

- Beaufort Sea. Polar Biology. electronic paper DOI 10.1007/s00300-006-0142-5. 6 pages
- Brigham-Grette, J. 2001. New perspectives on Beringian Quaternary paleogeography, stratigraphy, and glacial history. *Quaternary Science Reviews* 20:15-24.
- Brigham-Grette, J., and D. M. Hopkins. 1995. Emergent marine record and paleoclimate of the last interglaciation along the northwest Alaskan coast. *Quaternary Research* 43:159-173.
- CAPE Last Interglacial Project Members. 2006. Last Interglacial arctic warmth confirms polar amplification of climate change. *Quaternary Science Reviews* 25:1383-1400.
- Cuffey, K. M., and S. J. Marshall. 2000. Substantial contribution to sea-level rise during the last interglacial from the Greenland ice sheet. *Nature* 404:591-594.
- Frenzel, B., M. Pecsí, and A. A. Velichko. 1992. Atlas of paleoclimates and paleoenvironments of the northern hemisphere. Late Pleistocene - Holocene. Budapest, Stuttgart, Geographical Research Institute, Hungarian Academy of Sciences, Budapest. 4382.
- Kaufman, D. S., T. A. Ager, N. J. Anderson, P. M. Anderson, J. T. Andrews, P. J. Bartlein, L. B. Brubaker, L. L. Coats, L. C. Cwynar, M. L. Duvall, A. S. Dyke, M. E. Edwards, W. R. Eisner, K. Gajewski, A. Geirsdóttir, F. S. Hu, A. E. Jennings, M. R. Kaplan, M. W. Kerwin, A. V. Lozhkin, G. M. MacDonald, G. H. Miller, C. J. Mock, W. W. Oswald, B. L. Otto-Bliesner, D. F. Porinchu, K. Rühland, J. P. Smol, Steig E. J., and B. B. Wolfe. 2004. Holocene thermal maximum in the western Arctic (0-180°W). *Quaternary Science Reviews* 23:529-560.
- Kurtén, B. 1964. The evolution of the polar bear, *Ursus maritimus* Phipps. *Acta Zoologica Fennica* 108:1-30.
- Miller, S. D., G. C. White, R. A. Sellers, H. V. Reynolds, J. W. Schoen, K. Titus, V. G. Barnes, Jr., R. B. Smith, R. R. Nelson, W. B. Ballard, and C. C. Schwartz. 1997. Brown and black bear density estimation in Alaska using radiotelemetry and replicated mark-resight techniques. *Wildlife Monographs* 133:1-55.
- Monnett, C., and J. S. Gleason. 2006. Observations of mortality associated with extended open-water swimming by polar bears in the Alaskan Beaufort Sea. *Polar Biology*.
- Muhs, D. R., T. A. Ager, and J. E. Begét. 2001. Vegetation and paleoclimate of the last interglacial period, central Alaska. *Quaternary Science Reviews* 20:41-61.
- Muhs, D. R., K. R. Simmons, and B. Steinke. 2002. Timing and warmth of the last interglacial period: new U-series evidence from Hawaii and Bermuda and a new fossil compilation for North America. *Quaternary Science Reviews* 21:1355-1383.
- Muhs, D. R., J. F. Wehmler, K. R. Simmons, and L. L. York. 2003. Quaternary sea-level history of the United States. *Development in Quaternary Science* 1:147-183.
- Overpeck, J. T., M. Sturmfels, J. A. Francis, D. K. Perovich, M. C. Serreze, R. Benner, E. C. Carmack, F. S. Chapin III, S. C. Gerlach, L. C. Hamilton, L. D. Hinzman, M. Holland, H. P. Huntington, J. R. Key, A. H. Lloyd, G. M. MacDonald, J. McFadden, D. Noone, T. D. Prowse, P. Schlosser, and C. Vörösmarty. 2005. Arctic system on trajectory to new, seasonally ice-free state. *Eos* 86(34):309, 312-313.
- Regehr, E., N. Lunn, I. Stirling, and S. C. Amstrup. In Prep. Survival and population size of polar bears in western Hudson Bay in relation to earlier sea ice breakup. *Journal of Wildlife Management*.
- Robbins, C. T., C. C. Schwartz, and L. A. Felicetti. 2004. Nutritional ecology of ursids: a review of newer methods and management implications. *Ursus* 15(2):161-171.
- Rode, K. D., C. T. Robbins, and L. A. Shipley. 2001. Constraints on herbivory by grizzly bears. *Oecologia* 128:62-71.
- Stirling, I., W. R. Archibald, and D. DeMaster. 1977. Distribution and abundance of seals in the eastern Beaufort Sea. *Journal of the Fisheries Research Board of Canada* 34:976-988.
- Stirling, I., N. J. Lunn, and J. Iacozza. 1999. Long-term trends in the population ecology of polar bears in western Hudson Bay in relation to climatic change. *Arctic* 52:294-306.
- Stirling, I. and C. L. Parkinson. 2006. Possible effects of climate warming on selected populations of polar bears (*Ursus maritimus*) in the Canadian Arctic. *Arctic* 59:261-275.
- Talbot, S. L., and G. F. Shields. 1996. Phylogeography of brown bears (*Ursus arctos*) of Alaska and paraphyly within the Ursidae. *Molecular Phylogenetics and Evolution* 5:477-494.
- Welch, C. A., J. Keay, K. C. Kendall, and C. T. Robbins. 1997. Constraints on frugivory by bears. *Ecology* 78(4):1105-1119.

Is Dedication Alone Enough to Save Bears in Greece?

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If one were to attempt to evaluate the commitment of Greece towards the conservation of its most endangered terrestrial carnivore, the brown bear, this year's evaluation would have little reason to paint the country's efforts in brighter colors than it did last year. (See also Karamanlidis 2006.)

Opinion

With little tangible progress in the effective operation of the protected areas of the country and the second phase of the “Egnatia” monitoring project still waiting to be initiated (for more details, see Mertzanis 2005), Greece has done fairly little in 2006 to safeguard the fate of the species. It seems as if the official state relies on the commitment (and logistics) of dedicated individuals and NGOs within the country to protect the species.

In fact, Arcturos and Callisto, two of Greece’s leading NGOs have been very active over the past few months. Following a series of livestock depredation and crop damage incidents in northern Greece, experts from Arcturos met with local stakeholders in order to find ways to mitigate bear-human conflicts and promote adequate compensation schemes. Furthermore, in August, Arcturos recorded the death of a female cub due to a collision with a car. This is the seventh tragic incident of its kind in the last three years recorded by the NGO, and, in view of the increasing trend, Arcturos contacted regional and national administrative authori-

ties to post warning signs on roads frequented by the species.

The newly founded NGO Callisto (see Psaroudas et al. 2004) marked its 2006 summer activities with the organization of two volunteer programs in the Rodopi Mountains. This area is home to the small, eastern population nucleus of the country. Volunteers participated in the monitoring of large carnivores in the area and in the signing of forest trails. In addition, Callisto reported the reappearance of the species, after 65 years of absence, at the mountain of Oiti. This is one of the most southern appearances of the species on the European continent. At the same time, Callisto has also been very active in promoting its campaign towards a holistic approach to the protection of habitat of endangered and rare species of the country, such as the bear and the wolf. Within the framework of these activities, it has requested that the relevant ministry redesign and repeat conservation actions carried out in 2003-2004.

If the year 2005 was characterized as the year of mixed messages (Karamanlidis 2006), the total lack of initiatives for the protection of the species on behalf of the Greek

State in 2006 can be regarded only as sending out the wrong message. Despite the dedicated commitment of local NGOs, one might be tempted to ask whether dedication alone will be enough to ensure the future survival of the species in the country.

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References

- Karamanlidis, A. A. 2006. 2005: a year of mixed messages for the future of brown bears in Greece. *International Bear News* 15(1):11.
- Mertzanis, Y. 2005. Monitoring project update on the Egnatia Highway construction. *International Bear News* 11(1):21.
- Psaroudas, S., Y. Mertzanis and C. Godes. 2004. Callisto, Wildlife and Nature Conservation Society. *International Bear News* 13(4):25.

Eurasia

Brown Bear Status in Greece: 20 years of conservation efforts, 1985-2005

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Remaining brown bear populations consist of two distinct populations

with core ranges located in the Pindos (6,200 km²) and Rhodopi Mountain areas (2,400 km²). The Pindos population is part of the larger Dinara-Pindos population ranging from Slovenia into Greece. This larger population is the largest trans-border bear population in South Eastern Europe. The Hellenic population constitutes the southernmost edge (below 39th parallel) of the brown bear range in Europe.

Prior to the early 1980’s there had been little interest in the fate of the Hellenic brown bear population. However, since the early 1980’s a small number of research programs combined with concerns of a few NGO’s have managed to alert Greek

State authorities the precarious status of brown bear in Greece. As a result between 1987 and 1989 the first large scale national conservation initiative was co-financed by the EU (ACNAT). The initiative aimed to establish conservation actions which initially addressed problems related to bear-human conflict.

Three additional bear conservation projects were co-funded by the EU (under the LIFE Program) between 1994 and 2002; marking the most productive and successful period in brown bear conservation at the national level. Between 2002 and 2005 a pioneer monitoring project was implemented in northeast Pindos