

PROPOSED GUIDELINES FOR STATES PLANNING FISH DISEASE CONTROL PROGRAMS

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When given the task of discussing guidelines for fish disease legislation, it occurred to me that a brief review of the history of the current laws, both good and bad, governing fish diseases might be in order. However, this idea was quickly discarded because the history of fish disease control in the United States is short and dates only from the mid-1950's, and its study serves only to point out the sparsity of control measures and their general lack of uniformity. I was struck by the close parallel of the early development of animal disease control and the present state of the struggle to initiate effective fish disease control measures. Because of this close parallel, I would like to briefly discuss some of the historical aspects of animal disease legislation with the hope that it will point out some of the pitfalls we need to avoid.

Prior to 1843, the United States was free of any significant livestock disease problems. However, in 1843 Peter Dunn, a New York City milkman, bought a milk cow from the captain of a British ship, the *Washington*. Because of the low price, it seemed at that time that Mr. Dunn was getting an excellent bargain. Unfortunately, this turned out to be one of the most expensive cows ever bought since it introduced contagious pleuropneumonia, into the United States (Van Houweling, 1956).

Several other diseases of livestock began to appear in apizootic proportions in the mid-1800's. During this period, hog cholera was responsible for the loss of 25 to 30 million dollars worth of hogs each year. Other diseases such as, tuberculosis, brucellosis, anthrax and blackleg were spreading and causing severe losses of livestock. Texas cattle fever caused all cattle raisers to live in fear that this dread disease of unknown etiology would strike their herds.

By 1880, the number of disagreeable and expensive quarantines imposed by both state and local governments was increasing. Some of these quarantines were for protection of local livestock owners, but some were for the simple purpose of retaliation against other local governments (Van Houweling, 1956). By 1883, hogs from the United States had been barred from the European markets and our cattle and sheep were not permitted to be exported to England because of rampant disease outbreaks.

Dr. F. S. Billings (1884), a very staunch advocate of animal disease control legislation in the 1870's and 1880's, made a very eloquent plea for strong state and federal laws to control contagious animal diseases in his book, "The Relation of Animal Diseases to the Public Health and Their Prevention". He stated that many farmers in Massachusetts, where strong laws had resulted in the eradication of contagious pleuropneumonia, had the idea that they or their neighbors had been unjustly treated because they failed to realize that by the slaughter of all cattle of a few owners, those of the majority were saved. He also wrote, that: "the rights of the individual are as nothing when those of the masses are endangered; but it is the duty of the latter to amply remunerate the former for the loss they have caused him to incur for their protection. This is the sole and only principle which should guide legislators in drafting laws".

Because of the seriousness of the problem, the Veterinary Division of the Department of Agriculture was created in 1883 to provide accurate information about the incidence and nature of animal diseases and the means of control and eradication if necessary. It was soon realized that something more was needed if the livestock industry was to survive. On May 29, 1884, Congress passed "An act for the establishment of a Bureau of Animal Industry to prevent the exportation

of diseased cattle, and to provide means for the suppression and extirpation of pleuropneumonia and other contagious diseases among domesticated animals". It took 1.5 million dollars and five years, but contagious pleuropneumonia was eradicated from the United States, the first country to accomplish this monumental achievement. Many important lessons were learned during this five year struggle that would aid the Bureau of Animal Industry in combatting other contagious diseases in future years.

From the onset there were many doubts that contagious pleuropneumonia could be eradicated. Not only were there doubts, but also widespread opposition, and few states were prepared to effectively cooperate with the Bureau to carry out this program. By the time the program had been completed it was realized that control of a contagious disease could not be left to individual initiative, but that only through the combined efforts at individual, community, state, national, and international levels could a contagious disease be stopped. Political boundaries were found to be a very ineffective barrier against a contagion (Van Houweling, 1956), in fact, almost as poor a barrier as was the defensive line of the Army football team against the Notre Dame backs in their 77-7 loss of a few weeks ago. I want to emphasize this point — it is only through the combined efforts of all concerned parties that a contagious disease can be contained and possibly eradicated.

The next important task facing the Bureau of Animal Industry was to determine the cause and subsequent eradication of tick fever in cattle. Tick fever spread to this country from Mexico in the late 17th or early 18th century. It was not until 1892, that the etiologic agent was found and that the cattle tick was proven to be the means by which the disease was transmitted. In 1906 a program was initiated to eradicate tick fever by eliminating the vector of the disease, the cattle tick, *Boophilus*. From the onset, the Bureau of Animal Industry met many frustrations, not the least of which was the lack of adequate State laws, and the lack of State and County funds to carry out the program. They also had to contend with enlightened individuals who blew up dipping vats and shot inspectors in an effort to defend their right to spread disease to their neighbors' herds. Suffice to say, persistence paid off and the last recorded incidence of tick fever in the United States of which I am aware occurred in 1949 (Cole and MacKellar, 1956).

Many other diseases have been eliminated or controlled to such an extent that they no longer cause any significant losses. It should be emphasized that these achievements in animal disease control were possible only through the combined and concerted efforts of all interested parties, the livestock owner, county, state, federal and international authorities.

This brings us to the main object of this talk — the presentation of the Proposed Guidelines For the States Planning Fish Disease Control Programs. As of 1970, only fourteen states had any form of fish disease control program (Herman, 1970) and these programs range from good to bad. The guidelines to be presented here today do not represent the final answer to the problem of fish disease control. They do, however, represent the best thinking of responsible private fish farmers, state fishery biologists and administrators, federal fishery biologists and administrators and academicians who comprise the ad hoc Fish Disease Committee of the Southern Division of the American Fisheries Society and those non-committee members who so graciously gave of their time and ideas. These guidelines are not to be considered as proposals for immediate passage into laws for the control of fish diseases, but rather a set of ideas to be used as a guide for those who are in the process of preparing legislation or modifying existing laws. It is hoped that these criteria may help bring about a uniformity of laws on control of fish diseases. If this standardization occurs, it will surely be instrumental in protecting our great natural fishery resources, the rapidly expanding fish farming industry, and the state and federal hatchery systems

without being punitive, restrictive, or retaliatory toward any individual, organization or agency.

The guidelines or criteria are:

The list of Reportable Diseases prepared by the ad hoc Fish Disease Committee of the Southern Division of the American Fisheries Society should be adopted. This list to be revised or approved annually by the committee.

Annual reappraisal and/or revision of this list of reportable diseases is necessary to keep abreast of new developments in the field. In light of new research findings, some diseases now in Categories I-III, may be placed in a new category, including Category IV, and others not on the list of Reportable Diseases may be added.

All inspections relative to fish disease control should be made at the point of origin prior to shipment. Such inspections should be coordinated with other examinations, i.e., for the presence of undesirable species of fish, to avoid undue interference with shipments.

As pointed out by Harold Wolf (1970) in his paper on problems associated with the California fish inspection program, most of the costly, wasteful and unpleasant aspects of inspecting fish could be avoided by the simple expediency of making all inspections at the point of origin.

States should develop lists of mutually acceptable inspectors chosen along guidelines proposed by the Fish Disease Committee of the American Fisheries Society (1971. Trans. Amer. Fish. Soc., 100(1): 186-186).

The American Fisheries Society Fish Disease Committee suggested that a five-member Board of Examiners be appointed for a term of two years by the President of the Society; the Board members to be chosen on the basis of their training, experience, and demonstrated competency in the field of fish diseases. The Board members would draw up criteria for qualified "Fish Disease Specialists" and would pass on an applicant's qualifications to serve in this capacity.

That movements of fish should be refused or limited only when Reportable Diseases (Categories I-III) are found. If non-reportable disease are found, inspectors should inform both the buyer and seller, leaving the possible disposition of such fish to the parties involved.

If a Category IV disease is found, that is, one that can be treated by either chemical or managerial means and one that offers a threat only to the immediate stock of fish, there is no reason for such affected fish to be quarantined by either state or federal law. Whether or not fish are infected with Category IV diseases, such as *Trichodina*, gill flukes, columnaris, *Aeromonas liquefaciens*, etc., should be of concern only to the buyer and seller. Drs. Summerfelt and Lewis have earlier discussed the guidelines for designation of reportable diseases and the proposed diseases to be placed in these categories.

Any farm, hatchery, or establishment having or having had a Reportable Disease should be considered suspect until inspections by standardized procedures have demonstrated they have been free of the disease for a continuous period of two years.

This would insure that any Reportable Diseases would be restricted to the location where found and would prevent its introduction into new geographical areas, to disease-free hatcheries and fish farms, and/or natural waters.

States should adopt the standardized procedures for examination of fish or aquatic animals as developed by the ad hoc Fish Disease Committee.

This would insure that all inspectors would use the same diagnostic procedures, thus increasing the likelihood of identifying a reportable disease during inspection.

All states proposing fish disease control programs or modifying existing programs should include provision for funding inspection, certification, and

indemnification associated with the implementation of such programs. All states are urged to cooperate in any federal programs on fish disease control which might be enacted.

It does no good to propose programs and then to enact laws authorizing such programs if no provisions are made for carrying out the program. The history of animal disease control contains numerous examples, some of which I mentioned earlier, which emphasize this point very strongly. I think it is incumbent on those who are interested in an effective fish disease control program to take heed of the lessons learned in implementing animal disease programs.

All costs for the inspection of private fish stocks should be borne by the owners.

The reasoning for this is self-evident and really needs no discussion.

Dr. Glenn Hoffman (1970) has pointed out that at least 48 species of freshwater fish parasites have become established on other continents through the indiscriminate transfer of infected live and frozen fish and in some cases with serious consequences. The history of animal disease control is replete with examples of disease transferred to new geographical areas with resulting catastrophic losses.

As stated earlier, it is hoped that these proposed guidelines will assist in bringing about a uniformity of laws for control of fish diseases that will be instrumental in protecting and preserving our great fishery resources.

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