

September 2012

RICS Thought Leadership

Challenges for international professional practice: from market value to natural value



Acknowledgement

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From market value to natural value

Foreword

Acknowledging a large body of research concerning both the recognition and valuation of non market goods, RICS Land commissioned rural chartered surveyor Charles Cowap, a former Rural Professional Group Board member and current member of the RICS Rural Education Working Group, to produce a Thinkpiece for RICS entitled “From Market Value to Natural Value and Natural Markets”.

The aim of this Thinkpiece is to instigate discussion, debate and activity across the RICS on the issues that it raises for RICS and its members.

It is intended that internal RICS staff will bring this Thinkpiece to the attention of their respective Professional Group Boards and any other relevant Boards, Committees etc who will be facilitated and supported to both discuss what impacts the concepts within this Thinkpiece may have for them, and to identify and develop any appropriate initiatives and projects.

‘Nowadays people know the price of everything and the value of nothing.’

Oscar Wilde

‘Only after the last tree has been cut down,

Only after the last river has been poisoned,

Only after the last fish has been caught,

Only then will you find that money cannot be eaten.’

Old Cree Indian Prophecy



RICS Land

The evolving concepts of non market based ‘value’ have continued to exert influence on professionals engaged in land based practice as a growing number of international and national institutions seek to define and contextualise the ‘value’ of a vast range of naturally occurring resources. The Land Group has sought to bring some focus to the debate within the surveying profession by commissioning this ‘Thinkpiece’ which will help RICS create a framework within which to debate and expand its thinking and rationale. The potential risk and rewards for the surveying profession are great but it is vital that this evolving area of practice, and liability, is carefully considered and communicated.

Within the context of geography and mapping, RICS has already explored the use of easily accessible satellite imagery for ecosystem carbon capture/trading in Belize (RICS Research) and is well placed to advise and manage the extensive geographical ‘inventory’ required to accurately evaluate ‘value’. Indeed, for nations and regions with natural resources which have not traditionally had a market value, these developments allow them to quantify their investment potential. In a world where value and worth always seem connected to the transient themes of the built environment we may well see a future where nature and natural resources are given a new priority, and protection, based on their ‘value’.

Non market value will require geomatics surveyors to bring together numerous datasets (within for instance Geographical Information Systems) and in some cases a re evaluation of the accuracy of nationally available and consistent mapping in areas of high non market value (e.g. uplands). RICS guidance on ‘aerial photography and derived digital imagery’ and ‘GPS surveying for surveying and mapping’ help provide a good geographic framework for not only categorising but also measuring the extents and density of numerous naturally occurring resources. Geomatics, and by extension mapping, will be of critical importance for defining ‘natural value’ and will call for internationally agreed standards on measurement, evaluation and data structure as markets develop.

It is important that land, hydrographic and engineering surveyors take note of these important developments and that young surveyors become aware of their future significance.

James Kavanagh
Director RICS Land



Within the UK, Government are currently the driving force behind a range of initiatives on the need to both recognise and place a value on all of the services provided by nature. These services are termed 'Ecosystem services.' To date, markets have placed a value on some of these services but not all.

RICS Rural believe the time is ripe for RICS as an institution to address the wide ranging implications of this exciting development and the associated emerging business opportunities for the chartered surveying profession and in particular for those involved and engaged with the management of natural resources. Rural chartered surveyors are not only heavily engaged in the management of the UK's natural resources, but also provide advice on a multitude of natural resource related matters to a wide range of clients; investment funds, private and corporate clients, estate owners, farmers, conservation bodies, charities and government agencies amongst others.

Though some of the current thinking on the valuation side is new, the publication of the rural Guidance Note "Valuation of trees for amenity and related non-timber related uses" outlined several valuation approaches being applied in practice by arboriculturists and landscape appraisers, some of which already seek to reflect, for example, the societal benefit of trees. The ongoing RICS guidance project on the "Valuation of water" is currently grappling with the wider benefit that the presence of water may have on a property and how to value this. While valuers are very comfortable with valuing tangibles, the intangible

benefits conveyed by the natural world require a new thinking and applied skill set.

Fiona Mannix
Associate Director RICS Land

A major objective of planning and development is to create great places in which to live and work. Not just places that look good, but places that are good in terms of overall well being. Many of the characteristics that contribute to making places good to live in are tangible and capable of being measured in an objective way with today's methods of evaluation. But a large number of factors that contribute to the overall enjoyment of places are intangible and do not lend themselves easily to objective measurement. That is not to deny their importance or to think that because we can not measure them or trade them they have no value.

In producing our information paper on 'Green Infrastructure in Urban Areas' there was an early recognition that a great number of qualitative aspects of towns and cities are derived from intangible characteristics which are difficult to objectively evaluate. This pushed us to commission work on 'Place making and value' to try to identify some of the intangible factors that contribute to financial value.

This Thinkpiece 'From Market Value to Natural Value and Natural Markets' is a logical extension of these two pieces of work recognising that not only are these intangible factors vitally important but that they may require a new way of looking at value which extends well beyond that determined in an open market, as the outcome of the economic forces of supply and demand.

Tony Mulhall
Associate Director RICS Land

Minerals & Waste Management and Environmental Surveyors are concerned with the extraction and management of our resources and are tasked with the care and remediation of the worked lands. By incorporating an ecosystems approach to inform decisions regarding the working of and restoration of land, we can allow these resources to be efficiently harvested and used within the natural limits set by our environmental media, thereby mitigating harmful effects of over-use and adapting towards more sustainable development. This Thinkpiece will allow surveyors to consider the trade-off between various services provided by our natural environment, thereby informing more holistic decisions towards preferred environmental outcomes.

It is likely that markets will soon emerge in flood mitigation/alleviation services, water provision and biodiversity alongside the carbon markets in place today. Additionally, payment for ecosystem services will likely develop, whereby land managers and others who undertake actions that improve the quality and quantity of desired ecosystem services will be financially awarded for such provisions.

Consider, for example, the work carried out in NEWP, UK NEA, TEEB and the Biodiversity Strategy. Each of these documents identifies finding a value for natural capital and the services provided by our ecosystems, and thereafter creating a market for these, as key. As a result we are left trying to get to grips with placing a monetary value on environmental resources that traditionally would never have been ascribed such values. It is important that RICS be engaged with developments in this area.

Rebecca Mooney
Project Manager RICS Land



International perspective

Methods for valuing natural resources are increasingly applied not only in developed countries, but also in developing countries and countries with economies in transition. Notwithstanding scepticism among some international development organisations about the benefits of using “alternative” valuation methods in undeveloped market conditions, it is increasingly recognised that scarcity of statistical data and price distortions do not prevent quite meaningful valuations being made. A survey on the use of contingent valuation studies in developing countries, some of which address biodiversity-related issues, was conducted by FAO in 2001 and there are other valuation analyses in the resource and environmental economics literature, for example, the Millennium Ecosystem Assessment, prepared by 1,300 leading scientists which has been extensively peer-reviewed by

governments and experts in the field.

RICS has been involved with similar areas of valuation through its work with the UN Habitat Global Tools Network in assessing the value of unregistered urban and rural housing land and with the UN Food and Agriculture in the development of voluntary guidelines on the good governance of land, fisheries and forests, which contain explicit reference to the need to use alternative valuation methods that endeavour to ensure that valuation systems take into account non-market values, such as social, cultural, religious, spiritual and environmental values. Other global institutions such as the World Bank are already trying to come to terms with the inherent value of state owned land and resources outside the traditional concepts of market value.

John Tracey-White
RICS International Sustainable
Development Advisor



‘Economists typically seek to identify the various reasons why biodiversity and ecosystems are valuable to people. These include the fact that ecosystems directly or indirectly support people’s own consumption (often referred to as use value) or that they support the consumption of other people or other species (often referred to as non-use value). Various valuation methods are now available to estimate these different sources of value. Despite the existence of these tools, only provisioning ecosystem services are routinely valued. Most supporting, cultural, and regulating services are not valued because the willingness of people to pay for these services – which are not privately owned or traded – cannot be directly observed or measured. In addition, it is recognized by many people that biodiversity has intrinsic value, which cannot be valued in conventional economic terms.’

Source: Millennium Ecosystem Assessment (2005)



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1. Executive summary

New approaches to the valuation, appraisal and management of natural capital and nature's services – ecosystem services – promise to transform the way we manage land, undertake development, appraise and value assets and pay for a range of goods and services previously taken for granted. This will all have far reaching implications for the work of chartered surveyors in valuation, estate and property management, construction, property development and environmental services.

This paper reviews the current top-rated business opportunities in natural services in the UK in the context of RICS interests, before considering recent developments as they may affect the work of the professional valuer. Several of the emerging business opportunities are directly relevant to chartered surveyors in several disciplines, and taken together open new opportunities for all professional services.

It is therefore vital that the RICS positions itself as a respected national and global authority, and as the voice of professional land management and appraisal in these emerging areas. The report concludes with some specific suggestions for further work by the institution.

2. Introduction

The Royal Charter of the Royal Institution Surveyors (RICS) was last updated by the Privy Council in 2008. The purpose and objects of the RICS under that charter are:

'... to secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a surveyor, namely, the arts, sciences and practice of:

(a) determining the value of all descriptions of landed and house property and of the various interests therein and advising on direct and indirect investment therein;

(b) managing and developing estates and other business concerned with the management of landed property;

(c) securing the optimal use of land and its associated resources to meet social and economic needs;

(d) surveying the fabric of buildings and their services and advising on their condition, maintenance, alteration, improvement and design;

(e) measuring and delineating the physical features of the Earth;

(f) managing, developing and surveying mineral property;

(g) determining the economic use of resources of the construction industry, and the financial appraisal, management and measurement of construction work;

(h) selling (whether by auction or otherwise) buying or letting, as an agent, real or personal property or any interest therein

and to maintain and promote the usefulness of the profession for the public advantage in the United Kingdom and in any other part of the world.'¹

This paper has been prepared as a 'Thinkpiece' for the RICS. It reviews some important recent developments which may affect the management and valuation of land in the UK profoundly in the near future, and places these in a broader global context. These developments can be summarised as the growing recognition of the importance of Ecosystem Services (ESS), otherwise known as Nature's Capital, Natural Services, or What Nature Can Do For Us; and the parallel development of new concepts or applications in the valuation of ESS. This brings with it new initiatives like Payments for Ecosystem Services (PES). It is no exaggeration to say that these developments herald a new paradigm in land management and valuation with far reaching implications for the work of all property professionals. While much of the evidence for this paper is drawn from the UK, it is nevertheless clear that these concerns and opportunities will not be defined by national boundaries even if detailed aspects will vary from one jurisdiction to another.

The paper therefore reviews recent developments in these areas, argues that RICS has a duty under its charter to engage fully and forcefully with these developments and makes various proposals which would be consistent with the obligations of the Royal Charter to 'promote the usefulness of the profession for the public advantage ...'

3. Business opportunities in the valuation or protection of nature's services

A 'Top Ten' of business opportunities in the valuation or protection of nature published in June 2012 in the UK has wide-ranging implications for the professional work of chartered surveyors.² The opportunities and their implications are:

3.1. Biodiversity offsetting and conservation banking (First equal)³

This involves offsetting environmental impacts in one area with beneficial work in another, and the development of a banking or credit scheme to deliver these environmental benefits against

¹The RICS Royal Charter can be seen in full at: http://www.rics.org/site/download_feed.aspx?fileID=121&fileExtension=PDF

²Duke, G., Dickie, I., Juniper, T., ten Kate, K., Pieterse, M., Rafiq, M., Rayment, M., Smith, S. and Voulvoulis, N. (2012) Opportunities for UK Business that Value and/or Protect Nature's Services; Elaboration of Proposals for Potential Business Opportunities. Attachment 1 to Final Report to the Ecosystem Markets Task Force and Valuing Nature Network. GHK, London. <http://www.valuing-nature.net/opportunities-uk-business-protect-and-value-natures-services-report-published-today>

³See <http://valuing-nature.net/news/2012/biodiversity-offsetting-and-conservation-banking-for-a-brief-summary>.

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future development work. The ecosystem markets taskforce has estimated the value of this to be £50 to £300 million pa from new housing alone in the UK. Property developers have expressed their interest in this area, with the view that any additional costs will merely be reflected in lower land values for development land, that they would welcome the greater certainty in their costs and it could remove the requirement for onsite offsetting.

The business opportunities here are around brokerage, the creation of new companies for the acquisition and management of offset areas, and the establishment and administration of registration and certification schemes.

Defra has already launched six biodiversity offsetting pilot schemes to run for two years, until April 2014. These will provide evidence for the future of this opportunity. It is already clear that planning policy will need to be clarified to define the circumstances in which biodiversity offsets are needed.

This has clear implications for a number of areas of RICS professional practice: construction, planning and development, quantity surveying (in terms of costing and lifecycle questions), valuation and of course, rural. There will also be entrepreneurial opportunities which are equally available to RICS members in the formation of new entities to acquire and manage land, and the provision of brokerage services. Note for example, the parallel between the brokerage of biodiversity offsets and the transfer and administration of Common Agricultural Policy Single Payment Entitlements and Quotas. As with the Single Farm Payment scheme, mapping requirements will play an important role in any registration system which is therefore likely to call on geomatics expertise.

This opportunity also gives a clear indication as to 'who will pay' – property and infrastructure developers in this case.

A less obvious implication of this opportunity is the very clear indication that the planning system will start to accommodate opportunities like this through the process of environmental impact assessment and mitigation. This will therefore be important to all chartered surveyors advising their clients or working in significant development work.

Internationally, Biodiversity Offsetting is far from new. The first schemes in the USA began to emerge in the 1970's and 1980's, aimed at wetlands. These were followed in the 1990's in California with species protection schemes.⁴ The Parliamentary Office of Science and Technology has highlighted schemes



in Germany (since 1976, *Eingriffsregelung*), some developments in Sweden and France as well as the USA developments already outlined. In addition there already exists in the USA a National Mitigation Banking Association which brings together practitioners in this area and others with an interest. Principal drivers in the USA are identified as strong policy direction, enforcement and detailed regulations.⁵

In Australia the Environment Protection and Biodiversity Conservation Act 1999 has enabled states to introduce schemes. These have included the Bushbroker™ scheme in the state of Victoria. This has allowed the establishment of native vegetation credits, their registration and trading. Landowners of areas of native vegetation register their interest in participation in the scheme, and developers then approach Bushbroker™ to pay for their credits. PWC have reported that the value of these natural vegetation credits varies from an average of AUD\$42,000/ha to AUD\$127,000/ha.⁶ They go on to conclude that the banking sector has a very limited understanding of biodiversity offsets or the mitigation hierarchy.⁷ This is not therefore being reflected in finance risk analyses, the approach across the banking sector is not consistent or systematic and the banks are failing to recognise biodiversity as a 'material business risk'. They go on to conclude that:

'Risk Management frameworks have gaps that expose the sector to material biodiversity risk with potentially significant financial implications'

The PWC report presents the estimate that mitigation banking in the USA has a sales volume of USD \$1.2 – 2.4 billion a year based on ecosystem service credits for environmental restoration and preservation of habitat. They go

⁴These slides provide a helpful summary and overview of the topic in the USA: <http://www.oas.org/dsd/PES/Course/Documents/ModuloV/Microsoft%20Power-Point%20-%20Na%20OAS%206-17-09ModuleV.pdf>. The author of these slides is also one of the contributing editors to Bayon R, Fox J and Carroll N (eds) (2008) **Conservation and biodiversity banking, a guide to setting up and running biodiversity credit trading systems** London: Earthscan publications

⁵Postnote 369, January 2011: Biodiversity Offsetting: http://www.parliament.uk/documents/post/postpn_369-biodiversity-offsetting.pdf

⁶PricewaterhouseCoopers LLP March 2010 Report for the UNEP-FI and BBOP: **Biodiversity offsets and the mitigation hierarchy: a review of current applications in the banking sector** http://www.unepfi.org/fileadmin/documents/biodiversity_offsets.pdf

⁷Mitigation Hierarchy: Avoid → Reduce, moderate, minimise → Rescue (relocation, translocation) → Repair, reinstate, restore → Offset → Compensate.



on to report that carbon sequestration, watershed protection and biodiversity credits attracted GBP £4.6 billion to six international funds for the reduction of emissions from deforestation and forest degradation in 2009.

At least one habitat banking organisation has already been established in the UK, The *Environment Bank Ltd*. This private limited company was incorporated in September 2006 and trades from a registered office in Swindon. Issued share capital is GBP £100 and it has total exemption from financial reporting as a small company. There are three company directors, two of whom own the shares in equal amounts. The company also runs the Environmental Markets Exchange⁸ which ‘allows conservation groups, farmers and landowners to register their wildlife sites so as to provide “conservation credits”. These credits are then available to developers for purchase to offset their impacts on biodiversity’.

The cost of credits for schemes are generally calculated with regard to the cost of land purchase or lease, creation or restoration costs, long-term management costs, compensation costs, administrative and transaction costs and required returns on investment, according to the Parliamentary Office for Science and Technology.

3.2. Peatland Carbon Code (First equal)⁹

A peatland carbon code would provide the framework in which carbon credits can be purchased for the restoration and re-wetting of degraded peatland, extending the carbon market for the benefit of an important habitat which is increasingly degraded. It would operate in a similar way to the woodland carbon code. Strong market potential is seen in the UK, with an opportunity to

provide market leadership in this area on a global scale. This has been seen as a pioneering solution to the global challenge of climate change.

The purchasers of carbon credits will be the significant producers of carbon – fossil fuel energy producers, major industry and others, with significant potential for international trade. The providers of peat storage will be owners (and perhaps occupiers) of areas of peatland (primarily degraded peatland). Most of this land is likely to be in upland areas, but there are also significant areas of lowland peat (albeit much of it improved beyond reinstatement for agricultural production). Rural chartered surveyors are therefore likely to be involved in making such land available, either through a new brokerage function or because they are directly involved in its management as resident or retained agents. Equally registration requirements will need careful mapping of areas which have been dedicated to carbon storage, calling on geomatics expertise in extensive areas of upland which may be subject to relatively low survey accuracy thresholds.

It is also arguable that the current state of development in this area has not yet recognised the complexity of upland tenure systems, with a mixture of freehold owners, tenants, graziers and owners of common rights. This indicates a need for a policy and technical input to ensure that schemes are designed to recognise and work with these complexities.

Other chartered surveyors may also be involved on the purchasing side of this opportunity, particularly in support of the major infrastructure, development and extractive industries.

Within Europe this work would be underpinned by the EU Emissions Trading System (ETS). By 2010 the only other countries with operational ETS schemes were New Zealand and Switzerland. USA, Canada, Japan, Australia, Mexico, Taiwan and South Korea were all actively considering the introduction of schemes.¹⁰ India launched its PAT (Perform, Achieve, Trade) energy efficiency scheme on 4 July 2012.¹¹

The NZ scheme started to operate in January 2008 and the first industry to be covered by it was forestry. Other industries have been added since, and the scheme continues to be enlarged. The legislative background is in the NZ Climate Change Response Act 2002.¹² In the course of preparing this paper, comment was received from a forest planner¹³ with direct experience of the scheme (see Box).

⁸See <http://www.environmentbank.com/environmentalmarketsexchange.html>. There were 12 offerings in late July 2012.

⁹See <http://valuing-nature.net/news/2012/peatland-carbon-code> for a summary.

¹⁰See Parliamentary Office of Science and Technology Postnote 354 (March 2010), **Global Carbon Trading**, for a helpful summary: <http://www.parliament.uk/business/publications/research/briefing-papers/POST-PN-354>

¹¹See <http://www.ukti.gov.uk/export/howwehelp/overseasbusinessrisk/premiumcontent/352960.html> for an introduction to this scheme, and in particular for the UK's role in providing modest funding and expertise to develop the scheme.

¹²Many more details of the NZ scheme can be found on the scheme's website: <http://www.climatechange.govt.nz/emissions-trading-scheme/about/>

¹³With thanks to Emma Passey and James Powrie for this personal communication on carbon trading in NZ, August 2012.

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Figure 1: NZ Emission Trading Scheme and Forestry in the Hawke's Bay Region: a forester's personal perspective

'My work with forest carbon in NZ relates to eight hundred hectares of forest, which I manage for a local council. Some of this forest was established (on previously unforested land after 1989, which means that it is optionally able to have inventory performed to determine carbon stock changes, under the NZ emissions trading scheme (ETS).

NZUs or carbon units are allocated based on tonnes of carbon sequestered and are registered against this forest land. Upon harvest (or loss by fire or windthrow) relevant units need to be surrendered. If we have sold carbon units and do not have enough to surrender, then we need to buy these to surrender, at the price of the day, to meet this liability.

My employer is also finalising a project to invest in establishing 15,000 ha of forest on eroding farmland over the next 10 years. Sale of carbon units from the forests are seen as a means to recover this investment and so I am currently working in a team to establish suitable investment vehicles and trading and legal tools to allow us to receive units for forest growing on someone else's land.

This project was much more attractive at a NZ\$20 carbon price two years ago, when the project was mooted, compared with today's carbon price of under NZ\$5. Despite this, we are continuing because of the severity of soil erosion in the region which has been ongoing since deforestation, prior to and after colonisation. Also, significant volumes of carbon will not accrue from this project for another 5 years, allowing time for a recovery of carbon price. We are also working on options to take a stake in harvest revenue to aid in securing a return on investment.

Ownership of NZUs grown in the forests requires a trading strategy to inform decisions on whether to sell, hold or purchase units to meet investment costs and liabilities while optimising trading revenue. So our interest on the trading side is intensifying as our forests grow and sequester carbon and trading decisions draw nearer.'

3.3. Meeting the demand for fuel for woodburning stoves¹⁴ (Third)

This opportunity requires little explanation beyond saying that growing timber for woodburning stoves has already been recognised by government for both domestic stoves and business and community buildings. The Forestry Commission already has a woodfuel plan¹⁵, and the Independent Panel on Forestry's Report¹⁶ has called for a revaluation of our woodlands with regard to their full range of benefits. In domestic terms, the market is seen as potentially millions of homes in the UK.

The most obvious opportunity here is for rural surveyors who are involved in forestry either as specialists or through the management of rural estates or other areas of woodland. Less obviously construction professionals may wish to be aware of the opportunity to use timber as a source of fuel in either new developments or refurbishments. The implications for wider land use questions will also be relevant to the policy work of RICS.

In valuation terms, the proposal to revalue England's woodland may be one of a number of examples of emerging valuation work which take us 'beyond the Red Book', a theme which will be considered more fully later.

3.4. A United Kingdom Knowledge Economy (Fourth)¹⁷

At first glance this opportunity may seem less relevant to chartered surveyors. However, there is an opportunity to develop world-leading property expertise in the integration of ecosystems knowledge with the real property lifecycle, which in turn would support RICS global aspirations. The UK government is already recognised as an international leader in the promotion of ecosystem services and carbon trading¹⁸ as important policy tools, and is the first country in the world to have published a national ecosystems assessment. In addition an academic body of knowledge is developing rapidly in the UK with the support of considerable government focus and investment in research through the Research Councils and Defra.

Furthermore it is arguable that the work so far on the development of ecosystems knowledge has not reflected the importance of land tenure and occupation.¹⁹ In this particular area, RICS may have a unique national and global contribution to offer.

¹⁴See <http://valuing-nature.net/news/2012/woodfuel> for a summary

¹⁵<http://www.forestry.gov.uk/england-woodfuel>

¹⁶<http://www.defra.gov.uk/forestrypanel/reports/>

¹⁷See <http://valuing-nature.net/news/2012/developing-knowledge-economy> for a summary

¹⁸See for example the UK's role in the development of the Indian PAT (Perform Achieve Trade) scheme: <http://www.ukti.gov.uk/export/howwehelp/overseasbusinessrisk/premiumcontent/352960.html>

¹⁹A similar comment can be made about the recently-published Green Food Policy, see <http://charlescowap.wordpress.com/2012/07/10/green-food-report-land-tenure-is-a-missing-link/> for a comment and further links

3.5. Payments for ecosystem services (PES)²⁰ (Fifth)

Ecosystem services (ESS) are wide ranging in scope. Broadly they can be described as services provided by nature. For example they include so-called 'provisioning services' in which natural resources play a key role in providing goods we need (food, timber, fish, fibre, water), 'regulating services' (e.g. water purification), 'supporting services' (e.g. soil formation, oxygen) and 'cultural services' (e.g. spiritual refreshment, leisure). The market only pays for provisioning services generally, but there is nevertheless value in the other services we receive from nature as well.

The question of value and valuation is dealt with separately in this paper, but the business opportunity here is for owners and managers of the resources which provide the wider range of nature's services to be paid by the users of these services. This may happen in a number of ways. One example might be a water utility company entering agreements with landowners and occupiers to manage land in such a way that will enhance the delivery of a clean water supply. Agricultural policy has already recognised this approach through schemes such as Environmental Stewardship, Higher Level Stewardship, Tir Gofal and so on. This is likely to be an increasingly important aspect of agricultural and rural support policy, in pursuit of biodiversity (both a regulating and a supporting service) as well as cultural ecosystem services. At a more local level, local communities or businesses may also wish to buy various services from landowners, occupiers or managers.

Emergent thinking in this area also recognises that an area of land may be able to provide more than one service – for example, water purification, flood protection, carbon storage, recreational access. This is called 'Layered PES'.

The report states that there is a business opportunity from 'layered payments for ecosystem services' - that is, selling different environmental services from the same area of land, to different buyers. Different services (such as fresh water, water quality, flood management, pollination etc) could be bought by different public and private users. A form of bidding by landowners is envisaged for the provision of a range of services, and further work is being developed by the research community with Defra to explore this aspect.

It is no exaggeration to say that this approach could revolutionise the management of rural land. Clients will look to their chartered surveyors to prepare competitive funding bids, to unravel the complexities of these schemes, to evaluate the new opportunities, to review the risks associated with them and to place them in the context of the usual wide range of estate planning factors: taxation, landlord-tenant relations, development opportunities, land-use mix, employment and management aspects, longer-term succession aspects, risk management, ownership and tenure structures. Again, accurate base-mapping will be an important requirement.

Equally as a profession we have a public duty to see that pilot schemes recognise the full range of complexities which can be particularly prevalent in private land ownership and occupation. The importance of trust structures, of the distinction between ownership, occupation and control will all be important challenges as these new initiatives emerge. Defra is now seeking pilot schemes in this area²¹ with a closing date of 16 August 2012. Locally it will be important for RICS to keep a watching brief on these schemes, and to seek an active involvement in them wherever possible.

3.6. Carbon sequestration as an 'allowable solution' for zero-carbon housing²² (sixth)

Carbon storage has already been mentioned with regard to the creation of a Peatland Carbon Code. The sixth-ranked opportunity is more precisely focussed on the government's commitment to 'zero carbon' new homes by 2016, allowing developers to buy carbon credits or certificates (see above) to offset the carbon in new homes by that date, by investing in peatland restoration or woodland creation and management.



²⁰See <http://valuing-nature.net/news/2012/payments-ecosystem-services> for a summary.

²¹<http://www.defra.gov.uk/evidence/funding/competitions/> and <http://www.valuing-nature.net/news/2012/defra-payments-ecosystem-services-call-pilot-research-projects> [23 July 2012]

²²See <http://valuing-nature.net/news/2012/carbon-capture-and-storage-carbon-neutral-homes> for a summary



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The importance of this to chartered surveyors is clear. For those in the construction sector it will provide a means to meet the challenge of zero-carbon housing, there will be a need for brokerage in the identification of suitable opportunities to offset carbon, and subsequent work in the management of assets for the purpose of carbon storage.

This will also have consequential effects on asset valuation practice, both with regard to rural assets which have been included in these schemes, and for the appraisal of residential development opportunities. This could be of particular importance in relation to new homes created by conversions of older buildings, including listed properties.

3.7. Sustainability Certification (seventh)

This opportunity is seen as of particular importance to agricultural ecosystems, and consists of the opportunity to include new sectors in sustainability assurance schemes. The opportunity is therefore for producers, intermediaries, retailers and related service providers to achieve certification for their products or services, or to offer certification services.

An awareness of this will be important to all chartered surveyors, and some may be able to take the opportunity to offer certification services. The RICS ethics code may be a particular advantage in this respect.

3.8. Sustainable tourism (eight)

The following opportunities are listed by the full report:

- make green and blue spaces more accessible
- enhance quality and experience of recreation
- better distribute visits from domestic and international tourism
- invest tourism income in host ecosystems;
- provide amenity housing
- restore ecological sites of tourism interest
- to promote existing attractions
- create new sustainable tourism infrastructure
- better promote UK natural and cultural endowments internationally
- assess and address travel footprints in UK
- developing nature-based health tourism.

The implications of this list for chartered surveyors vary, but several of the items will at least affect current property management practice, and some may offer major opportunities (amenity housing, accessibility of green and blue spaces, site restoration, new infrastructure).

3.9. Water re-use technology (nine equal)

Chartered surveyors involved in construction will already be familiar with the management of 'grey water,' but the report envisages an extension of this to groups of businesses through new technical developments. There will therefore be a need for technical advice, opportunities for the further development of technology, and the need for professional advice on the terms of sharing agreements. This latter aspect is not fully recognised in the report, but will nevertheless be of vital importance in the implementation of these schemes. There may also be a need for informed policy input concerning landlord-tenant aspects, construction, infrastructure and taxation considerations.

3.10. Global centre of excellence in ESS certification (nine equal)

The UK is currently in the forefront of ESS thinking so we have the opportunity to become a global centre of excellence in the provision of professional services for certification. This may present opportunities for chartered surveyors, and may also be relevant to the RICS global agenda. Reliable geographic data are likely to be a fundamental requirement for at least some forms of certification, so there could be an important geomatics requirement in support of this business opportunity.

3.11. Green Infrastructure to reduce insurance risk (eleven)

Flooding is the key example of an insurance risk which might be reduced through green infrastructure. This is particularly timely given current concerns over the continuing insurability of property against flooding and worries over the impact of this on mortgageability and therefore property values. Collaborative schemes would manage floodplains, upland areas, woodlands and other absorbent areas in order to manage rainfall runoff by storing water like a sponge for gradual release later, instead of allowing rapid runoff and flash flooding.

This would provide an important reassurance for developers, for property owners more generally and would become relevant in considering the valuation of properties at risk of flooding. Chartered surveyors would also be involved in the identification of suitable areas for mitigation, the formulation of schemes and their subsequent negotiation and management.

3.12. Environmental bonds (twelve)

The creation of environmental bonds could parcel a number of asset classes together, e.g. biodiversity, water management, carbon on the same area of land. In return for purchase of the bond, investors would receive a regular return via PES. With government underwriting these bonds, it would be possible to leverage further investment in green growth and jobs. Chartered surveyors may be involved in assembling the assets underpinning these bonds, and their subsequent management. This also provides an alternative means for landowning clients to raise funding for other estate investments on terms which may be attractive. Tenure issues are also likely to be of considerable importance in evaluating the opportunities offered by environmental bonds.

3.13. An estate and land management perspective

An estate manager will view these opportunities with regard to the particular estate or land for which he or she is responsible. It takes little imagination to take a mixed rural estate of farmland (let and inhand), woodland, let properties accommodating a range of businesses, houses and cottages, sporting interests and various semi-natural areas to see that the 'menu' of services which might be offered could include 'Layered PES' for carbon storage against new housing, other development and industrial carbon outputs, the provision of green infrastructure to reduce flooding risks, biodiversity offsetting for other new development, and the management of woodlands for both carbon storage and woodfuel production as well as wider environmental benefits.

This range of ecosystem activity might then be used to raise finance via an environmental bond, allowing further estate investment in more traditional commercial developments or agricultural improvements.

Similarly the estate management consultant called to review the strategic options facing an estate



will in future be able to look at a wider range of opportunities for the development and economic utilisation of estate assets. Many of these opportunities will be attractive to other property interests in terms of facilitating development directly or indirectly. Chartered surveyors will therefore find themselves on both sides of these negotiations if they are suitably prepared to seize the opportunities presented by these new emerging markets. This highlights a need for RICS itself to ensure its members are not only aware of, but well-briefed on, the new opportunities. The RICS also has a wider duty under its Royal Charter to ensure that the public interest in these developments is suitably represented and protected. At this stage there is considerable work to be done in order to devise suitable schemes for the exploitation of the new opportunities which realistically recognise the complexities raised in terms of land tenure and property rights, and the extent to which property as an asset underpins wider economic activity.

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This in turn raises challenges and opportunities for the chartered surveyor whose prime function is the valuation of property and assets, to recognise and address the range of implications of new business opportunities in their impact on asset valuations.

4. Valuation

It is clear that new valuation requirements are emerging, although equally clear that the RICS is little engaged in their development.

For example, the Foresight Land Use Futures Report (2010)²³ commented on the need for a better appreciation of value in land use governance:

'How we value land, and the services it provides, is at the heart of decisions on land use change. However as priorities for land use and land management shift (for example, to reflect long-term challenges identified in this report), these need to be reflected in how we govern land use today.'

The report goes on to call for *'A more sophisticated approach to valuing land ... to be embedded into policy cycles and into the governance mechanisms, including future incentives and regulation.'*

'The appropriate concept of value' is seen as *'a broad one, encompassing the full range of ecosystem services, whether or not they are marketed.'*

Defra continues to sponsor studies which are looking at the valuation of ecosystem services, and case studies published recently have included:²⁴

- forestry recreation facilities valued by unit value transfer
- changes in upland land use valued by adjusted unit value transfer
- environmental benefits of a flood risk management scheme by a meta-analysis function
- improvements in river water quality valued by a function transfer approach
- the use of GIS in valuing ecosystem impacts.

These have built upon earlier work by Defra and others including the *Millennium Ecosystem Assessment*²⁵, *TEEB (The Economics of ecosystems and biodiversity) Study*²⁶, and the

*UK National Ecosystem Assessment (NEA)*²⁷. The UK NEA was the first national study of its kind in the world, and has now moved on to a follow-on phase²⁸. This two year follow-on project will add to the findings generated by the NEA, and develop its lessons for decision and policy making at different levels and scales. We can therefore expect this to start having an impact on policies affecting urban and rural land, and the very way in which local planning itself is developed with an increasing recognition and weighting of ESS. RTPI (Royal Town Planning Institute) is one of the few professional institutions to be represented on the NEA Follow-On Stakeholder Group, but one of the co-chairs of the NEA, Steve Albon, has recognised the need for institutions representing professional land managers to be involved.²⁹

We can also see this work on valuation of ESS starting to be incorporated into government policy making at the highest level. For example, the government has established the Natural Capital Committee. This committee will report to the Economic Affairs Committee (a Treasury committee chaired by the Chancellor) in order to provide impartial advice on the state of English natural capital. The committee will therefore be able to influence economic policy 'for the good of the natural environment'.³⁰ These developments were presaged in the Natural Environment White Paper, *The Natural Choice, Securing the Value of Nature*,³¹ published in June 2011 and it is clear that a very fast pace has been set in following through the ESS and related valuation commitments of the White Paper and the NEA. It is also clear that we are rapidly seeing the development and adoption of a new lexicon in environmental and land management, with which property professionals of all disciplines will need to become familiar and comfortable.



²³Foresight Land Use Futures Project (2010) Government Office for Science, London http://www.bis.gov.uk/assets/foresight/docs/land-use/Luf_report/8614-bis-land_use_futures_exec_summ-web.pdf

²⁴<http://www.defra.gov.uk/environment/natural/ecosystems-services/research-and-case-studies/>

²⁵<http://www.maweb.org/en/index.aspx>

²⁶<http://www.teebweb.org/Home/tabid/924/Default.aspx>

²⁷<http://uknea.unep-wcmc.org/>

²⁸<http://uknea.unep-wcmc.org/NEWFollowonPhase/tabid/123/Default.aspx>

²⁹Personal communication from Dr Mark Reed

³⁰<http://www.defra.gov.uk/natural-capitalcommittee/>

³¹<http://www.defra.gov.uk/environment/natural/whitepaper/> This site includes a number of related references and follow-up progress reports.

4.1. Valuation frameworks

The TEEB Report³² summarised a number of approaches to valuation in the following diagram.

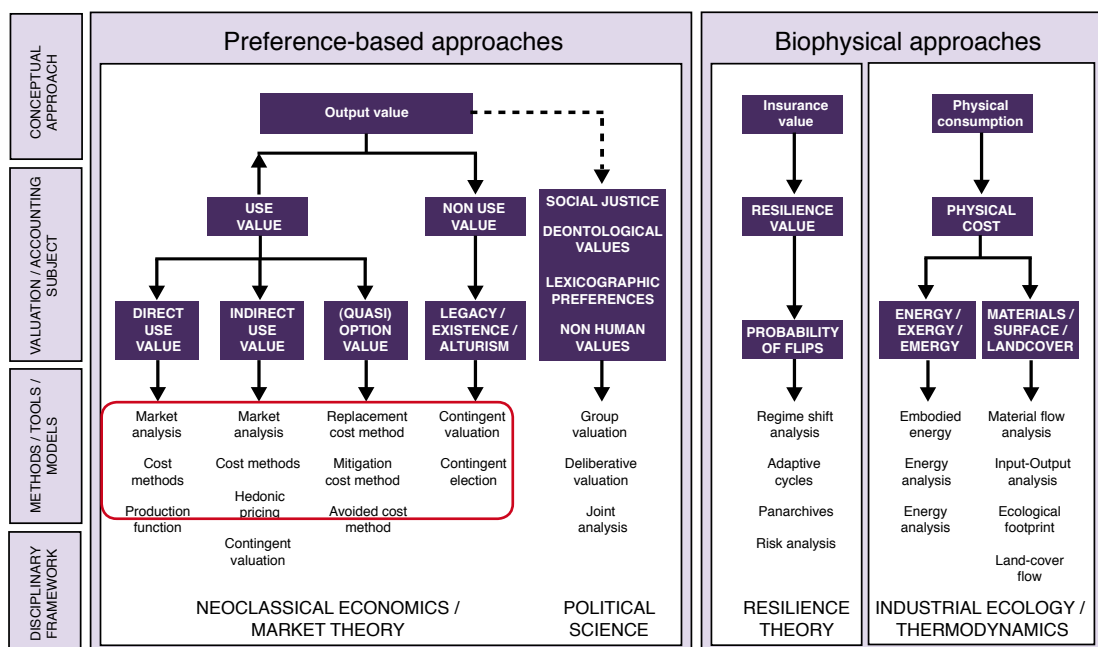


Figure 2: Approaches to the estimation of nature's values

Clearly this sets a very broad framework. RICS understandably focuses on concepts of value rooted in market analysis – market value itself, fair value and ‘worth’. The diagram places these in a far wider context, with the red rectangle indicating where current RICS valuation activity is focussed. A small number of valuers have considered Contingent Valuation approaches³³, and hedonic pricing will be familiar to property researchers as a means of analysis. Meanwhile the NEA follow-on project will be trying to refine and develop practical methods for the valuation of economic, social and wellbeing benefits arising from ESS³⁴ which may in turn have implications for systems of economic valuation, including but by no means limited to those in use by chartered surveyors in the valuation of property.

It should be clear from this brief introduction that a great deal has been happening, that this has clear implications for professional property management and valuation practice and that, as a profession, we have much to learn about these developments if we are to be fully informed in order to advise our clients effectively. What may be less obvious however, is the extent to which

RICS itself is a valuable repository of knowledge on valuation which could – and arguably should – be used to inform the development of new methods for asset and development appraisal.

4.2. What can RICS and its members offer?

It is already clear that fast-paced developments in the appraisal, management and development of natural resources are likely to impinge on professional practice across a number of disciplines – in particular where new development is seen as a major opportunity to fund offsetting ecosystem service benefits. One option would be for RICS members to stick to their traditional role in the analysis of transactional data in order to arrive at market valuations of real property. However, this would be to deny the institution and its members an opportunity to develop their distinctive role in the appraisal, acquisition and management of real property. It would also deny policy-makers the lessons of RICS experience in the development of valuation standards on the national and global stage.

In any case, RICS has for some time pursued aspects of valuation which go beyond the confines of established market values. For example,

³²TEEB (2010) The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB. P9, itself taken from TEEB Foundations, Ch 5: see <http://www.teebweb.org/EcologicalandEconomicFoundation/tabid/1018/Default.aspx> for further information. Red rectangle added by this author.

³³For example see Dangerfield L and Cox D (2010) The use of Contingent Valuation as an alternative to Depreciated Replacement Cost for non-market property. A case study. London, RICS Roots 2010 Conference Paper, available from: http://www.rics.org/site/scripts/download_info.aspx?fileID=8303

³⁴See slides from the NEA Follow On First Meeting of Expert Panel, Funders Group, Stakeholders & Principal Investigators, available at: <http://uknea.unep-wcmc.org/Resources/UKNEAMeetingmaterials/tabid/132/Default.aspx>

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Information Papers and Guidance Notes have been published in recent years on the valuation of heritage assets³⁵, the valuation of trees for amenity and related purposes, sustainability and residential property valuation, green infrastructure in urban areas and contamination, the environment and sustainability. The work on heritage assets informed the creation of Financial Reporting Standard 30, Heritage Assets.

Since the introduction of compulsory valuation standards for members in the 1970's, RICS has painstakingly developed a comprehensive code within which defined valuation work must be undertaken – the RICS Valuation Standards or 'Red Book'. Our collective knowledge expressed in the Red Book has been complemented by our professional experience in dealing with challenging valuation problems and market conditions, through a growing body of academic research into the accuracy, methodology and psychology of valuation practice and by the development of a body of authoritative case law from various challenges in the courts. In the wider valuation debate on how to assess nature's services, this body of knowledge should have considerable value in terms of the practical application and development of valuation processes and methodologies. Some of the current issues facing valuers – the challenge of limited market evidence, the growing demand and need for transparency in valuation reporting, a growing emphasis on sensitivity reporting – will surely be as important to other types of valuation as they are to market valuations, with equally important outcomes riding on the conclusions. The following illustration summarises the process of valuation with cross references to the relevant portions of the Red Book, and provides one possible approach to sharing the professional lessons learned by RICS members over several decades³⁶.

The conclusion here seems to be that the RICS represents a considerable body of accumulated professional knowledge in the application and development of valuation processes and methods in a manner which has been subjected to extensive commercial, legal, economic and public scrutiny. Under the terms of the Royal Charter's³⁸ wider responsibility to promote surveying knowledge for public benefit, it is incumbent on the institution to promote this knowledge and experience in the development of new concepts, approaches and policies. There now exists a considerable body of academic work on the valuation of nature and it would be desirable for the practical and professional experience held by RICS to be synthesised with this material, for its wider benefits to society and in the immediate interest of members and their clients or employers. It would also be desirable for this work and experience to be recognised in the networks which have started to appear to develop further work in these areas, for example the Valuing Nature Network³⁹ and the NEA Follow On Stakeholder Group.

4.3. The significance to current and future valuation practice

The developments already described in this paper are potentially very significant in a number of ways:

- more bases and methods of valuation should provide the opportunity for chartered surveyors to expand their service portfolio
- clients will seek independent professional advice on valuation questions arising from the new developments in policy, especially when considering development opportunities
- market behaviour is likely to respond to the new concepts over the medium-term, particularly as they affect land use allocation and management decisions. This will therefore need to be reflected in market analysis and valuation work, with the possibility that value will be transferred from straight economic market valuations towards other aspects of value. Conversely, market value of some assets – particularly but not exclusively rural – may be enhanced by new opportunities created via ESS
- there may also be new classes of asset in the form of environmental goods and services for which valuations will be required, as elements which were formerly 'public goods' begin to

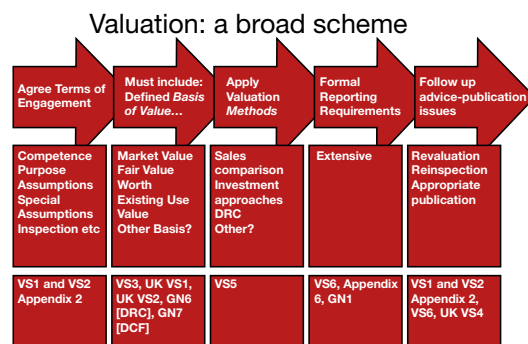


Figure 3: Diagram to illustrate the broad process of a 'Red Book' Valuation³⁷

³⁵Kingston University and RICS 2009, *Valuing Heritage Assets, Final Report of a Research Project, Examining the case for the valuation of heritage assets.*

³⁶The diagram was originally prepared for a presentation to the annual Arboricultural Association Conference on the RICS Guidance Note on the Valuation of Trees for Amenity and Related Purposes, a purpose which it seemed to serve well.

³⁷Author's own illustration.

³⁸See http://www.rics.org/site/scripts/download_info.aspx?fileID=121 for the Royal Charter itself.

³⁹<http://valuing-nature.net/>

offer the potential for an economic return to the owners of the underlying assets which give rise to them

- we can expect to see ESS represented in a wider range of policy measures, including fiscal policy and this in turn could become a major consideration in the valuation and management of real estate
- it will be important for the distinctive role of RICS to be recognised in the new networks and markets that are evolving around ESS
- professional advice will be required on land management agreements, leases, tenancies, licences, covenants, easements, wayleaves and other methods by which the provision of ESS by landowners and occupiers may be formalised.

This selection of points clearly indicates that the profession must ensure that it understands this emerging area, and positions itself to offer authoritative advice and leadership as academic work is translated into practical land management and valuation activity.

5. Conclusions and recommendations

5.1. Conclusions

Many conclusions have been drawn throughout this paper in discussing the implications for RICS of new market opportunities in ecosystem services and the related valuation implications. Principally these can be summarised as a range of new opportunities for land managers, with potentially far-reaching implications for developers and their advisers. Costs which would once have been ‘lost’ as externalities are likely increasingly to be borne by developers and producers in order to pay for ecosystem services – either in direct transactions or in levy-type or tax-based schemes.

There will therefore be a requirement for property advisers to become at least familiar with these measures to ensure they are reflected in client advice. But the opportunities go much further than that: for the provision of expert advice and for eco-entrepreneurial initiatives to capitalise on the new opportunities.

The RICS is able to play an important role in providing market and professional intelligence on these developments to members, and in representing the potential role for chartered

surveyors to government and other organisations which are leading the development of knowledge and policy in these areas, globally, nationally and regionally. This could – and should – take a substantial commitment by the institution, but is also an opportunity for authoritative positioning.

5.2. Recommendations

It is beyond the remit of this paper to discuss the structural implications arising from this paper for RICS, but they should be recognised and discussed at an early stage with a view to ensuring clear leadership and coordinated activity.

Members of the institution need to be made aware of new technical, policy and legal developments as they occur, but more fundamentally they need to learn about the new concepts underpinning ESS thinking so that they are well-placed to adapt to their influence on property management and appraisal. To be fully effective, this should be undertaken as a sustained, focussed output, with the support of additional resources for those chartered surveyors who wish to develop deeper specialisations in the subject area. Various social media offer cost-effective possibilities here, not least blogs with associated twitter feeds either within or linked to existing RICS web-based services. The overarching aim should be to evaluate the detailed implications for professional practice and to promulgate these as effectively as possible.

RICS needs to be involved in new networks and stakeholder groups, with well-focussed policy input on issues like practical implementation, on the strategic implications for planning and property lifecycles, on the formulation of research priorities and in the evaluation of implications for property ownership, occupation and worth. This should involve individual chartered surveyors as well as the institution itself.

The full range of work described here should allow the RICS to raise its game substantially in this significant area, with clear benefits for its positioning not only in the UK but globally too as the UK emerges as a world-leader in working with and valuing nature’s services. However in order to achieve this, the institution will also need to consider how to devote sufficient and suitable resources to this vital area. It will undoubtedly be worthwhile to do so.

Challenges for international professional practice: from market value to natural value

Publication date: September 2012

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Typeset and printed in Great Britain by Direct Approach, Peterborough.

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