**Supplementary Material**

The importance of artificial habitats to migratory waterbirds within a natural/artificial wetland mosaic, Yellow River Delta, China

DONGLAI LI, SIHANG CHEN, HUW LLOYD, SHUYU ZHU, KAI SHAN and ZHENGWANGZHANG

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Table S1. Waterbird species and their guilds in natural and artificial wetlands.

Table S1. Waterbird species and their guilds in the natural and artificial wetlands (AP, aquaculture ponds; PF, paddyfields; IC, irrigation canal; SP, saltpans; GR, Gubei reservoir) Yellow River Delta, eastern China. MaxA, the maximum abundance of waterbirds recorded; Season, season during which the MaxA of each species was recorded (A, autumn; W, winter; S, spring); 1species with the population reaching 1% global or flyway populations in natural wetlands; 2species with the population reaching 1% global or flyway populations in artificial wetlands.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Guilds** | **English name** | **Scientific name** | **Artificial wetlands** | | | | | | | | | | **Natural wetlands** | |
| **AP** | | **PF** | | **IC** | | **SP** | | **GR** | |
| **MaxA** | **Season** | **MaxA** | **Season** | **MaxA** | **Season** | **MaxA** | **Season** | **MaxA** | **Season** | **MaxA** | **Season** |
| Pelicans | Dalmatian Pelican | *Pelecanus crispus*1 | - | - | - | - | - | - | - | - | - | - | 13 | A |
| Cormorants and Grebes | Great Crested Grebe | *Podiceps cristatus* | - | - | - | - | 4 | A | - | - | 10 | W | 139 | A |
| Cormorants and Grebes | Great Cormorant | *Phalacrocorax carbo* 1 | 760 | A | 63 | A | 23 | A | 7 | S | 10 | W | 2753 | A |
| Cormorants and Grebes | Little Grebe | *Tachybaptus ruficollis* | 4 | A | 11 | A | 10 | A | 1 | A | 200 | W | 254 | A |
| Coots | Common Coot | *Fulica atra* | - | - | 16 | A | - | - | - | - | 2000 | S | 1162 | A |
| Cranes | Common Crane | *Grus grus*2 | 33 | W | 159 | W | 111 | W | - | - | - | - | 24 | W |
| Cranes | Red-crowned Crane | *Grus japonensis*1, 2 | 11 | A | 2 | W | - | - | - | - | - | - | 121 | S |
| Cranes | Siberian Crane | *Grus leucogeranus*1 | 2 | A | - | - | - | - | - | - | - | - | 59 | A |
| Cranes | Hooded Crane | *Grus monacha*1, 2 | 36 | A | - | - | - | - | - | - | - | - | 46 | A |
| Cranes | White-naped Crane | *Grus vipio*1, 2 | 73 | A | 35 | A | - | - | - | - | - | - | 49 | A |
| Large-body waders | Grey Heron | *Ardea cinerea* | 138 | A | 3 | A | 10 | S | 30 | S | - | - | 179 | A |
| Large-body waders | Purple Heron | *Ardea purpurea* | - | - | 1 | A | - | - | - | - | - | - | 6 | A |
| Large-body waders | Green-backed Heron | *Ardeola bacchus* | - | - | - | - | - | - | - | - | - | - | 1 | A |
| Large-body waders | Great Bittern | *Botaurus stellaris* | , | - | 1 | W | - | - | - | - | 1 | S | 3 | A |
| Large-body waders | Great Egret | *Casmerodius albus* | 52 | W | 2 | A | 25 | A | - | - | - | - | 60 | W |
| Large-body waders | Little Egret | *Egretta garzetta* | 12 | A | - | - | 11 | A | 9 | A | - | - | 115 | A |
| Large-body waders | Intermediate Egret | *Egretta intermedia* | - | - | - | - | - | - | - | - | - | - | 1 | A |
| Large-body waders | Oriental Stork | *Ciconia boyciana*1, 2 | 108 | A | 11 | A | - | - | - | - | - | - | 123 | A |
| Large-body waders | Black Stork | *Ciconia nigra* | 3 | A | - | - | - | - | - | - | - | - | 2 | A |
| Large-body waders | Eurasian Spoonbill | *Platalea leucorodia* 1 | 3 | A | - | - | - | - | - | - | - | - | 448 | A |
| Grazing swans and geese | Tundra Swan | *Cygnus columbianus* | - | - | - | - | - | - | - | - | - | - | 39 | S |
| Grazing swans and geese | Mute Swan | *Cygnus olor* | - | - | - | - | - | - | - | - | - | - | 1 | W |
| Grazing swans and geese | Whooper Swan | *Cygnus cygnus* 1 | 12 | W | - | - | - | - | 98 | W | 340 | W | 1462 | A |
| Grazing swans and geese | Greylag Goose | *Anser anser* 1 | - | - | 111 | A | - | - | - | - | - | - | 847 | W |
| Grazing swans and geese | Swan Goose | *Anser cygnoides*1 | - | - | - | - | - | - | - | - | 15 | W | 800 | W |
| Grazing swans and geese | Bean Goose | *Anser fabalis* | 100 | W | 350 | W | - | - | - | - | - | - | 1320 | W |
| Dabbling ducks | Mandarin Duck | *Aix galericulata* | - | - | - | - | - | - | - | - | - | - | 4 | A |
| Dabbling ducks | Northern Pintail | *Anas acuta* | - | - | - | - | - | - | 135 | W | 10 | W | 2006 | A |
| Dabbling ducks | Northern Shoveler | *Anas clypeata* | - | - | - | - | - | - | - | - | - | - | 34 | S |
| Dabbling ducks | Common Teal | *Anas crecca* | 200 | A | - | - | - | - | - | - | - | - | 1970 | A |
| Dabbling ducks | Falcated Duck | *Anas falcate* | - | - | - | - | - | - | - | - | 80 | S | 172 | A |
| Dabbling ducks | Baikal Teal | *Anas Formosa* | - | - | - | - | - | - | - | - | - | - | 12 | S |
| Dabbling ducks | Eurasian Wigeon | *Anas penelope* | - | - | - | - | - | - | 10 | W | 50 | W | 559 | A |
| Dabbling ducks | Mallard | *Anas platyrhynchos* | - | - | 3 | W | - | - | 192 | W | 170 | W | 522 | W |
| Dabbling ducks | Spot-billed Duck | *Anas poecilorhyncha* | 2 | W | 20 | A | 160 | W | 2 | S | 170 | W | 2208 | W |
| Dabbling ducks | Garganey | *Anas querquedula* | - | - | 5 | A | - | - | - | - | 2 | S | 10 | A |
| Dabbling ducks | Gadwall | *Anas strepera* 1 | - | - | - | - | - | - | - | - | 250 | W | 14013 | A |
| Dabbling ducks | Ruddy Shelduck | *Tadorna ferruginea* | 261 | A | 9 | A | 2 | W | 8 | W | 50 | W | 165 | A |
| Dabbling ducks | Common Shelduck | *Tadorna tadorna* | 2 | W | - | - | - | - | - | - | 20 | W | 628 | W |
| Diving ducks | Common Pochard | *Aythya ferina* | - | - | - | - | - | - | - | - | 43 | S | 436 | W |
| Diving ducks | Tufted Duck | *Aythya fuligula* | - | - | - | - | - | - | - | - | - | - | 23 | A |
| Diving ducks | Ferruginous Duck | *Aythya nyroca* | - | - | - | - | - | - | - | - | - | - | 5 | S |
| Diving ducks | Common Goldeneye | *Bucephala clangula* | - | - | - | - | - | - | 2 | S | - | - | 21 | A |
| Diving ducks | Smew | *Mergellus albellus* 1 | - | - | - | - | 60 | W | - | - | 41 | S | 462 | S |
| Diving ducks | Common Merganser | *Mergus merganser* | 5 | W | - | - | - | - | 12 | W | 30 | W | 328 | W |
| Terns | Whiskered Tern | *Chlidonias hybridus* | - | - | - | - | - | - | 110 | A | - | - | - | - |
| Terns | Gull-billed Tern | *Gelochelidon nilotica* | - | - | - | - | - | - | 225 | A | - | - | 82 | A |
| Terns | Little Tern | *Sterna albifrons* | - | - | - | - | - | - | 3 | A | - | - | - | - |
| Terns | Caspian Tern | *Hydroprogne caspia* 1 | 253 | A | - | - | 20 | A | - | - | 2 | A | 483 | A |
| Terns | Common Tern | *Sterna hirundo* | - | - | - | - | - | - | 12 | S | - | - | 2 | S |
| Gulls | Herring Gull | *Larus argentatus* | 170 | A | - | - | 26 | W | 61 | S | 1 | S | 452 | W |
| Gulls | Common Gull | *Larus canus* | - | - | - | - | - | - | - | - | - | - | 21 | W |
| Gulls | Black-tailed Gull | *Larus crassirostris* | 141 | A | - | - | 1 | S | 2 | W | - | - | 665 | A |
| Gulls | Common Black-headed Gull | *Larus ridibundus* | 195 | A | - | - | 10 | A | 120 | A | - | - | 2404 | A |
| Gulls | Saunders's Gull | *Larus saundersi*1 | 50 | W | - | - | 30 | W | - | - | - | - | 1306 | S |
| Pelagic foraging shorebirds | Black-winged Stilt | *Himantopus himantopus* | 15 | A | - | - | 20 | S | 120 | S | 5 | - | 54 | S |
| Pelagic foraging shorebirds | Pied Avocet | *Recurvirostra avosetta* | 131 | A | - | - | - | - | - | - | - | - | 141 | A |
| Pelagic foraging shorebirds | Spotted Redshank | *Tringa erythropus* 1,2 | 1378 | A | 2 | A | 12 | S | 146 | A | 10 | - | 1278 | S |
| Pelagic foraging shorebirds | Common Greenshank | *Tringa nebularia* | 158 | A | 3 | A | 2 | A | 1 | A | 3 | - | 66 | A |
| Pelagic foraging shorebirds | Green Sandpiper | *Tringa ochropus* | - | - | 2 | A | - | - | - | - | 1 | S | - | - |
| Pelagic foraging shorebirds | Marsh Sandpiper | *Tringa stagnatilis* | 100 | A | - | - | - | - | 83 | A | - | - | - | - |
| Tactile surface foraging shorebirds | Dunlin | *Calidris alpina* | 1191 | A | - | - | - | - | 4 | S | - | - | 5930 | S |
| Tactile surface foraging shorebirds | Temminck's Stint | *Calidris temminckii* | - | - | - | - | - | - | - | - | - | - | 6 | A |
| Tactile surface foraging shorebirds | Great Knot | *Calidris tenuirostris* | - | - | - | - | - | - | - | - | - | - | 68 | A |
| Tactile surface foraging shorebirds | Bar-tailed Godwit | *Limosa lapponica* | 2 | A | - | - | - | - | - | - | - | - | 52 | S |
| Tactile surface foraging shorebirds | Black-tailed Godwit | *Limosa limosa* | 283 | A | - | - | - | - | 48 | S | - | - | 1295 | S |
| Tactile surface foraging shorebirds | Eurasian Curlew | *Numenius arquata* | - | - | - | - | - | - | - | - | - | - | 874 | A |
| Tactile surface foraging shorebirds | Far Eastern Curlew | *Numenius madagascariensis* | - | - | - | - | - | - | - | - | - | - | 15 | S |
| Tactile surface foraging shorebirds | Little Curlew | *Numenius minutus* |  |  | 840 | S |  |  |  |  |  |  |  |  |
| Tactile surface foraging shorebirds | Whimbrel | *Numenius phaeopus* | - | - | - | - | - | - | - | - | - | - | 15 | A |
| Visual surface foraging shorebirds | Common Sandpiper | *Actitis hypoleucos* | - | - | - | - | - | - | 1 | A | - | - | - | - |
| Visual surface foraging shorebirds | Kentish Plover | *Charadrius alexandrinus*1 | 520 | A | - | - | 3 | S | 10 | S | - | - | 1465 | S |
| Visual surface foraging shorebirds | Little Ringed Plover | *Charadrius dubius* | - | - | - | - | - | - | - | - | - | - | 129 | A |
| Visual surface foraging shorebirds | Lesser Sand Plover | *Charadrius mongolus* | - | - | - | - | - | - | - | - | - | - | 10 | S |
| Visual surface foraging shorebirds | Long-billed Ringed Plover | *Charadrius placidus* | - | - | - | - | - | - | - | - | - | - | 3 | A |
| Visual surface foraging shorebirds | Common Snipe | *Gallinago gallinago* | 4 | A | 4 | A | - | - | - | - | - | - | - | - |
| Visual surface foraging shorebirds | Eurasian Oystercatcher | *Haematopus ostralegus* | - | - | - | - | - | - | - | - | - | - | 5 | S |
| Visual surface foraging shorebirds | Grey Plover | *Pluvialis squatarola* | 4 | A | - | - | - | - | - | - | - | - | 35 | S |
| Visual surface foraging shorebirds | Grey-headed Lapwing | *Vanellus cinereus* | - | - | - | - | - | - | - | - | - | - | 2 | S |
| Visual surface foraging shorebirds | Northern Lapwing | *Vanellus vanellus* | - | - | - | - | - | - | - | - | - | - | 176 | A |