

Curriculum Vitae

Jon Helge Vølstad

Education:

- Dr.Scient. (Ph.D.) Quantitative Fisheries Biology (Biometrics), University of Bergen (Norway), 1990. (Dissertation: Some Aspects of the Design and Analysis of Marine Abundance Surveys).
- British Council Fellow, Biomathematics/Statistics, Oxford University (U.K.), 1987.
- Cand.real. (M.Sc.) Fisheries Biology including Management, University of Bergen, 1985.
- Cand.mag. (B.S.) Double majors in Mathematics/Statistics and Biology, University of Bergen, 1982.

Key Scientific Qualifications:

Statistical Methods to Assess Fisheries Resources and the Environment; Statistical Survey Sampling methods; Quantitative Fisheries Biology & Modeling with Quantification of Uncertainty; Methods for Small Scale, Recreational, and Commercial Fisheries Monitoring & Assessment; Ecological and Environmental Statistics; Biological Indicators and Biocriteria for Environmental Assessments.

Languages:

- Norwegian - Mother tongue
- English - Full professional proficiency
- Portuguese - Speak and read with high proficiency, limited writing skills
- German - Speak some, read with high proficiency, limited writing skills

Active Membership in Professional Societies:

The American Fisheries Society
The American Statistical Association
The International Biometric Society

Employment History:

- 2010- Chief Scientist, Research group leader, Fishery Dynamics, Institute of Marine Research, Bergen, Norway.
- 2007-2009 Senior Research Scientist, Institute of Marine Research, Bergen, Norway.
- 1999-2007 Principal Biometrician and Program Manager, Versar, Inc., Columbia, Maryland, USA.
- 2003-2006 Adjunct Faculty , University of Maryland, College Park, Graduate School, Department of Animal and Avian Sciences, Biometrics Group.
- 1996-1999 Scientific Advisor, Fisheries Research Institute (IIP), Maputo, Mozambique, & Senior Scientist, Institute of Marine Research, Bergen, Norway (On leave of absence from Versar, Inc.)
- 1994-1996 Senior Scientist, Versar, Inc., Columbia, Maryland, USA.
- 1992-1994 Post-doc. (Applied Mathematician/Statistician), University of Maryland, Center for Environmental and Estuarine Studies, Chesapeake Biological Laboratory, Maryland, USA.
- 1990-1992 Senior Research Scientist, Institute of Marine Research, Bergen, Norway. (Fellowship from the Norwegian Research Council.)
- 1987-1990 Research Scholar, Institute of Marine Research, Bergen, Norway (PhD fellowship from the Norwegian Research Council.)
- 1985-1987 Research Scholar, Institute of Marine Research, Bergen, Norway.

Work Experience:

- Over 20 years of post-doctoral research and management experience in quantitative fisheries biology and ecological statistics, specializing in statistical survey methods for fisheries monitoring and stock assessment.

- Broad experience in the development and optimization of fisheries-dependent and fisheries-independent monitoring programs to assess fish stocks and to quantify catch and effort in commercial and recreational fisheries.
- Developed and taught ICES Training course “Design and Analysis of Statistically Sound Catch Sampling Programmes”, with Dr. Mary Christman. This course introduced the principles of survey design and the basis of standard practices in the field to participants working with data collection. 23-27 June 2014, ICES, Copenhagen, Denmark
- Team member in a joint research project conducted by IMR and Centre for Ecological and Evolutionary Synthesis (CEES), University of Oslo, to develop adaptive management of living marine resources in Norwegian waters by integrating different data sources and key ecological processes (ADMAR). Coordinate research on the design of cost efficient sampling programs and the development of parsimonious statistical prediction methods for stock assessment with quantification of associated measures of precision (WP1, ADMAR).
- Principal Investigator and manager of a project supported by the Norwegian Research Council (NRC) to develop methods to estimate catch and effort by tourists in Norwegian coastal waters.
- Principal Investigator of a project to develop optimal survey strategies for supporting ecosystem based fisheries management.
- Member of the IMR team on the EU project on Science and Policy Integration for Coastal Systems Assessment (SPICOSA) — an integrated project under the EU’s 6th Framework Program for Research of the European Commission.
- Principal biometrician and leader of the fishery and statistics program at Versar, Inc. from 1999-2007.
- Principal investigator (PI) on the University of Maryland and Versar Ecological Risk Assessment for proposed efforts to restore oyster populations in Chesapeake Bay, 2003-2007.
- PI for a project funded by NOAA Fisheries to conduct an analytical and statistical review of procedures to collect and analyze commercial data used for management of fishery resources in the U.S. Exclusive Economic Zone off Alaska (1996-1997).
- Designed a winter dredge survey combined with gear efficiency studies for the U.S. Army Corps of Engineers (USACE) to evaluate potential impact of Channel deepening projects on the blue crab in Delaware Bay.
- Led the development of a BACI study design for monitoring and assessment of the ecological impact of beach nourishment at multiple beaches in North Carolina for the USACE.

- Scientific advisor to the Maryland Water Quality Monitoring Council in their effort to develop and implement biocriteria for assessing and monitoring the ecological status and trends of freshwater streams in Maryland.
- Developed methods for assessing cumulative impacts of point and non-point sources on the biotic integrity of Maryland streams, and played an integral role in the design of the Maryland Biological Stream Survey (MBSS) for 2000-2004, a statewide survey with focus on effective assessment of the ecological status of biological resources in non-tidal watersheds of Maryland.
- Led a NOAA funded project to identify procedures employed in National observer programs to select vessels for observation and other factors that could cause bias in estimates of catch and bycatch.
- In collaboration with Maryland Department of Natural Resources I designed a survey to quantify catches in the fishery for blue crab in the Chesapeake Bay for the National Oceanic and Atmospheric Administration.
- Have served regularly as expert reviewer of stock assessments conducted by NOAA Fisheries in the U.S.A. under contract with the University of Miami's Center for Independent Experts (CIE) since 2002.
- Provided advice on the development and implementation of effective methods for assessing commercially exploited marine resources in Mozambican waters as scientific advisor to the director of the Fisheries Research Institute (IIP) in Mozambique from 1996-1999.
- Led the development of a National system for the monitoring of small-scale fisheries in Mozambique.
- Have conducted reviews of stock assessments, and taught classes in survey sampling methods in Namibia, under contracts with the Food and Agriculture Organization (FAO) of the United Nations.

Recent International Committee Work:

The Workshop on Sampling Design and Optimization (WKSDO), chaired by Cristina Silva, Manuela Azevedo (IPMA-PT) and Jon H. Vølstad (IMR-NO), Lisbon, 17–20 November 2014. Focused on the analysis of the current Portuguese sampling designs under PNAB/DCF (Programa Nacional de Amostragem Biológica/Data Collection Framework)

Chair (with Mike Armstrong, UK), The Third Workshop on practical implementation of statistical sound catch sampling programs (WKPICS3), Copenhagen, Denmark, 19-22 November 2013

Convener (with Mike Armstrong, UK, and Paul Rago, USA). Theme Session J. What's the catch? Designing and implementing statistically sound fishery sampling schemes in the real world. ICES ASC, Reykjavik, September 23-27, 2013.

Chair (with Mike Armstrong, UK), The Second Workshop on practical implementation of statistical sound catch sampling programs (WKPICS2), Copenhagen, Denmark, 6-9 November 2012

Chair (with Mike Armstrong, UK), The Workshop on practical implementation of statistical sound catch sampling programs (WKPICS1), Bilbao, Spain, 8-10 November 2011

Convener (with David A. Van Voorhees, U.S. , Claus Reedtz Sparrevohn, Denmark , Jeremy Lyle, Australia, Maggie Sommer, Scotland). Symposium: Improving Survey Methods for Monitoring Recreational Fishing Effort and Catch, American Fisheries Society Annual Meeting 2011, Seattle, USA.

Co-chair (with Mike Armstrong, UK), The Joint ICES-STEFCF Workshop on methods for merging fleet métiers for fishery based sampling [WKMERGE], ICES HQ, January 19-22, 2010.

Chair (with Sondre Aanes, Norway), Workshop on Methods to Evaluate and Estimate the Precision of Fisheries Data used for Assessment (WKPRECISE), ICES HQ, 8–11 September 2009.

Co-Chair (with Michael Pennington, Norway), Workshop on Methods to Evaluate and Estimate the Accuracy of Fisheries Data used for Assessment (WKACCU), 27–30 October 2008, Bergen, Norway.

Convener (with Dave Van Voorhees, USA, and Patrick Berthou, France), Symposium on Small-scale & Recreational Fisheries Surveys, Assessment, and Management at the 2008 ICES annual science conference in Halifax.

Peer Reviews:

Reviewer for scientific journals:

Aquatic Living Resources; Bull. Mar. Sci.; Can. J. Fish. Aquat. Sci.; Fish. Bull.; Fish. Res.; ICES J. Mar. Sci.; ICES Mar. Sci. Symp.; Marine Biology Research; Nature; New Zealand Journal of Marine & Freshwater Research; North Am. J. Fish Management; Sequential Analysis; Trans. Am. Fish. Soc.; Journal of the American Benthic Society (JNABS)

Reviewer for agencies:

- Member of review panel, Northeast Fisheries Science Center Science (NEFSC), Program Review of Stock Assessment Program. The focus was on the overall process including data preparation, assessment modeling, peer review process and communication. The Northeast Fisheries Science Center, Woods Hole, Massachusetts, USA, May 19-23, 2014.

- Panel Member, the Center for Independent Experts Panel Review of the Joint Pacific Sardine and Pacific hake (SaKe) acoustic-trawl survey. The Northwest Fisheries Science Center in Seattle, Washington, on January 21-24, 2014.
- Member of review panel, Northeast Fisheries Science Center Science (NEFSC) Data Collection Program Review. The review focused on fishery-independent and fishery-dependent data, data management, and quality control as they relate to stock assessments for which the NEFSC has jurisdiction.. The Northeast Fisheries Science Center, Woods Hole, Massachusetts, USA, August 5-9, 2013.
- Contracted by the Center of Independent Experts (CIE) as reviewer of the eastern Bering Sea crab and groundfish bottom trawl surveys conducted by the Alaska Fisheries Science Center (AFSC). The data from this survey are used in more than 25 stock assessments conducted by the AFSC as well as the State of Alaska and the International Pacific Halibut Commission. April, 2012.
- Center of Independent Expert (CIE) reviewer for a joint Canada-U.S. Pacific hake / whiting Stock Assessment Review (STAR) Panel meeting, Seattle, Washington, February 3-6, 2009. The Panel operated under the U.S. Pacific Fishery Management Council's Terms of Reference for the Groundfish Stock Assessment and Review Process.
- Contracted by ICES as an expert reviewer of the EU COST project, 'Common tool for raising and estimating properties of statistical estimates derived from the Data Collection Regulation Studies and Pilot projects for carrying out the common fisheries policy', Project no SI2.467814. May 2009.
- Contracted by the National Marine Fisheries Services (USA) to serve on the expert review panel for the Ground fish Assessment Review Meeting (GARM III). Northeast Fisheries Science Center, Woods Hole, USA, October 29-Nov 2, 2007.
- Member of expert panel invited by Northeast Fisheries Science Center (NEFSC) to review planned experiments to calibrate NOAA research vessel R/V Henry B Bigelow relative to R/V Albatross IV. Woods Hole, MA, April 25-27, 2007
- Member of an expert panel to review the Atlantic States Cooperative Statistics Program in the US. This review, conducted in Baltimore from September 19-21, 2006, was by invitation from the American Fisheries Society, Marine Fisheries Section.
- CIE reviewer on the Stock Assessment Review (STAR) Panel assembled to review new assessments for US West Coast stocks of English sole, petrale sole, and starry flounder. Northwest Fisheries Science Center, Seattle, WA, 18-22 April 2005
- CIE reviewer on SEDAR (South East Data, Assessment and Review) workshops on Gulf and South Atlantic King mackerel (SEDAR 5), SEFSC Laboratory in Miami Florida, February 16-19, Miami, USA, 2004.

- CIE reviewer on SEDAR (South East Data, Assessment and Review) workshops to evaluate assessments of the Status of the Stocks of Vermilion Snapper, and Black Sea Bass from the south east of the U.S. in 2003. Raleigh, NC, February 25-28, 2003.
- Reviewed the Artisanal Fisheries Monitoring Program conducted by IIP-Instituto Nacional de Investigação Pesqueira (Mozambican Fisheries Research Institute), contracted by IIP. Maputo, Mozambique, August 29 to September 13, 2004.
- Member of an expert review team selected by the American Fisheries Society's Marine Fisheries Section to assess Atlantic States Cooperative Statistics Program (ACCSP) pilot survey of for-hire fisheries (i.e., charter and party/head boats) on the U.S. Atlantic Coast. 2002.
- CIE reviewer on the first Groundfish Assessment Review Meeting (GARM) for 20 northeast USA stocks managed under the Northeast Multispecies Fishery Management Plan (Multispecies FMP). Woods Hole, Massachusetts from October 8-11, 2002

Student supervision (*Since 2007*)

Keno Ferter, University of Bergen, M.Sc., 09/2009 – 06/2011; PhD, 2011-2015 (Expected)

Alf Ring Kleiven, University of Tromsø, PhD, Defended 2010.

Contracts and grants

Norwegian Fisheries Research Council

- Norwegian Fisheries Research Council Research Fellowship (1990-1991).
- Norwegian Fisheries Research Council. Dr.Scient. fellowship (1987-1989).

Institute of Marine Research, Bergen, Norway

- Norwegian Research Council. Uncertainty Assessments Related to Opening New Areas for Petroleum Activity, UnCap. 2011-2013. NOK 6,567,000. Project leader: Jon Helge Vølstad.
- Norwegian Research Council. RECFISH. 2008. Workshop on survey methods for estimating catch, effort and economic value of widely dispersed marine recreational fisheries in Europe. 2010. 210,000 NOK.
- Norwegian Fisheries Research Council Competitive Travel Stipend in support of research

visits at NOAA, NEFSC, Woods Hole Laboratory, USA (1988, 1989, 1990, 1991, 1992).

- University of Bergen Competitive travel grant in support of research visit at NOAA, NEFSC, Woods Hole Laboratory, USA (1989).
- British Council Fellowship, Biomathematics/Statistics, Oxford University (U.K.) (1987)

University of Maryland, USA.

- National Oceanographic and Atmospheric Administration (NOAA): "Abundance estimation and Stock Assessment of the Blue Crab in the Chesapeake Bay". Principal investigators: B.J. Rothschild and J.H. Vølstad (FY-1993). \$138,703
- Renewal of Development and Implementation of the Chesapeake Bay Fishery-Independent Multispecies Survey (CHESFIMS), National Oceanic and Atmospheric Administration/ National Marine Fisheries Service/ Chesapeake Bay Program Office, awarded May 2000, PIs: T. J. Miller, E. D. Houde, M. Christman, A. Sharov, J. Vølstad, Chesapeake Biological Laboratory, Jan – Dec 2003. \$ 299,000
- Improving methods for estimating dredge catching efficiency in the Chesapeake Bay fishery-independent bluecrab surveys in support of improved stock assessment and fisheries management (funded by NOAA). PIs: Drs. John Hoenig, Rom Lipcius (VIMS), Dr. J.H. Vølstad (UMD), Dr. Mary Christman (University of Florida), Dr. Alexei Sharov, and Glen Davis (Maryland DNR). 2004-2005. \$ 30,000

Versar, Inc. Maryland, USA. (Selected Projects)

- Blue Crab Target-Setting, U.S. Environmental Protection Agency, Chesapeake Bay Program Office, PIs: J.H. Vølstad (Versar, Inc.), E. Houde, and T. Miller (University of Maryland). May 1995 to November 1996. \$ 20,000
- Analytical and Statistical Review of Procedures for Collection and Analysis of Commercial Fishery Data Used for Management and Assessment of Groundfish Stocks in the U.S. Exclusive Economic Zone off Alaska, U.S. Department of Commerce, National Marine Fisheries Service, Alaska Fisheries Science Center. PI: J.H. Vølstad. September 1995 to October 1997. \$ 142,000
- Development and selective implementation (as a pilot study) of a survey of the blue crab fishery in Maryland, Maryland Department of Natural Resources Fisheries Service, March 29, 2001 to December 13, 2001. PI: J.H. Vølstad \$14,394

- Development and Implementation of the Chesapeake Bay Fishery-Independent Multispecies Survey (CHESFIMS), National Oceanic and Atmospheric Administration/ National Marine Fisheries Service/ Chesapeake Bay Program Office, awarded May 2000, PIs: T. J. Miller, E. D. Houde, M. Christman, A. Sharov, J. Vølstad, Chesapeake Biological Laboratory, Jan – Dec 2001. \$ 310,000
- Renewal of Development and Implementation of the Chesapeake Bay Fishery-Independent Multispecies Survey (CHESFIMS), National Oceanic and Atmospheric Administration/ National Marine Fisheries Service/ Chesapeake Bay Program Office, awarded May 2000, PIs: T. J. Miller, E. D. Houde, M. Christman, A. Sharov, J. Vølstad, Chesapeake Biological Laboratory, Jan – Dec 2002. \$ 240,000
- Design and Implementation of a Survey of Commercial Blue Crab Effort in the Maryland Portion of the Chesapeake Bay, awarded May 2002, Maryland Department of Natural Resources, May 2002- March 2003. P.I.s: Mary C. Christman and J.H. Vølstad. \$ 213,003
- Delaware River and Estuary Creel Survey of Recreational Fishing, The Pennsylvania Fish and Boat Commission/Delaware River Basin Fish and Wildlife Management Cooperative, March 15 2002 to April 30, 2003. PI: J.H. Vølstad \$ 279,371
- Literature Search And Data Synthesis Of Biological Information For Use In Management Decisions Concerning Decommissioning Of Offshore Oil And Gas Structures In The Gulf Of Mexico. Contract from Minerals Management Service, January 2005-December 2007. PI: J.H. Vølstad \$300,000
- Lead scientist at Versar for obtaining \$5 million, five-year contract from the National Oceanic & Atmospheric Administration for scientific and technical support at the National Marine Fisheries Services Chesapeake Bay Office. 2005-2009. Under the contract Versar helped NOAA conducting habitat surveys, environmental modeling and educational outreach, and contracted scientific staff to National Marine Fisheries Services office in Oxford, Md..

Full Bibliography:

Book Chapters:

Sandersen, H., Mikkelsen, E., Moksness, E. and Vølstad, J. H. (2013) Knowledge Issues in ICZM and EBM Applied on Small Geographic Scales: Lessons from a Case Study in Risør, Norway, in *Global Challenges in Integrated Coastal Zone Management* (eds E. Moksness, E. Dahl and J. Støttrup), John Wiley & Sons, Ltd, Oxford, UK. doi: 10.1002/9781118496480.ch10

Pennington, Michael, Mikhail S. Shevelev, Jon Helge Vølstad and Odd Nakken. 2011. Chapter 10.3 Bottom trawl surveys. In: *The Barents Sea. Ecosystem, resources, management. Half a century of Russian-Norwegian cooperation*, pp. 570-584. Ed. by T. Jakobsen. and V.K. Ozhigin, V.K. Tapir Academic Press, Trondheim.

Sokolov, Konstantin M., Jon Helge Vølstad. 2011. Chapter 13.d. Marine Tourism. In: The Barents Sea. Ecosystem, resources, management. Half a century of Russian-Norwegian cooperation, pp. 678-686. Ed. by T. Jakobsen. and V.K. Ozhigin, V.K. Tapir Academic Press, Trondheim.

Peer-Reviewed Publications:

Aanes, S. and J.H. Vølstad. 2015. Efficient statistical estimators and sampling strategies for estimating the age-composition of fish. *Canadian Journal of Fisheries and Aquatic Sciences*, 10.1139/cjfas-2014-0408 (Published on the web March 3, 2015).

Stenevik, E. K., Vølstad, J. H., Høines, Å., Aanes, S., Óskarsson, G. J., Jacobsen, J. A., & Tangen, Ø. (2015). Precision in estimates of density and biomass of Norwegian spring-spawning herring based on acoustic surveys. *Marine Biology Research*, (ahead-of-print), 1-13. doi=10.1080/17451000.2014.995672

Vølstad, J.H., P. Santana Afonso, A. P. Baloi; N. de Premegi; J. Meisfjord, and M. Cardinale. 2014. Probability-based monitoring of catch and effort in coastal small-scale fisheries. *Fish. Res.* 151: 39– 46.

Cardinale, M, O. Chacate, M. Casini, I. Chaúca, and J.H. Vølstad. 2014. Trend analysis of the coastal marine resources exploited by the artisanal fisheries in Mozambique using daily-trip based catch data during 1997-2009. *Scientia Marina* 78(1). doi: <http://dx.doi.org/10.3989/scimar.03826.06C>

Ferter, K., M.S. Weltersbach, H.V. Strehlow, J.H. Vølstad, J. Alós, R. Arlinghaus, M. Armstrong, M. Dorow, M. de Graaf, T. van der Hammen, K. Hyder, H. Levrel, A. Paulrud, K. Radtke, D., C. Reedtz Sparrevohn and P. Veiga. 2013. *ICES Journal of Marine Science* 70: 1319-1329. doi: 10.1093/icesjms/fst104

Ferter, K., T. Borch, J. Kolding, and J.H. Vølstad. 2013. Angler behavior and implications for management – Catch-and-Release among marine angling tourists in Norway. *Fisheries Management and Ecology* 20: 137-147.

Weber, Edward D., Jon Helge Vølstad, Mary C. Christman, Danny Lewis & Jodi R. Dew-Baxter. 2013. Application of a Demographic Model for Evaluating Proposed Oyster-Restoration Actions in Chesapeake Bay, Human and Ecological Risk Assessment: An International Journal, DOI:10.1080/10807039.2013.767110

Hirst, D., Storvik, G., Rognebakke, H., Aanes, S., and Vølstad, J.H. 2012. A modeling approach to the estimation of catch-at-age of commercial fish species. *Canadian Journal of Fisheries and Aquatic Sciences* 69: 1–13. doi:10.1139/CJFAS-2012-0075

Ring Kleiven, A., E. Moland Olsen, J.H. Vølstad. 2012. Total catch an order of magnitude above reported catches for a red-listed marine species. *PLoS ONE* 7(2): e31216. doi:10.1371/journal.pone.0031216

Kleiven, A. R., Olsen, E. M. and Vølstad, J. H. 2011. Estimating recreational and commercial fishing effort for European lobster *Homarus gammarus* by strip transect sampling. *Marine and Coastal Fisheries* 3: 383–393. Link:

<http://www.tandfonline.com/doi/full/10.1080/19425120.2011.638798>

Moksness, E., J. Gjøsæter, G. Lagaille, E. Mikkelsen, E. Moland Olsen, H. T. Sandersen, and J. H. Vølstad. 2011. Effects of fishing tourism in a coastal municipality: a case study from Risør, Norway. *Ecology and Society* 16(3): 11. <http://dx.doi.org/10.5751/ES-04290-160311>

Vølstad, J. H., Korsbrekke, K., Nedreaas, K. H., Nilsen, M., Nilsson, G. N., Pennington, M., Subbey, S., and Wienerroither, R. 2011 Probability-based surveying using self-sampling to estimate catch and effort in Norway's coastal tourist fishery. – *ICES Journal of Marine Science*, 68: 1785-1791. <http://dx.doi.org/10.1093/icesjms/fsr077>

Llansó, R.J, J.H.Vølstad, D.M. Dauer, and J.R. Dew. 2009. Assessing benthic community condition in Chesapeake Bay: does the use of different benthic indices matter? *Environmental Monitoring and Assessment* 150:119–127

Llansó, R.J., D.M. Dauer, and J.H. Vølstad. 2009. Assessing ecological integrity for impaired waters decisions in Chesapeake Bay, USA. *Marine Pollution Bulletin* 59: 48–53.

Southerland, M.T., J.H. Vølstad, E.D. Weber, R.J. Klauda, C.A. Poukish, and M.C. Rowe. 2009. Application of the Probability-based Maryland Biological Stream Survey to the State's Assessment of Water Quality Standards. *Environmental Monitoring and Assessment*, *Environmental Monitoring and Assessment* 150:65–73

Vølstad, J.H., J. Dew, and M. Tarnowski. 2008. Estimation of annual mortality rates for eastern oysters (*Crassostrea virginica*) in Chesapeake Bay based on box counts and application of those rates for projection of population growth of both *C. virginica* and the Asian oyster (*C. ariakensis*). *J. Shellfish Research* 27:1-9.

Slacum, Ward Jr., J.H. Vølstad, E.D. Weber, W.A. Richkus, R. J. Diaz, and C.O. Tallent. 2008. The Value of Applying Commercial Fisher's Experience with Designed Surveys to Identify Characteristics of Essential Fish Habitat for Adult Summer Flounder (*Paralichthys dentatus*). *North American Journal of Fisheries Management* 28:710–721.

Vølstad, Jon H., Mary C. Christman, Danny Lewis, Edward D. Weber, and Jodi Dew. 2007. A Demographic Model of Oyster Populations in the Chesapeake Bay to Evaluate Proposed Oyster-Restoration Alternatives. 224 pp. Report to Maryland Department of Natural Resources.

Vølstad, J.H, Pollock, K. H., and Richkus, W. 2006. Comparing and combining effort and catch estimates from aerial-access designs, with applications to a large-scale angler survey in the Delaware River. *North American Journal of Fisheries Management* 26:727–741

Southerland, M.T., R.E. Jung, D.P. Baxter, I.C. Chellman, G. Mercurio, and J.H. Vølstad. 2004. Streamside salamanders as indicators of stream quality in Maryland. *Applied Herpetology* 2:1-24.

Vølstad, J.H., N.E. Roth, G. Mercurio, M.T. Southerland, and D. Strebel 2003. Using environmental stressor information to predict the ecological status of Maryland non-tidal streams as measured by biological indicators. *Environmental Monitoring and Assessment* 84 (3): 219-242.

Vølstad, J.H., N.K. Neerchal, N.E. Roth and M.T. Southerland. 2003. Combining biological indicators of watershed condition from multiple sampling programs - A case study from Maryland, USA. *Ecological Indicators* 3: 13-25.

Sharov, A.F., J.H. Vølstad, G.R. Davis, B.K. Davis, R.N. Lipcius, and M.M. Montane. 2003. Abundance and exploitation rate of the blue crab (*Callinectes sapidus*) in Chesapeake Bay. *Bulletin of Marine Science* 72 (2): 543-565.

Llansó, R. J., D.M. Dauer, J.H. Vølstad, and L.C. Scott. 2003. Application of the benthic index of biotic integrity to environmental monitoring in Chesapeake Bay. *Environmental Monitoring and Assessment* 81:163-174.

Vølstad, J.H., A.F. Sharov, G. Davis, and B. Daugherty. 2000. A method for estimating dredge catching efficiency for blue crabs, *Callinectes sapidus*, in Chesapeake Bay. *Fishery Bulletin* 98: 410-420.

Heimbuch, D.G., H.T. Wilson, S.B. Weisberg, J.H. Vølstad, and P.F. Kazyak. 1997. Estimating fish abundance in stream surveys by using double-pass removal sampling. *Transactions of the American Fisheries Society* 126: 795-803.

Strand, Ø. and J.H. Vølstad. 1997. The Molluscan Fisheries and Culture of Norway, p. 7-24. In *The history, present condition, and future of the molluscan fisheries of North and Central America and Europe, Volume 3, Europe*. Edited by Clyde L. MacKenzie, Jr., Victor G. Burrell, Jr., Aaron Rosenfield, and Willis L. Hobart. NTIS number: PB97-164859. U.S. Dep. Commer., NOAA Tech. Rep. NMFS 129.

Bogstad, B., Pennington, M. and J.H. Vølstad. 1995. Cost-efficient survey designs for estimating the food consumption by fish. *Fisheries Research* 23: 37-46.

Pennington, M. and J.H. Vølstad. 1994. Assessing the effect of intra-haul correlation and variable density on estimates of population characteristics from trawl surveys. *Biometrics* 50: 725-732.

Polacheck, T. and J.H. Vølstad. 1993. Analysis of spatial variability of George Bank haddock (*Melanogrammus aeglefinus*) from trawl survey data using a linear regression model with spatial interaction. *ICES Journal of Marine Science* 50: 1-8.

Pennington, M. and J.H. Vølstad. 1991. Optimum size of sampling unit for estimating the density of marine populations. *Biometrics* 47: 717-723.

Godø, O.R., M. Pennington and J.H. Vølstad. 1990. Effect of tow duration on length composition of trawl catches. *Fisheries Research* 9: 165-179.

Technical Reports and Published Abstracts:

ICES. 2014 . Report of the third Workshop on Practical Implementation of Statistical Sound Catch Sampling Programmes, 19-22 November 2013, ICES HQ, Copenhagen, Denmark. ICES CM2013/ACOM:54. 109pp. [Chaired by Jon Helge Vølstad and Mike Armstrong]

Kleiven, A.R., J.H. Vølstad, K. Ferter og E.M. Olsen. 2013. Store urapporterte fangster i hummerfisket. Side 79-81. *Fisken og Havet*. Særnummer 1-2013.

ICES. 2013. Report of the second Workshop on Practical Implementation of Statistical Sound Catch Sampling Programmes, 6 - 9 November 2012, ICES Copenhagen. ICES CM 2012 / ACOM:54 71 pp. [Chaired by Jon Helge Vølstad and Mike Armstrong]

David Hirst, Sondre Aanes, and Jon Helge Vølstad. 2013. Comparing model-based and design-based estimators for catch-at-age. ICES ASC 2013, J:03.

David Hirst, Sondre Aanes, and Jon Helge Vølstad. 2013. A simulation study to establish the relationship between sample sizes and the uncertainty in estimates of catch - at -age from multi - stage sampling programs. ICES ASC 2013/Session J, J:04.

Aanes, S., S. Subbey, and J.H. Vølstad. 2013. Assessing adequate level of catch- and survey-monitoring for stock assessment and estimation of biological reference points for Northeast Arctic Cod . ICES 2013 ASC/Session J, J:07.

Aanes, S. and J.H. Vølstad. 2013. Evaluating sampling strategies and comparing statistical estimators with the use of age-length keys to estimate age-distributions of Northeast Arctic Cod. ICES 2013 ASC/Session J, J:08.

Subbey, S., S. Aanes, J.H. Vølstad. 2012. Evaluating how precision in estimates of abundance indices by age from a fisheries-independent trawl survey affects the assessment of Northeast Arctic Cod. ICES 2012 ASC/ Session F.

ICES. 2012. Report of the Working Group on Practical Implementation of Statistical Sound Catch Sampling Programmes, 8 - 10 November 2011, Bilbao, Spain. ICES CM 2011 / ACOM:52. 56 pp. [Chaired by Jon Helge Vølstad and Mike Armstrong]

Skilbrei, Ove, Jon Helge Vølstad, Gjermund Bøthun og Terje Svåsand. 2011. Evaluering av datagrunnlaget 2006–2009 for estimering av andel rømt oppdrettslaks i gytebestanden i norske elver. Forslag til forbedringer i utvalgsmetoder og prøvetakingsmetodikk. Havforskningsinstituttet, Rapport nr. 7. [Evaluating data sources from 2006-2009 for estimating proportion of escaped farmed salmon in the spawning stocks in Norwegian rivers. Suggestions for survey sampling and estimation methods; Institute of Marine Research]

Vølstad, Jon Helge, Keno Ferter, Marie Hauge, Kjell Nedreaas og Merete Nilsen. 2011. Hva betyr fisketurismen for de lokale fiskebestandene langs kysten? Havforskningsrapporten. 2011. [Effects of marine fishing tourism on local fish stocks along the coast of Norway; Institute of Marine Research]

Aanes, S. and J.H.Vølstad. 2009. Indices of abundance from bottom trawl surveys in the Barents Sea focusing on the Joint Russian Norwegian Ecosystem Survey in autumn. Report, Institute of Marine Research, Bergen, Norway. 57 pp.

Høines, Åge, Otte Bjelland, Kathrine Michalsen, Jon Helge Vølstad, Kristin Helle, Tone Vollen, Kjell Nedreaas og Ole Thomas Albert. 2009. Kveite i norske farvann. Status og utfordringer for forvaltning og forskning. [Halibut in Norwegian waters. Stock Status, and challenges in research and management.] Rapport til Fiskeri og Kystdepartementet. 15 pp.

Moksness, E., J. Gjørseter, I. Wigdahl Kaspersen, E. Mikkelsen, H.T. Sandersen, and J.H.Vølstad. 2009. System Formulation Part 1: ExtendSim Model description. The SPICOSA SSA 7.6, Søndeledfjorden, Norway, Version 1.10. 72 pp.

Vølstad, J.H. and M. Nilsen. 2009. Kartlegging av turistfiske [Survey of catch and effort in the tourist fishery.] Chapter 1.17 in Fisken og Havet, Særnummer 2-2009. Kyst og Havbruk 2009.

Vølstad, J.H. and M. Nilsen. 2008. Kartlegging av turistfiske [Survey of catch and effort in the tourist fishery.] Chapter 1.13 in Fisken og Havet, Særnummer 2-2008. Kyst og Havbruk 2008.

ICES. 2010. Report of the Joint ICES - STECF Workshop on methods for merging métiers for fishery based sampling (WKMERGE), 19–22 January 2010, Copenhagen, Denmark. ICES CM 2010/ACOM:40 . 94 pp. (Chaired by Mike Armstrong and Jon Helge Vølstad).

ICES. 2009. Report of the Workshop on methods to evaluate and estimate the precision of fisheries data used for assessment (WKPRECISE), 8-11 September 2009, Copenhagen, Denmark. ICES CM 2009/ACOM:40 (Chaired by Jon Helge Vølstad and Sondre Aanes).

ICES. 2008. Report of the Workshop on Methods to Evaluate and Estimate the Accuracy of Fisheries Data used for Assessment (WKACCU), 27–30 October 2008, Bergen, Norway. ICES CM 2008\ACOM:32. 41 pp. (Chaired by Michael Pennington and Jon Helge Vølstad)

Christman, M.C., J.H. Vølstad, A.F. Sharov, G.R. Davis, L.W. Fegley. 2008. Statistical Analyses of Crab Dredge Efficiency. Final Report to Virginia Institute of Marine Science. 42 pp.

Fogarty, M.J., D.C. Hansford, and J.H. Vølstad. 2007. Recommendations for reducing vessel selection bias in U.S. observer programs. In: McVea TA, Kennelly SJ, eds. Proceedings of the 5th International Fisheries Observer Conference – 15-18 May 2007, Victoria, British Columbia, Canada. Cronulla [Australia]: NSW DPI, Cronulla Fisheries Research Centre of Excellence; p 250-251.

ICES. 2007. Report of the Workshop on Using Fishers to Sample Catches (WKUFS), 5–6 June 2007, Bergen, Norway. ICES CM 2007/ACFM:24. 45 pp (Contributing authors: Bjelland,O., Helle,K., Huse,I., Kvamme,C., Nedreaas,K.H., Pennington,M., Vølstad,J.H.).

Vølstad, J.H., M.C. Christman, D. Lewis, E.D. Weber, and J. Dew. 2007. A Demographic Model of Oyster Populations in the Chesapeake Bay to Evaluate Proposed Oyster-Restoration Alternatives. Prepared for the U.S. Army Corps of Engineers, and the States of Maryland and Virginia, 226 pp.

[http://www.dnr.state.md.us/fisheries/oysters/mtgs/DemographicModelofOysterPopulations10-4-07\[1\].pdf](http://www.dnr.state.md.us/fisheries/oysters/mtgs/DemographicModelofOysterPopulations10-4-07[1].pdf)

Vølstad, J.H. 2007. Report on the FSV Henry B. Bigelow and R/V Albatross IV Calibration Experiment Design Workshop, Northeast Fisheries Science Center Woods Hole, MA, 25-27 April 2007.

Vølstad, J.H. and J. Dew. 2007. Stock-recruit relationships for *Crassostrea virginica* and *C. ariakensis* in Chesapeake Bay developed for a demographic oyster population model. *Journal of Shellfish Research*. Vol. 25, no. 2, p. 787. Aug 2006.

Slacum Jr. H. W., S. Giordano, D. Levin , J.H. Vølstad, J. Lazar, C. Little, and D. Bruce. 2007. Quantifying the effects of derelict crab traps in Chesapeake Bay. ICES CM 2007/Q:21

Southerland, M., J. Vølstad, E. Weber, and B. Franks. 2007. Wadeable Stream Assessment (WSA) Comparability Study: Comparability in Low Gradient Streams. Prepared for U.S. Environmental Protection Agency, Office of Water, Office of Wetlands, Oceans, and Watersheds, Washington, DC.

Southerland, M., J.Vølstad, and E. Weber. 2007. The Scale of Bioassessment: Implications for Biomonitoring and Biocriteria. Abstract. Maryland Water Monitoring Council 12th Annual Conference, Linthicum, November 16, 2006 and Association of Mid-Atlantic Aquatic Biologists, Cacapon, WV, April 4, 2007

Southerland, M., J.Vølstad, E. Weber, R. Morgan, L. Currey, J. Holt, C. Poukish, and M. Rowe. 2007. Using MBSS Data to Identify Stressors for Streams that Fail Biocriteria in Maryland. Maryland Department of the Environment, Baltimore.

Slacum, H.W. Jr., W.H. Burton, J.H. Vølstad, J. Dew, E. Weber, R. Llansó, and D.Wong. 2006. Comparisons Between Marine Communities Residing on Sand Shoals and Uniform-bottom Substrate in the Mid-Atlantic Bight. Final Report to the U.S. Department of the Interior, Minerals Management Service, International Activities and Marine Minerals Division, Herndon, VA. OCS Report MMS 2005-042, 149 pp. + Appendix.

Southerland, M., N. Roth, G. Rogers, and J.Vølstad. 2006. Applying the Maryland Interim Biocriteria Framework to Maryland Biological Stream Survey Data Collected in 2000-2004. Prepared for Monitoring and Non-Tidal Assessment Division, Maryland Department of Natural Resources, Annapolis.

North, E. W., J. H. Vølstad, M. Christman, R. R. Hood, L. Zhong, Z. Schlag, T. F. Gross, D. Lewis, J. Dew, M. Li, V. S. Kennedy. 2006. Linking larval transport and fisheries demographic models to study the influence of environmental variability and larval behavior on juvenile recruitment to oyster populations. ICES CM 2006 O:11, 13 pp.

Vølstad, J.H. and M. Fogarty. 2006. Report on the National Observer Program Vessel Selection Bias Workshop Woods Hole, MA, May 17-19, 2006.

Vølstad, J., E. Franks, E. Weber, and M. Southerland. 2006. Final MBSS County Integration for 2004 County Volume. Prepared for Monitoring and Non-Tidal Assessment Division, Maryland Department of Natural Resources, Annapolis, Maryland.

Southerland, M., J. Vølstad, E. Weber, and B. Franks. 2006. Interim Report on Wadeable Stream Assessment (WSA) Comparability Study. Prepared by Versar, Inc., for U.S. Environmental Protection Agency, Office of Water, Office of Wetlands, Oceans, and Watersheds, Washington, DC. Draft. February.

Southerland, M., Vølstad, J., Erb, L., Weber, E., Rogers, G. 2006. "Proof of Concept for Integrating Bioassessment Results from Three State Probabilistic Monitoring Programs". Report prepared for EPA under Contract No. 50-CMAA-900065. *EPA/903/R-05/003*. U.S. Environmental Protection Agency, Office of Environmental Information and Mid-Atlantic Integrated Assessment Program, Region 3, Ft. Meade, MD. [This document can be downloaded from EPA's website for Biological Indicators and Watershed Health: <http://www.epa.gov/bioindicators>]

Slacum, H.W. Jr., J.H. Vølstad, E. Weber, W.R. Richkus, R. Diaz and C. Tallent. 2005. Development Of Species-Specific Essential Habitat Indices Using Biological And Habitat Data Collected Using Remote Sensing. Final Report Submitted to National Marine Fisheries Service. Contract Number: EA133F-03-CN-0048.

Sampson, Davis, Robert Mohn, Jon H. Vølstad, and James Ianelli. 2005. English Sole, Petrale Sole, and Starry Flounder Stock Assessment Review Panel Report. STAR Panel Report to the Northwest Fisheries Science Center Seattle, WA 18-22 April 2005.

Llansó, Roberto J., Jon H. Vølstad, Daniel M. Dauer, and Michael F. Lane. 2005. 303(d) assessment methods for Chesapeake Bay benthos. Report submitted to Virginia Department of Environmental Quality 629 East Main Street, Richmond, Virginia 23230.

Roth, N., J. H. Vølstad, L. Erb, and E. Weber. 2005. Maryland Biological Stream Survey 2000-2004. Volume 6: Laboratory, Field, and Analytical methods. Publication number DNR 12-0305-0108. Maryland Department of Natural Resources, Monitoring and Assessment Division, Annapolis, Maryland, U.S.A.

Christman, M.C., and J.H. Vølstad. 2005. Design and Implementation of a Survey of Commercial Blue Crab Effort in the Maryland Portion of the Chesapeake Bay. Final Report to Maryland Department of Natural Resources, Fisheries Division, Annapolis, Maryland, U.S.A.

Vølstad, J.H. 2005. Report on the 2005 Stock Assessment Review (STAR 2005) of the Assessments of the Status of US West Coast Stocks of English Sole, Petrale Sole, and Starry Flounder. Report to the Center of Independent Experts, Operated by the Center Institute of Cooperative Institute for Marine and Atmospheric Science (CIMAS) University of Miami.

Anon. 2004. Report of the Workshop on Survey Design and Data Analysis (WKSAD). ICES Fisheries Technology Committee ICES CM 2004/B:07, Ref. D,G., 21–25 June 2004 Aberdeen, UK [Expert group member and contributing author: J.H. Vølstad].

Currey, D. Lee; Mark T. Southerland, Jon H. Vølstad, Ginny M. Rogers, Raymond P. Morgan II, and Egede Nizeyimana Louis. 2004. A Method for Using Maryland Biological Stream Survey Data to Identify Sediment Impairments in Maryland Watersheds. Final Report prepared for Maryland Department of the Environment, October 2004.

Vølstad, J.H. 2004. Review of the Artisanal Fisheries Monitoring Program in Mozambique. Consultancy for the National Fisheries Research Institute, Mozambique, August 29 to September 13, 2004.

Baloi, A.P. P. Santana Afonso, N. de Premegi, and J.H. Vølstad. 2004. Metodologia de colheita e processamento de dados de captura e esforço da Pesca artesanal em Moçambique. IIP- Instituto Nacional de Investigação Pesqueira, In Portuguese. [Methods for collecting and analyzing data on catch and effort in the small-scale fishery in Mozambique]. Report to the National Fisheries Research Institute, Mozambique.

Vølstad, J.H., M.T. Southerland, N.E. Roth, P. Kazyak, and R. Klauda. 2004. A probability-based monitoring program for assessing status and trends in the biological condition of Maryland non-tidal streams at multiple spatial scales. Presented at National Water Quality Monitoring Conference, Chattanooga, TN. May 17-19.

Currey, D.L., M.T. Southerland, J.H. Vølstad, G.M. Rogers, R.P. Morgan, and E. Nizeyimana Louis. 2004. Using the Maryland Biological Stream Survey Dataset to Identify Sediment Impairments. Abstract in Multimetric Indicator Symposium of Northeast Fish and Wildlife Conference, Ocean City, MD, April 27.

Vølstad, J.H. 2004. Report on the 2004 South East Data, Assessment, and Review (SEDAR) Workshop to Review the Assessments of the Status of the Stocks of King Mackerel Atlantic and Gulf of Mexico Migratory Units. Report to the University of Miami Independent System for Peer Reviews, Center Institute of Cooperative Institute for Marine and Atmospheric Science (CIMAS).

Christman, M., J.H. Vølstad, C. J. Giffen, and F. Kelley. 2004. A Survey Of Commercial Blue Crab Effort In The Maryland Portion Of The Chesapeake Bay. Report to Maryland Department of Natural Resources, Fisheries Division.

Llansó, R.L., J.H. Vølstad, and M. T. Southerland. 2004. Levels of Biological Organization, Data Management and Analysis: 1. Carolinian Province. Prepared by Versar, Inc. for United States Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Cincinnati, Ohio EPA Task Order 3C-R351-NBLX.

Roth, N.E., M.T. Southerland, G.M. Rogers, and J.H. Vølstad. 2004. Maryland Biological Stream Survey 2000-2004. Volume IV: Ecological Assessment of Watersheds Sampled in 2003. Report to Monitoring and Non-Tidal Assessment Division, Maryland Department of Natural Resources, Annapolis, MD.

Vølstad, J.H., N.E. Roth, M.T. Southerland, and G. Mercurio. 2003. Pilot Study for Montgomery County and Maryland DNR Data Integration: Comparison of Benthic Macroinvertebrate Sampling Protocols For Freshwater Streams. Prepared by Versar, Inc., Columbia Maryland for U.S. Environmental Protection Agency, Office of Environmental Information and Mid-Atlantic Integrated Assessment Program, Region 3, Ft. Meade, MD. [This document can be downloaded from EPA's website for Biological Indicators and Watershed Health: <http://www.epa.gov/bioindicators>]

Llansó, R., J.H. Vølstad, and D. Dauer. 2003. Decision Process for Identification of Estuarine Benthic Impairments in the Chesapeake Bay. Prepared for the Maryland Department of Natural Resources, Resource Assessment Service Tidewater Ecosystem Assessments Annapolis, Maryland (Funded by US EPA).

Vølstad, J.H., W.R. Richkus, J. Miller, A. Lupine, and J. Dew. 2003. The Delaware River Creel Survey 2002. Volumes I and II. Prepared for Robert Lorantas, Pennsylvania Fish & Boat Commission, Belefonte, PA.

Llansó, R., M. Southerland, J.H. Vølstad, D. Strelbel, and G. Mercurio. 2003. Hudson River Estuary Biocriteria. Final Report to the New York State Department of Environmental Conservation.

Christman, M., J.H. Vølstad (Principal Investigators) with C. J. Giffen and Fred Kelley. 2003. Design And Implementation Of A Survey Of Commercial Blue Crab Effort In The Maryland Portion Of The Chesapeake Bay. Report to Maryland Department of Natural Resources, Fisheries Division.

Miller, T.J., K. Curti, D. Loewensteiner, A. F. Sharov, B. Muffley, M. C. Christman, J.H. Vølstad, and E.D. Houde. 2003. Abundance, Distribution and Diversity of Chesapeake Bay Fishes: Results from CHESFIMS (Chesapeake Bay Fishery Independent Multispecies Fisheries Survey). Report submitted to NOAA, Chesapeake Bay Office.

Vølstad, J.H. 2003. Report on the 2003 South East Data, Assessment, and Review (SEDAR) Workshop to Review the Assessments of the Status of the Stocks of Vermilion Snapper and Black Sea Bass from the South east of the U.S. Report to the University of Miami Independent System for Peer Reviews, Center Institute of Cooperative Institute for Marine and Atmospheric Science (CIMAS).

Versar, Inc. 2003. Effects of dredged material beach disposal on surf zone and nearshore fish and benthic resources on Bald Head Island, Caswell Beach, Oak Island, and Holden Beach, North Carolina, Volumes I and II. [Contributing author: Vølstad, J.H.]

Vølstad, J.H. 2002. Review Report on the 2002 Groundfish Assessment Review Meeting (GARM) and its findings and recommendations. Report to the University of Miami Independent System for Peer Reviews, Center Institute of Cooperative Institute for Marine and Atmospheric Science (CIMAS).

Ditton, D.A., A. Loftus, and J.H. Vølstad. 2002. Review Findings of the Atlantic Coastal Cooperative Statistics Program (ACCSP) For-hire Pilot Survey. Report to the Atlantic States Cooperative Statistics program, Washington DC, USA.

Vølstad, J.H. 2002. Survey Design and Field Sampling Schedule for the Delaware River Creel Survey 2002. Report Prepared for Robert Lorantas, Pennsylvania Fish & Boat Commission, Belefonte, PA.

Southerland, Mark T., Robin E. Jung, David P. Baxter, Isaac C. Chellman, Ginny Mercurio, and Jon H.Vølstad. 2002. Stream salamanders as indicators of stream quality in Maryland.

Sharov, A. and J.H. Vølstad. 2002. Design of a Blue crab fishery dependent survey for the Chesapeake Bay. Report to the National Oceanic and Atmospheric Administration, National Marine Fisheries Services, Chesapeake Bay Stock Assessment Committee.

Thomas J. Miller, C.J. Heyer, A.F. Sharov, B. Muffley, M.C. Christman, N. Herman, J.H. Vølstad, E.D. Houde, and K. Curti. 2002. Abundance, Distribution and Diversity of Chesapeake Bay Fishes: Results from CHESFIMS (Chesapeake Bay Fishery Independent Multispecies Fisheries Survey). Report to NOAA, Chesapeake Bay Stock Assessment Committee.

Roth, N.E., M.T. Southerland, G. Mercurio, and J.H. Vølstad. 2002. Maryland Biological Stream Survey 2000-2004. Volume II: Ecological Assessment of Watersheds Sampled in 2001. Report to Monitoring and Non-Tidal Assessment Division, Maryland Department of Natural Resources, Annapolis, MD.

Roth, N., J.H. Vølstad, G. Mercurio, and M.T. Southerland. 2002. Applying the Maryland Interim Biocriteria Framework to Maryland Biological Stream Survey Data Collected in 1995-97 and 2000. Prepared by Versar, Inc. for Maryland Department of Natural Resources, Monitoring and Non-tidal Assessment Division.

Vølstad, J. H., and F. Kelley. 2002. Delaware River Main Channel Deepening Project: Delaware Bay Winter Crab Survey 2002. Report prepared by Versar, Inc. for the U.S. Army Corps of Engineers, Philadelphia District. Contract No. DACW61-00-D-0009 Delivery Order No. 9

Klauda, R.J., N.E. Roth, M.T. Southerland, and J.H. Vølstad. 2002. Use of fish and benthic macroinvertebrate community indices of biotic integrity to develop an interim biocriteria framework for water quality protection and restoration in Maryland. Poster. 58th Annual Northeast Fish and Wildlife Conference, Portland, Maine. April 21-24.

Vølstad, J. H., F. Kelley, and W. Burton. 2001. Delaware River Main Channel Deepening Project: Delaware Bay Winter Crab Survey 2001. Report prepared by Versar, Inc. for the U.S. Army Corps of Engineers, Philadelphia District. Contract No. DACW61-00-D-0009 Delivery Order No. 9

Llansó, R.J. and J.H. Vølstad. 2001. Patuxent River Oil Spill: Assessment of Impacts on Benthos. Prepared for Entrix by Versar, Inc., Columbia, MD.

Roth, N.E., J.H. Vølstad, G. Mercurio, and M.T. Southerland. 2001. Biological Indicator Variability and Stream Monitoring Program Integration: A Maryland Case Study. EPA/903R-02/008. [This document can be downloaded from EPA's website for Biological Indicators and Watershed Health: <http://www.epa.gov/bioindicators>]

Roth, N., M. Southerland, G. Mercurio, and J. Vølstad. 2001. Biocriteria analysis using 1995-1997 Maryland Biological Stream Survey Results. Prepared by Versar, Inc., Columbia, MD, for Maryland Department of Natural Resources, Monitoring and Non-Tidal Assessment Division.

Roth, N.E., M.T. Southerland, G. Mercurio, and J.H. Vølstad. 2001. Maryland Biological Stream Survey 2000-2004, Volume I: Ecological Assessment of Watersheds Sampled in 2000. Prepared by Versar, Inc., Columbia, MD, for the Maryland Department of Natural Resources, Monitoring and Non-Tidal Assessment Division.

Southerland, M.T., G. Mercurio, F. Kelley, J.H. Vølstad, and R. Jung. 2001. Streamside Salamander Pilot Study: A Comparison of Sampling Methods. Prepared by Versar, Inc., for Power Plant Research Program, Maryland Department of Natural Resources, Annapolis, MD.

Llansó, R., M. Southerland, J. Vølstad, D. Strebel, G. Mercurio, M. Barbour, and J. Gerritsen. 2001. Hudson River Estuary Biocriteria: Results Report for Year 2000. Report to New York State Department of Environmental Conservation.

Vølstad, J.H. and J. Kou. 2000. Statistical Analysis to Determine the Number of Samples Needed to Characterize Benthic Community Parameters at Offshore Sand Borrow Sites. Report prepared for the U.S. Army Corps of Engineers, Philadelphia District. Contract No. DACW61-95-D-0011. Delivery Order No. 75.

Vølstad, J., G. Mercurio, N. Roth, and M. Southerland. 2000. Landscape Model of Cumulative Impacts: Phase II Interim Report. Prepared for the Power Plant Research Program, Maryland Department of Natural Resources, Annapolis, MD. December.

Southerland, M., R. Llansó, J. Vølstad, D. Strebel, N. Roth, G. Mercurio, M. Barbour, J. Gerritsen, and P. Muessig. 2000. Hudson River Estuary Biocriteria: Concept Report. Prepared for the New York State Department of Environmental Conservation. October 2000.

Southerland, M, A. Brindley, G. Mercurio, M. Perot, N. Roth, D. Strebel, and J. Vølstad. 2000. Potential for Evaluating the Impacts of Transmission Lines on Maryland Streams Using Data from the Maryland Biological Stream Survey. Prepared by Versar, Inc., for Power Plant Research Program, Maryland Department of Natural Resources, Annapolis, MD. June.

Vølstad, J., M. Southerland, N. Roth, G. Mercurio, R. Klauda, and P. Kazyak. 1999. Proposed Design for the 2000-2004 Maryland Biological Stream Survey. Poster presentation to the Fifth Annual Meeting of the Maryland Water Monitoring Council, Linthicum Heights. November 12.

Vølstad, J.H. 1998. Statistical survey techniques for the monitoring of artisanal fisheries in Mozambique. Report for the Fisheries Research Institute, and the Institute for the Development of Small-scale Fisheries, Maputo, Mozambique.

Vølstad, J.H, W.R. Richkus, S. Gaurin, and R. Easton. 1997. Analytical and Statistical Review of Procedures for Collection and Analysis of Commercial Data Used for Management and Assessment of Groundfish Stocks in the U.S. Exclusive Economic Zone Off Alaska. Prepared for the U.S. Department of Commerce, National Marine Fisheries Service, Alaska Fisheries Science Center, Seattle, Washington. 172 pp.

Roth, N.E., M.T. Southerland, J.C. Chaillou, J.H. Vølstad, S.B. Weisberg, H.T. Wilson, D.G. Heimbuch, and J.C. Seibel. 1997. Maryland Biological Stream Survey: Ecological Status of Non-Tidal Streams in Six Basins Sampled in 1995. Report prepared by Versar, Inc., Columbia, MD, and Coastal Environmental Services, Linthicum, MD for Maryland Department of Natural Resources, Monitoring and Non-Tidal Assessment Division, MD. CBWP-MANTA-EA-97-2.

Southerland, M. T., J. H. Vølstad, S. B. Weisberg, P. F. Kazyak, and R. J. Klauda. 1996. Maryland Biological Stream Survey: Developing Estimates of Stream Condition. pp 678-680. In: Proceedings, Watershed '96. A National Conference on Watershed Management, Baltimore, Maryland.

Vølstad, J.H., M.T. Southerland, S.B. Weisberg, H.T. Wilson, D.G. Heimbuch, and J.C. Seibel. 1996. Maryland Biological Stream Survey: The 1994 Demonstration Project. Report prepared by Versar, Inc., Columbia, MD, for Maryland Department of Natural Resources, Monitoring and Non-Tidal Assessment Division, MD. CBWP-MANTA-EA-95-9. PPRP Contract No. PR-91-047-001.

Miller, T. J., E. D. Houde and J. H. Vølstad. 1996. Stage-based models of Blue Crab populations in the Chesapeake Bay. Report to U.S. Environmental Protection Agency. Ref [UMCEES]CBL 96-069.

Vølstad, J.H., M. Southerland, J. Chaillou, H.T. Wilson, D.G. Heimbuch, P.T. Jacobson, and S.B. Weisberg. 1995. Maryland Biological Stream Survey: The 1993 Pilot Study. Report prepared by Versar, Inc., Columbia, MD, for Maryland Department of Natural Resources, Chesapeake Bay Research and Monitoring Division, Annapolis, MD. CBRM-AD-95-3.

Alden, RW III; Dauer, DM; Ranasinghe, JA; Volstad, J; Weisberg, SB. 1995. The Chesapeake Bay Restoration Program -- accomplishments and new approaches to benthic macroinfaunal monitoring. Abstract. 23. Benthic Ecology Meeting, New Brunswick, NJ (USA), 17-19 Mar 1995.

Vølstad, J.H., S.B. Weisberg, D.G. Heimbuch, H.T. Wilson, and J.C. Seibel. Answers to commonly asked questions about R-EMAP sampling designs and data analysis. Report prepared for Tom Waddell, U.S. Environmental Protection Agency, Research Triangle Park, NC, December 1994.

Federal Energy Regulatory Commission (FERC). 1995. A report on fish entrainment for the Menominee and Park Mill Project (Project No. 2744). Prepared by Versar, Inc. [Contributing author: J.H. Vølstad]

Federal Energy Regulatory Commission (FERC). 1995. A report on fish entrainment for the Big Creek project, FERC Project No. 67. Prepared by Versar, Inc. [Contributing author: J.H. Vølstad]

Federal Energy Regulatory Commission (FERC), Office of Hydropower Licensing. 1994. Environmental Impact Statement, Licensing Three Hydroelectric Projects in the Lower Penobscot River Basin (Project Nos. 10981 Basin Mills, 2712 Stillwater, 2534 Milford). FERC/DEIS-0082, 566 pp. Prepared by Versar, Inc. [Contributing author: J.H. Vølstad]

Pennington, M. and J.H. Vølstad. 1994. Local homogeneity of marine populations and its implications for the design of sampling surveys. Invited paper for the Biometrics Society Conference on Sampling Issues in Ecology, Cleveland, April 1994.

Richkus, W., R. Hochberg, and J.H. Vølstad. 1994. Evaluation of potential Chesapeake Bay american shad stock restoration goals. Report prepared for Chesapeake Bay Research and Monitoring Division, Maryland Department of Natural Resources.

Vølstad, J.H., B.J. Rothschild and T. Maurer. 1994. Abundance estimation and population dynamics of the blue crab in the Chesapeake Bay. Final Report to the Maryland Department of Natural Resources, the Chesapeake Bay Stock Assessment Committee, and the National Oceanic and Atmospheric Administration (NOAA).

Rothschild, B.J., F.J. Freise, J.H. Vølstad, and R.G. McGarvey. 1994. University of Maryland Cooperative Analysis of Chesapeake Bay Recreational Finfish Populations: Evaluation of Length-Based Stock Assessment Techniques. University of Maryland Ref. No. [UMCEES] CBL 94-100

Vølstad, J.H. and V. Patrick. 1993. The blue crab winter survey in Chesapeake Bay. In: University of Maryland, CEES Annual Report for 1991-92.

Slotsvik, N. and J. H. Vølstad. 1992. Report from an exploratory survey of deep-water resources in Mozambican waters with R/V "John Longva". Relatório de Cruzeiro No. 34. Instituto de Investigação Pesqueira, Maputo, Mozambique.

Ona, E., M. Pennington and J.H. Vølstad. 1992. A dynamic stratification scheme for trawl surveys. Presented at the ICES workshop on the analysis of trawl survey data, Woods Hole, 4-9 June 1992.

Ona, E., M. Pennington and J.H. Vølstad. 1991. Using acoustics to improve precision of bottom trawl indices of abundance. ICES C.M. 1991/D:13.

Bogstad, B., Pennington, M. and J.H. Vølstad. 1991. An evaluation of survey design for estimating the food consumption by fish. ICES C. M. 1991/ D:15.

Vølstad, J. H. and C. J. Rørvik. 1983. The effects of vessel characteristics and weather on catch rates in Norwegian small-type whaling for minke whales. Rep. Int. Whal. Commn. Sci. Comm. Paper 35/Mi6.

Øien, N., T. Jørgensen, C. J. Rørvik and J. H. Vølstad. 1983. Catch per unit effort for alternative indices of effort in Norwegian small-type whaling for minke whales in the period 1960 - 1982. Rep. Int. Whal. Commn. Sci. Comm. Paper 35/Mi5.