



Column name codes: 'location_col' station name, 'day_time' date and time, 'fish_rec_active' active AT receiver, 'tag_activity' active acoustic tag, 'tagged animals' seabass or cod with active tags are present, 'sb_DPH' seabass detection positive hour (DPH), 'cod_DPH' cod DPH, 'por_DPH' harbour porpoise DPH, 'dol_DPH' dolphin DPH, 'Season' season of the year, 'Diurnal' classification of the hour as day or night based on sunrise and sunset time, 'Rsb' number of stations where seabass occurred, 'Rpor' number of stations where porpoises occurred, 'SSsb_por' number of stations where seabass and porpoises co-occurred, 'Cscore_sb_por' C-score calculated for each species pair per hour and day, 'cooc' either Cooc (species co-occurrence detected), none (no species co-occurrence detected) or the name of the animal (only one animal detected), 'hour' hour of the day that the animal occurred, 'month' month, 'sb' seabass occupancy, 'cod' cod occupancy, 'por' porpoise occupancy and 'dol' dolphin occupancy.

Figure S1 Sample presence-absence matrices of different spatiotemporal resolutions used for the five different co-occurrence/occupancy analyses. The hourly presence-absence matrix (A) used to calculate the co-occurrence percentage was transformed to create the matrices for the C-score and GL(M)M. Lower temporal resolution matrices were also created from the hourly presence-absence matrix to perform the seasonal diel overlap (B; one matrix per species) and pairwise monthly occupancy analyses (C). The values in these matrices serve as an example and should not be taken as actual data. Passive acoustic monitoring data can be visualized online and downloaded by registered users via the LifeWatch Data Explorer R Shiny app (<https://lifewatch.be/en/lifewatch-data-explorer>).

Table S1 Dates of equinoxes and solstices used to mark the period of the seasons.

Season	Timestamp (UTC)
March Equinox	3/20/2018 16:00
June Solstice	6/21/2018 10:00
September Equinox	9/23/2018 1:00
December Solstice	12/21/2018 22:00
March Equinox	3/20/2019 21:00
June Solstice	6/21/2019 15:00
September Equinox	9/23/2019 7:00
December Solstice	12/21/2019 4:00
March Equinox	3/20/2020 3:00
June Solstice	6/20/2020 21:00
September Equinox	9/22/2020 13:00
December Solstice	12/21/2020 10:00
March Equinox	3/20/2021 9:00
June Solstice	6/21/2021 3:00
September Equinox	9/22/2021 19:00
December Solstice	12/21/2021 15:00

Table S2 Reference to animal projects of each species from the European Tracking Network (ETN; <https://www.lifewatch.be/etn/>)

Species	Animal project dataset	References to animal projects
<i>Alosa fallax</i>	2015_fint: Twaitte shad acoustic telemetry dataset in the Schelde-estuary and North Sea 2015	https://www.vliz.be/imis?module=dataset&dasid=5858
<i>Anguilla anguilla</i>	2015_PHD_VERHELST_EEL - Acoustic telemetry data for European eel (<i>Anguilla anguilla</i>) in the Scheldt estuary and southern North Sea (Belgium)	https://www.vliz.be/nl/imis?module=dataset&dasid=5850
	2019_Grotenete: Migration behavior of silver eels (<i>Anguilla anguilla</i>) in a system with a continuous transition from river, across estuary to the sea	https://www.vliz.be/nl/imis?module=dataset&dasid=6337
	BALANCE: Silver European Eel escapement success and migration patterns in River Ems	https://www.vliz.be/nl/imis?module=dataset&dasid=6634
	DAK: Decentralized Eel Management through Knowledge	https://www.vliz.be/nl/imis?module=dataset&dasid=6067
<i>Chelon labrosus</i>	SWIMWAY_2021: Wadden Tools – Swimway Wadden Sea	https://www.vliz.be/nl/imis?module=dataset&dasid=8030
<i>Chelon ramada</i>	SWIMWAY_2021: Wadden Tools – Swimway Wadden Sea	https://www.vliz.be/nl/imis?module=dataset&dasid=8030
<i>Dicentrarchus labrax</i>	Electronic tagging dataset of European seabass in the southern North Sea	https://www.vliz.be/nl/imis?module=dataset&dasid=6555
	SWIMWAY_2021: Wadden Tools – Swimway Wadden Sea	https://www.vliz.be/nl/imis?module=dataset&dasid=8030
<i>Gadus morhua</i>	2015_PHD_VERHELST_COD - Acoustic telemetry data for Atlantic cod (<i>Gadus morhua</i>) in the Scheldt Estuary and southern North Sea (Belgium)	https://www.vliz.be/nl/imis?module=dataset&dasid=6581
	Rijke_Noordzee: Rijke_Noordzee	https://www.vliz.be/nl/imis?module=dataset&dasid=6534
	PCAD4CAD: Impact of airgun sound exposure on fish: integrating population-level modelling and collect	https://www.vliz.be/en/imis?module=project&proid=4861
<i>Mustelus asterias</i>	ADST Shark: ADST Shark	https://www.vliz.be/nl/imis?module=dataset&dasid=6557
<i>Pleuronectes platessa</i>	PhD_JolienBuyse: Using acoustic telemetry to study local and larger scale movements of plaice in relation to a Belgian offshore wind farm	https://www.vliz.be/nl/imis?module=dataset&dasid=6492
<i>Raja clavata</i>	SVNL-WS: Survival and distributionu of 30 Vemco tagged, stocked juvenile thornback rays (<i>Raja clavata</i>), within the Westerschelde Estuary and the Belgian part of the southern North Sea	https://www.vliz.be/nl/imis?module=dataset&dasid=5970