



Birds of Ria de Alvor

An Annotated Checklist (1986 - 2019)



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A Rocha Portugal has been carrying long term bird surveys (mostly wader counts and bird ringing) since 1984. The information presented was compiled from the A Rocha Portugal Observatory Reports and Lists of Birds at Ria de Alvor. It was completed with data from the A Rocha ringing database and information published in the Anuário Ornitológico and data available on eBird.

The area considered is within the boundaries of the Ria de Alvor Natura 2000 SIC site (figures 1 and 2). The area is bordered by the ocean at the south and the N125 to the north. The various rivers surrounding the peninsulas (Quinta da Rocha and Abicada) meet at an estuary protected from the ocean by two beaches and associated dunes: Alvor and Meia Praia beaches. To the east, the limit is the Torre River and the Odiáxere saltpans to the west. Over the years, the access to some areas changed. Part of Quinta da Rocha was fenced 1997 but access to the Eastern Marsh became impossible in 2006. The collapse of the sea wall in March 2019 also restricted the access to the saltpans.

Farming has been abandoned in most of the area. Abandoned orchards can be found on the Quinta da Rocha peninsula and at Abicada. Parts of these areas are grazed all year round (Quinta da Rocha) or part of the year (Abicada). An important area of marshes lies on the eastern part of Quinta da Rocha (the Eastern Marsh) and at the southern tip of the peninsula. Two areas of saltpans, also abandoned, can be found near Odiáxere and by the Western Marsh. Three active fish farms are present in the area: two adjacent ones by the Western Marsh, the other near Meia Praia. Seashell farms also exist there. There are scattered habitations and pine plantations on Quinta da Rocha peninsula. Finally, a tidal lagoon can be found near Abicada.



Figure 1: Ria de Alvor Natura 2000 site



Figure 2: Quinta da Rocha peninsula

Since 1984, 317 species of birds have been recorded at Ria de Alvor and 6 others have been seen but not confirmed. The species are presented separately in different categories, in the same way the Portuguese Rarities Committee does:

- Category A: wild species recorded at least once since the 1st of January 1950, 302 species;
- Category C: exotic species but with wild self-sufficient populations, 1 species;
- Category D: species which may occur in the wild but there is a doubt about the origin of the birds, 3 species;
- Category E: exotic species, escaped from captivity, 11 species.

The taxonomy followed for this list is the one used by the International Ornithological Committee, which is also the one used by the Sociedade Portuguesa para o Estudo das Aves (BirdLife International partner in Portugal).



Category A

Brant Goose *Branta bernicla*: Three records: one between the 1st and 28th of February and again on the 29th of March 2004, one on the 19th of December 2012 and a group of 5 birds between the 3rd of January and 13th of March 2015, all at the estuary.

Greylag Goose *Anser anser*: Four records: six flying west on the 23rd of December 1987, two over Cruzinha on the 7th of October 1994, eight over the Western Marsh on the 24th of November 1995 and four over Quinta da Rocha on the 22nd of November 2000.

Common Shelduck *Tadorna tadorna*: Uncommon winter visitor recorded for the first time in November 1989 and then only in December 1994 and January 2008. It has been annual since 2013. Until 2015, it was mainly a winter visitor, present in January and February and in November and December. Then, it was recorded almost every month of the year and bred at Abicada in 2018 when a female was seen with chicks. Maximum was recorded in November 2011 with 30 birds at the salt pans.

Garganey *Spatula querquedula*: Scarce passage migrant recorded between February and June (most sightings in March and April). It was recorded once in August and twice in December. Maximum was recorded in April 1989 with 6 birds.

Northern Shoveler *Spatula clypeata*: Common winter visitor usually present between September (sometimes August) and April (sometimes May), mostly at Montes de Alvor reservoir. Maximum was recorded in 2000 with 190 birds.

Gadwall *Mareca strepera*: Uncommon winter visitor not recorded every year, present between August and March. February is the month with most sightings. This species is usually present in small numbers but the maximum recorded was 13 birds in February 2011 at Montes de Alvor reservoir.

Eurasian Wigeon *Mareca penelope*: Uncommon winter visitor, not recorded every year. Usually present between September and February. December is the month with the most sightings. This species was more common during the 80's and 90's than the years 2000. Maximum was recorded in November 1987 with 25 birds.

Mallard *Anas platyrhynchos*: Common resident breeding locally. Maximum was recorded in September 1996 with 300 birds at Montes de Alvor reservoir. One bird ringed in Portugal (found sick at Faro sewage work and released at Quinta do Marim, Olhão) was controlled at Ria de Alvor.

Northern Pintail *Anas acuta*: Uncommon winter visitor recorded almost every year, present between January and March (sometimes until April or May) and October (sometimes September) and December. This species is usually present in small numbers but the maximum recorded was 23 birds between October and November 1990.



Eurasian Teal *Anas crecca*: Common winter visitor usually present between January and March (sometimes until April or May) and September (sometimes August) and December, mostly at Montes de Alvor reservoir. Maximum was recorded in 1997 with 140 birds.

Red-crested Pochard *Netta rufina*: two records: one female/immature at the Western Marsh between the 18th and 27th of January 1997 and two (a male and a female) at Montes de Alvor reservoir on the 18th of April 2016.

Common Pochard *Aythya ferina*: two records: four on the 25th of November 1988 and five at the Western Marsh on the 1st of March 2002.

Ferruginous Duck *Aythya nyroca*: one at Montes de Alvor reservoir on the 27th of March 2019.

Tufted Duck *Aythya fuligula*: two records: one on the 2nd of December 1988 and one on the 18th of December 2016 at Montes de Alvor reservoir.

Common Eider *Somateria mollissima*: two records: one between the 26th of November 1993 and the 15th of May 1994 and one female between the 9th of February and 5th of March 1998, both at the estuary.

Common Scoter *Melanitta nigra*: Common wintering visitor along the coast, recorded between August and June with peaks in March and December. Maximum was recorded in March 2001 with about 250 birds offshore.

Long-tailed Duck *Clangula hyemalis*: two records: one at the Western Marsh between the 1st and 18th of April 2000 and one by Odiáxere salt pans on the 18th of January 2013.

Common Merganser *Mergus merganser*: one female at Alvor harbour between the 3rd and 22nd of January 2011 was the 1st sighting for the Algarve and the only one until now.

Red-breasted Merganser *Mergus serrator*: Scarce winter visitor recorded 10 times in the area between October and March.

Red-legged Partridge *Alectoris rufa*: Common resident breeding locally. Numbers seem to have increased since hunting was banned from the area.

Common Quail *Coturnix coturnix*: Common species breeding locally, sometimes present all year round. Usually first detected between January and March until September or October, sometimes December.

Red-necked Nightjar *Caprimulgus ruficollis*: Common summer visitor, present between April and October. The median arrival date is the 25th of April (min 14th of April max 9th of May) for 23 years



when the arrival date was recorded. The species breeds locally and a maximum of 5 pairs were recorded in 1995 and 1996.

European Nightjar *Caprimulgus europaeus*: Scarce passage migrant recorded 12 times in the area in April and May and between August and October. There are a few more sightings in autumn (58%) than in spring.

Alpine Swift *Tachymarptis melba*: Uncommon summer visitor, present between March and October. Recorded twice in November. The median arrival date is the 17th of March (min 1st of March, max 2nd of April) for 25 years when the arrival date was recorded.

Common Swift *Apus apus*: Common summer visitor, present between March and October. Sometimes recorded in January (once), November (five times) and December (three times). The median arrival date is the 15th of March (min 22th of February, max 26th of March) for 20 years when the arrival date was recorded.

Pallid Swift *Apus pallidus*: Common summer visitor, present between March and October. Recorded once in February. The median arrival date is the 21st of March (min 2nd, max 31st) for 21 years when the arrival date was recorded.

Little Swift *Apus affinis*: five records: one on the 9th of June 1996 over Cruzinha, one on the 18th of June 2008, one on the 17th of May 2009, both over Quinta da Rocha, one on the 14th of October 2014 and one on the 13th of June 2018, both over Cruzinha.

Little Bustard *Tetrax tetrax*: five records: one on the 7th of August 1987, one on the 17th of December 1992, both at the Eastern Marsh, one on the 2nd of October 1993, at Quinta da Rocha, one between the 29th of September and 5th of October 1995 at the Eastern Marsh and one between the 11th of August and 2nd of September 2003 at Quinta da Rocha.

Great Spotted Cuckoo *Clamator glandarius*: Uncommon passage migrant recorded between January and August. February, March and July are the months with the most sightings.

Common Cuckoo *Cuculus canorus*: Common summer visitor present between March-April and August-September. A few records in October.

Stock Dove *Columba oenas*: Uncommon passage migrant recorded in October (83% of the sightings) and November. It was recorded once in March. Maximum was recorded in October 1991 with 42 birds flying over Quinta da Rocha.

Common Wood Pigeon *Columba palumbus*: This species was recorded for the 1st time in October 1991 and until 2015 it was not annual. Sightings referred to migrating birds and were made between September and November with a peak in October. They sometimes involved flocks of several



hundreds of birds and the maximum was recorded on the 17th of October 1991 with 1250 birds in 2 flocks over Quinta da Rocha. Since 2015, the species has been seen every year and every month of the year except in July. This could be linked to an apparent increase in the population at Penina (a wooded area north of Abicada).

European Turtle Dove *Streptopelia turtur*: Common passage migrant whose population has been declining over the last decades. Present between April (one sighting in March) and October. Maximum was recorded in September 1987 with 56 birds. Nowadays, the maximum recorded is fewer than five birds together.

Eurasian Collared Dove *Streptopelia decaocto*: Common resident breeding locally. It was first recorded in July 1991 and remained scarce until 1996. It was recorded all year round for the first time in 1998 and numbers increased since then. One bird ringed at Cruzinha was controlled in Spain.

Water Rail *Rallus aquaticus*: Uncommon resident breeding locally.

Spotted Crake *Porzana porzana*: Rare passage migrant recorded 11 times in the area. Sightings occurred between February and May (7 sightings) and September and December which may indicate a possible wintering in the area. Most sightings are from the Eastern Marsh.

Common Moorhen *Gallinula chloropus*: Common resident breeding locally, mostly at Abicada and Horta 2. Maximum was recorded in 1991 with 50 birds.

Eurasian Coot *Fulica atra*: Common winter visitor present between January and March-April and August-September and December, mostly at Montes de Alvor reservoir. Maximum was recorded in January 2005 with 445 birds and breeding was confirmed in 2017 at Abicada. One bird ringed in Spain was controlled in the area.

Allen's Gallinule *Porphyrio alleni*: One individual found dead on the 27th of April 1990 on the central dyke of the Western Marsh.

Western Swamphen *Porphyrio porphyrio*: Uncommon resident recorded for the first time in August 2002 near Horta 2. Then it was seen in April 2004 at the Eastern Marsh, February 2006 at the Western Marsh and March 2007 at Odiáxere saltpans. The species was rediscovered in February 2012 at Abicada where it has been seen every year and all year round since 2015. Breeding was confirmed in 2016 and a maximum of 8 birds seen in March.

Common Crane *Grus grus*: four records: one present for 3 weeks in November 1987, one on the 27th of October 1993, one juvenile at Abicada on the 22nd and 23rd of November 2000 and one juvenile between the 1st of January and 16th of March 2001 at the same place (most likely the same bird as in 2000).



Little Grebe *Tachybaptus ruficollis*: Common winter visitor present between January and March (sometimes until June) and August (sometimes July) and December, mostly at Montes de Alvor reservoir. Maximum was recorded in 1989 with 20 birds and breeding confirmed in 2006.

Great Crested Grebe *Podiceps cristatus*: one on the 23rd of January 1987 at the estuary.

Black-necked Grebe *Podiceps nigricollis*: Uncommon and scarce winter visitor, recorded between January and March and September and December at the estuary and Alvor harbour. This species was recorded between 1986 and 1990, in 1995, 1996, between 1999 and 2001 and between 2013 and 2016. The maximum number was three birds in 1987 and 1988 at the Western Marsh.

Greater Flamingo *Phoenicopterus roseus*: Common non-breeding visitor recorded for the first time in August 1988 and then only in December 1997, it has been annual since. Until 2005, the species was mostly recorded between January and March and between August and December. It then started being seen almost every month and has been present all year round since 2015 with numbers increasing. August is usually the month with most birds present and the maximum was recorded in August 2007 with 350 birds. 159 birds have been controlled in the area: 126 from Spain (112 from Andalusia and 14 from Catalonia), 23 from France, three from Algeria and seven from Italy.

Eurasian Stone Curlew *Burhinus oedipnemos*: Common resident breeding locally and winter visitor, mostly at Quinta da Rocha. Maximum was recorded in February 2005 with 64 birds.

Eurasian Oystercatcher *Haematopus ostralegus*: Common passage migrant and winter visitor but in most years the species is recorded all year round at the estuary. Maximum was recorded in August 2015 with 63 birds at the estuary. Four birds ringed in France were controlled at Ria de Alvor.

Black-winged Stilt *Himantopus himantopus*: Common resident breeding in the area. Until the beginning of the 90's, the species was recorded only between February and September. Passage birds probably use the area as numbers increase in early spring. Maximum was recorded in August 2004 with 78 birds.

Pied Avocet *Recurvirostra avosetta*: Uncommon winter visitor recorded every year and every month of the year but the number of sightings appears to be decreasing. Wintering birds usually leave in March (sometimes February). Sightings between April and June possibly refer to migrants or birds looking for a breeding place since the species has been three times suspected to breed locally. In May 2006 a nest with eggs was found at the saltpans but later predated, in May 2018, a bird laying was recorded at Abicada and two birds building a nest at the saltpans were seen in May 2019. Birds start passing in August and some stay until December. Maximum was recorded in January 2007 with 62 birds. Two birds were controlled at Ria de Alvor, from Spain and Germany.



Northern Lapwing *Vanellus vanellus*: Common winter visitor present between September and March. The species can also be seen in April (one sighting), May (two sightings), July (two sightings) and August (four sightings). Maximum was recorded in 1991 with 240 birds.

Sociable Lapwing *Vanellus gregarius*: one present at the Eastern Marsh between the 11th of November 1997 and the 14th of February 1998.

European Golden Plover *Pluvialis apricaria*: Common winter visitor present between January and February-March and October and December. Late birds can be seen in April and early ones in September. There are several records of a single bird in May, possibly a late migrant. A bird stayed all year round in the area between 2003 and 2009 and produced records between April and August. Maximum was recorded in February 2012 with 197 birds at Quinta da Rocha.

American Golden Plover *Pluvialis dominica*: two records: one on the 15th and 16th of July 2000 and one on the 9th of April 2018 at the mouth of the Odiáxere river.

Grey Plover *Pluvialis squatarola*: Common passage migrant and winter visitor but many years the species is recorded all year round at the estuary. Maximum was recorded in May 1991 with 181 birds at the Western Marsh.

Common Ringed Plover *Charadrius hiaticula*: Common passage migrant and winter visitor but in most years the species is recorded all year round at the estuary. Maximum was recorded in October 2009 with 350 birds at the Western Marsh. Six ringed birds were controlled at Ria de Alvor: one from Finland, one from the United Kingdom, two from Iceland and two from Norway. Two birds ringed at Ria de Alvor were controlled in Iceland and the United Kingdom.

Little Ringed Plover *Charadrius dubius*: Uncommon summer visitor and passage migrant, recorded between February and October with more sightings in April and May. Breeding was confirmed at the Odiáxere salt pans. One bird ringed at Ria de Alvor was controlled in Spain.

Kentish Plover *Charadrius alexandrinus*: Common resident breeding locally and passage migrant. Over 150 pairs were recorded in the mid-90's. Maximum was recorded in August 1994 with 183 birds. One bird from the Netherlands and one from France were controlled in the area. one bird ringed at the Odiáxere Salt pans was found dead at the mouth of the Arade river.

Eurasian Dotterel *Charadrius morinellus*: one on the 12th of October 1991 at Abicada.

Eurasian Whimbrel *Numenius phaeopus*: Common passage migrant and winter visitor but in most years the species is recorded all year round at the estuary. Spring passage is more marked than autumn passage with big numbers seen in April. Maximum was recorded in April 1997 with 643 birds. In 2018, at least 1363 birds were recorded flying North-East between the 16th and 24th of



April. A bird ringed in Belgium was controlled at Ria de Alvor and one bird ringed there was controlled in France.

Eurasian Curlew *Numenius arquata*: Uncommon non-breeding visitor recorded every month of the year, especially between January and April and August and December. The species used to be quite common until the end of the 90's (present all year and in higher numbers). Maximum was recorded in January 1989 with 33 birds. One bird ringed at Ria de Alvor was shot in France.

Bar-tailed Godwit *Limosa lapponica*: Common passage migrant and winter visitor recorded every month but usually present between January and May and August and December with peaks in May and October. Maximum was recorded in April 1988 with 697 birds. One bird ringed at Ria de Alvor was controlled in the Netherlands.

Black-tailed Godwit *Limosa limosa*: Common passage migrant and winter visitor present between January and May and July and December. Recorded only once in June. Maximum was recorded in February 1991 with 331 birds. Two birds from the United Kingdom and three from Iceland were controlled at Ria de Alvor.

Ruddy Turnstone *Arenaria interpres*: Common passage migrant and winter visitor but in some years the species is recorded all year round. Usually recorded between January and May and August and December. Maximum was recorded in September 2014 with 73 birds at the estuary. One bird ringed in Finland was controlled at Ria de Alvor and one bird ringed here was controlled in France.

Red Knot *Calidris canutus*: Regular migrant and winter visitor. More birds are seen during spring passage, especially in May (maximum of 700 recorded in 1991 and 1992). Wintering seems annual at Ria de Alvor since the beginning of 2000's, with up to 43 birds seen in February 2017. Three birds ringed in Germany were controlled at Ria de Alvor and two birds ringed here were controlled in Germany and Guinea-Bissau.

Ruff *Calidris pugnax*: Uncommon passage migrant and winter visitor which is not recorded every year. In terms of months it has been recorded every month except July. More common during autumn migration (September-October) than in spring migration (March-April). A few birds may winter in the area since the species has been recorded in January and February and in November and December. Maximum was recorded in April 1994 with 33 birds.

Curlew Sandpiper *Calidris ferruginea*: Scarce passage migrant and winter visitor. More common during autumn migration (August-October) than spring migration (April-May). A few birds may winter locally since the species has been recorded in between January and March and in November and December. Maximum was recorded in October 1990 with 50 birds.



Temminck's Stint *Calidris temminckii*: total of five records: four on the 2nd of May 1994 at the salt pans and one present between the 6th of October 1998 and 14th of January 1999 at the estuary (only case of a wintering bird in the area), two on the 27th of March 2001 at the Western Marsh, two on the 26th of April 2010 at the Western Marsh and one on the 11th of May 2019 at the Western Marsh. There is also a record in 1984 but without an exact date.

Sanderling *Calidris alba*: Common passage migrant and winter visitor but in some years the species is recorded all year round at the estuary and Alvor dunes. Maximum was recorded in October 2009 with 170 birds at the estuary.

Dunlin *Calidris alpina*: Common passage migrant and winter visitor but in most years the species is recorded all year round at the estuary. Maximum was recorded in May 1990 with 687 birds. 19 birds ringed at Ria de Alvor were controlled in France (three), the United Kingdom (14), Spain (one) and Mauritania (one). At Ria de Alvor a total of 24 were controlled: one from France, three from Germany, 14 from the United Kingdom, one from Norway, two from Poland, two from Spain and one from Portugal.

Little Stint *Calidris minuta*: Scarce passage migrant and winter visitor. Present between January and March and August (peak in September) and the end of the year. There are also a few records between April and July. Maximum was recorded in September 1998 with 120 birds. One bird ringed at Ria de Alvor was controlled in Senegal.

White-rumped Sandpiper *Calidris fuscicollis*: One juvenile at the salt pans on the 1st of November 2004.

Buff-breasted Sandpiper *Calidris subruficollis*: two records: one between the 7th and 25th of September 1990, 1st record for Portugal and one on the 10th and 11th of October 2010, both at the Western Marsh.

Pectoral Sandpiper *Calidris melanotos*: eight records all during the post-breeding period, October being the month with most sightings (62%). The species was registered for the 1st time in September 1985. Six of these records were made before 2000. Three of these birds stayed over a day, the longest stayed for 13 days in October 1993. The age of seven birds was documented and 71% were juveniles.

Semipalmated Sandpiper *Calidris pusilla*: one ringed at the salt pans on the 18th of October 1989.

Dowitcher sp. *Limnodromus sp.*: one at the Western Marsh on the 15th of October 1985 was identified as a Short-billed Dowitcher but the Iberian Rarities Committee accepted it as a short-billed/long-billed Dowitcher.

Eurasian Woodcock *Scolopax rusticola*: one in flight by Montes de Alvor reservoir on the 1st of December 2013.



Jack Snipe *Limnocryptes minimus*: Uncommon winter visitor present between January and April and October and December. Maximum was recorded during the autumn 1990 with eight birds. One bird ringed at Ria de Alvor was found dead in France.

Common Snipe *Gallinago gallinago*: Common non-breeding visitor present between January and April (sometimes May) and August and December. Maximum was recorded during the winter 1991 with 150 birds. Numbers seem to have decreased lately with a maximum of 29 birds in January 2012 at the Western Marsh.

Terek Sandpiper *Xenus cinereus*: one at the Western Marsh on the 30th of May 2000.

Wilson's Phalarope *Phalaropus tricolor*: single record on the 21st of September 2007.

Red Phalarope *Phalaropus fulicarius*: six records, the 1st one on the 11th of November 1986, the month with 50% of the sightings. The species has also been recorded twice in January and once in December. It has not been seen in the area since 2000. Three of these birds stayed more than a day and remained between 2 and 36 days.

Common Sandpiper *Actitis hypoleucos*: Common non-breeding visitor sometimes present all year round. Usually recorded between January and May and July and December. Maximum was recorded in August 2003 with 33 birds.

Green Sandpiper *Tringa ochropus*: Common passage migrant and winter visitor recorded every month of the year but more frequent between January and April and between August and December. Maximum was recorded in August 1990 with 12 birds.

Solitary Sandpiper *Tringa solitaria*: One on the 26th of June 1989.

Lesser Yellowlegs *Tringa flavipes*: five records: one at Abicada on the 31st of December 1993, one on the 2nd of October 1998 and one on the 9th of September 2003, both at the Western Marsh, one between the 20th and 24th of November 2013 at Montes de Alvor reservoir and one at the Western Marsh on the 24th of July rediscovered at Abicada between the 27th and 30th of December 2019.

Common Redshank *Tringa totanus*: Common passage migrant and winter visitor but in most years the species is recorded all year round. Breeding was suspected in 2014 and 2016 and confirmed in 2015. Maximum was recorded in August 1987 with 250 birds. Five birds ringed at Ria de Alvor were controlled in France, one in Norway and one in Sweden. One bird from Sweden and one from Poland were controlled at Ria de Alvor.

Marsh Sandpiper *Tringa stagnatilis*: three records: one between the 31st of August and 4th of September 1994, one on the 20th and 21st of September 1998 and one on the 3rd March 2003 at the Western Marsh.



Wood Sandpiper *Tringa glareola*: Scarce passage migrant recorded most years and every month except in June. More abundant in March-April and August to October but the species is more common in autumn (half of the sightings). It usually appears in small numbers but the maximum recorded was 51 birds at the Western Marsh in April 1994.

Spotted Redshank *Tringa erythropus*: Uncommon passage migrant and winter visitor which is not recorded every year. Regarding the months, it has been recorded every month except June. More common during autumn migration (September-October) than spring migration (March-April). A few birds may winter locally since the species has been recorded in January and February and in November and December. Maximum was recorded in April 2008 with 17 birds at the estuary. The species does not seem as common now as it used to be and has not been reported in 2018 and 2019.

Common Greenshank *Tringa nebularia*: Common non-breeding visitor sometimes present all year round. Usually recorded between January and May and July and December. Maximum was recorded in November 2004 with 56 birds. One bird ringed at Ria de Alvor was controlled in France.

Cream-colored Courser *Cursorius cursor*: One at the Alvor dunes between the 9th and 27th of March 2013.

Collared Pratincole *Glareola pratincola*: Uncommon passage migrant, not recorded every year and occurring between March and July. Most sightings (over 80%) occur in April and May. Maximum was recorded in April 2009 with 13 birds at the salt pans.

Black-legged Kittiwake *Rissa tridactyla*: one on the 11th of November 1994.

Slender-billed Gull *Chroicocephalus genei*: Rare passage migrant recorded for the first time in 1990 and seen almost every year since 2010. Recorded between March and October but the species is more often recorded in spring (80% of the sightings). There is usually one record per year except in 1994 and 2010 (two records) and 2019 (six records). Maximum was recorded in June 2019 with 25 birds at the salt pans.

Black-headed Gull *Chroicocephalus ridibundus*: Common passage migrant and winter visitor usually present every month except in May but most years the species is recorded all year round. One bird ringed in Poland was controlled at Ria de Alvor.

Little Gull *Hydrocoloeus minutus*: Rare passage migrant recorded between 1986 and 1990, in 1992, between 1995 and 1997, in 2000 and 2004. This species has been seen every month except June but seems more abundant in March and April (40% of the sightings). Maximum was recorded in April 1990 with 13 birds.



Laughing Gull *Leucophaeus atricilla*: three records: two birds (one immature at the estuary and one juvenile at the Western Marsh) on the 12th of September 1987, one adult flying over the Odiáxere river on the 19th of January 1999 and one adult at the estuary on the 3rd of February 2006.

Franklin's Gull *Leucophaeus pipixcan*: one at the saltpans on the 30th and 31st of October 2015.

Audouin's Gull *Ichthyaelus audouinii*: This species was recorded for the first time in March 1990 and has been almost annual since. It has been recorded every month of the year and the number of sightings has increased over the years. September and April are the months with most sightings. Maximum was recorded in August 1995 and February 2019 with 61 birds at the estuary. 11 birds have been controlled in the area: seven from Spain (six from Catalonia and one from the Balearic Islands) and four from Portugal.

Mediterranean Gull *Ichthyaelus melanocephalus*: Common passage migrant and wintering sometimes recorded all year round. Usually present between January and April-May and July and December. Maximum was recorded in January 2014 with 252 birds at the estuary. 11 birds have been controlled locally: four from Belgium, six from France and one from Ireland.

Mew Gull *Larus canus*: eight records in the area, the first one of a bird present between August and December 1987. Most of the sightings occur between August and December (75% of the sightings). The species was seen twice in spring.

Ring-billed Gull *Larus delawarensis*: five records: one a 2nd winter on the 5th and 6th of March 1990, one a 1st winter on the 18th of April and 2nd of May, one a 2nd winter between the 8th and 18th of August and another 2nd winter between the 7th of November and the end of 1998, all at the estuary and one adult on the 13th of August 2000 at the Western Marsh.

Great Black-backed Gull *Larus marinus*: Rare winter visitor recorded most years and every month however most sightings are between August and March. Maximum was recorded in August 1986 with four birds.

Glaucous Gull *Larus hyperboreus*: two records: one on the 20th of August 1995 and one between the 31st of January and 2nd of February 2006, both at the estuary.

Iceland Gull *Larus glaucoides*: one flying over Cruzinha on the 9th of October 1999.

European Herring Gull *Larus argentatus*: eight records between August and November but half of the sightings are concentrated in September. The species was reported at Ria de Alvor for the 1st time in October 1994. However, these data need to be looked at with caution due to the difficulties in identifying this species.



Yellow-legged Gull *Larus michahellis*: Common resident. 18 birds have been controlled in the area: one from the United Kingdom, four from Spain and 13 from Portugal (12 ringed at RIAS and one at the rubbish landfill in Portimão).

Lesser Black-backed Gull *Larus fuscus*: Common passage migrant and winter visitor however some birds, especially immatures stay all year round. 48 birds have been controlled locally: two from Belgium, three from Denmark, two from France, two from Germany, seven from the United Kingdom, five from the Channel Islands, three from Ireland, three from Norway, three from Spain, seven from Portugal and 11 from the Netherlands.

Gull-billed Tern *Gelochelidon nilotica*: Uncommon passage migrant recorded most years especially in April-May and in August. It was also recorded in January, March, July and October (one record each). Maximum was recorded in April 2011 with five birds at Alvor dunes.

Caspian Tern *Hydroprogne caspia*: Common passage migrant and winter visitor present between January and April-May and August-September and the end of the year. The species is sometimes recorded in June and July and was even present all year round in 2008. Maximum was recorded in March 1997 with 15 birds. Numbers seem to have decreased these last years with fewer than 10 birds since 2008. Two birds ringed in Sweden were controlled at Ria de Alvor.

Royal Tern *Thalasseus maximus*: three records: one on the 10th of October 1991 (1st record for Portugal), one on the 15th of August 1993 and one on the 18th of April 1996, all at the estuary.

Lesser Crested Tern *Thalasseus bengalensis*: one at the saltpans on the 23rd and 24th of June 2016.

Sandwich Tern *Thalasseus sandvicensis*: Common passage migrant and winter visitor sometimes recorded all year round, however, it is more abundant during migration. Usually present between January and May-June and August and December. Maximum was recorded during the autumn of 1986 with 185 birds.

Little Tern *Sternula albifrons*: Common summer visitor, breeding locally. Present between April and September (some sightings in October). The median arrival date is the 16th of April (min 6th, max 29th) for 24 years when the arrival date was recorded. Maximum was recorded in July 1992 with 93 birds. One bird ringed in the United Kingdom was controlled in the area.

Roseate Tern *Sterna dougallii*: three records: one in 1984 (no information about the month), one on the 8th of May 1994 over the estuary and one on the 15th of June 2019 at the saltpans.

Common Tern *Sterna hirundo*: Uncommon passage migrant recorded most years between April and December. More common in the spring (April-June) and the autumn (August-October). September is the month with more sightings. Maximum was recorded in April 1991 with 15 birds.



Arctic Tern *Sterna paradisaea*: one on the 12th of August 1988 and one on the 7th of October 1989.

Whiskered Tern *Chlidonias hybrida*: Uncommon and scarce passage migrant recorded mostly in spring (80% of the sightings), between March and May (peak in April). One record in February and another in July. Maximum was recorded in April 1987 and May 1995 with four birds.

White-winged Tern *Chlidonias leucopterus*: one on the 4th of June 1995 at the salt pans.

Black Tern *Chlidonias niger*: Uncommon passage migrant recorded between March and June (April is the month with most sightings) and between August and November. Maximum was recorded in May 1995 with 275 birds at the salt pans.

Great Skua *Stercorarius skua*: Uncommon wintering bird along the coast, recorded between December and March. Maximum was recorded in November 2011 with 13 birds seen from Meia Praia.

Pomarine Jaeger *Stercorarius pomarinus*: four records, all at the estuary: one pale bird for three weeks from the 11th of December 1987, one dark bird on the 18th of November 1988, two juveniles on the 28th of July 1989 and one juvenile on the 20th of October 1991 (this bird also flew over Cruzinha).

Parasitic Jaeger *Stercorarius parasiticus*: Scarce passage migrant along the coast recorded in January and February, April, September and October and December. October is the month with most sightings.

Long-tailed Jaeger *Stercorarius longicaudus*: one found wounded at Alvor dunes on the 6th of May and released on the 12th of May 1999.

Razorbill *Alca torda*: Uncommon wintering bird along the coast, recorded between January and April and in November and December. Usually seen from Meia Praia or Alvor dunes but sometimes seen in the estuary.

Common Loon *Gavia immer*: three records: one between the 6th and 24th of March 2010, one on the 16th and 17th of November 2017 and one on the 9th of December 2019. All seen at the estuary.

Leach's Storm Petrel *Oceanodroma leucorhoa*: Scarce winter visitor along the coast recorded in December 1996 (one weak bird found near Horta 2) and 2000 and in January 2001 from Alvor dunes. Dead birds were found at Alvor beach and Meia Praia in January 1990, January and December 1996 and March 1997, usually after storms.

Cory's Shearwater *Calonectris borealis*: Common passing bird along the coast, recorded in March and between July and November.

Manx Shearwater *Puffinus puffinus*: Recorded twice in the study area: four on the 31st of March from Alvor dunes and one dead bird found at Meia Praia in November 2011.



Balearic Shearwater *Puffinus mauretanicus*: Common passing bird along the coast, recorded almost all year round, sometimes in big numbers (263 in four hours in January 2001 from Alvor dunes).

Black Stork *Ciconia nigra*: Uncommon passage migrant, not recorded every year and occurring mostly between September and December. Most sightings occur in October (57% of the sightings). The species was recorded once in January, possibly the same bird seen the previous December and which may have spent the winter locally. Maximum was recorded in October 1994 with five birds soaring over Cruzinha.

White Stork *Ciconia ciconia*: Common species seen all year round. Some birds migrate to Africa. Numbers have increased over the years. The maximum recorded in 1986 was six birds in September; it was 40 in August 1996, 200 in August 2000, 239 in November 2013 and 277 in October 2019. The maximum ever recorded was 525 in November 2014. A total of 17 birds were controlled in the area, one from Spain and 16 from Portugal.

Northern Gannet *Morus bassanus*: Common passing and wintering bird along the coast, recorded all year round, sometimes in big numbers (406 in March 2001 from Alvor dunes).

Great Cormorant *Phalacrocorax carbo*: Common winter visitor present between January and April-May and between September (sometimes August) and December. However, some years it is present all year round. Maximum number was recorded in December 2018 with 250 birds present at the estuary. One bird ringed in the Netherlands was controlled at Ria de Alvor.

European Shag *Phalacrocorax aristotelis*: three records in the study area: two on the 3rd of October 1992, one on the 10th of September 1996 flying over the Western Marsh and four on the 2nd of November 2011 seen from Meia Praia.

Glossy Ibis *Plegadis falcinellus*: Uncommon non-breeding visitor recorded for the first time in 1992. It has been seen annually since 2012 when the number of sightings increased (the species was registered five months in 2012 and 11 months in 2019). Maximum was recorded in February 2019 with 124 birds at Abicada.

Eurasian Spoonbill *Platalea leucorodia*: Common winter visitor, scarcer as a summer visitor even though it is sometimes seen all year round, especially since 2012. Until 2000, numbers recorded were small and it was mostly seen on passage. Maximum was recorded in December 2019 with 45 birds at the Western Marsh. A total of 48 birds have been controlled locally: one from Denmark, eight from France, four from Germany, five from Spain and 30 from the Netherlands.

Little Bittern *Ixobrychus minutus*: three on the 20th of August and one on the 10th of September 1990, one at Cruzinha on the 14th of September 1992, one at the Western Marsh on the 29th of April 2006 and recorded at Abicada in May 2011 and 2015.



Black-crowned Night Heron *Nycticorax nycticorax*: This species is not recorded every year and sightings run between February and October with a peak in August. Many sightings refer to birds heard flying over and calling.

Squacco Heron *Ardeola ralloides*: Uncommon passage migrant recorded in April and May (80% of the sightings in May). This species sometimes stays long as a bird was present for 3 weeks in May 1988.

Western Cattle Egret *Bubulcus ibis*: Common resident.

Grey Heron *Ardea cinerea*: Common winter visitor, scarcer as a summer visitor even though it is seen all year round almost every year. Maximum numbers are usually recorded in December and January (69 in December 1991). A melanistic bird was seen in January 1997.

Purple Heron *Ardea purpurea*: Uncommon summer visitor recorded almost every year. Usually arrives in April (sometimes in March) and leaves in September-October. A couple of sightings in November. Breeding was suspected at Abicada but never proven. Maximum number was recorded in March 2019 with 19 birds in migration at the Western Marsh.

Great White Egret *Ardea alba*: This species was recorded for the 1st time in October 1990 and then only in August 1996 and November 1997. Then there is another gap of 10 years before the species is seen again in August 2008 being almost annual since. It has been recorded every month of the year except in March, May and June. October is the month with most sightings (26%).

Little Egret *Egretta garzetta*: Common resident. Maximum numbers are usually recorded in August (78 in August 2019). A melanistic bird was seen in October 2013.

Western Osprey *Pandion haliaetus*: Uncommon passage migrant and winter visitor even though it is sometimes seen all year round, recorded every year except in 1988 and 1995. The species started wintering in the area from 1996, arriving in September and leaving in March. From 2015, it has been recorded during summer months and was even present all year in 2018. From 2011, at least two birds have been wintering locally. Three birds were seen at the end of November and beginning of December 2015.

Black-winged Kite *Elanus caeruleus*: Uncommon resident recorded for the first time in January 1991 and then in September 1994, October and November 1998, October and November 1999 and in September 2004. Since then it has been annual. Until 2007, it was mainly a winter visitor, present in January and February and between September and November. Then, it was recorded every month of the year and breeding was confirmed at Abicada in 2007 and at Quinta da Rocha in 2013.

Egyptian Vulture *Neophron percnopterus*: Scarce passage migrant recorded 12 times in the area. All sightings except one (in May 1993) were during the autumn when the species is recorded between August and November with a peak in September (almost half of the sightings).



European Honey Buzzard *Pernis apivorus*: Uncommon passage migrant not recorded every year. Autumn passage, with 83% of the sightings is more marked than spring passage. In spring, birds have been recorded in March (once) and May (twice). Post-breeding migration starts in August but almost half of the birds are recorded in September, the rest in October and November. This species passes in small numbers as the maximum ever recorded were three birds in October 1989.

Griffon Vulture *Gyps fulvus*: Uncommon passage migrant, not recorded every year and occurring mostly in October and November (70% of the sightings), sometimes in huge numbers. The maximum number was a flock of 460 birds in October 2018 flying eastwards over Quinta da Rocha. The species has also been recorded in January (twice), March (once), June (once), August (three times) and December (once), usually involving only one bird.

Cinereous Vulture *Aegypius monachus*: four records: one on the 24th of November 2007, one on the 23rd of October 2010, one on the 19th of November 2013, both over Cruzinha and one over the Western Marsh on the 31st of March 2016.

Short-toed Snake Eagle *Circaetus gallicus*: Uncommon summer visitor recorded every year. Most birds arrive in March and leave in September. However, some birds overwinter in the area as the species has been recorded between November and February. Maximum was recorded in July 2014 with four birds flying together by the Western Marsh, possibly two local pairs.

Booted Eagle *Hieraetus pennatus*: An uncommon species recorded every year and that can be seen all year round. Some birds winter locally as December and January register 15% of the sightings. In spring, most sightings are from February and March. Autumn passage, with more than half of the sightings, is more marked than spring passage. During the autumn, the number of sightings increase in September, peaks in October (21% of the sightings) and decreases slightly in November. Post-breeding migration starts in July but almost half of the birds are recorded in August, the rest in September and October. Maximum was recorded on the 3rd of October 2013 with 77 birds (58 pale and 19 dark) flying over Cruzinha.

Spanish Imperial Eagle *Aquila adalberti*: two records: one on the 22nd and 23rd of May 1991 over the Western Marsh and one on the 1st of September 2011 at Abicada.

Bonelli's Eagle *Aquila fasciata*: The species was recorded for the 1st time on the 19th of January 1992 with two birds. Then, it was recorded five more times between March and November which is the month with most sightings (50% of the records). The age of the five birds was documented: one was juvenile, three immature and one adult.

Eurasian Sparrowhawk *Accipiter nisus*: Uncommon passage migrant and winter visitor. Most sightings occur between August and December (peak in October and November with a third of the sightings)



and a few others between January and March. The months of April to July only register a sighting each. Most records refer to only one bird.

Northern Goshawk *Accipiter gentilis*: three records, all during the autumn: one immature over Quinta da Rocha on the 8th of October 1990, one over the Eastern Marsh on the 28th of September 1995 and one on the 13th of September 2011.

Western Marsh Harrier *Circus aeruginosus*: Until the end of the 90's, the species was only recorded in winter. Now, it is a common resident breeding at Abicada.

Hen Harrier *Circus cyaneus*: Scarce winter visitor not recorded every year. Usually present between September and March. It has been recorded once in April and May.

Montagu's Harrier *Circus pygargus*: Uncommon passage migrant recorded between March and October with peaks in May and September.

Red Kite *Milvus milvus*: Uncommon passage migrant and winter visitor, recorded between July and January. August is the month with most sightings (55% of the records). The highest number were three birds in November 2011 flying over Cruzinha.

Black Kite *Milvus migrans*: Passage migrant recorded almost every year. Autumn passage, with 66% of the sightings is more marked than spring passage. In spring, most sightings are from April and May (23 sightings in 25), the others in March and June. Post-breeding migration starts in July but almost half of the birds are recorded in August, the rest in September and October. Birds recorded in November or December could be wintering birds. Maximum was recorded in August 2018 with 29 birds flying over Cruzinha.

Common Buzzard *Buteo buteo*: Common winter visitor. Recorded every month of the year except July. Usually present between September and April. Maximum was recorded in October 1992 with eight birds over Quinta da Rocha.

Western Barn Owl *Tyto alba*: Uncommon resident. The species bred at Cruzinha between 1998 and 2003. It may still breed locally.

Eurasian Scops Owl *Otus scops*: Uncommon passage migrant recorded between March and June (most records in April and May) and August and October (peak in September). It was recorded once in December.

Eurasian Eagle-Owl *Bubo bubo*: three records: one on the 2nd and 26th of August 2002, one on the 28th of April and 1st of May 2003, all in the pinewood of Quinta da Rocha and one found wounded at Vale de Lama by the fish farms on the 15th of May 2013.



Tawny Owl *Strix aluco*: This species is not recorded every year and sightings run between February and June and between September and November.

Little Owl *Athene noctua*: Common resident breeding in the area. In 2005 a survey acknowledged 17 territories held around Quinta da Rocha peninsula.

Long-eared Owl *Asio otus*: two records: one on the 17th of April 1992 ringed at Quinta da Rocha and one on the 4th and 7th of December 1995 at Cruzinha.

Short-eared Owl *Asio flammeus*: Uncommon winter visitor recorded for the first time in 1988 and present almost every year. Usually present between January and March (sometimes April) and between October and December. It was recorded once in September. Highest number was recorded during the winter 2015-16 with four birds at the Western Marsh.

Eurasian Hoopoe *Upupa epops*: Common resident. The local birds are joined by northern birds in winter. Maximum number was recorded in 1999 with 21 birds at a time during the autumn.

European Roller *Coracias garrulus*: Scarce passage migrant recorded 14 times in the area in April and May and between August and September.

Common Kingfisher *Alcedo atthis*: Common winter visitor sometimes recorded all year round, but usually present every month except April and May. One of the birds ringed at Cruzinha was controlled in Portugal (Vilamoura).

European Bee-eater *Merops apiaster*: Common summer visitor, breeding locally. Present between late March and September (some sightings in October). Over the last 24 years, when the arrival date has been recorded, the median arrival date is the 28th of March (min 4th of February, max 11th of May).

Eurasian Wryneck *Jynx torquilla*: Uncommon passage migrant recorded most years. Recorded between March and May and August and November. The species is recorded more during the autumn (more than 80% of the sightings), especially in September and October (67% of the sightings). One bird ringed at Cruzinha was controlled in Germany.

Lesser Spotted Woodpecker *Dryobates minor*: Uncommon resident recorded for the first time in 2004 and annual since then.

Great Spotted Woodpecker *Dendrocopos major*: Common resident. Until the end of the 90's the species was mostly recorded in July and August. The number of records seems to have dropped a bit afterwards but since 2011, the species is seen all year round.

Iberian Green Woodpecker *Picus sharpei*: Uncommon resident sometimes recorded all year round. Most records are between March and August.



Lesser Kestrel *Falco naumanni*: Scarce passage migrant recorded 11 times in the area. More common during autumn migration (August-October) with eight sightings (five in October). Also recorded during spring migration (March-May, one sighting per month).

Common Kestrel *Falco tinnunculus*: Common resident breeding locally.

Red-footed Falcon *Falco vespertinus*: three records: one adult male on the 2nd of May and one female/juvenile on the 12th of October 1990 and two (one male and one female) on the 14th of May 2015 at Abicada (part of a large influx in Western Europe).

Eleonora's Falcon *Falco eleonora*: This species was recorded seven times between June and September. The first sighting in the area was a bird on the 11th of June 1988. Five of these records occurred in 1990. Then there is a gap of 22 years until the last 2 records, in 2012. September is the month with most sightings (42%).

Merlin *Falco columbarius*: Scarce winter visitor recorded 11 times: between January and March (three sightings) and October and December (eight sightings, five of them in October, between the 18th and 21st). All these sightings were of a single bird.

Eurasian Hobby *Falco subbuteo*: Uncommon passage migrant not recorded every year and occurring during both migrations almost in equal proportion. In spring, most sightings are from May (also recorded in April and June). During the autumn, the species is seen between August (a third of the sightings) and November with a peak in October. All records involve only one bird.

Peregrine Falcon *Falco peregrinus*: Uncommon resident recorded every year and usually all year round. Some of the sightings probably refer to birds breeding on the cliffs near Alvor.

Iberian Grey Shrike *Lanius meridionalis*: Uncommon winter visitor or resident, recorded every month of the year but more common in January and February and between June and December. October is the month with the most sightings. Possibly breeding locally.

Woodchat Shrike *Lanius senator*: Common summer visitor, breeding locally. Present between March (sometimes February) and September (sometimes October). Has declined over the last years; Maximum was recorded in April 1995 with 80 birds migrating.

Eurasian Golden Oriole *Oriolus oriolus*: Uncommon summer visitor, probably breeding locally. Present between April (sometimes March) and September (sometimes October).

Eurasian Jay *Garrulus glandarius*: The species was recorded 14 times locally between June and November with a peak in October.



Iberian Magpie *Cyanopica cooki*: Common resident breeding locally. Recorded in the area for the first time in 1987 (in April and October). The number of sightings increased and the species was recorded for the first time all year round in 1998. Nowadays, flocks of over 100 birds can be seen.

Eurasian Magpie *Pica pica*: Scarce resident recorded for the first time in 1989 and then only in 1997 and 2004. Since 2011 the species has been recorded every year and every month except June. March is the month with most sightings. Maximum was recorded in April 2015 with four birds by the Western Marsh.

Western Jackdaw *Coloeus monedula*: Uncommon resident. The species used to be recorded all year round until 1997. Then, the number of records dropped and the species is nowadays recorded mostly between January and April and between September and December (but there are records during other months too). The maximum number of birds recorded also points to a decline: in 1986, a flock of 150 was seen in September, the maximum was 70 in February 2001, 43 in December 2011 and eight in December 2018. This decrease is probably linked with the reduction in number of birds breeding on the nearby cliffs of Ponta da Piedade (Lagos).

Carrion Crow *Corvus corone*: Scarce species recorded 11 times in the area. Most sightings occurred between August and November (seven sightings) but January is the month with most sightings (three) and the species was recorded once in April. Maximum was recorded in August 1986 with four birds at Quinta da Rocha.

Northern Raven *Corvus corax*: Uncommon resident not recorded every year. Before 2017, the species was recorded between January and April (peak in April) and between August and December. Since 2017, two birds have been recorded all year round locally without any evidence of breeding. Maximum was recorded in September 2010 with seven birds over Quinta da Rocha.

Eurasian Blue Tit *Cyanistes caeruleus*: Uncommon resident breeding locally.

Great Tit *Parus major*: Common resident breeding locally.

Eurasian Penduline Tit *Remiz pendulinus*: Scarce winter visitor not recorded every year. Present in January and February and between October and December. It was recorded once in May. Maximum was recorded in January and February 1988 with a flock of six birds wintering at the Eastern Marsh. One bird ringed at Cruzinha was controlled at Sargaçal (Lagos).

Woodlark *Lullula arborea*: Uncommon winter visitor seen most years. Recorded between January and March and September and December with a peak in October and November (40% of the sightings). Also recorded between April and August (one sighting per month). The species was recorded every year until 2001 and then only in four years between 2002 and 2019.



Eurasian Skylark *Alauda arvensis*: Common winter visitor. Present between January and March, sometimes April and October and the end of the year. Maximum was recorded in November 1996 with about 200 birds around Quinta da Rocha.

Thekla's Lark *Galerida theklæ*: four records: one on September 13th, 1994, one on the 20th of August 1998, both ringed at Cruzinha, one on the 20th of November 2005 and one on the 25th of August 2007, both at Quinta da Rocha.

Crested Lark *Galerida cristata*: Common resident breeding in the area.

Greater Short-toed Lark *Calandrella brachydactyla*: Uncommon summer visitor. Present between March and September-October. Breeding at Alvor dunes and used to breed at the Western Marsh. Maximum was recorded in April 1988 with 21 singing males.

Calandra Lark *Melanocorypha calandra*: three records: one on the 20th of February 1987, one on the 1st of July 1988 and one on the 5th of June 2009.

Lesser Short-toed Lark *Alaudala rufescens*: one on the 22nd of April 1988.

Sand Martin *Riparia riparia*: Uncommon passage migrant. Recorded every month of the year except in January. Most sightings occur in spring (between February and April) and autumn (between August and October). September is the month with most sightings. Maximum was recorded in September 1994 with 19 birds.

Barn Swallow *Hirundo rustica*: Common summer visitor, breeding locally. Sometimes recorded all year round but usually present between January and November (some sightings in December). One bird ringed at Cruzinha was controlled in Nigeria.

Eurasian Crag Martin *Ptyonoprogne rupestris*: Common winter visitor. Present between January and March and October (sometimes September) and the end of the year. Maximum was recorded in November 1996 with about 200 birds around Quinta da Rocha.

Common House Martin *Delichon urbicum*: Common summer visitor. Sometimes recorded all year round but usually present between January and October. Recorded twice in November and 3 times in December. An albino individual was seen at the Western Marsh in August 2013.

Red-rumped Swallow *Cecropis daurica*: Common summer visitor, breeding locally. Present between February (one sighting in January) and October (sometimes recorded in November and December). This species used to be scarce and has become more common from the 2nd half of the 1990's. It bred for the 1st time at Cruzinha in 2012 and since then has done so every year.

Cetti's Warbler *Cettia cetti*: Scarce resident present mostly at Abicada but sometimes recorded at Cruzinha or Horta 2. One bird ringed at Ria de Alvor was controlled at Sargaçal.



Long-tailed Tit *Aegithalos caudatus*: Uncommon passage migrant and winter visitor not recorded every year. Present in January and between September and December (peak in October).

Wood Warbler *Phylloscopus sibilatrix*: Five records, all during spring and at Cruzinha (half of them during ringing activities): one on the 1st of May 1994, one on the 5th of May 1995, one seen on the 19th of April and two (same bird?) caught on the 1st of May 2008 and one on the 29th of April 2010.

Western Bonelli's Warbler *Phylloscopus bonelli*: Uncommon passage migrant recorded every month between March and October. Most records are from the post-breeding period with a peak in September.

Yellow-browed Warbler *Phylloscopus inornatus*: Rare passage migrant documented for the first time in 1988. The species has been recorded 23 times, all in the autumn, except a bird staying at Cruzinha garden between the 8th and 23rd of April 2015. Most sightings (65%) occur in October, the others in November. There is a record of a bird in December 1995 at Mexilhoeira Grande. Several birds stayed in the area several days. The longest one was the bird in April 2015 (15 days). Two others remained six days (in October 2009 and November 2014) and one stayed 11 days in October 2013. Most records are birds caught during ringing.

Dusky Warbler *Phylloscopus fuscatu*s: two records, both during ringing activities: one on the 1st and 2nd of November 1994 at Quinta da Rocha and one on the 23rd of October 1995 at Cruzinha.

Willow Warbler *Phylloscopus trochilus*: Common passage migrant. Most records are from the post-breeding period, between July and November, peaking in September and October. In spring, the species has been recorded between March and May, with a peak in April. Two birds ringed at Cruzinha were controlled in Germany and Denmark. One bird ringed in the United Kingdom and one ringed in Norway were controlled at Cruzinha.

Common Chiffchaff *Phylloscopus collybita*: Common winter visitor recorded every month of the year but usually present between August and April. Some records from 1980 and 1990 may refer to Iberian Chiffchaff, still considered as a subspecies at that time. 10 birds have been controlled at Cruzinha: two from Belgium, two from France, five from the United Kingdom and one from the Netherlands. Eight birds ringed at Cruzinha have been controlled abroad: one in Portugal, one in Ireland, one in Spain, one in the Netherlands, three in France and one in the United Kingdom.

Iberian Chiffchaff *Phylloscopus ibericus*: Scarce passage migrant not recorded every year. Most records are from the post-breeding period, between August and October, peaking in August (half of the autumn sightings and a third of all sightings). In spring, the species has been recorded between February and May, with a peak in April.



Great Reed Warbler *Acrocephalus arundinaceus*: Rare passage migrant recorded between March and October. It was annual between 1990 and 1994 and bred in the area between 1990 and 1992. There has been only one sighting since 1994.

Moustached Warbler *Acrocephalus melanopogon*: one on the 5th of December and two between the 6th and 8th of December 2018, all at Abicada.

Aquatic Warbler *Acrocephalus paludicola*: three records: one on the 22nd of August and one on the 20th of September 1990, both ringed at Abicada and one on the 12th of October 2006.

Sedge Warbler *Acrocephalus schoenobaenus*: Uncommon passage migrant. Most records are from the post-breeding period, between August and October, peaking in September. In spring, the species has been recorded in March and April. One bird ringed at Cruzinha was controlled in the United Kingdom. Five birds were controlled at Cruzinha: one from Belgium, one from France, one from the United Kingdom and one from Sweden.

Paddyfield Warbler *Acrocephalus agricola*: one caught at Quinta da Rocha during ringing activities on the 12th of November 1993, 1st record for Iberia.

Eurasian Reed Warbler *Acrocephalus scirpaceus*: Common summer visitor and passage migrant recorded between March and November with a peak in May, September and October. It probably breeds in small numbers in the reedbed at Abicada. 40 birds were controlled: 15 from Belgium, one from Finland, two from France, one from Germany, nine from the United Kingdom, three from the Netherlands, three from Norway, one from Poland and five from Sweden. Birds ringed locally were controlled in Germany (one), Belgium (three), Russia (one) and the United Kingdom (three).

Western Olivaceous Warbler *Iduna opaca*: two records: one at the Eastern Marsh on the 11th of September 1997 and one ringed at Cruzinha on the 5th of May 2016.

Melodious Warbler *Hippolais polyglotta*: Common passage migrant. Present between April and October and breeding locally until the beginning of the 2000's. Then, spring records dropped and the species has only been registered between July and September (sometimes October).

Icterine Warbler *Hippolais icterina*: two records, both in 1997 at Cruzinha during ringing activities: one on the 11th of September (1st record for Portugal) and one on the 2nd of October.

Savi's Warbler *Locustella luscinioides*: Scarce summer visitor. It was first recorded once in October 1983, during migration. The second record was in May (the month with most records) of 1990 and then in April 1995. The species has been annual since 2015 and present between March and June. They are possibly breeding at Abicada, with a maximum of three males singing in 2018.



Common Grasshopper Warbler *Locustella naevia*: Uncommon passage migrant not recorded every year. Most records (90%) are from the autumn when the species is registered between August and October. In spring, the species passes between March and May.

Zitting Cisticola *Cisticola juncidis*: Common resident breeding in the area.

Eurasian Blackcap *Sylvia atricapilla*: Common winter visitor recorded every month of the year and sometimes all year round. Usually present between January and May, then again in September and December. It bred in the area several years in a row at the end of the 1990's. The ringing at Cruzinha has produced 29 birds controlled: 15 from Belgium, four from France, nine from the United Kingdom and one from Sweden. From the birds ringed at Cruzinha, 21 have been controlled abroad: two in Germany, five in France, one in Morocco, three in Belgium, three in Portugal, five in the United Kingdom and two in Spain.

Garden Warbler *Sylvia borin*: Common passage migrant. Most records are from the post-breeding period, between August and November. In the spring, the species has been recorded in April and May. Recorded once in December. Three birds have been controlled at Cruzinha: two from Belgium and one from the Netherlands. Five of the birds ringed at Cruzinha have been controlled in Switzerland, the Netherlands, Denmark, Belgium and in the United Kingdom.

Western Orphean Warbler *Curruca hortensis*: Scarce passage migrant recorded eight times in the area. The species is more common in autumn (six records, five of them in September). It was recorded once in April and once in May.

Sardinian Warbler *Curruca melanocephala*: Common resident breeding locally.

Western Subalpine Warbler *Curruca iberiae*: Uncommon passage migrant recorded every month between February and November. Most records are from the post-breeding period, especially in September and October. In spring, the species is more abundant in March and April. This species has recently been split into three separate species and some birds seen during passage may be Eastern Subalpine Warblers *Curruca cantillans* (it can be hard to tell the difference in autumn and since it is a recent split, little attention was paid until recently).

Common Whitethroat *Curruca communis*: Common passage migrant. Most records are from the post-breeding period, between August and October, with a few sightings in November. In spring, the species has been recorded between March and May, with a peak in April.

Spectacled Warbler *Curruca conspicillata*: Uncommon passage migrant. More than half of the sightings occurred in spring, mostly in April. During the autumn, the species is recorded above all in September (one sighting in October).



Dartford Warbler *Curruca undata*: Scarce winter visitor usually present in January and February, (sometimes recorded until May) and again between October and December. It was recorded all year round in 1995 and bred in 1995 and 1996 on the bluffs at the end of Quinta da Rocha headland.

Common Firecrest *Regulus ignicapilla*: Uncommon winter visitor not recorded every year. Recorded every month except in August but usually present between January and March, then again in October and December.

Goldcrest *Regulus regulus*: Rare winter visitor recorded in January and February and between September and December.

Eurasian Wren *Troglodytes troglodytes*: Common resident recorded for the first time in 1992 and annual since 2002. It bred for the first time at Cruzinha in 2013 and has been more common since.

Short-toed Treecreeper *Certhia brachydactyla*: Common resident breeding locally. It was recorded for the first time in 1988 and at first most sightings were from the autumn.

Rosy Starling *Pastor roseus*: one at Quinta da Rocha between the 11th of April and 3rd of May 2012.

Common Starling *Sturnus vulgaris*: Common winter visitor present in January and February and again in October to December. Maximum was recorded in November 2019 with about 600 birds at Quinta da Rocha.

Spotless Starling *Sturnus unicolor*: Common resident breeding locally. Maximum was recorded in February 1992 with about 1000 birds over Quinta da Rocha.

Ring Ouzel *Turdus torquatus*: five records: one on the 6th of March 1989, one on the 13th of December 1990, three on the 6th of November 1995, one present between the 27th of February and 28th of March 2008 by the Western Marsh and one on the 3rd of November at Alvor Dunes.

Common Blackbird *Turdus merula*: Common resident breeding in the area. One bird ringed at Cruzinha was found dead at Lagos.

Fieldfare *Turdus pilaris*: Scarce winter visitor recorded 12 times between January and March and in December. Maximum was recorded in December 1993 with 17 birds at Quinta da Rocha.

Redwing *Turdus iliacus*: Scarce winter visitor present in January and February and between November and December. Sometimes recorded in October. Highest number was recorded in January 2018 with 14 birds at Quinta da Rocha.

Song Thrush *Turdus philomelos*: Common winter visitor present between January and April and between October and December. Recorded once in August and once in September. Three of the birds ringed at Cruzinha have been found dead elsewhere in Portugal.



Mistle Thrush *Turdus viscivorus*: Scarce winter visitor recorded 11 times in the area between January and March and between October and December. It was recorded once in July.

Rufous-tailed Scrub Robin *Cercotrichas galactotes*: This species has been recorded six times in the area and for the first time on the 3rd of May 1990. All the sightings happened between 1990 (year with half of the records) and 1997. This species has not been seen for more than 20 years now. The species was registered only once in spring, August and October, with two sightings each being the months with the most records.

Spotted Flycatcher *Muscicapa striata*: Scarce passage migrant. Most records are from the post-breeding period, between August and November, and peaking in September. In spring, the species has been recorded between March and June with a peak in May.

European Robin *Erithacus rubecula*: Common winter visitor present between January and March (sometimes April) and again in September and December. It was recorded once in May. One bird ringed at Cruzinha was controlled in France and one bird ringed in Belgium was controlled at Cruzinha.

Bluethroat *Luscinia svecica*: Common winter visitor, present between January and March (sometimes April) and between September (sometimes August) and December. Maximum was recorded in October 1996 and November 2014 with 15 birds. Two birds ringed in France were controlled locally.

Common Nightingale *Luscinia megarhynchos*: Common summer visitor and passage migrant, probably breeding in the area. Present between March and October and again with birds passing in August and September. One bird ringed in France was controlled at Cruzinha and one bird ringed at Cruzinha was found dead in France.

Red-breasted Flycatcher *Ficedula parva*: two records, both ringed in 1994: one at Quinta da Rocha on the 10th of October and one at Cruzinha on the 15th of November.

European Pied Flycatcher *Ficedula hypoleuca*: Common passage migrant. Most records are from the post-breeding period, between July and November, peaking in September and October. In spring, the species has been recorded in April and May. One bird ringed at Cruzinha was controlled in Spain and one bird ringed in Norway was controlled at Cruzinha.

Black Redstart *Phoenicurus ochruros*: Common winter visitor, recorded every month of the year (except August). Usually present between January and March (sometimes April) and October (sometimes September) and December.

Common Redstart *Phoenicurus phoenicurus*: Common passage migrant. Autumn passage is more marked than spring passage. In spring, the species passes between March and May with a peak in April. Post-breeding migration starts in August but most birds are recorded in September and



October. There are a few sightings in November. One bird ringed in Belgium was controlled at Cruzinha.

Common Rock Thrush *Monticola saxatilis*: one at Quinta da Rocha between the 8th and 10th of October 1994.

Blue Rock Thrush *Monticola solitarius*: This species was recorded for the 1st time between the 23rd and 26th of November 1994 in a field by the Western Marsh, and was seen seven times in total. Records span between February and November but more than half of the sightings were in October and November.

Whinchat *Saxicola rubetra*: Common passage migrant. Autumn passage, with 77% of the sightings, is more marked than spring passage. In spring, the species passes between March and May with a peak in April (56% of the spring records). Post-breeding migration starts in August but almost half of the birds are recorded in September, the rest in October and November. Maximum was recorded in September 1989 with 50 birds at Quinta da Rocha.

European Stonechat *Saxicola rubicola*: Common resident. Until the beginning of the 90's the species was only wintering locally. It bred for the 1st time in 1993 and started being recorded all year round in the mid 90's.

Northern Wheatear *Oenanthe oenanthe*: Common passage migrant. Autumn passage is more marked than spring passage. In spring, the species passes between March and May with a peak in April. Post-breeding migration starts in August and peaks in September and October, then finishes in November. Recorded once in December. One bird belonging to the *leucorhoa* subspecies was recorded in 1990.

Western Black-eared Wheatear *Oenanthe hispanica*: Uncommon passage migrant recorded between March and September. Most sightings are from March, April, June and July. The species was recorded once in February. It used to breed in the area but was recorded nesting for the last time in 1988. The species was recorded almost every year until 2000, and then it has been recorded only seven years between 2000 and 2019.

White-crowned Wheatear *Oenanthe leucopyga*: one individual at Cruzinha on the 25th of March 2001, 1st and only record for Portugal.

House Sparrow *Passer domesticus*: Common resident breeding locally.

Spanish Sparrow *Passer hispaniolensis*: Common winter visitor present between January and March (recorded once in April) and between October (sometimes September) and December. It was recorded for the first time in 1994 but possibly overlooked before. Maximum was recorded in October 1999 with a flock of 130 birds.



Eurasian Tree Sparrow *Passer montanus*: This species used to be a common resident breeding in the area until the end of the 1990's. Then, it was not recorded every year. The sightings, however, cover every month of the year. It possibly bred in the area again in 2018.

Rock Sparrow *Petronia petronia*: three records: one in October 1988 at Cruzinha, one on the 15th of January 2006 and one on the 6th of February 2019, both at Quinta da Rocha.

Alpine Accentor *Prunella collaris*: two at Quinta da Rocha on the 20th of March 2003.

Dunnock *Prunella modularis*: Scarce winter visitor recorded for the 1st time in November and December 1986 and a total of six sightings exist for the area. More than half of the sightings happened in November. Three of these birds were caught during ringing activities and the species has not been recorded locally since 1995.

Western Yellow Wagtail *Motacilla flava*: Common summer visitor, breeding locally. Present between March (sometime February) and October (sometimes November). Recorded once in December. Over 100 birds were recorded on migration in October 1997. The breeding birds belong to the *iberiae* subspecies, but others can be seen in the area: *flavissima* (recorded in April and September), *flava* (recorded in March and April) and *thunbergi* (recorded in April and May).

Grey Wagtail *Motacilla cinerea*: Uncommon winter visitor recorded every month of the year but usually present between January and March and between September and December. It bred at least twice in the area: in 1997 (a juvenile caught at Cruzinha) and in 2015 at Abicada.

White Wagtail *Motacilla alba*: Common winter visitor recorded every month of the year but usually present between January and April and between September and December. One bird ringed at Cruzinha was controlled in the Netherlands.

Richard's Pipit *Anthus richardi*: four records: two on the 24th of October 1988 near Cruzinha, one on the 22nd of October 2005 at Abicada, one on the 7th of October 2017 and one on the 8th of December 2019, both at Quinta da Rocha.

Tawny Pipit *Anthus campestris*: Uncommon passage migrant, not recorded every year. Autumn passage, with 73% of the sightings, is more marked than the spring passage. In the spring, most sightings are from March to April. Post-breeding migration starts in August but almost half of the birds are recorded in September and the rest in October. Maximum was recorded in October 1994 with 40 birds at Quinta da Rocha. The species was recorded every year until 2000, then it has been recorded only seven years between 2000 and 2019.

Meadow Pipit *Anthus pratensis*: Common winter visitor present between October and April.



Tree Pipit *Anthus trivialis*: Uncommon passage migrant, not recorded every year. Autumn passage, with 61% of the sightings, is more marked than spring passage. In the spring, the species passes between March and May with a peak in April (60% of the spring records). Post-breeding migration starts in August but almost half of the birds are recorded in September, the rest in October and November. Maximum was recorded during the autumn 1989 with 15 birds. One bird ringed in the United Kingdom was controlled at Cruzinha.

Olive-backed Pipit *Anthus hodgsoni*: one individual ringed at Cruzinha on the 16th of November 1994, 1st record for Iberia.

Water Pipit *Anthus spinoletta*: Common winter visitor present between October and March.

Eurasian Rock Pipit *Anthus petrosus*: Scarce winter visitor recorded six times in the area between October and February. The first sighting was a bird at the Eastern Marsh on the 26th of February 2001. All records refer to an individual bird, except on the 15th of October 2004 when two birds were seen at the Eastern.

Common Chaffinch *Fringilla coelebs*: This species used to be a common resident breeding locally until 2000. After that, the species stopped being recorded all year round. Since 2008, it is usually present between October and March. It is sometimes recorded in April and May. The controls for this species are all in Portugal: one bird ringed at Cruzinha was found in Paderne (Albufeira) and one ringed at Santo André lagoon (Alentejo) was controlled at Cruzinha.

Brambling *Fringilla montifringilla*: Scarce winter visitor recorded eight times in the area, in January and February and between October and December.

Hawfinch *Coccothraustes coccothraustes*: Uncommon passage migrant and winter visitor, recorded between September and April but not every year. Maximum was recorded in 1989 with seven birds.

Eurasian Bullfinch *Pyrrhula pyrrhula*: Rare passage migrant recorded five times: on the 24th of October 1998, in 2002, in 2017, on the 30th of October 2010 and one on the 11th of November 1993, always a single bird.

Common Rosefinch *Carpodacus erythrinus*: one ringed at Cruzinha on the 9th of November 1995, 1st record for Portugal.

European Greenfinch *Chloris chloris*: Common resident breeding locally. One bird ringed at Cruzinha was found dead at Ferragudo (Lagoa).

Common Linnet *Linaria cannabina*: Common resident breeding locally.

Red Crossbill *Loxia curvirostra*: Scarce passage migrant recorded in February, April and May and between July and December with a peak in September and October. This species is not recorded



every year and is subject to irruption leading to many sightings in some years. Maximum was recorded in September 1993 with a flock of 19 birds at Cruzinha.

European Goldfinch *Carduelis carduelis*: Common resident breeding locally.

European Serin *Serinus serinus*: Common resident breeding locally. One bird ringed at Cruzinha was controlled in Spain.

Eurasian Siskin *Spinus spinus*: Winter visitor present between January and March (recorded once in April) and between October and December. Maximum was recorded in March 1994 with a flock of 50 birds.

Snow Bunting *Plectrophenax nivalis*: two records: one female at Meia Praia between the 20th and 25th of February 1997 and one between the 18th and 29th of October 2019 at the Alvor dunes.

Corn Bunting *Emberiza calandra*: Common resident breeding in the area.

Rock Bunting *Emberiza cia*: one individual on the 24th of November 1989.

Ortolan Bunting *Emberiza hortulana*: Uncommon passage migrant not recorded every year. Most records are from the post-breeding period, in September and October (80% of the sightings). In spring, the species has been recorded between March and May, with a peak in April (60% of the spring sightings). One bird ringed at Cruzinha was found dead in Spain.

Cirl Bunting *Emberiza cirlus*: one bird on the 27th of January 2016 at the Odiáxere salt pans.

Rustic Bunting *Emberiza rustica*: one bird by the Western Marsh on the 12th of November 1990, 1st record for Portugal.

Common Reed Bunting *Emberiza schoeniclus*: Uncommon winter visitor present between January and March (one sighting in April) and between October and December. Usually present in small numbers (one to three individuals) but a maximum of 20 was recorded roosting in January 1997. One bird ringed at Cruzinha was found dead in Spain.



Category C

Scaly-breasted Munia *Lonchura punctulata*: four records: a family group in September and juveniles in November 1999 and recorded in September and November 2000, all records at Cruzinha.

Common Waxbill *Estrilda astrild*: Common resident breeding in the area. One bird ringed at Abicada was controlled at Cruzinha.

Category D

Ruddy Shelduck *Tadorna ferruginea*: one male on the 22nd of April 2005.

Laughing Dove *Spilopelia senegalensis*: one record at Mexilhoeira Grande on the 5th of May 2008.

African Sacred Ibis *Threskiornis aethiopicus*: four records of possibly the same birds: three on the 12th and 21st of November, five on the 15th of December 2010 and five on the 21st of March 2011, all at the Western Marsh.

Category E

Black-necked Swan *Cygnus melancoryphus*: one bird on the 12th of August at the Western Marsh, possibly escaped from Lagos zoo.

Muscovy Duck *Cairina moschata*: one on the 27th of October at Abicada, one on the 26th of September at Montes de Alvor reservoir and one on the 4th of January flying over Quinta da Rocha.

Mandarin Duck *Aix galericulata*: two records: one on the 5th of March 2014 and one on the 3rd of April 2015, both near Cruzinha

Common Pheasant *Phasianus colchicus*: Between 1988 and 1990, some birds escaped from a farm and formed a feral population at Quinta da Rocha. Then, a bird was heard in February 1997 and another one seen in February 2018.

Barbary Dove *Streptopelia roseogrisea* var. '*risoria*': one bird in orange morph seen by the fish farms in October 2017. Escaped from captivity.



Cockatiel *Nymphicus hollandicus*: three records: one on the 4th and 5th of May 2011 at Cruzinha, one on the 9th of April 2013 flying over the Western Marsh and one on the 6th of April 2017 at Cruzinha.

Rose-ringed Parakeet *Psittacula krameri*: Recorded for the first time in 2000 and then almost every year without evidence of breeding.

Budgerigar *Melopsittacus undulatus*: two records: one at Abicada on the 12th of June 2012 and one at Cruzinha on the 27th of June 2014.

Fischer's Lovebird *Agapornis fischeri*: Recorded between 2011 and 2013.

Orange-cheeked Waxbill *Estrilda melpoda*: one bird was caught at Cruzinha on the 21st of August 1990.

Red-cheeked Cordon-bleu *Uraeginthus bengalus*: One bird was caught at Cruzinha on the 17th of September 1992.

Unconfirmed records

Corncrake *Crex crex*: two possible records, not confirmed: one on the 8th of April 1991 over the southern tip of Quinta Rocha and one on the 3rd of May 1995.

Baillon's Crake *Zapornia pusilla*: three possible records (observation of a small crake, likely a Baillon's Crake): one on the 17th of April 1987, one on the 15th of March 1990 and one on the 25th of March 1991 at the Eastern Marsh.

Long-legged Buzzard *Buteo rufinus*: possibly one bird flying over Quinta da Rocha on the 22nd of September 1996, not confirmed.

Lanner Falcon *Falco biarmicus*: three possible records, not confirmed: one on the 27th of April 1988 over the southern tip of Quinta Rocha, one on the 3rd of May 1990 and one on the 12th of October 1992 over Cruzinha.

Marsh Warbler *Acrocephalus palustris*: between 1990 and 1992, in the months of August to October, there are several records of birds caught during ringing. These birds seem to fit the species but remain unconfirmed.

Black-headed Bunting *Emberiza melanocephala*: one possible record at Quinta da Rocha on the 12th of August 1988.



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