

Monitoring Grizzly Populations in Western Montana



Montana Fish Wildlife Dept

Like Yellowstone, A Population Monitoring Program Will Be Required Post-Delisting...



Montana Fish Wildlife Dept

What Constitutes Population Monitoring for Grizzlies?

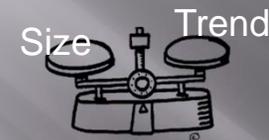
1. Population Size
2. Population Trend
3. Geographic Distribution of Bears
4. Genetic Health
5. Mortality

- Must Be Accurate...
- Affordable.....
- Feasible at Large Scale....
- Provide Multiple benefits...



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Credible Population Monitoring Techniques For Bears:



Females with Young



DNA from Hair



Radioed Bears



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Counting Females and Young for Population Size

The collage features a photograph of a brown bear with its cubs in a natural setting. Below it is the cover of a 'WILDLIFE MONOGRAPHS' book. To the right is a map of the Pacific Northwest and Great Basin regions, highlighting 'Recovery Ecosystems' in various colors. The map includes labels for British Columbia, Alberta, Washington, Oregon, Idaho, Montana, and Wyoming. A legend for 'Recovery Ecosystems' lists: 1. North Cascades, 2. Selkirk/Columbia/Yaak, 3. Northern Continental Divide, 4. Bitterroot, and 5. Yellowstone. A 'MAP DETAIL' inset shows a zoomed-in view of the study area. Copyright information for CFWT 2007 is visible at the bottom.

Monitoring Female Bear SURVIVAL is the KEY

The top photograph shows a dead bear lying on a dirt path, with two people standing in the background. Below it is a photograph of three bears (cubs, yearlings, subadults, and adults) in a grassy field. Text on the right side reads: 'Yellowstone Monitoring Requirement: * Survival by age-class of bear based on radioed bears'. At the bottom, the text says 'Cubs, yearlings, subadults and adults'.

DNA Hair Sampling

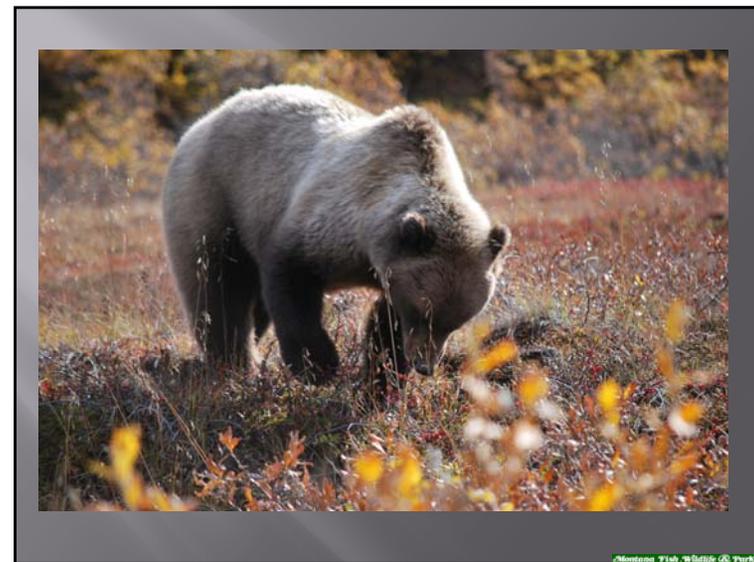
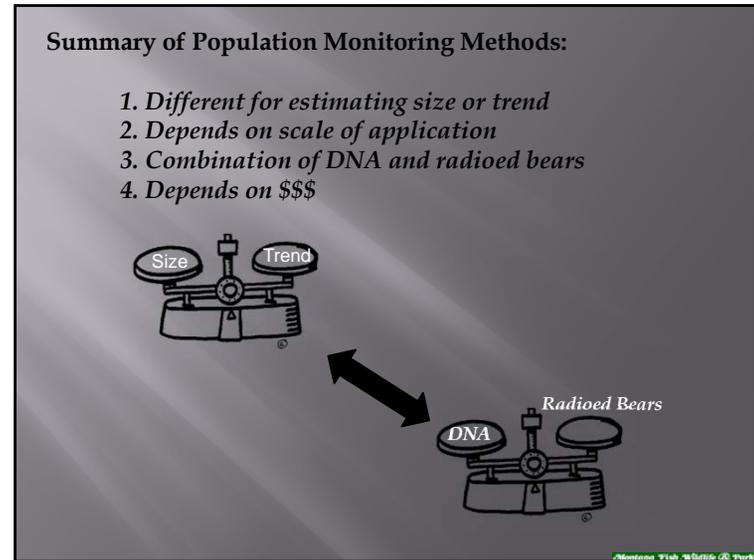
The 'Hair-traps' photograph shows a hair trap set in a forest. The 'Rub-Trees' photograph shows a bear rubbing its body against a tree trunk. A diagonal text overlay reads: 'Can not get bear AGE from DNA'.

- Population Size (2004)
- Genetic Health
- Distribution
- Accurate
- 3-5 Million \$\$ each time

- Population Trend (?)
- Genetic Health
- Distribution
- Apparent Survival
- not Real Survival

Apparent vs. Real Survival:

The diagram compares 'Apparent' and 'Real' survival. The 'Apparent' side shows a hair trap with a pink arrow pointing to it and the text 'DNA not detected: assumed DEAD'. The 'Real' side shows a bear walking and a dead bear lying on the ground with a pink arrow pointing to it and the text 'DEAD is DEAD'.



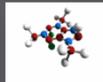


Scat-sniffing Dogs



- Experimental technique...
- Never used in mgmt programs.....
- Each dog requires a handler...
- Challenging at Large-scales...
- Difficult in rugged/dense terrain...
- May be useful for simple small surveys....

50% Failure rate in getting DNA from Scat!



Montana Fish Wildlife & Parks