STAGES

Newsletter of the
Early Life History Section
of the American Fisheries Society

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Hasselman Honored in Richardson Award Competition

The 22nd annual Sally L. Richardson Award for the best student paper was presented at the 31st annual Larval Fish Conference at Memorial University, St. John's, Newfoundland, Canada in July 2007.

This year, the winner was Dan Hasselman for his presentation "Ontogenetic development of the endangered Atlantic whitefish (*Coregonus huntsmani* Scott,1987) eggs, larvae and juveniles." His co-authors were J. Whitlow and R.G. Bradford. Dan is with the Marine Gene Probe Laboratory at Dalhousie University, Nova Scotia.

Dan Hasselman (left), winner of the 2007 Sally Leonard Richardson Award for the best student paper, with Grace Klein-MacPhee, Sally Leonard Richardson Award Committee Chair.

Honorable mention went to Paulette Penton of the Department of Zoology, University of Manitoba. Paulette's presentation was entitled, "Emergence patterns of capelin (*Mallotus villosus*) at beach and demersal spawning sites on

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President's Message

Greetings friends. I hope that the arrival of this issue of STAGES finds you well and filled with enthusiasm for those things that matter most to you. In this message I want to provide information on four topics that reflect recent happenings in our Section.

First, we had an outstanding Larval Fish Conference in Newfoundland in July. The scientific program was diverse – designed around the four broad themes of 'Physiological ecology', 'Connectivity and dispersal', 'Parental effects', and 'Moving fish early life studies from academia to application' – yet provided balance and much local flavor. The Conference was dedicated to our friend, Section member, and former President-Elect, Joe Brown who, shortly before his passing in 2005, had originally offered to host this conference.

The venue at Memorial University of Newfoundland (MUN) was ideal for good and continuous interactions: a single session with amphitheater seating, nicely detailed coffee breaks, and lunches provided at a nearby campus dining hall. The socials were so Newfoundland and so good – the food, the drink, and the themes. The Symposium Reception was held at the Geo Centre on Signal Hill, the site of the first wireless communication between North America and Europe by Guglielmo Marconi in 1901 and a perfect location for celebrating the success of the meeting. Not only was the setting surreal with its vantage point above St. John's Harbor, but it served as a uniquely appropriate location for redirecting our focus across the Atlantic, much like Marconi more than century earlier, to next year's LFC in Kiel, Germany. Most of us were able to visit and tour the MUN Ocean Sciences Centre where the newly dedicated 'Joe Brown

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Inside this issue

ELHS Back Then

5 years ago: LFC met in Europe for the first time. The location was the beautiful town of Os, Norway.

10 years ago: Book from 18th LFC, Early Life History and Recruitment in Fish Populations *(Chambers & Trippel, eds.), was published.*

15 years ago: Jeff Leis and Mike Kingsford distributed a questionnaire to gauge interest in holding an LFC in Sydney, Australia.

20 years ago: 11th LFC was held at Michigan Technological University, 80 participants from 5 countries participate.

25 years ago: Initial discussion by ExCom to make the LFC an official ELHS function.

Deadline for material to be included in the next issue of ***Stages****:*

January 4, 2008

News from the Regions

Pacific Rim Region

Iain Suthers

from: Tasmanian Aquaculture & Fisheries Institute, Taroona, Tasmania, Australia

Pancho Neira and his colleague Jeremy Lyle are pursuing their studies of the increasingly important baitfish resource off eastern Australia, evaluating egg production as a method of estimating spawning biomass of redbait (*Emmelichthys nitidus*) off the east coast of Tasmania. They have completed two egg surveys of eastern Tasmania (October 2005 and 2006) and staged the eggs. By using stripped eggs and incubation they have constructed a temperature-dependent egg development model to apply the daily egg production estimates of spawning stock biomass.

Pancho is also developing a genetic/morphological databank for the identification of wild eggs of Australian marine fishes. The pelagic eggs of at least 17 fish species have been identified since the commencement of this project in 2006. Species fall into three categories: (1) those whose eggs were initially identified using morphological features based on literature descriptions, and which identifications have been confirmed through the application of molecular (mtDNA) techniques; (2) those whose eggs were initially identified using literature descriptions but which identifications are awaiting confirmation with mtDNA; and (3) those whose eggs have been identified solely using mtDNA techniques, and which have never been described. Species include:

Emmelichthys nitidus (Emmelichthyidae), *Scomber australasicus* (Scombridae), *Lepidopus caudatus* (Trichiuridae), *Trachurus declivis* and *T. novaezelandiae* (Carangidae), and *Lepidotrigla argus* and *L. mulhalli* (Triglidae).

from: Coastal Fisheries and Aquaculture Division, Tohoku National Fisheries Research Institute, Miyagi, Japan

Dr Shinji Uehara reports: A 5-year research project, POMAL (Study for the prediction and control of the Population Outbreak of the MArine Life in relation to environmental change), has been launched in 2007 with the full sponsorship of Research Council Secretariat of the Ministry of Agriculture, Forestry, and Fisheries. The project is comprised of two major subjects: 1) studies on prediction and control of jellyfish outbreaks (STOPJELLY; Shinichi Uye, Hiroshima University, Principal Investigator) and 2) studies on prediction and application of fish species alternation (SUPRFISH; Hiroaki Saitoh, Tohoku National Fisheries Research Institute, Principal Investigator). The target species of SUPRFISH are sardine *Sardinops melanostictus*, anchovy *Engraulis japonicus*, and mackerels *Scomber japonicus* and *S. australasicus*. Environmental effects on recruitment and cyclic population dynamics of these species have been studied as a subsection of SUPRFISH.

Masakane Ohshima, graduate student of Yoh Yamashita (Kyoto University) has been working with Shinji Uehara (Tohoku National Fisheries Research Institute), on growth, feeding habit and survival of pelagic larvae of Japanese flounder *Paralichthys olivaceus* along the Pacific coast of northern Japan since 2004. For more information, contact Shinji Uehara, ueshin@affrc.go.jp.

from: the East Australian Current

News from the EAC - dudes! Last October Iain Suthers, Mark Baird, Moninya Roughan and Jason Middleton had a 2-week voyage to the Tasman Front, and thence on to Lord Howe Island, Balls Pyramid and Middleton Reef. The main objective was to examine the effects of flow disturbance on upwelling and ichthyoplankton patchiness in the various wakes. On the way back we also sampled Taupo Seamount and flew an undulating "Sea Soar" and optical plankton counter across the crest (100 m from the

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HELP US UPDATE OUR RECORDS...

Verify your email and postal address with our Secretary.

Northeast Region

Mark Wuenschel

from: Timothy Targett, University of Delaware

Tim Targett's lab has been studying the effects of hypoxia on juvenile fishes. One recently completed project investigated the effects of various degrees of hypoxia on growth and feeding of juvenile summer and winter flounder in the laboratory. Another project determined the movements and distributions of juvenile weakfish in relation to diel-cycling hypoxia in the field.

Recent publications:

Stierhoff, K. L., T. E. Targett, and K. L. Miller. 2006. Ecophysiological responses of juvenile summer and winter flounder to hypoxia: experimental and modeling analyses of effects on estuarine nursery quality. *Marine Ecology Progress Series* 325:255-266.

Tyler, R., and T. E. Targett. 2007. Juvenile weakfish *Cynoscion regalis* distribution in relation to diel-cycling dissolved oxygen in an estuarine tributary. *Marine Ecology Progress Series* 333:257-269.

From John Manderson, NOAA/NMFS, Ecosystem Processes Division, Behavioral Ecology Branch, James J. Howard Marine Sciences Laboratory

John has been studying patterns in the production of juvenile winter flounder from nursery habitats across estuaries in southern New England.

Recent publications:

Manderson, J. P. In press. The spatial scale of phase synchrony in winter flounder (*Pseudopleuronectes americanus*) production increased among southern New England nurseries in the 1990's. *Canadian Journal of Fisheries and Aquatic Sciences*. §

Western Region

Dan Margulies

from: Eric Bjorkstedt, NOAA/NMFS, Southwest Fisheries Science Center, Fisheries Ecology Division, and Department of Fisheries Biology, Humboldt State University

Eric Bjorkstedt has recently established a research program based at Humboldt State University (HSU) to study fisheries oceanography off northern California. His research combines modeling and field studies directed at understanding oceanographic influences on early life-history ecology and recruitment success of rockfishes (*Sebastes* spp.) along the California coast. Specific species of interest are those of commercial and recreational importance that enter the plankton during the winter months, when both productivity and offshore transport are at seasonal minima.

One aspect of this research is a modeling project being pursued in collaboration with Steve Ralston (also at NOAA Fisheries, Southwest Fisheries Science Center, Fisheries Ecology Division). In this work, we embed a simple plankton ecosystem model and an individual based model for rockfish ELHS in a 1-D advection-diffusion model for cross-shelf circulation. The model is forced with low-pass filtered alongshore winds and sea level to simulate the fate of rockfish ELH stages as a function of variability in the concentration and distribution of potential prey during the winter months off central California. Predictions of probability of survival-to-age (conditional on birthdate) are then compared to empirical distributions of survivors' birthdates, which have been obtained from pelagic juveniles of six species collected during early summer mid-water trawl surveys from 1983 to 20041. By resolving 'event-scale' oceanographic and biological dynamics, this analysis suggests that rockfish recruitment success is positively influenced by well-timed pulses of upwelling and relaxation or downwelling that sequentially enrich and retain coastal waters into which rockfish larvae are released, and suggests that the timing of such events can influence which part of the larval cohort (if any) will be disproportionately represented among recruits. Coincidence (or lack thereof) between favorable conditions and the release of larval rockfish into the plankton appears to underlie a match-mismatch mechanism for generating recruitment variability in these species. Ekman transport, a factor generally underappreciated in previous analyses of correlations between seasonal or monthly means of oceanographic parameters and overall recruitment success, therefore appears to play an important proximate role in ELH ecology of winter-parturition rockfishes. Results from this work were presented at a series of conferences this summer, including the 31st annual Larval Fish Conference in Newfoundland, and a manuscript is currently in preparation.

The second aspect of this research focuses on conducting research aboard HSU's research vessel *Coral Sea* to evaluate factors affecting the ecology of ELH rockfish in the field during the winter months off northern California, and has been conducted in collaboration with Ashok Sadrozinski as part of his master's thesis research. In this work, we sample larval fishes and their potential prey along a 25-nautical-mile, cross-shelf transect extending due west from Trinidad Head, California. Cruises take place approximately monthly, and are executed during windows of relatively favorable weather between winter storms. We observed a range of hydrographic structures over the course of winter 2006-2007, including fronts indicative of recent upwelling or downwelling affecting coastal waters. Cross-shelf variation in assemblage structure of ichthyoplankton is related in part to this structure, and larval rockfishes were commonly found to be more abundant near frontal features than at stations away from fronts. These findings are consistent with those reported by Bjorkstedt et al. (2002; MEPS 242: 212-228) for larval rockfishes observed at upwelling fronts

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Western Region...cont'd from p. 3

during summer months, and suggest that such features might play an important role in the ecology of rockfish early life-history stages.

These projects are ongoing, and at least one opening is available for a master's student to begin work in Fall 2008 (email Eric.Bjorkstedt@noaa.gov for further information).

Thanks to colleagues, past and present, who have been instrumental in generating the data used here, especially Ken Baltz, Tom Laidig, Keith Sakuma, Dale Roberts, and David Woodbury, and to the captains and crew of the NOAA Ship *David Starr Jordan* who have assisted with the field collections. §

Pacific Region...cont'd from p. 2

surface). From Taupo back to Sydney, along the Tasman Front we found increasing numbers of larval fishes - in both oceanic taxa and coastal fishes (the first biological sampling in this region). On the way back towards Sydney we sampled a 100-km diameter cold core eddy and found many late stage clupeids, carangids, *Scomber*, and even more myctophids, compared to just outside the eddy. We plan to investigate these eddies in great detail for comparison with similar studies of the Gulf Stream and the Kuroshio.

Meanwhile our node, or part, of the Integrated Marine Observing System www.imos.org.au dominates our lives at the Sydney Institute of Marine Science. Permanent oceanographic moorings will be soon deployed off Sydney and off northern NSW. An acoustic telemetry transect will be in place off Sydney and off northern NSW by March 2008, as well as off the Ningaloo Reef later this year. We are applying to have high frequency radar off the coast by late 2008 and applying for a Seaglider study of the Tasman Front and a Slocum glider study of the eddies.

Kelly Wright has successfully defended her thesis "Sensory abilities of larvae of marine fishes" co-supervised with Jeff Leis, and many Taiwanese and US collaborators. §

Southern Region

Claire Paris

from: Fisheries and Mariculture Laboratory, University of Texas Marine Science Institute

On August 17, 2007, the ribbon was cut to open the **CCA Texas Laboratory for Marine Larviculture** which was built from a $700,000 donation from the Coastal Conservation Association Texas. The facility is part of the growing Fisheries and Mariculture Laboratory (FAML) at the University of Texas Marine Science Institute.

The CCA Texas Laboratory for Marine Larviculture opened on August 17, 2007 at the University of Texas Marine Science Institute.

The new 3,000-square-foot larval fish research facility contains a novel system of tanks and environmental controls. Joan Holt, Director of FAML, says that the it will facilitate more studies into ways to increase hatchery success and production of important species and to expand the number of new species that can be reared.

from: University of North Carolina at Wilmington

Juvenile ecology of red drum in North Carolina

Fred Scharf's group has been researching the ecology of juvenile red drum in North Carolina since 2003. The goals are to understand variation in first year processes and to identify factors that contribute most to recruitment success. The early life history of red drum in North Carolina demonstrates patterns similar to those observed elsewhere within the species range, with post-larval fish initially settling in shallow estuarine waters during fall, achieving rapid growth the following spring, and often reaching the minimum harvestable size (18 inches) early in their second year of life.

Using otolith microstructure to estimate age and growth history of individual fish, student researchers were able to determine hatch timing and rates of growth and mortality of young red drum in two estuaries during multiple years. Master's student Jason Lanier backcalculated size at hatch to reconstruct growth histories of individual fish in the New River estuary. During the fall months immediately after estuarine settlement he found that juvenile red drum growth rates varied considerably among individuals. He also detected an effect of settlement location within the estuary on recent growth, with fish collected at moderate salinity locations in mid-estuary realizing the fastest recent growth. The estimated hatch dates of the 2004 year class of red drum in the New River occurred mostly during August and September, with distribution tails extending into late July and early October. An 80-90-d range in hatch timing combined with variable growth among individuals led to a large range of body sizes at the onset of winter. Juveniles collected in December ranged from 30 to 80 mm total length. To corroborate his observations in free ranging fish, Lanier then completed a set of caging experiments to quantify variation in growth among individuals and across space throughout the fall recruitment period. Replicate cages were placed along an estuarine salinity gradient and five consecutive 10-d experiments were completed during October and November 2004. The experiments revealed a strong effect of declining fall water temperatures on red drum juvenile growth and a more subtle effect of salinity, with no space and

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Getting there is half of the fun!

Congratulations to our four recipients of the ELHS Student Travel Grants. The travel grants, in allotments of $500 per student, were given to Marta Moyano, Ph.D. student, Biological Oceanographic Laboratory, Facultad de Ciencias del Mar, Universidad de Las Palmas de Gran Canaria, Spain; Kelly Young, M.Sc. student, University of Victoria, British Columbia, Canada; Ana Faria, Ph.D. student, Eco-Ethology Research Unit, Instituto Superior de Psicologia Aplicada, Lisboa, Portugal; and Vanessa Thompson, Ph.D. student, University of Melbourne, Melbourne, Victoria, Australia. Congratulations to all and we hope to see you next year in Kiel.

The ELHS thanks Fred Scharf, the Student Travel Grants Committee Chair, for his continuing work on this important Section activity. §

Travel Grant winners (left to right) Vanessa Thompson, Ana Faria, Marta Moyano, and Kelly Young along with ELHS President Chris Chambers.

Early Larval Fish Conference Proceedings Available Online

The ELHS-funded project to digitize the proceedings of the first five annual Larval Fish Conferences has been completed. Lee Fuiman arranged for The University of Texas Libraries to create searchable PDF files of the five conference proceedings from his personal copies of those documents. The University of Texas Libraries plans to make the documents available to the everyone through its electronic repository, D-space. The files are available immediately from the ELHS website: http://www2.ncsu.edu/elhs/elhspubs.html. §

Section Elections

We are looking for a few good (full) members

We need you! This fall we will have elections to fill two Section offices that will be vacated at our next Section business meeting to be held at the LFC in Kiel Germany (4-7 August 2008). As per our Section Bylaws, all of the offices elected by our full Section, except the Treasurer, have 2-year terms (the Treasurer's term is 4 years). This means that Jon Hare and Ione Hunt von Herbing will be ascending to the office of President and Secretary, respectively, at the Kiel LFC. We need to elect their replacements, i.e., a President-Elect and a Secretary-Elect. Please step forward and put your name into consideration. You can also nominate a colleague whom you know would do a good job but is too bashful to self-promote. Please contact our Elections Chair at chris.chambers@noaa.gov. §

Business Meeting Minutes

2007 Business Meeting of the Early Life History Section

31st Annual Larval Fish Conference, St. John's, Newfoundland

Attendance (Chris Chambers, presiding). The meeting was called to order at 16:45 pm on 7/11/07. A quorum was not established (38 people present, 20 were full Section members).

I. Announcements

The email ballot for Secretary-elect resulted in Ione Hunt von Herbing becoming the new Secretary-elect.

II. Approval of minutes

The 2006 Business meeting minutes were distributed at the Conference and the Business meeting and earlier at the Executive Committee meeting. The minutes were approved.

III. Treasurer's report (Jeff Govoni for Betsy Laban)

Expenditures included printing and postage for the Section newsletter, student travel grants, Sally L. Richardson Best Student paper and J.H.S. Blaxter Best Student poster awards, and bank fees. The balance as of Jan 1, 2007 is $12,363.78.

IV. Standing Committees

1. Nominations. Nominations and Mail Ballot Committee Chair, Chris Chambers, reported that the email ballot for Secretary-elect consisted of 204 emails with 65 replies. There was discussion of updating membership lists with current email addresses. A new chair for this committee needs to be identified and nominations were requested. The Section also needs to have a ballot for Secretary-elect and President-elect during the next 6 months. The floor was opened for nominations. Frank Hernandez was nominated and accepted the nomination to be considered for Secretary-elect. Su Sponaugle was nominated for President-elect but was not present to accept the nomination. She and further candidates will be contacted after the Conference. An email ballot for President-elect and Secretary-elect will be sent this autumn.

2. Time and Place. The Committee report by Jeff Govoni, Chair, noted the following approved and candidate locations for future LFCs: 2008 – The LFC will be held at Kiel, Germany, with Local Committee Chair Catriona Clemmesen. The 2009 LFC venue is being explored. President Chambers has been in correspondence with Jackie Webb, the ASIH representative to ELHS, about future meetings and shared interests in the two organizations. Jackie Webb forwarded an invitation for the ELHS to participate in the 2009 Joint Meeting of Ichthyologists and Herpetologists (JMIH) to be held at Portland, Oregon. Approvals from the JMIH Meeting Planning Committee and the ELHS Executive Committee will be sought shortly. Location and hosts for the

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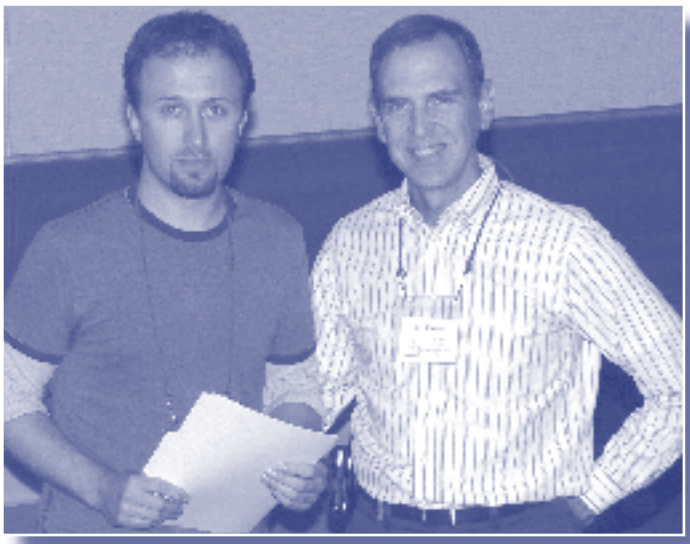
Recent Events



Ian Bradbury (left), winner of the 2007 J.H.S. Blaxter Award for best student poster, with Blaxter Committee member Lee Fuiman.

Bradbury Honored in Blaxter Award Competition

Ian Bradbury won the 2007 J.H.S. Blaxter Award for the best student poster at the 31st annual Larval Fish Conference. His poster was entitled "Drifting into the Light: Illuminating Global Trends in Marine Larval Dispersal." Ian is with the Marine Gene Probe Laboratory, Biology Department, Dalhousie University, Nova Scotia. His co-authors on the poster were B. Laurel, P. Snelgrove P. Bentzen, and S. Campana.

The judges agreed that the winning poster described a complete study that represented a well conceived synthesis that has broad implications. The poster was presented very clearly and the author addressed questions very effectively.

Congratulations to Ian, and congratulations to the Marine Gene Probe Laboratory at Dalhousie University for having its students win both the Richardson and the Blaxter awards this year! §

— Lee A. Fuiman

Minutes...cont'd from p. 5

2010 and 2011 LFCs are being explored. We have one offer from earlier communications (made by Ione Hunt von Herbing, University of North Texas, Denton, Texas) for 2010. Joan and Scott Holt (University of Texas) offered assistance to host the 2010 LFC. Jenn Cassell, UC Santa Barbara, offered to host the LFC in either 2010 or 2011. It was proposed that colleagues at the University of Miami (John Lamkin and Bob Cowen) host the meeting in 2011. The LFC in 2012 will be held in Bergen, Norway with Howard Browman and Anne Berit Skiftesvik as co-Chairs of the Local Committee (approved in 2006). It was noted that the Section should seek colleagues with freshwater research programs to host a future LFC. Ed Trippel (St. Andrews DFO) suggested that the Section might contact Daniel Boisclair, Université de Montréal, about hosting a future LFC. Other suggestions and offers are welcome.

Catriona Clemmesen, Local Committee Chair for LFC 2008, provided a description of the plans for LFC 2008. The meeting will be held from Aug. 4-7, 2008. Potential theme sessions include:

1. Larval ecology linked to physical processes

2. Aquaculture and stock enhancement of early life-stages

3. Early life-history strategies of fish and cephalopods

4. Taxonomy and systematics of fish larvae and cephalopods

5. Developmental molecular biology and physiology

6. Data bases and tools on early life stages

V. Sessional Committees

1. Sally L. Richardson Award. SLR Award Chair, Grace Klein-MacPhee, reported that the 2007 SLR award winner was Dan Hasselman. His talk was titled, 'Ontogenetic development of the endangered Atlantic Whitefish (*Coregonus huntsmani* Scott, 1987) eggs, larvae, and juveniles.' Honorable mention went to Paulette Penton for 'Emergence patterns of capelin (Mallotus villosus) at beach and demersal spawning sites on the northeast coast of Newfoundland.' The award fund is solvent ($13,824.53 as of January 2007).

2. J.H.S. Blaxter Award. Blaxter Award Committee representative, Lee Fuiman, reported that the 2007 Blaxter award winner was Ian Bradbury. His poster was titled, 'Drifting into the light: Illuminating global trends in marine larval dispersal.' The Blaxter Award Committee, Lee Fuiman, Don Hoss, and Jon Hare, in their report to the Section, submitted a set of inquires and requests for actions pertaining to solidifying a means and amount of funding for the Blaxter Award. The Executive Committee will discuss these items and options, and will be identifying means to maintain a solvent, ongoing Blaxter Award fund. Our Section Treasurer, Betsy Laban, will be initiating a separate Blaxter Award account similar to that which we have for the Sally Richardson Award.

3. Ahlstrom Award. Ahlstrom Committee Chair, Art Kendall, reported that no presentations were given this year. The Committee, in its submission to the Section, stated that the Committee is gathering a nomination package for a very worthy candidate and plans on presenting the second Ahlstrom Award at the 2008 LFC in Kiel, Germany. Further nominations will be solicited in an upcoming issue of STAGES.

4. STAGES, the Section Newsletter. STAGES editor Lee Fuiman reported that three issues of STAGES were published since our LFC in 2006: October 2006, February 2007, and June 2007. The print run for each issue is based upon the number of full and affiliate Section members as determined by the membership list. For the June and October issues this includes all members who are paid through December of the calendar year (2006). For the February issue each year, members who were paid through the prior year are

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Richardson award...cont'd from p. 1

the northeast coast of Newfoundland." Paulette's co-authors were G.K. Davoren, D.W. Andrews and W.A. Montevecci

This year, 17 student papers were presented, and the competition was very close. Congratulations to Dan and to Paulette, and a hearty thanks to all the students who presented talks and the people who judged them. §

— Grace Klein MacPhee

Images from Newfoundland — 31st Annual Larval Fish Conference

Reception at INCO Innovation Centre

Tony Miskiewicz, Rick Shaw, and Joan Holt find the tropical foliage reminiscent of home. (photo: H. Browman)

Dave Bengtson uses the "evil eye" to convince Jennifer Caselle to host a future Larval Fish Conference. (photo: H. Browman)

Banquet at Johnson Geo Centre

Rightfully pleased that the conference is nearly finished and went flawlessly, Pierre Pepin enjoys dinner with Anne Berit Skiftesvik (left) and Kathryn Morton (right). (photo: H. Browman)

Denise Drass finds Mark Dickey-Collas very amusing. (photo: H. Browman)

We're pretty sure Jeff Govoni is describing two items to Maria Pilar Olivar. He's too much of a gentleman to be rude. (photo: H. Browman)

Conference trip to Ocean Sciences Centre

Right: Three Mercedes-Benz mechanics? Or, are they three food service professionals? Dave Bengtson, Rick Shaw, and Tim Targett (left to right) visit facilities at the Joe Brown Aquatic Research Building. (photo: H. Browman)

Post-conference trips on The Rock

Left: "It's just across the water!" – While visiting Cape Spear, Newfoundland – the easternmost point in North America – Catriona Clemmesen, local host for the 2008 LFC, offers plain directions to Kiel, Germany.

Right: Fog and rock and gannets, oh my! Mark McCormick and Monica Gagliano overlook a northern gannet nesting site at Cape St. Mary's, Newfoundland. (photos: R.C. Chambers)

People

Jeff Leis Receives Australian Medal

At the most recent Australian Society for Fish Biology (ASFB) annual conference in Canberra, Jeff Leis was awarded the K. Radway Allen Medal - the society's highest honour for an outstanding contribution in fish or fisheries science. This rare and prestigious award (this is the sixth in over 12 years) is in recognition of Jeff's outstanding contributions to larval fish systematics, larval biology and ecology at the Australian Museum. He has trained most of us. Jeff was clearly delighted by the recognition of his peers - indeed many of our AFS colleagues would know Tony Miskiewicz (aka "Miskie" and resident larval fish expert himself) who was on his feet applauding before we could even react to the announcement. Jeff also made the sobering comment in his reply, that the number of fish curators in Australia had declined from 12 or 13 to now only 3.

The ASFB annual 2-day meeting is always a good meeting to catch up. The conference was preceeded by a 2-day workshop on Spatial Management in Fisheries and examined the effectiveness of spatial fisheries management tools in Australia and overseas. It is particularly timely given the recent spate of MPAs and the push for freshwater reserve systems. These workshops have been run before the conference for nearly 20 years, and the proceedings can now be downloaded from the society's web site www.asfb.org.au.

In other news at the conference, it was recommended that the Education Committee seek reciprocal student exchange with AFS, and with the Fisheries Society of the British Isles. It is hoped that ASFB can provide air fares and accommodation costs for the Australian student to attend the annual AFS meeting, and for a US student to attend our annual ASFB with free registration. A condition would be to give a presentation and to attend a specifically useful laboratory. We also hope to sponsor a student from the South Pacific. Next year's meeting will be in Sydney, in September, with the workshop dealing with Australia's recreational fishing challenges. §

Motz Grothues Hands the Baton to Mark Wuenschel

After several years of service as Northeast Regional Representative Tom "Motz" Grothues has stepped down. This is unfortunate because Motz has done a fine job of keeping tabs on ELH research in the northeast region of the U.S. and Canada and forwarding reports for *Stages*. However, his research activity has been moving into the adult side of reproduction and recruitment and he has found less time to devote to baby fishes.

Stepping up to the challenge is Mark Wuenschel. The transition is likely to be smooth, as both Motz and Mark are located at the Rutgers University Marine Field Station in Tuckerton, New Jersey. Mark received his B.Sc. in Biology from Ursinus College, M.Sc. in Biology from East Stroudsburg University, and Ph.D. in Fish and Wildlife Biology and Management from the State University of New York – College of Environmental Science and Forestry, Syracuse, where his advisor was ELHS Past President Bob Werner. Mark's doctoral research, carried out at the NOAA Center for Coastal Fisheries and Habitat Research in Beaufort, NC, with Don Hoss, investigated the physiological ecology (bioenergetics) of larval and juvenile spotted seatrout in response to temperature and salinity. This led to a postdoctoral position with Jon Hare to investigate energetics of juvenile gray snapper to evaluate the effects of restoration of freshwater inflows to Florida Bay. He is currently working

Motz Grothues exits his position as Northeast Regional Representative of the Early Life History Section, and Mark Wuenschel takes his place.

with Ken Able (his first boss/advisor that isn't a previous or current ELHS President) on coastwide patterns in bluefish recruitment. His main interest is the ecology of early life stages of fishes, specifically, determining factors (abiotic and biotic) that affect growth, survival, recruitment, and population dynamics. Current research also includes swimming ability and energetics of eels at ingress, reproductive condition of winter flounder, food habits of piscivorous fishes on the continental shelf, and age and growth techniques. §

Upcoming Events

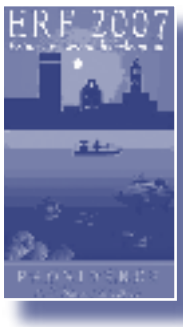
32nd Annual Larval Fish Conference Slated for Germany

The 2008 Larval Fish Conference will be held at the Leibniz Institute of Marine Science (IFM-GEOMAR), Christian Albrechts University, Kiel, Germany. The dates for the conference are 4 - 7 August 2008. Registration and abstract submission will begin 1 February and end 31 March 2008. For more information about the conference, see fhe conference website (www.larvalfishcon.org) or contact the conference organizer, Dr. Catriona Clemmesen (LFC2008@ifm-geomar.de).

Theme sessions planned for the 2008 LFC include:

- *Larval ecology linked to physical processes*
- *Aquaculture and stock enhancement of early life stages*
- *Early life history strategies of fish and cephalopods*
- *Larval fish and cephalopod taxonomy*
- *Developmental molecular biology and physiology*
- *Databases and tools on early life stages*
- *Contributed paper session*

Connectivity in Estuarine and Coastal Populations of Fish and Invertebrates



Estuarine Research Federation '07
November 4-8, 2007

Co-Chairs: Dave Secor, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science, and Claire Paris, Rosenstiel School of Marine and Atmospheric Sciences, University of Miami.

Description: What are the causes and consequences of estuarine habitat use by coastal fishes? Recent research supports the view that diversity in life cycles of estuarine and coastal fishes represents a key resiliency mechanism in fisheries and habitat management. This session builds on an earlier successful session that was held at the 2003 Seattle ERF meeting (Rooker and Secor. 2005. Connectivity in the life cycles of fishes and invertebrates that use estuaries. *Est. Coastal Shelf Sci.* 64:1-148). Here in a 1-day session, we plan to review progress on understanding the consequences of life-cycle portfolios in coastal fishes. Possible sub-themes include the role of life-cycle diversity in population resiliency (i.e., the storage effect); spatially explicit models of estuarine fish/invertebrate production and life cycles; connectivity between coastal and estuarine essential fish habitats; metapopulation dynamics among and within estuaries; and fishes as nutrient delivery systems between estuarine and coastal environments. For more information, go to erf.org/erf2007/sessions.html.

Minutes...cont'd from p. 6

included as a courtesy. There is a decline in the number of members eligible to receive STAGES as determined by the membership lists. The print runs for the three most recent issues were 356, 400, and 400 and the mailed numbers were 356, 297, and 266, respectively. Note that the Section saves a considerable amount of money on postage by using a bulk mail permit which requires a minimum of 200 pieces mailed at one time to addresses within the United States. It has become increasingly difficult to publish each issue of STAGES on time (at the start of the scheduled month of publication). In an effort to facilitate this task, editor Lee Fuiman has asked the Section Secretary to send updated membership lists (with email addresses) to each Regional Representative a week or two before each newsletter deadline so that the representatives can directly contact potential contributors in their region. The Regional Representatives who have reported back say that this has not improved the situation. At this point, it is not clear how we can solve the problem. Tom 'Motz' Grothues, Northeast Regional Representative, has expressed interest in stepping down due to a change in his research activities. The Section needs to identify a replacement. President Chambers thanked Motz for his service to the Section as a Regional Representative.

VI. Ad hoc Committees

1. Student Travel Award. Student Travel Grant Committee Chair, Fred Scharf, reported that four awards of $500 each were disbursed to facilitate student travel to the LFC 2007 in St. John's. The recipients were Marta Moyano, Kelly Young, Ana Faria and Vanessa Thompson.

VII. Old Business

None.

VIII. New Business

None.

IX. Installation of New Officers

None.

X. Adjournment

The meeting was adjourned at 17:44. §

– Denice Drass, ELHS Secretary

Southern Region...cont'd from p. 4

time interaction. When coupled with previous physiological research, the results of Jason's growth experiments suggest that moderate salinities (15–25 ppt) may enhance osmoregulatory efficiency in juvenile red drum and allow greater scope for growth. In addition, the amount of spatial and temporal variability in growth observed implies that the timing of estuarine arrival and initial settlement habitat may have a strong influence on size at age patterns for early juvenile red drum. Given the generally harsher winter conditions experienced by first year red drum in North Carolina relative to more southern estuaries, size distributions prior to the onset of winter may impact early juvenile survival and eventual year-class success.

Master's student Chris Stewart set out to examine spatial and temporal variability in estuarine arrival, growth, and first year survival of juvenile red drum. He collected data for two consecutive years in the New River estuary and gathered data from an additional estuary, the lower Cape Fear River, during one of those years. Chris found large differences in relative abundance of age-0 red drum between the two estuaries that he attributed, at least partly, to variations in estuarine hydrology and flushing rates that probably impact larval delivery and distribution. Hatch timing was generally concentrated during August and September, however differences of up to 30 d in peak hatch timing were evident between years. Hatch timing was similar between estuaries and the interannual differences were correlated with variation in nearshore ocean water temperatures during the summer reproductive period. Chris also found that both fall growth (0.45 – 0.75mm d^{-1}) and mortality (1.6 – 3.0% d^{-1}) rates varied between estuaries and years, which suggested local-scale control of these vital rates. Despite significant spatial and temporal variation, all red drum cohorts examined generated G:Z ratios around 2.0 during their first fall, indicating increasing cohort biomass during the early juvenile stage. Lastly, Chris estimated discrete overwinter loss rates of 35 - 67%, indicating that age-0 juveniles may experience considerable declines during their first winter in North Carolina estuaries.

Master's student Cassie Martin is currently building upon previous work by attempting to isolate factors that may contribute to mortality of juvenile red drum during winter months. Specifically, she is testing for shifts in population demographic traits (size and age) during the overwinter period. She is also utilizing otolith microstructural analyses to examine the hatch timing and growth rate distributions of age-0 red drum both pre- and post-winter. She hypothesizes that red drum cohorts in North Carolina may experience directional selection for early hatch timing and fast growth in order to maximize winter survival probability. To date, she has completed her field collections and most of her otolith analyses for the 2006 year class and has recently begun field collections of the 2007 year class.

Other red drum research in Scharf's lab is related to the very high growth rates of age-0 fish observed during spring and summer, just prior to reaching age-1. First year red drum in early May range from 70-100 mm total length and 5-15 g wet weight. By September, fish have achieved total lengths of 300-375 mm and weights exceeding 300 g. Data on seasonal estuarine water temperatures and food habits indicate that rapidly warming water temperatures and dietary shifts to fishes and macroinvertebrates likely contribute most to the observed growth patterns. MS student Joe Facendola is investigating the predatory impact that red drum may be having on juvenile blue crabs within the New River estuary. Past diet studies indicate that juvenile blue crabs (1-3") are consistently eaten by sub-adult and adult red drum, however consumption rates have yet to be quantified. Joe is conducting biweekly sampling to quantify seasonal and ontogenetic changes in the diet, as well as monthly diel sampling to estimate the daily ration of age-0 and age-1+ red drum. To date, he has completed five diel sampling trips in 2007 and his food habits analysis is showing the frequent occurrence of juvenile blue crabs. Joe is hoping that his diel field sampling will enable him to estimate red drum gut evacuation rates in the field and he plans to validate these estimates with a series of controlled laboratory experiments during summer 2008. §

President's Message...cont'd from p. 1

Aquatic Research Building' is located. I know that all were impressed by the facility and its stunning location on the rocks above Logy Bay.

Of all the sites and experiences that will stay with us long after our departure from Newfoundland, none was more memorable and meaningful to me than the dedication ceremony of the Joe Brown Aquatic Research facility. Many Section members and conference attendees were lucky enough to have known Joe and, therefore, to witness his style and enthusiasm. Having the pleasure to hear personal remembrances about Joe from many of his colleagues, students, and family members at the dedication ceremony served to reinforce the certain conclusion that we all learned about life and living from this kind and gentle soul.

Many of us also had pre- or post-LFC travels in Newfoundland. I personally had not spent any substantial time in Newfoundland in nearly 20 years. I was curious to see what had changed and what had not. To me, St. John's has experienced the most dramatic changes – new airport, bustling commerce, and more tourists. St. John's is as fun now as ever, perhaps more so, with an abundance of excellent restaurants and establishments for gathering (I have my 'screeched in' parchment on the wall of my office – some things will never change). After the meeting we traveled around that Avalon Peninsula, hopping from one scenic vista, wildlife sighting, and friendly B & B to the next. We were always aware of the special Newfoundland charm so warmly expressed by acquaintances and strangers alike – that has not changed.

Our last day in Newfoundland was a beautiful and sunny July day. We drove north from St. John's via Logy Bay and Middle Cove to Pouch Cove – with a brief stop to say farewell to a friend. Upon arriving in Pouch Cove, we saw a sign for 'Rock Crest Cottage Café - Lunch and Crafts' at street side of what looked like a small private home. We pulled in and spent the next several hours enjoying home cooking and conversation with locals and other travelers. Our appetites were quieted

by the seafood chowder, cod au gratin, and scones, all of which I highly recommend. That evening we returned to Middle Cove in anticipation of capelin spawning ('rolling') in the intertidal. The capelin were not spawning that night although the sponginess of the egg-laden beach pebbles underfoot confirmed that the population is being replenished. But what was so reaffirming to see on Middle Cove beach were the Newfoundlanders – dozens of people of all ages aggregated around the many bonfires, enjoying their community and the fleeting mid summer evening.

One last 'thanks' to Pierre Pepin, Bob Gregory, Ian Fleming, and Paul Snelgrove for hosting this special LFC.

My three other topics today were raised and discussed at the LFC, particularly when we held our annual Section Business and Executive Committee meetings. These three items are: 1) funding of the J. H. S. Blaxter Award for Best Student Poster at the LFCs, 2) retaining membership, and 3) future LFC venues. Regarding the Blaxter Award funding, in their annual report, the Blaxter Award Committee members Lee Fuiman, Don Hoss, and Jon Hare prepared a series of questions and requests about solidifying a means and amount of funding for this important Section Award. The Executive Committee discussed these items and is identifying mechanisms to systematically replenish the Blaxter Award funds. Our Section Treasurer, Betsy Laban, will be setting up a separate Blaxter Award account similar to that which we have for the Sally Richardson Award. We appreciate the time, ideas, and contributions (including monetary support of the 2007 Award!) that the Blaxter Award Committee made towards resolving these outstanding issues.

You heard from me in the last two President's Messages about our need to recruit AND retain members. Both needs have proven to be challenges – but ones that we are addressing. Sounds easy to resolve, but it has not been. One of the problems is that our Section has two membership classes – Full and Affiliate. Unlike the Full membership status, the Affiliate status does not require AFS membership. Affiliate membership is attained by a simple yet recurring activity – paying dues ($15 US) either at the LFC, by mail to our Treasurer, or through the LFC website (www.larvalfishcon.org/join_elhs.asp). Many of our international Section members are Affiliate rather than Full members for reasons that are widely appreciated. However, by not being integrated with the AFS network, Affiliates are not automatically sent notices reminding them that their annual membership fees are due and required to retain their Affiliate status. Our Section Secretary, Denice Drass, is working on this. We are also working on identifying reasons why some Full memberships have not been renewed in recent years.

Lastly, during the LFC and Business Meeting, we discussed future LFC venues. Given that the LFC is the primary focus of our Section, this is an important topic for all of us to consider. Specifically, how can each of us contribute to the continued success of the LFCs? For planning purposes, we would like to have approved offers to host the LFC in place at least two years in advance, and offers tendered for several years beyond that. Presently, we are scheduled for Kiel, Germany next summer (see announcement in this issue). As this issue of STAGES goes to press, we are responding to an offer and laying the initial groundwork for plans to meet with the Joint Meeting of Ichthyologists and Herpetologists (previously known as the Ichs and Herps meeting) in Portland, Oregon in 2009. If approved by our Section's Executive Committtee, details will be posted on our LFC website (www.larvalfishcon.org). The plans for 2010 and 2011 will depend in part on our decision about the 2009 LFC. We thank those who have offered to host the LFC in 2010 and 2011, and we will be following up on those invitations shortly.

If you would like to host an LFC, especially if you are from a non-coastal locale whereby your site would be an added draw to our colleagues who study freshwater systems, please contact our Annual Conference Committee Chair, Jeff Govoni (jeff.govoni@noaa.gov) or me. Relevant to these discussions about future LFCs, we are in the process of updating our 'Guide to hosting an LFC' in order to make the process of hosting as easy as possible.

In closing, I ask that you contact me or your regional representative about any matters that you would like to see addressed – or where you can provide the solution – pertaining to the Section or the Larval Fish Conferences. Suggestions are always welcome! §

– R. Christopher Chambers

Editor's Ramblings

Hard Work Much Appreciated!

I intended to use this space to thank Motz Grothues for his service to the Section as Northeast Region Representative. And so, I will. THANKS, MOTZ!

I rely very heavily upon all the regional reps three times per year to survey their territories for items of interest to Section members. Motz has been a reliable contributor ever since I started as newsletter editor. Believe me, gathering content for a regular newsletter is much tougher than doing the layout and arranging printing and distribution. I appreciate the effort that Motz and all the regional reps put in to make ***Stages*** a valuable newsletter.

I also want to thank Pierre Pepin, Bob Gregory, Ian Fleming, Paul Snelgrove, and all the anonymous assistants who took charge of the 31st annual Larval Fish Conference after Joe Brown's untimely death and made it a wonderful event. It would have been entirely understandable to abandon the conference at such a late date, but they chose the more difficult path to honor Joe's memory. Their devotion to Joe and to the Section was evident throughout the meeting.

Newsletter Production Team

Stages is published in February, June, and October each year. It is assembled by the Newsletter Editor with contributions from several Regional Representatives and other individuals. Please send any articles, announcements, or information of interest to Early Life History Section members or affiliates to your local Regional Representative or to the Editor.

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Membership in ELHS is open to all persons or organizations interested in furthering ELHS objectives, regardless of membership in the American Fisheries Society (AFS). If you are an AFS member, simply add ELHS membership when you pay your Society dues.

Affiliate membership is open to persons or organizations who are not members of AFS. Affiliate members are encouraged to participate in Section meetings, committee work, and other activities, but they cannot vote on official Section matters, run for or hold an elected office, or chair standing committees. All members receive ***STAGES.***

To become an affiliate member, go to **https://www.larvalfishcon.org/ELHSAffiliate/affiliate-triage.asp** or mail your name, institutional affiliation (if appropriate), mailing address, telephone and fax numbers, e-mail address, and dues (US $15 per year) for the current and/or upcoming year(s) to the ELHS Treasurer (see page 2).

Please specify the membership year(s) for which you are paying dues. Make checks or money orders payable to “AFS-ELHS.”

Remember to check the mailing label for your membership expiration date and renew, if necessary.

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