

Proceedings of the 53rd Annual Pacific Northwest Fish Culture Conference



Best Western Heritage Convention Center and Hotel
Bellingham, Washington
December 3-5, 2002
Conference Hosted By
Washington Department of Fish & Wildlife



Preface

The Washington Department of Fish and Wildlife is honored and privileged to host the 53rd annual Pacific Northwest Fish Culture Conference. Fish culturists, scientists and interested individuals from private, state, provincial, tribal and federal finfish hatchery facilities in the Pacific Northwest and elsewhere in North America have used this unique and informal conference for the exchange of information and ideas about all aspects of fish culture for the past 53 years. These conferences are hosted on a rotating basis by the various fish resource agencies in the Pacific Northwest. The subject matter generally focuses on topics directly applicable to fish culture, although many times the subjects spill over into management and research themes, which are intimately entwined with the science of fish culture. This conference is also used to renew old friendships, begin new ones, and develop personal contacts between those of common interest. All persons interested in fish husbandry are invited to attend and to actively participate. To this year's participants, we welcome you to: Hatchery Reform !

These Proceedings contain abstracts and talks presented at the conference. They are unedited, contain progress reports of uncompleted programs, and, as such, should not be considered a formal peer-reviewed publication. Mention in these Proceedings does not indicate approval, recommendation, or endorsement of any proprietary product or material.

2002 Pacific Northwest Fish Culture Conference Staff

Bellingham, Washington

Hosting Agency: Washington Department of Fish and Wildlife

Conference Co-Chairs: John Kerwin, Catie Mains and Rich Eltrich

Master of Ceremony: Doug Hatfield

Session Chairs: Ron Ballard, Rich Eltrich, Chuck Johnson, Hal Michael, Steve Roberts, Paul Seidel, and Jack Tipping

Hotel Arrangements: John Kerwin

Registration: Cynthia Kaiser, Catie Mains, and Sheila Smith

Treasurer: John Kerwin

Trade Show: Chuck Johnson and Ted Thygesen

Audio/Visuals: Justin Secrist and Jim Jenkins

T-Shirts and Cups: Chuck Lavier and Rick Stilwater

Presentations, Posters, and Abstract: Andy Appleby and Justin Secrist

Presentation Reviews: Howard Fuss, Justin Secrist, and Jack Tipping

Agenda: Andy Appleby

Signs and Printing: Walt Cooper

Drawings and Door Prizes: Rick Stilwater and Mike Erickson

Meeting Minutes: Marla Page

Conference Committee: Kyle Adicks, Andy Appleby, Rich Eltrich, Doug Hatfield, John Kerwin, Chuck Johnson, Chuck Lavier, Catie Mains, Marla Page, Rick Stilwater, and Ron Warren

Acknowledgements

Registration: Sue Cochran, Carol Coleman, Lee Pilon, Steve Rogers, and John Sheahan

Web Information: John Burrows and Carol Turcotte

CD's: Justin Secrist and John Sheahan

Logo Design: Darrell Pruett

Best Western Lakeway Inn and Conference Center – Bellingham, Washington.

Mr. Fred Poppe- Proprietor

Ms Ellen Stephenson- Catering Manager

Mr. Chris Quimby – Banquet Manager

Hotel staff

CD Table of Contents

All files in this section are included in both Adobe Acrobat Portable Document Format (PDF) and Microsoft Word Format (Word). A free Acrobat Reader program can be found in the [Software Section](#).

1. [Agenda \[PDF\]](#)
2. [Abstracts \[PDF\]](#)
3. [Agenda & Presentations](#)
4. [Posters](#)

5. **Historical Record** [\[PDF\]](#)
 6. **Laurie Fowler Induction** [\[PDF\]](#)
 7. **List of Registered Attendees** [\[PDF\]](#)
 8. **List of Vendors** [\[PDF\]](#)
 8. **[Software](#)**
-

Agenda & Presentations:

These presentations were primarily created in PowerPoint, but have been converted into PDF format for inclusion in this CD. If you do not have PowerPoint or Acrobat Reader, you will need to install one of the appropriate free viewers from the [software section](#). A few of the presentations are unavailable as they were done with a conventional slide projector.

2002 Northwest Fish Culture Conference Agenda

TUESDAY, DECEMBER 3, 2002

8:30 Registration (all day) – Lobby

1:00 Welcome – *Doug Hatfield, WDFW*

1:10 Keynote Address – *Larry Peck, Deputy Director, WDFW* “Hatchery Reform”

I. Hatchery Scientific Review Group – Session Chair – Chuck Johnson

1:30 Examining the Hatchery Scientific Review Group Process. *Paul Seidel, WDFW.* [\[PDF\]](#)

1:50 Overview of Ongoing Hatchery Research Activities Funded with Hatchery Scientific Review Group Monies. *Jack Tipping, WDFW.* [\[PDF\]](#)

2:10 Overview of New Hatchery Equipment Purchased with Hatchery Scientific Review Group Monies. *Jack Tipping, WDFW.* [\[PDF\]](#)

2:30 Break

3:00 Report on the Aquascan 1600 and Matsusaka Fish Pump. *Rich Eltrich, Jim Jenkins, WDFW.* [\[PDF\]](#)

3:20 Enumerating Adult Salmon Using the Vaki Riverwatcher Fish Counter. *Rich Eltrich, Lee Pilon, WDFW* [\[PDF\]](#)

II. Partnerships For The Future – Session Chair – Paul Seidel

3:40 Issaquah Hatchery Partnership. *Steve Bell, Friends of Issaquah Hatchery.*

4:00 Columbia Springs Environmental Education Center. *Richard Johnson, WDFW, Jane Van Dyke, Executive Director Columbia Springs Environmental Education Center.* [\[PDF\]](#)

4:20 Cedar River Hatchery Partnership. *Brodie Antipa, WDFW* [\[PDF\]](#)

5:00 Adjourn

WEDNESDAY, DECEMBER 4, 2002

III Salmon Recovery – Program Reviews----Session Chair – Ron Ballard

8:30 Columbia River Salmon Restoration; The Case for Hatchery Intervention. *William Bosch, Yakama Nation Fisheries.* [\[PDF\]](#)

8:50 Preliminary Results of an Effort to Re-Introduce Coho Salmon in the Yakima River, WA. *James L. Dunnigan, Montana Fish, Wildlife and Parks, William J. Bosch and Joel D. Hubble, Yakama Nation Fisheries.* [\[PDF\]](#)

9:10 An Overview of Tucannon River Spring Chinook Captive Broodstock. *Steve Roberts, WDFW.* [\[PDF\]](#)

9:30 Hamma Hamma Wild Steelhead Recovery Program. *Rick Endicott, Joy Lee, Kathleen Hopper Long Live The Kings, Barry Berjikian, NMFS.* [\[PDF\]](#)

9:50 Production of Juvenile and Adult Chinook Salmon from Releases of Hatchery Adults in the Deschutes River, WA. *Howard Fuss, WDFW.* [\[PDF\]](#)

10:10 Break

IV New Technology----Session Chair – Rich Eltrich

10:40 Calcein Marking: A Promising New Tool for Hatchery Product Evaluation. *Jerre Mohler, USFWS, Lamiar, PA.* [\[PDF\]](#)

11:00 Well Rehabilitation and Monitoring. *Jim Baily, HWA Berliner Wasser.* [\[PDF\]](#)

11:20 Otolith Marking Kokanee Eggs Using Ice and Shallow Troughs. *Rich Eltrich, Les Ross, WDFW.* [\[PDF\]](#)

11:40 An Overview of WDFW's 2001/2002 Tagging and Marking Schedule (What is that white trailer doing next to my raceway and when is it leaving?)- *Julie Hooff, WDFW.* [\[PDF\]](#)

12:00 Lunch

V Fish Health – Session Chair- Steve Roberts

1:30 Evaluating the Effects of Beta Glucans on Reducing the Stress Effects of Immunizations. *Robin Schrock, USGS, Ann Gannan, Kathy Clemens, Ray Jones. USFWS.* [\[PDF\]](#)

2:20 Mortality of Larval White Seabass is Significantly Less after Copper Sulfate Treatment. *Martin Chen, WDFW.*

2:40 The Effects of Iodophor Disinfection and Transportation on the Survival to Hatch of Fertilized White Sturgeon. *Timothy Yesaki, et. al., BC Fisheries.* [\[PDF\]](#)

3:00 Beta-1,3/1,6-glucans: Modern Science and Ancient Wisdom for the Benefit of Aquaculture; *Dr. Jan Raa, Director of Science, Bitoec Pharmacon ASA, Arbinsgate 4, 0234 Oslo, Norway.*

3:20 Break

VI Nutrient Enhancement -Session Chair- Hal Michael

3:40 Effects of lake fertilization on kokanee. *Dr. Ken Ashley, BC Ministry of Fisheries.* [\[PDF\]](#)

4:00 Carcass distribution, from the distributors perspective. *Larry Ogg, US Forest Service*

4:20 Unintended consequences of successful nutrient enhancement projects. *Hal Michael,*

WDFW [\[PDF\]](#)

4:40 Induction into Fish Culture Hall of Fame:

5:00 Adjourn

THURSDAY, DECEMBER 5, 2002

VII Program Reviews – Session Chair- Jack Tipping

8:40 Colville Confederated Tribes Fish Hatchery Monitoring and Evaluation Program. *David Christensen, Colville Confederated Tribe Fish and Wildlife.* [\[PDF\]](#)

9:00 The Status and Direction of the WDFW Kokanee Program. *Rich Eltrich, WDFW.* [\[PDF\]](#)

9:20 Twin Lakes Spawning and Rearing of Westslope Cutthroat. *Mike Erickson, WDFW.* [\[PDF\]](#)

9:40 The Alaskan Aquaculture Industry, A model for High Production. *Allen Edsall EWOS Canada Limited.* [\[PDF\]](#)

10:00 Break

10:30 Comparison of Age and Size at Maturity Between Hatchery and Naturally-Produced Chinook Salmon *Onchorynchus tshawytscha* in the Imnaha River. *Timothy Hoffnagle, Richard W. Carmichael and Patrick Keniry. ODFW* [\[PDF\]](#)

10:50 Current Fish Screening Techniques at WDFW. *Chuck Lenberg, WDFW* [\[PDF\]](#)

11:30: Closing Remarks

[Back to Table of Contents](#)

Posters

Click on a thumbnai for full-sized images.



Contents:

[Back to Table of Contents](#)

Software

This section contains all of the programs necessary to view files included on this CD.

Contents:

Acrobat Reader v5.0

PowerPoint Viewer

[Back to Table of Contents](#)

Created by Justin Jacob Secrist

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