An Exercise in Scientific Integrity: Problems and Consequences

Consider the following real-world examples of political interference in science. Which types of political interference occurred? Describe the most likely consequences of the interference and how severe you think the consequences will be (in the long and/or short term). Are there any obvious solutions?

These examples are all taken from the Union of Concerned Scientists' "A to Z Guide to Political Interference in Science," which can be found at *www.ucsusa.org/atoz*.

1. **Toxic pollution**. The Toxics Release Inventory (TRI) is a publicly available database maintained by the Environmental Protection Agency (EPA) which compiles information on toxic chemical releases reported by industry groups and federal agencies. The database is searchable by individual facility, county, state, or the nation as a whole, allowing communities to enact protective public health and environmental measures based on the types and amounts of pollutants being released.

The EPA has proposed three changes to the TRI reporting requirements, which would allow tens of thousands of facilities to report less information:

- Move from the current annual reporting requirements to every-other-year reporting for all facilities, eliminating half of all TRI data.
- Allow facilities to release 10 times as much toxic pollution before being required to report to the EPA.
- Allow facilities to withhold details on low-level production of toxic chemicals that accumulate in the body (such as mercury, lead, and dioxin).

Scientific integrity issue(s):

Indirect interference—scientific information is being limited or marginalized

Consequences:

Communities will be unable to plan for exposure to toxins, amounts of bioaccumulative toxins will be increasing without reasonable reporting, etc.

2. **School vouchers**. In July 2006, Department of Education officials announced a $100 million proposal to help poor children attend private schools—though they were aware of a study released just days earlier showing private schools are no more effective at educating children than public schools.

Scientific integrity issue(s):

This integrity issue is somewhat ambiguous since the study was released but subsequently ignored. However, it can be argued that science was marginalized to promote a political agenda.

Consequences:

Funds diverted to private schools that could be used in public education; public mislead

3. **Forest management**. In 2004, the U.S. Forest Service (USFS) exaggerated the impact of forest fires on spotted owl habitats in old-growth forests in the Sierra Nevada. The USFS released a brochure and website portraying increased logging on these public lands as a means of protecting animals from wildfires. Independent scientists have decried these claims, and have confirmed that at least seven of the 18 "lost" nesting sites mentioned in the brochure were actually in areas not affected by fire, and were currently in use by spotted owls.

The brochure also contained misleading photographs: by comparing a 1909 image of a just-logged forest with an undisturbed forest of today, the brochure's implicit message was that the natural state of a healthy forest is widely spaced trees with little to no underbrush. A USFS scientist who reported that the agency seemed uninterested in the real science regarding the impact of wildfires on spotted owls was removed from his research on the subject.

Scientific integrity issue(s):

> *False and misleading scientific information is being used; scientists' opinions are being suppressed and ignored*

Consequences:

> *Forest management plans will not be based on the best available science; the spotted owl will face increasing risk of extinction*

4. **Post-9/11 public health**. Two days after the September 11, 2001 terrorist attack on the World Trade Center, the EPA assured the people of New York City that the air near "ground zero" was safe to breathe. However, a 2003 report from the EPA's Office of the Inspector General charged that the agency lacked the information needed to determine air quality in the days following September 11. In fact, the EPA's initial assessment was terribly inaccurate; the collapse of the buildings actually released 2,000 tons of asbestos and hundreds of thousands of tons of concrete dust into the air.

All the official statements released by the EPA during this time were vetted by the National Security Council before they were released. In addition, the White House Council on Environmental Quality urged the EPA to "add reassuring statements and delete cautionary ones." An EPA scientist later told CBS News that the agency knew the dust was dangerous and had lied. Mount Sinai Hospital in New York found in 2006 that "seven out of ten World Trade Center rescue and wreckage workers had new or worsened lung problems after the attacks."

Scientific integrity issue(s):

> *False and misleading information was disseminated; insufficient data were used; agency scientists were ignored*

Consequences:

> *Rescue workers will suffer long-term health effects; the city of New York will be burdened with lawsuits; citizens will lose faith in the government*