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Ready to set a hoop trap on a nice calm day (Lake Louise, Spring 2005).

Burbot Research in Copper River Basin Lakes

Corey Schwanke

Burbot, *Lota lota*, are not the most attractive fish, and generally do not fight hard; however, they are popular with sport anglers because of their table quality. They have a delicate white meat, a treat for those of us living away from the coast. Burbot are the only freshwater cod species in North America and have mottled skin that ranges in color from black to grey to olive and even yellow. They have elongated dorsal and anal fins that extend all the way to a rounded caudal fin and a distinct single soft barb on their lower jaw. They are a relatively long-lived, slow growing fish and in Alaska, typically do not reach sexual maturity until age six or seven. A trait that sets them apart from other freshwater fish is that they spawn in mid to late winter.



Example of a lake resident burbot, caught in late winter while sport fishing.

Twenty years ago, a popular activity in the Copper River Basin was to fish lakes for burbot with unattended setlines. This could be during summer with a jug line or in winter through a hole in the ice. The technique was simple: tie a hook to some line, bait it with whitefish or herring, let it sink to the bottom, and wait for a burbot to come along and swallow it. Regulations allowed for the setting of 15 lines, which could be soaked for up to 24 hours before checking. This was a very effective fishing method, and, once popular, it devastated local burbot populations. From 1984 through 1986, it was estimated that over 39,000 burbot were harvested from Copper River Basin lakes. Since then, unattended setlines have been banned in all Copper River Basin lakes and bag limits reduced from 15 to five or less.

It became apparent in the mid 1980's that the Alaska Department of Fish and Game (ADF&G) knew very little about lake burbot populations. Thousands of man-hours have been spent studying these populations since 1986, with a large majority of the work occurring in the late 1980's and early 1990's. Study designs varied, but all strategies were based on catching burbot with hoop traps (funnel traps) baited with herring. Most of the work done during the first ten years involved estimating abundance and length distribution to evaluate exploitation rates. Abundance estimates were originally calculated with two-

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The President's Column

Scott Maclean

It will not be long from the time you read this article until the opening of the 33rd Annual Alaska Chapter meeting in Fairbanks. As with a change in seasons comes a change in leadership. During the meeting I plan to offer a warm welcome to our upcoming Chapter President, Jamal Moss—I encourage you all to do the same. I will also be welcoming members of the Wildlife Society and the Society of American Foresters, who will be attending the meeting and joint session. It is truly inspiring to participate in a society with so many dedicated and enthusiastic members. Our Chapter meetings would not be possible without your help. I am personally grateful to the membership for the opportunity to serve and for your support during my term.

This time of transition is an appropriate point to reflect on the past year. I have learned many more things about AFS that I wouldn't have learned in any other way and feel the Chapter has truly contributed to making a difference. The Alaska Chapter has worked toward becoming financially stable through improved management



Scott Maclean, AFS
Alaska Chapter
President

of its funds and provided financial assistance to students who wish to travel to Chapter events. Although AFS is not an advocacy group, we do provide science-based opinions on policy matters that we believe affect the conservation and sustainability of fishery resources and aquatic ecosystems. The Chapter took a position in opposition to allowing mixing zones in freshwater fish spawning habitats. Despite the fact that Alaska went ahead with the change to its mixing zone regulations, I believe the Chapter played an important role in the public review process. I am proud of our financial management and the work of our Environmental Concerns Committee, but I am most proud of the fact that the Chapter awarded its first ever scholarship, the Molly O. Ahlgren Scholarship Award, to Sonya Weihl at the Sheldon Jackson College.

The upcoming meeting is an opportunity for a diverse group of people that define themselves as fisheries, wildlife, or forestry professionals to share information about the spectrum of management and research relating to the conservation and utilization of aquatic and related resources. Providing this forum and opportunity to develop our profession remains a vital role of the Chapter. Again, I encourage you to talk to your friends and make plans to attend the meeting scheduled for November 13 through 16, 2006 in Fairbanks. See you there! 🗨️

Burbot Research Continued

event mark-recapture Petersen experiments or by using the multi-year Jolly Seber method. Sampling design was standardized to setting traps at 125-meter intervals on parallel transects spaced approximately 125 meters apart. This sampling design minimized competition among traps, while still keeping the experiment repeatable. The number of transects was based on the size of the lake and the fish sample size necessary to meet specific objectives.

Early study results revealed that some of the lakes were severely overexploited. Additional management actions, including lake closures, were placed on the burbot fishery in all of the lakes that showed signs of overexploitation. Some of these populations have since recovered, while others still have not. Because burbot are relatively slow growing and reach maturity late in life, it can take an extremely long time for overexploited populations to recover, especially in large deep lakes that are typically less productive than the smaller lakes.

The heavily exploited lakes were sampled for many consecutive years to track their responses to specific management actions. After making multi-year abundance estimates, it was determined that catch-per-unit effort (CPUE) of the traps, if set on evenly spaced transects during the same relative time period (early spring, mid summer or late fall), correlated well with abundance estimates. Since then, our strategy in these larger lakes has been to sample them just once every three to four years, and use CPUE and length distribution to monitor the burbot population. By using lake-specific catchability coefficients, we now have the ability to estimate abundance fairly accurately and inexpensively in comparison to mark-recapture techniques.

Sampling the larger lakes can be very rigorous and physically demanding. A typical day involves getting up at the crack of dawn and chopping about 25 pounds of herring into small, inch-sized pieces and placing them in 70 bait canisters. Then we head out into the lake to pull the 70 previously set traps, sample all fish caught, and break down each trap. When that is done, we are rewarded by having to rebuild each trap and reset them at different locations on the lake. Pulling and resetting traps in water up to 50 feet deep for over a week straight can be hard on the body. Throw in some 15 mph winds and whitecaps, which are a common occurrence on the larger lakes, and you will be worn out after each day. Do this for ten straight days and you will come back with some bumps and bruises, calloused hands and sore arms. Its just another year sampling burbot in the Copper River Basin. 🗨️

ONCORHYNCHUS

Oncorhynchus is the quarterly newsletter of the Alaska Chapter of the American Fisheries Society. Material in this newsletter may be reprinted from *AFS Diary* and *Western Division*.

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Sessions and Presentations Planned for the 33rd Annual Alaska Chapter Conference, “Partnering with Change, 21st Century Aquatic Ecology in Alaska”

Jamal Moss

The final call for papers to the annual Alaska Chapter meeting has been made, and abstracts must be submitted to session leaders by October 11. Our meeting will be held at the Wedgewood Resort in Fairbanks from November 13 through 16. A block of 65 rooms have been reserved at a nightly rate of \$70 for up to two persons, with an additional \$10 charge for each additional person up to a total of four persons. However, only 30 of the 65 rooms will be available on November 11th; the remaining rooms will become available on the 12th. Please note that rooms are being held for this rate through October 5th, although the discounted room rate will still be available after that date. To make reservations please call the Hotel at call (800) 528-4916 or (907) 452-1442 and reference the reservation code AFS1106. The special rate will not be honored using the online reservation system.

A half-day trip to the Chena Hot Springs is scheduled for Friday, November 17. Round-trip transportation, soak-pass, and tour of the Aurora Ice Hotel and Stoli Bar will be \$67. Cross-country skis can be rented for an additional \$7 per hour. Shuttle bus(es) will leave from the Wedgewood

Hotel at 9:00 a.m. and can return participants either back to the hotel or to the Fairbanks International Airport for those wishing to catch a late afternoon or early evening flight home. If you are interested, please contact Lisa Stuby at lisa_stuby@fishgame.state.ak.us to sign up for the trip. Lisa will need to give Chena Hot Springs an approximate head count by November 1st and to let them know how many people to expect and transport.

Our banquet speaker is Ronnie Greer, an acclaimed char biologist from Scotland. He will share his personal research and give an overview of fisheries biology in Scotland. Bill Wilson, Francis Weise, and Jim Reynolds are our plenary speakers. Jim will show a 45-minute video entitled “Training community members to monitor their fishing grounds in the Fiji Islands” and entertain questions from the audience. Continuing education courses in “Risk Management for Non-profit Organizations” and “Technical Writing” will be offered—details are provided below. Kim Hastings is chairing **the poster session**; if you are interested in submitting a poster, please contact her at kim_hastings@fws.gov. Specific sessions with corresponding session chairs follow.

Sessions

Alaskan Estuaries

Session Chair: Nicola Hilgruber, 796-6288, n.hilgruber@uaf.edu

Estuaries are the sites of interaction between the rivers and the sea. Consequently, estuaries are characterized by strong physical gradients that influence the structure of the composition of species residing in them. In addition to resident species, estuaries provide important temporary spawning, nursery, migratory, and over-wintering habitat for a diverse array of taxa. Estuaries are also frequently the site of intense interaction between humans and the environment and human disturbances are often most pronounced in these bodies of water. In spite of the tremendous importance of these nearshore areas, only little is known of the ecology of Alaskan estuaries.

This session invites contributions that will increase our understanding of Alaskan estuaries. We encourage papers that focus on estuarine ecology, including among others research on species composition, temporal and spatial patterns of abundance, feeding ecology, energetic patterns, and growth. We also welcome contributions on human impact on estuaries.

Behavioral ecology

Session Chair: Nicholas Hughes, 474-7177, ffnfh@uaf.edu

Behavioral ecology is the study of the way an animal's ecology and evolutionary history shape its behavior. Historically the development of behavioral ecology began with foraging theory, but it has now grown to cover a broader field, including habitat selection, indirect effects of predation risk, the way individual behavior translates into population dynamics, and even cognitive ecology. Wildlife biologists have been quicker to realize the value of this relatively new field than have fisheries biologists

and I hope this session will illustrate the value of using ideas from behavioral ecology to “think like a fish.” While open to any paper on behavioral ecology, this session will focus on innovative ways in which an understanding of behavioral ecology, can provide information useful to fisheries scientists. Such topics might include the way an understanding of the behavioral ecology of migration can help in acoustical stock assessment, how an understanding of the behavioral ecology of fish distribution can help in forecasting the effects of environmental conditions on population dynamics, and how an understanding of multi-trophic level games can help explain fish distribution and system productivity. Prospective presenters should contact Nick Hughes.

Aquatic Education

Session Chairs: Bonita Nelson, 789-6071, *Bonita.Nelson@noaa.gov*; and Erik Anderson, 459-7350, *Erik_Anderson@fishgame.state.ak.us*

Public outreach is beginning to figure prominently in science plans and agency operations. Most resource science is derived from public funds, so it is our responsibility to share the information we gain with the public in a meaningful and accessible way. Outreach can take a variety of forms, from classroom presentations to websites to participation in science fairs. As agencies begin to value outreach, there is a greater need to develop these programs. Successful development depends on the competencies and interests of the people who will be involved in a program. The goals of this session are to explore the range of outreach programs currently underway in Alaska, provide scientists involved in outreach with a forum for exploring new ideas and techniques, and allow those involved in outreach to get to know each other.

Marine Ecology

Session Chair: Kyle Hebert, 465-4228, kyle_hebert@fishgame.state.ak.us

We are pleased to announce that this year there will again be a session dedicated to marine ecology. This session is intended to provide a forum to present a wide spectrum of research results involving individual species, assemblages, trophic levels, or their interactions in marine ecosystems. Contributions may include subjects that relate to pelagic, benthic, offshore, nearshore, or intertidal systems. Suggested topics include, but are not limited to, life history, population ecology, stock assessment, and effects of fisheries on marine systems. Reports of research within or adjacent to Alaska's waters are particularly encouraged. If you have material that is appropriate for the session and have interest in presenting at the chapter meeting, please submit an abstract to Kyle Hebert.

Alaskan Commercial Shellfish Fisheries

Session Chair: Gretchen Bishop, 465-4269, gretchen_bishop@fishgame.state.ak.us

Commercial shellfish fisheries in Alaska and elsewhere have proved vulnerable to serial depletion or catastrophic stock declines, often due to unexplained recruitment failures. In some cases, it appears that ecosystem processes have in effect "trumped the hand" of apparently successful management programs. Furthermore, the biologists who manage and assess these fisheries often find themselves in data-limited situations. In this session we will focus on the challenges of developing management and stock assessment methods for shellfish fisheries which are resilient to dynamic ecosystems and data poor situations.

Preserving Fish Habitat in the 21st Century

Session Chair: Lawrence Peltz, 271-1332, lawrence_peltz@noaa.gov

Fish habitat in Alaska will be subject to a variety of increasing pressures as Alaska continues to grow in the 21st Century. This session will look at a wide range of habitat issues. The primary sources of increasing pressures on the habitat will be examined. Mechanisms currently in place to protect fish habitat will be briefly summarized. Potential partnerships that may help preserve and restore habitat will be presented. Lastly, potential ideas for the Alaska Chapter of the American Fisheries Society to proactively promote habitat preservation will be presented to the Chapter for discussion.

Marine derived nutrients in Alaskan ecosystems

Session Chair: Tom Paragi, 459-7327, tom_paragi@fishgame.state.ak.us

This joint session of AFS, The Wildlife Society, and the Society of American Foresters is designed to impart a broad understanding of how anadromous fish influence the productivity of terrestrial and aquatic environments and how such knowledge may influence resource management decisions. The planning committee will invite six speakers to describe Alaskan studies on vegetation, fish, and wildlife and how ecosystem monitoring and operational guidelines might be approached. A 30-minute panel discussion with the speakers at the end will ensure time for audience questions.

Ecosystem-based fishery management

Session Chair: Terrence Quinn, 796-2051, Terry.Quinn@uaf.edu

This session explores the multifaceted components involved in ecosystem-based fishery management. Papers in this session involve administration and infrastructure, large-scale observation systems, ecosystem modeling, multi-species modeling, and the development of ecosystem plans. The goal is to explore new approaches that will enhance the sustainability of fish populations and their ecosystem.

Climate Change and Alaska Fish

Session Chairs: Kathleen Wedemeyer, 334-5278, Kathleen.Wedemeyer@mms.gov; and Jeff Adams, 465-0218; Jeff_Adams@fws.gov

The purpose of this session is to review the most recent evidence of how climate change is affecting Arctic marine and freshwater fish and their habitats. The session will begin with an overview of climate change trends in Alaska marine systems and how fisheries biologists' professional lives are likely to be affected. An update on model projections that estimate the climate "tipping point" at which ecosystems are unlikely to return to past equilibria will also be presented. The symposium will continue with presentations related to climate change and its effects on Alaska Native subsistence uses, river and stream hydrology, and marine and freshwater fisheries and habitat. Biologists with relevant presentations are encouraged to contact session co-chairs.

Contributed Papers

Session Chair: Hal Geiger, 465-4257, hal_geiger@fishgame.state.ak.us

Presenters with topics that do not fit the subject matter of the other sessions are encouraged to submit their abstracts to this session.

Continuing Education Workshops**Technical Writing**

The Continuing Education committee is again bringing Instructor Judd Monroe to Alaska to offer a technical writing workshop in conjunction with the Alaska Chapter annual meeting. The workshop will be held at the Wedgewood Resort in Fairbanks immediately prior to the annual meeting from November 10 through 13. Class hours will be 8:00 a.m. to 5:00 p.m. daily. Early registration is recommended, as only 25 registrants will be accepted. The workshop will cost AFS members \$375 before and \$425 after the annual meeting registration deadline of October 17. Non-members will pay \$390 before and \$440 after the deadline. Registration may be accomplished either by using the form enclosed in this issue or online at the Alaska Chapter website at www.fisheries.org/afs-ak/. For more information, please contact Toshihide "Hamachan" Hamazaki at hamachan_hamazaki@fishgame.state.ak.us, or 267-2158.

Risk Management for Non-profit Organizations

Shrinking budgets continue to make volunteer labor an important facet of non-profit organizations. However, utilizing volunteers is not without risks, so this year a continuing education course will focus on "Risk Management for Non-profit Corporations." The course will be instructed by Jim Dewitt of Guess and Rudd P.C. law firm beginning at 1:00 pm on Monday, November 13 at the Wedgewood Resort in Fairbanks. For more information, please contact Ray Hander at Ray_Hander@fws.gov.

Meetings and Events

24th Lowell Wakefield Symposium

October 31–November 3, 2006: “Resiliency of Gadid Stocks to Fishing and Climate Change” will be held in Anchorage. For more information, visit the sea grant website at www.uaf.edu/seagrant/Conferences/gadids/index.html or contact Sherri Pristash at fyconf@uaf.edu.



ASLO 2007 Aquatic Sciences Meeting

February 4–9, 2007: The 2007 ASLO meeting “Water Rocks” will be held in Santa Fe, NM. The deadline for abstract submission is October 3rd. See the website at aslo.org/meetings/santafe2007/ or contact Helen Schneider Lemay at business@aslo.org or (800) 929-ASLO for more information.

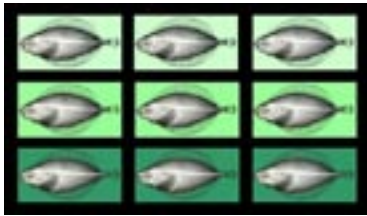
Western Society of Naturalists



November 9–12, 2006: The 87th Annual Meeting of WSN will be held in Redmond, WA. Abstracts are being accepted until October 9. Visit the website at www.wsn-online.org/index.html for more information.

Tenth Flatfish Biology Conference

November 29–30, 2006: Sponsored by NOAA and the Southern New England Chapter of AFS, this meeting will be held in Westbrook, CT. See www.mi.nmfs.gov/flatfishbiologyworkshop.html or contact Renee Mercaldo-Allen at Renee.Mercaldo-Allen@noaa.gov.

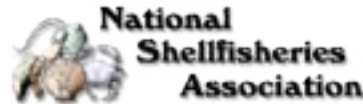


AIFRB Fiftieth Anniversary Symposium

February 12–17, 2007: “Future of Fisheries Science in North America” will be held in Seattle, WA. The meeting website is at www.smast.umassd.edu/AIFRB.htm.

98th Annual NSA Meeting

February 26–March 2, 2007: The 2007 National Shellfish Associated annual meeting will be held in conjunction with AQUA 07 in San Antonio, Texas. For details, check out the meeting website at www.was.org/meetings/ConferenceInfo.asp?MeetingCode=AQ2007.



57th Annual Northwest Fish Culture Conference

December 4–6, 2006: “Northwest Fish Culture for a Sustainable Future”, sponsored by the U.S. Fish and Wildlife Service, will be held in Portland, OR. Check out the website at www.fws.gov/nwfcc2006/ for more information or contact Doug Olsen at Doug_Olson@fws.gov or (360) 604-2537.



Oregon Sea Grant Conference

April 3–5, 2007: “Pathways to Resilience: Sustaining Pacific Salmon in a Changing World” will be held in Portland, OR. The deadline for abstract submission is October 31. See oregonstate.edu/conferences/resilience/.



3rd National Conference on Coastal and Estuarine Habitat Restoration

December 9–13, 2006: “Restore America’s Estuaries” will be held in New Orleans, LA. Visit the website at www.estuaries.org/?id=4 for more information.



Challenges for Diadromous Fishes in a Dynamic Global Environment

June 18–21, 2007: Sponsored by the Northeastern Division of the American Fisheries Society this symposium will be held in Halifax, Nova Scotia, Canada. See www.anacat.ca or contact Alex Haro, Alex_Haro@usgs.gov.

American Society of Ichthyologists and Herpetologists Annual Conference

July 11–16, 2007: The 2007 Annual meeting of ASIH will be held in St. Louis, Missouri. Abstract due dates have not been posted yet. Visit www.dce.ksu.edu/jointmeeting/ for more information.



Alaska Marine Science Symposium

January 21–24, 2007: The North Pacific Research Board and its partners announce the 2007 Alaska Marine Science Symposium, to be held in Anchorage. Visit the website at www.alaskamarinescience.org/index.html for more information.

Candidate Biographical Sketches

Hamachan Hamazaki, Vice President

Greetings from Toshihide “Hamachan” Hamazaki, a candidate for Vice President of the Alaska Chapter of the American Fisheries Society. I have to admit that my background is odd and accidental. I openly admit that I did not study fisheries until I came to work for the Alaska Department of Fish & Game in 2001. Once hired, I audited Terry Quinn’s fish population dynamics class, but before that all I have to show is a withdrawal from an undergraduate Ichthyology class at the University of Georgia. So it’s natural that you may wonder what credentials I have to be a Vice President of the Chapter.

My biggest strength and contribution to the Chapter is my broad experience and my interest in a variety of fields. I received an MS in applied statistics, a certificate in environmental ethics, and, in 1995, a Ph.D. in ecology from the University of Georgia at Athens. I examined landscape patch theory by using millipedes as model landscape experiments. After graduation, I took a post-doctoral position in tropical benthic stream ecology examining the effects of macrovertebrates (fish) and invertebrates (shrimp) on the stability of a benthic community. Then, I took a National Research Council Postdoctoral Associateship at the NMFS Woods Hole Marine Mammal Protected Species Division, where my main research was constructing marine mammal (Cetacean) distributions using geographical information system prediction models.

Next, I took a researcher position at the New Mexico State University, Department of Fisheries and Wildlife Sciences, conducting research on identifying ecological uniqueness of the Fort Bliss Military Training grounds. Currently, at ADF&G, as a biometrician, I am involved in all of the Arctic-Yukon-Kuskokwim Region’s fisheries research, including salmon stock assessment, subsistence fishery catch estimation, and the assessment of herring, and king crab stocks. As far as our chapter, you may know me as Chair of the Continuing Education Committee.

What I have learned from these experiences is that it is very comfortable to stay focused on just one specialty. However, I believe that progress comes only when you step out of your boundary and jump into untested waters. Our Chapter has been blessed with Alaska’s abundance of relatively untouched lands, as well as fresh and marine waters that nurture healthy fish resources. However, this will change due to globalization of Alaska’s economy, new human activities, such as a new pipeline and mining developments. Global warming will affect the Arctic region the most. Responding to these challenges will require us to incorporate expertise from other fields and to train future fishery scientists who are knowledgeable across disciplines. I would like to help the Chapter do just that.

Lee Ann Gardner, Treasurer

Lee Ann Gardner is an environmental consultant with more than 20 years experience in management of multidisciplinary environmental studies, compliance monitoring, and permitting. Ms. Gardner received a Bachelor of Science in Biological Sciences from the University of Alaska in 1978 and a Masters of Science in Fisheries with a minor in Statistics from Oregon State University in 1983. Prior to graduate school, she worked for the US Fish and Wildlife Service, Western Alaska Ecological Services office in Anchorage, conducting permit reviews. She then worked for the National Marine Fisheries Service laboratory in Kodiak, conducting groundfish and shrimp stock assessment surveys. Her master’s thesis, on stock separation of pink shrimp, evolved from this work experience.

Following graduate school, Ms. Gardner worked as an environmental consultant for ENSR Consulting and Engineering in Anchorage through 1995. During that time she managed a number of multidisciplinary environmental studies for government and industrial clients at a variety of locations in Alaska. Projects included environmental sampling of subsistence clam and mussel beds on Kodiak Island to determine the level and extent of petroleum; annual environmental and biological monitoring of the marine environment and red king crab resources within and adjacent to an offshore gold dredging operation in Norton Sound; marine benthic studies for Ketchikan Pulp Company to characterize the offshore benthic environment for a proposed outfall extension; macroinvertebrate infaunal monitoring studies for the Endicott Development Project in the Beaufort Sea; and environmental monitoring at a remote Alaska mine to assess concentrations of heavy metals in sediments, soils, and marine and onshore waters.

Since 1996, Ms. Gardner has had her own consulting business in Chugiak, and continues to work for government and industrial clients. Her work projects are on the North Slope, and in western and southcentral Alaska. Being self-employed has also enabled her to devote more time to volunteer activities in professional and community organizations.

Ms. Gardner first joined the American Fisheries Society while in graduate school in 1981. She began with intermittent attendance at Alaska Chapter annual meetings, progressing to serve as a member of the local organizing committee for both the 1998 Alaska Chapter meeting, and 2005 National meeting. She has served previously as Chapter Secretary, and is the current Treasurer. If re-elected, Ms. Gardner hopes to continue streamlining the Chapter’s financial accounts and working with the Molly Ahlgren Scholarship Committee and the Alaska Chapter Finance Committee.

Besides membership in the AFS, Ms. Gardner is also a member of the National Association of Environmental Professionals, the Phi Kappa Phi honorary society, and is a NAUI Certified SCUBA Diver. She is a current board member of the Alaska Association of Environmental Professionals and serves as its Scholarship Chairperson. A life-long Alaskan, Ms. Gardner was born in Palmer and raised in Anchorage; she has lived in Chugiak since 1983 with her husband and two children. 🐟

**Officer Ballot
For Chapter Vice President and Treasurer**

Cut off ballot (must be original) and mail in stamped envelope before November 7, 2006 to:

Hal Geiger
ADF&G/CF
P.O. Box 110024
Douglas 99811-0024

Vice President:

_____ Hamachan Hamazaki

_____ Write-in _____

Treasurer:

_____ Lee Ann Gardner

_____ Write-in _____

You may also vote online at www.fisheries.org/afs-ak/

Cut Here

Cut Here

Cut Here

Graduate Assistantship in Fisheries Acoustics at University of Washington

Debby Burwen

An MS Graduate Student Assistantship is available for an Alaskan student at the University of Washington School of Fisheries, beginning in Summer or Fall of 2007. Details follow here.

Minimum Qualifications

The applicant must be an Alaskan resident and meet the minimum qualifications for a graduate degree program at the University of Washington, School of Aquatic and Fishery Sciences. Those qualifications include but are not limited to:

1. A minimum grade-point average (GPA) of 3.0 for the most recent two years of college work.
2. Minimum score of at least 500 on the verbal and quantitative sections of the GRE General Exam.
3. Minimum score of 5 on the analytical portion, or a score of 500 if taken before October 2002.

The best candidate for this program will have interests in theoretical and applied fisheries problems. Recommended interests and skills include statistics, modeling, and fisheries. Facility with computers and some computer programming background are essential.

Funding

This program is supported by Alaska Sea Grant, Alaska Department of Fish and Game, the University of Washington, HTI, and Sound Metrics Corporation. A research assistantship at current University of Washington rates will be offered to the successful candidate for up to three years. Out-of-state tuition is covered. Additional funding is available to support field work.

Background

The Alaska Department of Fish and Game (ADF&G) frequently uses sonar to assess fish populations in rivers when rivers are too wide for a weir and too occluded for visual counts. One constraint to more widespread use of

sonar assessment techniques is species classification of observed acoustic returns.

We are recruiting for a student to participate in a research project that uses acoustic information to classify salmon by size or species. On the Kenai River, ADF&G is conducting ongoing experiments using echo-shape measurements to allocate sonar counts to species. Since 1996 these experiments have focused on distinguishing Chinook from sockeye salmon. We are also trying to determine which behaviors and morphological features influence echo intensity, variability, and other metrics used to predict fish size and species.

For the past four years, ADF&G has been working in conjunction with Dr John Horne and graduate student Pat Neilson at University of Washington. ADF&G will continue this collaboration through a second graduate student whose research project will extend examination of behavioral and morphological effects on echo envelope metrics used in species discrimination. The ADF&G salmon sonar site on the Kenai River is an excellent laboratory for applied research and training in acoustic assessment techniques. The student will be supervised by Dr Horne and conduct field work at the Kenai site during the summer.

Deadlines

To be considered for a 2007 summer or fall quarter start, applications to the University of Washington School of Aquatic and Fishery Sciences must be submitted by December 15, 2006. Please see www.fish.washington.edu/graduates/admissions.html for more details. ☺

A reminder that applications for the Culteral Diversity Travel Awards to attend the 2006 Annual Meeting are due **October 13, 2006**. See the website at www.fisheries.org/afs-ak/awards_scholarships.htm for the award guidelines and application form.

Oncorhynchus

Allen Bingham
P.O. Box 221804
Anchorage, AK 99522-1804

RETURN REQUESTED - DO NOT FORWARD

2006 Alaska Chapter Officers

President Scott Maclean, ADNR, Habitat Mgmt. & Permitting, 550 West 7th Ave., Suite 1420 Anchorage 99501, 269-6778 wk, 622-6245 hm, scott_maclean@dnr.stat.ak.us

President-Elect Jamal Moss, NOAA Fisheries, Auke Bay Laboratory, 11305 Glacier Hwy., Juneau 99801, 789-6609 wk, Jamal.Moss@noaa.gov

Vice President Bert Lewis, ADF&G/CF, P.O. Box 669, Cordova 99574-0669, 424-3212 wk, Fax: 424-3235, bert_lewis@fishgame.state.ak.us

Treasurer Lee Ann Gardner, RWJ Consulting, P.O. Box 672302, Chugiak 99567-2302, 688-1400 wk, Fax: 688-1400, rwjconsulting@ak.net

Secretary Steve Zemke, Chugach National Forest, 3301 "C" Street, Suite 300, Anchorage 99503, 743-9521 wk, Fax: 743-9480, szemke@fs.fed.us

Past President Hal Geiger, ADF&G/CF, P.O. Box 110024, Douglas 99811-0024, 465-4257, hal_geiger@fishgame.state.ak.us

Student Unit President Katie Palof, wk, School of Fisheries and Ocean Sciences, Juneau Center, 11120 Glacier Hwy, Juneau 99801, 796-6327 wk, k.palof@uaf.edu

Feel free to contact the Executive Committee members.

2007 AFS Membership Application

You can JOIN the AFS and the Alaska Chapter on-line (or by fax/phone), see www.fisheries.org/html/afsmemformcc.shtml for details, or fill out the application form and process as noted below.

Print or type applicant's name in full _____

Address _____

City _____ State _____ Zip Code _____

Nation _____ Membership year* _____

Kindly make checks payable to American Fisheries Society in U.S. Currency or drawn on a U.S. bank.

Please mail to Allen Bingham P.O. Box 221804 Anchorage, AK 99522-1804

Professional recruiting others (PROCLUB) _____

If applicant is a student as defined below, the teacher endorsing him signs here.** _____

Name of institution where student is enrolled _____

Date _____

Please provide phone numbers for directory and Society use only:

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Employed by:
 federal gov't. state/prov. gov't. industry academia self

- Alaska Dues: \$10.00** **Alaska Student Dues: \$5.00**
Membership Dues (includes *Fisheries* and Membership Directory)
 Regular (North America): \$76.00 (Other than North America, \$88.00)
 Student (North America)**: \$19.00 (Other than North America, \$22.00)
 Young Professional***: \$38.00
 Retired (North America): (65 or over): \$38.00 (Other than North America \$44.00)
 Life (All): \$1,737.00 (includes Fisheries and one other journal of choice)

¹ Prices are for AFS members only ² Membership not required for subscription
* New members accepted Jan. 1-Aug.31 are credited to full membership for that year. (Back issues of Journals are sent.) Members accepted Sept. 1-Dec. 31 credited to full membership as of next Jan. 1, unless requested otherwise. Membership on calendar year only.

Journal Subscriptions (Optional)

- Transactions of the AFS¹ N.A. Journal of Fisheries Management¹
 \$43.00 Paper in North America \$48.00 Paper other than N.A.
 \$25.00 E-Pub via WWW/Internet
 North American Journal Journal of Aquatic Animal Health¹
 \$38.00 Paper in North America \$41.00 Paper other than N.A.
 \$25.00 E-Pub via WWW/Internet

** Bona fide students of fisheries subjects are eligible for Student membership (limited to 6 years). Persons employed full-time not eligible. Teacher endorsement required (see above).

*** Within 3 years of graduation.

NOTE: Retired membership for Active members upon retiring at age 65. Sustaining membership for commercial firms, conservation clubs, or others desiring to support the Society. Library Subscriptions include bimonthly *Transactions*, quarterly *North American Journal of Fisheries Management*, *Journal of Aquatic Animal Health*, quarterly *North American Journal of Aquaculture*, bimonthly *Fisheries*, and Membership Directory.