



# Bleats and Blats

Official Newsletter of the Desert Bighorn  
Council

May 2004



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*Hello everyone,*

*This newsletter includes some important updates regarding transactions, dues, and our next meeting. Remember that you can also check our website (<http://www.desertbighornCouncil.org>) for the latest DBC information. The website could use some new material from you as well. It's a great place to share your photos of bighorn sheep or your fieldwork, and accounts about your research or field projects are welcome.*

*The next newsletter will be out in September, so please send me material by September 1st. You're invited and encouraged to send in materials such as announcements, research updates, or stories about your work with bighorn sheep.*

*Hope to hear from you!*

*Esther Rubin  
DBC Secretary*

*([erubin@sandiegozoo.org](mailto:erubin@sandiegozoo.org))*

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## **DBC TRANSACTIONS UPDATE**

Brian Wakeling, our Transactions Editor, has extended the deadline for papers to be submitted to the DBC Transactions. **So there is still time!!** (...a little bit anyway) If you presented a paper at the last DBC meeting, and haven't yet sent your paper to Brian, it is time to do so! Brian will be accepting papers until **June 15, 2004**. Please check the website for information on formatting and submitting your paper. Manuscripts may be sent to Brian via email, to [bwakeling@gf.state.az.us](mailto:bwakeling@gf.state.az.us) We also want to remind all of you that the Transactions are NOT limited to papers presented at the DBC meetings. Any papers on bighorn sheep ecology, biology, management, and conservation may be submitted for consideration.

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## **DUES UPDATE**

As you all know, our DBC meetings will now be held every other year (in odd-numbered years). The Technical Staff has recently decided to chance the schedule of dues collection, to better coincide with our meetings. It was also decided that a small increase in dues was necessary (but it's still a great deal and goes to an important cause!). Dues will now be \$20, collected every other year (in April of odd-numbered years, when our DBC meeting is held). For an additional \$15, you will receive the most recent copy of the DBC Transactions. You may pay your dues when you register for the meeting or you may renew your membership by returning the membership form which you will find on our website.

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## **MEETING UPDATE**

The next biennial DBC meeting will be held April 6-8, 2005 in Alpine, Texas. That's less than 12 months away! So mark you calendar now to hold those dates open, and start planning to present a paper or come listen to presentations. Meeting Chair, Clay Brewer, and Meeting Co-chair, Billy Tarrant, have been busy planning a great meeting. Don't miss it! Check the website for information and updates.

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## **RECENT LITERATURE** **RELATED TO BIGHORN SHEEP**

*(citations and abstracts)*

Guerrero-Cardenas, I., I. Tovar-Zamora, and S. Alvarez-Cardenas. 2003. **Factors affecting the spatial distribution of the bighorn sheep, *Ovis canadensis weemsi*, in Sierra del Mechudo, B.C.S.,**

**Mexico.** Anales del Instituto de Biología Universidad Nacional Autónoma de México Serie Zoología. 74(1):83-98.

*Abstract*

The importance of some components of the habitat of the bighorn sheep in Sierra del Mechudo, Baja California Sur, was evaluated from February 1998 to March 1999, utilizing techniques of use availability. The analysis was based on six descriptive habitat variables: elevation, slope, orientation of slopes, distance to the escape ground, distance to water and the topofoms. "Use" was considered as the frequency of observation of the sheep recorded in each of the components during one year. "Availability" was defined as the proportion occupied by each component in the study area. It was found that sheep do not utilize the components according to their proportion, as some are preferred (100-200m. elevations; slopes higher than 80%; SE orientation; less than 100 to 200 m distance to water, and hilltops and hill slopes), whereas other components are clearly avoided.

Festa-Bianchet, M., D. W. Coltman, L. Turelli, and J. T. Jorgenson. 2004. **Relative allocation to horn and body growth in bighorn rams varies with resource availability.** Behavioral Ecology 15(2):305-312.

*Abstract*

Males may allocate a greater proportion of metabolic resources to maintenance than to the development of secondary sexual characters when food is scarce, to avoid compromising their probability of survival. We assessed the effects of resource availability on body mass and horn growth of bighorn rams (*Ovis canadensis*) at Ram Mountain, Alberta, Canada over 30 years. The number of adult ewes in the population tripled during our study, and the average mass of yearling females decreased by 13%. We used the average mass of yearling females as an index of resource availability. Yearling female mass was negatively correlated with the body mass of rams of all ages, but it affected horn growth only during the first three years of life. Yearly horn growth was affected by a complex interaction of age, body mass, and resource availability. Among rams aged 2-4 years, the heaviest individuals had similar horn growth at high and at low resource availability, but as ram mass decreased, horn growth for a given body mass became progressively smaller with decreasing resource availability. For rams aged 5-9 years, horn growth was weakly but positively correlated with body mass, and rams grew slightly more horn for a given body mass as resource availability decreased. When food is limited, young rams may direct more resources to body growth than to horn growth, possibly trading long-term reproductive success for short-term survival. Although horn growth of older rams appeared to be greater at low than at high resource availability, we found no correlation between early and late growth in horn length for the same ram, suggesting that compensatory horn growth does not occur in our study population. Young rams with longer horns were more likely to be shot by sport hunters than those with shorter horns. Trophy hunting could select against rams with fast-growing horns.

Epps, C. W., D. R. McCullough, J. D. Wehausen, V. C. Bleich, and J. L. Rechel. 2004. **Effects of climate change on population persistence of desert-dwelling mountain sheep in California.** Conservation Biology. 18(1):102-113.

*Abstract*

Metapopulations may be very sensitive to global climate change, particularly if temperature and precipitation change rapidly. We present an analysis of the role of climate and other factors in determining metapopulation structure based on presence and absence data. We compared existing and historical population distributions of desert bighorn sheep (*Ovis canadensis*) to determine whether regional climate patterns were correlated with local extinction. To examine all mountain ranges known to hold or to have held desert bighorn populations in California and score for variables describing climate, metapopulation dynamics, human impacts, and other environmental factors, we used a geographic information system (GIS) and paper maps. We used logistic regression and hierarchical partitioning to assess the relationship among these variables and the current status of each population (extinct or extant). Parameters related to climate-elevation, precipitation, and presence of dependable springs were strongly correlated with population persistence in the twentieth century. Populations inhabiting lower, drier mountain ranges were more likely to go extinct. The presence of domestic sheep grazing allotments was negatively correlated with population persistence. We used conditional extinction probabilities generated by the logistic-regression model to rank native, naturally recolonized, and reintroduced populations by vulnerability to extinction under several climate-change scenarios. Thus risk of extinction in metapopulations can be evaluated for global-climate-change scenarios even when few demographic data are available.

Bleich, V. C., E. F. Cassirer, V. L. Coggins, L. E. Oldenburg, and D. E. Hunter. 2004. **Predation by a golden eagle, *Aquila chrysaetos*, on a juvenile mountain sheep, *Ovis Canadensis*.** California Fish & Game. 90(2):91-93.

*(no abstract available)*

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*Have a safe and fun summer! ....and look for your next newsletter in September.  
(remember to submit materials by September 1)*