

**Table S1** Land use classification and detailed connotations in the study.

| Land use category    | Connotations   |
|----------------------|--|
| Rain-fed land        | Rain-fed land refers to cultivated lands that have no irrigation facilities and are utilized for the cultivation of xerophyte. |
| Paddy land           | Paddy land refers to cultivated lands that are used for the cultivation of rice.   |
| Irrigated land       | Irrigated land refers to cultivated lands that are provided with irrigation water and facilities.                              |
| Mining land          | Mining land refers to lands that are utilized for mining, quarrying or sand excavation.  |
| Marsh                | Marsh refers to lands that are perennially waterlogged and grow hygrophyte.  |
| River shoal          | River shoal refers to the intertidal area by river or lake.  |
| Ruderal land         | Ruderal land refers to natural grasslands that are not utilized for grazing.   |
| Bare land            | Bare land refers to bare soil without vegetation cover.  |
| Sandy land           | Sandy land refers lands that are covered by sand.  |
| Saline-alkaline land | Saline-alkaline refers lands that are salinized and grow salt-tolerant plants.   |

**Table S2** Ecosystem service value (ESV) per hectare of different terrestrial ecosystems in the study area (yuan/ha/yr).

|                     |                            | Reclaimed from |             |              |           |            |                      | Reclaimed as  |            |                |
|---------------------|----------------------------|----------------|-------------|--------------|-----------|------------|----------------------|---------------|------------|----------------|
|                     |                            | Marsh          | River shoal | Ruderal land | Bare land | Sandy land | Saline-alkaline land | Rain-fed land | Paddy land | Irrigated land |
| Land use            |                            | Marsh          | River shoal | Ruderal land | Bare land | Sandy land | Saline-alkaline land | Rain-fed land | Paddy land | Irrigated land |
| Ecosystems          |                            | Wetland        | Wetland     | Grassland    | Desert    | Desert     | Desert               | Farmland      | Farmland   | Farmland       |
| Supplying services  | Food production            | 385.76         | 397.73      | 383.88       | 8.8       | 8.8        | 179.69               | 826.02        | 1303.91    | 1154.87        |
|                     | Raw material               | 89.94          | 92.73       | 63.93        | 0         | 0          | 29.85                | 388.71        | 86.29      | 54.56          |
|                     | Sub-total                  | 475.7          | 490.46      | 447.81       | 8.8       | 8.8        | 209.54               | 1214.73       | 1390.2     | 1209.43        |
| Regulating services | Gas regulation             | 2314.15        | 2385.93     | 1023.64      | 0         | 0          | 479.24               | 651.1         | 1064.22    | 809.32         |
|                     | Climate regulation         | 21984.75       | 22666.73    | 1151.51      | 0         | 0          | 539.08               | 349.84        | 546.49     | 427.39         |
|                     | Water conservation         | 19927.78       | 20545.95    | 1023.64      | 26.5      | 26.5       | 479.24               | 262.38        | 2607.82    | 1727.76        |
|                     | Waste disposal             | 23373.36       | 24098.41    | 1676.15      | 8.8       | 8.8        | 784.62               | 97.18         | 162.99     | 127.31         |
|                     | Sub-total                  | 67600.04       | 69697.02    | 4874.94      | 35.3      | 35.3       | 2282.18              | 1360.5        | 4381.52    | 3091.78        |
| Supporting services | Soil formation & retention | 2198.49        | 2266.69     | 2494.95      | 17.7      | 17.7       | 1168.01              | 1000.94       | 9.59       | 9.09           |
|                     | Biodiversity protection    | 3214.26        | 3313.97     | 1394.62      | 300.8     | 300.8      | 652.93               | 126.33        | 201.34     | 154.59         |
|                     | Sub-total                  | 5412.75        | 5580.66     | 3889.57      | 318.5     | 318.5      | 1820.94              | 1127.27       | 210.93     | 163.68         |
| Cultural services   | Recreation & culture       | 7135.39        | 7356.74     | 51.17        | 8.8       | 8.8        | 24                   | 58.31         | 86.29      | 72.75          |
|                     | Total ESV                  | 80623.88       | 83124.88    | 9263.49      | 371.4     | 371.4      | 4336.66              | 3760.81       | 6068.94    | 4537.64        |

Note: 100 yuan=16.06 dollars in 2015