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**From:** <Steve\_Rigby@blm.gov>  
**To:** <Steve\_Rigby@blm.gov>  
**Date:** 12/12/2006 11:50:22 AM  
**Subject:** Re: Raptor Mitigation Meeting, Bear Canyon Mine

Steve  
Rigby/PFO/UT/BLM/  
DOI

To  
Betsy\_Herrmann@fws.gov

12/12/2006 11:12 AM cc  
david\_waller@blm.gov, Dale Harber  
<dharber@fs.fed.us>, Diana\_Whittington@fws.gov,  
Gregg\_Hudson@blm.gov, James\_Kohler@ut.blm.gov,  
Janell\_Suazo@fws.gov, Jeff\_McKenzie@blm.gov,  
JERRIANNERNSTSEN@utah.gov, joehelfrich@utah.gov, Karl M Boyer  
<kboyer@fs.fed.us>, leroymead@utah.gov,  
mreynolds@etv.net, pamgrubaughlittig@utah.gov,  
rplayer@fs.fed.us, Stan\_Perkes@ut.blm.gov,  
Steve\_C\_Madsen@blm.gov, Steve\_Falk@blm.gov,  
Sue\_Burger@blm.gov, SWRigby@blm.gov, twlloyd@fs.fed.us,  
waynehedberg@utah.gov

Subject  
Re: Raptor Mitigation Meeting, Bear  
Canyon Mine(Document link: Steve  
Rigby)

Betsy,

These are excellent recaps!!

The Maleki report, "Modeling of Castlegate Sandstone Escarpment Stability", July 2001, was to complete an analysis of the stability of the Castlegate Sandstone escarpment with two objectives: "(1) evaluate surface subsidence and the stability of the Castlegate Sandstone escarpments and (2) analyze the distances that unstable material may travel after mining." Maleki

Technologies, Inc., uses models and comparative analysis techniques to evaluate the escarpment stability. To quote the report, "To assess escarpment stability, the area of interest was divided into 158 study cells. For each cell, escarpment and canyon geometries were characterized using base maps provided by C. W. Mining and field observations. An instability index was calculated using the Rockrisk computer program and decades of experience in the mine area."

The report does not lend one to believe that Maleki knew of any nesting raptors or the consequences of escarpment failure. It was completed to try to "quantify" instability by assigning levels to the "likelihood" of spalling -- low, medium, and high to each cell. The location of nests have been added to the maps subsequent to the completion of the stability report.

I hope this clarifies the position of the Maleki report.

Please let me know if you have any questions.

Thanks,

S. Rigby

Betsy\_Herrmann@fw  
s.gov

12/12/2006 09:57  
AM

To  
Steve\_Falk@blm.gov  
cc

david\_waller@blm.gov, Dale Harber  
<dharber@fs.fed.us>,  
Diana\_Whittington@fws.gov,  
Gregg\_Hudson@blm.gov,  
James\_Kohler@ut.blm.gov,  
Janell\_Suazo@fws.gov,  
Jeff\_McKenzie@blm.gov,  
JERRIANNERNSTSEN@utah.gov,  
joehelfrich@utah.gov, Karl M Boyer  
<kboyer@fs.fed.us>,  
leroymead@utah.gov,  
mreynolds@etv.net,  
pamgrubaughlittig@utah.gov,  
rplayer@fs.fed.us,  
Stan\_Perkes@ut.blm.gov,  
Steve\_C\_Madsen@blm.gov,  
Sue\_Burger@blm.gov,  
SWRigby@blm.gov, twlloyd@fs.fed.us,  
waynehedberg@utah.gov

Subject

Raptor Mitigation Meeting, Bear  
Canyon Mine



**Co-op Mine – Raptor Mitigation Plan**

Dec. 11, 2006

Step 1. Site Specific Analysis

Consider all nests in project area. For each, consider the following:

- A. Identify where is the nest located
- B. Determine whether it will be impacted by escarpment failure. Identify reasons why or why not (e.g., Escarpment failure risk zone, CDOT Rolling Rock Analysis, etc.)

If the nest will potentially be impacted by escarpment failure, then continue:

- C. Describe nest (type of nesting structure, types of materials used)
- D. Identify possible alternative nest sites in vicinity -- Identify whether these alternative nests are within the zone of potential escarpment failure
- E. Identify well-used roosts in the vicinity
- F. Include photos of the nests and alternative nesting sites
- G. Describe the timing of panel extraction (e.g. possible season of impact)
- H. Identify possible nesting territories
- I. Past history analysis of mining under nests (Molecki study?)

Step 2. Mitigation Options for each nest\*

- A. Timing of potential impact (e.g. avoidance of breeding season, approximately Feb. 1 – mid-July in this area)
- B. Fencing nests (Remove fencing post-project)
- C. Fencing other suitable locations (Remove fencing post-project)
- D. Bird diverter device on the fencing
- E. Stabilization of nests
- F. Scent enhancement or deterrent
- G. Nest destruction
- H. Noise deterrent
- I. Improve alternate nest sites

\*Human Health and Safety is always the top priority.

## **Co-op Mine – Raptor Mitigation Plan – Meeting Minutes**

Dec. 11, 2006

Meeting discussion topics:

### **1. Discussion of Take under BGEPA and MBTA.**

- What requires a permit - differences b/t BGEPA and MBTA
- What defines "disturbance" - Diana handed out FWS bald eagle Proposed Rule (2006) that has a good working definition for disturbance.

### **2. Discussion on the 10-mile radius requirement for Permits**

- What if there's not complete survey knowledge within this area?
- Discussion as to whether more surveys would yield significantly more data. The existing data is very good, plus Hawk Watch is doing a Raptor Radii study (draft by end of 2006). With the amount of data we have in the general area, it is unlikely that the FWS Permitting office would require further surveying efforts. Would probably want to get Permitting personnel to weigh in to ensure this is the case.

### **3. Discussion of site-specific analysis**

- Discussed idea of developing a matrix to help determine for each nest whether mitigation is needed and what the options are.

### **4. Mitigation Possibilities**

- Fencing - difficulty of access may preclude this in some locations
- Discussed bird diverter methods such as firefly flapper, "scarecrow", scent, and noise. Bill Russell (DOD) in Maryland is an acoustics expert who may be helpful.
- Permitting -- needs to be done well ahead of time (how far? 6 months? 1 year?) to ensure permit is in place prior to mining activity in that panel.
- Need to develop more mitigation options.

### **5. Coordination**

- Discussed at what point Wildlife Buffer Team should be notified, coordinated with. No clear consensus at this point. Coordination process needs to be spelled out.