

News and Notes

WORLD NEWS

Amphibian declines: unraveling the mystery. The apparent mysterious declines of amphibian populations in protected or relatively undisturbed areas was discussed recently by university scientists, government biologists, federal administrators and representatives from non-government organizations at a workshop organized by Dr. James Collins, Dr. Elizabeth Davidson, and Dr. Andrew Storfer from Arizona State University and sponsored by the National Science Foundation in Arlington, Virginia on May 28-29, 1998. On Thursday morning, May 28, strong evidence for declines of amphibian populations in different geographic locations around the world was presented. The group consensus was that there is a global amphibian decline problem, but there is no single cause. Rather, multiple factors are implicated, including: habitat loss and alteration, global change, pathogens, parasites, toxic chemicals, ultraviolet radiation, and invasive species. The potential effects of four of these factors; UV, toxic chemicals, pathogens, and global change, were discussed in detail on Thursday afternoon. On Friday, participants outlined a research and management plan and passed a resolution (below) that summarizes the plan. Follow-up workshops on specific topics were outlined, and the National Science Foundation has already funded a workshop on disease in amphibians in late July 1998.

Resolution: declining amphibian populations. Whereas, there is compelling evidence that, over the last 15 years, there have been unusual and substantial declines in abundance and numbers of populations of various species of amphibians in globally distributed geographic regions, and Whereas, many of the declines are in protected areas or other places not affected by obvious degradation of habitats, and Whereas, these factors are symptomatic of a general decline in environmental quality, and Whereas, even where amphibian populations persist, there are factors that may place them at risk, and Whereas, some patterns of amphibian population decline appear to be linked by causative

factors, and Whereas, declines can occur on multiple scales, in different phases of amphibian life cycles, and can impact species with differing ecology and behavior, and Whereas, there is no obvious single common cause of these declines, and Whereas, amphibian declines, including species extinctions can be caused by multiple environmental factors, including habitat loss and alteration, global change, pathogens, parasites, various chemicals, ultraviolet radiation, invasive species, and stochastic events, and Whereas, these factors may act alone, sequentially, or synergistically to impact amphibian populations, and Whereas, to understand, mitigate and preempt the impacts of these factors, a comprehensive, interdisciplinary research program must be undertaken, and Whereas, this research program must be conducted in several regions around the globe, both in areas of known declines, and in areas where declines have not been documented, and Whereas, this research must examine issues ranging from environmental quality of landscapes to the condition of individual animals. Now therefore be it resolved, the signatories hereto call for the establishment of an interdisciplinary and collaborative research program, which will specify and quantify the direct and indirect factors affecting amphibian population dynamics, and Be it further resolved, that this program will include basic research and monitoring that will test hypotheses of causative factors and examine patterns of change through historical records, field-based correlative data, and controlled, multi-factorial experiments, and Be it further resolved, that interdisciplinary, incident response teams should be assembled in "hot spots" of amphibian decline to identify causative factors to facilitate the mitigation of these sudden declines, and Be it further resolved, that the signatories hereto call upon both public and private agencies and institutions, to promote and support research, policies and conservation measures that will ameliorate losses and declines of amphibian populations, and Be it further resolved, that this broad-based approach to the study of amphibian population dynamics will serve as a model for study of the global biodiversity crisis. *Submitted by*

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ANNOUNCEMENTS

NARCAM. Since 1995, reports of malformed amphibians have increased in number, and public concern for the health of our environment has grown. The North American Reporting Center for Amphibian Malformations (NARCAM) was established as a central repository for information on this phenomenon. With the help of the public and scientists, NARCAM strives to convey an accurate account of the frequency and distribution of malformed amphibians. NARCAM is maintained by the Northern Prairie Wildlife Research Center in Jamestown, North Dakota, a facility of the United States Geological Survey, Biological Resources Division. The United States Environmental Protection Agency provides additional support. NARCAM's worldwide website contains maps on the geographic distribution of reports in North America, along with a description of the type of malformation present at each site. The site also has photos of the different types of malformations that may be encountered. For help in identification of species, NARCAM has a growing online guide to the amphibians of the United States and Canada that most frequently are reported with malformations. The public and researchers can submit information directly through the Web site (<http://www.npwrc.usgs.gov/narcam>) by using an online data reporting form. Individuals who do not have Web access can phone in reports toll-free at 1 (800) 238-9801. The public is urged to report sightings of malformed amphibians. If appropriate, a local biologist will visit the site to confirm the species identity and collect additional information. *Submitted by Jeff A. Jundt, Coordinator, North American Reporting Center for Amphibian Malformations, Northern Prairie Wildlife Research Center, United States Geological Service (USGS)/ Biological Resources Division, 8711 37th Street Southeast, Jamestown, North Dakota 58401, USA. Tel: (701) 253-*

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MEETINGS

Society for the Study of Amphibians and Reptiles and the Herpetologists' League Annual Joint Meeting, 27-31 July 2000, Indiana University Purdue University at Indianapolis, Indianapolis, Indiana.

Two symposiums: amphibian population declines (organized by David M. Green and Karen Lips) and a one-day symposium on herpetological research in zoos: the academic connection. For further information contact Henry R. Mushinsky, Department of Biology, University of South Florida, Tampa, Florida 33620. Tel: (813) 974-5218; email: MUSHINSK@CHUMAI.CAS.USF.EDU

21st Annual Symposium on Sea Turtle Biology and Conservation Philadelphia, USA February 24-28, 2001. For more information reference: <http://www.seaturtle.org/symposium/2001>

WEBSITES

AmphibiaWeb

elib.cs.berkeley.edu/aw

Center for North American

Amphibians and Reptiles

Eagle.cc.ukans.edu/~cnaar/

CNAARHomePage.html

Conservation Breeding

Specialist Group

www.cbsg.org

International Zoo News

www.quantum-conservation.org/IZN/294/

IZN-294.html

Kansas Herpetological Society

eagle.cc.ukans.edu/~cnaar/khs/khsmain.html

Online Herpetologists Directory

www.smoky-hills.com/directory/search.asp

Species Survival Commission

www.iucn.org/themes/SSC

World Conservation Monitoring Centre

www.wcmc.org.uk

World Zoo Organization

www.wzo.org

NEW LITERATURE

Journal—*Advances in Amphibian Research in the Former Soviet Union (AARFSU)* [ISSN: 1310-8840]. Volume

1, Kuzmin, S. L. and Dodd, Jr., C. K. (editors). [ISBN: 954-642-017-4], vi + 233 p. (9 color photos). Volume 2 (ISBN: 954-642-019-0), vi + 189 p., 11 color photos. Format 165 x 235 mm, paperback, color photos, numerous black and white graphs, photos, drawings, figures, maps, and tables. Text in English. US\$34. Kuzmin, S. L. and Wilkinson, J. 1998. Volume 3 (ISBN: 954-642-046-8), 165 x 245 mm, graphs, maps, black and white drawings, and ~ 60 color photographs. Text in English, 245 p. US\$34. Tarkhnishvili, D. N. and Gokhelashvili, R. K. 1999. Volume 4, *The Amphibians of the Caucasus* (ISBN: 954-642-047-6). Format 165 x 235, graphs, color and black and white drawings, photos, tables, and bibliography. Text in English. 240 p. US\$34. Discounts are possible for ordering all three volumes and subscribing to future issues. *Inquiries and ordering information can be obtained from PENSOFT Publishers (Sofia and Moscow-based scientific publishers and booksellers), Dr. Lyubomir D. Penev, Akad. G. Bonchev Street, Block 6, 1113 Sofia, Bulgaria. Tel: +359-2-716451; fax: +359-2-704508; email: pensoft@mbx.infotel.bg; website: www.pensoft.net*

Electronic Journal—*Contemporary Herpetology* (CH). CH is a peer-reviewed electronic journal devoted to herpetology on-line at URL: <http://vmsweb.selu.edu/~pcsd4805>. CH plans to publish articles covering all aspects of herpetology, including ecology, ethnology, systematics, conservation biology, and physiology. CH also plans to publish monographs, points-of-view, and faunistic surveys of poorly known areas but will not publish herpetocultural or anecdotal papers. For more information contact the editor, Joe Slowinski, at tel:(415) 750-7041 (or) by email: jslowins@calacademy.org

LITERATURE

Burbrink, F. T. et al. 1998. A riparian zone in southern Illinois as a potential dispersal corridor for reptiles and amphibians. *Biological Conservation* **86** (2):107-115.

de Silva, Anslam. 1997. Report on the International Conference of the Biology and Conservation of the South Asian Amphibians and Reptiles. *Lyriocephalus*. **3**(1):40-43. [Faculty of Medicine, University of Peradeniya, Sri Lanka]

Gibbons, J. W. 1997. Measuring declines and natural variation in turtle populations: spatial lessons from long-term studies, p. 243-246 in Abbema, J. V. (editor). *International Conference on Conservation, Restoration, and Management of Tortoises and Turtles*. New York Turtle and Tortoise Society, Purchase, New York.

Hager, H. A. 1998. Area-sensitivity of reptiles and amphibians: are there indicator species for habitat fragmentation? *Ecoscience* **5**:139-147.

Halliday, T. 1998. Ecology: a declining amphibian conundrum. *Nature* **394**:418-419.

Lips, K. R. 1998. Decline of a tropical montane amphibian fauna. *Conservation Biology* **12** (1):106-117.

Lovich, J. E. and Gibbons, J. W. 1997. Conservation of covert species: protecting species we don't even know, p. 426-429 in Abbema, J. V. (editor). *International Conference on Conservation, Restoration, and Management of Tortoises and Turtles*. New York Turtle and Tortoise Society, Purchase, New York.

Seigel, R. A., Sheil, C. A., and Doody, J. S. 1998. Changes in a population of an endangered rattlesnake *Sistrurus catenatus* following a severe flood. *Biological Conservation* **83**:127-131.

Webb J. K., and Shine R. 1998. Using thermal ecology to predict retreat-site selection by an endangered snake species. *Biological Conservation* **86**(2):233-242.

BOOKS AND LITERATURE RECEIVED

Points of view on contemporary education in herpetology. *Herpetologica* **54** (2) [Supplement]. S82 p.

Laurance, W. F. and Bierregaard, Jr., R. O. (editors). 1997. *Tropical Forest Remnants: ecology, management, and conservation of fragmented communities*. The University of Chicago Press, Chicago, Illinois. 616 p. (ISBN: 0-226-46899-2).