First Call for Papers!

OFWIM 2006 Conference
October 16-19, 2006
Minneapolis, MN

Preparing for the future:
Adapting Technology to Support Sustainable Resource Management

This call is for papers, panel discussions, and poster presentations related to the
conference theme or to fish and wildlife information management in general.

Individual papers should be 15 minutes in length to allow time for discussion.
Panel Discussions should fit in 1½ or 3 hour sessions.

A unique feature of the conference is the “Hacker’s Ball,” an OFWIM tradition
that combines the poster session with live demonstrations of applications.

Deadline for submission of all abstracts is Friday April 28, 2006.

♦ Submit session topics and abstracts for papers, panel discussions and
symposia to:

Viv Hutchison
U.S. Geological Survey
206-526-6282 ext 329
vhutchison@usgs.gov

♦ Submit abstracts for poster presentations and requests for access to Internet
ports during the Hacker’s Ball to:

Janet Hess-Herbert
Montana Fish, Wildlife & Parks
406-444-7722
jhessherbert@mt.gov
2006 Conference Themes


Effective application and use of information technologies and services
- Web services (intranet and internet)
- Open source technology
- 'Off the Shelf' programs

Chasing Information Technology: upgrading at what cost?
- Research and Development - effective methods to keep informed
- Balancing cost, staff retooling, and customer satisfaction
- Case Studies

Enhancing technology use through collaboration
- Existing resources: sharing projects and ideas
- Collaborative tools and projects
  - Effective methods of sharing technology
  - Technology transfer among partners

Engaging and educating your natural resource team
- Building systems starts with the customer - Case Studies in successful team building
- Smoothing the technology transition for employees and customers
- Soft skills for Information Technology Team Members

Wildlife Action Plans
- Implementation and Information Management
  - Reports and Progress
- Multi-State Collaborative Approaches: Examples
The National Biological Information Infrastructure (NBII) unveiled its Digital Image Library at the end of 2004. This Web-based digital library is a resource available to organizations and the general public that offers biological photographic images dynamically linked to information. The library can be found at <http://images.nbii.gov>.

The NBII Digital Image Library makes available online images related to nature and the environment from the NBII’s own collections and from contributing partners. The library contains well-documented images associated with plant and animal species, scenic landscapes, wildlife management, and biological study/fieldwork. Currently, images focus mainly on plants and animals of the United States, but is expanding to include global themes. Categories include animals, environmental issues, habitats/landscapes, management, and plants. New image categories will be added in the future as appropriate.

The mission of the library is to help support the research and understanding of our environment and its resources by providing a diverse range of high-quality biological images for scientists, conservationists, decision-makers, educators, students and the general public worldwide. As such, NBII envisions most images being freely available but does include some copyrighted image collections.

Well-documented images are key to recording and understanding the natural environment. The NBII Digital Image Library goes beyond most other online image libraries by requiring that each image be linked to quality metadata – specific information about the image – thus increasing its usefulness to a broader audience. Each image’s metadata includes validated information such as common and scientific names, detailed descriptions, geographic locations, as well as photographer and contributing partner names. With this information, an image(s) can be used to:

- Aid identification,
- Provide a baseline for changing conditions when georeferenced,
- Complement museum specimens by showing colors of parts that fade in collections,
- Illustrate lessons, reports, scientific papers, news articles, Web sites, presentations, proposals, brochures, and posters, and
- Facilitate decisions about the environment and its resources.

The library continues to expand as new images are added – we invite you to use and participate in this online resource.

Visitors to the site may browse the library by broad subject categories. By clicking on an image category, a thumbnails page will appear displaying all the thumbnail images within that category. Then, by clicking on an individual thumbnail image, its metadata record and links to other resolutions will appear on a new page. Each image’s metadata record contains valuable information about the image, including its scientific and common names, description, and location.

You may also search for specific images using the search tool to help narrow searches and quickly find what you need. You can search under common or scientific names, geography, filename, organization, photographer, or other keywords. Searches will display all the thumbnail images contained in the library related to the keywords you enter.
Most images are available in three file sizes: thumbnail (for previewing), medium-resolution (Acceptable quality for printed fact sheets, brochures, and PowerPoint presentations), and high-resolution (Acceptable print quality for large posters, exhibits, and detailed research). Detailed directions for downloading and crediting images are also provided on the site. In addition to the images themselves, the site offers general information about the library, related resources, and contact information.

NBII wants to provide a collection of high-quality images that offer valuable data. Therefore, NBII requires that images follow format and file-size standards, and must have detailed metadata following NBII guidelines. The NBII Digital Image Library coordinators have developed a document that gives minimum guidelines and standards for making images digitally available. These guidelines describe image resolution and scanning considerations, file formats and naming conventions, and metadata standards. Adherence to these guidelines is required for all contributions to the NBII Digital Image Library. The coordinators also provide training on procedures and utilizing NBII tools.

To make sure each image and its related metadata information are correct, they are required to go through an identification and validation process. The contributor must ensure that the image is properly identified before submitting, and should perform QA/QC review of pre-submitted images to verify it meets the NBII Digital Image Library standards, acceptable quality, and appropriateness. The Digital Image Library coordinators at the NBII Program Office will review images for adherence to the NBII guidelines upon submittal and periodically thereafter. Quality control is a priority for the NBII Digital Image Library and efforts are made to assure that no image is made public that does not uphold NBII requirements.

In mid 2005 we were delighted to announce that we had catalogued our one-thousandth image into the library! As our offerings had grown over the year, so too had our categories, which now range from biological categories to regional and special collections.

As the NBII Digital Image Library continues to expand, we invite you to participate as a customer, a partner, or both. Help us add our next thousand records in record time!

For more information about the Image Library, to contribute images, or to explore image project opportunities, contact the Digital Image Library Coordinators:

Gene Morris
E-mail: images@nbii.gov
Phone: 703-648-4351

Annette Olson, Ph.D.
E-mail: aloison@usgs.gov
Phone: 703-648-4080

The NBII National Program Office
12201 Sunrise Valley Drive, MS302
Reston, VA 20192 U.S.A.
Abstract

This article references and briefly describes 1) a test of validity for combining two subsamples of fish data (Chow test) and 2) the estimation of proportion for binomial mixtures of several fish data studies. I have written a set of programs that can be used to perform the test and estimate the proportion for binomial mixtures. The programs are available for download at: http://pages.prodigy.net/johnsonp12/combine.html. Individual 'pdf' files describe input and output variables.

1. Procedure for Chow’s Test

The program (Chow.exe) tests the validity of combining two subsamples to fit a linear regression model (Dougherty, 1992). The program is run first with the full data and then the two subsamples (A and B). The output consists of the sums of the squares of the residuals, called the sums of squares of error (SSE). These are SSE(full), SSE(A) and SSE(B).

The Chow Test is:

\[ F = \frac{(SSE(\text{full}) - SSE(A) - SSE(B))/(k + 1)}{(SSE(A) + SSE(B))/(n - 2k - 2)} \cdot \]

Under the null hypothesis that the two subsamples should be combined, we have \( F \) is distributed as \( F_{k+1, n-2k-2} \).

Example: Consider two types of fish (hatchery Brown trout and hatchery Rainbow trout) and we wish to examine the increase in variation in the survival time of an acclimatization treatment as the mean increases (see Manly, 2001). Let \( X = \) survival time in minutes and \( Y, \) the variation as measured by the standard deviation.

1.1 Data

Suppose for illustration purposes we observed:

Subsample A (hatchery Brown trout)

<table>
<thead>
<tr>
<th>X</th>
<th>831</th>
<th>893.5</th>
<th>980.5</th>
<th>1098.7</th>
<th>1205.7</th>
<th>1307.3</th>
<th>1446.3</th>
<th>1601.3</th>
<th>1807.9</th>
<th>2033.1</th>
<th>2265</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>57.5</td>
<td>65.4</td>
<td>59.7</td>
<td>86.1</td>
<td>93.4</td>
<td>100.3</td>
<td>93.0</td>
<td>87.9</td>
<td>107.8</td>
<td>123.3</td>
<td>153.8</td>
</tr>
</tbody>
</table>

Subsample B (hatchery Rainbow trout)

<table>
<thead>
<tr>
<th>X</th>
<th>2535</th>
<th>2691</th>
<th>2862</th>
<th>3155</th>
<th>3380</th>
<th>3590</th>
<th>3802</th>
<th>4076</th>
<th>4380</th>
<th>4664</th>
<th>4828</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>191.8</td>
<td>199.5</td>
<td>168.7</td>
<td>222</td>
<td>189.3</td>
<td>187.5</td>
<td>142</td>
<td>155.7</td>
<td>152.1</td>
<td>175.6</td>
<td>199.6</td>
</tr>
</tbody>
</table>

1.2 Data Input

The format of the input data must be of the form:

\[
\begin{align*}
& n \\
& x_1, y_1 \\
& x_2, y_2 \\
& \vdots \\
& x_n, y_n
\end{align*}
\]

The \( n \) observations are split into subsample A (\( n_A \) observations) and subsample B (\( n_B \) observations). Input \( n_A \) and \( n_B \).

The example data set (trout.dat) consists of 22 observations of survival mean time and variation as measured in standard deviation (see http://pages.prodigy.net/johnsonp12/trout.dat). The subsamples, A and B, consist of the first 11 observations and the last 11 observations.
1.3 Results
SSE(full) = 19953.79, SSE(A) = 1010.841, and SSE(B) = 5103.47
Linear regression (k = 1). n = 22.

\[ F_{2,18} (0.01) = 6.01 \quad \text{and} \quad F_{2,18} (0.05) = 3.55. \]
We have evidence to reject the null hypothesis and conclude we should not pool the two subsamples, and hence should fit two different models (one for the hatchery brown trout and one for the hatchery rainbow trout).

2. Procedure for the Estimating Combined Proportions
The program (ecp.exe) estimates the mean underlying proportion for Binomial mixtures using 2 methods. The first is arithmetic averaging. The second is weighted averaging (see Wood et al., 2005).

M is the total number of mixture distributions sampled.
x\(_j\) is the count of the jth sample (e.g., the number of fish with a specific disease).
n\(_j\) is the number of trials for the jth sample (the total number of fish sampled for that sample).

2.1 Input
The format of the input data must be of the form:

\[
\begin{align*}
(x_1, n_1) \\
(x_2, n_2) \\
\vdots \\
(x_M, n_M)
\end{align*}
\]

j = 1, 2, ..., M

b\(_M\) and c\(_M\) are calculated terms that can be used to choose between the two estimates. b\(_M\) measures the departure of average local weight from uniform weight. c\(_M\) measures the departure of sample sizes from uniform allocation.

Small b\(_M\) and large c\(_M\) favors the use of Method 1. Large b\(_M\) and small c\(_M\) favors the use of Method 2.

Output
Method 1 (arithmetic averaging) - estimate of proportion =

\[
\frac{1}{M} \sum_{j=1}^{M} \frac{x_j}{n_j}.
\]

Method 2 (weighted averaging) - estimate of proportion =

\[
\frac{\sum_{j=1}^{M} x_j}{\sum_{j=1}^{M} n_j}.
\]

b\(_M\) = \[
\frac{1}{M^2} \sum_{j=1}^{M} \frac{1}{n_j} - \left( \frac{1}{n} \right)^2
\]
and c\(_M\) = \[
\frac{1}{n^2} \sum_{j=1}^{M} \left( n_j^2 - \left( \frac{n}{M} \right)^2 \right).
\]

The example data set (fish2.dat) consists of 9 simulated observations of 9 counts of fish samples (see http://pages.prodigy.net/johnsonp12/fish2.dat).

References
2006 Individual Membership Form

Use the form below to join OFWIM as a new member or to renew your membership for 2006. Individual Members are entitled to vote in the annual election and hold office. Current members are notified of new newsletters and have access to special OFWIM web content. Current members also receive a discount on 2006 conference registration.

If you work for an organization with 4 or more individuals interested in OFWIM membership, you may benefit from obtaining an Organizational Membership. Information about Organizational Membership can be found at: http://www.ofwim.org/org/membership.html

The 2006 OFWIM annual membership period is January 1, 2006 through December 31, 2006. To become a new member of OFWIM or renew your current membership, please complete and mail the form below with a check or money order for $25 (in U.S. dollars!) payable to OFWIM, to:

Daniel Vichitbandha, OFWIM Treasurer
c/o Kentucky Department of Fish & Wildlife Resources
1 Game Farm Road
Frankfort, KY 40601-3908

OFWIM 2006 Membership Form

Name: __________________________________________________
Agency:__________________________________________________
Address:_________________________________________________
City: _______________________________ State: ____Zip:________
Phone:(_____)_________________ Fax:(______)________________
Email:___________________________________________________

Memberships     Annual Dues
Individual Member – 2006  $25
(one voting membership)

Please pay in U.S. dollars!  $__________
2006 OFWIM Student Scholarships

OFWIM will award two student scholarships this year to the annual meeting in Minneapolis, Minnesota, October 16-19, 2006.

The awards will be in the form of paid registration and travel costs up to $800 each.

The successful candidates will be a graduate student working toward a Master’s or PhD who are interested in professional involvement in the field of wildlife-related information management and/or Geographic Information Systems.

Candidates will be judged based on academic excellence, professional activities and financial need.

The deadline for applications is August 1, 2006. All applicants will be notified by August 21, 2006.

Visit the web site at http://www.ofwim.org to download the scholarship application and guidelines.

Join an OFWIM Committee!

Communications Committee
Chair: Robin Carlson (rcarson@dfg.ca.gov)
Vice-Chair: Amy Martin

Continuing Education Committee
Chair: (currently vacant)
Vice-Chair: (currently vacant)

Data Standards Committee
Chair: Shelaine Curd-Hetrick (shelaine@iiaweb.com)
Vice-Chair: Janet Hess-Herbert

Meeting Planning
Chair: Viv Hutchison (vhutchison@usgs.gov)
Vice-Chair: (currently vacant)

Membership and Outreach Committee
Chair: (currently vacant)
Vice-Chair: Daniel Vichitbandha (daniel.vichitbandha@mail.state.ky.us)

Technology Trends Committee
Chair: Scott Anderson (scott.anderson@ncwildlife.org)
Vice-Chair: Bruce Schmidt

Elections, Awards and Nominations
Chair: Becky Wajda (becky.wajda@dgf.virginia.gov)
Vice-Chair: Beth Stys

Vision and Goals
Chair: (currently vacant)
Vice-Chair: (currently vacant)

Contact the Committee Chair for more information.

Watch the OFWIM website for announcements of other award categories!

www.ofwim.org

Get involved!
Thank you to everyone who submitted articles!

Article Deadline for Next Issue: May 1, 2006

Donations needed for the Annual Raffle

Help support OFWIM’s Scholarship Fund by donating items to be given away as part of the raffle at the 2006 OFWIM Annual Meeting and Conference.

This is a great way to support future fish and wildlife information managers as well as promote your organization.

All proceeds from the raffle will be used to fund OFWIM’s scholarship program for students in advanced degree programs related to fish and wildlife resource management, with an emphasis on information management or GIS.

If you would like to donate an item from your organization, please contact:

Amy Martin
OFWIM Secretary
804-367-2211
amy.martin@dgif.virginia.gov

Remember to renew your membership!

Watch for more information about the 2006 Meeting!

www.ofwim.org

Volunteers needed!

Interested in helping out with the 2006 conference? We need people to assist with meeting planning and logistics, in advance and at the meeting.

Please contact:

Viv Hutchison
OFWIM President-Elect
vhutchison@usgs.gov