

## Spatial distribution and temporal trends (1995-2022) of soft-bottom marine benthic alien species from the Basque Country (southeastern Bay of Biscay)

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This study presents an updated list of 373 marine macroinvertebrate species that can be considered alien, cryptogenic and invasive in the Bay of Biscay based on recent publications. From a total of 26,960 benthic species records collected between 1995 and 2022 at 51 coastal and estuarine stations sampled along the Basque Country, 937 records were Non-Indigenous Species (NIS) (3.5%). The number of NIS species and records increased over time. The highest number of NIS were detected at coastal stations, possibly related to the shifting baselines due to changes in water temperature and in estuaries where international ports are located (introduced by shipping). Of all the NIS, the mussel *Xenostrobus securis* was the only invasive species and was detected in degraded areas with low salinities. These results highlight the need for specific monitoring to manage the spread of NIS in the region. Work funded by the Basque Water Agency (URA).

### Keywords

Invasive; Cryptogenic; Non-indigenous Species; Soft-bottom Macroinvertebrates; Southeastern Bay Of Biscay; Nerbioi Estuary