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WETLAND INDEX: A MEASURE OF HEALTH



40%

Species of Mediterranean wetlands whose conservation status is of concern



ORISTANO WETLANDS DATA

229 km² | Area of the wetland system

6 | Ramsar sites

16 | Wintering waterbird species used as indicators

21 | Pressures assessed

2022 e 2026 | Reference years

Protection designations | Ramsar · Natura 2000 · IBA
Marine Protected Area

Wetlands (lagoons, ponds, marshes, peatlands and deltas) cover around 6% of the Earth's land surface and provide essential services: they regulate the water cycle and floods, purify water, store carbon and support extraordinary biodiversity.

These ecosystems' contribution is estimated at over **7.5% of global GDP**. Yet they continue to deteriorate and disappear. Assessing their health is essential to guide interventions and evaluate their outcomes.

The **Wetland Index** (WI), developed by BirdLife International through the Wetland-Based Solutions project, with MEDSEA as a partner, follows the **Pressure-State-Response** model: it assesses threats, the condition of habitats and species, and management measures.

In the Oristano area, the comparison between 2022 and 2026 encompasses 21 pressures, the wintering populations of 16 waterbird species, the quality of their habitats and management responses.

How the Wetland Index works

Pressione

Cosa minaccia la zona umida?

Minacce per categoria (agricoltura, pesca, clima, specie aliene...)

Impatto = tempistica + estensione + severità

Stato

In che condizioni sono habitat e specie?

Habitat: variazione di uso e copertura del suolo

Specie: variazione negli anni della popolazione e qualità dell'habitat

Risposta

Cosa si sta facendo?

Quota di sito coperta da misure di tutela

Presenza di un piano di gestione adeguato

Attuazione efficace delle misure

Pressures on wetlands in the Oristano area

Across the Mediterranean, the main pressures are agricultural and urban expansion (a 44% increase in built-up areas around wetlands since 2000), overexploitation of water resources, declining water quality and climate change.

Three key concerns emerge in the Oristano area:

- Climate change. Sardinia is considered a climate risk hotspot, with steadily rising temperatures and extreme events threatening habitats and species.
- Invasive alien species. In recent years, invasive species have increased, along with their impacts on native species and habitats.
- Pollution and eutrophication. Agriculture and livestock farming in the Arborea plain (with over 200 intensive livestock farms across approximately 60 km², housing around 30,000 cattle) place considerable pressure on water resources.

RESULTS: HIGH PRESSURE IN 2022, VERY HIGH IN 2026

State of waterbirds in the Oristano wetlands

The conservation of habitat features and prospects for restoration are rated as good for 13 of the 16 species and limited for three; no habitat is rated as excellent. In both 2022 and 2026, around half of the species have populations equal to or greater than those recorded in 2000, while the others have lower numbers, with a marked decline in the Kentish plover.

At provincial level, counts of 83 species in Natura 2000 wetlands show substantial annual fluctuations and a slightly negative overall trend. In 2026, the number of wintering birds recorded was the lowest in the 2000–2026 period.

The ecological status of water bodies is poor at most assessed sites, while chemical status varies between sites

RESULTS: VERY UNFAVOURABLE STATE IN BOTH 2022 AND 2026

Management responses

Conservation measures for Special Areas of Conservation (SACs) and Sites of Community Importance (SCIs) were approved in March 2025 in response to an EU infringement procedure. In 2026, they cover over 90% of the area and are assessed as fully and effectively implemented. This improvement is mainly due to the Oristano Coastal Wetlands Contract, which has reduced management fragmentation by coordinating fisheries concession holders, Natura 2000 site managers and the competent authorities.

Management planning still needs updating—a widespread challenge across the

RESULTS: MODERATE MANAGEMENT RESPONSES IN 2022, HIGH IN 2026

Pressures: 2022-2026 comparison



Pink background petals group pressures by category

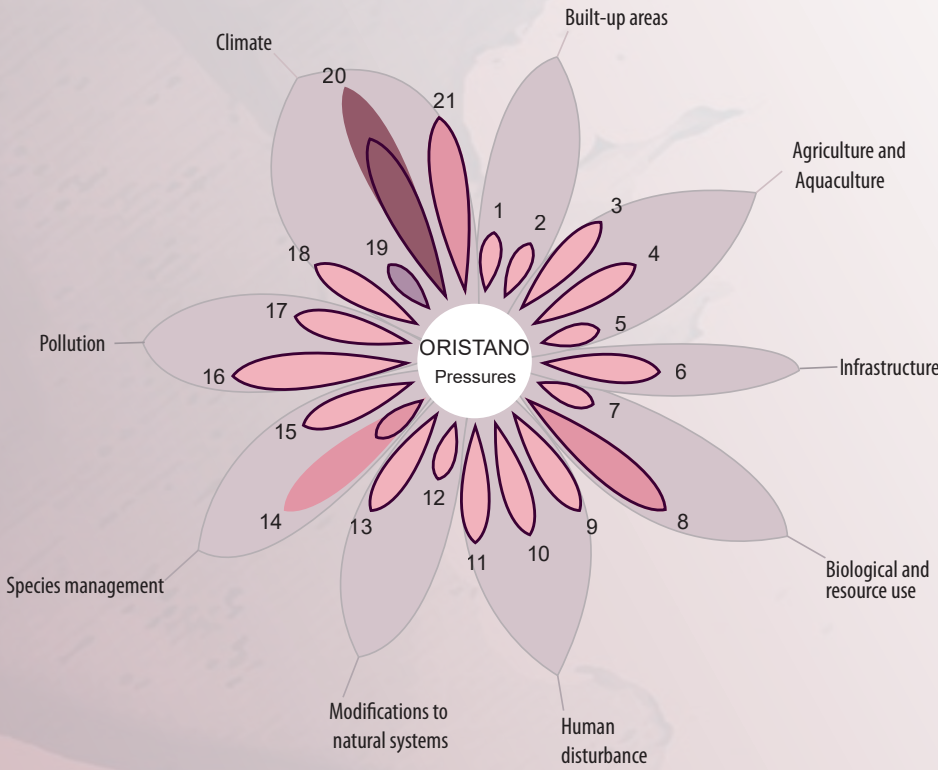
2022: Outline
2026: filled petal

Petal colour: severity in 2026
Insignificant
Slow
Moderate
Quick



Petal length: impact level
Low → Moderate → High → Very high
Longer petal = greater impact

When the outline coincides with the petal edge, the impact level is unchanged.



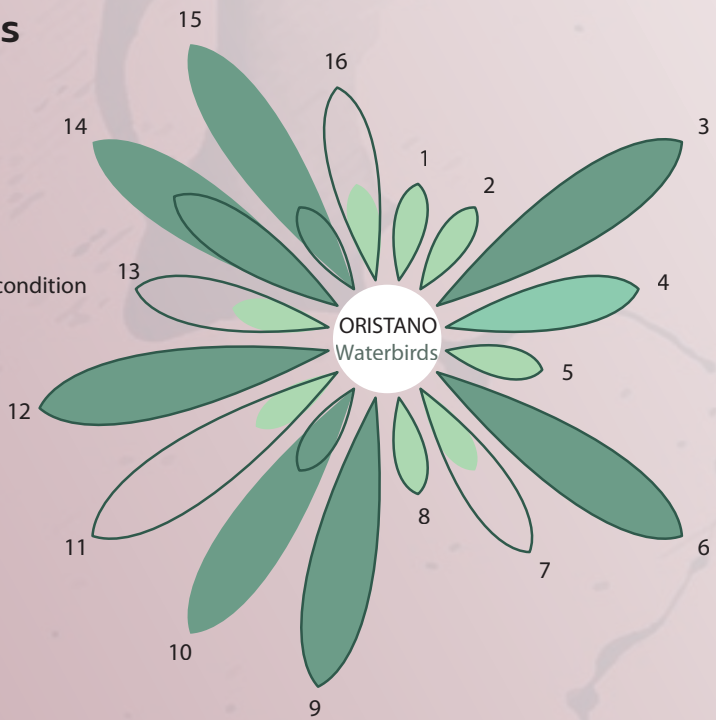
- Commercial and industrial areas
- Tourism and recreation
- Crop farming
- Livestock farming
- Aquaculture
- Utility networks and lines
- Hunting and gathering
- Fishing
- Recreational activities
- Military activities
- Work and other activities
- Fires
- Water management
- Invasive alien species
- Problematic native species
- Agricultural and forestry effluents
- Solid waste
- Habitat alteration
- Drought
- Extreme temperatures
- Storms and floods

State of waterbirds

2022: Outline
2026: filled petal

Petal length: species status
Longer petal = more favourable condition

Petal colour: status in 2026
Very unfavourable
Unfavourable
Near favourable



INDICATOR SPECIES

- Great Egret *Ardea alba*
- Western Marsh Harrier *Circus aeruginosus*
- Osprey *Pandion haliaetus*
- Slender-billed Gull *Chroicocephalus genei*
- Little Egret *Egretta garzetta*
- Eurasian Spoonbill *Platalea leucorodia*
- Ferruginous Duck *Aythya nyroca*
- Kentish Plover *Charadrius alexandrinus*
- Greater Flamingo *Phoenicopterus roseus*
- Glossy Ibis *Plegadis falcinellus*
- Western Swamphen *Porphyrio porphyrio*
- Common Crane *Grus grus*
- Pied Avocet *Recurvirostra avosetta*
- Sandwich Tern *Thalasseus sandvicensis*
- European Golden Plover *Pluvialis apricaria*
- Dunlin *Calidris alpina*

CONCLUSIONS

Between 2022 and 2026, the overall Wetland Index score remains unchanged: in the calculation, increasing pressures are offset by improved management responses, while the state of waterbirds remains very unfavourable. Governance alone is not enough: reversing the trend requires interventions that reduce pressures and improve habitat conditions.

CHALLENGES AND FUTURE PROSPECTS

- Reduce risks from climate extremes through water management, habitat restoration and adaptation measures.
- Strengthen prevention, monitoring and coordinated management of invasive alien species.
- Ensure fishing and harvesting are compatible with conservation objectives.
- Fill data gaps on habitat extent and quality.
- Strengthen the Wetlands Contract and the Observatory to support shared adaptation pathways.

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The Wetland Observatory supports the conservation and sustainable management of wetlands in Sardinia. It collects and analyzes environmental data to monitor ecosystems, threats, and conservation strategies. Through webGIS and technical reports, it disseminates information on ecological status, biodiversity, and ecosystem services, raising awareness of the importance of wetlands in tackling climate change.

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