Environmental Protection Agency staffers have been forced to ignore relevant science, have lacked key monitoring data on human health and environmental impacts, and have worked without crucial information needed to protect the public, according to the preliminary findings of a scientific advisory board.

The Committee on Science Integration for Decision Making is still working on its investigation, but has quietly posted draft summaries on the agency's website of 73 interviews with 450 EPA employees -- an unusual bottom-up examination that could bring sweeping changes to the 40-year-old federal agency. Some staffers traced the problems in the agency to the Bush administration, while others said the obstacles are longstanding and continue to this day.
EPA has an enormous mandate -- protecting air, water, land and human health from environmental pollutants. While some staffers gave the agency high marks, the interviews overall portray an organization that has been hobbled by political pressure to avoid damaging industry; has lacked sufficient scientists in regional offices; has been slow to act against known hazards, and has had a tendency to let products with harmful pollutants enter the marketplace and the environment without first ensuring their safety.

The review of the EPA followed accusations by a former agency official that President George W. Bush had pressured agency employees to water down concerns of global climate change, a Government Accountability Office report criticizing the agency's toxic chemical review process, and stern recommendations by the National Research Council, a division of the National Academy of Sciences.

In response, the committee, made up of academics, industry scientists, and government officials from outside EPA, was launched in 2008 by Stephen L. Johnson, who served as agency chief during Bush's second term. Pointing out that the environmental agency was "perceived to lack a strong scientific foundation," Johnson asked the panel to explore how the EPA can improve its use of science. EPA administrator Lisa Jackson endorsed the committee and its work began in earnest.

"Unfortunately the reality through the years, both those that Democrats were in charge and the years the Republicans were in charge, was, if you agreed with a decision, it was great science and not politicized, and if you disagreed with a decision, then the science was politicized," Johnson told Politics Daily. "Anything I and the agency can do now to increase that foundation of science and better integrate the science in decision making, I believe that the public is better served."

As part of its mission, the committee -- informally called the Science Advisory Board -- interviewed scores of EPA staffers from around the country between October 2009 and February 2010. To encourage open discussion, managers were generally interviewed separately from the rest of the staff. Many of the panel's interviews were conducted in groups. Although the committee listed the names of everyone in each group, in most cases they did not reveal who said what.

Some participants noted "the chilling effect of management decisions made with the expectation that science would be 'ginned up' to support decisions already made," according to a committee summary. One high-level EPA official charged that "the science review is used to create long-term loops that keep us from getting the latest information implemented in the field." Another staffer said decisions on how to regulate air pollutants were "influenced more by politics than by science."

One scientist who was interviewed believes the agency has been too eager to endorse new technologies or new uses of chemicals. As an example, she cited the EPA's support of tire crumb, shredded tires used to line playgrounds to keep kids from being injured if they fall. Tire crumb can contain arsenic, cadmium, and other metals and toxic substances. Although EPA in December said the material was safe, this scientist told investigators, "Tire crumb, for example, should have been evaluated more fully before EPA supported its use for children's playgrounds and ball fields...The result is a costly effort "post hoc" to assess children's exposures to tire crumb waste, a problem that could have been prevented."

On the bright side, there are some departments where staffers say politics has had little influence.
EPA's emergency response efforts during the giant 2008 spill in Kingston, Tenn., which dumped more than a billion tons of toxic coal ash and buried more than 400 acres of homes and farmland in sludge, was viewed as independent and well-coordinated. And numerous staffers -- managers in particular -- defended agency decisions as made only by weight of evidence.

But many of the employees, at all levels, offered pointed criticisms of their employer. Committee member Wayne Landis, a professor and director of the Institute of Environmental Toxicology at Western Washington University, who participated in many interviews, told Politics Daily, "They (the EPA staffers) were very straightforward, weren't they?"

Barnes Johnson, deputy director in the Office of Superfund Remediation and Technology Innovation, told the panel one problem for the EPA involves "evaluating [the] latest toxicology information for high profile contaminants important to certain constituency groups where there are big financial implications." Translation: Powerful players in commerce don't want chemicals they manufacture or use to be assessed as hazardous. Such a finding might require them to take products off the market, be liable for costly cleanups or face lawsuits by individuals who have been harmed.

He cited the examples of the chemicals TCE (trichloroethylene), dioxin and perchloroethylene – three man-made contaminants known to pose a threat to human health that are still plentiful in the environment. EPA first started studying TCE, a solvent widely used for degreasing metal parts, back in the 1980s, yet the Superfund staffer complained, "Arguments about how to interpret the available science are perpetuated to keep new science from being implemented."

Other staffers said they were also worried about TCE. One employee from EPA Region 9 (which encompasses California, Nevada and Arizona, Hawaii, the Pacific Islands and tribal nations), "expressed concern that decisions get complicated with TCE, he is not sure that the [standard] is stringent enough, [despite] a need for immediate action." TCE is linked to cancer and brain damage. Another EPA science advisory board is now studying the agency's draft assessment of TCE.

Across the board, EPA employees said they were frustrated by the glacial pace of decisions to restrict or ban chemicals that are thought to be hazardous. Reviews on some individual pollutants are more than seven years behind schedule, according to those interviewed, forcing them to rely on outdated research to make decisions about protecting the public.

The committee cited numerous staffers who were upset at the decline in EPA monitoring of human health and environmental impacts, especially for groundwater quality and soil.

Another EPA colleague agreed, telling investigators that regional resources for monitoring air and water have been nearly eliminated.

The Office of Prevention, Pesticides and Toxic Substances "generally does not know how chemicals are being used, and the nature of human exposures and environmental releases. Often even manufacturers have no information about how customers use their chemicals," the committee noted.

Many EPA staffers said they are concerned about the nation's water supply, including the migration of pharmaceuticals and nanoparticles -- which are man-made microscopic compounds -- which may end up in drinking water. There is evidence that some nanoparticles, in particular nano-scale titanium dioxide, often used in sunscreen, cosmetics and food packaging, may cause cancer. EPA is just beginning to study the safety of nanoparticles, which are already ubiquitous in consumer goods.
A staffer in Region 8, which includes Montana, the Dakotas, Wyoming, Utah, Colorado and tribal nations, said she was highly concerned about poor sewage treatment. "EPA appears to have an aversion to political and fiscal risk," she said of her agency, "but not an equal aversion to environmental risk."

Many employees complained about a lack of recruitment and training of expert scientists -- there are not enough to go around. Numerous staffers said they expect this problem to get worse as current scientists retire.

A scientist working on radiation issues said: "highly technical people -- engineers and toxicologists -- are managed by people who may not fully understand" what their underlings are working on. This leads them to rely on their personal opinion instead of science when making decisions. Also, they don't have enough staff to evaluate the work done by outside contractors, she said.

The 40-year-old independent nonprofit Natural Resources Defense Council tracked what it saw as a decline in environmental monitoring during the Bush years. In a recent update provided to Politics Daily, the environmental group said that by January 2010, EPA improved its testing of drinking water for industrial pollutants, and monitoring for lead pollution in air, but still needs to increase its monitoring of pesticide levels in urban waterways and better assess health threats at hazardous waste sites.

"During the Bush years they created a 'hear no evil, see no evil' situation," NRDC senior scientist Dr. Gina Solomon said. "Since things weren't being tested and monitored it looked like there were no problems out there. ... I have to credit the current administration and Congress. There have been big improvements in monitoring programs over the past year and there's still a lot that needs to be done."

Stephen Johnson, who was widely criticized by environmentalists and scientific organizations during his tenure, said, "The EPA is faced with many more challenges than it has available resources, so for those who want to be critical that this issue or that issue has not been addressed, there's fair criticism. For those who want to see that progress has continued to be made to address the myriad issues of our nation, there's also much to celebrate."

For its part, the EPA said in a statement, "We appreciate the candid interviews conducted by the Science Advisory Board. ... We look forward to reviewing the recommendations in the report when the SAB formally submits it to EPA for discussion. In the meantime, we will continue to examine and enhance our science efforts agency wide."

The investigators will hold a public meeting in September to discuss their findings, and will later issue a formal paper with recommendations for changes throughout the agency.

Meanwhile, the committee's work provides a rare look at internal criticism of a major federal agency. "None of the other EPA offices get a chance to try to turn it or twist it," Landis said. "It's from our committee to the administrator."