

have sound secure research programs and a minimum of problems for both the biologists and the administrators.

WHAT A DIRECTOR EXPECTS FROM A FISH AND GAME BIOLOGIST

By CHESTER F. PHELPS

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What does a director expect from a fish or game biologist?

An answer to this question could vary from the extremes of a simple statement to the effect that a director expects biologists to contribute as much as possible to the overall operation of the department, to a mass of detail varying from personal habits to a proper knowledge of economic entomology.

I'll try to cover a middle ground and to keep this presentation in the nature of an informal discussion. To begin, let me explain that I have been a biologist much longer than a director and my views may be weighted proportionately.

In examining the basics, the present-day director of a fish and game agency has administrative problems very similar to those of the head of a manufacturing concern. The latter has a product and so does the agency, and a many faceted one too. Fish and game are tangible products, and then there is recreation per se and, to top it off, the overall product is conservation: the wise use of a resource, an ethic for human behavior. The sales manager of The ABC Manufacturing Company, Inc. has similar general worries.

A full bag or creel is at the end of our production line, and the distribution problem takes care of itself, except there is never enough of anything, and we have to also police the manner in which it is purchased. Production is the principal trouble spot. Our friends at ABC have a research and development section working long before the first manufactured item is produced and the responsible engineers correspond to our fish and game biologists. A director expects from his fish and game production engineers—biologists—much the same services and performance as his manufacturing counterpart, plus qualities and abilities usually not essential to the budding industrial engineer.

The man himself is at once the least important and the most important. No director is particularly concerned with a man's appearance except to the extent of reasonably good grooming consistent with the job he may be doing at the moment. He does expect a well-rounded individual possessing the old-fashioned attributes of good character: a man who has initiative, ideas, good work habits, honesty, loyalty and understanding. Regarding the latter, I can say the average director, particularly one who has been associated with the department for years or who may have been a biologist himself (and a surprising number have been), possesses a much greater understanding of the biologist's problems than vice versa. This simple fact, however, apparently never crosses the mind of the average biologist. I have seen biologists with all the enthusiasm—and inexperience—of their comparative youth explain or present an idea to a director who, more often than not, had the same idea himself ten years ago, and not be able to understand why the director didn't jump up, shake his hand and say "We'll put it into effect tomorrow!" It would be well for biologists to reflect that they usually have but one supervisor, or person, watching their work, and if they blunder someone else is always there to take at least part of the rap, but the director is in a much different position.

Not only is a director responsible for his own actions and decisions and those of all other department employees, but he must always be in a position to support these actions, if necessary, to a commission or board, a legislature, a governor and the public. Even a neophyte biologist should realize that the public is generally hard to "sell" on anything, particularly sudden or drastic changes, and often the public allegedly knows more about game and fish management than does the biologist!

Loyalty is a word so commonly used it often loses its meaning. A director has enough uninformed people on the "outside" ready and willing to criticize and undermine without having to worry about those in his own organization.

For this reason, it is not surprising that directors have only one answer to those employees who publicly disagree with and criticize him. I have only two suggestions to those who feel they cannot go along with the director's policies. One, a frank and private discussion with him which, more often than not, will enable them to see his viewpoint. The other, to resign.

A biologist, above all others, should be completely honest and objective in his conclusions and presentations. Those with graduate degrees realize the final oral exam on their thesis was to determine, as much as anything else, whether or not they had been completely honest and objective in their collection, use and evaluation of the data from which the thesis was written. A director not only expects this type of thinking—he needs it. As pointed out previously, his is the final responsibility and he should have all the facts, both good and bad, as well as pertinent details which might be known only to the biologist in order better to guide his thinking. The biologist must be a fact finder. These facts must be applied to management projects to set up the production lines for our package or product—fish and game.

Initiative and ideas will always separate the men from the boys. Most directors are constantly on the watch for those who think and act for themselves in order to put them in more responsible positions. All directors have more to do than they can possibly accomplish—the ideal arrangement for them is being able to spend 80% of their total time in the office and another 80% in the field! Any biologist who can accomplish his job, wherever or whatever it might be, on his own initiative and without adding to the director's responsibilities will not long go without recognition. If, in addition to this, he can contribute sound, practical ideas to advance or ease the work of the department, his future is assured.

One thing a director does not expect—a biologist who instantly knows the answer to any involved technical problem. A reasonable knowledge of the biological sciences, game and fish management, is expected, and this brings up a point I would like to emphasize. I have never known a biologist to fail in his job because of a lack of technical knowledge. Invariably, failure is because of personality factors. I am confident every director in the country would share these views. All of us in wildlife work, and biologists in particular, should constantly remember that it is not fish and game that cause our headaches and our problems—it is people. Any wildlife worker, biologist or otherwise, who cannot "get along" with people, who cannot sell himself, has a limited future at best. Undesirable personality traits are difficult to correct, but it can be done and I have seen it done. To me, good personality traits are the most valuable attributes a biologist can possess. What principally concerns directors and others when hiring biologists is whether or not they will get an "odd ball." While it is off the subject, I would like to say to our colleges that they could produce better game and fish biologists if more attention were given to personality development courses. Let's have more of Dale Carnegie even at the expense of taxonomy!

Now let's mention another subject which, to many biologists, has no place whatsoever in fish and game management but one which concerns, to varying degrees, every director and should concern biologists. That is politics, which incidentally is a distinguished profession and one essential to our democratic government. In Virginia our fish and game biologists have as required reading an editorial, "There's a Place for Politics," which appeared in the February, 1959 issue of *Outdoor America*. I would like to quote from this: "Many professional game and fish men will admit, under sympathetic prodding, that they could do a better job of managing wildlife without being required to answer to political authority. This modesty is matched by politicians, who have been known to predict better fish and hunting if the 'college boys'—technicians—were replaced with 'practical' men—presumably relatives and political supporters. We have little sympathy with either position. The technician's dream of government by experts isn't democracy (shall we limit political office to an elite of political scientists?) and the politician's dream of government without experts ended with Sputnik. Both camps, we suspect, fail to distinguish between *policy*—the establishment and broad interpretation of objectives in terms of the needs of the people; and *administration*—the satisfaction of those objectives through research-based programs."

The biologist who does not recognize and understand the limitations—and liberties—imposed by practical political considerations on his director and himself has little chance of reaching the top. For example, no matter how sound, how beneficial, a radical revision of game or fish management procedures or regulations might be, unless it meets with reasonable acceptance by the public, or the public's representatives, the State legislature, it will not be successful. Proposed doe seasons have proved this.

Further, any director actively pressing such a move would not last long—and neither would his successors! While these things can be done through the long and laborious, but democratic, process of swaying public sentiment, nothing is gained by a frontal attack.

Our technical personnel cannot live in ivory towers and pass their days "assuming," "pointing to," "indicating" or "perhapsing" and herein lies an expectation in a director's viewpoint. In Virginia we have urged and expected our biologists to not only find facts and commence developments, but to spread the word—in person. This has not always been either easy or successful but those of our boys who have followed this approach have done our Commission and the sportsmen the greatest good, without any doubt.

The biologist, in my mind, should be able to stand up and explain and convince others of his plans or ideas, whether it be his fellow associates, his Commission or the sportsmen.

Along these same lines, the biologist must also develop an appreciation for the non-biological factors faced by the director and the Commission when his attaining this viewpoint than to make sure that he rubs shoulders with the public every day.

FUTURE NEEDS FOR FISH AND GAME BIOLOGISTS

By NELSON COX

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The obligations and organizational needs of Fish and Game Departments have changed, radically, over the past thirty-five years. Within that period we have witnessed a tremendous upsurge in our human populations, more leisure time, construction of a vast system of roads running into every part of the land, and a steady acceleration in the use of all types of recreational resources, of which our fish and wildlife resources are an integral and essential part. Coupled with this intensified use have been the changing patterns of land use resulting from intensified agriculture, urban and industrial developments, and increased uses of all kinds of resources to meet the needs of more and more people. Our population in this country, alone, has increased by 20 million in the past ten years, and it has been estimated that we will have a population of 227 million people in this country by 1975. All of these people have made more and more demands on resources.

Our population increments are great, but the use of all types of facilities for outdoor recreation has increased even more rapidly. The increased interest and use of fish and wildlife resources are dramatically demonstrated by the rapid increase in sales of hunting and fishing licenses from 1950 to 1958. Over this eight-year period, hunting license sales increased from 12,638,000 to 14,764,000, and fishing licenses purchased increased from 15,338,000 to 20,178,000. It has been estimated that hunters and fishermen now spend over 3 billion dollars per year on these types of recreation, while total expenditures for all types of outdoor recreation have been estimated at 16 billion dollars annually.

According to recent estimates, the demand for outdoor recreation will increase ten times by the year 2000. These figures demonstrate the tremendous monetary worth and use of our fish and wildlife, and outdoor recreation associated with them, but they do not evaluate the true worth of these resources, which contribute to our social welfare by providing rest, relaxation, and escape from the tensions of a fast-moving, industrialized, and crowded world.

I have prefaced my comments on future needs for biologists with these statistics to show that we are living in a rapidly changing world, and that these