Ministero dell'Ambiente e della sicurezza energetica
Direzione Generale Uso sostenibile del suolo e delle acque

EURO INBO

The Italian Basin Authorities and INBO discuss: the Best Practices in the different countries for the planning and application of EU directives

Commission assessment of the Italian Water and Flood Plans (PGA and PGRA)

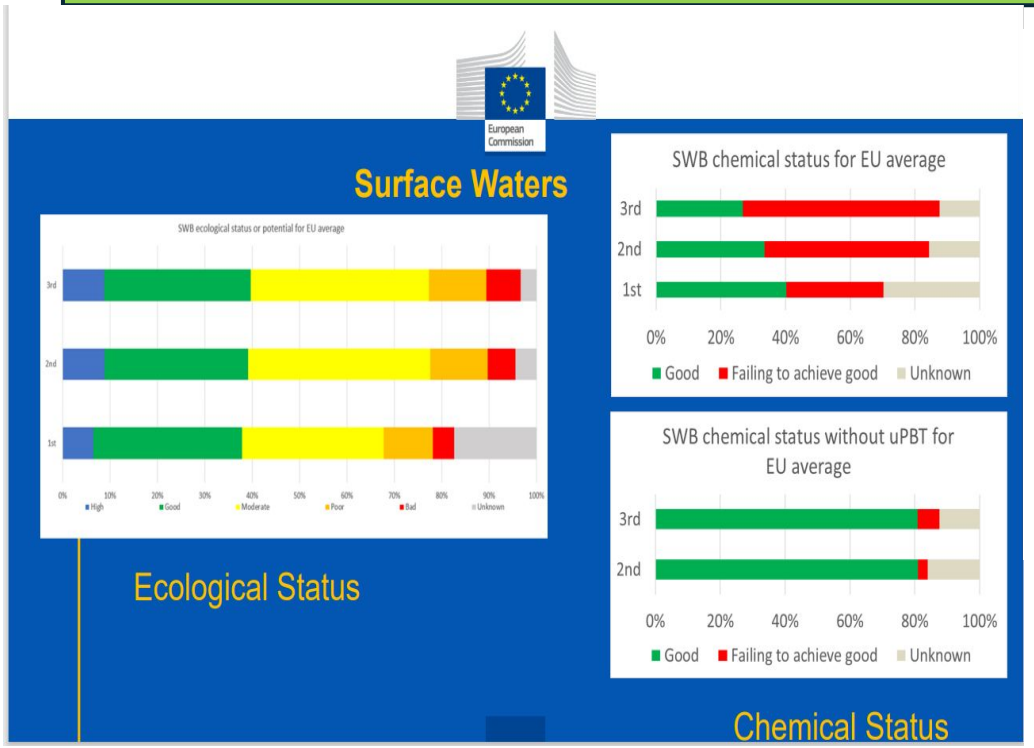
Angiolo Martinelli
(contributions *DG USSA and ISPRA*, DISS – *MASE)*

Parma, 19 maggio 2025

INBO International Network of Basin Organizations

ADBPO Autorità di bacino distrettuale del fiume Po

A) Results of evaluations of the third river basin management plan
State of SW -EU vs Italy -



Source: DG ENV presentation - Sustainable fresh water management – work of the 100th Nitrates Committee 20 March 2025

Figure 7. Chemical status of surface water bodies in the 1st, 2nd, and 3rd RBMPs

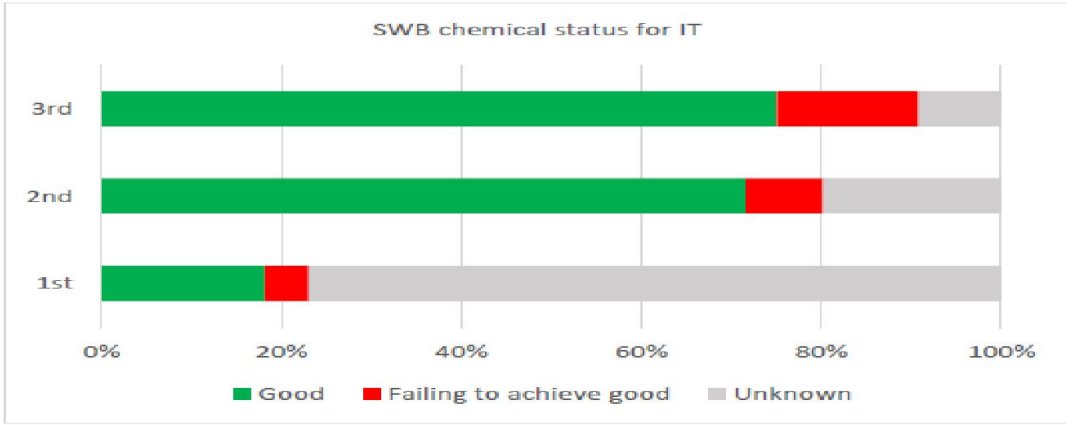
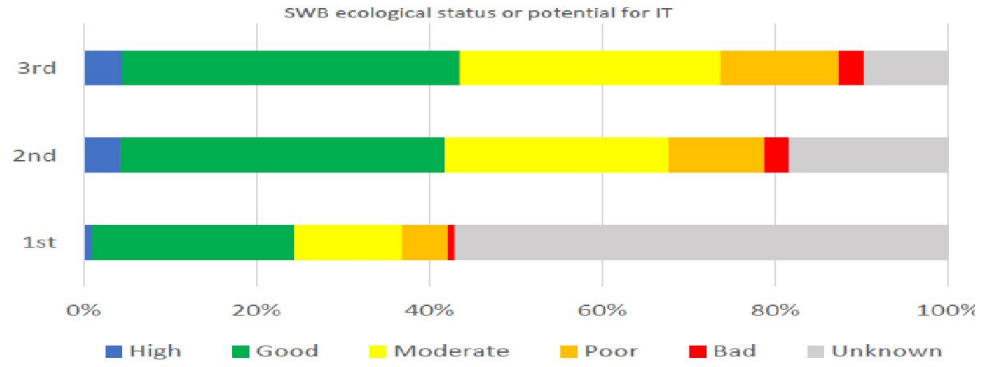


Figure 2. Ecological status or potential of surface water bodies in the 1st, 2nd, and 3rd RBMPs



Source: WISE electronic reporting

Source: COMMISSION STAFF WORKING DOCUMENT Third River Basin Management Plans Second Flood Hazard and Risk Maps and Second Flood Risk Management Plans Member State: Italy

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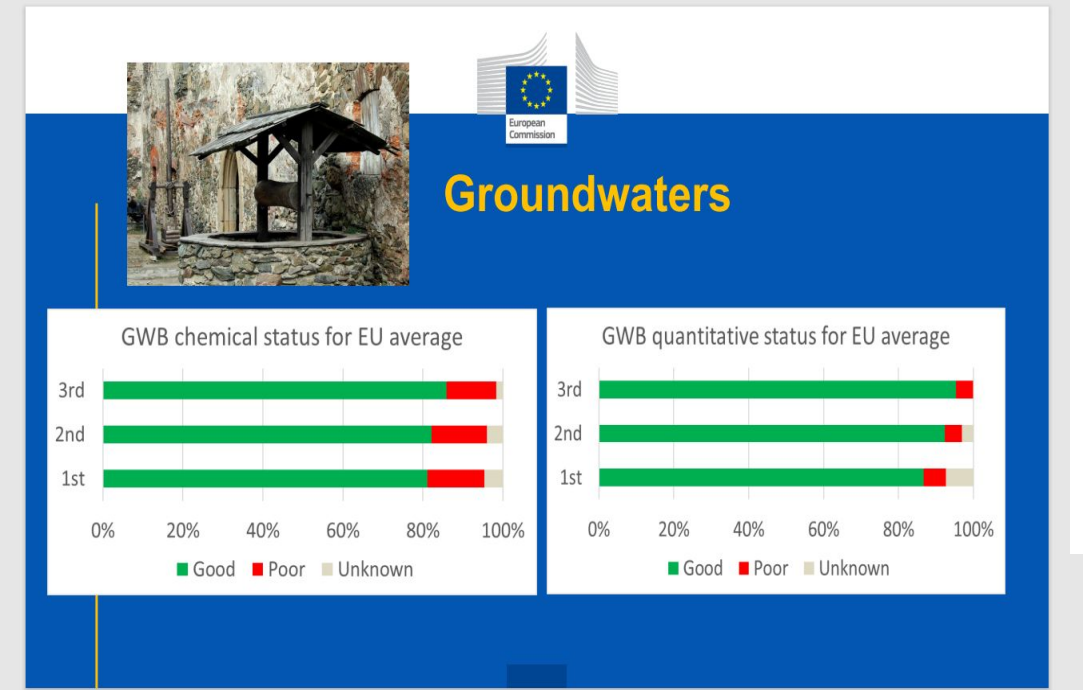
Direzione Generale Uso sostenibile del suolo e delle acque

A) Results of evaluations of the third river basin management plan
State of GW -EU vs Italy -



Source: DG ENV presentation - Sustainable fresh water management – work of the 100th Nitrates Committee 20 March 2025

Figure 4. Quantitative status of groundwater bodies in the 1st, 2nd, and 3rd RBMPs

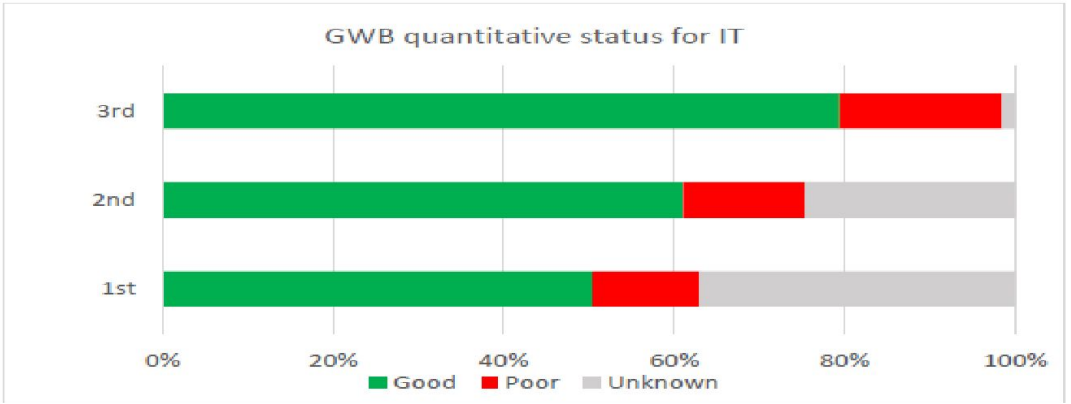
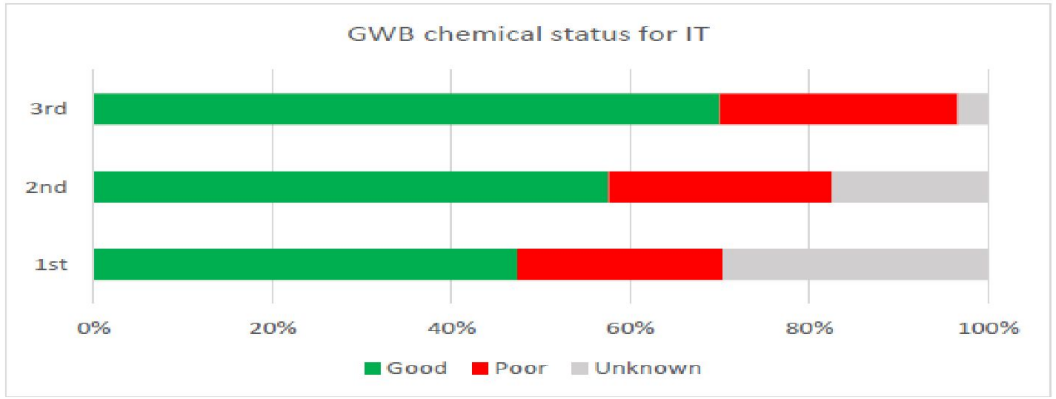


Figure 9. Chemical status of groundwater bodies in the 1st, 2nd and 3rd RBMPs

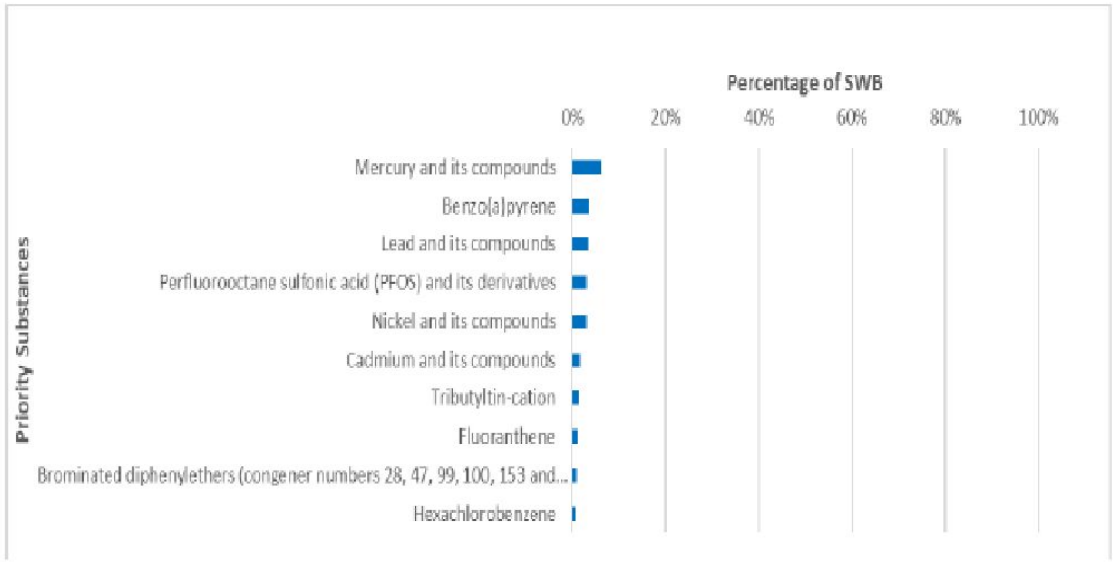


Source: WISE electronic reporting

Source: COMMISSION STAFF WORKING DOCUMENT Third River Basin Management Plans Second Flood Hazard and Risk Maps and Second Flood Risk Management Plans Member State: Italy

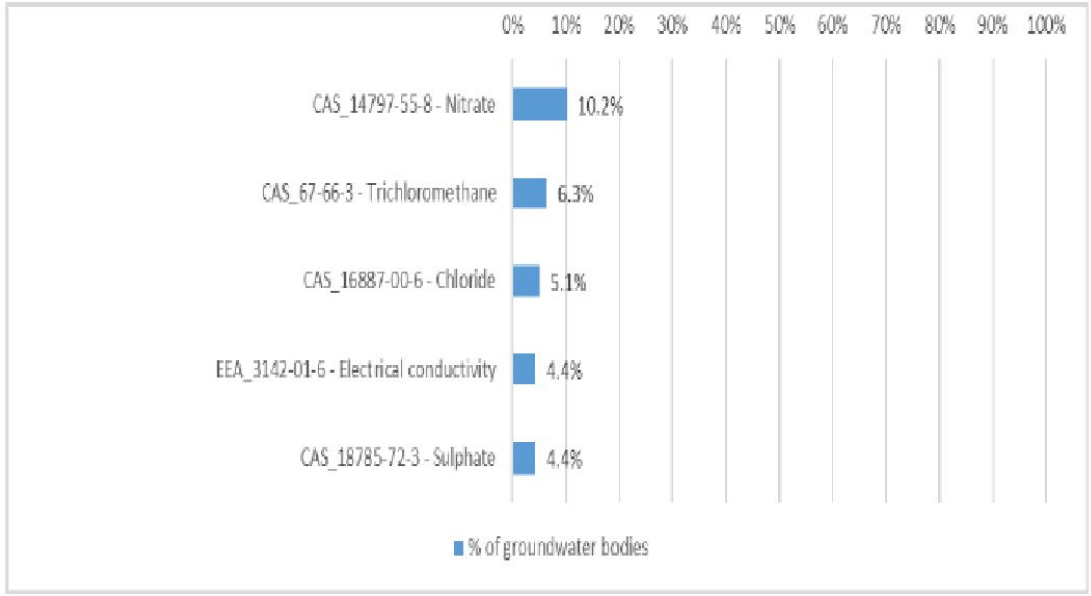
A) Results of evaluations of the third river basin management plan pollutants causing failure to achieve good chemical status in SWB's and GW B's in Italy

Figure 8.b. The top-10 Priority Substances causing failure to achieve good chemical status in surface water bodies in Italy (new 1-45 Priority Substances)[13]



Source: WISE electronic reporting

Figure 10. Top-5 pollutants causing failure to achieve good chemical status in groundwater bodies by 2021

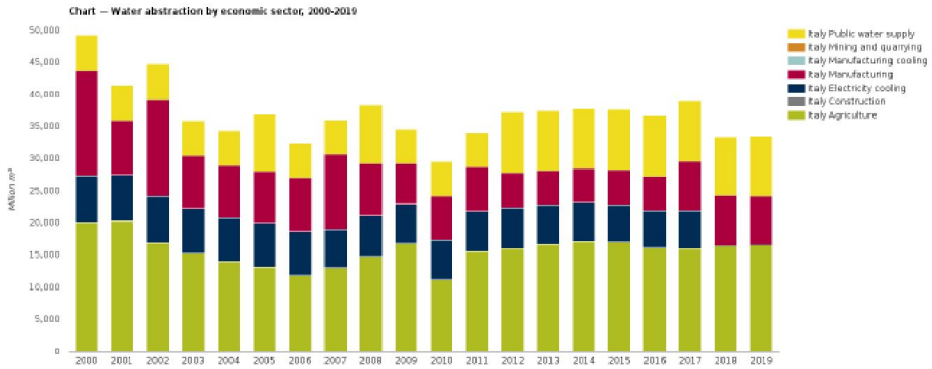


Source: WISE electronic reporting

Source: COMMISSION STAFF WORKING DOCUMENT Third River Basin Management Plans Second Flood Hazard and Risk Maps and Second Flood Risk Management Plans Member State: Italy

A) Results of evaluations of the third river basin management plan
Water withdrawals and scarcity – Italy vs EU

Figure 6. Water abstraction by economic sector in Italy

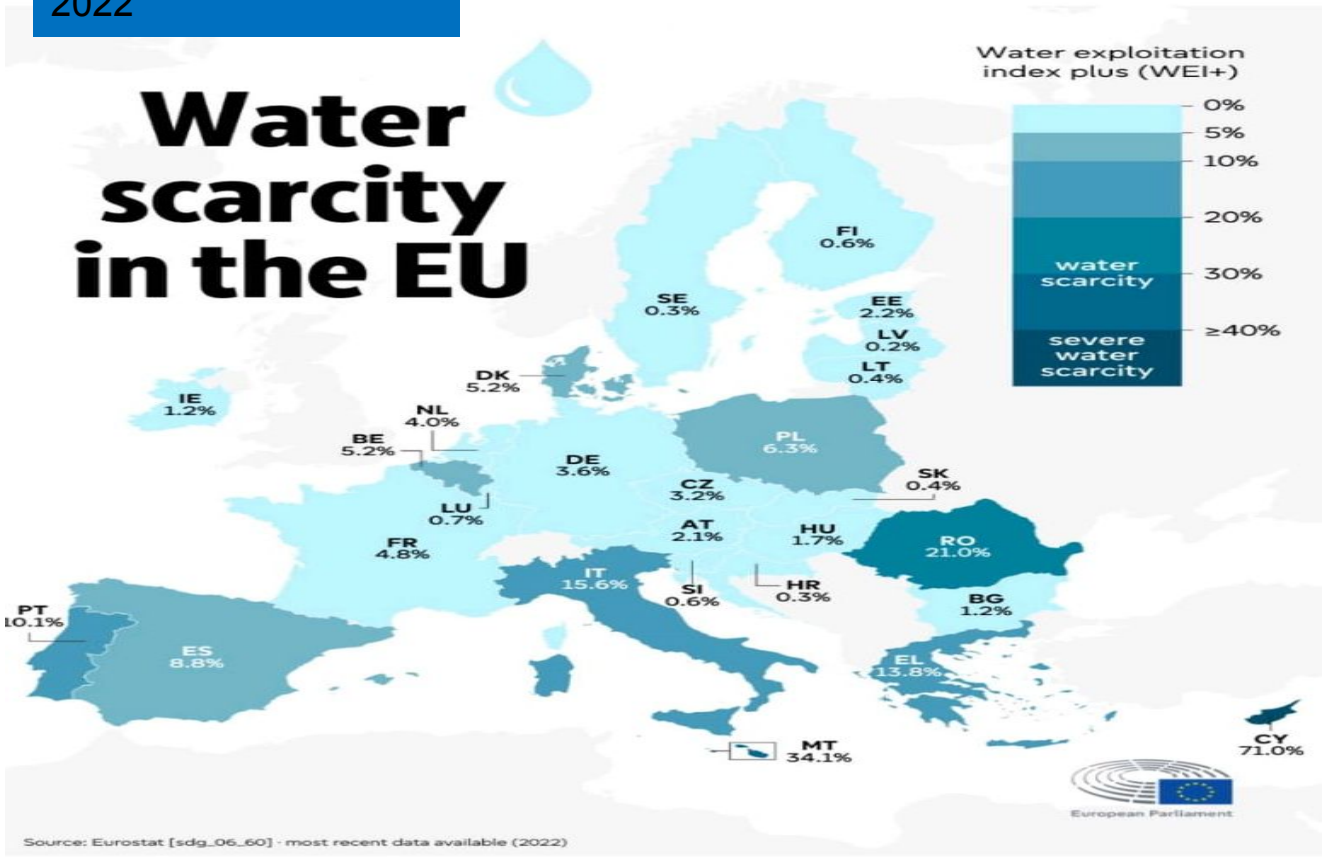


Plans Second Flood Hazard and Risk Maps and Second Flood Risk Management Plans
Member State: Italy

According to data collected by the European Environment Agency, in 2019 Italy extracted about 10,174 million m3 of water from aquifers and about 23,322 million m3 from surface water

#europeanunion

SOURCE:EUROSTAT 2022



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Direzione Generale Uso sostenibile del suolo e delle acque

STRUCTURED DIALOGUE: THE THREE STEPS
Greater political involvement

Adoption by the COM of the report on the RBMP's also containing the Commission's recommendations to the MS to resolve the critical issues (released in February 2025)

COM/MS dialogues (1/2 meetings) to draw up a REPORT with the measures that the MS undertakes to implement to overcome the critical issues and the assistance that the COM undertakes to guarantee to the MS. The dialogue could also cover other directives (Urban Waste Water Directive, Nitrates Directive, IED Directive...) - public report for transparency and sharing

Final Report will be presented jointly, in each MS, by the EU Commissioner and the competent Minister also to the Stakeholders

Expected timeline for dialogue: second half of 2025

COM'S RECOMMENDATIONS TO ITALY ON THIRD RIVER BASIN MANAGEMENT PLANS

1. accelerate action and enhance the overall level of ambition to reduce the compliance gap as much as possible to reach compliance by 2027. This will require the following:
    a. Italy should ensure that the consumptive use of surface water and groundwater for all uses is reported. The RBMPs should include clear estimates on consumptive uses, their share, and the respective trends. Furthermore, Italy should more forcefully address illegal water abstractions in agriculture or other sectors through closer monitoring and more effective penalties.
    b. Italy should ensure full compliance with WFD provisions related to periodic review of permits/controls for all relevant activities impacting water bodies (including abstraction, impoundment, discharges, works impacting hydromorphology) and effective, dissuasive, and proportionate sanction regimes. Italy should consider, where applicable, revising existing legislation exempting small abstractions from permitting to better manage cumulative impacts.
    c. Italy should harmonize the gaps analysis of the different river basin management plans to create more transparency for stakeholders and comparability among the regions and to better target the measures needed to close the gap in 2027. In particular, Italy should transparently estimate nutrients and pesticide pollution reduction targets.
    d. Italy should keep up the good work in coordinating measures with the authorities in charge of the Floods Directive. Italy should however strengthen the coordination with the authorities in charge of the Marine Strategy Framework Directive, which would contribute to accelerate progress in achieving the status requirements in both the freshwater and marine environments by better exploiting possible synergies.
    e. Italy should tackle decisively obstacles identified in the implementation of measures, in particular insufficient funding, or administrative resources, where relevant.
2. identify and put in place, as appropriate, additional measures to reduce existing persistent environmental challenges (pressures) and make full use of the instruments agreed in the context of the European Green Deal to join up implementation efforts and increase effectiveness and efficiency. In particular:
    a. Italy should systematically provide more complete information on the status of implementation of the measures.
    b. Italy should continue the ongoing work to transition from minimum flow to the e-flow regime as established in the guidelines established in 2017 and ensure their proper implementation. Italy should also strengthen its efforts towards improving river continuity and restoring water bodies to a natural state, maximising efforts to deploy nature-based solutions wherever possible.
    c. Italy should address its high level of artificialisation by ensuring the planned measures to improve hydromorphology are properly applied in all affected water bodies, including for achieving good potential for its heavily modified and artificial water bodies. In particular, Italy should privilege nature-based solutions where feasible to improve the hydromorphology of

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- Quantify withdrawals;
  update permissions;
  solving financial obstacles for implementing measures;
  harmonize gap analysis and
  coordinating WFD measures with floods and marine strategy

→

- Transition from minimum flow to the e-flow regime;
  Hydromorphological measurements;
  Nutrients, chemicals and waste water treatments objectives
  National Extraction Register;
  Protected areas

COM'S RECOMMENDATIONS TO ITALY ON THIRD RIVER BASIN MANAGEMENT PLANS

its water bodies and systematically assess the cumulative impacts of projects that may impact water bodies.

d. Italy should keep up efforts to address persistent challenges linked to nutrient and chemical pollution from agricultural or urban and industrial sources, including by closing the gaps in implementation of the Urban Wastewater Treatment and the Nitrates directives. Furthermore, Italy should provide more exhaustive information on the measures planned to better control discharges; address wastewater discharges from scattered households and unconnected small settlements and improve wastewater management throughout its territory.

e. Italy should ensure that the ongoing work to establish a register of abstractions from surface water and groundwater and a register of impoundments is completed for the Sicily RBD.

f. Italy should continue improving the work on protected areas, notably to establish the status of water bodies associated with protected areas that are still unknown and investigating and reporting the reasons why objectives have not been met, to establish possible additional needs and measures.

3. improve its economic analysis, addressing gaps as regards key items, including on long term supply and demand forecasts, better defining water services, reporting of cost recovery rates, and investment needs. It should also ensure that good practices in some RBDs are adopted more consistently across RBDs to allow for comparison. In particular, Italy should:

   a. strengthen its analysis of water demand and supply and develop long-term investment plans, ensuring adequate funding to effectively implement the planned measures.

   b. enhance its efforts towards full application of the cost recovery principle to all water use activities that have an impact on water bodies.

   c. systematically provide more information on the way water tariffs are set and better analyse whether they provide sufficient incentives towards more efficient water use.

4. keep up the progress made in the application of exemptions, ensuring continued efforts to transparently justify every exemption in all RBDs, in line with ECJ jurisprudence on the restrictive interpretation of exemptions. When it comes to the use of Article 4(7) in relation to new projects, it is important that specific details are provided on cumulative effects and on the assessment of better environmental options, and the measures taken to mitigate the adverse impacts of new developments. In particular, Italy should strengthen its assessment of disproportionate costs in the context of Article 4(5) exemptions.

5. sustain efforts to increase its resilience to climate change including by systematically considering nature-based solutions to increase water retention and balancing its adaptation needs against the impacts on hydromorphology that grey infrastructure may entail. Moreover, Italy should:

   a. ensure that consideration of saline or other intrusions, and of impacts on groundwater dependent ecosystems and groundwater associated surface waters are consistently considered in all RBDs when assessing the quantitative and chemical status of groundwater bodies.

→

- strengthening economic analysis;
  develop long-term investment plans;
  ensure adequate funding for the measures envisaged;
  principle of cost recovery;
  Provide information on water tariffs

→

Strengthen and implement 4.7 and 4.5 exemptions, providing more information in the RBMP's

COM'S RECOMMENDATIONS TO ITALY ON THIRD RIVER BASIN MANAGEMENT PLANS

b. continue pursuing the ongoing work to integrate the National Strategy for Climate Change Adaptation within the RBMPs planning process, thus ensuring the necessary measures are integrated in the programmes of measures.

c. ensure that any intervention to create new reservoirs is part of a coherent strategy which takes effective measures to maximise storage in soils and ecosystems and to ensure efficient use of water, including through more systematic reuse of treated wastewater where relevant, carefully considering long-term climate scenarios to avoid maladaptation.

6. keep up the good work done to improve monitoring, assessment, data management and reporting. Italy has made considerable progress in this regard, and it should:

a. further strengthen the application of the national methodology to define significant pressures, across RBDs, and limit reliance on expert judgement.

b. continue progressing on setting type-specific reference conditions where these have not yet been set, especially as regards hydromorphological quality elements for transitional and coastal waters and for physico-chemical quality elements for rivers and lakes.

c. further strengthen monitoring, to improve the geographic coverage and the parameters covered, and thus assess the status of water bodies in unknown status and further increase the level of confidence in the status assessments, limiting reliance on expert judgement. In particular, Italy should improve the monitoring and the inventories of Priority Substances, including as regards the frequency of monitoring of such substances in sediments or biota.

d. ensure that all details on hydromorphological standards and their consistency with the good-moderate class boundaries for sensitive biological quality elements are properly reported in its RBMPs. Moreover, Italy should ensure that all quality elements, and particularly the hydromorphological quality elements, are consistently used when assessing the ecological status or potential of water bodies.

e. provide more information in the RBMPs regarding the selection of River Basin Specific Pollutants and the use of EQS.

f. ensure gap assessment for diffuse pollutant loads from agriculture (nutrients, agri-chemicals, sediment, organic matter) are conducted comprehensively and in a more homogeneous way across RBDs, and that the information is comprehensively reported in the RBMPs, to facilitate comparison and progress towards the achievement of the WFD objectives.

- Ensure that the assessment of the good chemical and quantitative status of GW is carried out with the saline intrusion test and impacts groundwater-dependent ecosystems test and surface waters associated with groundwater test;
  National strategy for climate change;
  New basins only there is a strategic perspective
  Promote storage in ecosystems and wastewater reuse

Continue the good work done to improve monitoring, evaluation, data management and reporting (improving: methodology significant pressures, site-specific reference condition, priority substance inventories, assessment of the status or potential of water bodies, pollutant selection and EQS, assessments of diffuse loads of agricultural origin)

OUTDATED AND ONGOING RECOMMENDATIONS IN RBMP'S

Some recommendations are resolved or initiated; the results will already be evident in the 2027 PDGs.

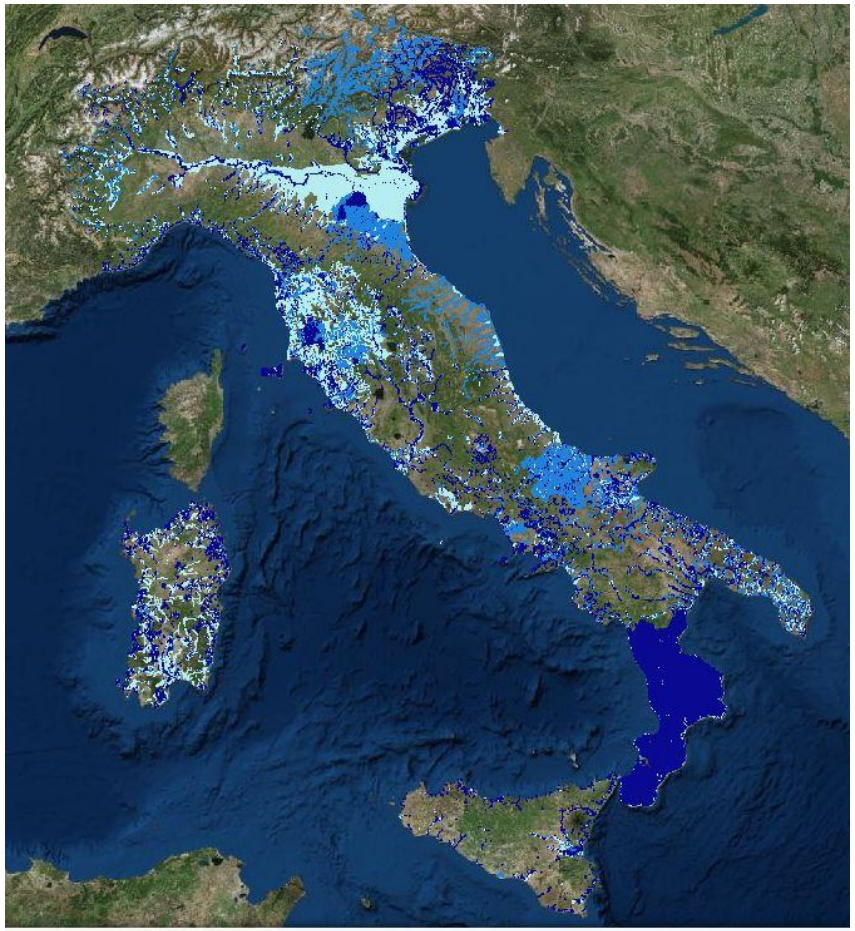
Some of the activities were financed under "Environment Operational Plan - Interventions for the protection of the territory and water", now PSC MASE, with funds allocated to the River Basin Authorities, aimed at strengthening the Water Management Plans, overcoming gaps in monitoring, the fragmentation of basic knowledge, promoting the resolution of gaps in the implementation of the WFD, such us:

- **Adaptation of monitoring networks for evaluation of the status and effectiveness of measures**
  Definition of water balance models, dynamic processing of the basin water balance and DMV/E-FLOW estimation;
  Determination of the National Hydrological Balance;
  gap analysis;
  Strengthening the application of the national methodology to define significant pressures with less reliance on expert judgment;
  Definition of site-specific reference conditions;
  Protected areas and associated water bodies;
  Hydromorphological and specific pollutant assessments of river basins;
  Exemptions 4.5 and 4.7 in some Districts.

MAIN RESIDUAL ISSUES IN THE RBMP'S

- Obstacles to the implementation of measures, in particular insufficient funding and administrative resources;
  Difficulties in applying the principle of cost recovery from all activities that have an impact on water bodies, especially from the Integrated Water Service;
  Application of Article 4(7) in relation to new projects and disproportionate cost assessments in the context of Article 4(5) exemptions

B) *Results of evaluations of the* flood risk management plans
Second cycle



National Geoportal. FRMP – Extension of floodable areas

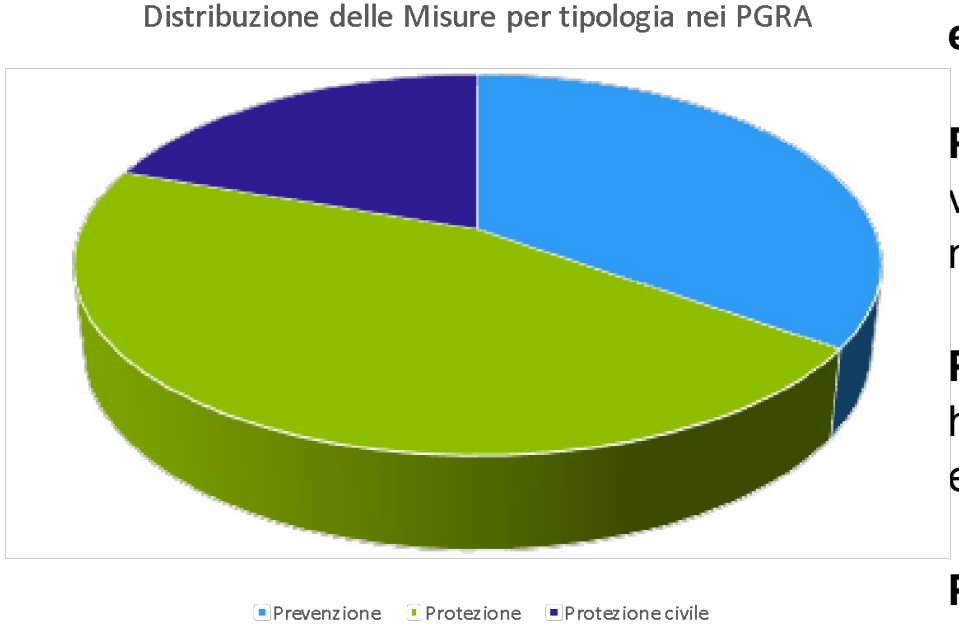
The surface area of areas with high flood hazard/probability is equal to about 5.4% of the national territory, that of areas with medium hazard/probability reaches 10.0%, while areas with low hazard/probability are 14.0%.

The population exposed to high risk of flooding reaches 4.1% of the national population, those exposed to medium risk 11.5%, while those at low risk 20.6%

The number of cultural assets in areas with a high flood hazard/probability reaches 7.8% of the national total, those exposed to medium hazard/probability are 16.5%, while cultural heritage in areas with low hazard/probability, they are 24.3% of the national total.

(Source: ISPRA Report on flood hazard conditions in Italy and associated risk indicators 2021)

B) *Results of evaluations of the* flood risk management plans Second cycle



The approved FRMP's contain a total of 4935 active measures, for the implementation of which needs approximately 38.5 billion euros estimated

Prevention measures 35% (EU average 50%), act on value and vulnerability (e.g. urban planning regulations, relocations, studies, monitoring).

Protection measures 45% (EU average 40%), act on probability and hazard (e.g. structural interventions, identification of areas of flood expansion, ordinary and extraordinary maintenance of defence works).

Preparedness and recovery measures 20% (EU average 10%), contingency planning and recovery (e.g. alert systems, population preparedness, contingency plans, restoration of pre-event conditions).

B) *Results of evaluations of the* flood risk management plans Second cycle

7.2 Flood risk management plans

Complex administrative structure

RBD (River Basin District) & UoM (Unit of Management)

- ✔ **7 RBD**
- ✔ **47 UoMs**
  - CA (Competent Authority)

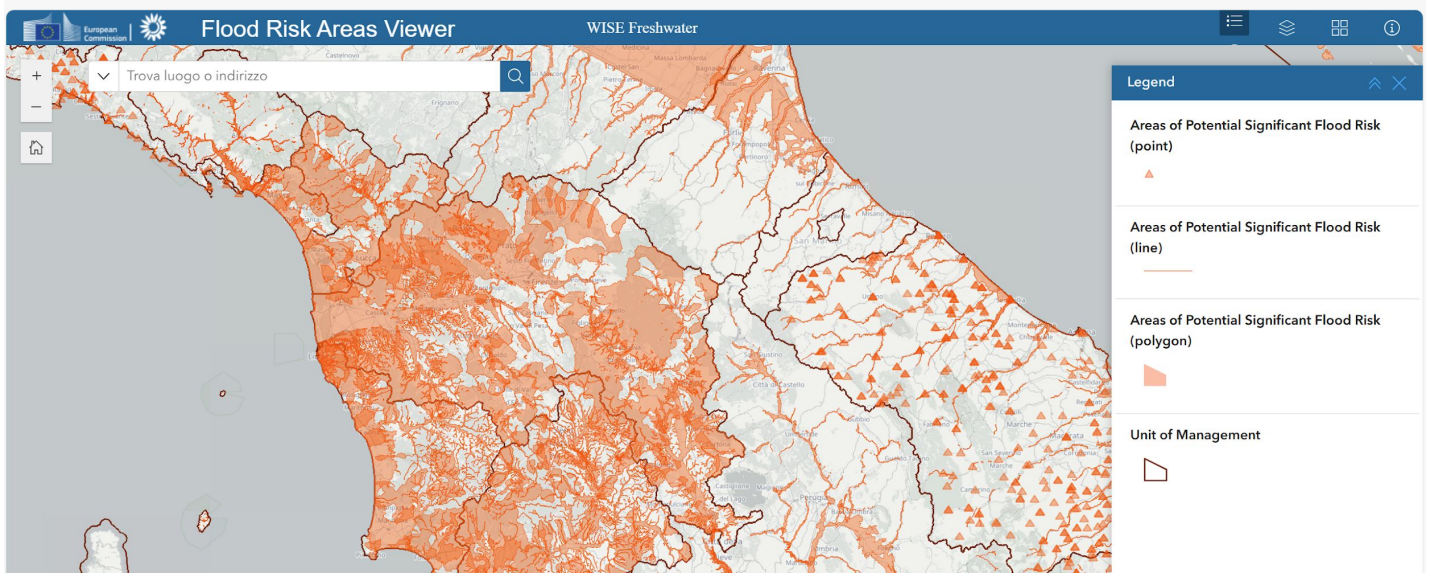
31 CAs:
Regions (19) and Autonomous Provinces (2
District Basin Authority (7)
MASE
Civil Protection Department
ISPRA

The integration work carried out by Italy in the integrated implementation of the WFD and FD directives was appreciated

Improvements in "coordination": sharing of basic information, communication tools to foster public participation; definition of national methodologies...

B) *Results of evaluations of the* flood risk management plans
Second cycle
Comments on possible improvements already started at national and district level

Revision and simplification, including topological simplification, of the APSFR (Areas of Potential Significant Risk): greater coverage than floodable areas, elimination of point and linear elements, optimization of the vector representation



Updates on coastal floods are underway (data acquisition and validation)

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B) *Results of evaluations of the* flood risk management plans
Second cycle
Comments on possible improvements already started at national and district level

Improvement of access to and display of information associated with the various obligations (APSFR, maps, Plans): updates are being made to the websites of the District Authorities + MASE-SIM contribution

FLOOD RISK MANAGEMENT PLANS – DIRECTIVE 2007/60/CE (PGRA 2021)

Accedi alle Mappe di Pericolosità e Rischio di Alluvioni – PGRA 2021

Accedi alle Mappe della Valutazione Preliminare del Rischio di Alluvioni - PGRA 2021

Link utili

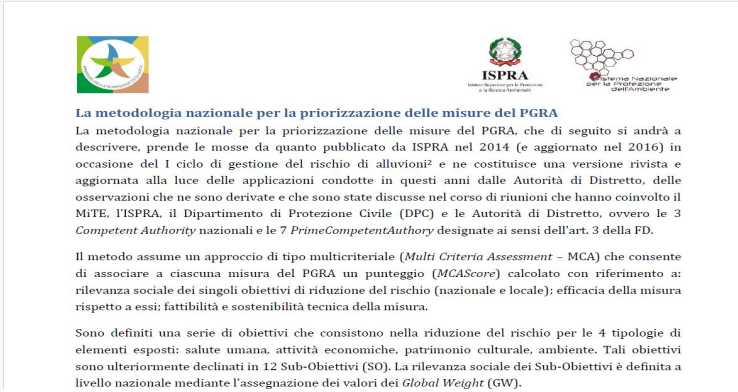
ISPRA - Direttiva Alluvioni

Rapporto sulle Alluvioni in Italia 2021

B) *Results of evaluations of the* flood risk management plans
Second cycle
Comments on possible improvements that cannot be complied with or to be evaluated if well-founded

Harmonization of the return times of the maps: scientifically unfounded; Legislative Decree 49/2010 correctly provides for Tr intervals for the (site) specificity of flooding phenomena in relation to, for example, the different sources of flooding (river, marine, etc.), degree of confinement of watercourses (which conditions the dynamics of propagation and therefore the impacts)

Link between measures and risk mitigation objectives and CBA: fulfilled through the application of the national multi-criteria methodology (MCA - Multi Criteria Assessment) for the prioritisation of measures, applied at APSFR level; a Cost-Benefit analysis that is complex to implement if not unreliable when the measures are not defined at the level of detail of the interventions and even more so when they are non-structural measures



La metodologia nazionale per la priorizzazione delle misure del PGRA

La metodologia nazionale per la priorizzazione delle misure del PGRA, che di seguito si andrà a descrivere, prende le mosse da quanto pubblicato da ISPRA nel 2014 (e aggiornato nel 2016) in occasione del I ciclo di gestione del rischio di alluvioni[2] e ne costituisce una versione rivista e aggiornata alla luce delle applicazioni condotte in questi anni dalle Autorità di Distretto, delle osservazioni che ne sono derivate e che sono state discusse nel corso di riunioni che hanno coinvolto il MiTE, l'ISPRA, il Dipartimento di Protezione Civile (DPC) e le Autorità di Distretto, ovvero le 3 *Competent Authority* nazionali e le 7 *PrimeCompetentAuthory* designate ai sensi dell'art. 3 della FD.

Il metodo assume un approccio di tipo multicriteriale (*Multi Criteria Assessment* – MCA) che consente di associare a ciascuna misura del PGRA un punteggio (*MCAScore*) calcolato con riferimento a: rilevanza sociale dei singoli obiettivi di riduzione del rischio (nazionale e locale); efficacia della misura rispetto a essi; fattibilità e sostenibilità tecnica della misura.

Sono definiti una serie di obiettivi che consistono nella riduzione del rischio per le 4 tipologie di elementi esposti: salute umana, attività economiche, patrimonio culturale, ambiente. Tali obiettivi sono ulteriormente declinati in 12 Sub-Obiettivi (SO). La rilevanza sociale dei Sub-Obiettivi è definita a livello nazionale mediante l'assegnazione dei valori dei *Global Weight* (GW).

Further details about international coordination: the District Authorities have significantly increased the amount of information provided compared to the previous cycle, although the level of detail required is not defined by the EC through any standard or format

Submit FRMPs to SEA depending on the type of measures: compliance has been fulfilled through the verification of eligibility to which all plan updates have been subjected

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ISPRA Istituto Superiore per la Protezione e la Ricerca Ambientale

Sistema Nazionale per la Protezione dell'Ambiente

Conclusions

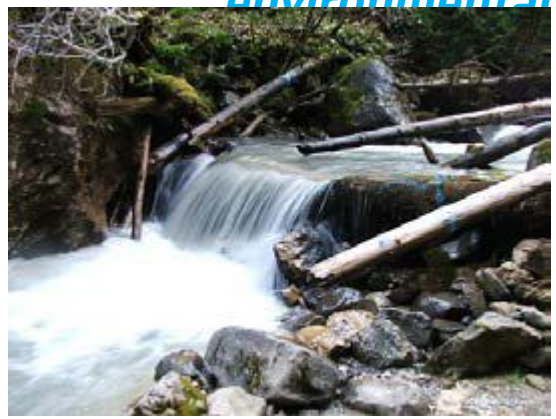
We need to prepare the discussion with the Commission, with solid answers on all the recommendations

Dir. Floods 2007/60/EC Hydraulic risk mitigation

DLgs 49/2010

…but above all to give space in the Plans to measures that allow the objectives of both directives to be pursued!

Water Framework Directive 2000/60/EC conservation and recovery of environmental quality



DLgs 152/2006

By **flooding** (leakage from a natural/artificial drainage network)

indotta

Morphological dynamics (associated with erosion and/or sedimentation processes)

Good ecological and chemical status of surface water (good chemical and quantitative status for groundwater)

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Direzione Generale Uso sostenibile del suolo e delle acque

EURO INBO

THANK YOU

Parma, 19 maggio 2025

INBO International Network of Basin Organizations

ADBPO Autorità di bacino distrettuale del fiume Po