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Federal Insecticide, Fungicide, and Rodenticide Act

THE FEDERAL INSECTICIDE, Fungicide, and Rodenticide Act (FIFRA) of 1972 was enacted in the United States to regulate the manufacture and use of pesticides, and represented a significant reworking of the existing law, which had been introduced in 1947. The most significant amendment was the Food Quality Protection Act of 1996, which requires potential and existing manufacturers to submit applications for licenses to produce goods for commercial use. The information required by the Environmental Protection Agency (EPA) includes the contents of any formulation, which is kept confidential, the tests that have been used to determine the safety of the product, and directions for use.

Federal law generally preempts state laws in connection with FIFRA to prevent unscrupulous manufacturers from taking advantage of loopholes or weaknesses in state regulations. Second, the use of pesticides affects people, livestock, and crops across state borders. However, it is argued that a decentralized structure is more appropriate for a market in which numerous products are introduced and many specific local conditions exist, which may require special provisions. Some have argued that the preemption of state regulations have unfairly benefited pesticide manufacturers, who gain protection from tort liability for problems or health issues resulting from labeling or usage of their products. Preemption was also involved in the attempt to use FIFRA to obtain recompense by veterans of the American War in Vietnam, whose health had been damaged by the military’s use of Agent Orange. Foreign nationals are not empowered to use this legislation against American corporations.

The stakes are high in such legal debates because of the money involved in intensive agriculture, which often requires extensive use of pesticides. As scientists continue to provide new types of pesticides and methods of applying them, constant reevaluation of the regulations is required, even if the basic principles do not change. Some argue, however, that extensive safety tests and regulations unnecessarily restricts competition because only a few companies have sufficient financial resources to follow the process. Non-American companies wishing to import also dislike labeling and testing regulations that are deemed unnecessary in their home countries. The largest fine imposed by the EPA concerning FIFRA regulations was in 1998, when the Monsanto corporation was fined $225,000 for persistent mislabeling of products.

SEE ALSO: Agent Orange; Environmental Protection Agency (EPA); Monsanto; Pesticides.


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Federal Land Policy and Management Act (FLPMA)

AFTER THE BUREAU of Land Management (BLM) began formal planning for public lands under its charge in 1969, the Federal Land Policy and Management Act (FLPMA) of 1976 was passed due to congressional dissatisfaction with BLM land
and resource management. According to the BLM, "FLPMA is called the BLM Organic Act because it consolidated and articulated BLM's management responsibilities." The FLPMA is a BLM-specific law. The statute reduces agency flexibility, increases agency accountability to itself and Congress, and dictates an "intensive, but imprecise planning process" that requires "vast bureaucratic resources and produce[s] mountains of paperwork."

Under FLPMA, decisionmakers at the BLM are required to consider the interests of all public land users before they determine how lands will be managed. The statute was ultimately designed to address natural scarcity of both renewable and nonrenewable resources (grazing, timber, minerals, recreation, wilderness, fish and wildlife, watershed, and so on).

Section 202 of FLPMA broadly guides land use planning and does not detail the steps by which BLM should generate and revise land use plans. Some of the more important management requirements of FLPMA for the BLM to observe principles of multiple use and sustained yield; use a systematic interdisciplinary approach (physical, biological, economic, cultural); give priority to the designation of areas of critical environmental concern; consider the relative scarcity of the values and alternatives for realizing those values; weigh long- versus short-term benefits; comply with pollution control laws; and coordinate with other federal, state, tribal, and local government entities.

MANAGEMENT OF BLM LANDS

As the largest land management agency in the United States, the BLM is responsible for 175 million acres (70 million hectares) in the lower 48 states. The FLPMA is in essence a guiding statute for the management of those lands. The FLPMA also mandated that the agency perform a roadless area review for the selection of Wilderness Study Areas, study the areas, "and make Wilderness recommendations to Congress by 1991." After an incomplete review of only 25 million acres (10 million hectares), the BLM proposed 328 wilderness units totaling 9.7 million acres.

The FLPMA also requires that the BLM highlight the designation and protection of areas of critical environmental concern (ACEC). An ACEC includes lands where special management attention is required to prevent irreparable damage to important scenic values, fish and wildlife resources or other natural systems or processes. By the year 2000, the BLM had designated about 13 million acres of ACECs, with 5.9 million acres located in Alaska. Many of these ACECs are sensitive riparian zones around rivers or are important wildlife areas like the Big Morongo Canyon in California, which is a wildlife corridor, lambing area, and watering area for desert bighorn sheep.

The FLPMA's guidance of BLM's facilitation and management of public-lands livestock grazing is a very contentious issue between the BLM and conservationists, as many environmental advocates believe the BLM is understaffed and underfunded, leading to detrimental harm to the range resource. The FLPMA requires the agency to set grazing fees, analyze the value of grazing, grant 10-year grazing permits, and establish grazing advisory boards.

One of the more prominent outcomes of FLPMA was the creation of the California Desert Conservation Area (CDCA). The CDCA is a 25-million-acre southeastern California desert that has been heavily impacted by motorized recreation, mining, livestock grazing, utility corridors, illegal roads, and invasive species. The FLPMA recognized the CDCA as a highly vulnerable desert environment with unique ecosystems that are not only rare, but "extremely fragile, easily scarred, and slowly healed."

The BLM's management of this vast desert area has been marked by difficulties and public controversies since its inception. Multiple stakeholders interested in both the resource use and/or preservation of the CDCA have often clashed with each other and the BLM in the federal courts. In one such case in 2000, pressure and lawsuits from the Center for Biological Diversity resulted in the removal or restriction of cows and sheep on habitat for the desert tortoise, southwestern willow flycatcher, and Least Bell's vireo. These settlements also closed 550,000 acres of the CDCA to off-road vehicles to protect the Coachella Valley fringe-toed lizard, Pierson's milk-vetch, desert tortoise, and other imperiled species. Included were 49,310 acres of the Algodones Dunes.

SEE ALSO: Bureau of Land Management; Desert Grazing; Habitat Protection; Land Use; Land Use Policy

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FEEDBACKS ARE PROCESSES within a system in which some proportion of the output is passed, or "fed back," as input to the initial conditions. Positive feedbacks enhance or reinforce initial perturbations of a system, resulting in the amplification of the output process, whereby small changes in inputs can cause large changes in outputs, possibly resulting in system instability. Negative feedbacks reduce or weaken initial agitations of a system, resulting in the reduction of the output; whereby small changes in inputs can cause the system to produce smaller changes in the outputs, possibly resulting in a steady state, or homeostasis, condition. A feedback loop is a process in which an output is returned to the system as input, often but not always originating from outside the system. Feedback loops are convenient places in the system to insert control functions to counteract, or balance, unwanted system reactions.

Feedback mechanisms are often seen in complex or nonlinear systems in which the dynamic behavior is influenced through negative feedbacks; whereby systems move to disequilibrium conditions through positive feedbacks. Organisms, including humans, respond to system changes or stimuli such as a change in the environment. Dynamic equilibrium results from the ability of organisms, or people, to detect change and to respond to the stimuli in an attempt to maintain steady state conditions or to reduce the amplitude of system perturbations.

COMPLEXITY THEORY

Complexity theory holds that systems cannot be suitably understood without a focus on feedbacks