

SENSITIVITY ANALYSIS

The Commissions requested an analysis of the effects of shifting a higher portion of costs generally to the community sector and higher portion of enforcement costs to the community sector. Currently the community sector is assigned 10% of enforcement costs. The assignments in the cost recovery analysis were made under the best judgment of the managers for the particular program. To have a more accurate assignment of costs would require a preference survey of the general public to determine their value of these services and a workload analysis of Natural Resources Police responsibilities. As the timeframe for this report does not provide sufficient time to complete either, adjustments to the cost recovery analysis have not been made. The following is only an example of the effects to each sector by shifting a higher portion of costs to the community sector.

1. Sensitivity Analysis on Community Total Costs:

In the context of the cost-recovery study conducted by Fisheries Service, community benefits are determined by the value Maryland residents attached to a healthy Chesapeake Bay with live fish. In other words, it is given by the public's willingness to pay for well managed fisheries and for related services such as water quality monitoring and environmental review. This willingness to pay may be associated, for example, with option value (i.e. the option to be able to conduct recreational activities in the Bay in the future) or existence value (i.e. even if individuals have no plans to access the Bay at any point in time, but they still care about). Additionally, a part of the community benefit will come from the consumption of locally harvested seafood. This is the value consumers would be willing to pay, above the price they actually pay, for consuming locally harvested seafood (i.e. consumer surplus). Given the various opportunities for substitution of locally harvested seafood with imported seafood, we anticipate this component to be a small fraction of the overall community benefit. However, an accurate estimation of these different community benefits is a complex undertaking, and would involve, among other things, a lengthy (an expensive) state-of-preference study. Such study has not been conducted for this first cost recovery analysis. Rather, the benefits were arrived at using the expertise and experience of the different program managers in Fisheries.

Since in the cost-recovery study management costs were allocated to the different sectors (inland recreational, tidal recreational, commercial, aquaculture, and community) in proportion to the benefits those user and no user groups derive from the management service in question, we present here a sensitivity analysis on the total costs allocated to community. The table below shows the effect on cost-recovery for the recreational and commercial sectors when the total costs allocated to community are increased by 10%, 15%, 20%, 25%, 30% or 35%. These increases amount to a reallocation of costs towards community, and away from the recreational and commercial sectors (in proportion to their total costs).

SENSITIVITY ANALYSIS ON COMMUNITY TOTAL COSTS					
		Inland R	Tidal R	Commercial	Community
		\$	\$	\$	\$
% increase in com. Costs					
10%	<i>Revenue deficit</i>	-405,656	-1,299,206	2,393,178	2,207,146
% increase in com. Costs					
15%	<i>Revenue deficit</i>	-434,991	-1,333,253	2,356,235	2,307,471
% increase in com. Costs					
20%	<i>Revenue deficit</i>	-464,326	-1,367,301	2,319,293	2,407,796
% increase in com. Costs					
25%	<i>Revenue deficit</i>	-493,661	-1,401,348	2,282,351	2,508,121
% increase in com. Costs					
30%	<i>Revenue deficit</i>	-522,996	-1,435,396	2,245,409	2,608,445
% increase in com. Costs					
35%	<i>Revenue deficit</i>	-552,332	-1,469,443	2,208,466	2,708,770

2. Sensitivity Analysis on the Allocation of NRP costs to Community:

The table below shows the results of increasing the share allocated to community of the \$3,300,000 funds that Fisheries Service sends to NRP each year. The rationale for this exercise is that: i) both SFAC and TFAC recommended that community should have a higher portion of enforcement costs; and, ii) countries that have implemented cost-recovery of some sort, have adopted different criteria for determining how enforcement costs are funded. In some of them, a higher percentage of enforcement costs are paid by the taxpayer, in order to avoid a potential conflict of interest between those subject to regulation and those in charge of enforcing the management rules (which would be, otherwise, paid by those they have to regulate). Accordingly, we show the impact on the cost recovery of all sectors, of increasing the community share of NRP costs from 10% to 50%.

SENSITIVITY ANALYSIS ON NRP TOTAL COSTS					
		Inland R	Tidal R	Commercial	Community
		\$	\$	\$	\$
% increase in NRP. Costs					
20%	<i>Revenue deficit</i>	424,829	-1,391,264	2,382,058	2,329,496
% increase in NRP. Costs					
30%	<i>Revenue deficit</i>	502,672	-1,551,416	2,297,054	2,652,496
% increase in NRP. Costs					
40%	<i>Revenue deficit</i>	580,514	-1,711,569	2,212,050	2,975,495
% increase in NRP. Costs					
50%	<i>Revenue deficit</i>	658,357	-1,871,722	2,127,046	3,298,495