, Colorado: 465-503.
- Sainsbury, K.J. (1988) The ecological basis of multispecies fisheries, and management of a demersal fishery in tropical Australia. In: J.A. Gulland (ed.) *Fish Population Dynamics*. (2nd edn.) John Wiley & Sons, Chichester: 349-382.
- Sainsbury, K.J. (1991) Application of an experimental approach to management of a tropical multispecies fishery with highly uncertain dynamics. *ICES Marine Science Symposium* 193: 301-320.
- Sainsbury, K.J., R.A. Campbell, R. Lindholm & A.W. Whitelaw (1997) Experimental management of an Australian multispecies fishery: Examining the possibility of trawl-induced habitat modification. In: E.K. Pikitch, D.D. Huppert & M.P. Sissenwine (eds.) *Global Trends: Fisheries Management*. American Fisheries Society, Bethesda: 107-112.
- Sainsbury, K.J., R.A. Campbell & A.W. Whitelaw (1993) Effects of trawling on the marine habitat on the North West Shelf of Australia and implications for sustainable fisheries management. In: D.A. Hancock (ed.) *Sustainable Fisheries Through Sustaining Fish Habitat*. Australian Government Publishing Service, Canberra: 137-145.
- Sainsbury, K.J., R.A. Campbell & A.W. Whitelaw. (In press) Effects of trawling on the marine habitat on the North West Shelf of Australia and implications for sustainable fisheries management. *Australian Journal of Marine and Freshwater Research*

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Sainsbury, K.J. & I. Poiner (1988) *A preliminary review of the effects of prawn trawling in the Great Barrier Reef Marine Park*. Great Barrier Reef Marine Park Authority, Townsville, Queensland.
- Sainsbury, K.J., A.E. Punt & A.D.M. Smith (2000) Design of operational management strategies for achieving fishery ecosystem objectives. *ICES Journal of Marine Science* 57: 731-741.
- Salm, R.V. (1983) Reefs of the western Indian Ocean: a threatened heritage. *Ambio* 12: 349-353.
- Samoilys, M.A. (1988) Abundance and species richness of coral reef fish on the Kenyan coast: The effects of protective management and fishing. *In: Proceedings of the Sixth International Coral Reef Symposium, Townsville, Australia, 8-12 August 1988*. 2: 261-266.
- Sanchez, P. M. Demestre, M. Ramon & M.J. Kaiser (2000) The impact of otter trawling on mud communities in the northwestern Mediterranean. *ICES Journal of Marine Science* 57: 1352-1358
- Sanchez-Jerez, P. & A.A. Ramos-Espla (1996) Detection of environmental impacts by bottom trawling on *Posidonia oceanica* (L.) Delile meadows: Sensitivity of fish and macroinvertebrate communities. *Journal of Aquatic Ecosystem Health* 5: 239-253.
- Sanchez-Jerez, P. & A. Ramos-Espla (2000) Changes in fish assemblages associated with the deployment of an antitrawling reef in seagrass meadows. *Transactions of the American Fisheries Society* 129: 1150-1159.
- Sanchez-Lizaso, J.L., J.E. Guillen & A.A. Ramos (1990) The regression of *Posidonia oceanica* meadows in El Campello. *Rapp. Comm. Int. Mer Medit.* 32(1): 7.
- Sargent, F.J., T.J. Leary, D.W. Crewz & C.R. Kruer (1995) Scarring of Florida's seagrasses: Assessment and management options. *Florida Marine Research Institute Technical Reports* 0(1): I-V, 1-46.
- Saxton, F. (1980) Coral loss could deplete fish stocks. *Catch* 7(8): 12-13.
- Scarratt, D.J. (1971) Investigation into the effects of Irish moss raking on lobsters. *Fisheries Research Board of Canada Manuscript Report* 1105: 36p.
- Scarratt, D.J. (1972a) The effects on lobsters (*Homarus americanus*) of raking Irish moss (*Chondrus crispus*). *ICES CM* 1972/K:36.
- Scarratt, D.J. (1972b) Investigations into the effects on lobsters of raking Irish moss, 1970-1971. *Fisheries Research Board of Canada Technical Report* 329: 20p.
- Scarratt, D.J. (1973a) The effects of raking Irish moss (*Chondrus crispus*) on lobsters in Prince Edward Island. *Helgol. wiss. Meer.* 24: 415-424.
- Scarratt, D.J. (1973b) Claw loss and other wounds in commercially caught lobsters *Homarus americanus*. *Journal of the Fisheries Research Board of Canada* 30: 1370-1373.
- Scarratt, D.J. (1975) Observations on lobsters and scallops near Pictou, N.S. *Fisheries and Marine Service Technical Report* 532: 6p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Schneider, D.C., J.M. Gagnon & K.D. Gilkinson (1987) Patchiness of epibenthic megafauna on the outer Grand Banks of Newfoundland. *Marine Ecology Progress Series* 39: 1-13.
- Schneider, D.C., R. Walters, S. Thrush & P. Dayton (1997) Scale-up of ecological experiments: density variation in the mobile bivalve *Macomona liliana*. *Journal of Experimental Marine Biology and Ecology* 216: 129-152.
- Schoellhamer, D.H. (1996) Anthropogenic sediment resuspension mechanisms in a shallow microtidal estuary. *Estuarine, Coastal and Shelf Science* 43: 533-548.
- Schroeder, A. (1995) Das Makrozoobenthos am West-Gamma-Wrack in der äußeren Deutschen Bucht – Zum Fischereieinfluß auf eine Bodenfaunagemeinschaft der Nordsee. *Diplomarbeit Rheinische Friedrich-Wilhelm-Universität Bonn* 1995.
- Schroeder, A. & R. Knust (*In press* 2000). Long term changes in the benthos of the German Bight (North Sea) - possible influence of fisheries? *ICES Journal of Marine Science*.
- Schubel, J.R., H.H. Carter, R.E. Wilson, W.M. Wise, M.G. Heaton & M.G. Gross (1978) Field investigations of the nature, degree and extent of turbidity generated by open-water pipeline disposal operations. *Marine Sciences Research Centre, State University of New York at Stony Brook, NY, Technical Report D-78-30*: 245p.
- Schubel, J.R., H.H. Carter & W.M. Wise (1979) Shrimping as a source of suspended sediment in Corpus Christi Bay (Texas). *Estuaries* 2(3): 201-203.
- Schultz, L.P. (1948) The use of rotenone for collecting reef and lagoon fishes at Bikini. *Copeia* 1948(2): 94-98.
- Schwinghamer, P., D.C. Gordon., T.W. Rowell, J. Prena, D.L. McKeown, G. Sonnichsen & J.-Y. Guigné (1998) Effects of experimental otter trawling on surficial sediment properties of a sandy-bottom ecosystem on the Grand Banks of Newfoundland. *Conservation Biology* 12: 1215-1222.
- Schwinghamer, P., J.-Y. Guigné & W.C. Siu (1996) Quantifying the impact of trawling on benthic habitat structure using high resolution acoustics and chaos theory. *Canadian Journal of Fisheries and Aquatic Sciences* 53: 288-296.
- Service, M. & B.H. Magorrian (1997) The extent and temporal variation of disturbance to epibenthic communities in Strangford Lough, Northern Ireland. *Journal of the Marine Biological Association of the United Kingdom* 77: 1151-1164.
- Sharp, G.J. (1981) An assessment of *Ascophyllum nodosum* harvesting methods in southwestern Nova Scotia. *Canadian Technical Report of Fisheries and Aquatic Sciences* 1012: 28p.
- Sharp, G.J. & J.D. Pringle (1990) Ecological impact of marine plant harvesting in northwest Atlantic: a review. *Hydrobiologia* 204/205: 17-24.
- Sharp, G.J. & D. Roddick (1980) The impact of *Chondrus* dragraking on substrate stability in southwestern Nova Scotia. *Canadian Manuscript Report of Fisheries & Aquatic Sciences* 1593: 19p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Sheldon, W.W. & R.L. Dow (1975) Trap contribution to losses in the American lobster fishery. *U.S. Fishery Bulletin* 73: 449-451.
- Shepard, A.N. & P.J. Auster (1991) Incidental (non-capture) damage to scallops caused by dragging on rock and sand substrates. In: S.E. Shumway & P.E. Sandifer (eds.) *An International Compendium of Scallop Biology and Culture*. World Aquaculture Society, Baton Rouge, Louisiana: 219-230.
- Shepherd, S.A. (1983) The epifauna of megaripples: species' adaptations and population responses to disturbance. *Australian Journal of Ecology* 8: 3-8.
- Shick, J.M., K.C. Edwards & J.H. Dearborn (1981) Physiological ecology of the deposit-feeding sea star *Ctenodiscus crispatus*: ciliated surfaces and animal-sediment interactions. *Marine Ecology Progress Series* 5: 165-184.
- Short, F.T. & S. Wyllie-Echiverria (1996) Natural and human-induced disturbances of seagrasses. *Environmental Conservation* 23(1): 17-27.
- Short, K.S. & R. Walton (1992) The transport and fate of suspended sediment plumes associated with commercial geoduck harvesting. Final Report. Prepared by Ebasco Environmental (Bellevue, Washington) for the Washington Department of Natural Resources: 92p.
- Simboura, N., A. Zenetos, M.-A. Pancucci-Papadopoulou, M. Thessalou-Legaki & S. Papaspyrou (1998) A baseline study on benthic species distribution in two neighbouring gulfs, with and without access to bottom trawling. *Marine Ecology* 19: 293-309.
- Simunovic, A. (1992) Zoobenthos of Kastela Bay – State and problems. *Acta Adriatica* 33: 163-168.
- Smith, C.J. K.-N. Papadopoulou & S. Diliberto (2000) Impact of otter trawling on an eastern Mediterranean commercial trawl fishing ground. *ICES Journal of Marine Science* 57: 1340-1351.
- Smith, C.J. K.-N. Papadopoulou, A. Kallianiotis, B. Catalano & S. Diliberto (1997) The interaction between otter trawling and the marine environment. 5th. *Hellenic Symposium on Oceanography and Fisheries. Kavala, Greece, April 15-18, 1997. Proceedings. Volume 2. Fisheries, Aquaculture, Inland Waters*. NCMR Association of Employees, Athens, Greece: 33-36.
- Smith, D.W. & H. LeBlanc (1976) Digging efficiency trials with a modified hydraulic clam digger. *Fisheries and Marine Service, Resource Development Branch, Maritimes Region, Technical Report MAR/T-76-1*: 25p.
- Smith & Hessler (1987) *Trends in Ecology and Evolution* 2(12): 359-363.
- Smith, E., M.A. Alexander, M.M. Blake, L. Gunn, P.T. Howell, M.W. Johnson, R.E. MacLeod, R.F. Sampson, D.G. Simpson, W.H. Webb, L.L. Stewart, P.J. Auster, N.K. Bender, K. Buchholz, J. Crawford & T.J. Visel (1985) A study of lobster fisheries in the Connecticut waters of Long Island Sound with special reference to the effects of trawling on lobsters. *Connecticut Department of Environmental Protection, Marine Fisheries Program, Hartford, Connecticut*.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Smith, E.M. & P.T. Howell (1987) The effects of bottom trawling on American lobsters, *Homarus americanus*, in Long Island Sound. *U.S. Fishery Bulletin* 85: 734-744.
- Smolowitz, R.J. (1978a) Lobster, *Homarus americanus*, trap design and ghost fishing. *Marine Fisheries Review* 40(5-6): 2-8.
- Smolowitz, R.J. (1978b) Trap design and ghost fishing: Discussion. *Marine Fisheries Review* 40(5-6), Paper 1310.
- Smolowitz, R. (1998) Bottom tending gear used in New England. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 46-52.
- Snelgrove, P.V.R. (1999) Getting to the bottom of marine biodiversity: sedimentary habitats. *BioScience* 49(2): 129-138.
- Spencer, B.E., M.J. Kaiser & D.B. Edwards (1997) Ecological effects of Manila clam cultivation: Observations at the end of the cultivation phase. *Journal of Applied Ecology* 34: 444-452.
- Spencer, B.E., M.J. Kaiser & D.B. Edwards (1998) Intertidal clam harvesting: Benthic community change and recovery. *Aquaculture Research* 29(6): 429-437.
- Spurr, E.W. (1978) An assessment of the short term effects of otter trawling on large epibenthic invertebrates. *Compl. Report N.H. Fish and Game Department NHFGD-Proj.-3-248-R*: 12p.
- Steele, J., D.L. Alverson, P. Auster, J. Collie, J.T. DeAlteris, L. Deegan, E. Escobar-Briones, S.J. Hall, G.H. Kruse, C. Pomeroy, K.M. Scanlon & P. Weeks (2002) *Effects of Trawling and Dredging on Seafloor Habitat*. National Academy Press, Washington, D.C.: x+126p.
- Stephan, C.D., R.L. Peuser & M.S. Fonseca (2000) Evaluating fishing gear impacts to submerged aquatic vegetation and determining mitigation strategies. *ASMFC Habitat Management Series #5*. Atlantic States Marine Fisheries Commission, Washington, D.C.: viii+38p.
- Stevens, B.G. (1996) Crab bycatch in pot fisheries: Causes and solutions. Pages In: *Solving Bycatch: Considerations for Today and Tomorrow*. Alaska Sea Grant College Program Report No. 96-03, University of Alaska Fairbanks: 151-158.
- Stevens, P.M. (1987) Response of excised gill tissue from the New Zealand scallop *Pecten novaezelandiae* to suspended silt. *New Zealand Journal of Marine and Freshwater Research* 21: 605-614.
- Stevenson, J.C. & N.M. Confer (1978) Summary of available information on Chesapeake Bay submerged vegetation. *U.S. Fish and Wildlife Service Office of Biological Services FWS/OBS-78/66*: 335p.
- Stewart, P.A.M. (1999) Gear modification as a management tool to limit ecosystem effects of fishing. *ICES/SCOR Symposium, Ecosystem Effects of Fishing*, April 1999, St. John's, Newfoundland: 20 p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Stokes, R.J., E.A. Joyce & R.M. Ingle (1968) Initial observations on a new fishery for the sunray venus clam, *Macrocallista nibosa* (Solander). *Florida Department of Natural Resources Technical Series* 56: 1-27.
- Stone, H.H. & G.V. Hurley (1987) Scallop behaviour/fishing gear interactions. *DFO Fisheries Development and Fishermen's Services Division, Fisheries and Habitat Management, Scotia-Fundy Region, Project Report* 123: iii+85p.
- Sudara, S. & R.W. Buddemeier (1981) Conditions of the coral reef in Thailand and the potential usage in the future. *In: The Reef and Man. Proceedings of the Fourth International Coral Reef Symposium*. 1: 209-212.
- Sutherland, D.L. & D.E. Harper (1983) The wire fish-trap fishery of Dade and Broward counties, Florida, December 1979 – September 1980. *Florida Marine Research Publications* No. 40: 21p.
- Sydow, J.S. (1990) Cruise report experiments on the interaction fishing gear (beamtrawl)-benthos with the R.V. "Mitra". *In: Effects of beamtrawl fishery on the bottom fauna of the North Sea. BEON-rapport* 8: 7-21.
- Tabb, D.C. (1958) Report on the bait shrimp fishery of Biscayne Bay, Miami, Florida. *Florida State Board of Conservation Marine Laboratory, University of Miami*: 16p.
- Tabb, D.C. & N. Kenny (1967) A brief history of Florida's live bait shrimp fishery with description of fishing gear and methods. *Proceedings of the World Scientific Conference on the Biology and Culture of Shrimp and Prawns, Mexico City, Mexico. FAO Fish Report* 57(3): 1119-1134.
- Tabb, D.C. & N. Kenny (1969) A brief history of Florida's live bait shrimp fishery with description of fishing gear and methods. *Institute of Marine Sciences, University of Miami, Contribution* 1070.
- Tarr, M.A. (1977) Some effects of hydraulic clam harvesting on water quality in Kilisut Harbor, Port Susan, and Agate Pass, Washington. *State of Washington, Department of Fisheries, Progress Report* 22: 82p.
- Tasker, M.L., P.A. Knapman & D. Laffoley (2000) Effects of fishing on non-target species and habitats: Identifying key nature conservation issues. *In: M.J. Kaiser & S.J. de Groot (eds.) The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 281-289.
- Taylor, F.B. (1956) Is the shrimp trawl net destructive to marine life (a survey of the literature). *Bears Bluff Laboratory, Wasmalaw Island, South Carolina*: 52p.
- Taylor, J.L. (1972) *Some Effects of Oyster Shell Dredging on Benthic Invertebrates in Mobile Bay, Alabama*. Taylor Biological Company. St. Petersburg, Florida: 16 p.
- Taylor, J.L. (1972) *Some Effects of Oyster Shell Dredging on Benthic Invertebrates in Tampa Bay, Florida*. Taylor Biological Company. St. Petersburg, Florida: 16 p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Taylor, J.L. (1973) *Some Effects of Oyster Shell Dredging on Benthic Invertebrates in Mobile Bay, Alabama*. Taylor Biological Company. St. Petersburg, Florida.
- Thayer, G.W. & H.H. Stuart (1974) The bay scallop makes its bed of eelgrass. *Marine Fisheries Review* 36(7): 27-30.
- Thayer, P.E. & B.J. Joule (1987) The effects of mussel dragging on marine worm populations. *Report to Maine State Planning Office*.
- Theil, H. & G. Schriever (1990) Deep-sea mining, environmental impact and the DISCOL project. *AMBIO* 19: 245-250.
- Thistle, D. (1981) Natural physical disturbance and communities of marine soft bottoms. *Marine Ecology Progress Series* 6: 223-228.
- Thompson, G. (1993) Impacts of trawling on the seabed and benthic community. *Environmental Assessment for Amendment 24 to the Bering Sea/Aleutian Islands groundfish fishery management plan*.
- Thouzeau, G., G. Robert & S.J. Smith (1991) Faunal assemblages of benthic megainvertebrates inhabiting sea scallop grounds from eastern Georges Bank, in relation to environmental factors. *Marine Ecology Progress Series* 74: 61-82.
- Thrush, S.F. (1986) Community structure on the floor of a sea-lough: are large epibenthic predators important? *Journal of Experimental Marine Biology and Ecology* 104: 171-184.
- Thrush, S.F., V.J. Cummings & J.E. Hewitt (1995) Ecological impacts of shellfish dredging on coastal soft-sediment communities: Summary Report. *Report prepared for the Department of Conservation* No. 121b.
- Thrush, S.F., J.E. Hewitt, V.J. Cummings & P.K. Dayton (1995) The impact of habitat disturbance by scallop dredging on marine benthic communities: What can be predicted from the results of experiments? *Marine Ecology Progress Series* 129: 141-150.
- Thrush, S.F., J.E. Hewitt, V.J. Cummings, P.K. Dayton, M. Cryer, S.J. Turner, G.A. Funnell, R.G. Budd, C.J. Milburn & M.R. Wilkinson (1998) Disturbance of the marine benthic habitat by commercial fishing: Impacts at the scale of the fishery. *Ecological Applications* 8: 866-879.
- Thrush, S.F., R.D. Pridmore & J.E. Hewitt (1994) Impacts on soft-sediment macrofauna: the effects of spatial variation on temporal trends. *Ecological Applications* 4:31-41.
- Thrush, S.F., R.B. Whitlatch, R.D. Pridmore, J.E. Hewitt, V.J. Cummings & M.R. Wilksinson (1996) Scale-dependent recolonization: the role of sediment stability in a dynamic sandflat habitat. *Ecology* 77: 2472-2487.
- Tiews, K. (1979) Probleme für die Fischerei bei der Sand- und Kiesgewinnung. In: K. Tiews & H. Mann (Eds.) *Probleme der Koexistenz von Fischerei und anderen Wirtschaftszweigen bei der Nutzung des Deutschen Festlandsockels der Nordsee*. *Arb. Dtsch. Fisch.-Verb.* 27: 71-81.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Tiews, K. (1983) Über die Veränderungen im Auftreten von Fischen und Krebsen im Beifang der deutschen Garnelenfischerei während der Jahre 1954-1981 – Ein Beitrag zur Ökologie des deutschen Wattenmeeres und zum biologischen Monitoring von Ökosystemen im Meer. *Arch. Fisch. wiss.* 34: 1-156.
- Tilmant, J.T. (1979) Observations on the impacts of shrimp roller frame trawls operated over hard-bottom communities, Biscayne Bay, Florida. *National Park Service Report Ser. No. P-553*: 23p.
- Tilmant, J.T. (1987) Impacts of recreational activities on coral reefs. In: *Human Impacts on Coral Reefs: Facts and Recommendations*. Antenne Museum, French Polynesia: 195-214.
- Tregenza, N.J.C. (2000) Fishing and cetacean by-catches. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 269-280.
- Tuck, I.D., N. Bailey, M. Harding, G. Sangster, T. Howell, N. Graham & M. Breen (2000) The impact of water jet dredging for razor clams, *Ensis* spp., in a shallow sandy subtidal environment. *Journal of Sea Research* 43: 65-81.
- Tuck, I.D., S.J. Hall & D.G. Reid (1995) Identification of benthic disturbance by fishing gear using RoxAnn. *ICES International Symposium on Fisheries and Plankton Acoustics, Aberdeen, 12-16 June 1995*. [Abstract only.]
- Tuck, I.D., S.J. Hall, M.R. Robertson, E. Armstrong & D.J. Basford (1998) Effects of physical trawling disturbance in a previously unfished sheltered Scottish sea loch. *Marine Ecology Progress Series* 162: 227-242.
- Tupper, M. & R.G. Boutilier (1995) Effects of habitat on settlement, growth, and postsettlement survival of Atlantic cod (*Gadus morhua*). *Canadian Journal of Fisheries and Aquatic Sciences* 52: 1834-1841.
- Turner, S.J. (1999) Fishing impacts and the degradation or loss of habitat structure. *Fisheries Management and Ecology* 6: 401-420.
- Twitchell, D.C., C.E. McClennen & B. Butman (1981) Morphology and processes associated with the accumulation of the fine-grain sediment deposit on the southern New England continental shelf. *Journal of Sedimentary Petrology* 51: 269-280.
- Ueda, N., H. Tsutsumi, M. Yamada, R. Takuci & K. Kido (1994) Recovery of the marine bottom environment of a Japanese bay. *Marine Pollution Bulletin* 28: 676-682.
- Uthoff, D. (1983) [The North Sea -- a field of conflicts. Utilization, claims to utilization, conflicts in utilization.]. *Geogr. Rundsch.* 35: 282-291.
- Vaccarella, R., A.M. Pastorelli & G. Marano (1994) *Studio sulla efficienza delle draghe trubosoffianti e loro effetto sulle comunità bentoniche*. *Boll. Malacol.* 30: 14-28.
- Vakily, J.L. (1993) Dynamite fishing in Sierra Leone. *Naga* 16(4): 7-9.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Valente, R.M., N.C. Evans & P.G.D. Whiteside (1996) Environmental monitoring in Hong Kong using the REMOTS seabed camera. *Coast. manage. Trop. Asia* 6: 26-29.
- Valentine, P. (1998) Brief notes on habitat geology and clay pipe habitat on Stellwagen Bank. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 119-120.
- Valentine, P.C. & R.G. Lough (1991) The seafloor environment and the fishery of eastern Georges Bank: The influence of geologic and oceanographic environmental factors on the abundance and distribution of fisheries resources of the Northeastern United States continental shelf. *U.S. Geological Survey, Open-File Report* 91-439: iii+25p.
- van Beek, F.A., P.I. van Leeuwen & A.D. Rijnsdorp (1990) On the survival of plaice and sole discards in the otter-trawl and beam trawl fisheries in the North Sea. *Netherlands Journal of Sea Research* 26: 151-160.
- van Blaricom, G.R. (1982) Experimental analysis of structural regulation in a marine sand community exposed to oceanic swell. *Ecological Monographs* 52: 283-305.
- van den Heiligenberg, T. (1982a) The effects of mechanical and manual digging for lugworms (*Arenicola marina* L.) on the benthic fauna of the tidal flats in the Dutch Wadden Sea. *Hydrobiol. Bull.* 16: 291-292.
- van den Heiligenberg, T. (1982b) De pierenspitterij en de gevolgen ervan voor de bodemdieren in de Waddenzee. *RIN-Rapport* 82/1: 57p.
- van den Heiligenberg, T. (1984) De ecologische effecten van winning van wadpijeren en andere bodemdieren in het intergetijdegebied. *RIN-Rapport* 84/3: 26p.
- van den Heiligenberg, T. (1987) The effects of mechanical and manual harvesting of lugworms *Arenicola marina* L. on the benthic fauna of tidal flats in the Dutch Wadden Sea. *Biological Conservation* 39: 165-177.
- van der Hak, W. & W.C. Blom (1990) Cruise report experiments on the interaction fishing gear (beamtrawl)-benthos with a commercial beamtrawler, 21 August–1 September 1989. In: Effects of beamtrawl fishery on the bottom fauna of the North Sea. *BEON-rapport* 8: 23-31.
- Van der Knapp, M. (1993) Physical damage to corals caused by trap fishing on reef of Bonaire, Netherlands Antilles. *Environmental Conservation* 20: 265-267.
- Van der Valk, L. (1992) Estimated amount of physical disturbance of the seabed in the shallow southern North Sea due to natural causes. *ICES CM* 1992/E:39.
- van der Veer, H.W., M.J.N. Bergman & J.J. Beukema (1985) Dredging activities in the Dutch Wadden Sea: Effects on macrobenthic infauna. *Netherlands Journal of Sea Research* 19: 183-190.
- van Dolah, R.F., D.R. Calder & D.M. Knott (1984) Effects of dredging and open-water disposal on benthic macroinvertebrates in a South Carolina estuary. *Estuaries* 7: 28-37.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- van Dolah, R.F., P. Hinde & N. Nicholson (1983) Effects of roller trawling on a hard bottom sponge and coral community. *Final Report to Sanctuary Program Division, National Oceanic and Atmospheric Administration*: 89p.
- van Dolah, R.F., P.H. Wendt & M.V. Levisen (1991) A study of the effects of shrimp trawling on benthic communities in two South Carolina sounds. *Fisheries Research* 12: 139-156.
- van Dolah, R.F., P.H. Wendt & N. Nicholson (1987) Effects of a research trawl on a hard bottom assemblage of sponges and corals. *Fisheries Research* 5: 39-54.
- van Marlen, B. (2000) Technical modifications to reduce the by-catches and impacts of bottom-fishing gears. In: M.J. Kaiser & S.J. de Groot (eds.) *The Effects of Fishing on Non-target Species and Habitats: Biological, conservation and socio-economic issues*. Blackwell Science, Oxford: 253-268.
- van Marlen, B., J.B. van Duyn & D.J.C. Blijker (1985) An introduction of direct observation techniques using a remotely controlled television vehicle on bottom trawls with square mesh cod-ends. International Council for the Exploration of the Sea.
- van Santbrink, J.W. & M.J.N. Bergman (1994) FAR Research Project MA 2.549: Direct effects of beam trawling on macrofauna in a soft bottom area in the southern North Sea. In: S.J. de Groot & H.J. Lindeboom (eds.) Environmental impact of bottom gears on benthic fauna in relation to natural resources management and protection of the North Sea. *IMPACT Report 1994, NIOZ Report 1994-11*: 147-178.
- Veale, L.O., A.S. Hill, S.J. Hawkins & A.R. Brand (2000) Effects of long-term physical disturbance by commercial scallop fishing on subtidal epifaunal assemblages and habitats. *Marine Biology* 137: 325-337.
- Veale, L.O. *et al.* (2000) An *in situ* study of predator aggregations on scallop (*Pecten maximus* L.) dredge discards using a static time-lapse camera system. *Journal of Experimental Marine Biology and Ecology* 255: 111-129.
- Villemure, L. & P. Lamoureux (1975) *Mya arenaria* L. au Québec: effets des méthodes d'exploitation et des prédateurs. *Cahiers Inf. Dir. Rech., Dir. Pêches Maritimes (Québec)* 68: 63p.
- Vining, R. (1978) *Final environmental impact statement for the commercial harvesting of subtidal hardshell clams with a hydraulic escalator shellfish harvester*. State of Washington, Department of Fisheries, Department of Natural Resources: 57p.
- Vorberg, R. (2000) Effects of shrimp fisheries on reefs of *Sabellaria spinulosa* (Polychaeta). *ICES Journal of Marine Science* 57: 1416-1420.
- Walker, D.I., R.J. Lukatelich, G. Bastyan & A.J. McComb (1989) Effect of boat moorings on seagrass beds near Perth, Western Australia. *Aquatic Botany* 36: 69-77.
- Wardle, C.S. (1983) Fish reactions to towed fishing gears. In: A.G. MacDonald & I.G. Priede (eds.) *Experimental Biology at Sea*. Academic Press, London: 167-195.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Wardle, C.S. (1986) Fish behaviour and fishing gear. In: T.J. Pitcher (ed.) *The Behaviour of Teleost Fishes*. Johns Hopkins University Press, Baltimore: 463-495.
- Warren, P.J. (1973) The fishery for the pink shrimp *Pandalus montagui* in the Wash. *Ministry of Agriculture, Fisheries and Food, Lowestoft, Laboratory Leaflet (New Series)* 28: 46p.
- Warwick, R.M. (1993) Environmental impact studies on marine communities: pragmatical considerations. *Australian Journal of Ecology* 18: 63-80.
- Warwick R.M. & K.R. Clarke (1993) Increased variability as a symptom of stress in marine communities. *Journal of Experimental Marine Biology and Ecology* 172: 215-226.
- Wassenberg, T.J. & B.J. Hill (1987) Feeding by the sear crab *Portunus pelagicus* on material discarded from prawn trawlers in Moreton Bay, Australia. *Marine Biology* 95: 387-393.
- Wassenberg, T.J. & B.J. Hill (1990) Partitioning of material discarded from prawn trawlers in Moreton Bay. *Australian Journal of Marine and Freshwater Research* 41: 27-36.
- Wassenberg, T.J. & B.J. Hill (1993) Selection of the appropriate duration of experiments to measure the survival of animals discarded from trawlers. *Fisheries Research* 17: 343-352.
- Walters, C.J. & F. Juanes (1993) Recruitment limitation as a consequence of natural selection for use of restricted feeding habitats and predation risk taking by juvenile fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 2058-2070.
- Watling, L. (1998) Benthic fauna of soft substrates in the Gulf of Maine. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 20-29.
- Watling, L., R.H. Findlay, L.M. Mayer & D.F. Schick (2001) Impact of a scallop drag on the sediment chemistry, microbiota, and faunal assemblages of a shallow subtidal marine benthic community. *Journal of Sea Research* 46: 309-324.
- Watling, L. & R.W. Langton (1994) Fishing habitat disruption and biodiversity loss. *EOS* 75(3) (Suppl.) [Abstract only]
- Watling, L. & E.A. Norse (1998a) Special section: Effects of mobile fishing gear on marine benthos: Introduction. *Conservation Biology* 12: 1178-1179.
- Watling, L. & E.A. Norse (1998b) Disturbance of the seabed by mobile fishing gear: A comparison to forest clearcutting. *Conservation Biology* 12: 1180-1197.
- Weinberg, J.R. & V. Nordahl (1995) Impact of predation and dredging on surf clam recruitment. In: J.P. Grassle, A. Kelsey, E. Oates & P.V. Snelgrove (eds.) *Twenty Third Benthic Ecology Meeting*. Institute of Marine & Coastal Sciences, Rutgers. [Abstract only]
- Welleman, H. (1989a) Literatuurstudie naar de Effecten van de Bodemvisserij op de Bodem en het Bodemleven. *RIVO. MO* 89-201: 58p.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Welleman, H. (1989b) De verspreiding van een aantal macrobenthos soorten in de Noordzee. *Netherlands Institute for Sea Research, Report 1*.
- Wells, R.S., S. Hofmann & T.L. Moors (1998) Entanglement and mortality of bottlenose dolphins, *Tursiops truncatus*, in recreational fishing gear in Florida. *U.S. Fishery Bulletin* 96: 647-650.
- Wenner, C.A. (1983) Species associations and day-night variability of trawl-caught fishes from the inshore sponge-coral habitat, South Atlantic bight. *U.S. Fishery Bulletin* 81: 537-552.
- Werner, F., G. Hoffman, M. Bernhard, D. Milkert & K. Vikgren (1990) [Sedimentological effects of trawl fishery in Kiel Bay (western Baltic).]. *Meyniana* 42: 123-151.
- West, B. (1987) 1986 Bering Sea trawling impact project. *Oceans '87, I.E.E.E., New York* 2: 626-631.
- Westley, R.E. (1976) A lawsuit (environmentally oriented) brought against mechanical clam harvest in Washington State with a Hanks-type harvester. *Proceedings of the National Shellfish Association* 65(6).
- Whitman, J.D. & K.P. Sebens (1992) Regional variation in fish predation intensity: a historical perspective in the Gulf of Maine. *Oecologia* 90: 305-315.
- Whyte, S.G. (1994) Changes in the macrobenthic invertebrate fauna of a muddy-sand deposit off the west coast of the Isle of Man, over a period of 40 years. *M.Phil. thesis, University of Liverpool*: 122p
- Wickman, D.A. & J.W. Watson (1976) Scuba diving methods for fishing systems evaluation. *Marine Fisheries Review* 38(7): 15-23.
- Wiley, J.P. (1999) We're scraping bottom. *Smithsonian* 30: 25-28.
- Williamson, J. (1998) Gillnet fishing. In: E.M. Dorsey & J. Pederson (eds.) *Effects of Fishing Gear on the Sea Floor of New England*. Conservation Law Foundation, Boston, Mass.: 87-89.
- Wilson, J.B. (1979a) The distribution of the coral *Lophelia pertusa* (L.), [*L. prolifera* (Pallas)] in the north-east Atlantic. *Journal of the Marine Biological Association of the United Kingdom* 59: 149-164.
- Wilson, J.B. (1979b) 'Patch' development of the deep-water coral *Lophelia pertusa* (L.) on Rockall Bank. *Journal of the Marine Biological Association of the United Kingdom* 59: 165-177.
- Wilson, J.B. (2001) *Lophelia* 1700 to 2000 and beyond. In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) *Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 1-5.
- Windom, H.L. (1976) Environmental aspects of dredging in the coastal zone. *Critical Rev. Environment. Control* 6: 91-110.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Wion, D.A. & R.A. McConnaughey (eds.) (2000) Mobile Fishing Gear Effects on Benthic Habitats: A Bibliography. *NOAA Technical Memorandum NMFS-AFSC-116*: 167p.
- Witbaard, R. (1989) De verspreiding van een aantal macrobenthos soorten in de Noordzee. *NIOZ-rapport 1989-1*.
- Witbaard, R. (1997) [Tree of the sea: The use of internal growth lines in the shell of *Arctica islandica* (Bivalvia, Mollusca) for retrospective assessment of marine environmental change.] *Doctoral thesis, University of Groningen*: 149 p. [In Dutch.]
- Witbaard, R. & R. Klein (1993) A method to estimate the bottom trawl intensity independently from fisheries itself by using internal molluscan growth lines. *ICES CM 1993/K:16*.
- Witbaard, R. & R. Klein (1994) Long-term trends on the effects of the southern North Sea beam trawl fishery on the bivalve mollusc *Arctica islandica* L. (Mollusca, Bivalvia). *ICES Journal of Marine Science* 51: 99-105.
- Witherell, D. & C. Coon (2001) Protecting gorgonian corals off Alaska from fishing impacts. In: J.H.M. Willison, J. Hall, S.E. Gass, E.L.R. Kenchington, M. Butler & P. Doherty (eds.) *Proceedings of the First International Symposium on Deep-Sea Corals*, Ecology Action Centre & Nova Scotia Museum, Halifax: 117-125.
- Woodburn, K.D., B. Eldred, E. Clark, R.F. Hutton & R.M. Ingle (1957) The live bait shrimp fishery of the west coast of Florida (Cedar Key to Naples). *Florida Board of Conservation, Technical Series No. 21*:1-33.
- Wright, D.G. & G.E. Hopky (1998) Guidelines for the use of explosives in or near Canadian fisheries waters. *Canadian Technical Report of Fisheries and Aquatic Sciences 2107*: 68p.
- Wright, G., A.I. Hatcher & B.G. Hatcher (1988) Clarifying the impact of fishing activity on the reefs of the Houtman Abrolhos: Results of a tandem approach between anthropology and marine science. In: J.H. Choat, D. Barnes,
- Wynberg, R.P. & G.M. Branch (1994) Disturbance associated with bait-collection for sandprawns (*Callinassa kraussi*) and mudprawns (*Upogebia africana*): Long-term effects on the biota of intertidal sandflats. *Journal of Marine Research* 52: 523-558.
- Wynberg, R.P. & G.M. Branch (1997) Trampling associated with bait-collection for sandprawns *Callinassa kraussi* Stebbing: Effects on the biota of an intertidal sandflat. *Environmental Conservation* 24: 139-148.
- Zenetos, A. (1997) Trawling impact on benthic ecosystems. *National Center for Marine Research, Athens, Greece, report DG-XIV-Contract-Number-95/14*: 120p.
- Zieman, J.C. (1976) The ecological effects of physical damage from motor boats on turtle grass beds in southern Florida. *Aquatic Botany* 2: 127-139.

Gadus Associates'
Bibliography of Seabed Impacts of Fishing Gear

- Zolotarev, P. (1997) [Influence of trawling fishing gears upon the mortality of Iceland scallop in the Barents Sea]. *In: [Non-Traditional Fish Objects of Marine Fishery and Perspectives of their Utilisation: These of Reports of Scientific Conference "MIP-999"]*. Murmansk: 57-58. [In Russian]
- Zolotarev, P. (2002) Population density and size structure of sea stars on beds of Iceland scallop, *Chlamys islandica*, in the southeastern Barents Sea. *Sarsia* 87: 91-96.
- Zwanenburg, K.C.T. (2000) The effects of fishing on demersal fish communities of the Scotian Shelf. *ICES J. Mar. Sci.* 57: 503- 509.