[1] "\r\n\r\n\t\r\n\r\n\r\n \r\n \r\n \r\n Charadrius leschenaultii\r\n — Greater Sand Plover, Large Sand Plover\r\n \r\n \r\n \r\n \r\n \r\n Glossary\r\n \r\n\r\n\r\n\r\n\r\n\r\n \r\n SPRAT\r\n Profile\r\n \r\n\r\nFor information to assist regulatory considerations, refer to Policy Statements and Guidelines, the Conservation Advice, the Listing Advice and/or the Recovery Plan. \r\n\r\n\r\n\r\n\r\n \r\n EPBC Legal Status and Documents\r\n \r\n \r\n Top\r\n \r\n\r\n\r\n\r\nEPBC Act Listing Status\r\n \r\n\t \r\n\t\t\t\r\n\t\t\t Listed as Vulnerable\r\n\t\t\t \r\n\t\t\t \r\n\t\t\t\t(Date effective 05-May-2016)\r\n\t\t\t \r\n\t\t\t Listed marine\r\n\t\t\t \r\n\t\t\t \r\n\t\t\t \r\n\t\t\t\r\n\t\t\t\r\n\t\t\t Listed migratory -\r\n\t\t\t \r\n\t\t\t\tEPBC Act, \r\n\t\t\t \r\n\t\t\t\tBonn, \r\n\t\t\t \r\n\t\t\t\tCAMBA, \r\n\t\t\t \r\n\t\t\t\tJAMBA, \r\n\t\t\t \r\n\t\t\t\tROKAMBA\r\n\t\t\t \r\n\t\t\t\r\n\t\t\t\r\n\t\t\r\n\t\t\r\n\t\t\r\n\t\t\t\tUnder threatened listing assessment, due 30-Oct-2022.\r\n \r\n\t Approved Conservation Advice\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t\t \r\n\t\t \r\n\t\t\tThreatened Species Scientific Committee (2016). Conservation Advice Charadrius leschenaultii Greater sand plover. Canberra: Department of the Environment. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/877-conservation-advice-05052016.pdf. In effect under the EPBC Act from 05-May-2016.\r\n\t\t\t \r\n\t\t\t \r\n\t \t \r\n\t\t\r\n \r\n\t Listing Advice\r\n\t\t\r\n\t\t\r\n\t\t\t\r\n\t\t\t\r\n\t\t\t\tListing assessment information may be available in the approved Conservation Advice\r\n\t\t\t\r\n\t\t\r\n\t\t\r\n \r\n\t Recovery Plan Decision\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t Recovery Plan not required, approved conservation advice provides sufficient direction to implement priority actions and mitigate against key threats. Significant management and research is being undertaken at international, national, state and local levels (2/05/2016).\r\n\t\t \r\n\t \r\n\t\r\n \r\n\t Adopted/Made Recovery Plans\r\n\t\t\r\n\t\t\r\n\t \r\n\t\tThere is no adopted or made Recovery Plan for this species\r\n \r\n\t\r\n \r\n\t Adopted/Made Threat Abatement Plans\r\n\t\t\r\n\t\t\r\n\t\t\t\r\n\t\t\t\tNo Threat Abatement Plan has been identified as being relevant for this species\r\n\t\t \r\n\t\t\t\r\n \r\n\t Wildlife Conservation Plans\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t\t \r\n\t\t\tCommonwealth of Australia (2015). Wildlife Conservation Plan for Migratory Shorebirds. Canberra, ACT: Department of the Environment. Available from: http://www.environment.gov.au/biodiversity/publications/wildlife-conservation-plan-migratory-shorebirds-2016. In effect under the EPBC Act from 15-Jan-2016.\r\n\t\t\t \r\n\t\t \t\t\r\n\t\t\r\n \r\n\t Marine Bioregional Plans\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (2012). Marine bioregional plan for the North-west Marine Region. Prepared under the Environment Protection and Biodiversity Conservation Act 1999. Available from: http://www.environment.gov.au/topics/marine/marine-bioregional-plans/north-west. In effect under the EPBC Act from 27-Aug-2012.\r\n\t\t \r\n\t \r\n\t\r\n \r\n\t \r\n\t\tOther Commonwealth Documents\r\n \r\n \r\n\t\tTop\r\n \r\n\t\r\n\r\n\t\r\n\t\r\n\t Other EPBC Act Plans\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t \r\n\t \r\n\t\tEPBC Act Policy Statement 3.21 - Industry Guidelines for avoiding, assessing and mitigating impacts on EBBC Act listed migratory shorebird species (Department of the Environment, 2015) [Admin Guideline].\r\n\t\t \r\n\t \r\n\t\r\n \r\n\t Policy Statements and Guidelines\r\n\t\t\r\n\t\t\r\n\t \r\n \r\n\t National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (Department of the Environment and Energy, 2020) [Admin Guideline].\r\n\t \r\n\t \r\n\t Shorebirds - A Vulnerability Assessment for the Great Barrier Reef (Great Barrier Reef Marine Park Authority (GBRMPA), 2011) [Admin Guideline].\r\n\t \r\n\t \r\n\t\r\n \r\n\t Information Sheets\r\n\t\r\n\t\r\n\t \r\n\t \r\n\t Migratory Shorebirds of the East Asian - Australasian Flyway: Population estimates and internationally important sites (Bamford M., D. Watkins, W. Bancroft, G. Tischler & J. Wahl, 2008) [Information Sheet].\r\n\t \r\n\t \r\n\t Revision of the East Asian-Australasian Flyway Population Estimates for 37 listed Migratory Shorebird Species (Hansen, B.D., R.A. Fuller, D. Watkins, D.I. Rogers, R.S. Clemens, M. Newman, E.J. Woehler & D.R. Weller, 2016) In effect under the EPBC Act from 29-May-2017. [Information Sheet].\r\n\t \r\n\t \r\n\t\r\n \r\n\t Federal Register of Legislative Instruments\r\n\t\r\n\t\t\r\n\t\t\tMarine:Declaration under section 248 of the Environment Protection and Biodiversity Conservation Act 1999 - List of Marine Species (Commonwealth of Australia, 2000c) [Legislative Instrument]Migratory:List of Migratory Species (13/07/2000) (Commonwealth of Australia, 2000b) [Legislative Instrument]Threatened:Amendment to the lists of threatened species, threatened ecological communities and key threatening processes under sections 178, 181 and 183 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (188) (02/05/2016) (Commonwealth of Australia, 2016g) [Legislative Instrument]Wildlife Conservation Plan:Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2006r) [Legislative Instrument]Wildlife Conservation Plan:Environment Protection and Biodiversity Conservation Act 1999 - Section 285 - Instrument revoking and making a wildlife conservation plan (Commonwealth of Australia, 2016) [Legislative Instrument]\r\n \r\n\t

State Government Documents and Websites\r\n\t\r\n\t\r\n\t NSW:Greater Sand-plover - profile (NSW Department of Environment, Climate Change and Water (NSW DECCW), 2005nx) [Internet].NSW:Department of Environment and Conservation Threatened migratory shorebird habitat mapping project (NSW Department of Environment, Climate Change and Water (NSW DECCW), 2006a) [Report].NSW:Greater Sand-plover Threatened Species Information (NSW National Parks and Wildlife Service (NSW NPWS), 1999ce) [Information Sheet].NT:Threatened Species of the Northern Territory - Greater Sand Plover, Charadrius leschenaultii (Ward, S., 2012d) [Information Sheet].QLD:Shorebirds (Department of Environment and Heritage Protection (DEHP), 2013bi) [Internet].\r\n State Listing Status\r\n\t \r\n\t NSW:\r\n\t\t\t\r\n\t\t\t\tListed as Vulnerable\r\n\t\t\t\t (Biodiversity Conservation Act 2016 (New South Wales): February 2021 list)\r\n\t\t\t\t\r\n\t\t \r\n\t\t NT:\r\n\t\t\t\r\n\t\t\t\tListed as Vulnerable\r\n\t\t\t\t (Territory Parks and Wildlife Conservation Act 2000 (Northern Territory): 2012 list)\r\n\t\t\t\t\r\n\t\t \r\n\t\t QLD:\r\n\t\t\t\r\n\t\t\t\tListed as Vulnerable\r\n\t\t\t\t (Nature Conservation (Animals) Regulation 2020 (Queensland): August 2020 list)\r\n\t\t\t\t\r\n\t\t \r\n\t\t WA:\r\n\t\t\t\r\n\t\t\t\tListed as Vulnerable\r\n\t\t\t\t (Biodiversity Conservation Act 2016 (Western Australia): September 2018 list)\r\n\t\t\t\t\r\n\t\t \r\n\t\t \r\n Non-statutory Listing Status\r\n\t \r\n\t IUCN:\r\n\t\t\t\r\n\t\t\t\tListed as Least Concern\r\n\t\t\t\t (Global Status: IUCN Red List of Threatened Species: 2020.2 list)\r\n\t\t\t\t\r\n\t\t\t\r\n\t\t VIC:\r\n\t\t\t\r\n\t\t\t\tListed as Critically Endangered\r\n\t\t\t\t (Advisory List of Threatened Vertebrate Fauna in Victoria: 2013 list)\r\n\t\t\t\t\r\n\t\t\t\r\n\t\t NGO:\r\n\t\t\t\r\n\t\t\t\tListed as Vulnerable\r\n\t\t\t\t (The Action Plan for Australian Birds 2010)\r\n\t\t\t\t\r\n\t\t\t\r\n\t\t \r\n \r\n \r\n Naming\r\n \r\n \r\n Top\r\n \r\n\r\n\r\n\r\nScientific name\r\n \r\n Charadrius leschenaultii [877]\r\n \r\n Family\r\n \r\n Charadriidae:Charadriiformes:Aves:Chordata:Animalia\r\n \r\n \r\n Species author\r\n Lesson, 1826\r\n \r\n Infraspecies author\r\n \r\n Reference\r\n \r\n \r\n \r\n Distribution Map\r\n \r\n \r\n Top\r\n \r\n\r\n\r\n\r\nDistribution map\r\n \r\n \r\n\t\tThe distribution shown is generalised from the Departments Species of National Environmental Significance dataset. This is an indicative distribution map of the present distribution of the species based on best available knowledge. Some species information is withheld in line with sensitive species polices. See map caveat for more information.\r\n\r\n \r\n \r\n \r\n \r\n Illustrations\r\n \r\n \r\n Top\r\n \r\n\r\n\r\n\r\n\r\n\r\nIllustrations\r\n \r\n Google Images\r\n \r\n \r\n Other Links, Including Superseded Commonwealth Documents\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n \r\n Australian Government Department of the Environment and Heritage (AGDEH) (2006f). Wildlife Conservation Plan for Migratory Shorebirds. Canberra, ACT: Department of the Environment and Heritage. Available from: http://www.environment.gov.au/biodiversity/migratory/publications/shorebird-plan.html. In effect under the EPBC Act from 25-Feb-2006. Ceased to be in effect under the EPBC Act from 15-Jan-2016.\r\n \r\n Commonwealth of Australia (2000b). List of Migratory Species (13/07/2000). F2007B00750. Canberra: Federal Register of Legislative Instruments. Available from: http://www.comlaw.gov.au/Details/F2007B00750.\r\n \r\n Commonwealth of Australia (2000c). Declaration under section 248 of the Environment Protection and Biodiversity Conservation Act 1999 - List of Marine Species. F2008B00465. Canberra: Federal Register of Legislative Instruments. Available from: http://www.comlaw.gov.au/Details/F2008B00465.\r\n \r\n Commonwealth of Australia (2007h). Environment Protection and Biodiversity Conservation Act 1999 - Listed Migratory Species - Approval of an International Agreement. F2007L02641. Canberra: Federal Register of Legislative Instruments. Available from: http://www.comlaw.gov.au/Details/F2007L02641.\r\n \r\n Department of the Environment, Water, Heritage and the Arts (DEWHA) (2009bc). Draft background paper to EPBC Act policy statement 3.21. Canberra, DEWHA. Available from: http://www.environment.gov.au/epbc/publications/migratory-shorebirds.html.\r\n \r\n Garnett, S., J. Szabo & G. Dutson (2011). The Action Plan for Australian Birds 2010. CSIRO Publishing. Available from: http://birdsindanger.net/taxatable.\r\n \r\n \r\n\r\n\r\n\r\n\t\r\n\r\n\r\n \r\n Newsletters\r\n \r\n \r\n Top\r\n \r\n\r\n\r\n\r\n\r\n\r\nEPBC Act email updates can be received via the Communities for Communities newsletter and the EPBC Act newsletter.\r\n\r\n\r\n\r\n\r\n\r\n \r\n Caveat\r\n \r\n \r\n Top\r\n \r\n\r\n\r\n\r\n\r\nThis database is designed to provide statutory, biological and ecological\r\ninformation on species and ecological communities, migratory species, marine\r\nspecies, and species and species products subject to international trade and\r\ncommercial use protected under the Environment Protection and Biodiversity\r\nConservation Act 1999 (the EPBC\r\nAct). It has been compiled from a range of sources including\r\nlisting advice, recovery plans, published literature and individual experts.\r\nWhile reasonable efforts have been made to ensure the accuracy of the\r\ninformation, no guarantee is given, nor responsibility taken, by the\r\nCommonwealth for its accuracy, currency or completeness. The Commonwealth\r\ndoes not accept

any responsibility for any loss or damage that may be\r\noccasioned directly or indirectly through the use of, or reliance on, the\r\ninformation contained in this database. The information contained in this\r\ndatabase does not necessarily represent the views of the Commonwealth. This\r\ndatabase is not intended to be a complete source of information on the\r\nmatters it deals with. Individuals and organisations should consider all the\r\navailable information, including that available from other sources, in\r\ndeciding whether there is a need to make a referral or apply for a permit or\r\nexemption under the EPBC\r\nAct.\r\n\r\n\r\nCitation: Department of the Environment\r\n(2022).\r\nCharadrius leschenaultii in Species Profile and Threats Database,\r\nDepartment of the Environment,\r\nCanberra.\r\nAvailable from:\r\nhttps://www.environment.gov.au/sprat.\r\nAccessed Tue, 18 Jan 2022 20:51:42 +1100.\r\n\r\n\r\n\r\n\r\nWhere available the sections below provide a biological profile for the species. Biological profiles vary in age and content across species, some are no longer being updated and are retained as archival content. These profiles are still displayed as they contain valuable information for many species. The Profile Update section below indicates when the biological profile was last updated for some species. For information to assist regulatory considerations, please refer to Conservation Advice, the Recovery Plan, Policy Statements and Guidelines.\r\n\r\n\r\n\r\n \r\n \r\n \r\n Australian and State/Territory Government Legal Status\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Western Australia: At the subspecies level, Charadrius leschenaultii leschenaultii is listed as Vulnerable under the Wildlife Conservation Act 1950.\n\r\n \r\n \r\n \r\n \r\n Taxonomy\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Scientific Name: Charadrius leschenaultii\nCommon Name: Greater Sand Plover\nOther names: Great, Large or Large-billed Dotterel, Sand-Dotterel, Sand Plover, Geoffroy's Plover, Sandplover (Dement'ev & Gladkov 1951; Marchant & Higgins 1993).\nThe Greater Sand Plover is a conventionally accepted species (Christidis & Boles 1994, 2008; Marchant & Higgins 1993). There are three subspecies:\nnominate subspecies leschenaultii, which breeds in the northern parts of the Gobi Desert in Mongolia and in north-western China, and winters in Australasia, South-East Asia and the Indian subcontinent subspecies columbinus, which breeds in the Middle East, southern Afghanistan and Azerbaijan, and winters in the Red Sea, Gulf of Aden and the south-eastern shores of the Mediterranean Sea subspecies crassirostris, which breeds from Transcaspia, east to south-eastern Kazakhstan and winters along the coasts of eastern and southern Africa (Marchant & Higgins 1993; Urban et al. 1986; Wiersma 1996).\r\n \r\n \r\n \r\n Description\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n The Greater Sand Plover is a medium-sized (length: 22\u009625 cm; weight 75\u0096100 g) brown-and-white plover. Sexes differ when in breeding plumage, but are inseparable when in non-breeding plumage; juveniles are also separable from adults (Marchant & Higgins 1993; Stewart et al. 2007). \nIn breeding plumage, the male has a grey-brown crown and nape with a pale chestnut tinge, and a chestnut hindneck and sides of neck; the rest of the upperparts are pale grey-brown, with rufous edges to the feathers which impart a slightly scaled appearance, white sides of the rump and uppertail-coverts, and the tail has a blackish-brown subterminal band. In flight the upperwings feature blackish flight feathers and primary coverts with a narrow white trailing edge to the innerwing and a prominent white wing-bar; the inner wing coverts are grey brown, concolorous with most of the upperparts. The face has a black band across the upper forehead, and is white on the lower forehead; a black stripe runs back from the bill, widening to form a black mask across the eyes and ear coverts, and joins the narrow black band on the upper forehead. The chin and throat are white, bordered by the chestnut of the sides of the neck; there is a broad chestnut band across the upper breast (concolorous with the sides of the neck), and this sometimes has a narrow dark band on its upper edge; the rest of the underparts are white. The underwing is white with a narrow, dusky trailing edge. The bill is black; the eyes dark brown; and the legs and feet are pale greenish grey. The female appears similar except that the mask and the frontal band is dark grey-brown, not black; the chestnut of the crown, nape and neck are paler than the male; and there is never a black margin to the breast band (Marchant & Higgins 1993; Stewart et al. 2007).\nIn non-breeding plumage, birds differ from breeding plumage by lacking black and chestnut plumage, being replaced by grey-brown; and they develop a broad white supercilium, concolorous with the white forehead (Marchant & Higgins 1993; Stewart et al. 2007).\nJuvenile birds appear similar to non-breeding adults, but the feathers of the upperparts have narrow buff fringes and indistinct dark streaking and subterminal bands, and there may be a buff tinge to the face, and grey-brown patches at the sides of the breast, extending as a wash across the breast in some (Marchant & Higgins 1993).\nThe Greater Sand Plover is gregarious during the non-breeding season, when it occurs in flocks, sometimes comprising up to several hundred birds, often with other shorebirds, especially the Lesser Sand Plover (Charadrius mongolus), though the two species usually remain segregated when roosting with one another (Marchant & Higgins 1993; Stewart et al. 2007).\n\r\n \r\n \r\n \r\n \r\n Australian Distribution\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n In Australia, the Greater Sand Plover occurs in coastal areas in all

states, though the greatest numbers occur in northern Australia, especially the north-west (Marchant & Higgins 1993; Minton et al. 2006). In northern Australia, the species is especially widespread between North West Cape and Roebuck Bay in Western Australia (Barrett et al. 2003; Blakers et al. 1984; Lane 1987; Storr 1980, 1987); there are sparsely scattered records from the largely inaccessible area between Roebuck Bay and Darwin, but it often occurs in the Top End of the Northern Territory, including on Groote Eylandt (Barrett et al. 2003; Blakers et al. 1984; Chatto 2003; Goodfellow 2001; Noske & Brennan 2002; Storr 1977). It is also abundant in south-eastern parts of the Gulf of Carpentaria in Queensland, and is widespread from the Torres Strait, along the eastern coast, into the Northern Rivers region of northern NSW, with occasional records south to about Shoalhaven Heads (Barrett et al. 2003; Blakers et al. 1984; Garnett 1986, 1989; Lane 1987; Morris et al. 1981). In southern Australia it is mostly recorded in Corner Inlet, Western Port and Port Phillip Bay in Victoria; small numbers occur in Tasmania in most years; and in South Australia, the species is mostly recorded in The Coorong, Gulf St Vincent and Spencer Gulf, as well as on the Eyre Peninsula, west to about Streaky Bay. It also occasionally occurs along the coast of southern Western Australia (Barrett et al. 2003; Blakers et al. 1984; Emison et al. 1987; Jaensch et al. 1988; Lane 1987; Storr 1987). There are occasional inland records (e.g. Anon. 1984; Jaensch 1989a; Robinson 1984). The species is also recorded on some outlying islands in the Indian Ocean, for example, Ashmore Reef, Cocos-Keeling and Christmas Islands (Gibson-Hill 1947, 1949b, 1950c; Swann 2005) and the Pacific Ocean (Lord Howe Island; McAllan et al. 2004) as well as New Zealand (Marchant & Higgins 1993).\nInternationally important sites in Australia and maximum counts include:\nEighty Mile Beach, Western Australia, 64 584 birds\n Roebuck Bay, Western Australia, 26 900\n south-eastern corner of Gulf of Carpentaria, Queenland, 4160\n Ashmore Reef, Western Australia, 1196\n Darwin area, Northern Territory, 1024 (Watkins 1993; Minton et al. 2003; Swan 2005). There are no published estimates of the extent of occurrence of the Greater Sand Plover in Australia. The estimated global extent of occurrence is 100 000\u00961 000 000 km² (Birdlife International 2007c).\nThe area of occupancy of the Greater Sand Plover in Australia has been estimated at 35 600 km².\nThe species occurs at numerous and widespread sites in Australia, especially along the north coast.\nThere are no current captive populations of this species and none have been reintroduced into the wild.\n\r\n \r\n \r\n \r\n \r\n Global Distribution\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Breeding distribution\nGreater Sand Plovers breed in central Asia: in the northern Gobi Desert of Mongolia and adjacent areas of southern Siberia (south of Lake Baikal in the Altai Mountains, Tuva Republic); north-western China in western Sinkiang Province, in the deserts surrounding the Tien Shan Mountains; from south-eastern Kazakhstan west to the Aral Sea and the eastern shores of the Caspian Sea, and south to Afghanistan; and at scattered sites from Azerbaijan, west into Turkey and south through Syria to Jordan (Aspinall 2005; Belik 1981; Bottema 1987; Cramp & Simmons 1983; de Schauensee 1984; Wiersma 1996). Breeding has been incorrectly reported from eastern Asia, including Japan, Taiwan and Hainan (Marchant & Higgins 1993).\nOn passage\nThe migratory route of the Greater Sand Plover is more westerly than other shorebirds that visit Australia (Minton et al. 2002a, 2002b, 2004). When on migration, the species has been recorded only in small numbers on passage in eastern Asia, including eastern and south-eastern China (including Hong Kong), Taiwan and Vietnam (Barter 2002; Chalmers 1986; Chiang & Liu 2005; de Schauensee 1984; Ma et al. 2006; Minton 2006; Minton et al. 2005, 2006), with records of very small numbers or vagrants further east on the Korean Peninsula and in Japan (Gore & Won 1971; Moores 2006; Orn. Soc. Japan 2000). Many are, however, recorded on passage through South-East Asia, for example the Philippines, the Malay Peninsula and Indonesia (Crossland et al. 2006; Dickinson et al. 1991; Glenister 1974; Smythies 1981; Wells 1999; White & Bruce 1986). Some are also recorded on passage through New Guinea (Bishop 2006). Further west, the species migrates through Bangladesh, and overland through much of southern and south-western Asia and the Middle East, as well as along the eastern coastline of Africa (Cramp et al. 1983; Islam 2006; Urban et al. 1986). \nNon-breeding distribution\nDuring the non-breeding season, the species is recorded in many coastal areas of Australia (Marchant & Higgins 1993), especially in the north, as well as islands in the south-western Pacific Ocean, including Micronesia, New Guinea, the Solomon Islands and New Zealand (Bishop 2006; Coates 1985; Hadden 2004; Marchant & Higgins 1993; Pratt et al. 1987). It is recorded in South-East Asia, including many areas where it is also recorded on passage (Dickinson et al. 1991; Smythies 1981; Van Marle & Voous 1988; Wells 1999; White & Bruce 1986) and many coastal areas of the Indian Ocean, including the Gulf of Thailand, Indian subcontinent, the shores of the Red Sea and south-eastern shores of the Mediterranean Sea, and along the eastern and southern coasts of Africa, and very occasionally inland (Cramp & Simmons 1983; Grimmett et al. 1999b; Round 2006; Urban et al. 1986). There have been vagrants recorded on oceanic islands in the Southern Ocean (Ile Amsterdam and Illes Kerguelen; Ausilio & Zotier 1989) and, in the Northern Hemisphere, in several parts of western Europe, north to Scandinavia and west to Britain (Cramp & Simmons

1983).\n\nThe total population of the species has been estimated at 200 000\u0096275 000 birds (Wiersma 1996), or 190 000\u0096360 000 (Birdlife International 2007c). It is not considered to be globally threatened (Wiersma 1996), and is classified as being of least concern (Birdlife International 2007c). Long-term trends are unknown. Numbers in Australia, which probably indicate population trends in the population of the nominate subspecies leschenaultia, have increased in regular population monitoring counts since 1995 (Harris 1995, 1996, 1997, 1999b, 2000; Skewes 2002, 2003, 2004, 2005, 2007; Wilson 2001c), and there was no change in the area of occupancy detected by Atlas surveys between the late 1970s to the early 1980s and the late 1990s to the early 2000s (Barrett et al. 2003).\nIt has been estimated that about 27\u009638% of the world's population of Greater Sand Plovers occur in Australia, and these represent about 68% of the birds present in the East Asian-Australasian Flyway (75 000 birds out of 110 000 birds in the Flyway) (Stewart et al. 2007; Wiersma 1996). The Greater Sand Plovers that occur in Australia migrate from breeding areas in the Gobi Desert in Mongolia and adjacent areas of southern Siberia and north-western China (Marchant & Higgins 1993; Stewart et al. 2007; Watkins 1993; Wiersma 1996), and would be affected by global threats.\n\r\n \r\n \r\n \r\n Surveys Conducted\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Populations in Australia are regularly surveyed during the Population Monitoring Program carried out by the Australasian Wader Studies Group, in which sites that regularly support good numbers of shorebirds are surveyed twice a year (winter and summer) in co-ordinated counts. These surveys began in 1981.\n\r\n \r\n \r\n \r\n Population Information\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n The total population is estimated to be between approximately 200 000 and 275 000 birds (Wiersma 1996) or 190 000\u0096360 000 birds (Birdlife International 2007c), comprising: nominate leschenaultii, about 125,000\u0096200,000 birds; subspecies columbinus, >10 000; and subspecies crassirostris, 65 000 (Wiersma 1996). Of these, 110 000 birds are estimated to be present in the East Asian-Australasian Flyway (Stewart et al. 2007).\nThough Greater Sand Plovers breed in a number of smaller populations (subspecies) in the Northern Hemisphere, only the nominate subspecies leschenaultii occurs in Australia, where it does not occur in smaller populations.\nLong-term trends for the entire species are unknown. Numbers in Australia, probably reflecting trends in the population of the nominate subspecies leschenaultia, have increased since 1995 according to regular Population Monitoring Counts.\nThe number of Greater Sand Plovers detected in regular Summer Population Monitoring Counts in Australia has varied greatly between years, ranging from 518 in 2001 to 38 289 in 2002 (Skewes 2002, 2003).\nThere is no published information on the generation length of the Greater Sand Plover, but they probably first breed when two years old (Wiersma 1996), and individuals can live for over 17 years (Minton et al. 2007).\nThe key population that occurs in Australia is the nominate subspecies leschenaultia, which breeds in the Gobi Desert in Mongolia, and in adjacent areas of north-western China and southern Siberia (Marchant & Higgins 1993; Wiersma 1996). Within Australia, some of the major staging areas are Roebuck Bay and Eighty Mile Beach, both near Broome, where the vast majority of birds pass through on their arrival/departure in Australia. The maintenance of this site would appear critical for the survival of the species.\nThe Greater Sand Plover is not known to hybridize with other species in the wild.\n\r\n \r\n \r\n \r\n \r\n Land Tenure of Populations\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Only one of the five known nationally important sites is within a conservation reserve: the Ashmore Reef Marine National Nature Reserve (Watkins 1993).\n\r\n \r\n \r\n \r\n \r\n Habitat\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n In the non-breeding grounds in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons (Bamford 1988; Blakers et al. 1984; Lane 1987; Sibson 1948; Stewart et al. 2007), and inshore reefs, rock platforms, small rocky islands or sand cays on coral reefs (Abbott 1982; Morris 1989; Sedgwick 1978). They are occasionally recorded on near-coastal saltworks and saltlakes, including marginal saltmarsh, and on brackish swamps (C.D.T. Minton 2002 pers.comm; Sibson 1953; Storr 1964b, 1977; Storr et al. 1986). They seldom occur at shallow freshwater wetlands (Storr 1977). Once, during a severe drought, the species was recorded in a poorly grassed paddock with large bare areas, more than 1 km from the nearest water (Eckert 1968).\n\nFeeding habitat\nGreater Sand Plovers usually feed from the surface of wet sand or mud on open intertidal flats of sheltered embayments, lagoons or estuaries (Ewart 1973; Sibson 1948; Marchant & Higgins 1993), more often on firm sandy flats than on soft muddy ones (Rogers 1999b).\nRoosting habitat\nThey usually roost on sand-spits and banks on beaches or in tidal lagoons, and occasionally on rocky points (Bamford 1988; Ewart 1973; Pegler 1983; Sibson 1948, 1953), or in adjacent areas of saltmarsh (Gosper & Holmes 2002) or claypans (Collins et al. 2001). They tend to roost further up the beach than other waders, sometimes well above high-tide mark (C.D.T Minton, 2002 pers.comm).\nBreeding habitat\nThe species does not breed in Australia. Greater Sand Plovers breed in open deserts or semi-arid areas which either support very sparse

xerophytic vegetation or are completely barren, with expanses of bare gravel, clay or salt, or occasionally in sandhills or heavily grazed plateaux (Cramp & Simmons 1983; Dement'ev & Gladkov 1951; Wiersma 1996). \n\nApproximately one day after a cyclone at Broome, Western Australia, Greater Sand Plovers were recorded in lower than expected numbers; it was thought that birds may have moved to sheltered areas to avoid the high winds and heavy rain associated with the cyclone (Jessop & Collins 2000).\n\nThe species does not rely on a listed threatened ecological community.\n\r\n \r\n \r\n \r\n \r\n Life Cycle\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n This species does not breed in Australia (Marchant & Higgins 1993). \n\nGreater Sand Plovers lay their eggs in April and May. The nest is a shallow scrape on the ground lined with a thin layer of plant material, and sometimes with intertwined twigs at the side to prevent eggs from rolling. Clutches usually comprise three eggs, though sometimes two or four, which are incubated by both parents for at least 24 days. The chicks are tended by both parents, which may split the brood between them. The chicks become independent after about 30 days (Dement'ev & Gladkov 1951; Wiersma 1996). Due to their ground-nesting habit and the precocial nature of the chicks, Greater Sand Plovers are vulnerable to predation by foxes and other predators on the breeding grounds.\n\r\n \r\n \r\n \r\n \r\n Feeding\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n During the non-breeding season, Greater Sand Plovers mostly eat molluscs, worms, crustaceans (especially small crabs and sometimes shrimps) and insects (including adults and larvae of termites, beetles, weevils, earwigs and ants) (Barker & Vestjens 1989; Jessop 2003; MacGillivray 1914; McLennan 1917; Serventy 1952a; Thomas 1986; van Tets et al. 1969, 1977). They are said to have been recorded eating lizards and plant material (Marchant & Higgins 1993); they may also eat shell grit (Hall 1974). During the breeding season they probably eat insects, including beetles and ants (Dement'ev & Gladkov 1951). \n\nThe Greater Sand Plover usually forages visually, with a running, stopping and pecking action typical of many species of plovers, gleaning the surface of the substrate or probing just below the surface (Cramp & Simmons 1983; Jessop 2003; Marchant & Higgins 1993; Rogers 1999a), though some may foot-tremble in the mud or sand to disturb prey (Keeling 1982). They have been recorded wading in water up to belly deep, occasionally putting their heads under water (Glutz von Blotzheim et al. 1975). The species often forages singly or in loose flocks, often with other waders, but tends to avoid foraging in areas where the density of foraging shorebirds is high (Rogers 1999a).\n\r\n \r\n \r\n \r\n Movement Patterns\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n The Greater Sand Plover is a migratory species, breeding in the Northern Hemisphere and flying south for the boreal winter (Cramp & Simmons 1983; Dement'ev & Gladkov 1951; Lane 1987; Marchant & Higgins 1993; Urban et al. 1986). Because the distance between the breeding grounds and the non-breeding grounds is relatively short (7500 km) it is thought that Greater Sand Plovers may make the trip with only one major stopover (Minton et al. 2006). It is often seen migrating in large flocks with Lesser Sand Plovers, (Charadrius mongolus) (Draffan et al. 1983).\nDeparture from breeding groundsThe species begins to form into flocks on the breeding grounds in mid-July in preparation for migration to non-breeding areas (Wiersma 1996).\nSouthern passageThe migratory route taken by the Greater Sand Plover is more westerly than other shorebirds that visit Australia (Minton et al. 2002a, 2002b, 2004). When on migration, the species has been recorded only in small numbers on passage through eastern and south-eastern China (including Hong Kong) and Vietnam between late July or early August and mid-November, but mainly late August and early September, and Taiwan from mid-July (Chalmers 1986; Chiang & Liu 2005; Minton et al. 2005, 2006; Wiersma 1996; Zheng et al. 2006), with records of small numbers or vagrants on passage through the Korean Peninsula and in Japan (Gore & Won 1971; Moores 2006; Orn. Soc. Japan 2000). The species is recorded in good numbers on southern passage through the Philippines (Dickinson et al. 1991), the Malay Peninsula (from early to mid-July on the west coast and from late July on the east coast) (Wells 1999) and Indonesia, for example, arriving on Sumatra and in Wallacea in early August (Van Marle & Voous 1988; White & Bruce 1986). Some are also recorded on passage in New Guinea (Bishop 2006). Further west, the species migrates overland on a broad front through much of southern and south-western Asia and the Middle East in August, as well as along the eastern coastline of Africa in late August and September (Cramp & Simmons 1983; Urban et al. 1986; Wiersma 1996). \nNon-breeding seasonAustralasia: Most records of wintering birds are from the north coast of Australia, with smaller numbers occurring along other Australian coasts, as well as in New Guinea and New Zealand (Marchant & Higgins 1993). The Greater Sand Plover is one of the first migratory waders to return to north-western Australia, usually arriving in late July (Minton et al. 2005). Some leave north-western Australia in October and November, and there is a corresponding temporary influx into the Top End of the Northern Territory in October, though these birds have left by December, and are thought to have moved south. The paucity of inland records within Australia suggests that movements to southern and eastern areas occur around the coastline rather than across the continent, and small numbers migrate through Torres Strait and south along the east coast between September and

November (Alcorn et al. 1994; Barter & Barter 1988; Draffan et al. 1983; Lane 1987; Marchant & Higgins 1993). The species begins to vacate southern coasts by March, moving north along the east coast, with influxes recorded in Queensland in late March. Birds migrate north through the Top End between late February and April, and in some years there have been two waves of migration recorded moving through there. Most Plovers have left the north-west by mid to late April (Barter & Barter 1988; Lane 1987; Marchant & Higgins 1993; Starks & Lane 1987). They are usually present in New Guinea between mid-August and early May, though mainly between late August and late April or early May (Bishop 2006; Coates 1985; Hicks 1990). In New Zealand, they mostly arrive in August or September and leave by April (Heather & Robertson 2000; Marchant & Higgins 1993).\nElsewhere in the East Asian-Australasian Flyway: Some Greater Sand Plovers spend the non-breeding season in South-East Asia, from Thailand (Malay Peninsula) and the Philippines south to Indonesia (Dickinson et al. 1991; Glenister 1974; Round 2006; Van Marle & Voous 1988; Wells 1999; White & Bruce 1986). The species also overwinters in Micronesia in small numbers (Hadden 2004). \nOther wintering grounds: Most other non-breeding areas are along the shores of the Indian Ocean, including in the Indian subcontinent and the Middle East, and especially in eastern and southern Africa (Cramp & Simmons 1983; Grimmett et al. 1999b; Urban et al. 1986; Wiersma 1996). \nNorthern passageIn the East Asian-Australasian Flyway, Greater Sand Plovers have been recorded moving through Indonesia between February and June (White & Bruce 1986) and the Malay Peninsula between early March and mid-April (Wells 1999). Further north, they are recorded passing through southern China in April and May (La Touche 1931\u009634) and Hong Kong between late March and late May (Chalmers 1986), with small numbers passing through the Yellow Sea and elsewhere in eastern China (Barter et al 2002; Ma et al. 2006). Further west, passage migrants have been recorded moving through Bangladesh between February and April (Islam 2006), and elsewhere in southern Asia, mid-April to early May (Wiersma 1996). In Africa, Plovers are recorded in passage along the eastern coast in mid-April and early May (Urban et al. 1986; Wiersma 1996).\nArrival back at breeding groundsBirds start arriving back at the breeding grounds in mid-March, with most returning in April and May (Dement'ev & Gladkov 1951; Wiersma 1996). \n\nHome ranges and territories are not maintained while the birds are in Australia.\n\r\n \r\n \r\n \r\n \r\n Survey Guidelines\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n When in Australia the species is in drab non-breeding plumage, and is often difficult to distinguish from the similar Lesser Sand Plover (Marchant & Higgins 1993). Thus, to untrained observers, Greater Sand Plovers may be difficult to detect in mixed flocks of shorebirds (Collins 1995). However, when roosting, the Greater Sand Plover tends to roost higher up the beach than other waders, segregated from Lesser Sand Plovers (Marchant & Higgins 1993; C.D.T Minton, 2002 pers. comm.), which may aid the detectability of the species.\nThe survey methods used successfully by the Australasian Wader Studies Group are twice-yearly counts of waders at 23 sites around Australia, undertaken in early February, when numbers are most stable during the non-breeding season, and again in June-July to establish the population remaining in Australia during the breeding season in the Northern Hemisphere. Summer counts are the most useful, as they occur when the birds are present in Australia in their greatest numbers. Counts are usually conducted at high-tide, when the shorebirds are roosting. This is complemented by robust banding and leg-flagging programs (Barter 1993; Minton & Lane 1984).\n\r\n \r\n \r\n \r\n Threats\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Global Threats\nThere are a number of threats that affect migratory shorebirds in the East Asian-Australasian Flyway. The greatest threat is indirect and direct habitat loss (Melville 1997). Staging areas used during migration through eastern Asia are being lost and degraded by activities which are reclaiming the mudflats for development or developing them for aquaculture (Barter 2002, 2005c; Ge et al. 2007; Round 2006). This is especially evident in the Yellow Sea, where at least 40% of intertidal areas have been reclaimed. This process is continuing at a rapid rate and may accelerate in the near future (Barter 2002, 2005c). For example, in South Korea, the Mangyeung and Dongjin River estuaries each supported 5% of the combined estimated Flyway populations (and are the most important sites for this species on both northern and southern migration) but they are currently being reclaimed as part of the Saemangeum Reclamation Project (Barter 2002, 2005c). The 33 km sea-wall across these two estuaries was completed in April 2006, resulting in significant change in the 40 100 ha area.\nReclamation is also a threat in other areas of the Flyway, such as in Malaysia (Wei et al. 2006). In addition, water regulation and diversion infrastructure in the major tributaries have resulted in the reduction of water and sediment flows (Barter 2002; Barter et al. 1998).\nMigratory shorebirds are also adversely affected by pollution, both on passage and in non-breeding areas (Harding et al. 2007; Melville 1997; Round 2006; Wei et al. 2006). Disturbance from human activities, including recreation, shellfish harvesting, fishing and aquaculture is likely to increase significantly in the future (Barter et al. 2005; Davidson & Rothwell 1993).\nIt is predicted that the rate of decrease in the intertidal area in the Yellow Sea will accelerate (Barter 2002). In addition, intensive oil exploration and

extraction, and reduction in river flows due to upstream water diversion, are other potentially significant threats in parts of China where this species is present in internationally significant numbers (Barter 2005c; Barter et al. 1998).\nGlobal warming and associated changes in sea level are likely to have a long-term impact on the breeding, staging and non-breeding grounds of migratory waders (Harding et al. 2007).\nAustralia\nWithin Australia, there are a number of threats common to most migratory shorebirds, including the Greater Sand Plover.\nLoss/modification of habitat\nThe demands of long flights make migratory shorebirds particularly susceptible to loss of, or changes to, the habitat of resting or foraging grounds along their route (DEH 2005c). Site fidelity is another feature of migratory shorebird behaviour which can compound the risk that habitat modification or loss can represent. Residential, farming, industrial and aquaculture/fishing activities represent the major cause of habitat loss or modification in Australia. Residential or other development of saltworks or land adjacent to mudflats near the outskirts of built-up areas can reduce suitable habitat for the species and increase levels of disturbance (Straw 1992a).\nIncreased silt in the water, pollution and weed or pest invasion of habitats can change the quality or quantity of food available from the sites or modify important biophysical aspects. Pollution is a particular threat as pollutants tend to accumulate and concentrate in wetlands (DEH 2005c). Excess nutrients, including from offsite, diffuse sources, can lead to eutrophication which in turn can impact on the availability of benthic prey species (Harding et al. 2007; Straw 1992a). Industrial pollution, such as in the case of accidental release, can lead to the build up of heavy metals or toxic elements in the substrate of wetlands which, in turn, can affect benthic prey fauna (DEH 2005c). Conversely, efforts to treat effluent before it is released into the greater environment may result in lower levels of bacteria and invertebrates and their larvae which constitute a major proportion of the diet of the Greater Sand Plover.\nDisturbance\nWith increasing tourist visitation and development around Broome, Western Australia, increasing levels of disturbance from human recreational activity are likely. Recreational fishing, four-wheel driving, unleashed dogs and jet-skiing may disturbe the foraging or roosting behaviour of migratory shorebirds. Migratory shorebirds are most susceptible to disturbance during daytime roosting and foraging periods (DEH 2005c). Disturbance can lead to reduced energy reserves required by the birds prior to migration.\nIntroduced Species\nIntroduced plants, such as Water Hyacinth (Eichhornia crassipes) can lead to long-term changes to the nature and biodiversity of wetlands which in turn can affect their suitability for use by migratory shorebirds (DEH 2005c). Introduced plants, such as Cord Grass Spartinia, can invade intertidal mudflats and reduce the amount of suitable foraging areas, as has already occurred in other countries (Goss-Custard & Moser 1988). Exotic marine pests may also result in the loss of benthic food sources (DEH 2005c).\nThe biological characteristic of the species which poses a key threat to its survival is that it regularly flies for thousands of kilometres over some of the most densely populated areas of the world. Pressures on natural resources in Asia, which may be vital to birds wintering in South-East Asia or possibly those migrating through that region, are highly likely to impact on the species.\n\r\n \r\n \r\n \r\n \r\n Threat Abatement and Recovery\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Governments and conservation groups have undertaken a wide range of activities relating to migratory shorebird conservation (DEH 2005c) both in Australia and in cooperation with other countries associated with the East Asian-Australasian Flyway.\nAustralia\nThe Wildlife Conservation Plan for Migratory Shorebirds (AGDEH 2006f) outlines national activities to support flyway shorebird conservation initiatives and provides a strategic framework to ensure these activities and future research and management actions are integrated and remain focused on the long-term survival of migratory shorebird populations and their habitats.\nSince 1996\u009697, the Australian Government has invested approximately $5 000 000 of Natural Heritage Trust (NHT) funding in projects contributing to migratory shorebird conservation (DEWHA 2007e). This funding has been distributed across a range of important projects, including the implementation of a nationally coordinated monitoring programme that will produce robust, long-term population data able to support the conservation and effective management of shorebirds and their habitat; migration studies using colour bands and leg flags; and development of a shorebird conservation toolkit to assist users to develop and implement shorebird conservation projects.\nBirds Australia is currently co-ordinating the Shorebirds 2020 project, which aims to monitor shorebird populations at important sites throughout Australia; and Birdlife International is identifying sites and regions which are important to various species of birds, including shorebirds, and the processes that are affecting them. The aim is to inform decisions on the management of shorebird habitat. It may be possible to rehabilitate some degraded wetlands or to create artificial wader feeding or roosting sites to replace those destroyed by development, such as by creating artificial sandflats and sand islands from dredge spoil and by building breakwaters (Dening 2005; Harding et al. 1999; Straw 1992a, 1999).\nInternational\nAustralia has played an important role in building international cooperation to conserve migratory birds. In addition to being party to international agreements on migratory species,

Australia is also a member of the Partnership for the Conservation of Migratory Waterbirds and the Sustainable Use of their Habitats in the East Asian-Australasian Flyway (Flyway Partnership), which was launched in Bogor, Indonesia on 6 November 2006. Prior to this agreement, Australia was party to the Asia-Pacific Migratory Waterbird Conservation Strategy and the Action Plan for the Conservation of Migratory Shorebirds in the East Asian-Australasian Flyway and the East Asian-Australasian Shorebird Site Network.\nThe East Asian-Australasian Flyway Site Network, which is part of the broader Flyway Partnership, promotes the identification and protection of key sites for migratory shorebirds. Australia has 17 sites in the network:\nKakadu National Park, \tNorthern Territory (1 375 940 ha)Parry Lagoons, Western Australia (36 111 ha)Thomsons Lake, Western Australia (213 ha)Moreton Bay, Queensland (113 314 ha)Hunter Estuary, NSW (2916 ha)Corner Inlet, Victoria (51 500 ha)The Coorong, Lake Alexandrina & Lake Albert, South Australia (140 500 ha)Orielton Lagoon, Tasmania (2920 ha)Logan Lagoon, Tasmania (2320 ha)Western Port, Victoria (59 297 ha)Port Phillip Bay (Western Shoreline) and Bellarine Peninsula, Victoria (16 540 ha)Shallow Inlet Marine and Coastal Park, VictoriaDiscovery Bay Coastal Park, VictoriaBowling Green Bay, QueenslandShoalwater Bay, QueenslandGreat Sandy Strait, QueenslandCurrawinya National Park, Queensland\r\n \r\n \r\n \r\n Mitigation Approach\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n There have been no mitigation measures developed specifically for this species.\n\r\n \r\n \r\n \r\n \r\n Marine Bioregional Plans\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Marine bioregional plans have been developed for four of Australia's marine regions - South-west, North-west, North and Temperate East. Marine Bioregional Plans will help improve the way decisions are made under the EPBC Act, particularly in relation to the protection of marine biodiversity and the sustainable use of our oceans and their resources by our marine-based industries. Marine Bioregional Plans improve our understanding of Australia's oceans by presenting a consolidated picture of the biophysical characteristics and diversity of marine life. They describe the marine environment and conservation values of each marine region, set out broad biodiversity objectives, identify regional priorities and outline strategies and actions to address these priorities. Click here for more information about marine bioregional plans.\nThe Greater Sand Plover has been identified as a conservation value in the North-west (DSEWPaC 2012y) Marine Region. See Schedule 2 of the North-west Marine Bioregional Plan (DSEWPaC 2012y) for regional advice. Maps of Biologically Important Areas have been developed for Greater Sand Plover in the North-west (DSEWPaC 2012y) Marine Region and may provide additional relevant information. Go to the conservation values atlas to view the locations of these Biologically Important Areas. The \"species group report card - seabirds & migratory shorebirds\" for the North-west (DSEWPaC 2012y) Marine Region provides additional information.\n\r\n \r\n \r\n \r\n \r\n Major Studies\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n The only major study which has dealt specifically with the Greater Sand Plover in Australia is Barter and Barter (1988).\n\r\n \r\n \r\n \r\n \r\n Management Documentation\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n There is a detailed summary of all that is known of the species in Australasia in Marchant and Higgins (1993), and international summaries in Cramp and Simmons (1983) and Wiersma (1996). There are also general discussions and summaries of the ecology, conservation and threats of this species and other shorebirds in Geering and colleagues (2007), Barter (2002) and Watkins (1993).\nThe Department of the Environment, Water, Heritage and the Arts (DEWHA 2008b) has prepared a draft North-West Marine Bioregional Plan: Bioregional Profile: A Description of the Ecosystems, Conservation Values and Uses of the North-West Marine Region that includes information on the Greater Sand Plover.\nThe Department's Wildlife Conservation Plan for Migratory Shorebirds (AGDEH 2006f) and The Action Plan for Australian Birds (Garnett & Crowley 2000) also contains actions aimed at the conservation of migratory birds within Australia.\n\r\n \r\n \r\n\r\n\r\n\r\n \r\n \r\n Species Profile References\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n \r\n Abbott, I. (1982). Birds recorded on 22 tropical islands of Western Australia. Corella. 6:119-122.\r\n \r\n Alcorn, M., R. Alcorn & M. Fleming (1994). 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