[1] "\r\n\r\n\t\r\n\r\n\r\n \r\n \r\n \r\n Numenius minutus\r\n — Little Curlew, Little Whimbrel\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 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 EPBC Legal Status and Documents\r\n \r\n \r\n Top\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 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\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\t\r\n\t\t\t\r\n\t\t\t\r\n\t\t\t\r\n \r\n \r\n\t\t Approved Conservation Advice\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t\t\tThere is no approved Conservation Advice for this species\r\n\t\t \t \r\n\t\t\r\n \r\n\t\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\tThere is no Listing Advice for this species\r\n\t\t\t\r\n\t\t\r\n\t\t\r\n\t\t\r\n \r\n\t\t Adopted/Made Recovery Plans\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t\t\tThere is no adopted or made Recovery Plan for this species\r\n \r\n\t\t\r\n \r\n\t\t Adopted/Made Threat Abatement Plans\r\n\t\t\r\n\t\t\r\n\t\t\t\r\n\t\t\t \r\n\t\t\t \r\n\t\t\t\tDepartment of the Environment, Water, Heritage and the Arts (DEWHA) (2008). Threat abatement plan for predation by the European red fox. DEWHA, Canberra. Available from: http://www.environment.gov.au/biodiversity/threatened/publications/tap/predation-european-red-fox. In effect under the EPBC Act from 01-Oct-2008.\r\n\t\t\t\t \r\n\t\t\t \r\n\t\t\t \r\n\t\t\t\r\n \r\n\t\t Wildlife Conservation Plans\r\n\t\t\r\n\t\t\r\n\t\t\t \r\n\t\t\t \r\n\t\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\t \r\n\t\t\t \t\t\r\n\t\t\r\n \r\n\t \r\n\t\tOther Commonwealth Documents\r\n\t \r\n\t \r\n\t\tTop\r\n\t \r\n\t\r\n\r\n\t\r\n\t\r\n\t\t Other EPBC Act Plans\r\n\t\t\r\n\t\t\r\n\t\t \r\n\t\t \r\n\t\t \r\n\t\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\t \r\n\t\t \r\n\t\t\r\n \r\n\t Policy Statements and Guidelines\r\n\t\r\n\t\r\n\t \r\n\t \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\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]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 QLD:Shorebirds (Department of Environment and Heritage Protection (DEHP), 2013bi) [Internet].QLD:Shorebird management strategy: Moreton Bay (Queenlsnd Department of Environment and Resource Management (Qld DERM), 2005) [Management Plan].\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\r\n\t\t\t\r\n\t\t NGO:\r\n\t\t\t\r\n\t\t\t\tListed as Least Concern\r\n\t\t\t\t (The Action Plan for Australian Birds 2010 - non-threatened)\r\n\t\t\t\r\n\t\t\t\r\n\t\t \r\n\t \r\n \r\n \r\n Naming\r\n \r\n \r\n Top\r\n \r\n\r\n\r\nScientific name\r\n \r\n Numenius minutus [848]\r\n \r\n Family\r\n \r\n Scolopacidae:Charadriiformes:Aves:Chordata:Animalia\r\n \r\n \r\n Species author\r\n Gould,1841\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\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 Biological Resources Study, ed. (2013). Australian Faunal Directory. Australian Biological Resources Study. Available from: http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/search/names.\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) (2009aj). Draft Significant impact guidelines for 36 migratory shorebirds Draft EPBC Act Policy Statement 3.21. Canberra, ACT: Commonwealth of Australia. Available from: http://www.environment.gov.au/epbc/publications/migratory-shorebirds.html.\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 \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\nNumenius minutus 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 21:28:08 +1100.\r\n\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 Taxonomy\r\n \r\n \r\n Top\r\n \r\n \r\n \r\n Scientific name: Numenius minutus\nCommon name: Little Curlew\nOther names: Little Whimbrel, Pygmy Curlew, Siberian Baby Curlew\nConventionally accepted as Numenius minutus (AFD 2010; Christidis & Boles 2008).\n\r\n \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 Little Curlew is the smallest curlew with an average length of 28–31 cm, wingspan of 68–71 cm and weight of 175 g (Birds Australia 2010; Higgins & Davies 1996).\nBreeding and non-breeding plumage of adults is similar in the Little Curlew. Adult

birds have strongly patterned heads, with a blackish crown, a narrow buff coloured median crown stripe, and a broad pale supercilium (eyebrow). A short blackish-brown eyestripe which is broader at the front but does not reach the bill also distinguishes the species. Lores are buff and ear coverts pale buff with fine brown streaking. The neck and breast is off white and streaked with dark brown, while the remaining underparts are white with dark brown bars noticable on the flanks. The mantle feathers, scapulars and underwing coverts are blackish-brown fringed and notched in buff. The tertial feathers are barred brown to light brown with buff notches. The bill is black-brown with a pink base to the lower mandible. The Little Curlew has a dark brown iris, and bluish-grey legs and feet (Geering et al. 2007).\nJuveniles are similar to adults in plumage; however the crown appears more black-brown with an indistinct median crown stripe. Scapulars, wing coverts and mantle feathers are notched and fringed in off white instead of buff, and the streaking on the breast and flanks is less extensive and paler (Geering 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 Little Curlews generally spend the non-breeding season in northern Australia from Port Hedland in Western Australia to the Queensland coast (Minton 2002 pers. comm.). There are records of the species from inland Australia, and widespread but scattered records on the east coast. The species has also been recorded on Lord Howe Island, Cocos-Keeling Island and Christmas Island (Higgins & Davies 1996). The species is recorded in Australia beween September and April and there are few winter records (Blakers et al. 1984). Sites of international importance for the Little Curlew within Australia, with maximum counts, include (Bamford et al. 2008):\nKakadu National Park, Northern Territory (NT), 180 000\r\nRoebuck Plains, Western Australia (WA), 52 000\r\nsouth-east Gulf of Carpentaria, NT, 25 000\r\nAnna Plains, WA, 12 000\r\nLake Finniss, NT, 12 000\r\nRoebuck Bay, Queensland, 5000\r\nDerby Sewage Ponds, WA, 5000\r\nParry floodplain, Wyndham, WA, 3000.\r\nIn Queensland, the Little Curlew is generally widespread in coastal regions with some inland records (Higgins & Davies 1996). In WA, the species is recorded from Peron Peninsula, Carnarvon, McNeill Claypan and Port Cloates-Ningaloo in low numbers; and in the northern Pilbara region around Port Hedland, and in south-west, north and east Kimberley it is widespread. The Little Curlew has also been recorded in the Great Sandy Desert (Higgins & Davies 1996). In the NT, it is widespread in the top end, from Keep River National Park, east to Gove Peninsula and Groote Eylandt, and south to Kidman Springs. Also recorded in inland regions such as Alice Springs and the Tanami Desert (Higgins & Davies 1996).\nThe Little Curlew rarely occurs in Victoria, but has been recorded east of Wilson's Promontory and at Lake Tyers, Lake Wellington and Shallow Inlet, around Port Phillip Bay, and also from lakes in the western Victoria and in the region of Mystic Park (Higgins & Davies 1996). In New South Wales (NSW), most records are scattered east of the Great Dividing Range, from Casino, south to Greenwell Point with a few scattered records west of the Great Dividing Range (Higgins & Davies 1996). There have been a few scattered records in Tasmania, such as the Derwent River estuary, Pittwater and Cape Portland (Higgins & Davies 1996). The species is also a vagrant to South Australia where it was first recorded at Encounter Bay, but most records are clustered between Price, Gawler, the Fleurieu Peninsula and Lake Alexandrina (Higgins & Davies 1996).\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 Worldwide, the Little Curlew has been recorded breeding in Siberia, the upper Kochechumo River, Lena River, the foothills of the Verkhoyansk Mountains, the foothills of the Kharaulakhsky Range and the upper Indigirka River (Labutin et al. 1982; Pringle 1987). The species should not be considered an inhabitant of the sub-alpine zone (Pringle 1987). Its estimated extent of occurrence is 969 000 km2 (Birdlife International 2010).\nThe Little Curlew is transient through Mongolia, China, Japan, Indonesia and New Guinea; with a few records from Borneo and the Philippines (Higgins & Davies 1996; van Balen 1996). It is an irregular non-breeding visitor to both the North and South Islands of New Zealand between October and May, and a vagrant to Palau and Guam in western Micronesia and Norway (Higgins & Davies 1996).\nThe global trend for the Little Curlew is unknown (Birdlife International 2010). However, formerly considered rare, the species' breeding range is known to be more extensive than formerly believed (del Hoyo et al. 1996) and, in Australia, birds have probably benefited from the provision of watering holes and grassland for livestock (Higgins & Davies 1996).\n\r\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 Since 1981, Little Curlew populations in Australia have been regularly surveyed during the Population Monitoring Program carried out by the Australasian Wader Studies Group. Sites that regularly support good numbers of shorebirds are surveyed twice a year (winter and summer) in coordinated counts (for example, Skewes 2002, 2007).\n\r\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 estimated total population of the Little Curlew is 180 000 (Birdlife International 2010) with 175 000 spending the non-breeding period within Australia (Geering et al. 2007).\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 Feeding habitat\nThe Little Curlew is most often found feeding in short, dry

grassland and sedgeland, including dry floodplains and blacksoil plains, which have scattered, shallow freshwater pools or areas seasonally inundated. Open woodlands with a grassy or burnt understorey, dry saltmarshes, coastal swamps, mudflats or sandflats of estuaries or beaches on sheltered coasts, mown lawns, gardens, recreational areas, ovals, racecourses and verges of roads and airstrips are also used (Higgins & Davies 1996). \nGenerally, foraging is in relatively short grass (around 20 cm tall) as the birds avoid dense tall grasses (Higgins & Davies 1996). Foraging sites are usually within 5 km of daytime roosting sites, as birds move between grassland and wetland, most feeding in drier grassland occurring during the first few hours after dawn and the late afternoon. The Little Curlew is known to fly up to 10 km for available water then return to feeding grounds; therefore the availability of drinking water is an important habitat requirement (Bamford et al. 2008; Barter et al. 1999; Higgins & Davies 1996; Minton 2002 pers. comm.). Habitat requirements in the Huang He (Yellow River) Nature Reserve are similar to those in Australia (Barter et al. 1999).\nGeneral habitat\nWhen resting during the heat of day, the Little Curlew congregates around pools, river beds and water-filled tidal channels, and shallow water at edges of billabongs. The species prefers pools with bare dry mud (including mudbanks in shallow water) and they do not use pools if they are totally dry, flooded or heavily vegetated (Higgins & Davies 1996).\nBirds may also rest in grassy, open woodlands and on bare blacksoil plains, or on dry or recently burnt grasslands on floodplains, which may be without vegetation for hundreds of metres, and occasionally on mudflats when nearby grasslands are unburnt, or around swamps. Resting has also been recorded under partly submerged vegetation. After freshwater pools dry up, roosting may occur in the shallows of reservoirs and the sea (Higgins & Davies 1996).\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 The Little Curlew breeds from late May to early August, in central and north-east Russia. Approximately twenty breeding sites are known, which may be an underestimate due to the inaccessibility of much of the breeding area.\nNests are a shallow depression lined with grass, on dry well-drained slopes, in open ground in Larch (Larix spp.) or Birch (Betula spp.) woodland, or often in recently burnt areas. The Little Curlew nests in loose colonies approximately 200–300 m apart and 3–30 birds have been recorded in a 1 km radius (Altmann 2004; del Hoyo et al. 1996; Geering et al. 2007; Labutin et al. 1982; Pringle 1987). Birds often choose sites in close proximity to a Golden Eagle (Aquila chrysaetos) nest, most likely in order to deter predators such as Foxes (Vulpes vulpes), Stoats (Mustela erminea) or Martens (Martes spp.) who predate on eggs and chicks. The Golden Eagle feeds mainly on Hares (Lepus spp.) found widely on breeding grounds (Pringle 1987).\nUsually four eggs are laid, though sometimes three, and incubation is 22–23 days. Both sexes incubate eggs. Fledging occurs in approximately five weeks (Labutin et al. 1982; del Hoyo et al. 1996).\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 The Little Curlew is omnivorous, mainly eating insects, but also seeds and berries (Higgins & Davies 1996). When drinking, they stand deep in the water placing their heads and open mouths right into the water taking large gulps, and sometimes do this continuously for several minutes (Minton 2002 pers. comm.).\n\r\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 Little Curlew is active, nimble in its movements and readily associates with other waders. The species moves in flocks of thousands, in a V or crescent formation, at altitudes up to 3000 m above sea level, by day and night (Higgins & Davies 1996; Pringle 1987).\nBreeding and post breeding movements\nThe Little Curlew arrive on breeding grounds, Russia, in late May (Labutin et al. 1982). They depart breeding grounds during the second half of July (Labutin et al. 1982), with birds moving through Siberia (Yakutsk, Krasnoyarsk and Irkutsk regions), apparently overland, as they are not recorded in Ussuriland, Russia (Dement'ev & Gladkov 1951; Cramp & Simmons 1983). The species crosses Mongolia and Manchuria in August and September, and on a narrow front to and along the western coasts of the Yellow and East China Seas (Labutin et al. 1982; Cramp & Simmons 1983).\nThe species is regularly recorded in Japan and coastal China, but less often in Korea, Hong Kong, Borneo, Thailand and is considered a vagrant to the Cocos-Keeling Islands (Higgins & Davies 1996). From eastern China the birds most likely fly non-stop to southern Papua New Guinea or northern Australia, arriving early September through to November (Higgins & Davies 1996).\nNon breeding movement\nIn the non-breeding season, the Little Curlew is gregarious, and can be seen in dense flocks of several hundred, sometimes thousands, on coastal and inland grasslands and blacksoil plains of northern Australia, most often near freshwater swamps and pools or flooded ground. The species arrives in a broad front across northern Australia.\nMovements and distribution within Australia are poorly understood, although probably influenced by rainfall patterns in northern Australia (Higgins & Davies 1996). In the Broome and Darwin regions, numbers gradually increase until late October and then decrease during November and December, dispersing south or inland before the onset of the first heavy rains (Collins & Jessop 2001a; Jaensch cited in Higgins & Davies 1996).\nThe species is an uncommon passage migrant from October to November through the Torres Strait, though many occur in southern Papua New Guinea, and a

few in Timor, between October and December (Higgins & Davies 1996). In the Gulf of Carpentaria, birds forage in flocks of 30-200 moving across dry grass with birds from the back of a flock continuously flying forward to feed at the front of the flock.\nMost birds leave Australia during the first two weeks of April, and those in north-western Australia probably fly non-stop to Asia. Prior to departure, staging sites vary between years. There are staging sites in the NT although they are often too wet and overgrown during March to April and not suitable for a stopover (Higgins & Davies 1996). Similarly, their presence in the Broome region is variable during March to April prior to departure, and in some years, when rainfall extends into this period, few birds are seen (Collins & Jessop 2001a).\nBirds may overfly Papua New Guinea, returning via the same route on their southward migration. The bird is recorded as: a scarce passage migrant in Hong Kong between April–June; and transient in coastal China between April–May (Higgins & Davies 1996).\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 Within Australia, the Little Curlew may be confused with the Whimbrel (Numenius phaeopus) but is much smaller, with a proportionately shorter, thinner and straighter bill. The Little Curlew is most closely related to the Eskimo Curlew (Numenius borealis), but the latter is not found in Australia (Higgins & Davies 1996).\n\r\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 Habitat loss\nThe greatest threat facing waders in the East Asian-Australasian Flyway is global habitat loss (Melville 1997). Staging areas (mudflats) used during migration through eastern Asia are being lost and degraded by reclamation for development (Barter 2002, 2005b, 2005c; Ge et al. 2007; Moores 2006; Rogers et al. 2006; Round 2006). In many suitable staging areas along the East Asia Flyway many intertidal areas have been reclaimed, and in the mid 2000s the process was continuing with the potential to accelerate in the future (Barter 2002, 2005b, 2005c).\nThis Little Curlew may be more vulnerable to reclamation activities than most other waders, due to the very specific species and size classes of shellfish that they eat (Minton 2002 pers. comm.).\nOther human intervention issues\nIntensive oil exploration, water regulation (globally and in Australia) and diversion infrastructure in major tributaries have resulted in the reduction of water and sediment flows into mudflats, which compounds the problem of habitat loss (Barter 2002, 2005b; Barter et al. 1998; Melville 1997). Threats associated with construction, recreation activities, shellfish harvesting, fishing and aquaculture are likely to increase significantly in the future (Barter 2005b; Barter et al. 2005; Davidson & Rothwell 1993; Rogers 2001).\nMigratory shorebirds are also adversely affected by pollution, such as organochlorines or heavy metals discharged into the sea from industrial or urban sources, and from agricultural pesticides (Barter 2005b; Blomqvist et al. 1987; Del Hoyo et al.1996; Harding et al. 2007; Huettmann & Gerasimov 2006; Melville 1997; Schick et al. 1987).\nHunting is still a very serious problem for waders in China, and the Little Curlew is sometimes caught (Ming et al. 1998).\nClimate change \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; Melville 1997).\nWeeds and predators \nImportant migratory stop-over sites for this species in northern Australia are also being degraded through colonisation by invasive plants, such as Mimosa (Mimosa pigra), Hymenachne (Hymenachne amplexicaulis) and Para Grass (Brachiaria mutica) (Minton 2002 pers. comm.). \nDamage from the Feral Pig (Sus scrofa) and Buffalo (Bubalus bubalis) are also potential threats to habitat (Bellio et al. 2006 cited in Birdlife International 2010), whilst the Red Foxes (Vulpes vulpes) and possibly the Dog (Canis familiaris) are also a threat to the Little Curlew whilst feeding and roosting (Minton 2002 pers. comm.).\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 (AGDEH 2005c) both in Australia and in cooperation with other countries associated with the EAAF.\nAustralia\nEAAF shorebird conservation initiatives\nThe Wildlife Conservation Plan for Migratory Shorebirds (AGDEH 2006f) outlines national activities to support the 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.\nNatural Heritage Trust\nFrom the mid 1990s to the mid 2000s, the Australian Government invested approximately $5 000 000 of Natural Heritage Trust (NHT) funding in projects contributing to migratory shorebird conservation (DEWHA 2007e). This funding was distributed across a range of projects, including: the implementation of a nationally coordinated monitoring programme that aimed to produce robust, long-term population data 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\nBirds Australia is currently co-ordinating the Shorebirds 2020 project, which aims to monitor shorebird populations at important sites throughout Australia. 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 of these activities 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; Straw 1992a, 1999).\nSignificant Impact Guidelines\nThe Commonwealth government has prepared Draft Significant Impact Guidelines for 36 Migratory Birds (DEWHA 2009aj). This policy statement is designed to assist any person who proposes to undertake an action(s) to decide whether or not the action may be significant and whether they should submit a referral under the EPBC Act. In addition, the document provides mitigation strategies to reduce the level or extent of those impacts. More generally, it promotes sustainable development that allows for the continued ecological functioning of important habitat for migratory shorebirds. The policy statement applies to the 36 species wherever they occur within Australia or its territories, but does not apply to migratory shorebirds when they are outside Australia.\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 (Partnership EAAF 2008):\nKakadu National Park, NT (1 375 940 ha)\r\nParry Lagoons, WA (36 111 ha)\r\nThomsons Lake, WA (213 ha) \r\nMoreton Bay, Queensland (113 314 ha)\r\nBowling Green Bay, Queensland\r\nShoalwater Bay, Queensland\r\nGreat Sandy Strait, Queensland\r\nCurrawinya National Park, Queensland\r\nHunter Estuary, NSW (2916 ha) \r\nCorner Inlet, Victoria (51 500 ha)\r\nThe Coorong, Lake Alexandrina and Lake Albert, SA (140 500 ha) \r\nOrielton Lagoon, Tasmania (2920 ha)\r\nLogan Lagoon, Tasmania (2320 ha) \r\nWestern Port, Victoria (59 297 ha)\r\nPort Phillip Bay (Western Shoreline) and Bellarine Peninsula, Victoria (16 540 ha)\r\nShallow Inlet Marine and Coastal Park, Victoria\r\nDiscovery Bay Coastal Park, Victoria.\r\n\r\n \r\n \r\n Major Studies\r\n \r\n Top\r\n \r\n \r\n There is a detailed summary of all that is known of the species in Australasia in Higgins and Davies (1996), and 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).\n\r\n \r\n \r\n Management Documentation\r\n \r\n Top\r\n \r\n \r\n Management documents relevant to the Little Curlew can be found at the start of the profile.\n\r\n \r\n \r\n\r\n\r\n \r\n Species Profile References\r\n \r\n Top\r\n \r\n \r\n Altmann, H-D. (2004). Discovery of two new breeding grounds of Little Curlew (Numenius minutus) outside the known breeding range in Siberia. Journal of Ornithology. 147(4):648.\r\n \r\n Australian Faunal Directory (AFD) (2010). Australian Faunal Directory. Available from: http://www.environment.gov.au/biodiversity/abrs/online-resources/fauna/afd/home. [Accessed: 30-May-2010].\r\n \r\n Australian Government Department of the Environment and Heritage (AGDEH) (2005c). Background Paper to the Wildlife Conservation Plan for Migratory Shorebirds. Canberra, ACT: Department of the Environment and Heritage. Available from: http://www.environment.gov.au/biodiversity/migratory/publications/pubs/shorebird-plan-background.pdf.\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 Bamford M., D. Watkins, W. Bancroft, G. Tischler & J. Wahl (2008). Migratory Shorebirds of the East Asian - Australasian Flyway: Population estimates and internationally important sites. Canberra, ACT: Department of the Environment, Water, Heritage and the Arts, Wetlands International-Oceania. Available from: http://www.environment.gov.au/biodiversity/migratory/publications/shorebirds-east-asia.html.\r\n \r\n Barter, M.A. (2002). Shorebirds of the Yellow Sea: Importance, Threats and Conservation Status. Wetlands International Global Series No. 8, International Wader Studies 12. Canberra, ACT: Wetlands International.\r\n \r\n Barter, M.A. (2005b). Keeping the common shorebirds common: Action planning to save the Dunlin. In: Straw, P, ed. Status and Conservation of Shorebirds in the East Asian-Australasian Flyway. Proceedings of the Australasian Shorebirds Conference 13-15 December 2003, Canberra, Australia. Page(s) 183-187. Sydney: Wetlands International Global Series 18, International

Wader Studies 17.\r\n \r\n Barter, M.A. (2005c). Yellow Sea-driven priorities for Australian shorebird researchers. In: Straw, P., ed. Status and Conservation of Shorebirds in the East Asian-Australasian Flyway. Proceedings of the Australasian Shorebirds Conference 13-15 December 2003, Canberra, Australia. Sydney, NSW: Wetlands International Global Series 18, International Wader Studies 17.\r\n \r\n Barter, M.A., D. Tonkinson, J.Z. Lu, S.Y. Zhu, Y. Kong, T.H. Wang, Z.W. Li & X.M. Meng (1998). Shorebird numbers in the Huang He (Yellow River) Delta during the 1997 northward migration. Stilt. 33:15-26.\r\n \r\n Barter, M.A., D.A. Tonkinson, J.R. Wilson, Z.W. Li, J.Z. Lu, K. Shan & S.Y. Zhu (1999). The Huang He delta - an important staging site for Little Curlew Numenius minutus on northward migration. Stilt. 34:11--17.\r\n \r\n Barter, M.A., K. Gosbell, L. Cao & Q. Xu (2005). Northward shorebird migration surveys in 2005 at four new Yellow Sea sites in Jiangsu and Liaoning Provinces. Stilt. 48:13-17.\r\n \r\n Birdlife International (2010). Species factsheet- Numenius minutus. . Available from: http://www.birdlife.org. [Accessed: 24-May-2010].\r\n \r\n Birds Australia (2010). Birds in Backyards- Little Curlew factsheet. Available from: http://birdsinbackyards.net/species/Numenius-minutus. [Accessed: 30-May-2010].\r\n \r\n Blakers, M., S.J.J.F. Davies & P.N. Reilly (1984). The Atlas of Australian Birds. Melbourne, Victoria: Melbourne University Press.\r\n \r\n Blomqvist, S., A. Frank & L.R. Petersson (1987). Metals in liver and kidney tissues of autumn-migrating Dunlin Calidris alpina and Curlew Sandpiper Calidris ferruginea staging at the Baltic Sea. Marine Ecology Progress Series. 35:1-13.\r\n \r\n Christidis, L. & W.E. Boles (2008). Systematics and Taxonomy of Australian Birds. Collingwood, Victoria: CSIRO Publishing.\r\n \r\n Collins, P. & R. Jessop (2001a). Arrival and departure dates and habitat of Little Curlew Numenius minutus at Broome, north-western Australia. Stilt. 39:10-12.\r\n \r\n Cramp, S. & K.E.L. Simmons, eds. (1983). Handbook of the Birds of Europe, the Middle East and North Africa. The Birds of the Western Palearctic. Volume 3, Waders to Gulls. Oxford: Oxford University Press.\r\n \r\n Davidson, N. & P. Rothwell (1993). Disturbance to waterfowl on estuaries. Wader Study Group Bulletin. 68.\r\n \r\n del Hoyo, J., A. Elliott, D.A. Christie & J. Sargatal (1996). Handbook of the Birds of the World: Hoatzin to Auks. Barcelona: Lynx Edicions.\r\n \r\n Dement'ev, G.P. & N.A. Gladkov (Eds) (1951). Birds of the Soviet Union, Volume 3. Jerusalem: Israel Program for Scientific Translations.\r\n \r\n Dening, J. (2005). Roost management in south-East Queensland: building partnerships to replace lost habitat. In: Straw, P., ed. Status and Conservation of Shorebirds in the East Asian-Australasian Flyway. Proceedings of the Australasian Shorebirds Conference 13-15 December 2003. Page(s) 94-96. Sydney, NSW. Wetlands International Global Series 18, International Wader Studies 17.\r\n \r\n Department of the Environment, Water, Heritage and the Arts (DEWHA) (2008). The North Marine Bioregional Plan: Bioregional Profile: A Description of the Ecosystems, Conservation Values and Uses of the North Marine Region. Canberra: DEWHA. Available from: http://www.environment.gov.au/resource/north-marine-bioregional-plan-bioregional-profile-description-ecosystems-conservation.\r\n \r\n Department of the Environment, Water, Heritage and the Arts (DEWHA) (2008b). North-West Marine Bioregional Plan: Bioregional Profile: A Description of the Ecosystems, Conservation Values and Uses of the North-West Marine Region. Canberra: DEWHA. Available from: http://www.environment.gov.au/coasts/mbp/publications/north-west/bioregional-profile.html.\r\n \r\n Department of the Environment, Water, Heritage and the Arts (DEWHA) (2009aj). Draft Significant impact guidelines for 36 migratory shorebirds Draft EPBC Act Policy Statement 3.21. Canberra, ACT: Commonwealth of Australia. Available from: http://www.environment.gov.au/epbc/publications/migratory-shorebirds.html.\r\n \r\n Department of the Environment, Water, Heritage and the Arts (DEWHA) (2009m). The East Marine Bioregional Plan, Bioregional Profile: A Description of the Ecosystems, Conservation Values and Uses of the East Marine Region. Available from: http://www.environment.gov.au/resource/east-marine-bioregional-plan-bioregional-profile-description-ecosystems-conservation-values.\r\n \r\n Ge, Z.-M., T-H. Wang, X. Zhou, K.-Y. Wang & W.-Y. Shi (2007). Changes in the spatial distribution of migratory shorebirds along the Shanghai shoreline, China, between 1984 and 2004. Emu. 107:19-27.\r\n \r\n Geering, A., L. Agnew & S. Harding, eds. (2007). Shorebirds of Australia. Melbourne: CSIRO Publishing.\r\n \r\n Harding, J., S. Harding & P. Driscoll (1999). Empire Point Roost: a purpose built roost site for waders. Stilt. 34:46-50.\r\n \r\n Harding, S.B., J.R. Wilson & D.W. Geering (2007). Threats to shorebirds and conservation actions. In: Geering, A., L. Agnew & S. Harding, eds. Shorebirds of Australia. Page(s) 197-213. Melbourne, Victoria: CSIRO Publishing.\r\n \r\n Higgins, P.J. & S.J.J.F. Davies, eds (1996). Handbook of Australian, New Zealand and Antarctic Birds. Volume Three - Snipe to Pigeons. Melbourne, Victoria: Oxford University Press.\r\n \r\n Huettmann, F. & Y.N. Gerasimov (2006). Conservation of migratory shorebirds and their habitats in the Sea of Okhotsk, Russian Far East, in the year 2006: state-of-the-art and an outlook. Stilt. 50:23-33.\r\n \r\n International Union for Conservation of Nature (IUCN) (2010). IUCN Red List of Threatened Species. Version 2010.4. Available from: http://www.iucnredlist.org.\r\n \r\n Labutin,

Y.V., V.V. Leonovich & B.N. Veprintsev (1982). The Little Curlew Numenius minutus in Siberia. Ibis. 124:302--319.\r\n \r\n Melville, D.S. (1997). Threats to waders along the East Asian-Australasian Flyway. In: Straw, P., ed. Shorebird conservation in the Asia-Pacific region. Page(s) 15-34. Melbourne, Victoria: Birds Australia.\r\n \r\n Ming, M., L. Jianjian, T. Chengjia, S. Pingyue & H. Wei (1998). The contribution of shorebirds to the catches of hunters in the Shanghai area, China, during 1997-1998. Stilt. 33:32-36.\r\n \r\n Minton, C.D.T. (2002). Personal communication. Australasian Wader Studies Group.\r\n \r\n Moores, N. (2006). South Korea's shorebirds: a review of abundance, distribution, threats and conservation status. Stilt. 50:62-72.\r\n \r\n Pringle, J.D. (1987). The Shorebirds of Australia. Sydney, NSW: Angus & Robertson.\r\n \r\n Queenlsnd Department of Environment and Resource Management (Qld DERM) (2005). Shorebird management strategy: Moreton Bay. Available from: http://www.derm.qld.gov.au/services_resources/item_details.php?item_id=202999.\r\n \r\n Rogers, D. (2001). Conservation and ecology of migratory shorebirds in Roebuck Bay, north-western Australia. Wetlands Unit, Environment Australia.\r\n \r\n Rogers, D.I., N. Moores & P.F. Battley (2006). Northwards migration of shorebirds through Saemangeum, The Geum estuary and Gomso Bay, South Korea in 2006. Stilt. 50:73-89.\r\n \r\n Round, P.D. (2006). Shorebirds in the Inner Gulf of Thailand. Stilt. 50:96-102.\r\n \r\n Schick, C.T., L.A. Brennan, J.B. Buchanan, M.A. Finger, T.M. Johnson & S.G. Herman (1987). Organochlorine contamination in shorebirds from Washington state and the significance for their falcon predators. Environmental Monitoring and Assessment. 9:115-131.\r\n \r\n Skewes, J. (2002). Report on the 2001 population monitoring counts. Stilt. 41:55-61.\r\n \r\n Skewes, J. (2007). Report on population monitoring counts, 2005 and 2006. Stilt. 52:20-32.\r\n \r\n Straw, P. (1992a). Relocation of Shorebirds. A Feasibility Study and Management Options. Sydney, NSW: Unpublished report by the Royal Australasian Ornithologists Union for the Federal Airports Corporation.\r\n \r\n Straw, P. (1999). Habitat remediation - a last resort?. Stilt. 35:66.\r\n \r\n van Balen, S. (1996). Notes on the occurrence of the Little Curlew in Indonesia. Kukila. 8:136--141.\r\n \r\n Watkins, D. (1993). A national plan for shorebird conservation in Australia. RAOU Report Series. 90.\r\n \r\n \r\n\r\n"