

The Italian Natural Capital Report

Natural Capital Week

Natural Capital Government Dialogue - World Bank Waves Partnership Meeting
Paris, 26-30 November 2018

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Italian Catalogue of EHSs and EFSs

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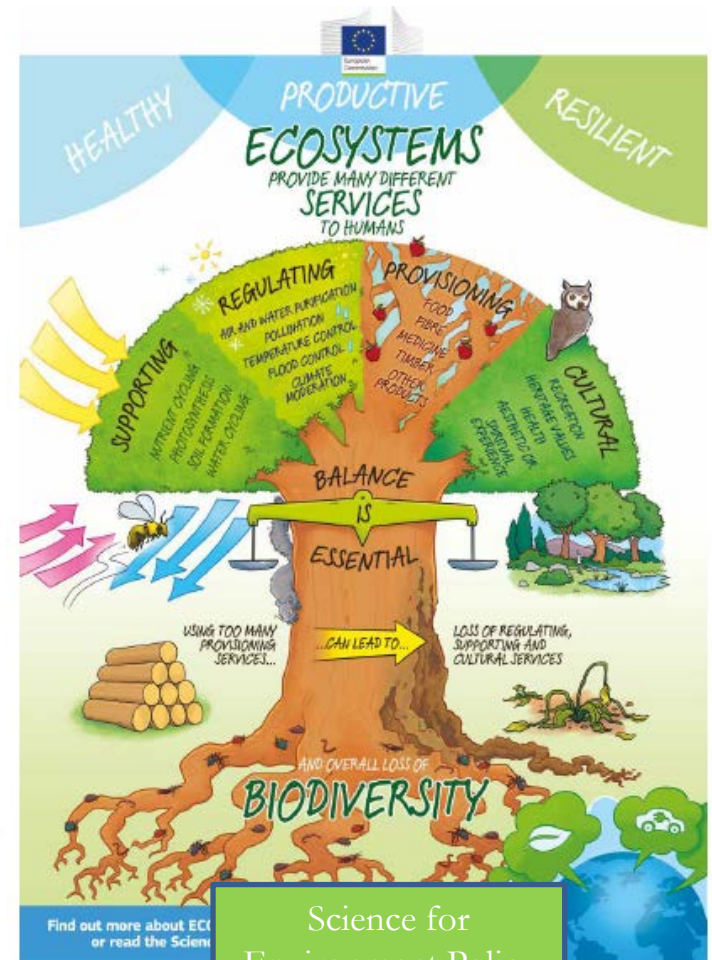
MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

SOGESID

NATURAL CAPITAL CRUCIAL FOR SUSTAINABILITY

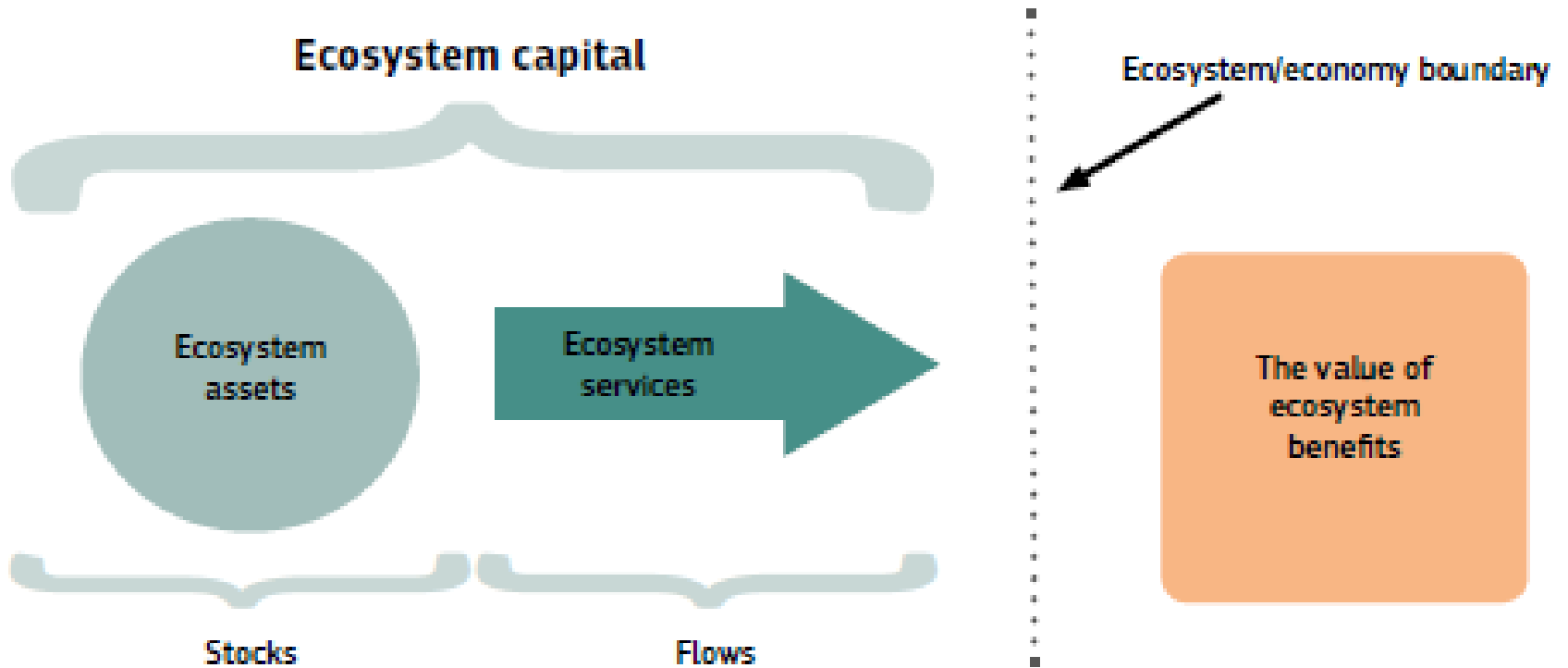


Stockholm Resilience Center



Science for Environment Policy (2017) *Taking stock: progress in natural capital accounting.*

NATURAL CAPITAL ACCOUNTING CRUCIAL FOR SUSTAINABILITY



NATURAL CAPITAL: MULTI-LEVEL CONTEXT - International

| | INITIATIVES / STRATEGIES |
|--------------------------|--|
| INITIATIVES / STRATEGIES | <ul style="list-style-type: none"> ➤ AGENDA 2030 (17 SDGs) ➤ Biodiversity Strategic Plan 2011-2020 (CBD) ➤ IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) ➤ Sendai Framework for Disaster Reduction ➤ MEA (Millennium Ecosystem Assessment) ➤ Natural Capital Coalition (Natural Capital Protocol) ➤ Natural Capital Project ➤ World Forum on Natural Capital |
| ACCOUNTING / VALUATION | <ul style="list-style-type: none"> ➤ TEEB (The Economics of Ecosystem and Biodiversity) ➤ WAVES (Wealth Accounting and the Valuation of Ecosystem Services) ➤ SEEA (System of Environmental-Economic Accounting) <ul style="list-style-type: none"> ✓ CF (Central Framework) ✓ EEA (Experimental Ecosystem Accounting) |

NATURAL CAPITAL: MULTI-LEVEL CONTEXT - EU

| | INITIATIVES / STRATEGIES |
|--------------------------|---|
| INITIATIVES / STRATEGIES | <ul style="list-style-type: none">➤ 7th Environment Action Plan➤ Biodiversity Strategy➤ Green Infrastructure Strategy➤ Action Plan for Nature, People and the Economy |
| ACCOUNTING / VALUATION | <ul style="list-style-type: none">➤ CICES (Common International Classification of Ecosystem Services)➤ MAES (Mapping and Assessment of Ecosystems and their Services)➤ KIP-INCA (Knowledge Innovation Project on Accounting for Natural Capital and Ecosystem Services)➤ Eurostat Environmental Accounts |

NATURAL CAPITAL: MULTI-LEVEL CONTEXT - Italy

| | INITIATIVES / STRATEGIES |
|--------------------------|---|
| INITIATIVES / STRATEGIES | <ul style="list-style-type: none">➤ Biodiversity Italian Strategy (MATTM)➤ Committee on Urban Greening (MATTM)➤ Report on Policies for Landscape (MIBACT)➤ Tourism Strategic Plan (MIBACT) |
| ACCOUNTING / VALUATION | <ul style="list-style-type: none">➤ Report on Land Consumption (ISPRA)➤ Material Flows, Environmental Accounts (ISTAT)➤ <u>Italian Natural Capital Committee</u> |

NATURAL CAPITAL: THE NATIONAL COMMITTEE (1)

Law on Green Economy and Resource Efficiency (Art. 67, Law 221/2015) => with a decree of the President of the Council of Ministers, under proposal of MATTM, the **Italian Natural Capital Committee (INCC)** is established.

➤ Tasks of INCC:

✓ Preparing, by 28th February every year, an **Annual Report on the state of Natural Capital in Italy**, including:

* Environmental data on **both physical and monetary** units, according to the UN and EU environmental economic accountability systems (SEEA, MAES)

* *Ex ante* and *ex post* assessment of impacts of public policies on Natural Capital and Ecosystem Services

✓ Promoting the adoption, by Regions and Cities, of environmental accounting systems and environmental budgets/reports

NATURAL CAPITAL: THE NATIONAL COMMITTEE (2)

➤ INCC STRUCTURE

- ✓ 10 Ministers (lead Environment): Economy & Finance, Economic Development (i.e. Energy&Industry), Infrastructure&Transport, etc.
- ✓ 5 Public Research Institutions: Bank of Italy, Istat (NSO), Ispra (Environmental Agency), Enea (Energy Agency), CNR
- ✓ 2 Representatives Regions / Cities
- ✓ 9 Experts from NGOs, Business, University
- ✓ Scientific support (public research centres and universities)
- ✓ Technical Secretariat and drafting support: MoE, Directorates for SD (including economics), EU & international affairs (SVI) and for Nature and Sea Protection (PNM)

ITALIAN NATURAL CAPITAL COMMITTEE

Not a novelty...

- UK NATURAL CAPITAL COMMITTEE (5 reports, independent body, made of researchers/scientists).
- The study, *NATURAL CAPITAL OF MEXICO*, coordinated by the National Commission for Knowledge and Use of Biodiversity (CONABIO), is an ambitious project that compiles and analyzes the most current and reliable knowledge that exists worldwide, on the mega-biodiversity of this nation.
- NATURAL CAPITAL GERMANY - THE ECONOMIC VALUE OF NATURE (within TEEB by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal Agency for Nature Conservation and the Helmholtz Centre for Environmental Research (UFZ)).

...BUT, the first permanent intergovernmental committee.

NATURAL CAPITAL: FIRST REPORT (1)

Physical assessment

The current situation shows a quite diversified picture, varying on the actual state of the Natural Capital as well as the degree of human pressure.

Particularly, coastal zones, inland waters, intensively cultivated plains and urban areas are characterized by a low level of conservation, while the reverse applies for most of hill and mountain areas across Alps, Apennines and islands. In spite of a few positive signals are recorded - namely the increase in protected areas - the general trend is negative.

NATURAL CAPITAL: FIRST REPORT (2)

Physical assessment

Main Natural Capital deterioration phenomena are the following:

1. **Land use change:** between 2013 and 2015, new artificial coverage is estimated in 250 km² of land (around 35 hectares per day).
2. As regards **surface waters** (7,494 rivers and 347 lakes), only 43% rivers and 21% lakes achieve the qualitative target for the ecological status, and 75% and 47% for the chemical status, respectively.
3. **Marine and coastal waters** show many criticalities about the chemical status. Around 40% across the Italian Regions have a “non good” status. The only exceptions are Sardinia and Central Apennines, where the “non good” waters are 33% and 12%, respectively.

NATURAL CAPITAL: FIRST REPORT (3)

Physical assessment of ecosystem services: case study

Forests

- ✓ National forest surface covers almost 12 Mln hectares (INFC, 2015), equivalent to 39% of density of woodland over the total national land.
- ✓ The overall content of Carbon (C) stored in Italian biomass is equal to 472.7 Mln tons C (~ 1569.6 Mln tons CO₂) (*Regulation Service*).
- ✓ Italian woods contains 1.3 Bln m³ of timber, corresponding to timber biomass amounting to 900 Mln tons (*Provisioning Service*).

NATURAL CAPITAL: FIRST REPORT (4)

Physical assessment of ecosystem services: case study

Sea/Coast

- ✓ The Posidonia meadows' stock provides many positive ecosystems services both to marine ecosystem functioning and to direct and indirect effect to human and economic activities (e.g. tackling seaboard erosion, maintaining nursery habitats of commercial fish species, climate regulation).
- ✓ As far as climate regulation, Posidonia meadows are one of the larger CO₂ sink in the Mediterranean Area. In fact, every year, varying on density, between 6 and 175 g C are sequestered in 1 m² of meadows (IUCN, 2012) that at country level means a range between 24,000 and 704,000 tons C/year (*Regulation Service*).

Total amount of marine and lagoon fishing (fish, shellfish, crustacean) in 2014 is about 176,800 tons, with a global value added from the fish and aquaculture sector equal to 920,754 Mln € (*Provisioning Service*).

NATURAL CAPITAL: FIRST REPORT (5)

Physical assessment of ecosystem services: case study

Metropolitan Areas

✓ The amount of local pollutants (PM_{10} and O_3) removed by three vegetation system (deciduous, evergreen, conifer) in 3 Italian cities (Genoa, Reggio Calabria and Rome) -*Regulation Service* - is:

- Genoa: 2,432 Mg PM_{10} and 5,477 Mg O_3
- Reggio Calabria: 2,648 Mg PM_{10} and 4,187 Mg O_3
- Roma: 2,319 Mg PM_{10} and 3,951 Mg O_3

Globally, the amount of local pollutants removed in the three cities is equal to 7,399 Mg PM_{10} and 13,615 Mg O_3 .

NATURAL CAPITAL: SECOND REPORT - ECONOMIC ASSESSMENT (1)

| <i>Ecosystem Services</i> | <i>Typology of Service</i> | <i>Valuation Method</i> | <i>Source</i> | <i>Results</i> |
|---------------------------|--------------------------------------|--|---------------|--|
| WILD POLLINATION | <i>Regulation & Provisioning</i> | <i>Agricultural Production - value added share</i> | <i>JRC</i> | <ul style="list-style-type: none"> <i>(2000) = 212M€ (5.2% share of agricultural value added)</i> <i>(2012) = 167M€ (4.5% share of agricultural value added)</i> |
| RECREATION SERVICES | <i>Cultural</i> | <i>Zonal Travel Costs</i> | <i>JRC</i> | <ul style="list-style-type: none"> <i>(2000) = 1,9 B€</i> <i>(2012) = 3,0 B€</i> |

NATURAL CAPITAL: SECOND REPORT - ECONOMIC ASSESSMENT (2)

| <i>Ecosystem Services</i> | <i>Typology of Service</i> | <i>Valuation Method</i> | <i>Source</i> | <i>Results</i> |
|---------------------------|----------------------------------|--------------------------|----------------------|---|
| WATER PURIFICATION | <i>Regulation</i> | <i>Replacement Costs</i> | <i>JRC</i> | <ul style="list-style-type: none"> • (2005) = 1,1 Bn€ ✓ (0,2 Bn€ sustainable threshold) |
| SOIL EROSION CONTROL | <i>Regulation</i> | <i>Replacement Costs</i> | <i>ISPRA</i> | <ul style="list-style-type: none"> • (2016) = 35-149 Bn€ |
| HABITAT QUALITY | <i>Regulation & Cultural</i> | <i>Meta-analysis</i> | <i>ISPRA</i> | <ul style="list-style-type: none"> • (2016) = 13,5 Bn€ |
| CARBON SEQUESTRATION | <i>Regulation</i> | <i>Net Present Value</i> | <i>Bank of Italy</i> | <ul style="list-style-type: none"> • (2016) = 15-58 Bn€ |

NATURAL CAPITAL: 1st & 2nd REPORT – RECOMENDATIONS (1)

- ✓ Propose new institutional responsibility aiming to build a normative procedure for the **ex ante sustainability assessment of the DEF** (Document of Economy & Finance) and the PNR (Reform National Programme) (consistent with the UN Agenda 2030 and the National Strategy for Sustainable Development - NSSD), highlighting the main goals of restoration, management and enhancement of the Natural Capital.
- ✓ **Integrate Natural Capital within the current procedures of ex ante assessment of plans, programs and projects** (EU programs evaluation, Strategic Environmental Assessment - SEA, Cost-Benefit Analysis - CBA, Environmental Impact Assessment - EIA).

NATURAL CAPITAL: 1st & 2nd REPORT – RECOMENDATIONS (2)

- ✓ Enhancement of environmental assessment of economic subsidies provided by sector public policies (**Environmental Harmful and Friendly Subsidies Catalogue**).
- ✓ **Environmental Fiscal Reform** and other economic instruments for Natural Capital protection. Only 1% of environmentally-related tax revenues (578 out of 55,722 Mln € in 2015) is earmarked to environmental protection.
- ✓ Deepening the potential use and spread of **green bonds** to fund projects for Natural Capital protection, also waiting for a full implementation of the Paris Agreement commitments within the context of the UN Framework Convention on Climate Change.
- ✓ Gradually increasing the overall amount of **public expenditure devoted to Natural Capital safeguard**, also by considering self-financing systems.

NATURAL CAPITAL: 1st & 2nd REPORT – OPEN CHALLENGES

- ✓ Show the richness and biodiversity of Natural Capital in Italy
- ✓ Complete the quantitative and qualitative assessment of the stock of Natural Capital and of the flows of Ecosystems Services
- ✓ Give a value so to have a total value of Natural Capital
- ✓ Integrate Natural Capital into Public and Private Reporting
- ✓ Insert Natural Capital into Public Decision-Making

NATURAL CAPITAL REPORTS & PUBLICATIONS



<http://www.minambiente.it/pagina/capitale-naturale>



Italian version - ISBN: 9788866272434
English version – ISBN: 9788866272595