



# The Murreletter

Society for Northwestern  
Vertebrate Biology

Volume 14, No. 2

July 2006

## President's Message

Hello SNVBers:

Although it's been a few months, I hope you all got to attend the 2006 Annual Conference at The Evergreen State College in Olympia. We had a huge number of folks show up, so most of you actually did attend. I hope you had a good time, learned a few things, thought about something new, and left with a few more friends than you had when you got there. I want to thank the Washington Chapter of The Wildlife Society for joining us at Evergreen and for making the meeting really successful. I guess it shouldn't be too surprising how well an event can turn out when so many skilled and dedicated people take charge of it. I'd like to recognize the huge efforts of the organizing committee and the on-the-ground folks one more time, including Marc Hayes, Aimee McIntyre, Tara Chestnut, Peter Singleton, Susan Piper, Hannah Anderson, Dan Dugger, Julie Grialou, Lisa Egtvedt, and Tiffany Hicks, as well as the rest of the SNVB and WA-TWS boards, for getting the job done, and done well!

As most of you already know, the 2007 meeting is going to be in Victoria, BC! If for some reason you've never been to Victoria, you are in for a treat. It's a great town, so much to see and do, museums, wonderful food, great pubs, hockey, flu shots, curling, the Tragically Hip, you can walk to everything, and you can practically ride the ferry to your hotel; all in all it's way sweet! We met there in 2001 and it was great! Our Northern Region Vice-President, Elke Wind, has taken the reins in organizing the meeting and is working with a good group of folks to arrange all the details. I don't want to put too much pressure on them, but I am really looking forward to all the things they are lining up. Don't hesitate to contact Elke if you want to pitch in.

Having heard many interesting ideas at the annual-conference plenary session, I wondered how those ideas had been received, digested and otherwise considered in your day-to-day existence. Our work can be filled with adventure and humor (a la Bruce

Bury) and fascinating discoveries (a la Lynne Houck). Bob Pyle reminded us to get out of our rut and think for ourselves, outside the box, as that is where the fascinating discoveries are usually found. Nalini Nadkarni personifies Bob's message, as she is a fountain of new and exciting ideas, and she knows what to do with them. Having seen how these folks are inspired, I wondered, how do we take these ideas and inspiration and make a difference. Dave Fraser illustrated many of the challenges we face in preventing extinctions and how a big chunk of the battle will be won or lost right here in the Northwest. Obviously this is an effort that will take incredible amounts of creative thinking, a multitude of innovative solutions, and persistence. Accordingly, Dave reminded us that we will need to keep working at it, and so will our kids. As a biologist and a dad, that was a take home message.

- Jeff

*Batrachoseps attenuatus*.  
Photo by W.P. Leonard.



## Site Records Needed

I am compiling all known sites in Oregon and Washington of *Rana boylei* (Foothill Yellow-legged Frog), *Ascaphus montanus* (Rocky Mountain Tailed Frog), *Aneides flavipunctatus* (Black Salamander), *Batrachoseps attenuatus* (California Slender Salamander), and *Batrachoseps wrighti* (Oregon Slender Salamander) for inclusion in the federal agency Conservation Assessments for special status and sensitive species. If you have confirmed sites in Oregon or Washington that are not yet in the Natural Heritage, Forest Service or BLM databases, please send me the UTM or lat/long coordinates.

Many thanks, Dede Olson. [dedeolson@fs.fed.us](mailto:dedeolson@fs.fed.us)

## Society for Northwestern Vertebrate Biology

*...the oldest scientific association devoted to the study of  
terrestrial vertebrates in the Pacific Northwest*

- established in 1920

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### Who we are...

The Society for Northwestern Vertebrate Biology was founded in 1920 as the Pacific Northwest Bird and Mammal Society. Long recognized as the pre-eminent union of ornithologists and mammalogists in the Pacific Northwest, the society adopted its current name in 1988 to reflect an expanded taxonomic scope that included amphibians and reptiles. The scope expanded again in 1999 to include fish. Today the society strives to promote close working relationships among ornithologists, mammalogists, herpetologists, and ichthyologists in our region; foster exchange of scientific information and interest in the study of vertebrates; and offer a forum for these activities through meetings and publications.

### Membership

All persons or institutions interested in the study of birds, mammals, amphibians, reptiles, and fishes are eligible for membership. Individual members receive the Northwestern Naturalist and the Murreletter, our newsletter. Other SNVB publications, such as Northwest Fauna, are available at a reduced rate. Other privileges of membership include notification of all SNVB meetings, power to vote in SNVB meetings and elections, and participating as a member of the SNVB board.

**For more information or to  
become a member visit  
<http://www.snwvb.org>**

### The Murreletter

The Murreletter is published three times yearly and is distributed to the members of the Society of Northwestern Vertebrate Biology. Submission of stories, meeting announcements, and other material of interest to members of the society is encouraged. Submissions should be sent to the Murreletter Editor, Kathryn Ronnenberg. To receive the Murreletter electronically, which is strongly encouraged, please provide your current email address to SNVB Treasurer Julie Grialou.

## A Word from the Editor

Ian Reid has passed the editorial blue pencil on to me, so I'd better introduce myself to the SNVB public. I'm a research assistant for the Forest Service Pacific Northwest Research Station in Corvallis, Oregon, working mainly for the Aquatic/Land Interactions team. My background includes a B.S. in biology from Doane College in Crete, Nebraska, and graduate work in resource economics, GIS and cartography at Oregon State University. I've worked for the PNW Station off and on since about 1992 in various capacities, but my present job involves designing figures, posters, and slides for our research group, and working as an editor on large publication projects (both text and graphics). My current book projects include the proceedings for the U.S. Forest Service's national earth sciences conference, and an upcoming book about old-growth forests. I also give workshops on graphic design for science. For those of you who don't already live in fear of having me show up at your presentation (where I can't help but critique your slides), I'll be presenting the workshop at next year's SNVB meeting in Victoria, BC.

As you may guess from my background, I'm very interested in communicating about science to a variety of audiences. That's why I'll be introducing a "Graphics Corner" to future issues of the Murreletter, focused on some particular graphic design issue or common mistake. Look for the first installment on design for color-blind audiences below.

At the suggestion of various members of the board, we may also be adding a short section on "Nature in the News", presenting short summaries of items of interest featured in the regional, national, or international news, as space permits. If you find a story you think would be of particular interest to the membership, email me the link at [kronnenberg@fs.fed.us](mailto:kronnenberg@fs.fed.us), and we'll consider including it in the next issue of the newsletter. The Murreletter will be published on a new schedule, appearing three times a year, at the end of July, the end of November, and either in March or April, depending on the date of the annual meeting.

*-Kathryn Ronnenberg*

### Update on PARC's Habitat Management Guidelines for Amphibians and Reptiles of the Northwestern United States and Southwestern Canada

**Coordinators: David Pilliod and Elke Wind**

This document is part of Partners in Amphibian and Reptile Conservation's (PARC) nation-wide series intended to provide private landowners, state and federal land agencies, and other interested stakeholders with regional information on the habitat associations and requirements of amphibians and reptiles, as well as possible threats to these habitats and recommendations for managing lands in ways compatible with or beneficial to these species. It is hoped that these documents will promote conservation of amphibians and reptiles by:

- keeping common species common,
- stemming the decline of imperiled species,
- guiding the restoration of amphibian and reptile habitats while benefiting many other wildlife species, and
- reducing the likelihood that additional species will be added to endangered species lists.

The document contains two main sections: the first contains background ecological and conservation information and general guidelines for all habitat types, while the second part contains guidelines for specific habitat types found throughout the northwest. In addition, the appendices contain a table of northwest herpetofauna species, their status, and their occurrence within various northwest states and habitats.

The first draft of this 100+ page document will be sent out for review in early July 2006; the goal is to have the final version completed and out to the printers by December 2006. Watch for this report at the next annual SNVB meeting.

**Please contact Elke Wind ([ewind@telus.net](mailto:ewind@telus.net)) for more information.**

## Graphics Corner: Color Blindness and Design

Somewhere over the rainbow...a nice sentiment for a song, a bad concept for graphic design. Many graphics programs, including cartography programs and some graphing packages, apparently default to a rainbow gradient (red-yellow-green or some variant) to code output. This results in a lot of brightly-colored maps or graphs that are often rather difficult to interpret. Why? Well, for starters, there's no inherent, inferred direction to the red-yellow-green scale. Is red more of something than green, or less? Does it depend on what's being

measured? Does it imply "good" or "bad"?

But the main reason to avoid this color scheme is that up to 5% of your readers likely can't even SEE it. Red-green color blindness (the most common type) affects about 8% of men and less than 1% of women. Varying degrees of deficiency in red or green cone cells on their retinas make them unable to distinguish red and green hues from one another, especially at similar saturations – both colors look sort of brownish to them, as near as can be determined.

*...continued on page 7*

## New Editor Needed for Northwestern Naturalist

Current Editor Burr Betts is retiring from the Editor's position he has held since 1997 and the Society is seeking applicants to replace him. The changeover would best be accomplished with the start of a new volume, so we would like to have a replacement appointed by fall 2006 or by fall 2007 at the latest. The great part about the position is the reward of seeing the finished issues come out in print. Those interested in considering the Northwestern Naturalist Editor position should contact SNVB President Jeff Lewis.

With regard to qualifications, the Editor needs to be very well organized and more than a bit anal about perfection, which includes an excellent knowledge of English, punctuation, and journal format. The Associate Editors do most of the work in getting the content of manuscripts ready for publication, but they vary as to how well they get authors to follow proper format and style. While the total hours per year are not excessive, the work is not evenly spread and the editor must be willing to make the journal a top priority. Having an employer who recognizes the value to the agency or organization of having an employee as Editor would be very helpful in avoiding conflicts between job demands and editorial demands. Following is a summary of the activities performed by the Editor and an estimate of the time involved in each.

### New Manuscript Handling

**Articles:** enter into database, print Associate Editor's Report Form and Reviewer Forms, send packet to Associate Editor, send letter to author acknowledging receipt of the manuscript. *Average time:* 1.0 hour per each of about 20 manuscripts submitted annually.

**Notes:** same as above plus reviewing the note (Editor and Associate Editor are usually the two reviewers of notes). *Average time:* 2.0 hours for each of about 10 manuscripts submitted annually.

### Completed Manuscript Handling

**Rejections:** review comments of Associate Editor and Reviewers, write letter telling author of rejection, enter result in database. *Average time:* 1.0 hour for each of about 5 manuscripts that are rejected annually.

**Acceptances:** carefully proof read for clarity and for format/style and writing errors, edit electronic version, send letter to author noting its acceptance and requesting any information or clarification that is needed, enter result in database. *Average time:* 2.5 hours for each of about 20 manuscripts that are accepted annually.

### Issue Preparation

Send edited manuscripts to Janet Jones for final proof reading about one month prior to submitting manuscripts

to Allen Press, fix electronic versions with any corrections noted by Janet, print double-spaced final hardcopy of each manuscript. *Average time:* 1.0 hour.

For second (Autumn) issue of each volume, receive abstracts of annual meeting from meeting organizers, proof read abstracts, and edit as necessary. *Average time:* 6.0 hours.

For third (Winter) issue of each volume, generate author and key word indices, lists of special members, and a list of reviewers for that volume. *Average time:* 4.0 hours.

Generate a code-free, single-spaced version of each manuscript to be submitted electronically along with the double-spaced hard copy, generate tables and figures to be submitted in hardcopy, generate table of contents (back cover), provide photocopies of any other cover that needs corrections, compose transmittal form and transmittal letter, send packet to Allen Press. *Average time:* 4.0 hours.

Receive galley proofs electronically and disseminate to authors, receive notices of corrections from authors, make corrections on hard copy of proofs, compose letter and send packet to Allen Press. *Average time:* 1.5 hours.

Receive and review revisions, make any further corrections, return to Allen Press for publication. *Average time:* 1 hour.

Create and send invoices for page charges to authors with copies to Treasurer. *Average time:* 1.5 hours.

Update cumulative index. *Average time:* 3.0 hours.

Clean up manuscript files keeping important components and place in storage. *Average time:* 0.5 hours.

### Other Duties

Provide Editor Reports at Board meetings and for Murreletter. *Average time:* 0.5 hours 3-4 times/year.

Attend Board meetings and give reports or provide information. *Average time:* 1.0 hours 3-4 times/year.

Answer questions, handle messages from BioOne, etc. *Average time:* 3.0 hours/year.

Solicit and name new Associate Editors as needed. *Average time:* 1 hour/year.

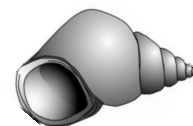
### "How to Prevent the Spread of New Zealand Mudsnails through Field Gear"

You can download a pdf of this new brochure at:

<http://seagrants.oregonstate.edu/sgpubs/onlinepubs.html>

Also, you may order copies by calling 1-800-375-9360

or by writing [sea.grant.communications@oregonstate.edu](mailto:sea.grant.communications@oregonstate.edu)



## 2006 Annual Meeting

Our Annual Meeting, held at the Evergreen State College in Olympia from 27-31 March 2006, was a rousing success. With the Washington Chapter of The Wildlife Society as primary meeting partner; the International Canopy Network (ICAN), the Washington/Oregon Chapter of Partners in Flight (PIF), Partners in Amphibian and Reptile Conservation (PARC) and the Pacific Northwest Amphibian and Reptile Consortium (PNARC) as active co-sponsors; David Evans and Associates, Regent Instruments Inc., U.S. Geological Survey (USGS - Forest Range and Ecosystem Science Center), and Weyerhaeuser Inc. as major underwriters; and the Green Diamond Resource Company, Hancock Forest Management, and the Evergreen State College Lab Stores as contributors, we had over 230 people attend the 6-day event (including the field trip day at the end of the event). Additionally, the Western Forest Carnivore Committee (WFCC), underwritten largely by the US Forest Service's Olympic National Forest, held its workshops concurrent with the first two days of meeting activities at the Olympic National Forest Headquarters.

Meeting highlights included:

- three workshops – the SNVB/PNARC sponsored Amphibian Disease Diagnostics; the PIF-sponsored/Klamath Bird Observatory-hosted Bird-Banding Workshop - Beyond Counting Birds: Estimating Population Vital Rates through Banding; and the ICAN-sponsored Forest Canopy Access Workshop;
- a special USGS-sponsored symposium (with a Native American clam and salmon bake) in honor of the career of Northwest herpetology icon R. Bruce Bury;
- a slate of premier plenary speakers (Bruce Bury, David Fraser, Lynne Houck, Nalini Nadkarni, and Robert Pyle), who provided truly innovative perspectives;
- special sessions on Managed Landscapes (sponsored by Weyerhaeuser Inc., Green Diamond Resource Company, and Hancock Forest Management) involving 17 speakers over two days; and PARC's highly animated Technical Working Group Adaptive Management Model workshop, directed by Jeffrey Holmes, Ernesto Garcia, and Priya Nanjappa Mitchell of East Coast PARC;
- a book-signing event by the editors (Larry Jones, Bill Leonard, and Dede Olson) of the recently published "Amphibians of the Pacific Northwest";
- a spectacular photo contest with over 40 submittals; and
- a sumptuous banquet featuring our expatriate Larry "Lagarto" Jones as speaker, followed by the ever-important raffle and auction.

Our regular meeting fare involved diverse sessions with over 40 contributed talks addressing Amphibian Diseases and Physiology, Amphibian Ecology, Avian Ecology, Conservation

Planning, Fish Ecology, Prairie Landscapes and Shrub Steppe Habitats, and Research Methods and Wildlife Ecology; and an engaging poster session with over 25 contributors. The meeting closed with field trips to Nisqually National Wildlife Refuge (birds), Fort Lewis (forest wildlife habitat management), Beaver Creek (herpetofauna), and the Evergreen State College forest (molluscs and invertebrates).

Planning and development for our annual meeting is an extraordinary and often insufficiently recognized effort from people and contributors too numerous to name here individually; this is a special thanks to all. However, a few deserve special recognition for their extraordinary efforts. These include Tara Chestnut, especially for workshop planning and putting out a lot of background fires; our always food-loving Aimee McIntyre for what other than the banquet, lunches, and snacks as well as other diverse meeting planning; Hannah Anderson for the great canopy workshop; Susan Piper for directing an unequalled poster session; Mariann Brown for a spectacular photo contest; Kathryn Ronnenberg for developing our professional program layout; and Dan Dugger for coordinating our many volunteers who assisted in running our meeting so smoothly. Lastly, our meeting was a financial success, bringing in over \$12,800; after partitioning out the share for our TWS partner, as well as what was brought in from SNVB dues, books, and other merchandise, the meeting itself generated over \$5,000.

*--Marc Hayes, WA Vice-President*

### Columbia Mountains Institute of Applied Ecology Conference Announcement

Bear Conservation in a Fast-Changing North America  
24-25 October 2006, Field trips 26 October 2006  
Revelstoke Community Centre,  
Revelstoke, British Columbia

Bears and people face a fast-changing world. Bear habitat is changing directly due to a variety of factors such as roads, rural settlement, and resource extraction. Indirectly, climate-change has the potential to fundamentally alter the context in which both bears and humans coexist. The past decade has seen rapid advances in ways professionals can gain insight into bear biology through a variety of research tools including DNA fingerprinting, isotopic analysis, telemetry, and G.I.S.-related data modelling. Through a combination of presentations, panels, field trips, and opportunities for informal dialogue, this conference will help professionals keep pace with these changes and anticipate emerging issues in bear conservation and management.

**For details and to register, visit: [www.cmiae.org](http://www.cmiae.org)**

Mark Your Calendars!

## 1st Announcement for the 2007 SNVB Annual Meeting

21-24 February 2007

Victoria, BC

### PREPARING FOR THE UNPREDICTABLE: CONSERVATION AND COMMUNICATION NEEDS IN THE 21ST CENTURY

Symposium and Workshop - 21 February 2007 (Wed.)

#### **Symposium - Panic and Pandemics**

*(Harbour Towers Hotel, Victoria, BC)*

The media presents diseases that can affect wildlife such as avian influenza, West Nile virus, chytrid fungus, etc., as major global crises. How accurate are the media presentations of perceived threats to humans, wildlife, and ecosystems? Are the public reactions and changes in government policies realistic? This symposium will host experts in infectious diseases to provide insights regarding the implications of emerging infectious diseases for wildlife and ecosystem management, and present information on recommended safe methods and practices to prepare for and work with these diseases.

#### **Workshop - Graphic Design and Communication Skills for Science Publishing and Presentations**

*(Harbour Towers Hotel, Victoria, BC)*

A 6-part workshop on graphic design and communication skills for oral presentations, printed materials, PowerPoint presentations, posters, and cartography for scientific publications and presentations. Participants will have an opportunity for an expert critique of work that they bring to the workshop.

Annual Meeting - 22-24 February 2007 (Thurs.-Sat.)

#### **Example session topics include:**

Marine Species at Risk, Planning for Climate Change, Invasive Species Management and Mitigation, Transportation & Wildlife Linkages, Government Agency Management Approaches, Species Status Reviews, Monitoring & Sampling Rare or Elusive Species, Novel Approaches in Telemetry, Conservation of Wide-ranging and Poorly Known Carnivores, Environmental Education and Extension in Conservation Science, Wetland Compensation and Mitigation

#### **Other Events:**

Field Trip, Photography and Art Contest, Banquet (with keynote speaker), Best Student Paper Award, Silent Auction and Raffle, Vendors, and much more...

**For more information, please contact: Elke Wind, Planning Committee Chair**

**email: ewind@telus.net or phone: (250) 716-1119**

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#### Conference Announcement:

### Riparian Management in Headwater Catchments: Translating Science into Management

A conference to be held at the University of British Columbia, Vancouver, Canada  
19 to 21 February 2007

See <http://faculty.forestry.ubc.ca/richardson/RiparianManagementConference.htm> for more details, or contact Dr. John Richardson (jrichard@interchange.ubc.ca) at the University of British Columbia.

Note: this is the weekend just prior to the 2007 SNVB meeting, and just a short ferry ride away.

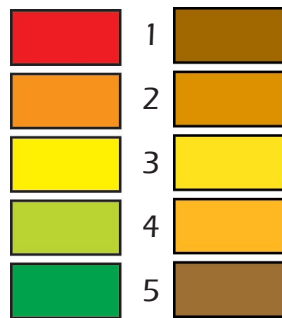
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Why is this important to you? While 5% of your readers or viewers may not seem like many, in my experience, color-blindness seems to occur at a slightly higher level than expected in science-related audiences. And what if that one affected person is the research station director, an important decision-maker, or the person determining your future funding?

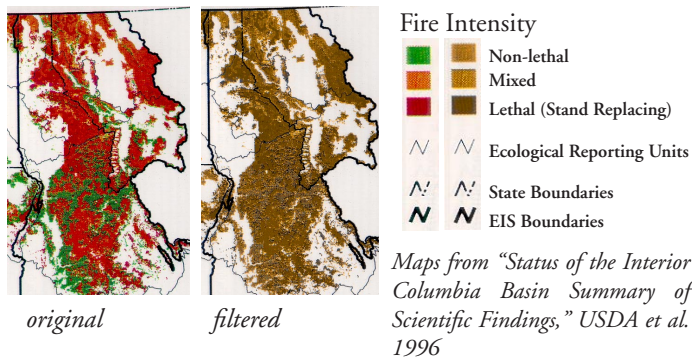
**Examples:**

Suppose the legend to your map or graph looks like the column of boxes on the left. The one on the right shows how it might appear to a color-blind viewer. Oops. Suddenly the values at the extreme ends of the scale look almost identical! And notice the orange and the lime green (2nd and 4th colors) look quite similar as well.



*Don't code critical distinctions in red and green!*

Now imagine that these colors code a map and are distributed in many small irregular shapes across the landscape. Good luck!



The color-blind versions of the scale and map above were produced with Vischeck, a plug-in filter that you can add to Photoshop and some other graphical software. It's very handy for checking your work when making graphs and maps. You can download it from <http://vischeck.com> or just use it on-line at that site (use a low-resolution JPG of your graphic to test or you'll bog the site down).

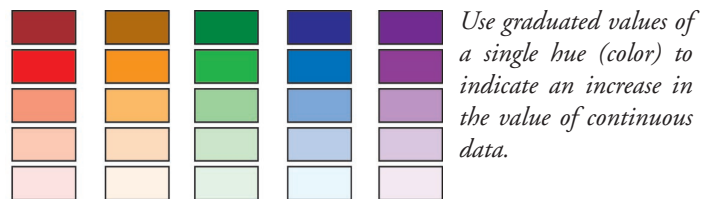
So now you're aware of the problem, but how do you fix it? The first thing to consider is what type of data you're coding – are they continuous, or categorical? If they're continuous – the colors represent increasingly more of some variable – then use lighter to darker shades of a single hue. This makes intuitive sense to every viewer, whether they can identify the color or not. If the data represent something like temperature, a two-color gradient (blue to orange, or even blue to red, with no green or yellow intermediate hues) can sometimes be effective. If the data are categorical, choose colors from the color-blind friendly palette shown below or at least check up on

your work in Vischeck before you call it final. This is especially important with maps. Some excellent sources for ideas for better colors include the U. of Oregon, Dept. of Geography, Data Graphics Research website, <http://www.geography.uoregon.edu/datagraphics/> and the ColorBrewer site, <http://www.personal.psu.edu/faculty/c/a/cab38/ColorBrewerBeta2.html>.

You can also help out color-blind readers and audience members at talks by not referring to areas of a figure by color name – point to them, or call them by their variable name instead. Color names really don't mean much to people who can't see the color. (This was a pretty common mistake in talks at the meeting last March.) Using direct labeling on figures can also help avoid decoding problems with matching legends on maps or graphs to distant colored areas – more about this in a future Graphics Corner.

This is not meant to discourage you from using color in your graphics, especially for maps and slides. However, being thoughtful about color choices can help your graphics communicate more effectively with ALL of your audience, instead of only some of them.

*-- Kathryn Ronnenberg, Murreletter editor*



**Colorblind-friendly Color Palette for Categorical Data**

	RGB	CMYK
<b>black</b>	(0, 0, 0)	(0, 0, 0, 100)
<b>orange</b>	(230, 159, 0)	(0, 50, 100, 0)
<b>sky blue</b>	(86, 180, 233)	(80, 0, 0, 0)
<b>bluish green</b>	(0, 158, 115)	(97, 0, 75, 0)
<b>yellow</b>	(248, 248, 7)	(9, 0, 100, 0)
<b>blue</b>	(0, 114, 178)	(100, 50, 0, 0)
<b>vermillion</b>	(213, 94, 0)	(0, 80, 100, 0)
<b>reddish purple</b>	(204, 121, 167)	(10, 70, 0, 0)

*Note: PowerPoint and other applications designed for on-screen products use the RGB model. Adobe Illustrator and other graphics packages intended for print graphics usually use the CMYK (printer ink) model. What you see on the screen is not what you're likely to get if you print the graphic, and will even vary from printer to printer. Don't guess, test!*

## Update on High Pathogenic Avian Influenza (HPAI)- H5N1 –Doug DeGross

Avian Influenza (AI) has occurred in wild bird populations for decades. Domesticated poultry have usually suffered the greatest mortality due to disease introduced from infected wild birds, along with culling to prevent the spread of the virus. Wild birds serve as carriers of these viruses, but until recently the only wild bird die-off was in 1961, in South African common terns (*Sterna hirundo*). However, since 1997 occurrences of the HPAI-H5N1 virus in wild migratory birds, domestic poultry, and eventually isolated cases in humans, have raised concern about this subtype around the globe. The most recent outbreaks of the HPAI-H5N1, originating in Asia, have spurred die-offs of poultry and wild birds, and have even taken human lives. World Health Organization (WHO) mortality reports related to HPAI-H5N1 include 131 deaths out of 229 cases since 2003, approximately a 57% mortality rate. Until very recently, all human deaths had been among persons who handled or had close contact with infected poultry. The primary concern is that one of the mechanisms for genetic change (genetic drift or genetic shift) may occur within an infected human, and transmission of the HPAI-H5N1 virus from human to human could result in a pandemic outbreak of avian influenza.

This concern became real when a family in Indonesia recently succumbed to HPAI-H5N1. The index case, a 40 year-old woman, was probably in contact with infected animals. Six of her family members, in close contact with her in the late stages of her illness, succumbed to HPAI acquired through human-to-human transmission. Only one family member survived. Luckily, even with this occurrence of human-to-human transmission, there is not yet evidence of a pandemic. In the past year, human cases and wild bird die-offs from HPAI-H5N1 have been recorded in Asia and more recently in Eastern Europe. Wild migratory bird die-offs in western China, Tibet, Mongolia, and now Siberia are believed to be associated with the outbreaks in poultry and infections in humans in Eastern Europe and further west in Asia. In fact, the first evidence of wild bird transmission to humans occurred in Azerbaijan this past June. Four people died after plucking feathers from dead infected swans. Widespread culling of poultry flocks has occurred in many former Soviet Block and Asian countries with increased detection of H5N1 in domestic and wild birds.

Concerns for the spread of the HPAI-H5N1 into North America are well-founded, especially since western North American migratory bird routes overlap with some of the eastern Asia and western Pacific flyways. A National Interagency Wild Bird Strategic Plan has been released in an effort to set monitoring and reporting protocols. With many of our members in contact or close proximity with wild birds and in some cases domestic birds, staying abreast of signs, symptoms, and protocols for reporting or collection of infected birds should be a priority. Links to regularly updated websites for information on AI are given below, in addition to general suggestions from the USGS-National Wildlife Health Center for avoiding contact and infection.

The **General Public** should, as a general rule, observe wildlife, including wild birds, from a distance. This protects you from possible exposure to pathogens and minimizes disturbance to the animal.

- Avoid touching wildlife. If there is contact with wildlife do not rub eyes, eat, drink, or smoke before washing hands thoroughly with soap and water.

- Do not pick up diseased or dead wildlife. Contact your state, tribal or federal natural resource agency if a sick or dead animal is found.

**Field Biologists handling apparently healthy wild birds** in areas where HPAI H5N1 is not suspected should:

- Work in well-ventilated areas if working indoors.
- When working outdoors work upwind of animals, to the extent practical, to decrease the risk of inhaling aerosols such as dust, feathers, or dander.
- When possible, wear rubber or latex gloves that can be disinfected or discarded and protective eyewear or a face shield while handling animals.
- Wash hands often, and disinfect work surfaces and equipment between sites.
- Do not eat, drink, or smoke while handling animals.

**Field Biologists handling sick or dead birds** associated with a mortality event (even slightest chance of AI as the cause) should:

- Follow the recommendations above and at a minimum wear protective clothing, including coveralls, rubber boots, and latex or rubber gloves that can be disinfected or discarded.
- Minimize exposure to mucosal membranes by wearing protective eyewear (goggles) and a particulate surgical mask (NIOSH N95 respirator/mask is preferable).
- Decontaminate work areas and properly dispose of potentially infectious material including carcasses. For additional information see the USGS Field Guide to Wildlife Diseases:  
[http://www.nwhc.usgs.gov/publications/field\\_manual/chapter\\_4.pdf](http://www.nwhc.usgs.gov/publications/field_manual/chapter_4.pdf)
- Do not eat, drink, or smoke while handling animals.

### Avian Influenza Links

World Health Organization (WHO) - Avian Influenza site  
[http://www.who.int/csr/disease/avian\\_influenza/en/index.html](http://www.who.int/csr/disease/avian_influenza/en/index.html)

USGS - National Wildlife Health Center - Avian Influenza site  
[http://www.nwhc.usgs.gov/disease\\_information/avian\\_influenza/index.jsp](http://www.nwhc.usgs.gov/disease_information/avian_influenza/index.jsp)

Pandemicflu.gov site  
<http://www.pandemicflu.gov/>

Center for Disease Control and Prevention (CDC) - Avian Influenza site  
<http://www.cdc.gov/flu/avian/>

**genetic drift** - Random fluctuations in the frequency of the appearance of a gene in a small isolated population, presumably owing to chance rather than natural selection.

**genetic shift** - Shift occurs when two subtypes are introduced to one another in an infected host, and exchange of genetic material occurs resulting in the creation of a new strain.

**pandemic** - Epidemic over wide geographical area affecting a large proportion of the population.

**pathogenic** - Capable of causing disease.



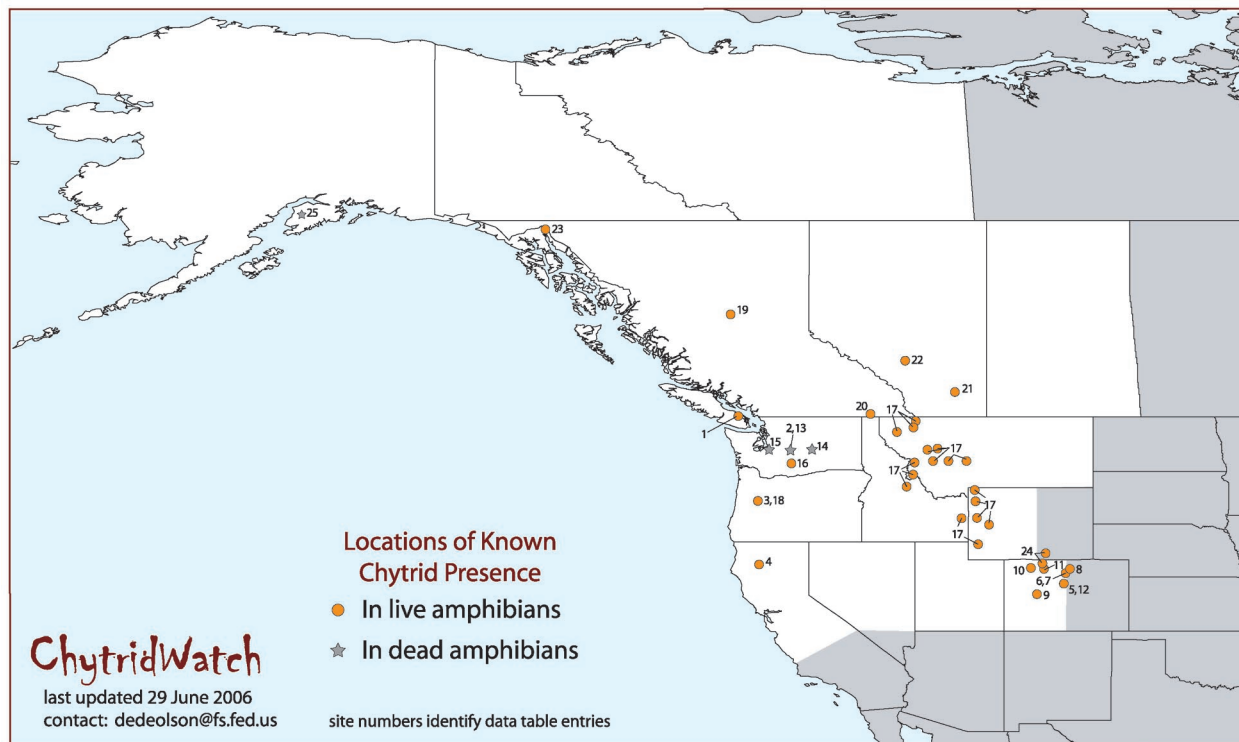
## Chytrid Watch: Bd at a pond near you?

*Batrachochytrium dendrobatidis* (or rather “Bd”) is a chytrid fungus that has been associated with frog mass mortality events (see the article by Marc Hayes in the March 2006 Murreletter). This is an emerging concern in the amphibian decline world, and has now been detected in both living and dead animals in our region. We do not know much about this fungus, including its historic distribution, life cycle and dispersal mechanisms. Sites where it has been detected in amphibians do not always have mass mortality episodes. So what is going on with this life-form and with our regional amphibian fauna?

At the 2006 annual SNVB meeting in Olympia, WA, there was an Amphibian Disease Workshop, as well as a couple of contributed papers on Bd. Meeting participants felt there was

an urgent need to compile and communicate information in our region so that both land managers and biologists can better understand the scale and scope of the emerging Bd issue. I think managers and biologists could use such information as leverage for funds to conduct more studies and collaborate with others already working on this topic, and perhaps help develop species/site management guidelines and communicate disinfection protocols.

The map below shows our compilation of Bd detections to date for the PNW. This is a work in progress, and we invite you to participate! We are updating these as new data are submitted, and foresee a web posting (SNVB and/or PARC Website [Partners for Amphibian and Reptile Conservation]). For more information, or to get a copy of the data table that gives the references for the locations, please contact Dede Olson (dedeolson@fs.fed.us).



### Announcement of the 2006 Annual Meeting of the Canadian Amphibian and Reptile Conservation Network (CARCNET) 27-29 October 2006, Victoria, BC

The 2006 Annual Meeting of the Canadian Amphibian and Reptile Conservation Network (CARCNET) will be held in Victoria, British Columbia, 27-29 October 2006, at the Harbour Towers Hotel and Suites. The bulk of the program will consist of contributed 15-minute talks on Saturday and Sunday, 28-29 October, but two invited keynote speakers also will be featured. Details are still being worked out, so the following registration fees and deadlines are tentative but not expected to change very much. Tentative deadline

for pre-registration and abstract submission is 1 September 2006. Tentative pre-registration (late registration) fees, in Canadian dollars, are as follows:

- Members, non-student - \$70 (\$85)
- Non-members, non-students - \$95 (\$110)
- Student members - \$55 (\$70)
- Student non-members - \$75 (\$90).

The registration desk will open in the late afternoon on Friday, 27 October, and remain open through the duration of the conference. Full registration/abstract submission/accommodation and other information will be posted on the CARCNET website (www.carcnet.ca) when finalized. We encourage all those interested to become CARCNET members (see website for membership information). -- Dr. Pat Gregory, University of Victoria



For more information about the  
**Society for Northwestern Vertebrate Biology**  
check out our Web site:  
<http://www.snwvb.org>

**Plan ahead for the 2007 Annual Meeting**

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**21-24 February 2007**  
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