Socio-economic panel (SEP) Allocation Discussion

Dr. Scott Crosson, Chair

Analyses of allocations

Equimarginal principle

Producer surplus and consumer surplus

Economic multiplier effects

Social factors

When to reallocate

Equimarginal principle

Under this principle, each additional unit of a resource (here, pounds of fish) is allocated to the sector where it is most highly valued, with declining marginal returns for each sector as they receive each additional unit allocated.

What does that mean?

As Group A gets allocated more of a resource, each additional unit is valued less (law of diminishing marginal utility).

When you get to the point where the additional unit is more highly valued by Group B, you send the unit over there.

When Group B's marginal utility drops down below that of Group A, you send the next one back to Group A. And so on, and so on.

How do you measure how each group values?

Commercial: producer surplus, which is net revenues (*not gross*) - opportunity costs

Private angler: consumer surplus, which is (what they would have been willing to pay) - (what they actually paid)

Charter: a combination of both of the above. Captain's producer surplus + the anglers' consumer surplus

Limitations

For the commercial side, ideally you would measure producer surplus down the distribution line to the final consumers and their consumer surplus.

There are no limitations on new entry for the recreational or charter sector, so it's harder to generate consumer or producer surplus.

Available economic value data

For producer surplus: the Liese reports are excellent

For consumer surplus:

- willingness to pay studies (stated preference model), from surveys
- travel cost (revealed preference model), compare catch to charter fees plus estimated cost of traveling
- Fuel consumption (revealed preference model), compare catch to avg boat fuel consumed from MRIP add-on surveys

Economic multiplier effects (e.g. IMPLAN)

Don’t use Input/Output (I/O) models to determine sector allocations.

Violates law of diminishing returns! Strictly linear.

So the same sector would always generate larger economic impacts per pound regardless of the size of quota to be allocated.

Policy implication is an all or nothing outcome. One sector would receive 100% of the allocation and all other sectors would receive 0% allocations,

Social analysis of allocations

Colburn/Jepson community measures of engagement, already used in Amendments

Job satisfaction studies (but much of this is piecemeal)

AP Committee reports

“Fair division” in social choice literature

When to reallocate

Re-allocation is suggested for fisheries for which there are relatively large and sustained differences in the marginal values for quota by each sector.

Shorter seasons imply high marginal values, long seasons lower ones.

Fisheries where one sector consistently fails to reach its quota implies marginal value of zero, but recreational sector may prefer to fish below MSY for other reasons like encounter rates or trophy fish.