

12 April 2004

The Honourable Bill Barisoff  
Minister of Water, Land and Air Protection  
PO Box 9047 STN PROV GOVT  
Victoria, BC V8W 9E2  
Canada

Re: Review of progress on recommendations by the Grizzly Bear Scientific Panel.

We, members of the Grizzly Bear Scientific Panel, have reviewed changes related to grizzly bear management in British Columbia one year since submission of our final report (6 March 2003). We believe the Ministry of Water, Land and Air Protection (MWLAP) has made reasonable progress toward implementing our recommendations on population estimation and harvest management. We were encouraged by the letter from Minister Murray dated 7 May 2003 stating the MWLAP's intent to act on all 19 of our recommendations. However, we recognize, as does MWLAP, that our recommendations varied in the amount of time and effort required for their full implementation.

We had anticipated more progress on identification and establishment of Grizzly Bear Management Areas (GBMAs), representative regions where bears would not be hunted. Nevertheless, we do not believe that the delay in establishing these has or will compromise the sustainability of grizzly bear hunting in the short-term.

The panel continues to believe, as stated in our original report, that grizzly bear harvest management in British Columbia is being conducted within a scientific and regulatory framework that is adequate to avoid significant or widespread harvest-induced declines in grizzly bear abundance in British Columbia. However, the viability of grizzly bear populations in BC ultimately depends on maintenance of suitable habitat, which in our view is still an impending concern. It is important that sufficient priority be given to the problem of safeguarding grizzly bear habitat over the long term.

The following details our impressions regarding progress on our recommendations, grouped into the five categories corresponding to those in our previous report.

### **Estimation of Grizzly Bear Numbers**

Recommendations in our final report dealt with improving the Fuhr-Demarchi (F-D) method of estimating grizzly bear numbers. The MWLAP has made significant progress in improving the F-D (habitat-based) method, and in developing a new, multiple regression (MR) estimator that was applied to most interior populations. The MR uses additional data as benchmarks for population estimates, in accordance with our recommendation for better benchmarking.

A shortfall of the MR method is that it is based largely on two rather coarse variables, mean annual rainfall, which probably relates to vegetational food production, and presence or absence of salmon. These variables, and others related to human impacts on habitat and bear mortality, explained only 62% of the variation among densities of 33 interior benchmark populations from within and outside BC. Predictions for bear numbers made from this rather simple regression are prone to significant error, as certainly the factors affecting density are far more complex than captured by this model. However, in comparing results of the MR versus midpoint values from the old F-D method for each GBPU, we observed that the MR method tended to produce lower and hence more conservative estimates. A benefit of the MR approach over the F-D method is that the regression model provides a measure of uncertainty in the derived population estimates, which is useful in managing harvest risks.

We recommend continuation of efforts to improve the MR model by 1) evaluating additional variables, especially those that could better reflect changes in habitat suitability and mortality rates over time, and 2) conducting sensitivity analyses to examine the effect on the regression of choices for benchmark areas, particularly those areas outside of BC. We also recommend that the Province seek outside peer review of the MR approach by bear biologists and statisticians.

Ultimately the MWLAP should strive to unify their population estimation methods for all GBPUs. Meanwhile, the multi-method strategy seems satisfactory for managing harvest. Use of the improved F-D approach to estimate coastal populations appears reasonable given that the MR estimate for the one reference coastal population is clearly too high. The Panel believes that the new F-D model, including the process and inputs is better documented and standardized than the previous approach, especially the procedure for calculating the F-D step-down for mortality.

## **Risk Management**

Acceptable progress has been made in implementing our recommendations regarding risk management. We had recommended that the MWLAP attempt to obtain precise population estimates, but we also recommended that error and uncertainty in these estimates be accounted for through conservatism in harvest allocation. Accordingly, the MWLAP has 1) reduced the maximum allowable human-caused mortality rate from 6% to 5%, 2) altered the harvest management process to include a step in which the allowable known human-caused mortality rate for each GBPU is reduced based on uncertainty in population size and an associated level of acceptable risk, and 3) adjusted the sliding scale for maximum rate of human-caused mortality to correspond with habitat effectiveness rather than habitat capability. These additional efforts to reduce the risks of over-harvest, combined with the harvest restrictions that were already in place, provide a framework for risk management that includes greater safeguards against over-exploitation than grizzly/brown bear harvest management procedures used in other jurisdictions with which we are familiar.

## **Administrative Process**

Progress has been made in addressing our recommendation regarding documentation of the processes for estimating population sizes and allocating harvest. A MWLAP report on this process will be available in April, 2004. We recommend that another report be prepared documenting the basis for population estimates and harvest allocation for each GBPU, since some of the steps are subjective and GBPU-specific.

We had also recommended better joint planning among the ministries responsible for managing grizzly bears and their habitat. The MWLAP plans to update the Grizzly Bear Conservation Strategy, which we believe is necessary but probably not sufficient to increase inter-agency cooperation relative to grizzly bear conservation. We strongly encourage acceleration of the Sustainable Resource Management Planning (SRMP) process in high priority grizzly bear areas. The planning process should be responsive to grizzly bear management needs.

## **Habitat Issues**

We recognize that the process for making land management decisions is complicated, controversial, and long-term. Nevertheless, we think issues involving human access and silvicultural practices in high quality grizzly habitat need to receive a much higher priority. We do not believe that land management issues can be adequately addressed solely through revision of the Grizzly Bear Conservation Strategy. Policy statements in the Strategy must result in on-the-ground actions. For example, access management plans such as the one proposed for the North Cascades specifying no net loss of prime grizzly bear "Core Area" habitat should be implemented in other high priority grizzly bear areas as soon as possible.

We previously encouraged the MWLAP to go forward with the provision in the current Grizzly Bear Conservation Strategy regarding establishment of no-hunting GBMAs. The MWLAP currently has the administrative ability to do so, and this process has started in some regions. We encourage the establishment of benchmark GBMAs in all eco-provinces with significant grizzly bear populations and support the MWLAP proposal to consult with the public on the designation of additional GBMAs in conjunction with the population objective setting process in 2005. We encourage MWLAP to complete this process by the end of 2006.

## **Research Needs**

Research and monitoring provides long-term benefits to inform the Province about its resources. We believe progress has been made as evidenced by the number of ongoing and planned projects such as the Nation DNA inventory, the Parsnip grizzly bear study, a planned DNA inventory project in southwestern BC, continuance of the Flathead study, and West Slopes trend monitoring. It is unclear whether budgetary cutbacks may affect the extent of research and monitoring in the near future. We recommend this work as a

continued high priority. We believe that ongoing research and monitoring programs are essential elements of a grizzly bear hunting management strategy.

We regret that one of our panel members, Francois Messier, was unable to participate in this review due to the press of other duties.

Sincerely,

Original Signed By

James Peek, University of Idaho (Chair)

John Beecham, Beringia South

David Garshelis, Minnesota Department of Natural Resources

Sterling Miller, National Wildlife Federation

Dale Strickland, Western EcoSystems Technology, Inc.