

ITALIAN “NATIONAL NETWORK ON BIODIVERSITY” (NNB) Cooperation and Integrations with LifeWatch ERIC Infrastructure

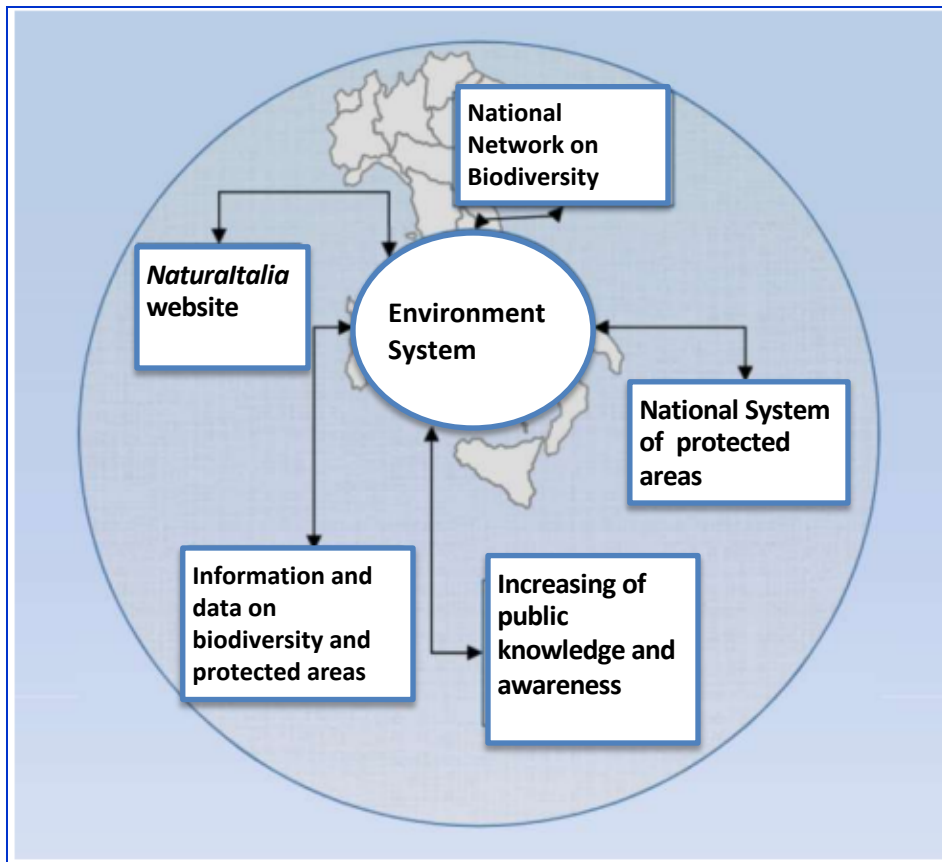
Anna Di Noi, Cristian Di Stefano

ISPRA - Service for the “National Environmental Informative System”

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LifeWatch ERIC Scientific Community Meeting

ITALIAN NATIONAL NETWORK ON BIODIVERSITY

WHAT IS NNB?



In the framework of the **Convention on Biodiversity**, as part of the **National Biodiversity Strategy**, the Italian Ministry of Environment promoted, among other initiatives, the creation of a **National Network on Biodiversity**, based on the participation of internationally and nationally accredited subjects that manage, share and make accessible data and information on biodiversity.

The Italian **NNB** is a **technical and technological infrastructure** able to provide and manage **geographical information on biodiversity** throughout the national territory.

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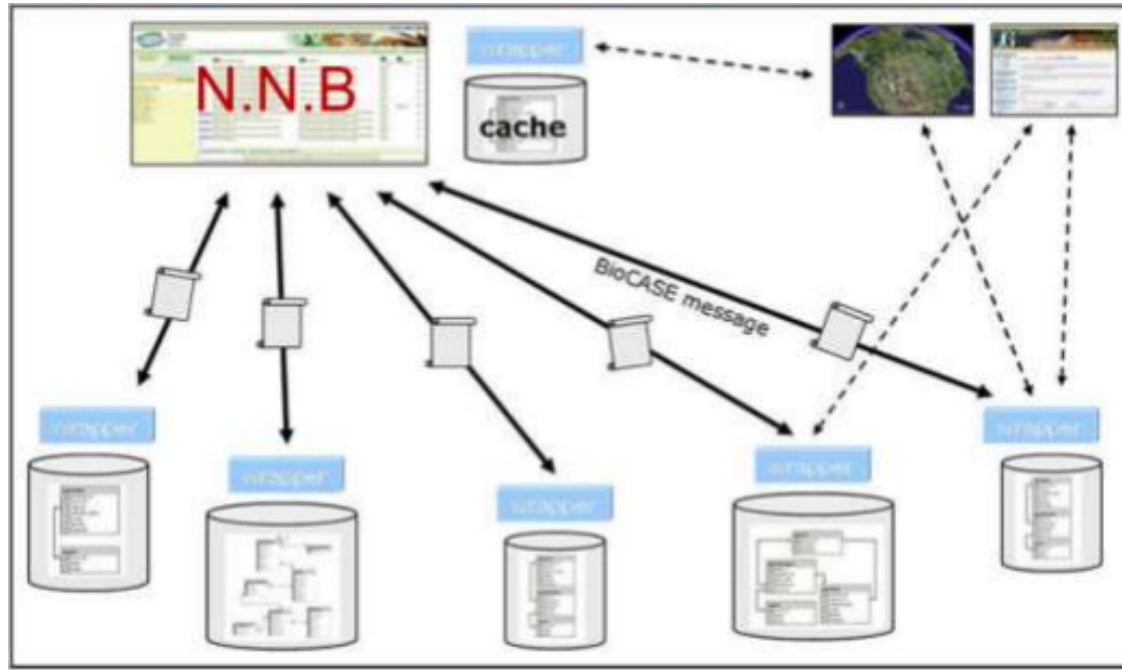
WHY NNB?

In 2014, the Ministry of the Environment entered into a first Convention with ISPRA which provided for the implementation and evolutionary management of the Network. During this first agreement, ISPRA had developed the NNB prototype, based on the EUNIS software, to manage data types much wider than expected and in compliance with the current regulations.

In 2016, the Ministry of the Environment signed an Agreement with ISPRA for the "Maintenance, management and development of the NNB".

To date, the Agreement is still valid and provides for the creation of a geodatabase able of simultaneously managing the alphanumeric data, relating to the species observed, and the cartographic data, relating to their visualization on a map. All data comes from the databases registered in the Network.

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WHAT DOES NNB DO?

Today NNB is able to guarantee interoperability with similar international infrastructures (LifeWatch, GBIF, etc.) and with the National Geo-Portal, in compliance with the provisions of the INSPIRE Directive (DL 32/2010).

Federated and distributed network of databases of biodiversity primary data (species observations on national territory)

Each node holds and is responsible of its own data

Databases have different technologies and structures

BioCase Protocol is used for data interchange

Access to Biological Collection Data (ABCD) metadata is used to have a common semantic

Collected data is published through the NNB official website using OPEN DATA formats

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WHAT HAS NNB TODAY?

Number of species observations available in the system

	May 2019
Number of NNB records	9.044.962
Number of GBIF records	622.138
Number of iNaturalists records	394.808

From the **ISPRA NNB website** (<http://www.nnb.isprambiente.it>) and from the **NNB Geoviewer** (<http://geoviewer.nnb.isprambiente.it>) is possible to **browse** and **download** all the information related to selected species in all the **open** and **standard formats** (comma separated values, shape file, WMS).

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SO, NNB ...

The **NNB** is a **shared data management system** consisting of a **central node**, which allows performing **data search and management operations**, and from **peripheral nodes** (databases that have primary biodiversity data).

The **NNB** is aimed at ensuring the **consultation** and efficient **integration of biodiversity information**, without the **physical transfer** of the data, which remain in the cooperating institutions that hold the legal rights (**data provider**).

The **databases owned** by the **individual nodes** can differ both in **structure** (different fields) and **architecture** (different DBs, such as Access, Oracle, Mysql, etc.), but they can communicate via the **BioCAsE Protocol**. The use of this protocol guarantees the **optimization of the data-flow** of **different format** as well as the **communication** between the **nodes** themselves and with the **international community** that participates in the **BioCAsE network**.

Today the **NNB** is able to guarantee **interoperability** with similar international infrastructures (**LifeWatch, GBIF**, etc.) and with the **National Geo-Portal**, in compliance with the provisions of the **INSPIRE Directive (DL 32/2010)**.

The **NNB**, through the **aggregation** of information and knowledge on the current state of biodiversity in Italy, pursues the **objective** of improving the **dissemination and sharing** of biodiversity data, making them **available** for **basic and applied research**, for **education and training**.

Moreover, since the data constitute an **official technical reference** to be used in the activities of competence of the **public administration**, **NNB** today represents a **strategic tool** for **politicians and decision makers**, who must guarantee the **sustainable use of natural resources** and the **conservation of biodiversity**.

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AND NOW, WE ARE...

Planning integration activities of NNB (2020)

- use of LifeWatch ontologies for NNB data;
- integration of LifeWatch taxonomic cleaning services;
- exposition of databases metadata compliant with LifeWatch search engine.

Asking for a better cooperation and integration between NNB and LifeWatch network

- any other proposals for the use of NNB data in LifeWatch?
- any further ideas on the integration of data visualisation and data analysis tools into LifeWatch infrastructure?
- any other suggestions for a general better cooperation and integration?

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OFFICIAL WEBSITE: [HTTP://WWW.NNB.ISPRAMBIENTE.IT](http://www.nnb.isprambiente.it)

GEOVIEWER: [HTTP://GEOVIEWER.NNB.ISPRAMBIENTE.IT](http://geoviewer.nnb.isprambiente.it)

WMS SERVICE: [HTTP://GEOVIEWER.NNB.ISPRAMBIENTE.IT/GEOSERVER/NNB/WMS?](http://geoviewer.nnb.isprambiente.it/geoserver/nnb/wms?)

NNB PROJECT ON INATURALIST: [HTTPS://WWW.INATURALIST.ORG/PROJECTS/NNB](https://www.inaturalist.org/projects/nnb)

Please contact

anna.dinoi@isprambiente.it

cristian.distefano@isprambiente.it

