

The Wisconsin Ban On DDT: Old Law, New Content

William G. Moore

In the Fall of 1968, a petition was filed with the Wisconsin Department of Natural Resources "requesting a declaratory ruling on whether DDT was an environmental pollutant" within the meaning of specified Wisconsin statutes. The administrative hearing at Madison which followed was soon to take on national, even worldwide, importance and played a critical role in widespread banning of what had been probably the most important pesticide of its day.

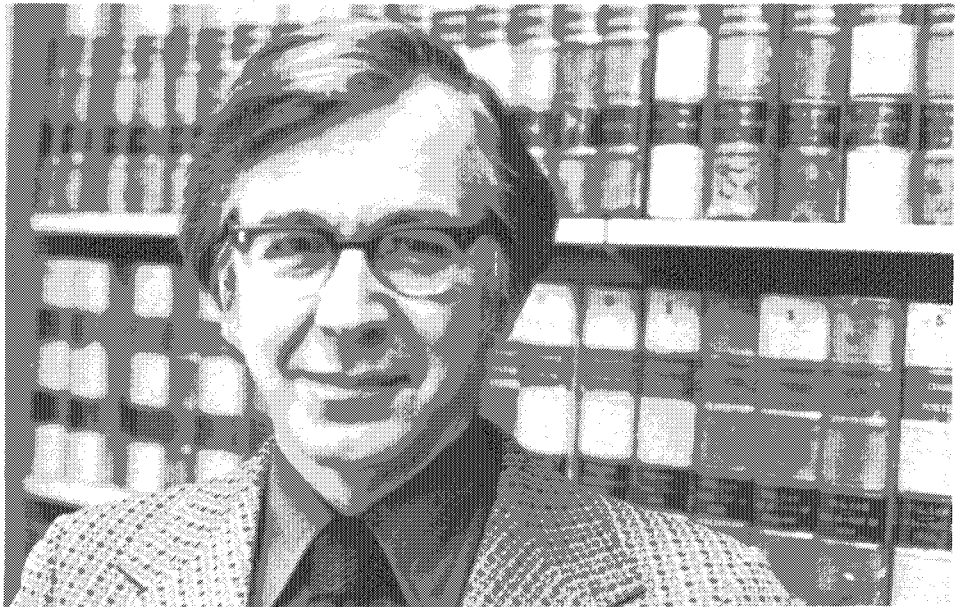
To some, the 1960s and the early 1970s conjure up a picture of little more than anti-war demonstrations, civil disorder, drug abuse and long hair. And true, these elements were a part of those times. But the same elements were also manifestations of an inquisitive and questioning mood that swept pervasively through American society and was part of a cycle recurrent in our national history—a time of shaking up the status quo which would be followed by a period of re-grouping and consolidation under new patterns.

Today's image of the Sixties is often bitterly portrayed as a time of quixotic goals whose fulfillment was largely denied.

But not all of the questioning, nor all of the dissent, by any means came to naught; not all of it was denied fulfillment. And not all of it was generated by anti-establishment youth.

Bill Moore—who is responsible these days for much of the writing which appears in the GARGOYLE—describes in the story below a significant event which took place in those turbulent days of the late Sixties: the hearings at Madison on the question of banning use of DDT in Wisconsin.

Many people, some of them from distant places, participated in the DDT hearing at Madison. The hearing itself was presided over by Maurice Van Susteren (J.D. '48),



James MacDonald

then Chief Hearing Examiner for Wisconsin's Department of Natural Resources. A number of these were associated with the University of Wisconsin at Madison. Joseph J. Hickey, Professor of Wildlife Ecology (who supported the ban) and UW Entomology Professor Ellsworth Fisher (who opposed it) played important roles in the hearings and they must share a significant part of the credit (or blame) for the consequences to which the Madison hearings so importantly contributed. And a number of Madison people—among them UW Law Professor Jim MacDonald and his wife, Betty—turned over their homes for a week or more at a time to be used by the coalition fighting DDT as a temporary command post and site of nightly sessions devoted to tactics and

strategy.

While Joe Hickey and Jim MacDonald sided with those who sought to ban DDT, Ellsworth Fisher and others associated with the University supported the continued use of the pesticide.

At the time, and still, sharply differing accounts may be found of events leading up to the ban. Yet whatever else may be achieved by the story Bill Moore tells below, the point is made clear that the process of "winnowing and sifting" of ideas at the University of Wisconsin can be marked by deep and bitter differences within the University community itself as the search for the truth is pursued. And, as is the case here, the Law School can often be found tied into the fray.

In the early Sixties, there appeared in the *New Yorker* a series of articles which discussed the impact of pesticides on the environment. In 1962, these articles were united to comprise Rachel Carson's polemic volume, *Silent Spring*.

A collection of theories blended with fact, of "truths, half-truths and no-truths," Ms. Carson's book was at first shunned by the great bulk of the scientific community. In the beginning, indeed, it was difficult to find a respected scientist who would even step forward to say Ms. Carson had raised questions for which definitive answers were not to be had—and only later were a few scientists willing to support some of her more frightening prophetic premises.

But *Silent Spring*, on the other hand, received considerable attention from lay quarters and its importance rested primarily on its bringing before an ever growing contingent of concerned citizens the question of man's practices in the use of pesticides.

Portions of *Silent Spring* concern themselves with the pesticide DDT (Dichlorodiphenyltrichloroethane). But it was not until 1968 that the issue of the compound and its detrimental effects on the environment received broad national and international attention. Much of the publicity was generated by, and came out of a hearing held in Madison, Wisconsin, in late 1968 and early 1969, a hearing held to determine whether DDT was an environmental pollutant as defined in sections 144.01(11) and 144.30(9) of the Wisconsin Statutes.

The outcome of the hearing and the ramifications felt well beyond Wisconsin's borders constitute the triumph of concerned and questioning citizens whose efforts brought to light, in Ms. Carson's words, the "... false assurances (and the) sugar coating of the impalatable facts" about the chemical compound that had been in use for nearly twenty-five years.

The story of DDT is a complex and controversial one. When the compound was first introduced as a pesticide, it was proclaimed a wonder-chemical, capable of solving a myriad of man's pest problems. Paul Mueller, a Swiss scientist, won the Nobel Prize for his discovery of the chemical's proficient insect-killing properties.

DDT was used extensively by the military during World War II, and saved "countless lives" through its effective control of malaria-carrying mosquitoes and other disease-carrying pests. After the War it was put to use domestically and became one of the most popular pesticides on the market because of its effectiveness and low cost. By 1968 its usage peaked at twenty million pounds annually.

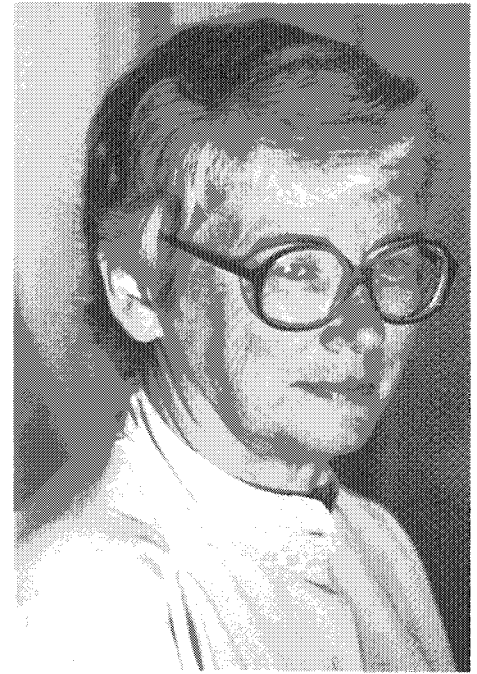
But with its effectiveness came features which posed great danger to the environment, its creatures, and, ultimately, man (who somehow believes himself to be independent from that which surrounds and sustains him). Not only did DDT eliminate pests, but also useful and necessary predators. Furthermore, insects—whose reproductive rate is far faster than man's—soon became immune to the chemical, "necessitating" applications of greater chemical concentrations. Of great consequence, was DDT's mobility: it was found all over the world, thousands of miles from the nearest point of application, even in the polar regions. Moreover, DDT was persistent as a result of its slow rate of breakdown in the environment and because of its solubility in body fats—lipids, as these are known—DDT was lodging in the fat reserves of everything from moles to man. The effect on us could only be known with time.

More tangible to non-scientists was the fact that after DDT had been applied for the purpose of eliminating Dutch Elm Disease, birds disappeared and local fauna and flora suffered great losses. One woman thus described such a scene: "My neighbors close their eyes while Robins dance themselves to death—and [they] keep spraying."

DDT's success at controlling pest species, however, made it a formidable chemical to contend with, either politically or scientifically. As early as the late forties scientists had questioned its effects on the environment—effects which chemical companies routinely and flatly denied. Beginning in 1958, Professor Joseph Hickey, a University of Wisconsin wildlife ecologist and ornithologist, conducted internationally recognized studies on the Peregrine Falcon which ultimately correlated with DDT the worldwide population crash of that hawk and other species of raptors.

It was later shown that DDT and DDE (Dichlorodiphenyldichloroethane), a closely related compound, caused a calcium deficiency which eventually caused the thinning and breakage of egg shells, making it almost impossible for birds to produce successive generations. Professor Hickey's testimony was to be of great importance in the case against DDT at the Madison hearing.

Professor Hickey and his students also did studies which showed with "careful comparative studies of sprayed and unsprayed areas," that Robin mortality was "at least 86 to 88 per cent" after the application of DDT. On the Madison campus of the University of Wisconsin as much as twenty-three pounds to the acre of DDT were used at one time in an effort to eradicate Dutch Elm Disease.



Betty MacDonald

The Madison Hearing: Origins

It was the issue of the use of DDT as a deterrent to Dutch Elm Disease which eventually brought the debate over the chemical to Madison.

When the *Milwaukee Journal* reported that DDT was to be used to fight the devastating tree disease in Milwaukee county—parts of which border on Lake Michigan—citizens under the auspices of the Citizens Natural Resource Association (CNRA) sought an injunction through the Wisconsin Department of Natural Resources (DNR) to halt the county's spraying. A meeting took place in October of 1968 in what the Chief Hearing Examiner of the DNR, Maurice Van Susteren, called a "roomfull of very agitated people." The *Milwaukee Journal* had reported only a rumor, it turned out, and it was agreed by the county and the tree service involved that DDT would not be used in attempts to control Dutch Elm Disease. The hearing was declared "moot."

But the CNRA and the Environmental Defense Fund (EDF), which had come to Wisconsin from New York to support and help represent the CNRA, were seeking a more substantial victory than the essentially hollow one attained in October.

Van Susteren, a bit puzzled by the group's "dejection," then informed the petitioners of provisions of Wisconsin Statute 227.06, which "allowed citizens to ask any state agency for a declaratory ruling on the applicability of a law enforced by that department to any particular situation or set of facts."

On October 28, 1968, the CNRA, again

backed by the EDF, and the Wisconsin division of the Izaak Walton League of America, Inc., filed a petition with the DNR "requesting a declaratory ruling on whether DDT was an environmental pollutant within the definitions of section 144.01(11) and 144.30(9) of the Wisconsin Statutes." Put differently, a ruling was sought on whether DDT contaminated state waters, over which the DNR exercised jurisdiction. On December 2, 1968, the hearing began in Madison, with Mr. Van Susteren presiding as Chief Hearing Examiner.

The Wisconsin statute permitting interested citizens to obtain declaratory rulings on laws enforced by various state agencies was singular in the realm of state law and made Wisconsin the ideal setting for the foes of the pesticide. Opponents of DDT, and indeed environmentalists in general, had long been looking for a way in which their concerns could be voiced via legal action. The EDF had scored partial success in forcing a stoppage of the use of DDT as a mosquitoicide in the salt marshes of Suffolk County, New York. Were the judgment of the Madison hearing made in favor of the anti-DDT coalition, the impact would not only be statewide, but more importantly, draw national attention to DDT's detrimental physical character, and "provide the basis for further legal action and seriously set back the defenders of DDT." In any event, if managed properly, the hearing could become a podium from which the evils of DDT could at last be broadcast to a very wide audience.

But the Statute 227.06 merely states that citizens may ask for a declaratory ruling. Whether or not they are granted one is quite another matter.

In 1968, DDT was applied liberally to Wisconsin's woodlands, roadsides, marshes and farmlands to control mosquitoes, flies and gypsy moth caterpillars and other pests. The prevailing belief was that no other pesticide could be at once so inexpensive and effective, and that its application was essential to the preservation of those lands and—more importantly—the tourist trade which they attracted. If, it was thought, the use of DDT was halted, thousands of acres would be defoliated and overridden with flying insects, thus driving campers, hunters and fishermen to seek greener pastures elsewhere, where they instead would spend the tourist dollars so important to the Wisconsin's treasury. If DDT was really threatening the environment, its benefits in the minds of many seemed to far outweigh its costs; if the situation were truly otherwise, few within the realm of politics cared to know about it. Only when public outcry reached a sufficient pitch, did it become an issue politi-

cally safe to handle.

Thus Mr. Van Susteren's willingness—in fact, his determination—to hear out the evidence took considerable courage. And to him must be credited recognition that the Madison hearing was so essential to the revealing of the real facts about DDT—which only now began to receive full public attention.

The Adversaries and Their Early Expectations

The petitioners, the anti-DDT coalition which grouped at Madison, fully realized from the start the importance of the Madison hearing. The potential educative impact on the public was as noted, immense; the opportunity quite unprecedented. The *New York Times* called the hearing ". . . the first forum in which the nation's scientific community has been able to meet the [chemical] manufacturers in a face to face confrontation that can be carried to a decision. . . ." The hearing could "affect the use of pesticides in every state."

On the other hand, an advisory group of the National Chemical Association—the Task Force for DDT—had intervened in the Madison hearing. And the Task Force apparently did not appreciate the significance or importance of the hearing until long after it had begun, until news cameras from the networks were presenting national coverage. They never recovered from the consequences of these misjudgments.

A number of factors contributed to the poor start made by the Task Force when the Madison hearings began.

Madison's *Capital Times* called the hearing a showdown between David and Goliath: Goliath big, big moneyed and silk-suited; David "passionate but poorly funded. . . ."

First and foremost, the disdain with which the Task Force viewed the foes of DDT clouded the vision needed both to size up the enemy and to gauge the turf on which the battle was to be fought. The disdain was a holdover from the initial reactions of a number of respected biologists, chemists, agricultural economists and others to the doubts Ms. Carson had cast on the value of DDT. In their view, what she had suggested was irresponsible at best and harmful at worst. The benefi-

cial side of DDT, as they saw it, could not be denied and DDT's critics at most could make no more than a circumstantial case against it. In this view, the burden lay on those who questioned DDT to prove the case against it with careful, scientifically solid evidence. And until that kind of evidence was at hand, the critics were acting quite reprehensibly in using no more than circumstantial evidence to undermine public confidence in a demonstrably effective pesticide.

Complicating the task of proving the case against DDT for the foes of the pesticide, was the pattern of breakdown followed by DDT when it reached the environment: In identification tests carried out by scientists, DDT—when it broke down in the environment—yielded products almost impossible to separate from harmful PCBs which came from other substances. DDT advocates could point to this and claim that the pollutants had come from substances other than DDT, that the results of tests purporting to link DDT to PCBs found in fatty parts of all kinds of animal life were inconclusive, and that the claims of the coalition nothing more than "a convenient diagnosis." But during the hearings testimony of a Task Force witness, the chief chemist of a subsidiary of the Shell Oil Company, indicated that "with difficulty" the break-down products of DDT in the environment *could* be distinguished from PCBs which came from other substances. With that evidence in the record, the coalition was "home free" to insist that DDT be forced to stand trial.

The disdain for the critics which pervaded the Task Force was reflected in a variety of forms. UW Entomology Professor Ellsworth Fisher sat with Task Force representatives through much of the Madison hearing and throughout remained a staunch advocate of DDT. His perception of their adversaries was reflected in a remark he made at the time: "They're trying to indict us, while we're just trying to do our jobs." Louis McLean, an Illinois agri-business consultant who volunteered to represent the Task Force at Madison, referred to environmentalists as "[those who] are preoccupied with the issue of sexual potency."

But while McLean prepared to try to discredit coalition testimonials by casting doubt on the personal and professional character of witnesses, notes The Environment, The Establishment and The Law, a 1971 volume dedicated to a detailed discussion of the Madison hearing, McLean's adversaries—the coalition scientists—were busy collecting and fortifying solid proof against DDT. And as the coalition's evidence accumulated during the hearing, Professor Hickey—sitting in his office not far from Professor Fisher's

Entomology lab—came to realize that what scientists like himself knew was true in their own labs was happening throughout the biosphere.

Apart from the disdain the chemical companies held for their critics, the chemical companies were also unaccustomed to hearings at which cross-examination was permitted. Earlier complaints against pesticides resulted in, if anything, congressional meetings where the companies' usual procedure was to bring in paid scientists who would attest—almost without contention—to DDT's effectiveness and its non-toxicity to non-target animals and plants. In Madison, scorching cross-examination at a hearing "conducted in quasi-judicial fashion . . . [which was] a blend of scientific forum and criminal court proceeding," superseded, in Van Susteren's words the "legislative pow-wows" that the industry had encountered before.

It was a magnificent effort; these people were of inestimable value in the background. The whole action was perfect citizen's movement.

Finally, the Task Force could have better served itself by admitting DDT was a pollutant and altering its defense accordingly. "After all," notes UW Law Professor James MacDonald—a specialist in environmental law who acted as a counselor for the anti-DDT coalition during the spring of 1969 and in other capacities later—"too much tea is a pollutant. Anything that is entered into the environment in too great a quantity is a pollutant—with the exception of distilled water." But the Task Force was inflexible and antique in its defense; it essentially behaved as if it were determined to try to reissue the panacea status that DDT had when it first appeared as a pesticide. This proved an impossible task.

Madison's *Capital Times* called the hearing a showdown between David and Goliath: Goliath big, big moneyed and silk-suited; David "passionate but poorly funded. . . ." Professor MacDonald and Betty MacDonald, his wife, whose interest in environmental concerns also drew her to support the anti-DDT cause, both saw it as a fight between *Davids* and Goliath, the plural because of the diverse political and social make-up of the coalition which had rallied—in large part spontaneously—to oppose the Task Force at Madison.

One key member of the Environmental Defense Fund—the organization which largely represented the petitioners at the hearing—jokingly referred to his group as "the fundless environmental defenders." With the exception of the Chief Counsel, all members of the EDF had paid positions elsewhere, and volunteered when their testimony and support were needed. Though the coalition managed to raise more than \$60,000 to support those who testified and worked directly at the hearing, this was nothing in comparison to the funds that backed the opposition. Nearly all of the effort put out by coalition was done by private citizens on a voluntary basis.

Yet the coalition possessed a great wealth of a kind with which the Task Force was largely unacquainted: tenacity, concern, and enthusiasm generated by a diverse group desiring change. Linked with the sound testimony of "conservative and cautious scientists," the combination was virtually unbeatable.

The initial petitioners, six private citizens who belonged to the CNRA, were overshadowed by the impressive battery of scientists who assembled to give evidence against DDT. But it was the efforts of the CNRA petitioners which started the momentum that did not halt until it reached Washington, D.C., a few years later. They, with their friends and associates, also housed and fed those who testified for the coalition. Others—again private citizens along with University professors and students—also offered another crucial brand of aid to testifying scientists in the form of spur-of-the-moment research, referencing and stenography.

"It was," in Professor Hickey's words, "a magnificent effort; these people were of inestimable value in the background." The whole action was, states Betty MacDonald, a "perfect citizen's movement."

Those in the limelight received the headlines. The "ring leader" of the petitioners was Victor Yannacone, "a bright, brash and indefatigable lawyer from Patches, New York" who was Chief Counsel for the EDF. Yannacone always had "one eye on the headlines," recalls Professor Hickey. The lawyer's uncanny ability to elicit fresh and astounding news to coincide with the presses of Madison and national newspapers helped to win further publicity for himself and the case against DDT.

Yannacone's brilliance in Madison lay not so much in his capacity as a lawyer, but in his vise-like memory, sharp-tongued oratorical skills and great showmanship. His renowned prepping of coalition witnesses wounded many a scientist's pride; his acerbic behavior made tempers flare and fissures widen

within the petitioner's camp, but common cause kept them together.

Yannacone's counterpart for the Task Force was at first Louis McLean. McLean undertook the representation of the Task Force because he lived not far from Madison, and because both he and the industry believed that they'd be home for Christmas. The *Capital Times* believed the same. "The hearing," it reported, "will continue for a fortnight or more."

Unexpected Duration: From Two Weeks to Six Months

One reason the hearing lasted nearly six months instead of two weeks was that McLean's tactics misfired. His concentration on personal attacks—referred to earlier—proved futile, and "the more McLean examined, the more the scientists talked for the record . . . the better their position became."

And boy, did they talk. Charles Wurster, for example, who, "in essence outlined the case presented by the petitioners," was examined for three days as McLean attempted to destroy his credibility. But "Wurster had," notes James MacDonald, "as close to a photographic memory as anyone I ever knew." Much of Wurster's evidence, broad and far ranging, would probably have been ruled inadmissible had Yannacone tried to introduce it, but was instead allowed because McLean elicited it. McLean, in short, failed to parry, and in fact indirectly aided the "concerted broad-spectrum attack" dished up by the coalition; he was later replaced by Willard S. Stafford, a Madison attorney of broader mind and highly regarded trial-court skills.

"In the long run," expounded the *Capital Times*, a week into the hearing, "the decision on this vital issue will be made by the public."

Shortly after the hearing began, the Wisconsin Attorney General's office petitioned the Dane County Circuit Court for a writ of mandamus to force the DNR to permit the Attorney General's office to intervene in the hearings. The power to appear as public intervenor was approved and Robert McConnell of the Attorney General's office took the position. With a watch-dog for the public installed, the stakes immediately grew higher, and the public's collective mind forced to an impending decision on the future of DDT. Yannacone, fellow petitioners, and the Task Force grasped this. When the hearing resumed in January of 1969 after a Christmas recess, the Task Force returned to Madison with new determination and a team whose sole purpose was public relations.

While the Madison hearing intensified

and the country was slowly becoming aware of the "disastrous physical properties of DDT," an event outside of Madison pushed public opinion to new levels of concern about the pesticide.

Late into the presentation of the defense, the news broke that the federal Food and Drug Administration had banned the sale of 32,000 pounds of Coho Salmon taken from the waters of Lake Michigan: the fish had been found to contain as much as fifty parts per million of the pesticide. On April 17, the Michigan Department of Agriculture's Executive Board—which had long been a great defender of DDT—voted to ban the use of the pesticide in the state.

This news was sensational and its effect immediate. Lab experiments now seemed all the more pertinent. Combined with the hard evidence delivered by an array of scientists at Madison, the news was condemning DDT. The public had at last had enough. Before the hearing ended, the Wisconsin Legislature, which had been in session during much of the proceeding, also voted to ban the chemical. The original goal of the CNRA had been attained.

The Madison Hearing: How It Ended, What It Meant

The Madison evidence showed lucidly the disastrous traits of DDT. "Its persistence, solubility in lipids, broad biological activity and surprising mobility" were traits which wreaked destruction. "The

fact that DDT was being stored in body fat and in the fatty layers of the nervous system; that DDT was not remaining restricted to the pests it was sent out to eradicate but was also affecting beneficial insects, fish and birds; and that concentrations of DDT could now be found throughout the biosphere . . ." supported

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the conclusion that DDT adversely affected everything other than humans.

If a showing of the effects on the rest of the planet was not enough—if the potential danger to humans had to be spelled out—the testimony of S. Goran Lofroth showed that there was universal contamination of human mother's milk with DDT residues. And the Madison evidence was crowned with the appalling revelation that the Federal agency designed to regulate pesticides had left safety testing and poison information of all pesticides to the manufacturers: the agency questioned only discrepancies in that information and did not attempt to verify the information furnished by the DDT manufacturers.

The declaratory ruling was not released until May 21, 1970, a full year after the adjournment of the hearing. To most—and perhaps also to himself—Chief Hearing Examiner Van Susteren's report was a letdown: DDT by that time had been banned in Wisconsin and Michigan. The coalition had scored its victory. And the future of DDT was imperiled at a national level. But Van Susteren's report was a reminder that Madison's hearing was more than a "legislative pow-wow," that the public could, and indeed did, reshape and modify that with which it was dissatisfied.

"Only in a courtroom," said Yannacone, "can bureaucratic hogwash be tested in the crucible of cross-examination." What was revealed at Madison was the bitter pill, "the unpalatable facts" about DDT, and about the way in which our government regulates pesticides. The hearing signified many firsts: the first time environmentalists met pesticide manufacturers face to face; one of the first times an environmental contention was litigated, albeit in "quasi-judicial fashion;" one of the first times the incompetence of a regulatory agency was so plainly revealed.

But above all, the Madison hearing represented a true victory for concerned citizen's whose workings displayed, says Betty MacDonald, "the anatomy of a perfect citizen's movement." It was, notes one authority on the hearing, "with the backing of various outside scientists and with volunteer help . . . [that] Yannacone kept the crucible hot."