

From: [Shoemaker, Rebecca](#)
To: [Landenburger, Lisa A -FS](#)
Subject: RE: CEM rationale in Proposed Rule
Date: Wednesday, October 01, 2014 11:08:03 AM

thanks Lisa! Edit incorporated.

From: Landenburger, Lisa A -FS [lalandenburger@fs.fed.us]
Sent: Wednesday, October 01, 2014 9:05 AM
To: Dixon, Bev -FS; Shoemaker, Rebecca
Subject: RE: CEM rationale in Proposed Rule

Rebecca,

Sorry for the delay in getting back with you regarding the CEM paragraph. My first thoughts, after reading the CEM rationale, were there are additional reasons for abandoning the CEM. But I think Bev's comments make sense. Another major reason is that the model would need to be completely revamped to accommodate the geospatial data formats used today. (The model was written for ArcInfo coverage format, which is obsolete since it is no longer supported with current GIS software). But, perhaps this would be seen only as a reason of inconvenience? Finally, I would include grazing allotments as a baseline parameter in your last sentence:

Instead, the Study Team will assess and mitigate human-caused changes to grizzly bear habitat through maintenance of the 1998 baseline values for developed sites, grazing allotments and secure habitat

Lisa Landenburger
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From: Dixon, Bev -FS
Sent: Tuesday, September 30, 2014 7:30 AM
To: Shoemaker, Rebecca; Landenburger, Lisa A -FS
Subject: RE: CEM rationale in Proposed Rule

Hey Rebecca – Though I'm not familiar with either of the citations used (Boyce, Brocowski), your paragraph below makes sense to me, and sounds reasonable for the delisting proposal. There is certainly more to be said about the CEM database itself; e.g. accuracy, precision, consistency, format, cost to maintain/update... but that discussion may be more appropriate for the conservation strategy. If you two decide you want to include that info in a CS update at some time, I'd be happy to help. Just let me know.

From: Shoemaker, Rebecca [<mailto:rebecca.shoemaker@cfc.umt.edu>]
Sent: Monday, September 22, 2014 8:20 AM
To: Landenburger, Lisa A -FS
Cc: Dixon, Bev -FS
Subject: RE: CEM rationale in Proposed Rule

hi Lisa & Bev,

Here's my draft language so far...i would LOVE a review & feedback. I think we would discuss this in more detail in the actual conservation strategy (if needed) but I'm open to other approaches.

thanks! rebecca

In the 2007 Delisting Rule, we reported habitat quality and effectiveness values for 1998 using the Cumulative Effects Model and associated 1998 habitat data (U.S. Fish and Wildlife Service 2007, pp. 52–53). Since 1998, the value of the Cumulative Effects Model has been questioned (Boyce *et al.* 2001, p. 32). Specifically, the validity of all the coefficients cannot be verified or ground-truthed and without statistical defensibility cannot be used meaningfully (Boyce *et al.* 2001, p. 32; Brocowski 2006, pp. 85–87). While the Cumulative Effects Model provided an index of relative change in habitat quality over time, it has never been able to predict grizzly bear habitat use or preference or relate habitat to changes in population parameters. Because we no longer consider the Cumulative Effects Model to represent the best available science, we are no longer relying on or reporting measures of habitat quality or effectiveness using it. Instead, the Study Team will assess and mitigate human-caused changes to grizzly bear habitat through maintenance of the 1998 baseline values for developed sites and secure habitat.

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From: Landenburger, Lisa A -FS [<mailto:lalandenburger@fs.fed.us>]
Sent: Thursday, September 18, 2014 10:56 AM
To: Shoemaker, Rebecca
Cc: Dixon, Bev -FS
Subject: CEM rationale in Proposed Rule

Hi Rebecca,

Just wondering if you have plans to provide the rationale for abandoning the CEM included in the Proposed Rule.

Dan Tyers has been talking a lot with Louisa Wilcox lately about her concerns of the delisting etc, and the CEM is proving to be one of the bigger bones of contention (not unexpectedly). I think it would be appropriate to be proactive and up front about the rationale behind this decision. If you do decide to include a statement on this, Bev Dixon (Wildlife Biologist on the GNF whose Master's thesis was on the GYE CEM) says she'd be glad to discuss this with you and/or to review what you have written. I too can help with that when the time comes. Please let me know what you're thinking. Thanks Rebecca.

Lisa Landenburger

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