

ILLINOIS POLLUTION CONTROL BOARD
September 15 , 1976

ROBERT CINQ-MARS,)
)
 Petitioner,)
)
 v.) PCB 76-177
)
 ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

This matter comes before the Board upon a variance petition filed on June 30, 1976 by Robert Cinq-Mars requesting a variance from the provisions of Rule 203(h) of the Chapter 3: Water Pollution Regulations (Regulations) to allow application of rotenone, a fish toxicant, and Aquathol K, an aquatic herbicide, to Johnson Subdivision Pond. The pond is located in the Northeast 1/4 of Section 18, Township 12 North, Range 9 East, of Coles County, Illinois and has a surface area of 2.5 acres. The Recommendation of the Environmental Protection Agency (Agency) was filed August 13, 1976.

The petition alleges that the pond contains undesirable, stunted species of fish and that fishing is difficult due to excessive growth of aquatic weeds. The bullheads and crappie are keeping the quantity and size of the bass down. Petitioner proposes to apply rotenone and Aquathol K, both at 3 ppm, to eliminate these problems. The pond is used for swimming, fishing and drinking water for ten houses each with its own filtering system. Petitioner states that the fish will be dead within twenty-four hours. The weeds will begin to decompose and sink to the bottom in three to seven days. The pond will not be restocked for at least one month. The Aquathol K is to be applied as soon as the variance is approved and the rotenone is to be applied the first week in September. Both chemicals will be applied when the pond is below the spillway level. The petition states that after use of the Aquathol K the water should not be used for seven days and that all residents have agreed to bring in water for the time necessary. The application of the chemicals is to be supervised by Richard Rogers, District Fishery Biologist, Department of Conservation.

The Agency in its Recommendation presented much information on rotenone from a publication prepared by the U.S. Department of Commerce's National Technical Information Service entitled, A Review of Literature on the Use of Rotenone in Fisheries, PB-235-454, May, 1974. The Agency pointed out that degradation of rotenone is fairly rapid, usually within two weeks of application (Illinois Department of Conservation, 1964). The maximum period is five months or more (Smith 1941, Leonard 1939, Meyer 1966, Cohen et al. 1960). Certain factors such as high temperatures, high alkalinity, and light intensity accelerate degradation and others, such as turbidity, extreme depth and overloading with rotenone slow it down. Rotenone persists five to six days in spring, two to three days in summer and up to five months or more in winter (McKee and Wolf 1971, Meyer 1966). This document further points out that the bullhead is a species of fish that is extremely resistant to rotenone. Also stated was that rotenone can be detoxified with potassium permanganate or chlorine and removed from the water with activated carbon; rotenone is relatively free of hazards in normal use, because of the low percentage used in formulations, unstable nature of rotenone, and its low solubility in water.

Aquathol K, the Agency states, is the trade name for the potassium salt of endothall. In Water Quality Criteria prepared by the State Water Resources Control Board of California, the following is found regarding endothall:

Walker . . . found that 40 mg/l had no harmful effects on three species of minnows in 96 hours. Other work demonstrates no fish toxicity to endothall in 21 days at a level of 100 mg/l . . . the lethal dose to bluegills is greater than 100 mg/l but less 200 mg/l. No mortalities were observed at 10 mg/l on rainbow trout, bass, and fathead minnows . . .

The Agency also received a letter dated January 31, 1974 from John H. Jordan, Ph.D., Technical Services Coordinator, U.S. EPA stating that potable water which has been treated with endothall at 3.0 ppm should not be used within fourteen days. The Agency recommended that a condition of the variance should be not using the pond for drinking water for fourteen days.

The Agency verified that Richard Rogers would make the application of rotenone and Aquathol K. Rogers contends that rotenone will have to be applied in the 3 ppm range in

order to kill the bullheads. A 1 ppm application, in his view, only puts the fish population in the pond in a worse condition. It has been Mr. Rogers experience that concentrations below 3 ppm will not kill bullheads. Rogers stated that if necessary he would require fingerling bluegills survive 48 hours exposure in live cars before allowing the water to be used for drinking purposes.

The Agency points out that Petitioner has failed to supply information as to possible effects of rotenone at 3 ppm upon a pond that is used for potable water. The Agency recommends that unless further information is supplied regarding applications in excess of 1 ppm that the application of rotenone be limited to a maximum of 1 ppm as the Board has allowed previously in public water supply cases, City of Vandalia v. EPA, 21 PCB 459 (1976), and Mt. Vernon Gun and Sportsmen's Club v. EPA, 18 PCB 566 (1975).

Petitioner fails to indicate whether the fish killed by the rotenone application will be removed from the pond after the treatment. The Agency recommends that Petitioner must supply an adequate method of collection and disposal of the fish before obtaining a variance.

The Board finds that the rotenone treatment proposed is the only practicable method of fish population management and that with the Agency's conditions there will be no hazard to the public water supply. With such precautions denial of the variance would be an unreasonable hardship. The Board therefore grants a variance from Rule 203(h) of the Regulations subject to the conditions recommended by the Agency.

This Opinion constitutes the Board's findings of facts and conclusions of law.

ORDER

The Pollution Control Board hereby grants Robert Cinq-Mars a variance from the provisions of Rule 203(h) of the Chapter 3: Water Pollution Regulations, to apply concentrations of rotenone and Aquathol K to the Johnson Subdivision Pond subject to the following conditions:

- a. That the rotenone application be limited to 1 ppm.
- b. That the Aquathol K application be limited to 3 ppm.

- c. That the application be applied by personnel of the Illinois Department of Conservation.
- d. That the Agency be notified at least twenty-four hours prior to the time of application.
- e. That an acceptable method for collection and disposal of dead fish be submitted to the Agency before application of the toxicants.
- f. That individual homeowners that use the Johnson Subdivision Pond as a source of potable water supply be notified at least twenty-four hours prior to the application of the chemicals.
- g. That the chemicals be applied when the pond is below the spillway level.
- h. That the Johnson Subdivision Pond be closed for all primary and secondary contact use including, but not limited to, drinking water, swimming, boating and fishing for a minimum of fourteen days after treatments and until such time as bluegills survive forty-eight hour exposure in live cars.
- i. That water samples be collected and analyzed for rotenone and Aquathol K before the pond is used as a source of potable water.
- j. That each household in the subdivision be contacted and a signature obtained from the appropriate head of the household acknowledging the above conditions of the PCB Order and agreeing not to use the lake waters for the indicated times and uses set forth in the Order.
- k. Prior to the application of the chemicals, but not more than twenty-eight days after the date of the Board Order herein, the Petitioner shall execute and forward to the Manager, Variance Section, Division of Water Pollution Control, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois 62706 and to the Illinois Pollution Control Board the Certification of Acceptance and Agreement to be bound to all the terms and conditions of the Variance. The form of said Certification shall be as follows:

CERTIFICATION

I (We), _____ having read and fully understanding the Order of the Pollution Control Board in PCB 76-177 hereby accept said Order and agree to be bound by all of the terms and conditions thereof.

SIGNED: _____

TITLE: _____

DATE: _____

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 15th day of September, 1976 by a vote of 5-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board