



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION  
UNITED NATIONS

**SEEA Revision  
Issue 12  
Cover Note**

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## **Cover Note**

### **Issue #12: Valuation of Assets: A case study on the valuation of fish stocks**

#### **Outcome paper for global consultation**

*Outcome Paper Issue #12: Valuation of Assets: A case study on the valuation of fish stocks*

#### **Issue description**

The SNA recommends the Net Present Value of resource rent as the preferred valuation method for resource stocks. The conceptual issues linked to the various resources need further investigation.

#### **Background**

Monetary valuation of natural resources is important in order to gain a broader understanding of the interactions between economic activity and the management and use of these resources. The importance of valuation is recognised in the System of Environmental and Economic Accounts (SEEA) and the valuation of natural resources has been undertaken by a number of national statistical offices.

The valuation of natural resources is not straightforward however since, unlike most produced assets, there are generally few sales of unextracted or unharvested natural resources. Therefore, in general, estimates of the value of natural resources must be based on valuation models.

The model that is recommended for use in the 2008 System of National Accounts (2008 SNA) and in the SEEA-2003 is the Net Present Value model, or NPV. This model takes estimates of the future income flows from the natural resource and discounts them using a discount rate to adjust for the fact that income earned in the future is worth less than income earned in the current period. Implicitly this reflects the assumption that the whole of the natural resource cannot be extracted at one time.

While there is a substantial discussion behind the choice of discount rates many of the measurement issues in applying NPV in practice concern the calculation of future income flows. Issues include dealing with volatile and potentially negative income flows, determining future rates of extraction and adjusting for growth of renewable resources.

The income flow from natural resources is generally termed resource rent and is equal to the sales of the natural resource by the extractor less the costs involved in undertaking the extraction including the full costs of any produced capital that is used. Thus in addition to the measurement issues just noted, there are also questions as to exactly how to measure the costs that need to be deducted in estimating the resource rent.

General advice is available on all of these and other measurement issues, including in the SEEA-2003 and in the 2008 SNA. This advice will be updated and expanded in the revised SEEA.

In discussing this issue within the London Group some specific work that had been undertaken in New Zealand (NZ) on the valuation of their fish stocks became an interesting focus. In New Zealand a market has been created around quotas for harvesting fish and this has allowed the development of methods to value the fish stock using observed market prices.

In particular what has been possible is to compare direct estimates of the resource rent that are derived based on market transactions to the indirect, or residual estimates of resource rent that are normally used in NPV models. The extensive work in this area by Statistics New Zealand is summarised in the outcome paper.

### **Summary of outcomes**

The findings presented in the paper highlight that the specific advice provided in the SEEA-2003 on the valuation of fish stocks using quota based information is sound but also that the derivation of resource rent via residual methods must be applied with caution.

Another conclusion is that there is no reason to reject the use of NPV models. The work by Statistics New Zealand finds that the application of NPV models is appropriate provided that the estimates of resource rent are robust. In this regard the paper highlights many factors that might be considered to determine the quality of a resource rent estimate.

These aspects will be considered and incorporated as appropriate in the drafting of the revised SEEA. Only one substantive recommendation is made for the purposes of global consultation. It is:

**Recommendation 12.1:** That the use of information on quotas and related trading schemes can be used to obtain robust values of fish stocks and hence the proposed methods relating to the valuation of fish stocks described in the SEEA-2003 should be retained in the revised SEEA.

### **Questions**

1. Do you agree that the use of information on quotas and related trading schemes can be used to obtain robust values of fish stocks and hence the proposed methods relating to the valuation of fish stocks described in the SEEA-2003 should be retained in the revised SEEA?
2. Any other comments?

To submit responses to these questions please complete the accompanying comment form available on the website. You are encouraged to submit a short response to the questions (yes/no/no comment) even if you have no further comments to submit.

**Deadline for responses: 6 December 2010**