FISHERIES SESSION

FISH DIVISION BUDGETARY PROBLEMS IN THE SOUTHEASTERN STATES

by
ALLAN A. HOFFMAN (Danville, Va.)
Commission of Game and Inland Fisheries
Commonwealth of Virginia

In reviewing the fisheries literature for discussions of or studies in fisheries management budgetary problems one finds a surprising paucity of written material. As one might expect the Sport Fishing Institute has addressed this question and in 1967[1] discussed allocations of fisheries income and expenditures. At that time the following percentage relationship between national and southern fisheries agencies' income allocations were noted and compared with a model system derived by the Sport Fishing Institute.

	1965 National	*1965 Southern*	*Model*
Administration	11	9	10
Information Education	4	4	5
Law Enforcement	21	28	15
Stocking	23	18	20
Management	27	25	35
Fact Finding	14	16	15

The Institute reiterated their support of the model allocation system in 1973 based on more than 20 years of periodic analysis of American state fisheries agency budgets and after continued consultation with most fish division chiefs in the United States.[2]

A comprehensive statistical study of income and expenditures of U. S. and Canadian fisheries agencies was undertaken in 1974.[3] In that study a national survey was conducted which related income to expenditures and income and expenditures to surface acreage of water. The authors found that in all the Southeastern states license fees for sport fishing were the major source of income. Nationally, while 20 of the states had total expenditures which approximated income, thirty did not. Nineteen states had income and expenditures which were highly disparite, fifteen of these administrators complaining that too much income was being funnelled into other areas. Additionally, the authors found that expenditures and income in relation to surface acreage of water were very variable. The authors did not investigate fisheries administrators' attitudes in terms of possible changes in budgetary allocation systems, what methods might be employed to increase departmental income or possible guidelines to assess the adequacy of funding of fisheries management responsibility.

With regard to these considerations the author conducted a brief survey of the member states of the Southeastern Section of the American Fisheries Society. All states excepting Maryland responded and because various subjective opinions were requested and to avoid invidious comparisons from state to state, the participants were assured confidentiality of their responses. The survey included questions designed to obtain information on fisheries management expenditures in relation to the total fish and game agency budget. In addition, information was obtained concerning fishing license, federal aid, and other sources of income and their relation to expenditures. Qualitative questions were asked with reference to areas of responsibility, other sources of income, improvements in

[1] Fish Conservation Highlights, 1963-1967, Stroud, R. H. and Martin, R. G., Sport Fishing Institute, Washington, D. C. 1967:25-39.

[2] S. F. I. Bulletin, Sport Fishing Institute, Washington, D. C., 246:1-2, July, 1973.

[3] Threinen, C. W. and Les, Betty L., A Comparative Analysis of Fish Management Income and Expenditures for the U. S. and three Canadian provinces, Wisconsin Department of Natural Resources: A Report to the Fish Administrators Section of the American Fisheries Society, September, 1974:1-16.

budgetary procedures, and financial problem areas. The results of the survey are as follows:

1) Eleven of the fifteen states felt that they were underfinanced. Over half of the respondents suggested additional funding from general revenues. Nearly all of the states stated that 95% of the fisheries expenditures were for recreational sport fisheries. In only three states were general revenues received, these comprising 5.5, 2, and 23% of the fish division income. For some reason it was felt widely that general revenue funding would add stability to the division's income. While a high proportion of the fish divisions felt more funds were needed, it should be noted that there was little agreement about how the new revenues would be used with seven states favoring increased capital spending; 5, increased number of personnel; and 5, increased research activities.

2) Only two states generated income from user fees of 4 and 22% of the division revenue. Additionally, two other states had significant incomes from gas, oil, and agricultural leases; a phenomenon that would appear to have little application to other states.

3) There was wide disparity in the percentage of fish and game budget spent on fishery activities. The average state had 23% of its fish and game budget spent on fishery activity, but in six states only 10.5 to 16%; and in three states, 32 to 51%. Eight states recommended changes in budgetary allocation procedures. Surprisingly, most states with the lowest percentage of agency funds being spent on fisheries activities were among the group that did not suggest changes in allocation procedures.

4) There was wide disparity in the relation of fish division expenditures to license revenues, varying between 23 and 110% with the average being 58%. It should be noted that five states were below 50%, 4 above 70%.

5) Few states suggested specific major budgetary reforms although it was apparent that nearly half the states are transitioning to management by objectives and program budgeting. This appears to be in response to changes in the budgetary procedures of their states as a whole and is welcomed by the fishery managers as being less time consuming, easier to explain to legislators, the executive branch, and the public, and presumably will provide more flexibility and autonomy in changing strategies to meet objectives.

6) There is wide disparity in income per acre of fresh water with an average of $2.04 (range from $.41 to $6.82) and expenditures per acre with an average of $3.65 (range from $.38 to $9.39). It would appear that these figures are primarily subject to special local conditions. For example, two water rich states of moderate population density appear to have low incomes per surface acreage of water but otherwise appear to be adequately funded in terms of fisheries activities. In addition, two of the states with the highest income and expenditure per acre are those with large "put and take" trout stocking programs. For example, in Virginia approximately $26.00 of income and expenditures are generated per acre of stocked trout water.

DISCUSSION AND CONCLUSIONS

1) While 73% of state fisheries administrators feel more funds are indicated, there seems to be little uniformity of opinion as to the areas of operation to which they would be directed suggesting that the problems and opportunities of individual states vary considerably.

It is surprising that a high proportion of states believe that general revenue funding would add stability to fisheries incomes. The dramatic growth of state government in general in recent years with exhaustion of sources of revenue would seem to prevent general funding from being an effective stabilizing influence on fisheries revenues compared to existing special participant fees, which appear to be very predictable from year to year. Certainly the fish and game professional would appear to be in a poor competitive position for general funding compared to such basic societal needs as health, transportation, public safety, and education. In Virginia, for instance, this past year we had a general revenue shortfall, and our Commission of Outdoor Recreation received no state funds whatsoever for capital projects.

Also the addition of general revenues might not alleviate problems in financing existing programs. For example, general revenues might be obtained primarily through the efforts

of citizens interested in non-game wildlife and fish with subsequent dedication of these funds for that purpose rather than current programs. Also one could envision that assistance could be rendered by state tourist interests, but perhaps only in exchange for a compensatory reduction in nonresident license fees.

It does appear, however, that one potential source of income, user fees on developed recreational areas, could be of benefit in augmenting revenues. Two states use this, and in one (Missouri) it provides 22% of the fish division income. It would certainly appear that other states could use this mechanism, granting its political and legal acceptance, and that it could provide a stable, predictable, and growing source of income.

2) The wide disparity in the percent of agency income devoted to fisheries and in the relation of fisheries budgets to fishing license incomes is surprising although it has been well documented in a previous study.[4] A variety of factors could have a bearing here such as the attitude of the population, citizen board and executive director; the relative aggressiveness of the fish division chief; budget arrangements in which fisheries capital projects are in a separate category, or local factors relative to practical management considerations which justify only small expenditures.

The model fish income allocation system suggested by the Sport Fishing Institute does appear to have considerable merit and I failed to find any effective arguments against it. Based on the investigations of the S. F. I. and this survey it appears to the author that if the fish division budget is less than 20% of the fish and game budget or if the fish division revenue is less than 50% of the fishing license sales revenue, a hard look should be taken to see if the agency's responsibilities for fisheries management are being adequately supported. This effort must be examined locally as there may be factors to justify the apparent deficiency. In Virginia, for instance, the capital outlay budget is kept separately and is characteristically large compared to other Southeastern states. When added to the operational budget the total Fish Division expenditures rise from 48 to 80% of fishing license sales.

The relative proportion of fish division income devoted to law enforcement in the South has been high historically, and, while this was not addressed in the questionnaire, the order of magnitude of fish division income devoted to other agency activities would indicate that this continues to be the case. It is my opinion that if more than 25% of fisheries income is going into law enforcement, the fish division administrator should ask if it is necessary in view of the demonstrated ability of agencies in the northeast, northcentral, and western regions, with generally more complex fisheries regulations, to function with an average of 20% of the fisheries budget devoted to law enforcement. Again there may be local factors at play here to justify funding of such proportions. Do law enforcement officers in the Southeast, for instance, participate intensively in such fish management activities as sampling, hatchery procedures, stocking, etc., to the degree that they be considered part-time fish division employees?

3) There is wide disparity between the states in amounts of income generated and expenditures made per acre of fresh water. These statistics are so subject to local factors that they do not appear to be of guidance in assessing adequacy of fisheries management funding.

4) Although about one-half of the states made some suggestion for changes in budgetary allocation procedures, few major changes were included. It is interesting that most of the administrators with the lowest fish budget to fish and game budget ratio and fish budget to fishing license sales ratios did not indicate a desire for changes in budget allocation procedures. This would certainly seem to indicate that one primary factor in allocation of resources for fisheries may be the agressiveness and vitality of the fish division chief.

5) Most states either have or are changing to program budgeting as opposed to line item budgeting.[5] It does appear that most state fishery administrators welcome this change, and it would appear to impose less time overhead in following budgetary procedures, is

[4] *Ibid.*

[5] *Program Budgeting and Benefit—Cost Analysis: Cases, Text* and Readings, Hinrichs, Harley, and Taylor, Graeme. Goodyear Publishing Company, Pacific Palisades, California, 1969.

easier to explain to interested parties, provides an opportunity to examine the objectives of one's division, and would appear to provide more flexibility in achieving long term goals. Program budgeting also provides the basis for assigning financial priorities to various areas of activity. Classically wild life and fisheries resource allocation has been accomplished in one of two manners: 1) establish physical production goals at least cost 2) maximize physical output for a given budget. These types of allocation procedures do tend to be somewhat subjective in nature and there is rising interest in assigning dollar values to certain program areas in nonmarket supplied recreational opportunities (for instance, such as recreational fisheries management which has a large consumer surplus). Several approaches are available which can be adapted to program budgeting.[6] The six methods generally used are 1) Expenditure Method, 2) Gross National Product Method, 3) Consumer Surplus Method, 4) Cost Method, 5) Market Value Methods, and 6) Monopoly Revenue Method. Although any of these methods may add some element of objectivity to determine the allocation of money and other resources and I am sure will be suggested in nearly every state by the budget officers of the legislature and executive branch, it would appear to be important that the wildlife and fishery professional do all that he can to retain the right to use a certain amount of subjectivity based on his own professional judgement concerning the value of various programs.Clearly the establishment of economic values for activities that are entirely nonconsumptive in nature is difficult and inaccurate at best. In nearly all our states there are endangered fishes, threatened biological phenomena, and aesthetic experiences that the fisheries manager and society as a whole have a moral duty to protect, develop, and restore, and whose value can never be placed in competition economically with an outstanding sporting experience.

It is also our experience in Virginia that defining programs as broadly as possible provides maximum flexibility in meeting objectives and will ease the burden of justifying each program economically.

SUMMARY

1) The vast majority of state fisheries agencies feel additional funding is indicated but lack uniformity as to the goals and objectives of increased revenues. Funding from general revenues is not likely to provide the answer to financial problems in many states. License fee increases and establishment of user fees would appear to provide more reliability and stability in increased funding.

2) There is wide disparity among Southern state agencies in the proportion of the fish and game budget devoted to fisheries management and in the ratio of fish division budget to fisheries license income. It would appear that if the fish division budget is less than 20% of the fish and game budget or less than 50% of the fishing license revenue or if more than 25% of the total fisheries income is being allocated to law enforcement that the fish division chief and fish and game department director should examine the situation closely to be assured that adequate resources are being allocated to fisheries management. It would appear that the relative aggressiveness and vitality of the fish division chief may be a primary determining factor in the proportion of agency resources allocated to his area of responsibility.

3) There is wide disparity between states in the amount of income generated and expenditures made per acre of surface water and it does not appear that this type of information dictates anything more than unusual physical factors or the presence of certain types of recreational activities.

4) It is apparent that most states are changing to program as opposed to line item budgeting. It is likely that there will be increasing efforts to require the fish and game agency and its fish division to apply dollar values to various programs as guides toward and justification for funding allocations. It is the opinion of the author that these changes in budgeting procedures will tend to be a positive influence, but every effort should be made to avoid complete disregard for the subjective professional opinion of the fish division chief, agency director and of their citizen board.

[6] Ashton, Peter M., Wykstra, Ronald A., and Nobe, Kenneth C., Optimum Supplies of Recreation Days Under Conditions of Uncertainty: Case Study Application to Wildlife Resources, Department of Economics, Colorado State University, Fort Collins, Colorado, A Report to the Colorado Division of Wildlife, March, 1974.