

The 'Salmon Summit'



Salmon at Sea: Scientific advances and their implications for management

PROGRAMME

Amphithéâtre René Coutant
L' Aquarium, La Rochelle, France
11 – 13 October, 2011

Organizers:

NASCO's International Atlantic Salmon Research Board
International Council for the Exploration of the Sea



Sponsored by the TOTAL Foundation





Tuesday 11 October 2011

0900 – 1300 Opening Session - Introductions and Scene Setting Overviews

(Chair: Malcolm Windsor)

0900 – 0930 Opening remarks

0930 – 1000 Global challenges in sustainable utilization of marine ecosystems.

D. Pauly

1000 – 1030 Break

1030 – 1050 Overview of the status of Atlantic salmon (*Salmo salar*) in the North Atlantic and trends in marine mortality.

G. Chaput

1050 – 1110 Both predation and feeding opportunities may explain changes in survival of Baltic salmon post-smolts.

S. Mäntyniemi, A. Romakkaniemi, J. Dannewitz, S. Palm, T. Pakarinen, H. Pulkkinen, A. Gårdmark, O. Karlsson

1110 – 1130 Overview of the status of salmon in the North Pacific and trends in marine mortality.

L-L. Low

1130 – 1150 The North Atlantic in the era of global change.

B. Hansen, H. Hátún

1150 – 1210 A discussion of the processes behind the correlation between declining North Atlantic salmon and increasing Northern Hemisphere temperature.

P.C. Reid, G. Beaugrand, P. Helaouët

1210 – 1230 The SALSEA Programme - unravelling the life of the Atlantic salmon at sea.

K. Whelan

1230 – 1300 Discussion

1300 – 1430 Lunch

Tuesday 11 October 2011

1430 – 1730 **Distribution & Migration of Salmon at Sea**

(Co-Chairs: Lars Petter Hansen & Peter Hutchinson)

1430 – 1450 Analysis of historical tagging data from the salmon fisheries at West Greenland and the Faroe Islands.

J. A. Jacobsen, D. G. Reddin, L. P. Hansen, V. Bakkestuen, I. Russell, J. White, E. C. E. Potter, T. F. Sheehan, N. Ó Maoiléidigh, J. B. Dempson, G. W. Smith, A. Ísaksson, M. Fowler, L. Karlsson, S. Oskarsson, K. A. Mork, P. Amiro, S. Pedersen

1450 – 1510 GRAASP: a genetic tool for advancing understanding of the marine ecology of Atlantic salmon in the Eastern Atlantic Ocean.

E. Verspoor, P. McGinnity, the SALSEA-MERGE Consortium

1510 – 1530 Extending understanding of marine migration, ecology and mortality of Atlantic salmon post-smolts using oceanographic modeling, recaptured tagged salmon and SALSEA-GRAASP.

K. A. Mork, J. Gilbey, L. P. Hansen, A. J. Jensen, N. Ó Maoiléidigh, the SALSEA-MERGE Consortium

1530 – 1600 Break

1600 – 1615 Marine distribution of regional Atlantic salmon post-smolt stocks in the NE Atlantic ascertained by microsatellite DNA based assignment.

J. Gilbey, J. Coughlan, the SALSEA-MERGE Consortium

1615 – 1630 SALSEA North America: A pelagic ecosystem survey targeting Atlantic salmon in the Northwest Atlantic.

T. F. Sheehan, D. G. Reddin, G. Chaput, M. D. Renkawitz

1630 – 1650 Sonic tracking of Atlantic salmon smolts to sea: correlates of survival and lessons on the migration pathway.

F. Whoriskey

1650 – 1705 Tracking Atlantic salmon migration at sea by use of pop-up satellite tags - surprises, world records and mysteries..!

A. H. Rikardsen, C. M. Chittenden, D. Righton, F. Økland, T. F. Næsje, P. Gargan, M. D. Renkawitz, T. F. Sheehan, B. Adlandsvik, O-P Pedersen, E. B. Thorstad, J. G. Davidsen, E. Halttunen, R. S. McKinley, B. Finstad, K. Aarestrup

1705 – 1730 Discussion

1815 Reception hosted by the Mayor of La Rochelle at the Hotel de Ville

2000 Conference Dinner at Restaurant André

Wednesday 12 October 2011

0900 – 1130 **Distribution & Migration of Salmon at Sea**

(Co-Chairs: Lars Petter Hansen & Peter Hutchinson)

- 0900 – 0915 **Locating adult salmon at sea using stable isotopes.**
K. M. MacKenzie, C. N. Trueman, M. R. Palmer, A. Moore, A. T. Ibbotson, W. R. C. Beaumont
- 0915 – 0935 **The spatial and temporal distribution of salmon and the pelagic fisheries in the North-East Atlantic: A potential for by-catch?**
M. Holm, A. Ísaksson, J. A. Jacobsen, L. P. Hansen, S. Guðjónsson, N. Ó Maoiléidigh, S. Óskarsson
- 0935 – 0950 **Identifying freshwater and oceanic environmental signals from centennial Atlantic salmon catches off the North-East Atlantic.**
J. Otero, T. Rouyer, A. J. Jensen, J. H. L'Abée-Lund, J. D. Armstrong, J. C. MacLean, A. F. Youngson, S. Guðjónsson, G. Gudbergsson, N. C. Stenseth, G. O. Storvik, L. A. Vøllestad
- 0950 – 1005 **Are post-smolts running on empty? - Migration and survival in the Atlantic.**
C. Byron, J. Stockwell, A. Pershing, H. Xue
- 1005 – 1030 **Break**
- 1030 – 1045 **Environmental conditions affecting North American and Penobscot River populations of Atlantic salmon (*Salmo salar*).**
K. Mills, A. Pershing, D. Mountain, T. F. Sheehan
- 1045 – 1100 **The decline and fall of Fraser River sockeye salmon and their immaculate resurrection from an intervention of oceanic origin.**
S. McKinnell
- 1100 – 1130 **Discussion**
- 1130 – 1700 Food Production, Growth, Trophic & Other Ecological Interactions**
(Co-Chairs: Dave Reddin & Jens Christian Holst)
- 1130 – 1150 **How climate and post-smolt growth control marine mortality in Atlantic salmon; the potential effects of a changing climate on the marine survival of Atlantic salmon.**
K. D. Friedland

- 1150 – 1210** **Regional and temporal variation in marine growth of Atlantic salmon (*Salmo salar*, L.) from North-East Atlantic populations - links to marine survival and oceanographic conditions.**
N. Ó Maoiléidigh, A. J. Jensen, K. Thomas, J. White, S. M. Einarsson, J. Erkinaro, P. Fiske, K. D. Friedland, J. C. Holst, A. Peyronnet, D. Cotter, A. K. Gudmundsdottir, J. Haantie, J. G. Jensås, J. Kuusela, G. M. Østborg, C. Garcia de Leaniz
- 1210 – 1230** **Ocean climate impacts on growth condition of ISW and 2SW salmon returning to Scotland.**
C. D. Todd, J. C. MacLean, M. E. Lonergan, A. J. Howe, L. Boehme
- 1230 – 1300** **Discussion**
- 1300 – 1430** **Lunch**
- 1430 – 1450** **Prey quality affects the production of wild Pacific salmon in the Northern California Current Ecosystem.**
M. Trudel, D. Mackas, A. Mazumder
- 1450 – 1505** **Characterizing trophic status and shift in Atlantic salmon, *Salmo salar*, from freshwater to marine life-cycle phases.**
H. Dixon, M. Power, J. B. Dempson, T. F. Sheehan, G. Chaput
- 1505 – 1520** **Stable isotope evidence for the effect of climatic variations on salmon diet and marine mortality.**
C. N. Trueman, K. M. MacKenzie, M. R. Palmer, A. Moore, A. T. Ibbotson, W. R. C. Beaumont
- 1520 – 1535** **The diet of Atlantic salmon post-smolts during their first feeding season in the North-East Atlantic.**
W. Melle, K. Thomas, J. A. Jacobsen, C. Broms, N. Ó Maoiléidigh, M. Haugland, M. Holm, J. C. Holst
- 1535 – 1600** **Break**
- 1600 – 1615** **Atlantic salmon foraging ecology in the Northwest Atlantic.**
M. D. Renkawitz, T. F. Sheehan, D. G. Reddin, G. Chaput
- 1615 – 1700** **Discussion**
- 1700 – 1830** **Poster Session and Reception (in the Activities room)**
Posters can also be viewed throughout the ‘Salmon Summit’



Thursday 13 October 2011

0900 – 1200 **Implications for Salmon Management**

(Co-Chairs: Paul Knight & Malcolm Windsor)

- 0900 – 0920 **The influence of the freshwater environment and the biological characteristics of Atlantic salmon smolts on their subsequent marine survival.**
I. Russell, M. Aprahamian, J. Barry, I. Davidson, A.T. Ibbotson, R. Kennedy, J. C. Maclean, A. Moore, J. Otero, E.C.E. Potter, C. D. Todd
- 0920 – 0940 **Minimising the impact of climate change on Atlantic salmon populations in freshwater.**
P. McGinnity
- 0940 - 0955 **Determining the continent-of-origin (COO) and region-of-origin (ROO) of Atlantic salmon collected at West Greenland 1995-2010: A review of the findings and a look at what the future holds for molecular genetics methods of mixed-stock assignment.**
T. L. King, T. F. Sheehan, B. Lubinski, D. G. Reddin
- 0955 – 1010 **What tools are left in the manager's toolbox – challenges to conservation of Atlantic salmon in eastern Canada.**
S. Rocque
- 1010 – 1025 **Ramifications of persistent low marine survival to Atlantic salmon management in the US.**
R. Saunders, M.A. Colligan
- 1025 – 1100 **Break**
- 1100 – 1115 **Use of marine ecosystem productivity indicators along the US west coast to forecast annual returns of Pacific salmon and improve harvest management: a role for long term observations.**
J. Ferguson, E. Casillas, W. Peterson
- 1115 – 1130 **Managing salmon stocks and fisheries in a changing environment.**
E.C.E. Potter
- 1130 – 1200 **Discussion**
- 1200 – 1330 **Lunch**

1330 – 1600 What does it all Mean for Salmon Conservation & Management & Future Research?

(Chair: Malcolm Windsor)

- 1330 – 1445 Session Summaries by Chairmen & ‘Take Home’ Messages
1445 – 1600 General Discussion on outcomes from the symposium and actions by scientists and managers
1600 Close of symposium

Poster Presentations

Distribution & Migration of Salmon at Sea

A preliminary evaluation of use of nuclear SNPs for the assignment to origin of marine post-smolt Atlantic salmon captures in the NE Atlantic.

J. Coughlan, P. A. Prodöhl, S. Lien, P. Berg, J. Carlsson, P. McGinnity, T. F. Cross, the SALSEA-MERGE Consortium

Geographical differentiation and structuring of European Atlantic salmon stocks at microsatellite DNA loci to enable the regional assignment of marine fish.

J. Gilbey, J. Coughlan, the SALSEA-MERGE Genetics team

Geographical structuring in Atlantic salmon as revealed by nuclear SNPs: potential for application in the assignment of origin of marine fish.

J. Coughlan, J-P.Vähä, S. Lien, P. Berg, J. Carlsson, P. McGinnity, T. F. Cross, the SALSEA-MERGE Consortium

Microsatellite standardization and genotyping error in a large multi-partner research programme for conservation of Atlantic salmon (*Salmo salar* L.).

J. S. Ellis, J. Gilbey, A. Armstrong, T. Balstad, E. Cauwelier, C. Cherbonnel, S. Consuegra, J. Coughlan, T. F. Cross, W. Crozier, E. Dillane, D. Ensing, C. Garcia de Leaniz, E. García-Vázquez, A. M. Griffiths, K. Hindar, S. Hjørleifsdóttir, D. Knox, G. Machado-Schiaffino, P. McGinnity, D. Meldrup, E. E. Nielsen, K. Olafsson, C. R. Primmer, P. A. Prodöhl, L. Stradmeyer, J-P.Vähä, E. Verspoor, V. Wennevik, J. R. Stevens

Regional mtDNA differentiation in Atlantic salmon (*Salmo salar*) in Europe: potential for use in assigning marine fish to region of origin.

E. Verspoor, S. Consuegra, O. Fridjonsson, S. Hjørleifsdóttir, D. Knox, K. Olafsson, S. Tompsett, C. Garcia de Leaniz

Revisiting the marine migration of US Atlantic salmon with historic Carlin tag data.

A. S. Miller, T. F. Sheehan, R. C. Spencer, M. D. Renkawitz, A. L. Meister

The migration and survival of Atlantic salmon kelts in estuarine and coastal regions of Canada.

J. Carr

The effects of dispersal at sea, local adaptation and stocking on the hierarchical genetic structure of Atlantic salmon populations.

C. Perrier, J-L. Baglinière, G. Evanno

Evidence of positive selection acting on the Atlantic salmon mitochondrial DNA: implications for assessing the impacts of climate change.

E. John, C. Garcia de Leaniz, E. Verspoor, S. Consuegra

Food Production, Growth, Trophic & Other Ecological Interactions

Use of storage tags to study the behavioural ecology at sea of Newfoundland Atlantic salmon smolts and kelts.

I.A. Fleming, D. G. Reddin, P. Downton, M. Robertson, L. P. Hansen, A. Mahon

Evidence for bottom-up trophic effects on return rates to a second spawning for Atlantic salmon (*Salmo salar*) from the Miramichi River, Canada.

G. Chaput, H. P. Benoît

Spawning history influence on fecundity, egg size and egg survival of Atlantic salmon (*Salmo salar*) from the Miramichi River, New Brunswick, Canada.

J. Reid, G. Chaput

Smolt age and fine scale marine growth of Atlantic salmon post-smolts in the North-East Atlantic.

A. J. Jensen, N. Ó Maoiléidigh, K. Thomas, S. M. Einarsson, M. Haugland, J. Erkinaro, P. Fiske, K. D. Friedland, A. K. Gudmundsdóttir, J. Haantie, M. Holm, J. C. Holst, J. A. Jacobsen, J. G. Jensås, J. Kuusela, W. Melle, K. A. Mork, V. Wennevik, G. M. Østborg

Implications for Salmon Management

The large landings of Atlantic salmon along the coast of Finnmark, northern Norway; origin from Norwegian or Russian rivers?

M. A. Svenning, J-P. Vähä, S. Prusov, E. Niemelä, V. Wennevik

DNA parentage assignment to improve restoration programmes for Atlantic salmon in the Garonne and Dordogne French rivers.

D. Clavé, S. Bosc, P. Haffray, R. Guyomard, L. Genestout, M. Chanseau