**Supplementary Material**

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

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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.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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 |