Some additional section-specific comments:

Para 112 (esp. Table 5.4.1): Items to the right of operating surplus should be presented sequentially to make it clear.

Para.200—Moving average: We do not support the use of moving averages to smooth rents since rents smoothed in this way often do not move in tandem with observed resource prices and other prices in economy. Simple smoothing creates "phase shifts" in which rent peaks occur in the smoothed series a few periods after they occur in reality and resource troughs do the opposite. This is obviously problematic when natural resource values are combined with estimates of produced assets and land (both of which are valued using unsmoothed market prices) in the calculation of total national wealth. Similarly, smoothed rent estimates may be inconsistent with appropriation method-based estimates as royalties and taxes are usually tied to current resource prices.

As an alternative to using a simple moving average process, the NPV of the resource, a value which incorporates both rent and reserve life, could be slightly smoothed using regression models (such as ARIMA/ARIMAX, depending on the data) to dampen extreme volatility.

Annex A5.1
> The NPV formula for timber should reflect the assumption that the timber rent should flow for an indefinite period. A non-renewable resource could be used as an example instead.

Para.8—"r" nominal
In many countries, environmental accounting practitioners will build their NPV estimates on the assumption that recent prices and costs will remain constant into the future. In this case, one must adjust for the fact that price inflation will erode the relative value of returns into the future. Excluding inflation from the discount rate by using a real (or inflation adjusted) discount rate is consistent with the assumption that recent prices and costs will remain constant into the future. We suggest that this caveat be included in the discussion of discount rate choice.

Para.14. Hotelling's rule
According to Hotelling's rule, future streams of rent would increase by the rate of interest; and therefore, resource wealth would be equal to reserve life times current rent (no discounting is required). However, resource rents seldom follow Hotelling's principle, as they fluctuate with resource prices—extraction costs being relatively stable—depending mostly on the global economic situation (recession vs. boom) rather than resource scarcity in a given nation. This fact / caveat could be noted in paragraph 14.

Comments regarding section 5.8 : *Asset accounts for timber resources,* and more specifically regarding Tables 5.8.1 , 5.8.2 and 5.8.3

Table 5.8.2 Physical asset account for timber resources

I do not understand the classification of Cultivated into *Planted and other naturally regenerated.* In the Outcome paper #21, Table 5 (from which SEEA Table 5.8.2 is derived) cultivated and non-cultivated were broken down by the three forest area categories given by Table 5.8.1 i.e. Forest land, Other wooded land and other land. This makes more sense in our view. Forest land is classified by area out of which timber is extracted.

Section 5.6- 5.6.6 Asset Accounts for Land

Overall the structure of section 5.6- 5.6.6 *Asset Accounts for Land* covers issues related to land well. The identification and discussion on the two main land classifications (land use and land cover) are presented in a clear and concise format.

There was some confusion when I read this regarding how table 5.6.2 *Land Cover Types* maps into Table 5.6.3 *Mappable Land Cover classes*. A couple of sentences on how the linkage between land cover type and mappable land cover classes is made could clear this up.

Despite this, the land section flowed well and covered the topics related to land cover and land use. If possible, some graphics may help to illustrate some of the concepts being discussed in the chapter.

The following are with reference to Section 5.6 to 5.6.6.

A primary concern for countries with large land masses such as Canada is the availability and quality of data related to land. In particular, the approach of a hierarchy for land use and cover classifications is a good one as it will give flexibility in the construction of spatial data related to land. The main four categories identified in table 5.6.1 (Land Use Classification) are fine, however at the lower level (level 2) some of the categories such land used for construction, commercial, financial and public services may be a little difficult to identify due to lack of data. In addition, scale is an important component that needs to be addressed. To ensure that spatial data can be compared it is important that a common working scale is agreed to. Currently, we are looking to define a common pixel size that will be used for both our land cover and land use classifications.

The idea that a parcel of land may support many land uses is important and within a spatial database it is possible to capture these different land uses as attributes. Where possible this should be done.

Also, for our purposes land cover is defined as the observed physical cover. Our main source for land cover will be remotely sensed imagery. Currently, a program exists that has mapped land cover using 30m Landsat data. This data gets updated annually but only in areas where there has been change from the previous year. This may be an approach that could be suggested in the SEEA in the construction of annual land cover change matricies.

Comments on Water

Table 5.3.1 -returns and inflows for water stock growth should be defined
       -reduction in stock should be defined as net or gross (consumption or intake)

Figure 5.11.1 -add river flow and run-off to "liquid/solid flows"
          -transpiration should be evapotranspiration or just evaporation

Para 424 1st sentence – destination of flows should be stated.
          -availability also requires knowledge of instream flow needs, seasonality, dams and diversions, and other factors.

Para 425 should say stock as opposed to availability.
    -We are unable to measure a stock of soil moisture.
    -Is consumption not more relevant than abstraction here?

Table 5.11.1 is there a rationale for the order of the classification?

Para 430 - lakes are "relatively still" as opposed to standing.
 -"snow and ice" can also be permanent

Para 431 - surface water can also be fossil (the bulk of the Great Lakes is Ice Age melt)

Para 433 The importance of change over time and renewal is important to mention

Para 436 For rivers, defining the stock is not difficult, measuring it is the challenge

Para 437 stock level and active river bed should be defined

Para 438 ii) the majority of precipitation actually runs off

Para 439 i) separate identification of hydroelectric is not shown in the table.
 -Precipitation for agriculture is also large. Should it not be identified separately too?
 -There would be double counting if precipitation and evapotranspiration are counted.