WILDLIFE DISEASE — A PROFESSION? 1

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WILDLIFE DISEASE — A PROFESSION? [1]

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When contacted to be the keynote speaker at the Wildlife Disease (WDA) Association annual meeting, I was very pleased to receive this honor and I did not hesitate to accept. After having an opportunity to reflect on the assignment, however, I soon became concerned. First, I was following some real "heavy-weights" as former keynoters, i.e. Carlton Herman, Lars Karstad, Harold Johnson; and second, what does one discuss in a keynote address?

While reviewing the later dilemma with my wife, she suggested, "Most keynoters discuss the status and challenges of their profession." This sounded like a reasonable approach, so I decided to proceed in that direction. What evolved, however, was not the status of my profession, but the question — do I have a profession? Today I would like to share this question with you and discuss several key challenges surrounding wildlife disease as a profession. To aid in this discussion, I have listed five factors which help characterize a profession:

1. Definition
2. Publications
3. Decision-Making
4. Education
5. Organization

1. Definition: Webster defines profession as "The occupation to which one devotes oneself." It logically follows that if wildlife disease is a profession, that participants in this audience are members of a profession. If we look around, however, we soon find that the audience consists of a variety of individuals representing a variety of agencies and that their main occupation is public health or veterinary health or teaching, etc. Is wildlife disease the occupation to which you devote yourself?
2. Publications: The publications of an association reflect its research which is a measure of professionalism. At first glance, the WDA is very professional with not one, but two publications *(Wildlife Disease* in microprint, and *Journal of Wildlife Diseases* in macroprint). To characterize the number and kind of material published by the WDA, articles in January and April issues of the JWD were reviewed in 1965, 70, 75, and 77. Articles were counted and divided into categories: disease reports (case reports, surveys) and disease studies (research, epidemiology). Table 1 illustrates that there has been an increasing number of articles published (13 to 45), but that the type of articles has not changed drastically. The Journal is still primarily publishing case reports and surveys. These are important data as well as essential beginning points for future research, but how many birds do we have to bleed to establish the fact that they have antibodies against the arboviruses?

   A major objective of medical research is to establish the significance of specific diseases, with the ultimate goal of control or containment. The field of wildlife

[1] Publication of the keynote address is not a policy of the Wildlife Disease Association; however, the subject matter of this address is timely and important to all of us. Consequently, Council felt that publication would be prudent. Jack Debbie, President, WDA.

disease is no different and we should be developing disease significance and control data. The review of JWD articles does not indicate this trend toward control.

Another interesting point which arose during this review is the fact that most wildlife disease studies are supported by agencies not directly concerned with wildlife. Our best documented maladies are diseases such as rabies, where public health agencies support research or leptospirosis, where Department of Agriculture research funding is available. Does the wildlife field consider wildlife disease an important ecologic factor?

TABLE 1. Articles in the Journal of Wildlife Diseases

		Disease Reports (percent)			Experimental Studies (percent)		
Year	Number	Individual	Outbreak	Survey	Transmission	Infection	Technique
1965	13	45	11	22	22	0	0
1970	26	35	8	15	4	15	23
1975	59	34	8	38	3	12	5
1977	45	22	16	36	18	6	2
		35	11	30	8	8	8
			76			24	

3. Decision-Making: An important indication of professionalism is the role which the profession plays in decision-making. For example, the American Veterinary Medical Association has strong input into the decision-making process on items which relate to livestock health. Likewise the Society of American Foresters plays an important role in establishing forestry policy. The WDA is notorious for its lack of involvement in matters relating to wildlife disease. For example, during the recent controversy concerning bison and brucellosis at Yellowstone Park, it was ironic that the Wildlife Society, the Sahara Club, the Isaac Walton League, and the Department of Agriculture contributed views and recommendations, but the WDA was conspicuous by its absence. Numerous other examples of non-involvement makes one ask — does WDA represent a profession?
4. Education: Professional schools train professionals. Yet, what university has a specific wildlife disease curriculum? Instead we prepare students for careers in wildlife disease by offering them graduate courses in the discipline(s) of the interested faculty member (i.e. a virologist trains a virologist, a parasitologist trains a parasitologist, etc.). Some might say that a specific curriculum is impossible to develop due to the complex multidisciplinary nature of wildlife disease; yet what is more complex than environmental education or environmental law which have specific curriculums and programs?

5. Organization: Since a professional organization is a reflection of the professional status of its members, let's look at the WDA. It has grown spectacularly since its inception. The membership is very diverse and includes numerous disciplines since the study of wildlife disease is multidisciplinary. However, this diversity also presents an obvious weakness: the American Veterinary Medical Association and the Society of American Foresters represent single organizations which represent single disciplines and single professions; the WDA does not. A professional often brags about what his/her association does for the profession. What does the WDA do for you?

Based on the aforementioned criteria, I must conclude that wildlife disease is not a profession, but that it could and should be. Assuming that we are not a profession, how do we become one? I do not have all of the answers to this question, but we could start with the five subject areas which I have been discussing.

1. Definition: We should not tamper with Webster and alter the definition, instead we should try to fit into it. The following items will contribute towards fitting into the definition and help us develop into a profession.

2. Publications: I started in this field 20 years ago. At one of the first meetings I attended, there was a review of the status of our knowledge concerning diseases of ruffed grouse. During that review, Dr. Murray Fallis of the Ontario Research Foundation, stated that by counting the number of papers published on surveys of parasites in grouse, one could determine the number of M.S. degrees which had been granted; and that the number of papers published on life cycles of parasites of grouse reflected the number of Ph.D. degrees which had been granted. A similar situation exists today, and it is not limited to parasitic disease. This interest by the academic community is good, but it appears that wildlife disease does not generate interest in other areas unless or until a crisis develops. For example, the 1973 outbreak of duck plague in South Dakota played a key role in having the U.S. Fish and Wildlife Service establish its National Wildlife Health Laboratory. This crisis-dependent relationship must change, and to change, it must be demonstrated that disease is important; this in turn means that we need more than parasite and/or antibody surveys. A start would be to have the JWD review its editorial philosophy and policies to encourage more and better manuscripts.

There is no question that disease is an ecologic factor which plays an important role in wild populations, yet how often do we see this referred to in scientific or popular media? A reporting system for diseases of wildlife does not exist and even people in the field seldom know about epizootics or other happenings except via word-of-mouth. For example, at the White-Tailed Deer Disease Symposium which immediately preceeded this meeting, I discovered via informal conversations that a major hemorrhagic epizootic occurred in wild ruminants last summer. Nebraska estimates that it lost more than 20% of its white-tailed deer population, Wyoming lost 4,000 antelope, Oklahoma lost "large" numbers of deer, the Dakotas lost undetermined numbers of deer, etc. A die-off of this magnitude often can stimulate interest and research in an area, but not if it is unknown to the scientist, the public, and the politician. The WDA once considered a disease reporting system, but the idea never got off the drawing board. Maybe it is time for such a system. Look at what the Arbovirus Information Exchange has done for the arbovirologists! Selling the idea that disease is important to wild populations is essential if we are to receive professional recognition. Other scientists, legislators, sportsman groups, and the general public should know about wildlife disease and the WDA.

3. Decision-Making: We must become involved in the decision-making process on matters relating to diseases of wildlife. If the WDA cannot recommend action on wildlife disease matters to legislators, administrators, interested citizens, etc., who can? We must be an active "lobbying" organization.

   A common quote of wildlife administrations, sportsman, etc. is "Your studies are interesting, but what can you do about disease in wildlife — vaccinate them? ha ha!" In addition to habitat and population control, wildlife and medical technology have procedures available so that we can if needed vaccinate wild populations. Oral or aersol vaccines could be administered to wildlife at select sites such as deer yards or waterfowl wintering grounds. We need to inform the wildlifer, the public, the legislature, etc. of the significance of disease and that we know enough to do something about it.

   Recognition of the WDA as a professional organization is needed. I am pleased to report that the WDA Council at its 1977 meeting established a Public Awareness Committee which will review and react on current issues.

4. Education: Formal educational programs to train students in wildlife disease could be developed. To understand wildlife diseases, one must have basic knowledge in areas such as ecology, epidemiology, statistics, animal health, public relations. A core curriculum could be developed to include the essential subject areas in a combination of undergraduate and/or graduate programs. The WDA might develop a suggested curriculum to stimulate the establishment of such academic programs. Other professional organizations, such as the Society of American Foresters, has used this approach which eventually evolved into an academic accreditation program.

5. Organization: The WDA must become a viable organization and lead the way towards professionalism. The diversity of disciplines in the WDA will remain and is essential, but let's use it as a strength in decision-making, research, education, etc.

   To illustrate that we could do something about this subject today, I jotted down ten items which could start us off-and-running. These include:

   a. Better communications within the membership (i.e. disease reporting).
   b. Publicize activities (i.e. newsletters, journals, public media).
   c. Assist *Wildlife Reviews and Abstracts* with their disease section.
   d. Develop an academic curriculum.
   e. Prepare slide shows, lectures, speakers, for environmental education.
   f. Become an active policy maker.
   g. Sponsor joint meetings with professional organizations (Zoo veterinarians, AIBS).
   h. Sponsor special symposiums, including proceedings (waterfowl disease, lead poisoning).
   i. Encourage quality scientific articles in the *Journal.*
   j. Develop a wildlife serum bank (repository).

I am not naive enough to think that the above will make us a profession, but it is a start. We can and we must earn the title profession; the WDA must play the key role in making it happen.

You might say, who will do all of this? We all must! Within the WDA, the Secretary and Treasurer positions have limited responsibilities, why not reassign their areas of responsibility and start pursuing some of the above items?

We are in the most interesting and exciting field in the world, but unless others learn about it, 10 years from now we'll be talking to ourselves about the same problems.

Although my comments may have given the impression that I am disenchanted with the WDA, this is not true. For example, earlier this week during the White-Tailed Deer Disease Symposium, I heard of many exciting wildlife disease research studies at Colorado State University, the University of Florida, the University of Alberta, and the Center for Disease Control. Publications are of increasingly better quality in the JWD. Students, although younger, are better prepared and as eager as ever to contribute and make wildlife disease a true profession. This is an exciting field with a great future, especially when one considers its potential with endangered species programs, exotic big game species, fish farming, marine mammals, wilderness areas, etc.

I can best sum my views by quoting that common TV slogan, "You've come a long way Baby", and merely add that there is a long way to go. So let's all look at where we are, where we want to be, and start getting there!

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