DEPARTMENT of the INTERIOR

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REMARKS OF CLARENCE F. PAUTZKE, DEPUTY ASSISTANT SECRETARY OF THE INTERIOR FOR FISH AND WILDLIFE AND PARKS, AT THE ANNUAL CONFERENCE OF THE AMERICAN WATER WORKS ASSOCIATION, CLEVELAND, OHIO, JUNE 5, 1968

Fish and Wildlife and the Allocation of Water Resources

In his letter to this panel suggesting matters we might cover, President Banks remarked that "It is hoped that the panel discussion will point up the competition and conflicts among the various water demands and water programs, and the necessity for proper allocation."

With that generous invitation to state a case, I hereby suggest a permanent prohibition against further use of such worn-out interrogatory accusations as "What's more important -- ducks or people?"

The "ducks-vs.-people" and "fish-vs.-people" slurs are in the same class with "Have you stopped beating your wife?" The implication that a wildlife resource manager is ipso facto anti-people is enough to make him go home and start beating his wife.

The simple truth, of course, is that in every case we are talking about human needs. The disagreement is between people and people -- people who want water for one purpose as against another purpose. Fish and wildlife are important to people, just as factories are important to people. Parks are important to people. So people who try to defend parks, fish, and wildlife are not opposed to people, but are defending people's interests in those values. I am not here today to represent salmon, whooping cranes or redwood trees. When I voice concern for fish and wildlife I am representing people.

I imagine highway builders have the same complaint against the "road-vs.-people" line of accusation. For that matter, I almost labeled my presentation as the argument for the conservationists. But I reconsidered on grounds that the American Water Works Association might harbor conservationists among the ranks. If any of you confess it, I am proud to have the fraternal bond with you. If any of you resent it, I didn't mean to call you dirty names.

It would be unwise to get bogged down in this forum in defining conservationism. Even among our self-proclaimed brotherhood, definitions differ. Some preservationists profess disdain or disgust

with those they brand "recreationists." We could spend the rest of the day arguing about what constitutes recreation, but I would rather get into an argument over the statement of your own Board of Directors, as it appears on Page 51 of your 1967 reference edition, AWWA Directory.

Under the general heading of "Recreational Use of Domestic Water Supply Reservoirs," and the subhead "Equalizing and Terminal Reservoirs," the policy stated is as follows:

"It is considered generally that recreational use of equalizing and terminal reservoirs and the adjacent marginal lands is inimical to the basic function of furnishing a safe and potable water supply to the system's customers, and should be prohibited."

In the adjoining column, "equalizing reservoirs" are classified as "reservoirs within the areas served and delivering finished water ready for consumption to the distribution system." If I read that correctly, such water is going directly into the system without further treatment. The next stop is the kitchen tap. If that is correct, perhaps you and I have no disagreement.

But "terminal reservoirs" are classified as "areas providing end storage of water prior to treatment." I repeat, "prior to treatment." I take that to mean the water still goes through a filtration process or other purification procedure before arriving at my kitchen tap. If I am correct, then I say that prohibiting fishing in those reservoirs doesn't make sense. Your Board of Directors may not be beating their wives, but they are beating dead horses. I thought the superstition about non-recreational use of such reservoirs was dead and buried. Obviously I was in error. I hope you can arrange to serve as its pall bearers very soon, though.

On the Maryland side of the National Capital, residents are served by the Washington Suburban Sanitary Commission water mains, and the Sanitary Commission is rightly proud of the fishing and picnicking recreation it provides at its beautiful Rocky Gorge and Tridelphia reservoirs. I didn't come to Cleveland to announce that Washington has cured all its ills, but I can assure you our suburbanites are not bothered with any plague from drinking those subsequently-filtered fishing waters.

A few years ago a distinguished member of the Izaak Walton League completed a study of state water law, particularly western state water law, and concluded unhappily that "Fish and wildlife are dependent on the leavings of water." Things have improved somewhat

for fish and wildlife since that time, but water to serve the needs of these resources is still low on the priority lists of most of those who make the decisions on who gets what water.

Fish and wildlife have absolute and specific requirements for water as part of their habitat needs. For salmon, water in the right volume of the proper quality at the needed time is critical to survival. For ducks, and many another species, the generalization is the same; only the criteria differ. The water these animals need is also to an increasing extent needed for domestic use, irrigation, industrial processing, waste dilution, power and navigation, as the competition for water gets keener and rougher with our expanding population and growing economy.

The Fish and Wildlife Service participates in the planning of water-resource development projects in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). It is the Magna Carta for consideration of fish and wildlife in the Nation's water resources program.

This Act calls for fish and wildlife conservation to receive equal consideration and to be coordinated with other features of water-resource development programs. It requires that water-development projects proposed for construction by the Federal Government or by other agencies under Federal permit or license first be investigated by the Fish and Wildlife Service to determine their probable effects on fish and wildlife resources and to recommend measures for the conservation, development, and improvement of these resources. The Watershed Protection and Flood Prevention Act (P.L. 566) authorizes the Service to cooperate with the Soil Conservation Service in the planning of small watershed projects.

The reports prepared by the Service on Federal water-use projects are incorporated in the reports of the Federal construction agencies and are available to the Congress when considering whether projects should be authorized for construction. These reports recommend specific measures for incorporation in project plans for the conservation, development and improvement of fish and wildlife resources. The Fish and Wildlife Coordination Act provides for the inclusion of fish and wildlife measures and their costs as an integral part of the plans for Federal water projects.

In its reports to the Corps of Engineers and the Bureau of Reclamation on water-development projects being planned by these agencies, the Fish and Wildlife Service recommends amounts of water which it

determines are necessary for the protection or enhancement of fish and wildlife resources and the recreational and commercial use which these resources support.

The amounts of water which the Service recommends for dedication to fish and wildlife purposes as a part of the overall plan for a water-development project may take the form of a permanent pool within a reservoir to maintain a reservoir or prescribed minimum releases from a reservoir to maintain or enhance downstream fisheries. Reservoir releases may require specific storage in a reservoir or a prescribed operational plan to deliver the varying amounts of water which may be needed throughout the year for the downstream fisheries.

Whenever the Fish and Wildlife Service recommends that a specific amount of project water be dedicated to fish and wildlife enhancement, it provides the construction agency with its estimate of the annual benefits which will be associated with the water supply. These annual benefits are expressed in dollars.

When the Service recommends a specific allocation of water to maintain existing fish and wildlife resources, it does not evaluate the negative benefits in dollars. However, it does compare the importance of the resources to be preserved with the preservation costs and advises the construction agency that it consider the costs of the water supply to be justified. In so doing it is in effect assigning a value to the existing fish and wildlife resources to be preserved which is at least equal to the cost of the water supply.

At times the Fish and Wildlife Service recommends that a water project provide a supply of water to a Federal wildlife refuge or fish hatchery. If the water supply is for enhancement purposes the benefits are evaluated in dollars, and if the supply is for the purpose of preventing or mitigating losses from the project the cost is justified on the basis of a judgment determination.

The Corps of Engineers or Bureau of Reclamation is responsible for designing and constructing the overall project. If these agencies agree with the recommendations of the Fish and Wildlife Service they include in the project design the water supply for fish and wildlife along with the supplies for municipal and industrial use, irrigation, hydroelectric power, and other purposes.

The Fish and Wildlife Service fully supports the intent of Senate Document No. 97, 87th Congress, 2nd Session, and believes that water-development projects should be designed and built so as to serve multiple purposes. It does not believe that a Federal reservoir

should serve only one purpose even though such use might show the highest benefit-cost ratio. The Service believes that there should be give and take among the various purposes in water-resource planning and that all purposes should be treated equitably.

There are serious legal problems associated with the allocation of water for fish and wildlife, particularly in States west of the Mississippi. Some States do not recognize use of water for fish and wildlife purposes as a beneficial use. Most States assign a low priority to the use of water for these resources. Even in those States where water rights can be obtained for fish and wildlife purposes these rights are predicated on diversion of the water from the stream. It is not possible to obtain water rights for water which is to be left in a stream for fish and wildlife purposes. This becomes a problem whenever specific amounts of water are released from a Federal reservoir to serve downstream fisheries. In such cases there is no way the Federal construction agency can prevent diversion of this water downstream by non-Federal interests if State law and policy do not admit of such dedication and use. It is not possible for either the Federal Government or a State fish and game agency to obtain legal rights which will protect the water from diversion. In some States the water rights agency may legally dedicate quantities of water to remain in the stream channel for fishery and other recreational purposes and refrain from granting any additional water rights which would infringe on these flows. Of course, this would not solve the problem on those western streams where the available water is already overappropriated so that existing water rights are not fully satisfied by the flow of the streams.

Let it be repeated that the Fish and Wildlife Coordination Act is entirely permissive. That is to say, the water resources agencies are not constrained to adopt the recommendations of the Fish and Wildlife Service or the State fish and game departments.

Nevertheless, much has been accomplished since the Act was strengthened in 1958.

The banner year for fish and wildlife in water resources projects was 1965.

In that year, the Congress authorized water resources agencies to acquire almost 200,000 acres to be added to the National Wildlife Refuge system, another 38,000 acres of waterfowl lands to be acquired and made available for State management, authority to maintain a permanent pool for fish and wildlife in the John Marshal Reservoir on the Arkansas River in Colorado, and provision for water control structures to be incorporated into the main levees of the Mississippi

River downstream from New Orleans. These structures will permit the introduction of fresh water into the coastal marshes of Louisiana and thereby greatly increasing productivity.

Most of the waterfowl lands authorized to be acquired by the water resources agency was on the Bureau of Reclamation's Garrison Diversion Unit in North Dakota. This project provides for the irrigation of 250,000 acres. But it also provides for the acquisition and development of 147,000 acres for waterfowl development. This is particularly important for the waterfowl resource inasmuch as North Dakota is the heart of the best waterfowl production area in the 48 contiguous States. North Dakota, of course, is troubled by periodic droughts which are as hard on the ducks as they are on the farmer. Now these 147,000 acres will have a sure water supply from the pumps and canals of the Garrison Diversion Unit even in the driest of years. It will be a big plus for waterfowl, an international resource administered within this Nation by the Department of the Interior.

But this partnership of irrigation and waterfowl conservation on the Garrison Diversion Unit was not all one-sided. Without provision for waterfowl areas as a part of the project plan, there would have been a net loss to waterfowl of substantial proportions. This is so because a great many of the small marsh areas interspersed in the irrigable lands will be destroyed when the land is prepared for irrigation. Conservation interests around the Nation were aware of this threat and thoroughly aroused by its possible consequences. It is highly doubtful that the Congress would have approved the project in the face of strong and united opposition from the conservationists. As it was, the conservationists were strongly in support of the project because its integral waterfowl plan will not only compensate for losses to waterfowl habitat, but provide a large bonus in enhancement besides.

In this case, there would have been little or no possibility of providing for waterfowl development in the absence of the water-supply facilities contemplated by the Garrison Diversion Unit primarily for irrigation. Here, then, is an example in the finest tradition of joint planning by conserving and developing one resource -- waterfowl -- while providing primarily for the development of another resource -- irrigated agriculture.

Furthermore, the benefits to fish and wildlife on Garrison constituted a good big chunk of the total benefits used in demonstrating project feasibility.

Fish and wildlife benefits have also been used by water resources agencies when there were little or no facilities incorporated in project

plans specifically to serve these resources. Examples are the Cheney Division of Wichita Project in Kansas and the Norman Project in Oklahoma, both authorized in 1960. At the first project, 23 percent of the benefits were attributed to fish and wildlife and in the second project 15 percent. These benefits were entirely incidental; there was no added project investment specifically for fish and wildlife purposes.

Also in 1965, the Congress authorized the Corps of Engineers to construct the Bigstone-Whetstone flood control project in Minnesota. Almost 80 percent of the benefits of that project are attributable to improvement of waterfowl habitat. Eighty percent of the costs are allocated to wildlife enhancement.

Fish and wildlife interests constitute one of the friendly players in the game of allocating water. They are neither quarrelsome nor difficult in most cases. Reservoirs built to supply water for cities provide much increased opportunity for still-water fishing, even though they reduce the opportunities for stream fishing.

Moreover, fish and wildlife themselves are non-consumptive of water and also largely non-pollutive. So too, generally, are the fishermen and the hunters. That's why I hope your Directors will reconsider their policy on fishing on reservoirs built for domestic water supply.

Fish and wildlife conservation groups took the lead in the first stages of the battle to clean up the Nation's waters. It was the Izaak Walton League, the Sport Fishing Institute, the National Wildlife Federation, and the Wildlife Management Institute who first blew the whistle on pollution and it was these organizations who began the drive for the landmark pollution abatement laws and programs that have come into being in the last decade. Indeed, one of the measures of an unpolluted water is whether it is clean enough for game fish to live in. If it is, it is good enough for a great many other uses.

The fact of the matter is that fish and wildlife conservation agencies and related interests have helped the water resources program of the Nation in the ways I have mentioned: they have provided incidental fish and wildlife benefits without increasing project costs, fish and wildlife are non-consumptive and non-pollutive of water, fish and wildlife conservation interests have been in the van of the effort to clean up the Nation's waters. And still -- fish and wildlife water requirements are near the tail end of the priority line in most State water laws.

Fish and wildlife conservationists can be dangerous and powerful when aroused. And they are aroused when there is inadequate consideration of fish and wildlife in the adoption of project plans.

Two high court decisions of recent vintage bear witness to this fact.

One of these was in the case of the High Mountain Sheep Dam on the Snake River where it forms the boundary between Idaho and Oregon. This project was licensed by the Federal Power Commission over the objection of the Secretary of the Interior and conservation interests. The license was upheld by the Circuit Court of Appeals, and the case went to the Supreme Court.

In a landmark decision of June 5, 1967, the Supreme Court canceled the license, and remanded the case to the Federal Power Commission for further proceedings consistent with its Opinion. Nine of the 21-1/2 pages of the Court's Opinion dealt with the effect of the project on fish and wildlife. The Court's discussion on the subject began with the statement:

> "Beyond that is the question whether any dam should be constructed."

Later in the Opinion, the Court said:

> "The importance of salmon and steelheads in our outdoor life, as well as in commerce, is so important that there certainly comes a time when their destruction might necessitate a halt in so-called 'improvement' or 'development' of waterways."

The other high Court case concerned the Cornwall Project of the Consolidated Edison Company, a pumped storage proposal on the Hudson River commonly known as the Storm King Project. Here again, the Federal Power Commission had issued a license for construction over the objections of conservation interests. The United States Court of Appeals for the Second Circuit issued an Opinion and Decision on December 29, 1965, setting aside the license and remanding the case to the Federal Power Commission for further proceedings. Here again, this Court spent several pages of its Opinion in commenting on the effect of the project on fishery resources. The Court said:

> "On remand, the Commission should take the whole fishery question into consideration before deciding whether the Storm King project is to be licensed."

Gone are the days when the Federal water resources agencies can give only lip service to the conservation of fish and wildlife resources. That conservation interest is now a full-fledged partner in water resources planning along with domestic water supply, irrigation, hydroelectric power, navigation, and flood control.

The time has come to consider the improvement of rivers or parts of rivers primarily to enhance fish and wildlife resources.

Congress thinks so, too. In the Anadromous Fish Act of 1965, the Secretary of the Interior was directed "to conduct such studies and make such recommendations as the Secretary determines to be appropriate regarding the development and improvement of any stream or other body of water for the conservation and enhancement of anadromous fishery resources."

In water resources development up to now, fish and wildlife agencies have been trying to make the best of other agencies' plans -- plans for projects primarily designed to provide municipal and industrial water supplies, primarily for flood control in navigation, or primarily for irrigation of hydroelectric power.

In view of the high economic and social values which can be demonstrated for fish and wildlife, we should be planning the improvement and development of some of the Nation's waters specifically and primarily to benefit fish and wildlife.

We have been working with the Bureau of Reclamation with just such a purpose on a plan for the development of additional storage in the Yakima River Basin in the State of Washington through the enlargement of Bumping Lake.

The increased commercial catches of salmon and steelhead as a direct result of this enlargement would be worth some $259,000 annually, while the sport fishing for these species would increase some by about 177,000 fishermen days annually with a net recreational value of $887,000. Some 66 percent of the costs of this project may be allocated to fish and wildlife enhancement with 43 percent of the benefits falling into this category.

Fortunately, because fish and wildlife are non-consumptive and non-pollutive of water, any water developed for these purposes can also be utilized for other purposes, including specifically domestic and industrial water supplies.

Some of you are doubtless cognizant of the water allocation crisis we have in the Everglades, and I hope you will bear with me while I review it for those who may not be so aware of it.

The Everglades National Park water supply problem which has received considerable publicity in the past several years, is an excellent example of the effect of water-supply development on the ecology of a large region. For a long time, these effects were unrecognized and perhaps only in the past decade have the consequences been fully apparent and efforts to overcome them begun.

The Everglades, a rich area of muck and peat soils, is the natural drainageway from Lake Okeechobee to the Gulf of Mexico. It is not a readily defined stream with easily recognized thread and banks but rather a wide, 20 miles or more, shallow stretch of sawgrass, interspersed with tree islands, stretching southward from the lake more than 100 miles to the Gulf. Rarely more than a foot or two in depth, and with a gradient of two inches to the mile, water generally moves southward at a rate of about one quarter of a mile a day. South Florida has two seasons -- a rainy season starting in late spring and continuing through the fall and a dry season during winter and spring. Under former natural conditions, the hydroperiod consisted of a building-up of the water levels over the glades during the rainy season, and a gradual reduction of runoff which continued for several months after the rainy season ended. With the water surfaces slowly reduced in area, flow concentrated in fewer and fewer channels and myriads of ponds remained until the start of the next rainy season. With the beginning of the rainy season, the water flowed again over the glades and nourished the ponds which were rich with life concentrated there and enabled an annual burst of food production. Beginning with the algae, it leads upward and culminates in the colonial wading birds. The wood ibis, America's only stork, arrives at the park near the end of the rainy season and builds its nests. Summer food production of tiny fresh water fish and shrimp exists in tremendous numbers, benefiting from the ample summer flows. Now the water slowly recedes and the ponds begin to emerge concentrating the small fishes. The ibis is a grope feeder. It does not see what it fishes for. It takes its food by groping with its bill. If the water supply was adequate in the previous months, the food will be there, and the ibis can find its food with its haphazard technique. But insufficient water means insufficient food, and the eggs may be abandoned. Not just a couple of nests in a rookery, but every one of them. In the last seven years, the rookeries have failed six times. From 50,000 ibis in 1930, less than 3,000 remained in 1967.

The rich soils of the glades would produce valuable crops if the water could be controlled. Drainage operations date back to the 1880's when the Lake and the Caloosahatchee River were connected. Later canals were dug to the East Coast and Lake Okeechobee was diked and regulated to prevent damage from hurricane floods and supply water for agricultural needs. Overflow southward into the Everglades ceased and regulation of the lake was accomplished by release of flood waters east and west into the Atlantic and the Gulf. Although as a result of these works, large acreages of the Everglades were reclaimed for agricultural uses, some disadvantages became obvious -- the land subsided, the peat itself was lost through slow oxidation, fires, or blown away by the wind. The canals filled in, their gradients changed, and they became choked with weeds. Salt water intruded up the uncontrolled canals and contaminated well fields.

Floods and droughts became more prevalent and by 1947, the situation had become critical and the Central and Southern Flood Control Project was authorized.

This was a Corps of Engineers plan to manage the water resources of the upper St. Johns, the Kissimmee River-Okeechobee-Everglades, and the lower East Coast drainages. The project would prevent floods, drain agricultural and other lands, preserve fish and wildlife, control salt-water intrusion, provide water supply, and other benefits.

But how did all this affect Everglades National Park? The park is at the lower end of the drainage and is affected by any change in the hydrology above it. The net effect of the water developments above the park was a decrease in the water supply to the park and a detrimental effect on its ecology. The most obvious effect has been the decrease in the bird and alligator population and the encroachment of willow growth on open water areas. The ecology of the park, perhaps more so than any other area on earth, is wholly dependent on an adequate and timely supply of water. The park must have a prolonged wet season to provide the food, and a dry season for its harvest.

Surplus waters are stored in conservation areas north of the park, for release during times of drought. The conservation areas prove to be inefficient storage reservoirs but turned out to be prime fishing and hunting areas. These areas were now being protected for their fish and wildlife values and with water retained at the detriment of the park.

Thus the product of the project becomes a competitor with a principal beneficiary. The ever-increasing demands for agricultural, industrial, and municipal water in the rapidly expanding economy of South Florida can only be satisfied at the expense of the existing users when all present surpluses disappear. The supply for the park and the fish and wildlife in the conservation areas, if not already, will certainly be looked on as the supply for those other, so-called, higher uses. In the nonsensical call of "water for people rather than birds" will rally all those who have not yet learned the importance of preserving a high quality environment which must include parks and other public recreational space.

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