

From: [Jesse Grantham](#)
To: [Joseph Brandt](#)
Subject: Fw: Follow-up on the 238 'fragment'
Date: 10/05/2010 05:46 PM

FYI

----- Forwarded by Jesse Grantham/VFWO/R1/FWS/DOI on 10/05/2010 05:46 PM -----

"Bob Risebrough"
<pelecanus@igc.org>

10/03/2010 04:43 PM

To "Bruce A. Rideout" <brideout@sandiegozoo.org>
cc "Smith, Donald R." <smith@etox.ucsc.edu>, "Finkelstein, Myra" <myraf@ucsc.edu>, "Grantham, Jesse" <jesse_grantham@fws.gov>
Subject Follow-up on the 238 'fragment'

Bruce - I have retrieved the correspondence about the 'fragment' recovered from the casting of 238; three of the messages are attached. The casting and a growing feather were retrieved by Michaela at the LA Zoo, before the carcass went to you, and sent to Katie Parmentier at UCSC. Katie recovered what was apparently some metallic material but did not find a pellet. Don's analysis indicated that whatever it was, it was not lead and it was not therefore a shotgun pellet.

For several of the California lead-associated mortalities, including that of 238, from my perspective there is no 'smoking gun' link with ammunition lead used by hunters and for that reason the evidence can not be considered to be "overwhelming" - in California, although it surely is in Arizona.. Quite possible, yes, but no strong supporting evidence.

Your reference to one of the lead toxicity cases in California being related to an "attack" by a golden eagle might be modified; the carcass of 175 was scavenged by an eagle but there is no convincing evidence of an attack.

Please forgive the tone of the review I sent on Friday. I was in a rush and there was no time for a revision.

Bob

----- Message from "Donald Smith" <smith@etox.ucsc.edu> on Wed, 3 Sep 2008 14:25:12 -0700 -----

To: "R.W.Risebrough"
<pelecanus@igc.org>, <Jesse_Grantham@fws.gov>, "Myra Finkelstein" <myraf@ucsc.edu>
cc: "Myra Finkelstein"

FWS017640

<myraf@ucsc.edu>

Subject: fragment

Hi Bob and Jesse,

I did a concentrated nitric acid leach on the fragment and analyzed by atomic absorption and the results show a low (background) Pb content. So, it is clear without question to me that it is not lead – it is still a bit puzzling because it looks metallic and can be scraped to generate scrapings like a metal, but ...

I think this closes the door on this fragment. There was nothing else visible in the pellet that could be considered a fragment, and this would clearly show on a radiograph of the bird.

On a separate subject, I would like to discuss with you both the need to search for and secure some larger stable funding to support these kinds of efforts. Pursuing this work on a sample by sample cost basis is not the way to go, though we need to have the support base to rapidly and thoroughly respond to events like this and get the needed information to where it can be of help. I know that Chris is still awaiting to hear on the section 6 funding, but I would like to ratchet up the efforts to get funding to support statewide efforts that could involve the lead issue, the possible DDT and marine mammal feeding thing, the egg failures, etc. Let me know what you both think and if there is a path that seems productive.

Best
don

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Donald Smith, PhD  
Microbiology and Environmental Toxicology  
Physical Sciences Bldg., Rm. 442  
University of California  
Santa Cruz, CA 95064  
(831) 459-5041  
(831) 459-3524 fax  
[smith@etox.ucsc.edu](mailto:smith@etox.ucsc.edu)  
<http://www.etox.ucsc.edu/>

----- Message from "Kathryn Parmentier" <kparmen@etox.ucsc.edu> on Wed, 21 May 2008 13:55:58 -0700 (PDT) -----

**To:** michaelamkoenig@yahoo.com

**cc:** smith@etox.ucsc.edu, pelecanus@igc.org, jesse\_grantham@fws.gov,  
rgwiazda@gmail.com

**Subject:** 238's feather arrived

Hi Michaela,

Thanks for sending 238's feather - it's remarkable how long the sheath is! We will be able to cut it open and retrieve the vane inside in order to obtain the newest part of the feather with the most recent lead

incorporation, so it is great that the whole feather was collected the way it was by the folks at the zoo - good work.

Question for you: the casting you sent is in a plastic container with a label written on it indicating the casting was collected on April 8, 2008 and that the lead fragment inside of it matched an x-ray taken of 238 while he was still alive on April 7, 2008. I am under the impression that the month may be wrong given that the feather information all indicates 238 came to the zoo in May. Could you help clear these dates up?

Second question: the information with the feather indicates that Joseph brought 238 to the zoo on May 6th. Do you have an idea of how many days before the 6th that you realized 238 was sick or do you have any idea when he may have been exposed? This is important because 238 died on May 11th, and in order for the lead event to be captured in the feather vane we hypothesize it takes approximately two weeks for it to show up. If you have any idea about the exposure date, this will be of great help to us.

Thank you so much for your help and hopefully we can get some good results from this feather!

Take care,  
Katie

----- Message from "Donald Smith" <smith@etox.ucsc.edu> on Wed, 3 Sep 2008 13:35:19 -0700 -----

**To:** "R.W.Risebrough"  
<pelecanus@igc.org>,  
<Jesse\_Grantham@fws.gov>,  
"Terra Kelly"  
<terra\_kelly@hotmail.com>,  
"Christine Kreuder Johnson"  
<ckreuder@ucdavis.edu>,  
"Myra Finkelstein"  
<myraf@ucsc.edu>

**Subject:** condor 238 fragment

Hi Folks,

I worked yesterday to x-ray the casting from 238 that purportedly had a fragment in it (with the generous help of our campus vet, Dave Casper). This is the casting the Katie had dissected under a dissecting scope and retrieved several 'fragments' that she thought were metal, but which I believed were bone pieces. Those fragments did not contain lead, but appeared to be very high in Ca (which interferes with Pb analyses).

After reading the autopsy report, I went back to the casting and we x-rayed it, and there was very clearly a single radio-opaque fragment in the casting that I was able to dissect out. The fragment, which appeared to be metal based on visual inspection, measured about 1 mmx1mmx3mm in dimension. Today I leached it with weak nitric acid and analyzed it first on the Atomic Absorption Spectrometer, which did not show high lead levels. I then went to the Optical Emission Spectrometer to analyze for a suite of metals (silver, bismuth, copper, tin, lead, tungsten, chromium, zinc, and antimony), and found that the leachate was void of all of these metals, with the exception of a little lead (2 ppm in the leachate) and possible tin. Normally, a lead fragment will generate a leachate that is 10,000 – several 100,000 ppm under these conditions.

I have contacted others in the earth science dept to possibly analyze it by x-ray diffraction, which can be done on the solid fragment. At this point I can say that it does not appear to be lead (in spite of its physical appearance), but other than that it is not clear. There is a slim chance the fragment has some coating on it that reduced the leachability of lead or other metals, but I do not think this was the case. I may try a concentrated acid leach, and will wait to here about the xrf option.

Thanks  
don

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Donald Smith, PhD
Microbiology and Environmental Toxicology
Physical Sciences Bldg., Rm. 442
University of California
Santa Cruz, CA 95064
(831) 459-5041
(831) 459-3524 fax
smith@etox.ucsc.edu
<http://www.etox.ucsc.edu/>