Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

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Hearing on "The Endangered Species Act: Reviewing the Nexus of Science and Policy"
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Chairman Broun, Ranking Member Edwards, and members of the committee, thank you for the invitation to participate in this hearing. My name is Francesca Grifo. I am a Senior Scientist and the Director of the Scientific Integrity Program at the Union of Concerned Scientists, a leading science-based nonprofit working for a healthy environment and a safer world. I am pleased to have the opportunity to discuss ecologic and economic issues surrounding the Endangered Species Act (ESA) and the policy implications of strengthening scientific integrity. This testimony contains an overview of why endangered species matter, how protecting endangered species also protects jobs and our economy, the effectiveness of the ESA, an overview of the problem of political interference in science, and updated summary of documented abuses of science in ESA decisions, and progress to date made by the formation of a scientific integrity policy at the Department of the Interior.

The Endangered Species Act, with its foundation in science, and its worthy goal of protecting our nation's valuable and fragile biodiversity, should be preserved. The ESA has worked well if not perfectly. But the law itself has been threatened by political interference and a lack of accountability and transparency. Only when these problems are vigorously addressed, can the ESA fulfill its mission and serve the American public.

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I. Introduction

The Endangered Species Act is a strong and significant environmental law, but its implementation is wearing thin under the assault of political pressures form all three branches of the federal government and the states. This failure to insulate science-based decision making from political considerations frequently lands the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) in court, as is manifest in the multiple recent legislative attacks on the Act, and it frustrates efforts by agency scientists to do their jobs.

In the last administration, politicization of the science surrounding the Endangered Species Act undermined its implementation and enforcement. The pervasive manipulation and suppression of this science was not limited to one aspect of the execution of the Act; rather it was rampant from the first steps of the listing process to the creation of recovery plans of critically endangered species. In addition, the FWS and NMFS failed to establish a transparent means of implementing the Act to impose a clear code of ethics. Instead, the agencies allowed political appointees within and without the conservation agencies to interfere with individual species decisions and promulgate policies that reduced the role of science in endangered species decision-making.

Recovering for so many years of political interference has not been easy, but there are signs of hope.

Currently, the Department of the Interior is struggling to implement and expand its precedent setting scientific integrity policy. If this new policy takes hold, the next few years will bring a renewed commitment to transparent decision making, and a working environment free of interference and intimidation from high level political appointees so that the career scientists and managers of the conservation agencies will be able to identify and correct the processes that led to the abysmal situation in the last administration.

We know that Americans care about the protection of endangered species. Many polls over many years document that most Americans agree on the importance of preserving our nation's rich and unique natural heritage. A recent poll conducted by the Endangered Species Coalition found that 92 percent agree that decisions about wildlife management and which animals need protection should be made by scientists, not

politicians; 90 percent agree that the ESA has helped hundreds of species recover from the brink of extinction; and 87 percent agree that the ESA is a successful safety net for protecting wildlife, plants and fish from extinction.[1] The goal of the ESA is to conserve endangered and threatened species and the ecosystems on which they depend. For species that have been listed and provided protection under the ESA, some of that purpose has been achieved.

2. Why We Need to Protect Endangered Species

The ESA is our best and strongest tool to conserve biodiversity at the species and ecosystem levels. That biodiversity conveys significant benefits, providing food, fiber, medicines, clean water, and myriad other ecosystem products and services on which we depend every day. Consider, for example, the impact of biodiversity on ecosystems. . Ecosystem variety provides vital regulating functions. Forests and wetlands play an important role in determining levels of rainfall, the ability of land to absorb or retain that water and its quality when used. Without healthy forests, grasslands, rivers, oceans and other ecosystems, we will not have clean air, water, or land. If we allow our environment to become contaminated, we risk our own health. Healthy ecosystems mean healthy people.

Biodiversity also is crucial to the development of new drugs. Delving into the area of pharmaceuticals from biodiversity, Newman and Crag have documented that of the 1184 new chemical entities covering all diseases, countries, and sources from1981 to 2006, 70% were either from a natural product or mimicked a natural product.[2] Potent cancer-fighting drugs have largely depended on natural products. Even those products that include man-made chemicals rely on one or more ingredients from nature. In the area of cancer, over the time frame from around the 1940s to date, of the 155 small molecules, 47% are either natural products or directly derived therefrom.[3] Although combinatorial chemistry techniques have succeeded as methods of optimizing structures, and have, in fact, been used in the optimization of many recently approved agents, Newman and Cragg were able to identify only one *de novo* combinatorial compound approved as a

[1] Endangered Species Coalition Poll. Conducted by Harris Poll Interactive. Conducted February 2011. Available at: http://stopextinction.org/media/endangered_species_act_poll.pdf

[2] Newman, D. and Cragg, G. 2007. Natural products as sources of new drugs over the last 25 years, *Journal of Natural Products* 70(3): 461-477.

[3] *Id.*

drug in this 25 plus year time frame.[4] If we do not preserve these life-giving species, we will not get a second chance. Extinction is truly irreversible - once gone, individual species and all of the services that they provide us cannot be brought back.

Biodiversity also has other proven economic benefits. A recent analysis by the Outdoor Industry Foundation titled "The Active Outdoor Recreation Economy" concludes that three quarters of Americans participate in active outdoor recreation each year and spend money, create jobs, and support local communities when they do.[5] Hiking, biking, camping, or wildlife viewing generate enormous economic power and create a far-reaching ripple effect that touches many of the nation's major economic sectors. The study found that this activity supports nearly 6.5 million jobs across the U.S., generates $88 billion in annual state and national tax revenue, and generates $289 billion annually in retail sales and services across the U.S.[6] The study found that more Americans camp than play basketball, More Americans paddle (kayak, canoe, raft) than play soccer, the number of New Englanders who participate in trail-based recreation annually is greater than the combined attendance for all 81 Boston Red Sox home games and the Active Outdoor Recreation Economy employs five times more Americans than Wal-Mart, the world's largest private employer.[7]

According to a 2006 survey conducted by the United States Fish and Wildlife Services, 71.1 million Americans participated in wildlife watching.8 Wildlife watching is limited to those activities where wildlife watching is the primary objective. Secondary and incidental participation while doing something else (e.g. observing dolphins while taking a cruise) were not included in the survey done by U.S. Fish and Wildlife Service. The bottom line: those 71.1 million individuals made total wildlife watching expenditures of $45.7 billion ($47,000,000,000) dollars.9 Of that $45.7 billion, Americans spent $23.2 billion on equipment,10 from cameras

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[4] *Id.*

[5] Outdoor Industry Foundation. 2006. *The Active Outdoor Recreation Economy*. Available online at http://www.outdoorindustry.org/images/researchfiles/RecEconomypublic.pdf?26

[6] *Id.*

[7] *Id.*

[8] U.S. Fish and Wildlife Service. 2006. *2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*, 36. Available online at http://www.census.gov/prod/2008pubs/fhw06-nat.pdf

[9] *Id.* at 37.

[10] *Id.*

and binoculars to tents and off-road vehicles. Birders were the most notable wildlife watchers, as there are 48 million birdwatchers—approximately 20% of the American population.11 Birders alone are estimated to have spent $35,727,724,000 and created 671,000 jobs!12

3. While not perfect, the Endangered Species Act Has Protected Many Vulnerable Species

The Endangered Species Act was passed nearly 40 years ago with strong bipartisan support, and was signed into law by President Nixon. In the decades since, we've witnessed animals that were once on the verge of disappearing forever, thriving again. Because of the act, bald eagles, California condors and peregrine falcons are with us. Florida panthers, gray wolves and grizzly bears are keeping prey species in check. American alligators, Florida manatees and gray whales continue to grace our swamps, rivers and oceans. More fundamentally, only a handful of the species receiving protection under the act have gone extinct.[13]

According to an article in the September 30, 2005, issue of *Science*, less than one percent of listed species have gone extinct since 1973, while 10 percent of candidate species still waiting to be listed have suffered that fate.[14] In addition to the hundreds of species that the Act has protected from extinction, listing has contributed to population increases or the stabilization of populations for at least 35 percent of listed species, and perhaps significantly more, as well as the recovery of such signature species as the peregrine falcon. While complete recovery has been realized for just two percent of species listed, given the precarious state of most species when listed, this represents significant progress. Arguably the most notable success of the Endangered Species Act

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[11] U.S. Fish and Wildlife Service. 2009. *Birding in the United States: A Demographic and Economic Analysis*, 4 (2009). Available online at http://library.fws.gov/Pubs/birding_natsurvey06.pdf

[12] *Id.* at 13

[13] Defenders of Wildlife. 2011. *Assault on Wildlife: The Endangered Species Act Under Attack*. Available online at http://www.defenders.org/resources/publications/policy_and_legislation/esa/assault_on_wildlife_the_endangered_species_act_under_attack.pdf

[14] Stokstad, Eric. 2005. "What's Wrong with the Endangered Species Act?" *Science*. Vol 305.

(ESA) is that listed species improve in status through time.[15]

More species are down- listed than the converse; more species transition from stable to improving status than the converse. Given modest recovery funding, the fraction of listed species responding positively is remarkable. The inability of government to fully empower the agencies to implement the law has been the most notable failure of the ESA.[16] Listing of species has not matched need, recovery expenditures do not match need or agency-set priorities, and critical habitat determinations have lagged. Only about 15% of the known species in the United States have been studied in sufficient detail to determine whether or not they would warrant listing under the ESA.[17] Wilcove and Master reviewed the best available data on the status of plants, animals, and fungi in the US and concluded that the actual number of known species threatened with extinction is at least ten times greater than the number protected under the Endangered Species Act (ESA).[18]

Given the extremely small population sizes and few remaining habitats of many species by the time they are listed, a non-decreasing population may be the best outcome for many listed taxa. For many listed species, the lag time between applying conservation tools and recovery is likely to be slow. We do not expect dramatic recovery of recoverable species in one or few generations of the listed taxa.[19] Fewer species have gone extinct than expected without protection. More species have gone extinct waiting to be listed than have gone extinct once listed. Changes in species status are more likely to be improving than deteriorating. Application of the fundamental species protection tools is linked with improving status. However, just as there may be time lags for recovery progress, there may be time lags in species collapse. Species with chronically low

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[15] Mark W Schwartz. 2008. *The Performance of the Endangered Species Act*. Annual Review of Ecology, Evolution, and Systematics. Vol. 39: 279-299. Available online at http://scb.ucdavis.edu/documents/Schwartz_ESA.pdf

[16] Mark W Schwartz. 2008. *The Performance of the Endangered Species Act*. Annual Review of Ecology, Evolution, and Systematics. Vol. 39: 279-299. Available online at http://scb.ucdavis.edu/documents/Schwartz_ESA.pdf

[17] Wilcove, David S. and Lawrence L. Master. 2005. How many endangered species are there in the United States? *Frontiers in Ecology and the Environment* 3: 414–420.

[18] *Id.*

[19] Hayward, D, Shogren, JF, and J Tschirhart. 2001. The Nature of Endangered Species Recovery. In *Protecting Endangered Species in the United States: Biological Needs, Political Realities, and Economic Choices*, ed. JF Shogren, J Tschirhard, pp.1-20. Cambridge, UK: Cambridge Univ. Press

population size, little habitat, and a low change of recovery may still take a long time to reach extinction. Some of the most desperate species, with little remaining habitat, were listed rather late in the process. We might find that in the future these species might not improve as well as those listed earlier.

In 2006, nearly 6,000 biologists throughout the country wrote to the U.S. Senate concerning science in the ESA. One of the great strengths of the Endangered Species Act is its foundation in sound scientific principles and its reliance on the best available science, the letter notes.[20] The National Research Council in 1995 observed: "…there has been a good match between science and the ESA …[and] the ESA is based on sound scientific principles."[21] While this makes for an effective piece of legislation, it also means that if the protections created by the act are unpalatable to certain actors, they are hard to remove without manipulating or attacking the science.

The Endangered Species Act Does Not Work When Subject to Political Interference, Displacing the Role of Science in the Process

Individual Examples of Political Interference in Listing Decisions

In species after species, scientific data has been minimized, edited, or overruled to deny ESA protections to imperiled species. Among the species whose listing decisions have been subject to political interference are the greater sage grouse, Gunnison sage grouse, Gunnison's prairie dog, white tailed prairie dog, Mexican garter snake, southwestern bald eagle, Preble's meadow jumping mouse, Sacramento splittail, California tiger salamander, roundtail chub, *Tabernaemontana rotensis* (a rare island tree), fluvial arctic grayling, and the Pierson's milkvetch. Most of these are now under investigation by either FWS, the Department of Interior Inspector General, the Government Accountability Office, or the courts. We will highlight a few cases[22]:

[20] Letter from Biologists to U.S. Senate concerning the Endangered Species Act. January 2006. Available online at: http://www.ucsusa.org/scientific_integrity/solutions/big_picture_solutions/biologists-letter-concerning.html

[21] The National Academy of Science's National Research Council. 1995. Science and the Endangered Species Act. Available online at: http://www.nap.edu/openbook.php?isbn=0309052912

[22] For more examples, please visit the UCS A to Z Guide for Political Interference in Science:

Gunnison's prairie dog – This species was on track for a positive 90-day finding as of Jan 19, 2006. But a short email saying "Per Julie please make the pd [prairie dog] finding negative" overruled the scientists at FWS and the best available science on this species. When FWS announced it would review eight species decisions influenced by Deputy Assistant Interior Secretary Julie MacDonald, it did not include this species in the list that they would revisit. Senator Wyden has since request an IG investigation including this prairie dog.[23]

Political interference in other species protections

We will highlight two of these cases – the spotted owl shows high level interference in a recovery plan, and the bull trout shows a common practice of manipulating a cost-benefit analysis to significantly reduce critical habitat.

Florida Panther – In 2003, Fish and Wildlife Service (FWS) officials knowingly used flawed science in the agency's assessment of the endangered Florida panther's habitat and viability in order to facilitate proposed real estate development in southwest Florida.[25] A biologist who worked at the FWS for 18 years, charged that agency officials knowingly inflated data about panther population viability, and minimized assessments of the panthers' habitat needs.[26] The FWS used the flawed data as a basis for several documents, including its Multi-species Recovery Plan and at least 19 biological opinions, which were used to approve development applications.[27]

Bull trout - Officials at the FWS censored an analysis of the economics of protecting the bull trout, a threatened trout species in the Pacific Northwest, publishing only the costs associated with protecting the species and deleting the report's section analyzing the economic benefits. Furthermore, while the benefits of protecting the bull trout were

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http://www.ucsusa.org/scientific_integrity/abuses_of_science/a-to-z-guide-to-political.html

[23] Union of Concerned Scientists. Systematic Interference with Science at Interior Department Exposed: Gunnison's Prairie Dog. Available online at http://www.ucsusa.org/scientific_integrity/interference/endangered-species-act-interference.html

[25] U.S. Fish and Wildlife Service. Regulatory profile: Florida panther (Puma concolor coryi).

[26] Public Employees for Environmental Responsibility (PEER). 2004. Andrew J. Eller and Public Employees for Environmental Responsibility v. Department of Interior. May 4, 2004.

[27] U.S. Fish and Wildlife Service. 2007. South Florida Multi-Species Recovery Plan.

deleted from the economic analysis, the costs associated with this species' protection were inflated.[31] An exaggerated cost analysis and a deleted benefits analysis essentially give the FWS the economic justification, under the ESA, to disregard scientific information when designating critical habitat for the endangered bull trout.

Greater sage grouse – Julie MacDonald criticized scientific studies showing widespread threats to this species. MacDonald heavily edited the biologist's findings and the species received a 12-month not-warranted finding. This finding has since been struck down in court due to the direct political interference overriding the use of best available science.[32]

Many other species also have suffered from political interference reducing their chances at recovery. Among them are the arroyo toad, California red-legged frog, Canada lynx, three invertebrates living in Comal Springs, the gulf sturgeon, loach minnow, Northern spotted owl, Preble's meadow jumping mouse, Santa Ana sucker, southwestern willow flycatcher, spikedace, and the Topeka shiner.[33] Many of these are under investigation (Appendix I).

Years of inaction on species protection

Two full years and a handful of days, from May 9 2006 to May 14, 2008, passed in which Department of Interior Secretary Dirk Kempthorne failed to list a single domestic species.[34] This was not due to a lack of species – 280 species awaited protections on the candidate list,[35] and documents provided through our FOIA request revealed that 52 90-day petitions and 34 12-month reviews were denied between 2002 and 2007.[36] With over 80 species decisions from a similar time period under various public, court, congressional, IG, or GAO reviews because of inappropriate interference

[31] Fish and Wildlife Service. "Draft Economic Analysis of Critical Habitat Proposal for Bull Trout in the Columbia and Klamath River Basins Released for Public Comment," April 5, 2004. Available online at http://news.fws.gov/newsreleases/r6/E6CD3A83-F8FD-484C-8523CF328EC43D93.html.

[32] Union of Concerned Scientists. Systematic Interference with Science at Interior Department Exposed: Greater Sage Grouse. Available online at http://www.ucsusa.org/scientific_integrity/interference/endangered-species-act-interference.html#

[33] Appendix I.

[34] Center for Biological Diversity. Bush Sets New Record in Refusing to Protect Endangered Species. May 9, 2008. Available online at http://www.biologicaldiversity.org/news/press_releases/2008/esa-listing-05-09-2008.html

[35] Department of the Interior. 72 FR 69034.

[36] Union of Concerned Scientists. FOIA into use of the 90-day table. Available upon request.

for political or economic reasons,[37] our faith that those petition denials were done in a fair and scientifically accurate process is greatly eroded.

For the ESA to truly respond to science-based assessments, the Department of the Interior must create a new agency culture based on scientific integrity. That requires extensive protections for scientists who speak out when science is manipulated, distorted and suppressed, more freedom for scientists to speak freely about their work to the media, and much more transparency for the process underlying ESA decision making. The Department of the Interior scientific integrity policy is a work in progress and they are currently working on more specifics, including strengthening the Agency media policy.[38] We look forward to following their progress.

[37] Appendix I

[38] Department of the Interior Scientific Integrity Policy: http://elips.doi.gov/app_dm/act_getfiles.cfm?relnum=3889

APPENDIX I

UCS Scientific Integrity Recommendations

DOI scientists and researchers need certain rights and protections to fulfill their responsibility to the U.S. public. One frontline defense against political interference in science is to specifically affirm that scientists who report such abuses are protected from retaliation.

A.1. **The DOI scientific integrity policy should protect whistle blowers who expose waste, fraud, and abuse.** Improved whistle-blower policy should:

1. Make clear that whistle-blower protections from retaliation apply to federal employees who report efforts to alter or suppress research or technical information
2. Give federal employees the same access to jury trials that Congress has given to millions of private sector workers

A.2. **The DOI should issue a statement that encourages staff to speak out internally about concerns—especially those involving an abuse of science—and state that the agency values their input.**

A.3. **The DOI should proactively educate government scientists and researchers regarding their rights and protections.**

B. Making Government More Transparent

The integrity of DOI science is threatened in no small part by decisions made behind closed doors. Opening up agency science and decision making to scrutiny from Congress and the public is an important and inexpensive means of exposing and ending political interference in science. The public needs greater access to DOI science through better disclosure of regulatory decision making, wider use of information technology, and the reform of agency communication policies to allow scientists and researchers to freely share their expertise.

The DOI should improve upon the proposed policy by implementing the following recommendations.

B.1. **The DOI should adopt policies that ensure free and open communication between scientists and researchers, and the media, policy makers, and the public. These guidelines should incorporate the following principles:** **Scientists and researchers may freely express their personal views.** Scientists and researchers, as any federal employees, have a right to express their personal views outside of a few narrow restrictions (such as releasing classified or proprietary information). Provided that a scientist makes an explicit disclaimer that he or she is speaking as a private citizen and is not seeking to represent official DOI policy, he or she should be allowed to speak freely about his or her research and to offer his or her **scientific** opinions—even in situations where the research may be controversial or have implications for agency policy. DOI policies governing communication with the media should make this option clear and explicit to employees.

1. **Scientists and researchers have the right to review, amend, and comment**

publicly on the final version of any document or publication that significantly relies on their research, identifies them as an author or contributor, or purports to represent their scientific opinion. While editing by non-scientists is often necessary and useful, final review by scientific experts is essential to ensuring that accuracy has been maintained in the clearance process.

2. **DOI employees have clearly defined responsibilities in working with the media.** Employees are responsible for the accuracy and integrity of their communications and should not represent the agency on issues of politics or policy without prior approval from the DOI's public affairs officer (PAO). Employees are also responsible for working with the PAO to make significant research developments accessible and comprehensible to the public.
3. **DOI PAOs have clearly defined roles, such as responding promptly to media inquiries and providing journalists and agency staff with accurate information, but not acting as "gatekeepers" of information.** Scientists and researchers should not be required to obtain pre-approval from the PAO before responding to a media request about their research. However, requiring scientists and researchers to give the PAO prior notice of such interactions when possible, and to recap the interview afterward, is appropriate.
4. **Employees who leave DOI service should not be required to sign nondisclosure agreements that restrict disclosure beyond classified or proprietary information. Public affairs staff should have a plan for disseminating the media policy to DOI scientists and researchers and should conduct trainings in effective media communication that emphasize scientific openness.** The official DOI media policy should be publicly available on the agency website.

B.2. **The proposed DOI scientific integrity policy should present agency policies on the clearance of official and non-official publications, presentations, and other information.** Information sharing is an essential component of the scientific process. While the broad direction of DOI research is dictated by agency missions and funding priorities, scientists and researchers should be free to conduct that research and publish findings without fear of retaliation.

B.2.1. **For non-official materials, authors should have the option of bypassing any policy review and publishing the work with a disclaimer that it does not represent agency policy.** A timely and transparent policy review is appropriate and recommended for official agency documents and reports.

B.2.2. **The DOI should set reasonable time limits for review and clearance of scientific publications and presentations.** The supervisor or other reviewing official shall provide to the author written clearance on the condition of specified changes being made, not later than 30 days after submission. If this deadline is not met, the author may proceed to submit the article for publication or presentation with an appropriate disclaimer stating that the article does not represent agency views or policies.

B.2.3. **Draft versions of official DOI documents or scientific reports should periodically be made available to the public.** A draft version should be released if a

document has been completed by DOI technical staff yet held up in the policy or interagency review process for longer than six months.

B.2.4. **Scientific work done on an employee's personal time should not be required to be submitted to an internal review process, even if the employee identifies his or her employer, provided that the work includes an appropriate disclaimer.**

B.3. **The DOI should institute a transparency policy for meetings with outside entities.** This policy should require that the DOI post on its website a complete record of all meetings with outside entities including for-profit and not-for-profit organizations, other agencies, and individuals (with the exception of meetings related to national security). Such a policy need not be burdensome, as participants could enter the required information directly into a database before the start of any meeting. The database should include the names and affiliations of meeting attendees as well as the date, time, location, and subject of the meeting.

B.4. **When a rule moves from a DOI agency to the Office of Management and Budget or another agency, the scientific underpinnings of the regulatory decisions should be made public.**

C. Scientific Information and Advice

The DOI cannot make fully informed decisions about our health, safety, and environment without access to the best available scientific information and advice. The DOI should restore regulatory integrity, improve the federal scientific advisory committee system, and improve conflict-of-interest policies for government employees.

C.1. **The DOI policy should contain concrete steps to review tainted decisions and reverse policies that weaken scientific input.** Regulatory changes and formal and informal guidance limiting the role of scientific advice should be identified, suspended, reviewed, and replaced. Where inappropriate misuse or manipulation of science has been identified, the decisions should be systematically reexamined and modified.

C.2. **The DOI should strengthen their scientific advisory committee system.** While the proposed policy does address the scientific review process it fails to improve upon the existing advisory committees system, a key component of science-based policy.

C.2.1. **The process for selecting DOI advisory committee members should be made more transparent through the following reforms. The DOI should :**

1. Publicly announce their intent to form a new scientific advisory committee, or to select a new member for an existing committee.
2. Publish criteria for selecting committee members and should solicit nominations for committee membership.
3. Call for public comment on the charge to the committee.
4. Make basic information on committee members easily available to the public.
5. This information should describe each member's qualifications and background, and disclose past employers and funding sources.

C.2.2. **The DOI should establish new standards of transparency and participation for all advisory committees. Such standards should include the following requirements:**

a. All advisory meetings should be open to the public, entirely or in part. When meetings or portions of meetings are closed, there should be a public record of the reason for excluding the public.
2. Committees should actively encourage public input and should advertise upcoming meetings with adequate notice.
3. Technology should be used, to the extent possible, to broadcast public meetings online for members of the public unable to attend in person.
4. Materials from committee meetings should be posted online in a timely fashion, including agendas, minutes, transcripts, recordings, and other documents.

C.2.3. **The DOI should provide clear guidelines for conflicts of interest on federal advisory committees.** These guidelines should address the following issues:

1. The DOI should specify which advisory committees are expressly scientific and which are designed to gather stakeholder input.
2. The DOI should clarify their criteria for appointing advisory committee members as "special government employees" (SGEs) or "representatives," and ensure that the proper level of scrutiny of conflicts of interest occurs. (SGEs are subject to greater scrutiny than representatives, who are assumed to be stakeholders with special interests.)
3. For committees whose mission is purely to provide objective scientific advice (as opposed to committees designed to gather input from stakeholders), committee members should be appointed as SGEs and should be entirely free of financial conflicts of interest.
4. Scientists and researchers with conflicts of interest may provide their expertise to scientific advisory committees, but agencies should take steps to ensure that they do not have decision-making roles on those committees, and that their participation is limited to making presentations and responding to questions.
5. Scientists who have taken public positions on issues should not be excluded from an advisory committee because of concerns about bias. Having a point of view does not preclude an objective assessment of the information presented to a committee. A scientist's membership in a scientific association should not be considered evidence of bias, even if that association has a stated policy agenda.

C.2.4. **The DOI should track the work of their scientific advisory committees and respond to their findings and recommendations.**

1. The DOI should clearly state what product they require of each advisory committee, and set a timeline and work plan for creating that product.
2. The DOI should establish and enforce clear policies for how to incorporate committee findings and recommendations into agency decision making. Agencies should also publicly document any decision to overrule the recommendations of a scientific advisory committee, and provide a legitimate explanation of the decision.

3. The DOI should review which scientific research and peer review work is being handled by outside contractors, with the goal of institutionalizing the input of independent advisory committees whenever feasible.

C.3. **The DOI should improve conflict-of-interest policies for employees.** While drafts have been issued for various bureaus, an agency-wide conflict of interest policy is necessary to consistent standards for agency employees

C.3.1. **The DOI should establish clear conflict-of-interest guidelines for federal employees**.

C.3.2. **DOI employees involved in the writing or enforcement of regulations should disclose all conflicts of interest and any previous employment ties that might affect or be perceived as affecting their ability to do their job in an independent manner.** These disclosures should be made in writing, publicly available, and required in all cases.

C.3.3. **DOI employees with significant conflicts of interest may still contribute to a project, but agencies should bar them from holding decision-making authority or other positions where they can influence policy outcomes.** Any conflict-of- interest waivers should stipulate the parameters of permitted participation.

C.3.5. **DOI employees should be required to recuse themselves from decisions involving a former employer, whether or not they have current financial ties to that employer.**