OFFICE OF
INSPECTOR GENERAL
U.S. DEPARTMENT OF THE INTERIOR

EVALUATION REPORT

Interior Lacks a Scientific Integrity Policy

Report No. WR-EV-MOA-0014-2009

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United States Department of the Interior

OFFICE OF INSPECTOR GENERAL
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Memorandum

To: Secretary Salazar

From: Mary L. Kendall
Acting Inspector General

Subject: Evaluation Report Titled "Interior Lacks a Scientific Integrity Policy"
(Report No. WR-EV-MOA-0014-2009)

This memorandum transmits our report detailing the results of our evaluation of the Department of the Interior's (Interior) scientific integrity policies. Specifically, our objective was to determine whether codes of conduct for scientific research and publication exist and in what form. We reviewed all scientific integrity policy documents within Interior issued in the years 2000 through 2009.

We found that Interior has no comprehensive scientific integrity policy and only one of its bureaus has such a policy. In addition, we found that Interior has no requirement to track scientific misconduct allegations. Without policies to ensure the integrity of its scientific research, Interior runs the risk that flawed information will reach the scientific community and general public, thereby breaching the public's trust and damaging Interior's reputation. The time for a comprehensive scientific integrity policy at Interior is, therefore, long overdue.

The report contains two recommendations, which, if implemented, will serve to assure accuracy and accountability in Interior's science and protect against misconduct.

Should you have any questions about this report, please do not hesitate to contact me at (202) 208-5745.

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Acronyms

U.S. Department of the Interior ..... Interior
Research and Development Council ..... Council
Office of Management and Budget ..... OMB
U.S. Fish and Wildlife Service ..... FWS
U.S. Geological Survey ..... USGS
National Park Service ..... NPS
Office of Inspector General ..... OIG
White House's Office of Science and Technology Policy ..... OSTP
U.S. Department of Health and Human Services ..... HHS

Synopsis

The Department of the Interior (Interior) has never had, and currently operates without, a scientific integrity policy. Further, it has no requirement to track allegations of scientific misconduct, and its discipline and adverse action policy is deficient to the point that scientific misconduct deeds could go unpunished. Without sound policies to protect the scientific community and general public from potentially flawed scientific research, data, and publications, Interior's reputation and its public trust are at risk.

Interior's mission is, in part, to protect and manage the Nation's natural and cultural resources. This responsibility includes producing accurate and reliable information about those resources. Scientific research and development programs are essential for carrying out this mission. To this end, Congress appropriates billions of dollars for Interior's scientific endeavors. In fiscal years 2008 and 2009, Congress set aside more than $1.4 billion for Interior scientific research projects. Given the emphasis on Interior's science programs, a comprehensive policy should be in place to ensure sound scientific practices. To date, Interior has never had a comprehensive scientific integrity policy.

In this report, we make two recommendations, which, when implemented, will serve to assure accuracy and accountability in Interior's science and protect against misconduct.

Introduction

The mission of the Department of the Interior (Interior) is, in part, to protect and manage the Nation's natural resources and cultural heritage and to develop and use scientific information about those resources. To this end, Interior funds a variety of scientific research studies. Without sound policies to protect the scientific community and general public from potentially flawed scientific research, data, and publications, Interior's reputation and its public trust are at risk.

Background

Congress appropriates billions of dollars for federal scientific research and development. In fiscal years 2008 and 2009 alone Congress appropriated to Interior more than $1.4 billion for scientific research projects. The Research and Development Council (Council) uses investment criteria created by the Office of Management and Budget (OMB) to evaluate program relevance, quality, and performance.

Figure 1. Atlantic Salmon Smolt. These salmon are one of the species Fish and Wildlife Service has targeted for recovery.

Science projects are conducted both internally by employees and externally by contractors. Interior science projects include, but are not limited to, oil spills, geologic hazards, acid mine drainage, Everglades restoration, geologic studies, desalination, climate change and biological research.

For many years Interior has advocated the importance of scientific integrity. In its current strategic plan, Interior has touted that "Integrity must remain the foundation of all Department of the Interior science: impartiality, honesty in all aspects of scientific enterprise, and a commitment to making that information available to the public as a whole." The Secretary stated that one of his priorities "will be to lead the Interior Department with openness in decision-making, high ethical standards, and respect for scientific integrity."

Scientific integrity is necessary for Interior to ensure the science it uses fulfills its mission. Interior has already found itself in situations which illustrate the need for an Interior-wide scientific integrity policy. One example is a case that garnered media and congressional scrutiny when the then Deputy Assistant Secretary for Fish, Wildlife and Parks was found to have unduly influenced a critical habitat designation. The fallout resulted in having to republish the corrected designation, but even more damaging was the effect on the public's trust in Interior. In another example, a National Park Service (NPS) senior science advisor for Point Reyes National Seashore misrepresented research regarding sedimentation, failed to provide information sought after from a Freedom of Information Act request, and misinformed individuals in a public forum regarding sea life data, which put into question NPS' scientific integrity.

Figure 2. Pine Rocklands, some of which are located in Everglades National Park, restoration has been the objective of some Fish and Wildlife Programs.

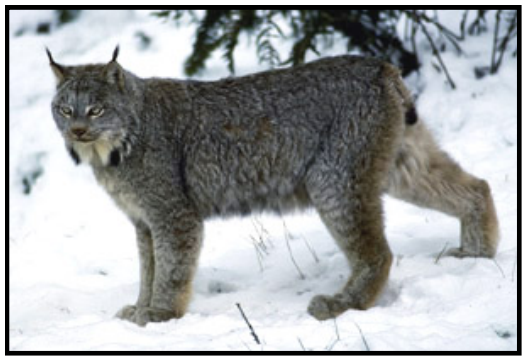

Figure 3. The Canada Lynx was listed as threatened under the Endangered Species Act in 2000.

In yet another example, the Office of Inspector General (OIG) conducted an investigation of scientific misconduct by Fish and Wildlife Service (FWS) biologists who submitted unauthorized samples that could have tainted the results of a Canada Lynx Survey.

Findings

Interior has never had a comprehensive scientific integrity policy, or any requirement to track scientific misconduct allegations. A decade ago, the White House's Office of Science and Technology Policy (OSTP) required all executive office agencies to implement scientific integrity policies that would address scientific misconduct.[1] Further, in a 2002 investigative report, OIG recommended that Interior develop a code of scientific ethics. Despite this, Interior has failed to implement a comprehensive scientific integrity policy. The lack of a comprehensive policy leaves not only Interior, but those who rely upon its scientific information, vulnerable to tainted data and misinformed decisions and, as a consequence, could have a negative effect on public trust.

No Comprehensive Scientific Integrity Policy

Failed Draft Policy

Interior has no comprehensive scientific integrity policy. In 2007, the Secretary convened the Research and Development Council made up of representatives from each bureau, which replaced Interior's Science Board. The purpose of the Council was to assist in the planning, coordinating, and assessing of agency strategic science priorities, and to provide a forum for discussion of research and development activities to enhance scientific innovation and the effective use of science for decisions made by Interior officials. This Council drafted a policy for the Departmental Manual titled, "Integrity of Scientific Activities and Code of Scientific Conduct." Unfortunately, this policy was never finalized. According to Interior officials, a decision was made to delay the adoption of the policy. This was due to several reasons, such as the bureaus' inability to reach consensus and the impending administration change.

Regardless of the reasons for failure, Interior has not implemented a comprehensive scientific integrity policy, despite having been aware of the requirements to have such a policy for more than a decade. (See Figure 4.)

[1] See appendix 2 for detailed information about federal policies regarding the establishment of scientific integrity requirements

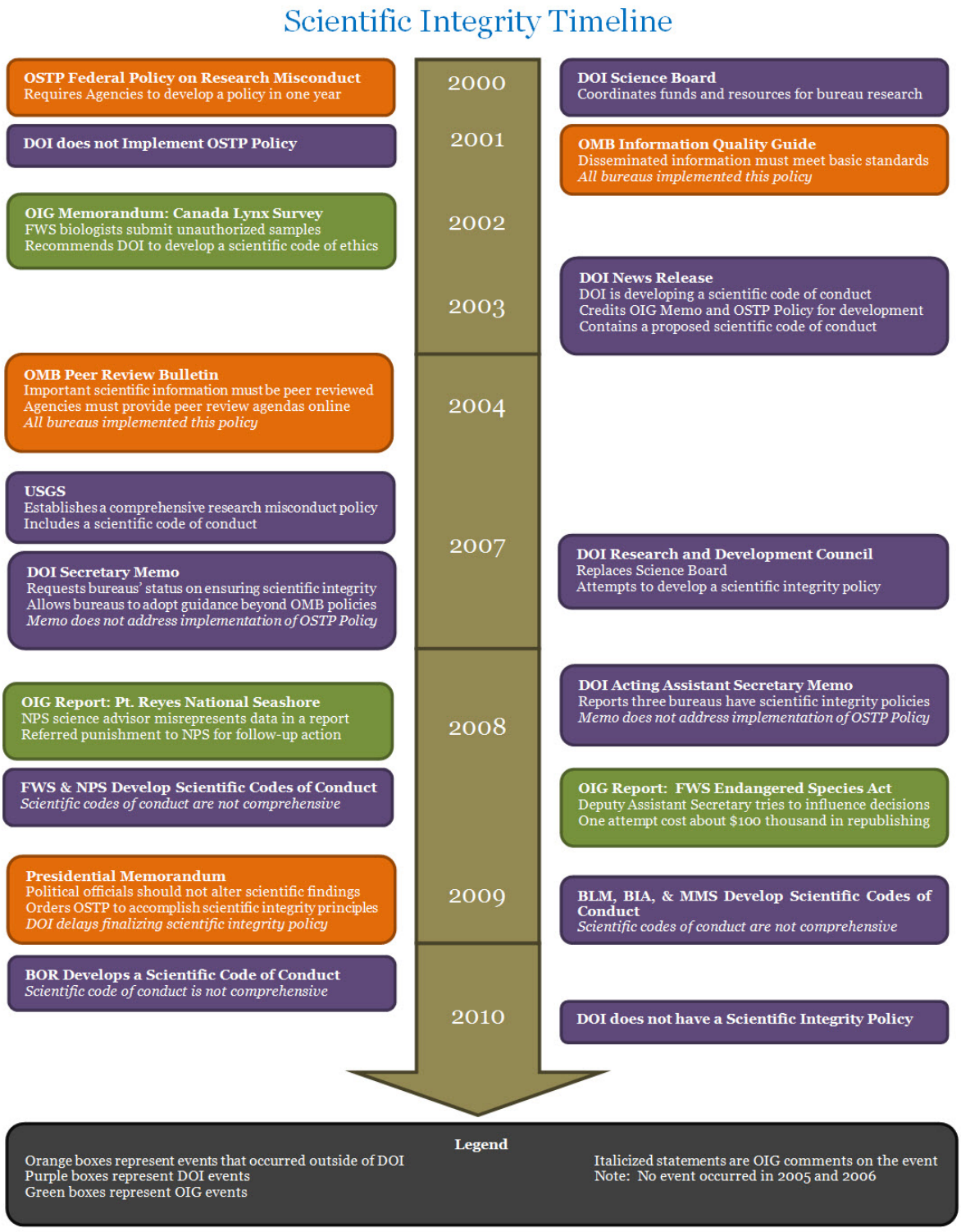

Figure 4. Timeline of the Department's Scientific Integrity from 2000 through 2010

Responsibility Delegated to the Bureaus

In 2007, Interior issued a memorandum that required Bureau directors to determine whether individual bureaus needed to implement new guidance beyond what was required by OMB. The memo, however, failed to refer to the 2000 OSTP policy on scientific research misconduct, which required new policy.

An October 2008 memo from the Acting Assistant Secretary for Water and Science to the Secretary stated that 3 bureaus (U.S. Geological Survey (USGS), FWS, and Office of Surface Mining) have "fully implemented scientific integrity guidance documents." USGS, however, was the only bureau to have implemented a comprehensive scientific integrity policy. Other bureaus developed a scientific code of conduct, but the policies did not address the research misconduct requirements outlined by OSTP. Further, the bureau policies fail to address many scientific integrity issues. (See Appendix 3.)

No Requirement to Track Misconduct Allegations

With the exception of the USGS policy, Interior has no policy in place to consistently address scientific misconduct allegations. At National Park Service (NPS) allegations are handled at the field office level and are never escalated to the attention of higher level management. One of the elements incorporated into the USGS scientific integrity policy is a reporting requirement, which provides that all service-wide research misconduct allegations be reported annually.

Promising Practices

Many executive office agencies and other respected science institutions, including Stanford University, Purdue University, National Science Foundation, Department of Transportation, Department of Energy, and Department of Health and Human Services (HHS), have implemented comprehensive scientific integrity policies covering all employees and contractors to protect agency-produced science. We found that more than half of the President's 15 cabinet offices have scientific integrity policies in place. (See Figure 6.)

Whitehouse Cabinet Level Departments with Scientific Integrity Policies

Departments
Agriculture
Education
Energy
Health and Human Service
Homeland Security
Labor
Transportation
Veteran Affairs

Figure 6. This table lists the cabinet offices that have scientific integrity policies.

At Interior, USGS scientific integrity policy is the only one that meets OSTP requirements. USGS accomplished this, in part, by setting forth rights and responsibilities of individuals involved in scientific research along with providing detailed processes on how to conduct inquiries and investigations into allegations of scientific misconduct and the requirements for reporting them. Furthermore, the policy provides timelines to ensure a speedy process. This policy, however, could be improved by adopting other Federal agencies' processes. For example, HHS has procedures for handling allegations of research misconduct as well as practices to deter it. If an incident of research misconduct is found to have occurred, a summary of the case is posted on the HHS website for public viewing. In addition, HHS proactively attempts to prevent research misconduct by providing training and programs, for both internal and external research, to teach responsible research protocol and promote research integrity. HHS also provides newsletters and annual reports on research misconduct. All of these things help provide the public with an assurance that research done within HHS is of the highest level of integrity. (See Appendix 4.)

Conclusions

Because science is an essential component in Interior's decision-making and mission accomplishment, Interior has the responsibility to ensure its scientific integrity. To date, Interior has no comprehensive policy that serves to assure accuracy and accountability in its science and protect against misconduct. Past examples of lapses in scientific integrity illustrate the need for appropriate policies and controls commensurate with the level of importance that science plays in Interior.

An Interior-wide comprehensive scientific integrity policy is long overdue and should not be relegated to the bureaus. We found that the policy created by USGS supplemented by HHS's processes to track and report misconduct can serve as a model for Interior. We have outlined the components of the USGS and HHS policies in Appendix 4 of this memorandum.

Recommendations

We recommend to the Secretary that Interior:

1. Develop and implement an Interior-wide comprehensive scientific integrity policy that addresses required elements of the OSTP scientific misconduct policy, to include provisions for both internal and external scientific research, applicable to all agents, appointees, employees and contractors involved in researching and publishing scientific results of any kind, include a misconduct allegation reporting requirement, and a range of disciplinary actions.
2. Designate a responsible official to guide the development and implementation of an Interior-wide scientific integrity policy and to oversee the bureaus implementation and application of the policy.

Appendix 1

Objective, Scope and Methodology

The objective of our evaluation was to research existing Federal and Interior guidance related to scientific integrity and to determine whether codes of conduct for scientific research and publication exist and in what form. The Codes of Conduct for the purposes of our review includes any measures and or policies that ensures the integrity of scientific research. Our scope included all documents relating to Interior's scientific research policy from calendar years 2000 through 2009. In addition, we:

- reviewed all applicable laws, rules and regulations and Interior and bureau policies related to scientific research;
- interviewed Interior and bureau officials regarding scientific integrity policy;
- reviewed bureaus' scientific budget justifications for fiscal years 2008 and 2009; and
- reviewed the OMB guidance from 2001 and 2004 regarding Information Quality and Peer reviews and OSTP policy from 2000 regarding scientific research misconduct.

Our review did not include determining the extent or effectiveness of the Information Quality Guide, Peer Review processes, or scientific integrity policies from other agencies.

Appendix 2

Governmentwide Scientific Integrity Requirements

The Federal government has long advocated the highest level of integrity in all aspects of the executive branch's involvement with scientific processes. We found three Federally-issued directives that serve to ensure scientific integrity. Two directives issued by the Office of Management and Budget (OMB) on information quality (issued in 2001) and peer review (issued in 2004), which serve to ensure that Federally funded information released to the public is accurate and reliable. All Interior bureaus implemented the OMB directives. The third directive was issued by the White House's Office of Science and Technology Policy (OSTP) in 2000, which required all executive office agencies to implement scientific integrity policies that would address research misconduct. For more than three decades OSTP has directed agencies in developing and implementing sound science and technology policies.

OSTP requires a research misconduct policy for each Federal agency. The research misconduct policy should include the following:

- A definition of research misconduct and the elements of a research misconduct finding;
- Instructions for handling research misconduct allegations and adjudication, including standards for objectivity and timeliness;
- Safeguards for informants and subjects of allegations; and
- Possible administrative actions for research misconduct findings.

In March 2009, President Obama issued a memorandum that required each agency to have appropriate scientific integrity rules and procedures and that when scientific or technological information is considered in policy decisions it must be subject to well established scientific processes. The memorandum went on to state that agencies are required to have procedures to identify and address instances when information may be compromised.

Appendix 3

Scientific Research Misconduct Policy Comparison

		DOI	BIA	BLM	BOR (Temporary Release 1-11-2010)	FWS	MMS	NPS	OSM	USGS (Issued 1/2007)
White House's Office of Science and Technology Policy *Policy on Research Misconduct Requirements*	Misconduct Defined	✗	✗	✗	✗	✗	✓	✗	✗	✓
	Requirements for Findings of Research Misconduct *(significant departure from accepted practices of relevant research community; intentional, knowing, reckless; and, proven by preponderance of evidence)*	✗	✗	✗	✗	✗	✗	✗	✗	✓
	Responsibilities of Federal Agencies and Research Institutions **Referral of Allegations* **Response to Allegations* **Inquiry* **Investigation* **Adjudication* **Agency follow-up to Institutional Action* **Institutional Notification of the Agency*	✗	✗	✗	✗	✗	✗	✗	✗	✓
	Guidelines for Fair and Timely Procedures: **Safeguards for Informants* **Safeguards for Subjects of Allegations* **Objectivity and Expertise* **Timeliness* **Confidentiality*	✗	✗	✗	✗	✗	✗	✗	✗	✓
	Agency Administrative Actions **Seriousness of the Misconduct* **Possible Administrative Actions*	✗	✗	✗	✓	✓	✗	✗	✗	✓
	Scientific Code of Conduct Statements	✗	✓	✗	✓	✓	✓	✗	✗	✓

✗ - indicates lack of policy

✓ - indicates policy in place

Appendix 4

A Model Policy Based on USGS and HHS Policies

Integrated Comprehensive Scientific Integrity Policy		
	USGS	HHS
Scientific Research Conduct Guidelines - Provides guidance to employees who engage in scientific activities to promote scientific integrity	✓	✓
Review Panel - Responsible for conducting an investigation - Appointed and must not have a conflict of interest with the investigation	✓	✓
Policy to Handle Allegations of Misconduct - Criteria necessary to establish research misconduct - Initial inquiry to determine if an investigation is warranted - Investigation, if warranted, to determine if research misconduct has occurred - Handled in a manner to protect the rights of all involved as much as possible - Completed in a timely manner	✓	✓
Disciplinary Actions - Includes all employees and contractors - Includes possible disciplinary actions	✗	✓
Record Keeping - Number of allegations of scientific misconduct - Whether scientific misconduct was found - Disciplinary actions taken	✓	✓
Public Viewing - Incidents of research misconduct are available for public viewing via agency website	✗	✓
Education - Provides regular training on research misconduct - Distributes newsletters on a regular basis regarding research misconduct	✗	✓
Allegation Reporting Process	✓	✓

✗ - indicates lack of policy

✓ - indicates policy in place

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