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"REFLECTIONS . . ."



ROBERT A. McCABE

Robert A. McCabe, Professor of Wildlife Ecology, University of Wisconsin (Madison), recently retired. Bob received a B.A. in Biology from Carroll College, Waukesha, Wisconsin.

sin. His M.Sc. and Ph.D. were obtained in Wildlife Management under Aldo Leopold. Bob worked as Biologist at the University of Wisconsin Arboretum and Wildlife Area before becoming an Instructor in Aldo Leopold's department at the University of Wisconsin (Madison). He has worked on wildlife research in Canada, Africa, Mexico, and Ireland, including studies of waterfowl, large and small game birds, songbirds, and mammals. Bob has also conducted plant ecological studies on the University Arboretum and elsewhere, including research with tamarack, pines, and prairie propagation. He constructed the first full-scale "decoy trap" for waterfowl banding at the Delta Waterfowl Research Station in southern Manitoba. Bob was Chairman of the Department of Wildlife Ecology for 27 years and, despite retirement, still is at his department office 90% of his time aiding and abetting department effort whenever and wherever he can. His major occupation at the moment includes writing and completing unfinished or postponed research. He served as President of The Wildlife Society, 1976-1977.

Bob is married and has 3 sons, a daughter, and 4 grandchildren. In retirement, he will continue to spend many hours at the family farm in the southwest Wisconsin driftless area, which produces an average bag of 8 deer (plus ruffed grouse and American woodcock) annually.

for

ALONG THE WAY: A PROFESSION AND ITS SOCIETY IN RETROSPECT¹

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Acquiring experience over time couples knowledge with age. It does not, however, presuppose that one is requisite to the other. Reaction and evaluation to what is experienced in the wildlife profession is a function of the time of the confrontation. What seemed like catastrophe or euphoria 30 years ago may be viewed differently at this moment. Alteration of attitude with age is commonly referred to as mellowing. I am grateful that the process of mellowing has not made me mentally moribund. In the space allotted to me I can cover only a small fraction of the high and low points in the wildlife profession as I knew them, then and now.

What can anyone hand down by word of pen that will make life easier or more pleasant for the recipients of the hand-me-downs? If a sense of pride and professionalism is generated I will have been successful.

The history of The Wildlife Society (TWS) is being carefully documented by others for a publication recounting TWS growth for its forthcoming fiftieth birthday. I do not wish to upstage or conflict with that effort. However, let me share with you some of the progress and impediments along the historical road that I regard as meaningful since our formal coming of age.

Many of the original concerns in wildlife management centered around providing sustained yields of game for the hunting public. In this effort, wildlife managers were game managers and held to the credos of Aldo Leopold's *Game Management* (Charles Scrib-

ner's Sons, 1933); so far so good. In order to arrive at the utopian concept of sustained yield, for game or any wildlife, species were managed up and predators down, often with vermin control measures in vogue with European trends. In addition, habitats were altered in small-scale, local efforts to increase wildlife populations, and a number of short-lived attempts were made to bring landowners and hunters into consort through schemes of cooperation.

Managers were convinced that if food and cover were adequate, the welfare of game also would be. Early efforts were geared to providing, 1 way or another, those 2 components of success for game populations. Food was often easier to provide by direct feeding or with food patches. Cover was more difficult to furnish, as it was often costly, required long-term land commitment, was stationary, and had its own survival problems. Despite some local successes, managers soon realized that providing food and cover was not the simplistic panacea that had been hoped. This failure of what seemed like a sure path to successful game management spawned a new effort to understand why. Thus, many in the young profession became researchers to explore the ecology of a species, habitat, and methodology to better management so as to provide a rational method for working with game in the wild. In this process, it became necessary for all concerned to deal demographically with animal populations. Other branches of zoology were already engaged in such research (e.g., entomologists and fishery biologists). Wildlife research results were often suspect because researchers could not provide the kinds of experimental control exercised by studies with flour beetles or *Drosophila*.

¹ Manuscript invited without topical restrictions on the occasion of Dr. McCabe's retirement as Professor at the University of Wisconsin.

Some researchers rushed headlong to uncover basic biological principles, thus reducing a species being researched and needing management to the role of guinea pig. Few principles uncovered withstood the scrutiny of broad application.

The upshot of the shift or split in emphasis resulted in a management-research dichotomy, where researchers attempting to understand wildlife ecology began to study all manner of wildlife with sophisticated statistical techniques, while managers became restive with the lack of usable information to apply in the field.

Criticism was leveled at TWS that wildlife researchers overloaded *The Journal of Wildlife Management (JWM)* with papers that produced little by way of management, and that the *JWM* allowed researchers to communicate but the manager had no such forum. In 1973 the inauguration of the *Wildlife Society Bulletin (WSB)* was to provide, among other services, a place particularly for management papers. Although good intentions supported a special place for management papers, there never were enough publishable papers to satisfy a quarterly bulletin and, thus, the *WSB* was forced to include other articles similar to those published in *JWM*. An attitude appeared for a time in TWS that if a paper was good but not quite good enough for the *JWM*—send it to the *WSB*; regrettable.

By the same token, managers have sometimes felt that their facet of the profession was not as prestigious as that of a researcher, as indicated by esteem and recognition. The apparent lack of recognition has occurred in part because the researcher must publish in peer-reviewed journals, whereas the manager normally uses a house organ. Thus, a greater rapport exists between wildlife researchers and counterparts in other scientific disciplines than occurs among pen-shy managers. I do not subscribe, however, to the notion that because a manager spends most of his time in the field in the applied aspects of wildlife manage-

ment, and shuns publishing, that he/she is intellectually a second-class professional.

Management practices can be undertaken with the same scientific method that characterizes nonmanagement research and can produce results just as meaningful. If researchers test hypotheses that have no management application, or managers refuse to use research data that are relevant to their responsibilities, then one can expect a debilitating dichotomy within the wildlife profession.

A major flaw that has sometimes affected the results of both research and management is failure to evaluate the results of their respective efforts. The researcher usually regards the job as finished once the results are in print, disclaiming obligation to interpret results in the context of application. The manager claims that the research data cannot be used in the form presented—often with a statistical overburden and qualified conclusions. Thus, each tends to go his own way and useful evaluation "falls between the chairs." If wildlife researchers want to become classical zoologists, and wildlife managers want to become gamekeepers, so be it. Both are honorable goals, but each has limited usefulness to wildlife management and falls short of what the wildlife resource needs to secure its welfare. Administrators looking for professional leadership are aware of this ambivalence and become disenchanted. As an alternative, administrators try to find the untrained, elusive (perhaps nonexistent) "practical man." The resolution of the research-management dilemma requires useful dialogue among and between researchers, managers, and administrators through the medium of the first 2 basic Rs—reading and writing, aided by patience and understanding in verbal clarification.

The Lure of Tools and Techniques

One pitfall in the wildlife profession is to become enamored with tools where tool-development and tool-use become ends in them-

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selves. The use of a sophisticated tool is point-less when a simple one will suffice, e.g., to measure with a micrometer when a yardstick would do. The most recent high-tech tool now used in our field is the computer and its application to modeling. "Computerese," like military capital letter abbreviations, may give one a false sense of understanding. To the old-timers in the field, particularly those in management and administration, I would counsel: these machines and their uses are here to stay; to fight them is to be a modern-day Don Quixote. Modeling likewise is just a way of looking at options—it is not an adversary. Wildlife management is largely an exercise in prediction from data obtained via research. The computer and modeling merely aid in examining rapidly such data so as to delineate what one might predict from a given set of values. I know little of computers and modeling, but I encourage their use. I know little of abdominal surgery, but I know what person to use if I get appendicitis. To the young wildlife scientist I would counsel: the computer is a tool of rapid response and modeling is a scheme for predicting, and each is only as good as the research data that are its life support system. Solid field data are step 1; step 2 is the machine manipulations to understand it; and step 3 is the ecological interpretation of the end product. This last step requires the human mind to assess, evaluate, and provide meaning in the context of resource management.

Telemetry, an outstanding tool in itself, has been used and over-used, sometimes, I suspect, as a prestige factor often with disregard as to its field suitability or to cost effectiveness. Biotelemetry is gradually gravitating to its proper function as do most new tools in science.

Declining Resources, Ethical Behavior, and the Quality Experience

Almost every conservationist will admit that, overall, wildlife resources have declined

worldwide, nationwide, statewide, and even on the "back 40" in the last 50 years. Human population growth, dwindling habitats, more efficient harvest-equipment, changing land use, after-the-fact legal restriction, a blatant disregard for quality outdoor experience, and lenient trespass laws have drastically reduced both harvestable and nonharvestable wildlife while debasing public attitudes as well. Most of these decimating factors are self-evident of the supporting statistics readily available.

As game numbers are reduced, the opportunity to bag game is also diminished. A counter move sparked by human ingenuity is to improve the harvesting equipment to obtain what little remains; witness the innovations in firearms and ammunition and the device now called a bow.

From the muzzle-loading, hammer-firing scatter gun (and rifle) to the hammerless breech-loader to the double barrel to the pump gun to the automatic, the sophistication of sporting hardware has become more efficient and certainly more lethal. Telescopic sights, shot alloys, and steel shot have added to firearm effectiveness, while the shotgun shell has gone from reusable brass casings to paper hulls to plastic hulls with "power packed" wads. The shot string is concentrated by lubricants and plastic inserts; these, too, are meant to improve ballistics along with ready manipulation of choke size. None of these improvements, however, is geared to wildlife welfare although some are alleged to be.

The bow of the American Indian now used by sportsmen has changed from the wooden straight stave to recurved bows with sights to the bowlike device with pulleys called the compound bow. Hunters using such equipment have platforms in trees above the vision of the deer, and the puller of the pulleys is decked in camouflage from head to toe including his face, hands, and equipment. I have no quarrel with efficient progress in field equipment, as I use some of this progress as well, but I am sorry for the gadget user and

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his quarry because something of the chase is lost to both. When restraints on the use of our wildlife resources come, and they will, hunters must be prepared to lay down the most advanced harvesting equipment and relinquish even the limited time now allotted to the harvest effort in order to perpetuate what was once readily harvestable—so that game may be harvestable again. Hunters must respond in the knowledge that whatever kind of resource users they are, they are expected to be conservationists.

For the manager of wildlife, the management of man ranks on a par in the context of rational resource use. The quality of an outdoor experience varies with the individual. The custodians of natural resources have a major responsibility to provide a quality experience that is spiritually as well as physically uplifting. Such experiences cannot be provided under conditions crowded with other users seeking the same experience. Because quality is difficult to define, the standards of quality tend to depreciate with each generation until ultimately the wildlife profession will be forced by its constituency to accept standards of quality in outdoor experience that are incompatible with wildlife management itself. The hunter at the turn of the century, for example, could not comprehend what we might call a quality hunt of today, either in quantity of game, legal restrictions, or in conditions of the hunt.

When competition for a limited resource or for limited opportunity occurs, ethical behavior of the hunter becomes flexible to accommodate a more liberal attitude toward restraint. Ethical behavior may ultimately be lost with frustration occasioned by an inability to exercise a right to use a public resource. The result of such loss forces a segment of the non-hunting public into an antihunting stance. The ramifications of the impasse of too many hunters, too little opportunity, and too little game encourages unethical hunting behavior that is now common, particularly in the Midwest.

Whether realized or not, the United States is slowly drifting toward the European system of wildlife-land use, where the landowner literally owns the wildlife on his land. Use of that resource is then extended by privilege through invitation or purchase. As states in the U.S.A. continue to sell licenses to hunt a public resource that is housed on private property, but protected by trespass laws (often inadequate), a conflict is born. The landowner becomes the *de facto* owner of the game. The large ranches in Texas are functional examples of this trend. "No Trespass" signs are unnecessary because the judiciary treats trespassers severely.

Publicly owned lands usually are inadequate to handle the hunting pressure and game is readily depleted under conditions far from quality field sport, resulting in degraded field experiences and the degeneration of ethical field behavior. When one is forced to hunt in concentrations that reduce the sport to chance shooting, and when frustration and greed create dangerous gunning conditions, what can be said for quality hunting?

When lack of land access causes trespass, poaching, illegal shooting regarding season, bag or single species protection, or the use of outlawed gear or killing methods—what can be said of hunting ethics?

The Wisconsin Department of Natural Resources recently purchased a single 76-ha farm in deer habitat of a dairy farming community surrounded by privately-owned farms (where the average farm size is 111 ha). On the opening day of the 1984 9-day deer season, 30 cars with hunters arrived with rifles and orange coats to hunt deer. In 1984, on a state-owned waterfowl marsh, traffic at the boat landing was backed up 2 hours to accommodate the launching of duck boats for the opening day of the waterfowl season. These examples are symptomatic of what is happening on the hunting scene in 1 form or another everywhere. Wisconsin is not the only state with wildlife-use problems; similar types are to be

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ingness by the proper authority to impose re-
strictive use of a publicly owned resource area
in order to improve the quality of the hunt.
The militant anti-hunting minority feeds on
the resulting lethargy and confusion.

The permissiveness that permeated the
1970s also created an attitude of disdain for
authority and regulation. Although such re-
action, spawned by an unconscionable war,
may have been acceptable for individual
expression, the spin-off for natural resources
was largely negative. What the wildlife
profession needs now for dividing game re-
sources among a growing mass of hungry users
alienated by restriction is a program that will
be equitable, provide a quality experience, and
promote ethical attitudes among users. Be-
cause the profession has been unable profes-
sionally to produce sustained yields of game
with habitat management and legal manipu-
lation of the harvest, it is left with a single
alternative—restraint. Restraint should bring
into balance the available resource with a user
group that will allow for sustaining, huntable
populations of game. If this can be achieved,
then I believe quality hunting and hunting
ethics will also be served. How can this be
accomplished? I am not certain, but then who
is? The following is an option I presented to a
conservation short-course many years ago as a
point for thought and discussion then, but
which might have greater significance today,
and perhaps become imperative tomorrow.

The right to hunt game animals will be determined
by a social-security (SS) number. The even numbers
to hunt even years and vice versa. Underage hunters
to be governed by the SS number of his/her sponsor.
The cost of the license to be set at a given year. A
license must be purchased each year whether or not it
is the year in which the license holder may hunt. Fail-
ing to do so, re-entry into the scheme in a subsequent
year will be double the annual fee. Thus, no revenue
is lost, the pressure on the limited resource halved, and
the need for management in no way diminished.

Not all species will need this level of protec-
tion, and laws or social need do not require
each species to be harvested to the maximum.
As long as no damage results from the protec-
tion, the public can afford an abundance of
some species. Special aspects can be developed
as required or necessary.

I am not so naive as to assume that even I
state would be willing to fight the user lobbies
for such a scheme, but sooner or later some
restraint will be necessary, or only those lim-
ited few with financial means will be able to
enjoy that which might have been shared by
all.

A Perspective on Predator Control

When an imbalance exists between re-
source availability and number of resource
users, and the former cannot be adjusted to
meet demand, the use must be curtailed to
protect the resource from destruction. Thus,
predators, like human hunters, must be cur-
tailed when their impact on wildlife popula-
tions is excessive. In short, at some times or in
some places, predator control is necessary to
maintain or obtain a given number of prey
species. Managing for a predator-prey balance
is foolhardy when the predator species vir-
tually eliminates the prey, particularly when
the prey species has other attributes beyond
that of filling predator bellies or gullets. Wild-
life management has long been ingrained with
the concept that predation creates only a mi-
nor loss among the animals of a prey base. It
has been almost sacrilegious to consider the
values of predator control or to speak of lethal
methods to do so.

In the late 1970s I had 2 graduate students
working on waterfowl research on the Hori-
con National Wildlife Refuge (HNWR). One
important finding from the research was that
the predation rate on the nests of wild ducks
was >85%. HNWR has had a history of gen-
erous waterfowl production, but has fallen on
hard times because of predation. When a

stringent program of predator control was suggested as a result of our research, the refuge manager (who was highly cooperative and understood the research rationale) only laughed and said that he could not get that recommendation past the regional office, much less through the front office in Washington. So far as I know, some 5 years later, waterfowl production on the Horicon Marsh feeds predators still. If federal policy is to cater to predators by allowing them to feed on waterfowl—I have no quarrel with the policy. I enjoy and appreciate red fox (*Vulpes vulpes*), skunks (*Mephitis* spp.), and mink (*Mustela vison*) as I do ducks; but if the HNWR is to be a predator refuge, that fact should be a matter of stated policy and public record. With such an excessive predation rate, the area cannot be a refuge for breeding waterfowl. Who, in such a situation of intolerable predation on a national resource like waterfowl, makes the decision to remedy or to disregard? Is it 1 person or many, and how is the decision made? Is it based on politics or biology? Every waterfowl hunter, every waterfowl watcher has a stake in the policy.

The application of predator control, like the use of wonder drugs, must be considered only as a last resort and in kind, amount, and timing to achieve a desired objective. To default on its use to avoid public criticism from an emotionally motivated minority is an error in moral as well as professional judgment.

Professionalism:

To be Cherished and Guarded

Those of us trained in or working with wildlife resources pride ourselves in being professionals, and as part of the trappings that proclaim us as such are TWS, its publications, and an effort through certification to define our specialized training. I approve of unions for labor groups and oppose unions for professionals. We compete with peers for career position, research support, and management

programs. The record of success is a measure of achievement, and no collective support is needed or wanted. The professional is trained to compete and survive and a cadre of professionals is rarely at risk.

The only time a capricious and unprecedented attack occurred on a group of highly successful professionals was the attempt by the U.S. Fish and Wildlife Service (USFWS) to eliminate the Cooperative Fish and Wildlife Research Units and their staffs. Despite their enviable record, without prior consultation with the other legal cooperators, and in the face of the almost blind loyalty of Cooperative Unit personnel, USFWS considered issuing dismissal notices. Only Congressional action prevented the calamity. That action was blatantly ignored in a following year and the mischief was afoot again. Again Congress responded. When the frontal attack on the Cooperative Units failed, schemes of attrition were proposed and institutions began to waver lest they lose all their Units, and some acquiescence has occurred, particularly as a result of USFWS playing musical chairs with personnel in an effort to combine wildlife with fishery units. Veiled threats and innuendo became the fifth column and fear initially closed doors and mouths. Geographical shifts in assignment for dissident personnel were vaguely suggested as a professional Siberia. Withdrawal of financial support for programs was another lever cleverly disguised to bring personnel in line. All of these moves are legally possible but conveyed in the shadows so "proof" would be like chasing a will-o-the-wisp through the quagmires of bureaucratic intrigue.

When one inquires who is responsible and why this federal affront to professionals, the finger always points upstairs until it might even be the office where the "buck stops here." I doubt, however, that any upper-level government official has the vaguest knowledge of the Cooperative Fish and Wildlife Research Unit program. The cost to support the program is

miniscule in the Department of the Interior budget. Tampering with a viable cooperative research effort was unjustified if reduced government spending was a cause for concern. Yet, in 1984, the threat to dismantle or reduce Cooperative Unit programs and personnel still existed. Grass-roots opposition has kept the federal policy on the Units in a constant state of flux. More and more of those concerned and involved are now willing to stand up and be counted in the battle for program and principle.

This thumbnail sketch of Cooperative Units and the U.S. Fish and Wildlife Service confrontation does not address the personal anguish and disillusionment of a group of wildlife professionals who, despite an excellent record and with Congressional support, must continually look over their shoulders at the agency in the cooperative partnership that signs their paychecks.

When Cooperative Unit professionals are in jeopardy, all wildlife professionals are affected. We must not stand by like a group of wildebeest and moo meekly as a bureaucratic lion devours others of our kind. A professional adversary may take any number of forms, but wherever and whenever, our response must be unified and forceful. In the present case, that force was expressed through contact with Congressional representatives. I have never been more proud of those who represent us in Washington; in particular those who aided us in this unsavory episode in the profession's history. We may have to call on them again and again until the will of professional scientists prevails over bureaucratic edict in an apparent effort to assume unilateral control of a cooperative program.

Use All Available Tools in Wildlife Management

Do not envy the good old days (they were mostly good). Learn from them instead: apply the good, correct the bad. Keep in mind that

the basic responsibility as professionals is to the resources, not to resource users. If professionals exercise that responsibility, the resource user is automatically served.

In a sense, the field of wildlife management is at a crossroad where affluent, vociferous minority groups would reduce our tools of management to 1—protectionism. This tool may be as devastating as it can be useful. Because educating closed minds on that subject is fruitless, managers must fight for the right to use all available tools to achieve the proper welfare of the wildlife resource. Thus, managers having access to all remedial and improvement options may be capable of maintaining that resource for use by both the active and passive user.

The challenges to young wildlife professionals are greater than ever before. I would like to roll up my sleeves and join in, but as for many of us, time has decreed otherwise. Be alert, stay active, remain dedicated!

Professional Stature Provides Its Own Vigilance

What can those of us with 45 or more years experience pass on by way of on-the-job wisdom to those who must carry on for another 45 years and more? I have given you a few of my thoughts, but whether they can be construed as wisdom only time will tell. As a final thought I am forced back to the need to guard professionalism as one would guard liberty. Indeed professionalism is liberty—liberty to pursue a profession with honesty, integrity, ethical conduct, without malice, and in consort with others of like mind. Liberty also to assume responsibility to conserve all wildlife with particular attention to those species that are used by man.

The guarding of professionalism must also include vigorous opposition to the inroads attempted by any irrational minority effort to infringe on prerogatives that are attuned to insuring the welfare of our wildlife resource.

Final Thoughts

The road we travelled in our profession has had its share of ruts and chuck-holes, some of which I have identified, but all in all we have come a long way and can look back with pride. The complexity of problems over time, brought about by too many wanting too much from too little, has increased the need for better training in wildlife management in order to cope. The response has been positive—young wildlife professionals today are better educated and trained than their counterparts were 20 or 30 years ago. An arsenal of new techniques and machine gadgetry to accelerate and beef up research output has produced a lexicon of jargon to accompany them. Fortunately, none has totally eliminated the need for field work.

The wildlife profession is not buttressed by, nor does it cater to, any aspect of commerce, and rarely is it voluntarily funded directly by an industry. Most financial support comes from governmental sources. In particular, Pittman-Robertson and Dingle-Johnson support at the federal level, and the Cooperative Wildlife and Fishery Research Program (Coop Units) have provided impetus for great strides made in managing our natural resources.

Three wars have thinned the ranks and for a time kept constructive programs on hold, but despite that social sickness wildlife professionals have persevered in the efforts for resource welfare. Bright young people entering in the profession insure a continuance of that stance.

Benchmarks at the ground level include the fact that geese, swans, and wood ducks (*Aix sponsa*) have responded to management; whooping cranes (*Grus americana*), peregrine falcons (*Falco peregrinus*), ospreys (*Pandion haliaetus*), and marine mammals are in scientifically conceived management programs, and the list is not complete. At the state level, large ungulates, predators, and furbearers are being managed successfully.

The Federal Refuge System, Park Service,

and Forest Service are involved in land management that includes efforts to safeguard wildlife resources.

Space does not allow a complete inventory of progress. The challenges are not yet over and gone. A recent national awareness has focused on endangered species—bison (*Bison bison*), whooping cranes, wolves (*Canis* spp.), caribou (*Rangifer tarandus*), grizzly bear (*Ursus arctos*), and some lowly songbirds are modern-day dinosaurs of North America. "Our dinosaurs are dying" is the cry of an ecological conscience. To a degree we have responded to that cry, but therapy must continue.

We have reacted positively to endangered soils and endangered species, and now must address the problem of endangered habitats. Knowledge acquired in the past 50 years will provide the skills with which to relieve the danger. Experience that has accrued will be valuable; however, there should be no resting on laurels. The next 50 years will be more crucial for resources than the last. We must sift and winnow the old values and accumulated wisdom so as not to waste effort in reinventing the wheel.

Aldo Leopold gave structure and substance to this profession with his book *Game Management* (Charles Scribner's Sons, 1933), and when the profession matured with strength and vitality, he gave it a rationale and a means of identifying with society through his beautifully articulated philosophy in *A Sand County Almanac* (Oxford University Press, 1949).

What I have tried to convey in these random reflections is that the profession is now a major force in the welfare, health, and stability of our land. To accentuate that force is a professional and moral obligation.

I am proud to be part of the wildlife profession and would not exchange my place in it to be a brain surgeon or astrophysicist. There have been and will continue to be roadblocks in the form of policy, programs, or persons thwarting our dedication to conserve our wildlife resource, but they must not deter us from that end.

