

4 MANAGING CUSTODIANSHIP

4.1 Assigning Custodianship

Custodianship of a dataset is normally accepted by the organisation most familiar with its history, special management requirements and potential uses. Within any particular network, such organisations may be obvious to the network's partners, allowing custodianship to be confirmed, rather than negotiated, without issue. However, where several organisations claim custodianship of the same dataset, or no custodian is apparent, the network hub, through its steering committee, may decide to **commission a review**. This could be applied to specific datasets as the need arises or, more ambitiously, it could be extended into a network-wide review (see Volume 6).

It is often the case that environmental datasets are significant to a wide range of stakeholders, not just their custodians. This suggests that greater, perhaps national needs should prevail over individual feelings of data ownership, particularly in the case of essential datasets which may be depended upon for projects of national importance. Difficult decisions may have to be made in the short term to guarantee the quality and accessibility of a dataset in the long term. As with all decisions of this nature, it is imperative that they are arrived at transparently and with the **full participation of leading stakeholders**. Box 3 lists a variety of criteria which the steering committee of the hub could use to determine which organisation is the most appropriate custodian for a particular dataset (note that the criteria are not equally important).

One way to apply the criteria in Box 3 is to select those organisations thought to be most relevant in the particular context, and assign numeric values to each criteria according to its relative importance. Thus, statutory responsibility may be perceived as being the most influential factor determining custodianship in a particular network, whereas best financial position might be considered to be the least. This allows the steering committee to 'score' potential custodians according to their suitability for the role, as illustrated in Table 1 (custodians denoted by the letter C). Analyses of this kind do not provide sufficient grounds for assigning custodianship in their own right, but may serve to focus discussion.

Box 3 Potential criteria for determining custodianship

- Statutory responsibility for management of a dataset (beware of overlapping mandates!).
- Greatest operational need for a dataset (e.g. for decision-making).
- Normally first to record changes to a data item.
- Requires the highest integrity of a data item (e.g. military precision).
- Most 'competent' to manage a dataset.
- Best financial position to manage a dataset (beware short-term effects).
- Most technical or physical resources to manage a dataset.
- Confidence of users in continuing to manage and develop a dataset (e.g. committed, no 'conflict of interest').

When deciding the custodianship of essential datasets, the overriding principle is that **each dataset should have one and only one custodian**. This is a practical and effective way of ensuring that management responsibility is assigned to every dataset which is valuable to multiple organisations and users. However, some environmental datasets are not easily packaged under a single label, and overlaps in organisational jurisdiction will occur. This can be resolved by designating one organisation as the overall custodian and encouraging others to maintain specific sub-components. An example would be a protected areas agency which manages a dataset containing, amongst other entities, data on the distribution and significance of species within its estate. Whilst it is justified in managing this dataset, the list of names used to reference the species would be managed by a more specialist custodian, such as a national museum or herbarium.

Table 1 Determining custodianship

Criteria	Relative importance	C ₁	C ₂	...
Statutory responsibility	5	✓		...
Greatest operational need	3	✓		...
First to record changes	2	✓		...
Most 'competent'	2		✓	...
Best financial position	1		✓	...
Confidence of users	4		✓	...
...	...	...	...	...
Score		10	7	...

4.2 Managing Custodianship

Responsibility for data may need to be assigned at **several levels**. At the national level, responsibility for data themes may be assigned to separate lead organisations, such as government departments or research establishments. Land infrastructure, for example, including administrative boundaries, topography, settlements, roads and rivers, might be assigned to a national department of survey and mapping, which other national-level organisations see as the natural custodian.

At the sub-national level, land infrastructure data may be managed at a higher resolution by local authorities, and be dispatched upwards to maintain the survey and mapping department's datasets. Thus, in reality, the survey and mapping department is the hub of a land infrastructure network, with responsibility for data management devolved to a series of sub-national custodians (see Volume 4). As such, data harmonisation — the ability to integrate the various sub-national datasets — needs to be resolved, at the outset, by agreeing appropriate data standards and protocols.

Network hubs should ensure that they provide sufficient **guidance and coordination** to custodians to enable them to contribute effectively to the network's objectives (see Volume 4). Some obvious examples of where guidance may be

provided are the agreement of standards for data collection, storage and quality-assurance, and consistent procedures for data access (see Volume 7).

A further complication is that, while a theme may have been assigned to a particular organisation, other organisations may need to develop datasets within that theme to meet their particular objectives, and for which they would become the custodian. For example, the theme *vegetation* may be allocated to a natural resource management agency, yet the defence department may need to develop a subsidiary vegetation dataset, with attributes that show which areas heavy vehicles may traverse and which they should not because of unacceptable surface damage.

When a dataset is modified, for instance by enhancement or integration with other data, then the responsibilities and rights of its original custodian become diluted. Some management process should then define a clear point at which the original intellectual property rights and custodial responsibilities will be deemed abandoned. Essentially, it is a matter for negotiation between the parties concerned as to how to balance the requirements of the organisation that created the derived dataset with the legitimate interests of the original custodian. For instance, a decision must be made as to whether the new dataset is repatriated to the original custodian or whether it should be retained by the organisation that created it (presuming that they are capable of performing their custodial functions) (CSDC 1995).

4.3 Reviewing Custodianship

In becoming a custodian, an organisation needs to consider its data management responsibilities and ensure that it is able to meet them. If an organisation cannot meet its obligations, then it may consider **relinquishing custodianship** to another organisation. As with the initial assignment of custodianship, reassignment requires active but sensitive management, especially with datasets which have been identified as being fundamental to many organisations and users.

It is a good idea to undertake periodic reviews, perhaps every two years, of:

- the appropriateness of current custodians;
- progress in building, managing and enhancing key datasets;
- dataset documentation, including catalogues, directories and metadatabases; and
- implementation of data standards (see Volume 7).

Network hubs could consider developing a series of performance indicators for custodians, so that reviews can monitor progress against established benchmarks. In turn, custodians could report progress to their network hubs on a regular (e.g. annual) basis.

4.4 Setting Priorities

Resource constraints invariably mean that **strict priorities for data development are needed**. For this reason, it is important to identify appropriate custodians for essential datasets, and support these where specific investments in institutional capacity are required (see Volume 6). Every country, for example, needs an accurate and stable dataset representing its national boundary. This dataset must be maintained at a resolution and accuracy suitable for all major organisations and programmes, which may require the boundary in a range of scales and projections. One solution is to assign a single organisation, normally a national mapping agency, custodianship for the entirety of this dataset in its various forms.

Custodians generally build datasets for their own corporate objectives, rather than for the wider benefit of the networks in which they operate. Thus, ideally, when building datasets, organisations should take into account the needs of their fellow partners, in order **to increase the range of purposes to which the datasets can eventually be applied**. Where partners require datasets that are of finer resolution, more elaborate or, in general, are of a higher quality than that required for the custodian's own purposes, then agreement needs to be reached on how to cover any additional costs which may be involved.