

## Curriculum Vitae

### Nicholas Philip Brown

Center for Cooperative Aquaculture Research, 33 Salmon Farm Rd, Franklin, ME 04634. Tel +1 207 422 9096. Fax +1 207 422 8920. Email. npbrown@maine.edu

#### Education and Qualifications

PhD Aquaculture; University of Stirling, Institute of Aquaculture	1998
MS Aquaculture; University of Stirling, Institute of Aquaculture	1994
BSc (Hons) Marine Biology; University of Liverpool	1988

#### Professional Experience

<b>Director, Center for Cooperative Aquaculture Research, University of Maine (CCAR)</b>	<b>2001 - Present</b>
--	-----------------------

**Position description:** Responsible for management of 70,000+ SF facilities and research program at a commercial scale land-based aquaculture facility used for applied aquaculture research and development, aquaculture demonstration projects and business incubation.

<b>Cooperating Associate Professor, School of Marine Sciences</b>	<b>2005 – present</b>
---	-----------------------

Served on 5 Masters student committees, 2 PhD student committee  
Advised 2 Masters students (1 graduated) and 1 PhD student (in progress)

<b>R &amp;R Finfish Development Ltd (R&amp;R)/ Marine Harvest (Nutreco); Consultant/Halibut hatchery General manager</b>	<b>1998 – 2001</b>
--	--------------------

<b>Mannin Seafarms, Turbot Hatchery; Senior Hatchery Assistant</b>	<b>1992 – 1993</b>
--	--------------------

<b>Riverside Trout Farm; Manager</b>	<b>1988 – 1992</b>
--------------------------------------	--------------------

<b>Restoration of square rigged ship “Astrid” for sail training.</b>	<b>1983 – 1984</b>
--	--------------------

#### *Professional Organizations and Boards*

Alternative Species Steering Committee DFA, Canada.	1998 - 2000
British Marine Finfish Association/ British Halibut Association.	1994 - 2003
Fisheries Society, UK.	1994 - 1997
Canadian Aquaculture Association.	1998 - 2001
Maine Aquaculture Innovation Center Board of Directors	2005 - present
Maine Aquaculture Association Board of Directors	2005 – present
Department of Marine Resources Advisory Council	2007 - present

Maine Technology Institute Aquaculture and Marine Technology Board  
 Aquaculture Engineering Society  
 World Aquaculture Society

2006 - present  
 2006 - present  
 2006- present

**Research Grants**

<b>Date</b>	<b>Title of Grant</b>	<b>Amount</b>	<b>Sponsor</b>	<b>PIs (PI#1 First)</b>
Sep-01	Marine Aquaculture Facilities	\$1,200,000	EDA	Jake Ward, Nick Brown, Mike Hastings
March-02	Seaworm aquaculture in Maine 1	\$10,000	MTI	Peter Cowin, Nick Brown
May-02	Seaworm broodstock conditioning	\$6,000	Seagrant	Peter Cowin, Nick Brown
May-02	Common R&D facilities for Aquaculture	\$387,000	MTI	Nick Brown, Jake Ward
June-02	Seaworm aquaculture in Maine 2	\$10,000	MTI	Peter Cowin, Nick Brown
June-03	Commercialization of Polychaete Worm Farming	\$485,000	MTI	Peter Cowin, Nick Brown
July-03	Demonstration of Cod Farming	\$358,000	NOAA	Nick Brown, Linda Kling, Denise Skonberg
August-03	Broodstock Diets for Atlantic halibut	\$120,044	USDA	Nick Brown, Linda Kling
November-04	Demonstration of land-based halibut farming (1)	\$10,000	MTI	Nick Brown, Maine halibut
February-04	Development of Sea urchin aquaculture in Maine	\$10,000	MTI	Nick Brown, Jim Wadsworth, Friendship International, Larry Harris, UNH
April-04	Development of Hatchery Raised Atlantic Halibut Broodstock	\$14,500	MAIC	Nick Brown
August-04	Sea urchin aquaculture	\$78,848	USDA	Nick Brown, Jim Wadsworth, Larry Harris, UNH
March-04	Broodstock Diets for Atlantic halibut (Year 3)	\$32,054	USDA NRAC	Nick Brown, Linda Kling, Allen Place

March-04	Use of Marine Polychaete Culture Systems in Integrated Land-based Intensive Aquaculture	\$16,925	MAIC	Nick Brown
Aug-06	Sea urchin hatchery	\$18,250	MAIC	N. Brown
Jun-05	Commercial halibut farming	\$250,000	MTI	Maine Halibut, Nick Brown
Sep-06	Enhancement of facilities to support sustainable marine aquaculture in Maine	\$485,000	MTI MRF	Nick Brown, J. Ward, W. Wolters
Sep-06	Expansion of aquaculture business incubation facilities	\$266,200	MTI MRF	C. Davis, N. Brown, J Ward
Sep-06	Cod Culture: A Sustainable Opportunity for New England through Diversification, New Technologies and Use of Existing, Underutilized Infrastructure	\$85,000 (sub)	NOAA	George Nardi, Chris Duffy, N. Brown
Sep-07	Studies to improve the control of reproduction in captive Atlantic halibut	\$10,000	MAIC	Linda Kling, Nick Brown
Jun-08	A Demonstration of Sustainable Commercial Cod Culture	\$30,000 (sub)	NOAA	Nick Brown, George Nardi (Great Bay Aquaculture NH)
Sep-08	Building capacity and excellence in Maine's marine R&D infrastructure	\$2,619,807	Maine Technology Asset Fund	N. Brown, J. Ward, S. Brawley, S. Page, G. Nardi, S. Erhart, W. Wolters, I. Bricknell, T. Olsen
Oct-08	Improvements to Maine's Aquaculture Business Incubation Infrastructure	\$360,548	Maine Technology Asset Fund	Chris Davis, Nick Brown, J. Ward, S. Brawley, J. Wadsworth, Søren Hansen
Nov-08	Assessment of grow-out strategies for the green sea urchin	\$156,933	NRAC	Nick Brown, Larry Harris (UNH)
Jul-09	Establishment of an Atlantic cod breeding program for the US aquaculture industry	\$246,738	NOAA SK	Nick Brown, Bill Wolters, George Nardi
Aug-09	Preliminary investigation of the potential for integrated aquaculture of the sand worm (Nereis virens) with Atlantic salmon.	\$29,900	MAIC	Nick Brown, Chris Heinig, David Miller
Jul-09	Addressing Issues Of Hatchery Production And Grow Out Of Sea Urchins For Aquaculture Development In The Gulf Of Maine	\$51,963 (sub)	NOAA SK	Larry Harris (UNH), Nick Brown.

### Recent Publications/Presentations

Brown, N, Eddy, S. and Plaud, S. Utilization of sludge from a marine recirculating fish culture system as a feed source for the polychaete worm, *Nereis virens*. Submitted to *Aquaculture*, under revision.

Brown, N.P. Halibut Aquaculture in North America. 2010. Chapter in "Practical Flatfish Culture and Stock Enhancement" Daniels, H. and Watanabe, W (Eds). Wiley Blackwell, New York.

Kirchhoff, N. T., Eddy, S. and Brown, N.P. 2010. Out-of-season Gamete Production in *Strongylocentrotus droebachiensis*: Photoperiod and Temperature Manipulation. *Aquaculture* (303), 77-85.

Kirchhoff, N., Eddy, S., Harris, L., and Brown, N. 2008. Nursery phase cage culture of *Strongylocentrotus droebachiensis*: Lease site selection criteria and cage design. *Journal of Shellfish Research*. (27), 921-927.

Brown, N., Shields, R.J. and Bromage, N.R. 2006. The influence of water temperature on spawning patterns and egg quality in the Atlantic halibut (*Hippoglossus hippoglossus* L.). *Aquaculture*. 261, (3), 993-1002

Brown, N., Eberhart, J., and Scarrat, D. University of Maine Commissions New Aquaculture Research Facility. Hatchery International (6).

Brown, N. 2002. Flatfish Farming Systems in the Atlantic Region. *Reviews in Fisheries Science*. (10), 403-419.

Cusack, R.R. Groman, D.B., MacKinnon, A.M., Kibenge, F.S.B., Wadowska, D., Brown, N. 2001. Pathology associated with an aquareovirus in captive juvenile Atlantic halibut *Hippoglossus hippoglossus* and an experimental treatment strategy for a concurrent bacterial infection. *Diseases of Aquatic Organisms*. (44), 7-16.

Bromage, N., Mazorra, C., Bruce, M., Brown, N. and Shields, R. 2000. Halibut culture. In *Encyclopedia of Aquaculture*. Stickney (Ed). John Wiley and Sons. 425-432

Brown, N.P. Bromage, N.R. Penman, D.J. Shields, R.J. 1997 The karyotype of the Atlantic halibut, *Hippoglossus hippoglossus* (Linnaeus). *Aquaculture Research*. (28), 489-491.

Induction of triploidy in the Atlantic halibut, *Hippoglossus hippoglossus* using hydrostatic pressure shock. Poster presented at the *Genetics in Aquaculture Symposium, Stirling, UK*. 1997.

Shields, R.J. Brown, N.P. Bromage, N.R. 1997. Blastomere morphology as a predictive measure of fish egg viability. *Aquaculture* (155), 1-12.

Brown, N.P. Bromage, N.R. Shields, R.J. 1995. The effect of spawning temperature on egg viability in the Atlantic halibut, (*Hippoglossus hippoglossus*). *Proceedings of the Fifth International Symposium on the Reproductive Physiology of Fish. University of Texas at Austin, 2-8 JULY 1995. p. 181.*

Developments in Atlantic halibut (*Hippoglossus hippoglossus*) aquaculture in Maine, USA. Presented at *Aquaculture America 2008. Feb 9 to 12 2008.*