

The following are publications of data from collaborative research projects funded by the Northeast Consortium. The list includes articles in scientific (e.g. peer reviewed) literature, not newspaper articles, workshop and conference proceedings, etc. All interim and final reports and other project information may be accessed at: <http://www.northeastconsortium.org/projects.shtml> or by contacting Rachel G. Feeney, Northeast Consortium Communications and Information Coordinator at (603) 862-2276 or rachel.feeney@unh.edu.

Groundfish

Title:	Project Leader:	Year Funded:
<i>A collaborative program to reduce bycatch and discard in Gulf of Maine otter trawl fisheries: effect of composite mesh codends on trawl selectivity</i>	Chris Glass (Manomet)	2000

Glass, C.W., B. Sarno, G. D. Morris, and T. Feehan, 2003. The use of composite mesh codends to reduce bycatch and discard in North Atlantic fisheries. *ICES CM* 2003, Z:05.

Title:	Project Leader:	Year Funded:
<i>Activity and distribution of cod in the Ipswich Bay spawning area</i>	Hunt Howell (UNH)	2005

Siceloff, L. and W.H. Howell, 2009. Vertical activity and fine scale distribution of cod on Ipswich Bay spawning ground. In Tallack, S. (ed.) Proceedings from a workshop to identify future research priorities for cod tagging in the Gulf of Maine, 12 February, 2009. Northeast Fisheries Science Center. Reference Document 09-09, 76 p.

Siceloff, L. 2009. Fine-scale activity, distribution, and habitat utilization of Atlantic cod (*Gadus morhua*) on the Ipswich Bay spawning ground. M.S. Thesis, Dept. of Zoology, Univ. of New Hampshire. 56 p.

Title:	Project Leader:	Year Funded:
<i>Determining groundfish species movement patterns in closed areas (Western Gulf of Maine Area Closure)</i>	Hunt Howell (UNH)	2000, 2002

Howell, W. H., M. Morin, N. Rennels, D. Goethel, 2008. Residency of adult Atlantic cod (*Gadus morhua*) in the western Gulf of Maine. *Fisheries Research* 91(2-3), p. 123-132.

Title:	Project Leader:	Year Funded:
<i>Development of a hydrodynamic cover for conducting experiments on selectivity of trawl codends onboard fishing vessels</i>	Pingguo He (UNH)	2001 PD

He, P., 2007. Selectivity of large mesh trawl codends in the Gulf of Maine: Comparison of square and diamond mesh. *Fisheries Research* 83, p. 44-59.

Title:	Project Leader:	Year Funded:
<i>Development of multi-beam sonar as a fisheries tool for stock assessment and EFH identification of groundfish in the western Gulf of Maine</i>	Hunt Howell (UNH)	2006 PD

Gurshin, C. W. D., J. M. Jech, W. H. Howell, T. C. Weber, L. A. and Mayer, 2009. Measurements of acoustic backscatter and density of captive Atlantic cod with synchronized 300-kHz multibeam and 120-kHz split-beam echosounders. *ICES Journal of Marine Science* 66, p. 1303-1309.

Title:	Project Leader:	Year Funded:
<i>Identification of life history parameters for two exploited skate species (Amblyraja radiata and Malacoraja senta) in the Gulf of Maine: strategies for fisheries management</i>	Paul Tsang (UNH)	2001

Kneebone, J., D. E. Ferguson, J. A. Sulikowski, and P. C. W. Tsang, 2007. Endocrinological investigation into the reproductive cycles of two sympatric skate species, *Malacoraja senta* and *Amblyraja radiata*, in the western Gulf of Maine. *Environmental Biology of Fishes* 80(2/3), p. 257-265.

Sulikowski, J. A., W. B. III Driggers, G. W. Jr. Ingram, J. Kneebone, D. E. Ferguson, and P. C. W. Tsang, 2007. Profiling plasma steroid hormones: a non-lethal approach for the study of skate reproductive biology and its potential use in conservation management. *Environmental Biology of Fishes* 80(2/3), p. 285-292.

Natanson, L. J., J. A. Sulikowski, J. R. Kneebone, P. C. W. Tsang, 2007. Age and growth estimates for the smooth skate, *Malacoraja senta*, in the Gulf of Maine. *Environmental Biology of Fishes* 80(2/3), p. 293-308.

Sulikowski, J. A., S. Elzey, J. Kneebone, P. Danley, W. H. Howell, and P. C. W. Tsang, 2007. The reproductive cycle of the smooth skate, *Malacoraja senta*, in the Gulf of Maine. *Journal of Marine and Freshwater Research* 58(1), p. 98-103.

Sulikowski, J. A., J. Kneebone, S. Elzey, J. Jurek, W. H. Howell, and P. C. W. Tsang, 2006. Using the composite variables of reproductive morphology, histology and steroid hormones to determine age and size at sexual maturity for the thorny skate *Amblyraja radiata* in the western Gulf of Maine. *Journal of Fish Biology* 69(5), p. 1449-1465.

Sulikowski, J. A., J. Kneebone, S. Elzey, P. Danley, W. H. Howell, and P. C. W. Tsang, 2005. The reproductive cycle of the thorny skate, *Amblyraja radiata*, in the Gulf of Maine. *Fisheries Bulletin* 103(3), p. 536-543.

Sulikowski, J. A., J. Kneebone, S. Elzey, P. Danley, W. H. Howell, and P. C. W. Tsang, 2005. Age and growth estimates of the thorny skate, *Amblyraja radiata*, in the Gulf of Maine. *Fisheries Bulletin* 103(1), p. 161-168.

Title:	Project Leader:	Year Funded:
<i>Maine-New Hampshire inshore trawl survey</i>	Sally Sherman (MEDMR)	2000, 2002, 2005

Chen, Y., S. Sherman, C. Wilson, J. Sowles, and M. Kaniawa, 2005. A comparison of two fishery-independent survey programs in characterizing population structure of American lobster, *Homarus americanus*, in the Gulf of Maine. *Fisheries Bulletin* 104, p. 247-255.

Title:	Project Leader:	Year Funded:
<i>Production and testing of an alternative bait selecting for haddock</i>	Mark Leach (CCCHFA)	2003 PD

Ford, J. S., T. Rudolph, and S. D. Fuller, 2008. Cod bycatch in otter trawls and in longlines with different bait types in the Georges bank haddock fishery. *Fisheries Research* 94, p. 184-189.

Title:	Project Leader:	Year Funded:
<i>Reducing cod bycatch in flounder gillnets to reduce cod catch in the Gulf of Maine</i>	Pingguo He (UNH)	2002

He, Pingguo, 2006. Effect of the headline height of gillnets on species selectivity in the Gulf of Maine. *Fisheries Research* 78, p. 252-256.

Title: <i>Survival of sub-legal cod (Gadus morhua) in the Northwest Atlantic longline fishery</i>	Project Leader: John Pappalardo (CCCHFA)	Year Funded: 2003
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Milliken, H., M. Farrington, T. Rudolph, and M. Sanderson, 2009 Survival of discarded sub-legal Atlantic cod in the northwest Atlantic demersal longline fishery. *North American Journal of Fisheries Management*, 29(4): 985-995.

Title: <i>Trophic ecology of Atlantic cod: insights from tri-monthly, localized scales of sampling</i>	Project Leader: Frank Almeida (NMFS)	Year Funded: 2001, 2002
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Smith, B. E., T. L. Ligenza, F. P. Almeida, and J. S. Link, 2007. The trophic ecology of Atlantic cod: insights from tri-monthly, localized scales of sampling. *Journal of Fish Biology* 71, p. 749-762.

Title: <i>Using genetic techniques to discriminate Atlantic cod spawning stocks in U.S. waters: A pilot project</i>	Project Leader: Dave Berlinsky (UNH)	Year Funded: 2003 - 2005
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Wirgin, I, A. I. Kovach, L. Maceda, N. K. Roy, J. Waldman, and D. L. Berlinsky, 2007. Stock identification of Atlantic cod in U.S. waters using microsatellite and single nucleotide polymorphism (SNP) DNA analyses. *Transactions of the American Fisheries Society* 136, p. 375-391.

Title: <i>Yellowtail Flounder Tagging Study</i>	Project Leader: Steve Cadrin (NMFS)	Year Funded: 2003 - 2005
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Cadrin, S. X. and J. Moser, 2006. Partitioning on-bottom and off-bottom behavior: A case study with yellowtail flounder off New England. *ICES CM* 2006/Q:14.

Recksiek, C.W., G. Fischer, H.T. Rossby, S.X. Cadrin, and P. Kasturi, 2006. Development and application of 'FRAFOS' tags for studying fish movement. *ICES C.M.* 2006/Q.

Cadrin, S. X., and J. Moser, 2005. Morphometric variation of yellowtail flounder. *ICES Journal of Marine Science* 62(4), p. 683-694.

Tallack, S., Rago, P., T. Brawn, S. Cadrin, J. Hoey, and L. Taylor Singer, 2005. Proceedings of a workshop to review and evaluate the design and utility of fish mark - recapture projects in the northeastern United States. NEFSC Ref. Doc. 05-02 (available online <http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0502>).

Cadrin, S. X. and A. D. Westwood, 2004. The use of electronic tags to study fish movement: A case study with yellowtail flounder off New England. *ICES CM* 2004/K:81 (available online <http://www.ices.dk/products/CMdocs/2004/K/K8104.pdf>).

Cadrin, S., A. Westwood, L. Alade, N. Keith, R. Rountree, D. Martins, R. Kessler, D. Jones, A. Valliere, J. King, J. Boardman, H. Stone and New England Fishermen, 2004. Movement of yellowtail flounder: A cooperative tagging study. *Ninth Flatfish Biology Conference*, NEFSC Ref. Doc. 04-13, p. 13 (available online <http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0413>).

Habitat/Ecosystem/Monitoring

Title: *Comparison of environmental contaminants on Georges Bank and Stellwagen Bank* **Project Leader:** Emily Monosson (Mount Holyoke) **Year Funded:** 2001

Monosson, E. and D. Lincoln, 2006. Comparison of PCBs, organochlorine pesticides, and trace metals in cod liver from Georges Bank and Stellwagen Bank, USA and Canada. *Marine Pollution Bulletin* 52, p. 572-597.

Title: *Drifter study of a front in the Maine coastal current system off Penobscott Bay, Maine* **Project Leader:** Lew Incze (USM) **Year Funded:** 2004

Incze, L., X. Huijie, N. Wolff, D. Xu, C. Wilson, R. Steneck, R. Wahle, P. Lawton, N. Pettigrew and Y. Chen, 2010. Connectivity of lobster (*Homarus americanus*) populations in the coastal Gulf of Maine: part II. Coupled biophysical dynamics. *Fisheries Oceanography* 19(1), p. 1-20.

Manning, J. P., D. J. McGillicuddy Jr., N. R. Pettigrew, J. H. Churchill, and L. S. Incze, 2009. Drifter observations of Gulf of Maine Coastal Current. *Continental Shelf Research* 29, p. 835-845.

Title: *eMOLT: Environmental monitors on lobster traps phases 1 – 6: temperature, salinity, data management, drifters, real-time temperature, and bottom currents* **Project Leader:** James Manning (NMFS) **Year Funded:** 2000 - 2002

Manning, J. P., D. J. McGillicuddy Jr., N. R. Pettigrew, J. H. Churchill, and L. S. Incze, 2009. Drifter observations of the Gulf of Maine Coastal Current. *Continental Shelf Research* 29, p. 835-845.

Manning, J. and E. Pelletier, 2009. Environmental monitors on lobster traps (eMOLT): Long-term observations of New England's bottom-water temperatures. *Journal of Operational Oceanography* 2(1), p. 25-33.

Worden, M. K., C. M. Clark, M. Conaway, and S. A. Qadri, 2006. Temperature dependence of cardiac performance in the lobster *Homarus americanus*, *Journal of Experimental Biology* 209, p. 1024-1034.

Title: *Exploring the potential inadvertent effects of Gulf of Maine and Georges Bank area closures on cod life-history variation* **Project Leader:** Graham Sherwood (GMRI) **Year Funded:** 2006

Sherwood, G. D., and J. H. Grabowski, 2010. Exploring the life-history implications of colour variation in Atlantic cod (*Gadus morhua*). *ICES Journal of Marine Science* 67: 1640-1649.

Title: *Intensive study of the Western Gulf of Maine Closure Area* **Project Leader:** Ray Grizzle (UNH) **Year Funded:** 2002 - 2003

Grizzle, R. E., L. G. Ward, L. A. Mayer, M. A. Malik, A. B. Cooper, H. A. Abeels, J. K. Greene, M. A. Brodeur, and A. A. Rosenberg, 2009. Effects of a large fishing closure on benthic communities in the western Gulf of Maine: recovery from the effects of gillnets and otter trawls. *Fishery Bulletin* 107(3), p.308-317.

Malik, M. and L.A. Mayer, 2007. Investigations of bottom fishing impacts on benthic structure using multibeam sonar, sidescan sonar and video. *ICES Journal of Marine Science* 64(5), p. 1053-1065.

Malik, M.A., 2005. Identification of bottom fishing impacted areas using multibeam sonar and videography. MS thesis, Univ. of New Hampshire, Durham NH.

Malik, M.A. and L. Mayer., 2004. Jeffreys Ledge Survey, December 2002-January 2003. Center for Coastal Ocean Mapping, University of New Hampshire, Durham, NH (published on the web @ http://woodshole.er.usgs.gov/project-pages/coastal_mass/html/jeffledge.html).

Title:	Project Leader:	Year Funded:
<i>PULSE: A cooperative partnership for pelagic ocean ecosystem monitoring in the Gulf of Maine</i>	Jeff Runge (USM/GMRI)	2001, 2002, 2006

Runge, J. A., A. Kovach, J. Churchill, L. Kerr, J. R. Morrison, R. Beardsley, D. Berlinsky, C. Chen, S. Cadrin, C. Davis, K. Ford, J. H. Grabowski, W. H. Howell, R. Ji, R. Jones, A Pershing, N. Record, A. Thomas, G. Sherwood, S. Tallack and D. Townsend, 2010. Understanding climate impacts on recruitment and spatial dynamics of Atlantic cod in the Gulf of Maine: Integration of observations and modeling. *Progress in Oceanography* 87, p. 251-263.

Herring

Title:	Project Leader:	Year Funded:
<i>Stock intermixing and migration of Atlantic herring (Culpea harengus) in the Gulf of Maine, Georges Bank, and Southern New England</i>	Kohl Kanwit (ME DMR)	2001 PD, 2004

Kanwit, K. and D. A. Libby, 2009. Seasonal movements of Atlantic herring (*Clupea harengus*): Results from a four year tagging study conducted in the Gulf of Maine and southern New England. *Journal of Northwest Atlantic Fisheries Science* 40, p. 29-39.

Lobster

Title:	Project Leader:	Year Funded:
<i>Are we using herring to farm lobsters? The effect of herring bait on lobster growth and the fate of discarded bait on bottom habitat.</i>	Jonathan Grabowski (GMRI)	2001

Grabowski, J. H., E. J. Clesceri, J. Gaudette, A. Baukus, M. Weber, and P. O. Yund, 2010. Use of herring bait to farm lobsters in the Gulf of Maine. *PLoS One* 5(4): e10188.

Grabowski, J. H., J. Gaudette, E. J. Clesceri, and P. O. Yund, 2009. The role of food limitation in lobster population dynamics in coastal Maine, United States, and New Brunswick, Canada. *New Zealand Journal of Marine and Freshwater Research* 43(1), p. 185-193.

Title:	Project Leader:	Year Funded:
<i>Depth-related settlement patterns of the American lobster in the Gulf of Maine and Southern New England</i>	Rick Wahle (UMaine)	2004pd, 2006

Wahle, R. A., C. Wilson, M. Parkhurst, and C. Bergeron, 2009. A vessel deployed passive postlarval collector to assess settlement of the American lobster *Homarus americanus*. *New Zealand Journal of Marine and Freshwater Research* 43(1), p. 465-474.

Title:	Project Leader:	Year Funded:
<i>Implementation of an automated, comprehensive monitoring program for the Atlantic offshore lobster fishery</i>	Win Watson (UNH)	2001, 2002

Little, S. A. and W. H. Watson III, 2005. Differences in the size at maturity of female American lobsters, *Homarus americanus*, captured throughout the range of the lobster fishery. *Journal of Crustacean Biology* 25(4), p. 585-592.

Little, S. A. and W. H. Watson III, 2003. Size at maturity of female American lobsters from an estuarine population and coastal population. *Journal of Shellfish Research* 22(3), p. 857-863.

Title:	Project Leader:	Year Funded:
<i>Inshore/offshore patterns of lobster larvae and postlarvae spatial relationships</i>	Lew Incze (USM/GMRI)	2001

Incze, L. S., H. Xue, N. Wolff, D. Xu, C. Wilson, R. Steneck, R. Wahle, P. Lawton, N. Pettigrew, and Y. Chen, 2010. Connectivity of lobster populations in the Gulf of Maine. Part II. Coupled biophysical dynamics. *Fisheries Oceanography* 19: p. 1-20.

Xue, H., L. S. Incze, D. Xu, N. Wolff, and N. Pettigrew, 2008. Connectivity of lobster populations in the coastal Gulf of Maine. Part I: Circulation and larval transport potential. *Ecological Modeling* 210: p. 193-211.

Incze, L. S., R. A. Wahle, N. Wolff, C. Wilson, R. Steneck, E. Annis, P. Lawton, H. Xue and Y. Chen, 2007. Early life history and a modeling framework for lobster populations in the Gulf of Maine. *Journal of Crustacean Biology* 26: p. 555-564.

Annis, E. R., L. S. Incze, N. Wolff, and R. S. Steneck, 2006. Estimates of *in situ* larval development time for the lobster, *Homarus americanus*. *Journal of Crustacean Biology* 27: p. 454-462.

Incze, L. S., N. Wolff, and R. A. Wahle, 2003. Can scientific observations of early life stages be scaled up to the level of a fished population? A case study using *Homarus americanus*. *Fisheries Research* 65, p. 33-46.

Title:	Project Leader:	Year Funded:
<i>Mapping spawning and hatching grounds of the American lobster</i>	Diane Cowan (The Lobster Conservancy)	2002, 2004

Cowan, D. F., W. H. Watson, A. R. Solow, and A. Mountcastle, 2007. Thermal histories of brooding lobsters, *Homarus americanus*, in the Gulf of Maine. *Marine Biology* 150(3), p. 463-470.

Cowan, D. F., 2003. Mapping the movements of egg-bearing female lobsters and bottom temperatures. *Prototype Biophysical Maps of the Gulf of Maine*, E. Richert and L. Incze, eds. Island Institute, p. 26-28.

Red Crab

Title:	Project Leader:	Year Funded:
<i>Developing stock assessment methods and evaluating beam-trawls in stock assessment surveys of the New England deep sea red crab fishery</i>	Rick Wahle (Bigelow)	2001, 2002 PD Award, 2003

Wahle, R. A., C. Bergeron, A. Chute, L. Jacobson and Y. Chen, 2008. The northwest Atlantic deep-sea red crab population before and after the onset of harvesting. *ICES Journal of Marine Sciences* 65, p.862-872.

Scallops

Title: <i>Maine scallop fishery: Monitoring and enhancement</i>	Project Leader: Dan Schick (MEDMR)	Year Funded: 2001
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Feindel, S., Developing a coastal Maine sea scallop enhancement program, National Shellfisheries Association (NSA) meeting, Mystic, CT, April 16, 2002. Abstract reprinted in *Journal of Shellfish Research*.

Sea Cucumber

Title: <i>A preliminary study of the Maine Sea Cucumber (Cucumaria frondosa) fishery</i>	Project Leader: Yong Chen (UMaine)	Year Funded: 2002 PD Award, 2003
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Kirshenbaum, S., S. Feindel, and Y. Chen, 2006. A study of tagging methods for the sea cucumber *Cucumaria frondosa* in the waters off Maine. *Fishery Bulletin* 104, p. 299-302.

Sea Urchin

Title: <i>A simulation framework for developing optimal sampling strategies for the Maine sea urchin stock</i>	Project Leader: Yong Chen (UMaine)	Year Funded: 2001 PD Award
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Kanaiwa, M., Y. Chen, and M. Hunter, 2005. An evaluation of a complex length-based fisheries stock assessment model for the green sea urchin fishery in Maine, USA. *Fisheries Research* 74, p. 96-115.

Shrimp

Title: <i>Modifying the Nordmore grate rigging to reduce fin fish discards in shrimp trawls in the Gulf of Maine</i>	Project Leader: Pingguo He (UNH)	Year Funded: 2004PD, 2005
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He, P & V. Balzano, 2007. Reducing small shrimps in the Gulf of Maine pink shrimp fishery with a new size-sorting grid system. *ICES Journal of Marine Science* 64, p. 1551-1557.

Title: <i>Reducing seabed contact of trawling: Design, model test, and fishing trials of a semi-pelagic shrimp trawl for the pink shrimp fishery</i>	Project Leader: Pingguo He (UNH)	Year Funded: 2001, 2002
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He, P. & H. DeLouche, 2004. Reducing seabed contact of trawling: semi-pelagic shrimp trawling experiments in the Gulf of Maine and in Newfoundland. *ICES FTFB Working Group*, Gdynia, Poland.

He, P., P. Winger, R. Fonteyne, M. Pol, P. MacMullen, S. Løkkeborg, B. van Marlen, T. Moth-Poulsen, K. Zachariassen, A. Sala, W. Thiele, U. Hansen, E. Grimaldo, A. Revill, and H. Polet, 2004. Mitigation measures against seabed impacts of mobile fishing gears. *ICES/FAO Working Group on Fishing Technology and Fish Behavior*. Gdynia, Poland. April, 2004 (Available online: [http://www.imr.no/ftfb/He%20at%20al%20\(File%202\).pdf](http://www.imr.no/ftfb/He%20at%20al%20(File%202).pdf)).

Socioeconomics/Outreach/Education

Title:	Project Leader:	Year Funded:
<i>An atlas based audit of fishing territories, local knowledge, and community participation in fisheries science and management</i>	Kevin St. Martin (Rutgers)	2001

St. Martin, K. 2009. Toward a cartography of the commons: Constituting the political and economic possibilities of place. *Professional Geographer* 61(4).

St. Martin, K., 2008. Mapping community use of fisheries resources in the U.S. northeast. *Journal of Maps*. 2008:38-41.

St. Martin, K. and M. Hall-Arber, 2008. The missing layer: Geo-technologies, communities, and implications for marine spatial planning. *Marine Policy* 32:779-786.

St. Martin, K. and M. Hall-Arber, 2008. Creating a place for 'community' in New England fisheries. *Human Ecology Review* 15(2):161-170.

St. Martin, K. 2007. Contributor to *Visions for a Sea Change. Report of the First International Workshop on Marine Spatial Planning*. UNESCO Intergovernmental Oceanographic Commission (ICAM Dossier Series): Paris.

St. Martin, K. and M. Hall-Arber, 2007. Environment and development: (Re)Connecting community and commons in New England fisheries. in *Connecting People, Participation and Place: Participatory Action Research Approaches and Methods*, S. Kindon, R. Pain and M. Kesby eds. Routledge, pp. 51-59.

St. Martin, K., B. McCay, G. Murry, T. Johnson, and B. Oles. 2007. Communities, knowledge, and fisheries of the future. *International Journal of Global Environmental Issues* 7(2/3): 221-239.

St. Martin, K. 2006. The impact of 'community' on fisheries management in the U.S. northeast. *Geoforum* 37(2) 169-184.

Title:	Project Leader:	Year Funded:
<i>Socio-economic impact assessment of the Northeast Consortium</i>	Robert Robertson (UNH)	2001

Hartley, T. W. and R. A. Anderson, 2009. Stakeholder collaboration in fisheries research: Integrating knowledge among fishing leaders and science partners in northern New England. *Society and Natural Resources* 22, p. 42-55.

Hartley, T. W. and R. A. Robertson, 2008. Cooperative research program goals in New England: Perceptions of active commercial fishermen. *Fisheries* 33(11), p. 551-559.

Hartley, T. W. and R. A. Robertson, 2006. Stakeholder engagement, cooperative fisheries research, and democratic science: The case of the Northeast Consortium. *Human Ecology Review* 13(2), p. 161-171.

Hartley, T. W. and R. A. Robertson, 2006. Emergence of multi-stakeholder driven cooperative research in the Northwest Atlantic: The case of the Northeast Consortium. *Marine Policy* 30(5), p. 580-592.
