

An Exercise in Scientific Integrity: Uncovering the Truth Using Primary Documents

Investigations into alleged encroachments on scientific integrity typically begin either with leaked documents or information provided by whistleblowers (employees who report misconduct such as fraud, safety violations, or corruption). The next phase of investigation, depending on the issue, involves writing letters to and conducting interviews with the relevant people, and obtaining all the documentation available.

Frequently, requests for additional agency documentation are filed under the Freedom of Information Act (FOIA). This process can take anywhere from months to years to complete, and court orders are sometimes needed to force an agency to release information. Media coverage can also be a vital tool in pressuring reticent agencies to acknowledge misconduct.

The following real-life examples are meant to recreate the experience of a researcher looking into federal scientific integrity issues. Excerpts from primary documents are provided along with some background facts, allowing you to draw your own conclusions. For each example, write a short essay explaining the issue at hand, what you are able to surmise from the information provided to you, and whether or not scientific integrity was compromised. Your argument should be reasonable and supported with evidence.

I. Edits to Climate Documents

In the spring of 2005, Rick Piltz, a senior associate with the Climate Change Science Program (CCSP, a federal agency responsible for integrating the climate change research of 13 federal agencies), announced his resignation. Among his reasons, Piltz alleged that Philip Cooney, then chief of staff of the White House Council on Environmental Quality, inappropriately edited CCSP scientific documents. These changes, Piltz said, “had a cumulative effect of shifting the tone and content of an already quite cautiously-worded draft to create an enhanced sense of scientific uncertainty about climate change and its implications.” (The full text of Piltz’s resignation memo can be found at http://pubs.acs.org/subscribe/journals/esthag-w/2005/jun/policy/figures/Piltz_Memo.pdf.)

Cooney previously worked for the American Petroleum Institute, a lobbying group for the oil industry. Two days after Piltz released his memo, Cooney left the White House to take a job at ExxonMobil. The documents below, provided by Piltz, show handwritten edits that Cooney made to two 2002 draft reports by the CCSP.

03 Many scientific observations ^{indicate} ~~point to the conclusion~~ that the Earth ^{may be} ~~is~~ undergoing a period of are likely
04 relatively rapid change on timescales of decades to centuries, when compared to historical rates of
05 change on similar timescales. Much scientific evidence indicates that these changes ~~are~~ the result of
06 a complex interplay of several natural and human-related forces. ~~may be~~

Cooney Edits, Sample #1

13 Climate Network, which uses data from several thousand meteorological stations around the
 14 world. The satellite imagery was used to construct Normalized Difference Vegetation Indices
 15 (NDVIs), which serve as surrogates for plant growth. The findings indicated an increase since
 16 1982 in the Eurasian growing season of nearly 18 days, while that in the U.S. increased by 12
 17 days. Longer growing seasons are likely to be reflected in changes in plant life cycles and
 18 associated insects and disease, and possibly in the migratory patterns of associated wildlife
 19 Further research is needed to document fully the carbon cycle aspects of increased growing
 20 season length. However, the findings could potentially indicate enhanced carbon uptake in parts
 21 of the Northern Hemisphere.

*Balance?
 how about
 more food
 and
 forest
 products?
 for
 humanity?*

Cooney Edits, Sample #2

20 Against the backdrop of these natural forces, humans have become agents of
 21 environmental change, at least on timescales of decades to centuries. Emissions of
 22 greenhouse gases and pollutants, and extensive changes in the land surface, have
 23 potential consequences for global and regional climate. They also influence air quality,
 24 the Earth's protective shield of stratospheric ozone, the distribution and abundance of
 25 water resources and many plant and animal species, and the ability of ecosystems to
 26 provide life-supporting goods and services.

*ever as the quality of living
 standards for billions of people
 has improved
 monumentally
 in the
 past
 century
 and a half.
 (which
 is largely tied to
 the widespread enjoyment of
 modern
 living
 standards)
 development and*

Cooney Edits, Sample #3

17 Warming ~~will~~ *would* also cause reductions in mountain glaciers and advance the timing of the melt
 18 of mountain snow packs in polar regions. In turn, runoff rates ~~will~~ *would* change and flood
 19 potential ~~will be~~ altered in ways that are currently not well understood. There ~~will be~~
 20 significant shifts in the seasonality of runoff that will have serious impacts on native
 21 populations that rely on fishing and hunting for their livelihood. These changes will be
 22 further complicated by shifts in precipitation regimes and a possible intensification and
 23 increased frequency of extreme hydrologic events. Reducing the uncertainties in current

*straying from
 research
 strategy into
 speculative
 findings pursued
 here.*

Cooney Edits, Sample #4

30 models for role-playing. The Intergovernmental Panel on Climate Change (IPCC) has
 31 made extensive use of scenarios to drive climate models, although the model outputs
 32 have seen limited use in studying the impacts of climate change. Other qualitative and
 33 quantitative scenarios have been used extensively in assessments of the potential
 34 consequences of climate change for particular sectors and regions in the United States.

*highly
 controversial*

Cooney Edits, Sample #5

II. Edits to Endangered Species Research

On November 9, 2004, the U.S. Fish and Wildlife Service (FWS) issued a “not warranted 90-day finding” for the white-tailed prairie dog, an action that prevents further study to determine whether an animal should be considered for protection under the Endangered Species Act (ESA). Scientists within the agency leaked a series of documents showing that Julie MacDonald, a deputy assistant secretary in the U.S. Department of the Interior, had inappropriately edited their scientific findings.

The FWS scientists say their research showed that the white-tailed prairie dog was threatened and that further study should be conducted in preparation of an ESA listing. They allege MacDonald reversed this finding.

complete volume of data on oil and gas industry development relative to prairie dog colonies. And while both documents clearly identify current and projected threats to the species including mortality and habitat loss, fragmentation, and degradation, the identified threats are speculative and neither document provides substantial scientific information supporting the speculation.

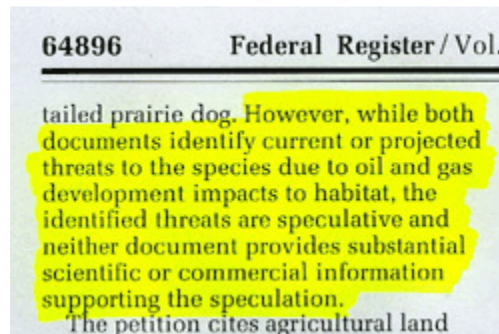
The petition cites agricultural land conversion and urbanization as causing some losses of white-tailed prairie dog habitat on a local scale. In Montana, historic land conversions for agricultural purposes have contributed to white-tailed prairie dog range

Deleted: However,

Deleted: We believe further evaluation of the extent of leasing and current and projected oil and gas development is necessary to complete a thorough assessment of the direct, indirect, and cumulative effects of oil and gas development to white-tailed prairie dogs and their habitat. Further evaluation also is necessary to determine if such development is currently or is likely to result in significant impacts to the species either singly or in combination with other factors such as plague.

Deleted: and Conservation Assessment

MacDonald Edits, Sample #1



*MacDonald Edits, Sample #2
(same excerpt as Sample #1, in the final published decision)*

Just spoke with Chris Nolan and Kurt Johnson. Julie McD and the Department want to go with a not warranted 90-day finding. Julie suggested we go with her version of the document sent to us last week. Kurt is working on incorporating her edits into the newest version. A draft will be available in an hour for anyone who would like to read it.

MacDonald Edits, Sample #3
(internal FWS email)

unsatisfactory (U.S. General Accounting Office 1988, 1991). Because 55 percent of

white-tailed prairie dog occurs on BLM land, this is an important consideration.

However, neither the Petition nor the Assessment provide substantial scientific

information demonstrating that overgrazing and fire suppression are a present or

threatened source of habitat loss. Any habitat losses due to fire suppression or over-

grazing are the result of historic practices rather than current practices. ▼

Deleted: there is a need to evaluate the influence of rangeland health to white-tailed prairie dog viability (Seglund et al. 2004).

Based on the preceding discussion, we believe that substantial information

indicating that present or threatened destruction, modification, or curtailment of habitat or

range may, rise to the level of a threat to the continued existence of the species over a

significant portion of the species range. ▼

Deleted: is available

Deleted: either singularly or in combination with other factors,

Deleted: We will evaluate this factor further in our status review

MacDonald Edits, Sample #4

Assessment and the petition both reference BLM's finding that 68 percent of the public rangelands are rated as degraded or unsatisfactory (U.S. General Accounting Office 1988, 1991). Because 55 percent of white-tailed prairie dog occurs on BLM land, this is an important consideration. However, neither the petition nor Conservation Assessment provide substantial scientific information demonstrating that livestock grazing or fire suppression are threatened or present sources of habitat loss.

Based on the preceding discussion, we do not believe that substantial information is available indicating that present or threatened destruction, modification, or curtailment of habitat or range may, either singularly or in combination with other factors, rise to the level of a threat to the continued existence of the species over a significant portion of the species range. While factors affecting habitat are in some cases (e.g., oil and gas development, grazing, fire suppression) occurring across the range of white-

MacDonald Edits, Sample #5

(same excerpt as Sample #4, in the final published decision)