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[Updating the national baseline of Non-Indigenous Species in Spanish marine waters](#)

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Abstract: The introduction of new non-indigenous species (NIS) in Spanish marine waters is addressed under Descriptor 2 of the European Union's Marine Strategy Framework Directive. National baseline inventories of NIS have been compiled and updated for the three subregions (Western Mediterranean Sea, WMED; Bay of Biscay–Iberian Coast, ABI; Macaronesia, AMA) with data from 1800 to 2021. An overall of 574 species were identified with an alien, cryptogenic, crypto-expanding, or debatable status, mostly invertebrates (~65%) and primary producers (~22%). Of 412 alien species, 80.51% were reported in ABI, 67.82% in WMED, and 66.67% in AMA. Cryptogenic species are more abundant in the WMED (25.25%), compared to AMA (19.77%) and ABI (18.46%). ABI harbors more established species (62.56%) than AMA (45.2%) and WMED (43.56%), contrary to casual records (AMA 31.64%, WMED 23.76%, ABI 13.85%). Invasive species are more abundant (14.36%) in WMED. The 'transport-stowaway' pathway accounted for 142 (79.33%), 123 (67.58%), and 169 (85.21%) records in WMED, ABI, and AMA, respectively. The second most common pathway was 'transport-contaminant' related to mariculture (~10% of the total), prevalently in ABI with 42 species (23.08%). The Canary Islands stand out for species introduced through oil platforms from throughout the world. 'Unaided' was a relevant pathway of secondary introduction into the WMED, particularly of Lessepsian species progressing westwards. Temporal trends in newly introduced species show similar behavior among subregions.

Keywords: alien species, national NIS inventories, Mediterranean Sea, northeast Atlantic, Descriptor 2, Marine Strategy Framework Directive