

Supplementary data

Table S1. List of dominant species observed around the floodplains of Gongju, Sejong, and Seungchon weirs in Autumn 2020

| Vegetation property | Family | Dominant species | Abb. | Life form | Area (m ²) | Ratio (%) |
|----------------------|----------------|----------------------------------|------|-----------|------------------------|-----------|
| Native vegetation | Cannabaceae | <i>Humulus japonicus</i> | Hj | Vine | 3,105 | 0.5 |
| | Leguminosae | <i>Pueraria lobata</i> | Pl | Vine | 714 | 0.1 |
| | | <i>Lespedeza cuneata</i> | Lc | Perennial | 20,472 | 3.2 |
| | Compositae | <i>Artemisia princeps</i> | Ap | Perennial | 2,436 | 0.4 |
| | Cyperaceae | <i>Cyperus amuricus</i> | Ca | Annual | 3,362 | 0.5 |
| | Gramineae | <i>Phragmites communis</i> | Pc | Perennial | 117,397 | 18.1 |
| | | <i>Phalaris arundinacea</i> | Par | Perennial | 1,303 | 0.2 |
| | | <i>Setaria viridis</i> | Sv | Annual | 7,464 | 1.1 |
| | | <i>Phragmites japonica</i> | Pj | Perennial | 18,942 | 2.9 |
| | | <i>Miscanthus sacchariflorus</i> | Ms | Perennial | 177,781 | 27.4 |
| | | <i>Pennisetum alopecuroides</i> | Pal | Perennial | 12,107 | 1.9 |
| | | <i>Salix koreensis</i> | Sk | Woody | 204,207 | 31.4 |
| | | <i>Salix chaenomeloides</i> | Sc | Woody | 77,992 | 12.0 |
| | Moraceae | <i>Morus alba</i> | Ma | Woody | 818 | 0.1 |
| | Polygonaceae | <i>Persicaria nodosa</i> | Pn | Annual | 1,486 | 0.2 |
| Sub total | - | - | - | - | 649,586 | 17.5 |
| Exotic vegetation | Cucurbitaceae | <i>Sicyos angulatus</i> | Sa | Vine | 11,892 | 16.2 |
| | Leguminosae | <i>Vicia villosa</i> | Vv | Vine | 1,467 | 2.0 |
| | | <i>Robinia pseudoacacia</i> | Rp | Woody | 23,392 | 31.9 |
| | Hamamelidaceae | <i>Liquidambar styraciflua</i> | Ls | Woody | 916 | 1.3 |
| | Compositae | <i>Xanthium strumarium</i> | Xs | Annual | 1,687 | 2.3 |
| | | <i>Coreopsis lanceolata</i> | Cl | Perennial | 33,967 | 46.3 |
| Sub total | - | - | - | - | 73,321 | 2.0 |
| Plantation | - | Shrub | - | - | 44,472 | 12.1 |
| | - | Tree and sub tree | - | - | 322,829 | 87.9 |
| Sub total | | | | | 367,301 | 9.9 |
| Sand bar | - | - | - | - | 273,122 | 7.4 |
| Artificial structure | - | - | - | - | 646,936 | 17.5 |
| Water body | - | - | - | - | 1,691,195 | 45.7 |
| Total | - | - | - | - | 3,701,461 | 100.0 |

Table S2. Exotic species appearing in seed banks, collected within the high and low levels of floodplains

| Family | Scientific name | No. of ind. In the low level | No. of ind. In the high level |
|------------------|---|---------------------------------|----------------------------------|
| Amaranthaceae | <i>Celosia cristata</i> L. | - | 1 |
| Brassicaceae | <i>Lepidium apetalum</i> Willd. | - | 7 |
| | <i>Thlaspi arvense</i> L. | - | 1 |
| Chenopodiaceae | <i>Chenopodium ficifolium</i> Smith | 24 | 27 |
| Compositae | <i>Erigeron annuus</i> Pers. | 18 | 31 |
| | <i>Senecio vulgaris</i> L. | 1 | - |
| | <i>Ambrosia trifida</i> L. | 1 | 77 |
| | <i>Bidens frondosa</i> L. | 3 | 2 |
| | <i>Lactuca scariola</i> L. | - | 41 |
| Convolvulaceae | <i>Quamoclit coccinea</i> Moench | - | 1 |
| Gramineae | <i>Bromus tectorum</i> L. | 2 | - |
| | <i>Panicum dichotomiflorum</i> Michx. | 12 | - |
| Leguminosae | <i>Trifolium repens</i> L. | 20 | - |
| | <i>Phaseolus vulgaris</i> var. <i>humilis</i> Alef. | - | 1 |
| Onagraceae | <i>Oenothera biennis</i> L. | - | 2 |
| Phytolaccaceae | <i>Phytolacca americana</i> L. | - | 1 |
| Polygonaceae | <i>Rumex crispus</i> L. | 232 | 85 |
| Rosaceae | <i>Potentilla supina</i> L. | 3 | 16 |
| Scrophulariaceae | <i>Veronica arvensis</i> L. | 4 | 25 |

Table S3. List of avifauna observed around the floodplains of Gongju, Sejong, and Seungchon weirs in 2018

| Family | Scientific name | Korean name | Status ^{a,b} | No. of ind. | Body size ^b (cm) | Sorting by size ^c |
|-------------------|--|-------------|-----------------------|-------------|-----------------------------|------------------------------|
| Anatidae | <i>Aix galericulata</i> (Linnaeus) | 원앙 | Res | 64 | 45 | Large |
| | <i>Anas poecilorhyncha</i> Forster | 흰뺨검둥오리 | Res/WV | 178 | 61 | Large |
| Ardeidae | <i>Butorides striata</i> (Linnaeus) | 검은댕기해오라기 | SV | 1 | 52 | Large |
| | <i>Egretta garzetta</i> (Linnaeus) | 쇠백로 | SV | 77 | 61 | Large |
| | <i>Ardea cinerea</i> Linnaeus | 왜가리 | Res | 112 | 93 | Large |
| | <i>Ardea alba</i> Linnaeus | 중대백로 | SV/WV | 86 | 90 | Large |
| | <i>Egretta intermedia</i> (Wagler) | 중백로 | SV | 2 | 68 | Large |
| | <i>Nycticorax nycticorax</i> (Linnaeus) | 해오라기 | SV | 2 | 57 | Large |
| | <i>Bubulcus ibis</i> (Linnaeus) | 황로 | SV | 62 | 50 | Large |
| Charadriidae | <i>Charadrius dubius</i> Scopoli | 꼬마물떼새 | SV | 2 | 16 | Small |
| Columbidae | <i>Streptopelia orientalis</i> (Latham) | 멧비둘기 | Res | 45 | 33 | Small |
| | <i>Columba livia domestica</i> | 집비둘기 | Res | 178 | 32.5 | Small |
| Coraciidae | <i>Eurystomus orientalis</i> (Linnaeus) | 파랑새 | SV | 8 | 29.5 | Small |
| Corvidae | <i>Pica pica</i> (Linnaeus) | 까치 | Res | 108 | 46 | Large |
| | <i>Cyanopica cyanus</i> (Pallas) | 물까치 | Res | 20 | 37 | Small |
| | <i>Corvus macrorhynchos</i> Wagler | 큰부리까마귀 | Res | 22 | 57 | Large |
| Cuculidae | <i>Cuculus canorus</i> Linnaeus | 빠꾸기 | SV | 1 | 35 | Small |
| Emberizidae | <i>Emberiza cioides</i> Brandt | 멧새 | Res | 1 | 16 | Small |
| Falconidae | <i>Falco subbuteo</i> Linnaeus | 새호리기 | SV | 1 | 34.25 | Small |
| | <i>Falco tinnunculus</i> Linnaeus | 황조롱이 | Res | 7 | 35.75 | Small |
| Hirundinidae | <i>Cecropis daurica</i> (Laxmann) | 귀제비 | SV | 2 | 19 | Small |
| | <i>Hirundo rustica</i> Linnaeus | 제비 | SV | 27 | 18 | Small |
| Laniidae | <i>Lanius bucephalus</i> Temminck & Schlegel | 때까치 | Res | 3 | 20 | Small |
| Motacillidae | <i>Motacilla grandis</i> Sharpe | 검은등할미새 | Res | 2 | 21 | Small |
| | <i>Motacilla alba</i> Linnaeus | 알락할미새 | Res | 2 | 19.5 | Small |
| Muscicapidae | <i>Phoenicurus aureus</i> (Pallas) | 딱새 | Res | 2 | 14 | Small |
| Oriolidae | <i>Oriolus chinensis</i> Linnaeus | 꼬꼬리 | SV | 4 | 26 | Small |
| Paridae | <i>Parus major</i> Linnaeus | 박새 | Res | 22 | 14 | Small |
| Passeridae | <i>Passer montanus</i> (Linnaeus) | 참새 | Res | 441 | 14.5 | Small |
| Phalacrocoracidae | <i>Phalacrocorax carbo</i> (Linnaeus) | 민물가마우지 | Res/WV | 21 | 82 | Large |
| Phasianidae | <i>Phasianus colchicus</i> Linnaeus | 꿩 | Res | 2 | 70 | Large |
| Picidae | <i>Dendrocopos kizuki</i> (Temminck) | 쇠딱다구리 | Res | 2 | 15 | Small |
| Pycnonotidae | <i>Microscelis amaurotis</i> (Temminck) | 직박구리 | Res | 34 | 34 | Small |
| Scolopacidae | <i>Actitis hypoleucos</i> (Linnaeus) | 갯작도요 | PM | 5 | 20 | Small |
| | <i>Tringa ochropus</i> Linnaeus | 백백도요 | PM | 1 | 23 | Small |
| | <i>Tringa glareola</i> Linnaeus | 알락도요 | PM | 1 | 20 | Small |
| Timaliidae | <i>Paradoxornis webbianus</i> (Gould) | 붉은머리오목눈이 | Res | 292 | 13 | Small |
| Upupidae | <i>Upupa epops</i> Linnaeus | 후투티 | SV | 1 | 28 | Small |

a : Res - Resident, SV - Summer Visitor, WV - Winter Visitor, PM - Passage Migrant

b : Lee, W.S.; Koo, T.H.; Park, J.Y.; Taniguchi, T. A field guide to the birds of Korea; LG Evergreen Foundation: Seoul, South Korea, 2014

c : Small - body size ≤ 40 cm, Large - body size > 40 cm