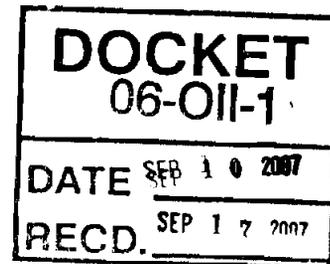


From: Misa Ward
To: Docket Optical System
Date: 9/17/2007 11:49 AM
Subject: Fwd: RE: Statistical question on Guidelines Appendix G
Attachments: RE: Statistical question on Guidelines Appendix G

Please docket this for 06-OII-1. Thanks!

N. Misa Ward, Biologist
California Energy Commission
1516 Ninth Street - MS 40
Sacramento, CA 95814
P: 916.651.9010; F: 916.651.8868



From: "Day, John" <Jday@co.santa-barbara.ca.us>
To: "Misa Ward" <Mward@energy.state.ca.us>
Date: 9/10/2007 9:29 AM
Subject: RE: Statistical question on Guidelines Appendix G

CC: "Day, John" <Jday@co.santa-barbara.ca.us>, "Drude, Kevin" <Kevin@co.sant...
Misa,

I appreciate your giving consideration to my inquiry. I am left with concern that the regression will be misunderstood to be a formula for predicting raptor kill rates at new sites. That would be inappropriate, given the large number of other variables at play and the lack of data for any site with intermediate raptor use. I hope your additional caveats are very clear, to avoid misleading the public into reading too much into the regression.

Thank you,
John

-----Original Message-----

From: Misa Ward [mailto:Mward@energy.state.ca.us]
Sent: Monday, September 10, 2007 8:12 AM
To: Day, John
Subject: FW: Statistical question on Guidelines Appendix G

Hello John,
Here is an email exchange between Drs. Pollock and Sanders regarding your comment.
Misa

-----Original Message-----

From: pollock@ncsu.edu [mailto:pollock@ncsu.edu]
Sent: Friday, September 07, 2007 6:41 PM
To: Susan Sanders
Cc: pollock@unity.ncsu.edu
Subject: Statistical question on Guidelines Appendix G

Dear Susan,
Sorry I took a while to get to this. I partially agree with the author of this comment. Any time one uses regression one should be aware that there could be other important hidden or unmeasured variables. The book "How to lie with statistics" has some very amusing examples of nonsensical relationships that can result. I always mention these examples and when I teach my design class I also emphasize the weakness of observational studies compared to designed experiments. I also state that one cant imply causation on the basis of a regression relationship alone.

On the other hand I think and emphasize to my students that regression is used all the time and is a very powerful tool. I suggest some caveats just need to be added to the guidelines but I certainly wouldn't take out the figure and I certainly think the regression approach is useful here.

It just is not feasible to use stronger experimental approaches in field

ecology at the scale we need to for important questions.

On a somewhat related point one has a plausible conceptual and mechanistic biological model of why the probability of striking a turbine is increased by more bird use of a site. Clearly, however, that model could be enhanced by other variables like wind patterns, seasonality, species differences in flying patterns etc. I only mention this because when we cant do experiments we have to have a plausible biological mechanistic models for relationships we see using the regression method.

Ken

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