

Cashing in on nature

According to IADC secretary-general **René Kolman**, by using ecosystem services, we can have our ports without compromising 'natural capital'

What could possibly link Kellogg's cornflakes, PUMA sports shoes, and ports and harbours? Eating breakfast cereals before going out to jog around the local port? The answer is ecosystem services (ES).

Kellogg's has recently announced it will buy only sustainably sourced palm oil in an effort to protect tropical forests, peat lands, and endangered species and habitats, as well as respect the rights of indigenous communities in Indonesia, Malaysia and elsewhere. Three years ago, as part of a long-term sustainability plan, PUMA developed an environmental profit and loss account that gives a monetary value to the use of ES in each business across its entire supply chain. In the maritime world, including the dredging industry, a number of actions have been taken to incorporate the concept of ES into the design, planning, and management of port construction.

The ES concept is based on data from a four-year study issued in 2005 by the United Nations, involving more than 1,300 scientists from 95 countries, confronting the issues of climate change and degradation of biodiversity.

The report, *Millennium Ecosystem Assessment (MA)*, recommended a new approach: give ecosystem services and nature in general a monetary value. The cash value can then be weighed against that of a port. To some this will sound rather offensive and mercenary. After all, ecosystems and biodiversity are on a higher plane – they are invaluable and cannot be seen in terms of money. But a growing group of economists see it otherwise. By evaluating nature financially,



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we can honestly compare the advantages of port construction with the disadvantages of potential habitat destruction.

The modern reality is that the growth of the world's population has increased the demand for goods and strengthened the need for global approaches to trade, and thus for bigger and better ports. In a market economy, the value of a port is appraised in terms of job creation, gross national product, and import-export trade. These are assets with a clear monetary value. But what about the 'intangible' value of nature? By making nature a cash-based commodity or as economists say, by defining it as 'natural capital', we get closer to comparing apples with apples. By monetising the value of ecosystems near ports, stakeholders, port authorities, maritime developers, and dredging companies can compare the port's value with the intrinsic value of natural assets – fish and animal habitats, as well as clean air and water.

Basically the MA defined four basic categories of ecosystem services:

- Provisioning – products supplied from ecosystems, such as food, water and fuel
- Regulatory –benefits of regulating water, erosion, flooding, climate, and air quality control
- Life-supporting –long-term significance of nutrient cycles, photosynthesis, and crop pollination
- Cultural –educational, spiritual and recreational enhancements.

Using these four categories, the MA provided guidelines to calculate the value of these 'services' and to define how these ecosystems are useful to humans, and conversely, how their loss will harm long-term human well-being.

Taking the lead in applying the ES principles was a global initiative launched in 2007 by Germany and the European Commission and now supported by United Nations Environment Programme known as The Economics of Ecosystems and Biodiversity (TEEB).

Since this initial action, a number of other national reports have been written and in February 2013, The TEEB for Water and Wetlands was launched. TEEB emphasises the global economic benefits of biodiversity, the worldwide impacts of the loss of biodiversity, and the cost to society when ecosystems are degraded.

Rather quickly, this initiative led to the TEEB for Business Coalition, which in early 2014 was rebranded Natural Capital Coalition. The coalition brings together global stakeholders, including the World Bank and the World Wildlife Fund, to study and standardise methods for 'natural capital accounting'. They have recently released two publications, *Valuing Natural Capital in Business: Towards a Harmonized Framework and Taking Stock: Existing Initiatives and Applications*, in an effort to clearly define 'natural capital' as 'the resources and benefits provided by ecosystems'.

When we in the maritime industries think 'ports' we think: shipping is cleaner than road and rail transport, job creation, and bringing more goods to more people, resulting in higher living standards.


When environmentalists think 'ports' they think: dirty water, air pollution, traffic congestion to and from the port, and habitats and ecosystems under attack.

Who is right? Well, the golden mean needs to be found. The ES method of valuation can hopefully provide support to all parties – to port authorities, dredging companies, economists, and environmentalists to help solve some of the differences of opinions that can arise when port expansion demands collide with the need to protect valuable ecosystems.


The major international dredging companies – having historically faced opposition from environmental groups – have long ago confronted these challenges. Investments in 'green', sustainable technologies and designs are the norm. Highly regulated environmental impact assessments are nowadays an integrated part of any maritime construction project.

Most importantly, the dredging industry has also progressed from a simply reactive approach to strong proactive activities. From the EcoShape Institute's Building with Nature programme to World Association for Waterborne Transport Infrastructure's (PIANC) Working with Nature and the United States Army Corps Engineer's (USACE) Engineering with Nature initiatives, the major dredging players have taken full advantage of the technological innovations in monitoring and equipment to pursue sustainable working methods.

An indication of the ecosystem services method taking root among dredgers can also be seen in the Central Dredging Association's (CEDA) information paper, *Ecosystem Services and Dredging and Marine Construction*, IADC's recently-issued Facts About Ecosystem Services and Dredging, and PIANC's call for 'expressions of interest', issued in a workshop on the identification and assessment of ecosystem goods and services for navigation infrastructure project.

Maritime infrastructure projects are extremely complex, demand years of studies, environmental assessments, permitting, and monitoring. When embarking on these projects, the choice should not be either/or – either economic development or protecting adjacent ecosystems. Using ecosystem services evaluations, we have got the means to do both. 

 **MORE INFO:** www.iadc-dredging.com; www.dredging.org; www.teebweb.org; www.naturalcapitalcoalition.org; www.ecoshape.nl

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