**Supplemental table 3.** The distribution of China’s 71 National Nature Reserves or portions distributed in the always-suitable area of *X.* *sorbifolium*.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Province** | **Name of Nature Reserves** | **Type** | **Established****date** | **Assessment****data** | **Nature****Reserve****Area****(Km2)** | **Human****Influence****index** | **Total****Area****(Km2)** | **Occupied****area****(Km2)** | **Protected****Area****%** | **Quadrant** |
| **Beijing** | Beijing Songshan National Nature Reserve | Forest ecosystems | unknown | 19860709 | 46 | 17 | 67 | 4.2046926 | 0.69 | 2 |
| **Gansu** | Gansu Xiaolong Mountain National Nature Reserve | wild animals | 19821103 | 20060211 | 68 | 13 | 445 | 6.0980743 | 0.15 | 1 |
| **Gansu** | Xinglongshan National Natural Reserve | Forest ecosystems | 19860111 | 19880509 | 323 | 18 | 441 | 6.0890449 | 0.73 | 4 |
| **Gansu** | Dahaituo National Nature Reserve | Forest ecosystems | 19990701 | 20030606 | 112 | 16 | 174 | 5.1590553 | 0.64 | 1 |
| **Hebei** | Yiwulvshan National Nature Reserve | Forest ecosystems | 19810909 | 19860709 | 925 | 20 | 925 | 6.8297937 | 1 | 1 |
| **Hebei** | Daqinggou national nature reserve | Forest ecosystems | 19880509 | 19880509 | 125 | 19 | 125 | 4.8283137 | 1 | 1 |
| **Hebei** | Helan Mountain National Nature Reserve | Forest ecosystems | 19920513 | 19921027 | 46 | 13 | 990 | 6.8977049 | 0.05 | 4 |
| **Henan** | Xunhua Mengda National Nature Reserve | Forest ecosystems | 19800403 | 20000404 | 146 | 19 | 231 | 5.4424177 | 0.63 | 1 |
| **Henan** | Lishan National Nature Reserve | Forest ecosystems | 19831226 | 19880509 | 165 | 15 | 175 | 5.164786 | 0.94 | 1 |
| **Henan** | National Nature Reserve of Manghe Monkey | wild animals | 19831226 | 19980818 | 266 | 15 | 266 | 5.5834963 | 1 | 1 |
| **Jilin** | Wulushan National Nature Reserve | wild animals | 19930120 | 20060211 | 287 | 16 | 287 | 5.6594822 | 1 | 4 |
| **Jilin** | Taibaishan National Nature Reserve | Forest ecosystems | 19650909 | 19860709 | 9 | 12 | 798 | 6.6821086 | 0.01 | 3 |
| **Liaoning** | Ziwuling National Nature Reserve | Forest ecosystems | 19990101 | 20060211 | 566 | 15 | 566 | 6.3385941 | 1 | 1 |
| **Liaoning** | Baxinshan National Nature Reserve | Forest ecosystems | 19841201 | 19951106 | 138 | 16 | 138 | 4.9272537 | 1 | 1 |
| **Inner Mongolia** | Helan Mountain National Nature Reserve | Forest ecosystems | 19820701 | 19880509 | 104 | 15 | 2670 | 7.8898338 | 0.04 | 1 |
| **Inner Mongolia** | Luyashan National Nature Reserve | wild animals | 19801218 | 19971208 | 189 | 20 | 287 | 5.6594822 | 0.66 | 3 |
| **Inner Mongolia** | Heicha Mountain National Nature Reserve | Forest ecosystems | 20020620 | 20120130 | 375 | 18 | 377 | 5.9322452 | 0.99 | 1 |
| **Inner Mongolia** | Tuoliang National Nature Reserve | Forest ecosystems | 20010331 | 20110416 | 295 | 15 | 324 | 5.7807435 | 0.91 | 4 |
| **Ningxia** | Baishuijiang National Nature Reserve | wild animals | 19630101 | 19781215 | 1032 | 13 | 2557 | 7.84659 | 0.4 | 1 |
| **Ningxia** | Qilian Mountain National Nature Reserve | Forest ecosystems | 19870101 | 19880509 | 1940 | 9 | 24977 | 10.125711 | 0.08 | 1 |
| **Ningxia** | Taohe National Nature Reserve | Forest ecosystems | 20050202 | 20090918 | 17 | 14 | 4040 | 8.304 | 0.07 | 1 |
| **Qinghai** | Zibaishan National Nature Reserve | wild animals | 20030101 | 20120130 | 22 | 14 | 230 | 5.4380793 | 0.1 | 1 |
| **Shanxi** | Upper Reaches of Luanhe River National Nature Reserve | Forest ecosystems | unknown | unknown | 2 | 18 | 665 | 6.499787 | 0.03 | 1 |
| **Shanxi** | Daqing Mountain National Nature Reserve | Forest ecosystems | 19961216 | 20080114 | 430 | 17 | 6239 | 8.7385752 | 0.07 | 1 |
| **Shanxi** | Wulingshan National Nature Reserve | Forest ecosystems | 1983 | 19880509 | 162 | 16 | 223 | 5.4071718 | 0.73 | 1 |
| **Shanxi** | Taihang Mountains Macaca National Nature Reserve | wild animals | 19820624 | 19980818 | 818 | 18 | 818 | 6.7068623 | 1 | 1 |
| **Shaanxi** | Hengshui Lake National Nature Reserve | Inland wetlands and water ecosystems | 20000701 | 20030606 | 115 | 27 | 241 | 5.4847969 | 0.48 | 3 |
| **Shaanxi** | Daheishan National Nature Reserve | Forest ecosystems | 20000619 | 20130608 | 214 | 16 | 214 | 5.365976 | 1 | 4 |
| **Shaanxi** | Hongluoshan National Nature Reserve | Forest ecosystems | 20060710 | 20140304 | 159 | 21 | 159 | 5.0689042 | 1 | 1 |
| **Tianjin** | Qinzhou Rare Aquatic Wildlife National Nature Reserve | wild animals | 20100719 | 20140304 | 49 | 17 | 50 | 3.912023 | 0.98 | 1 |
| **Tibet** | Zhangxain Rare Aquatic Wildlife National Nature Reserve | wild animals | 20050202 | 20130608 | 46 | 16 | 48 | 3.871201 | 0.96 | 3 |
| **Tibet** | Lvyang Rare Aquatic Wildlife National Nature Reserve | wild animals | 20060101 | 20130608 | 1 | 16 | 82 | 4.4067192 | 0.01 | 4 |
| **Tibet** | Qinling Brachymystax lenok National Nature Reserve | wild animals | 20011101 | 20090918 | 99 | 16 | 99 | 4.5951199 | 1 | 3 |
| **Inner Mongolia** | Taizishan National Nature Reserve | Forest ecosystems | 20050101 | 20120130 | 428 | 17 | 1334 | 7.1959372 | 0.32 | 1 |
| **Jilin** | Zhouzhi National Nature Reserve | wild animals | 19880509 | 19880509 | 80 | 14 | 805 | 6.6908423 | 0.1 | 4 |
| **Ningxia** | Liancheng National Nature Reserve | Forest ecosystems | 20010401 | 20050723 | 494 | 21 | 721 | 6.5806391 | 0.69 | 1 |
| **Ningxia** | Bailang Mountain National Nature Reserve | Forest ecosystems | 20010709 | 20110416 | 269 | 18 | 269 | 5.5947114 | 1 | 4 |
| **Shanxi** | Baihua Mountain National Nature Reserve | Forest ecosystems | 19850401 | 20080114 | 311 | 18 | 354 | 5.8692969 | 0.88 | 1 |
| **Shanxi** | Qingyazhai National Nature Reserve | Forest ecosystems | 20060201 | 20120130 | 222 | 16 | 222 | 5.4026774 | 1 | 1 |
| **Hebei** | Heilihe National Natural Reserve | Forest ecosystems | 19961229 | 20030606 | 273 | 16 | 428 | 6.0591232 | 0.64 | 1 |
| **Gansu** | Maojingba National Nature Reserve | Forest ecosystems | 20020529 | 20080114 | 425 | 15 | 635 | 6.453625 | 0.67 | 4 |
| **Gansu** | Xiaowutaishan National Nature Reserve of Hebei | Forest ecosystems | 19831101 | 20020702 | 128 | 16 | 429 | 6.0614569 | 0.3 | 1 |
| **Gansu** | Baotianman National Nature Reserve | Forest ecosystems | 19800430 | 19880509 | 319 | 16 | 326 | 5.7868974 | 0.98 | 4 |
| **Gansu** | Funiu Mountain National Nature Reserve of Henan | Forest ecosystems | 19820624 | 19971208 | 698 | 15 | 893 | 6.7945866 | 0.78 | 4 |
| **Gansu** | Yellow River Wetland Birds National Nature Reserve OF Xinxiang Henan | Inland wetlands and water ecosystems | 19950818 | 20030606 | 723 | 25 | 745 | 6.6133842 | 0.97 | 3 |
| **Gansu** | Tianfozhishan National Nature Reserve of Jilin | wild plants | 19960513 | 20020702 | 351 | 19 | 1229 | 7.1139561 | 0.29 | 1 |
| **Liaoning** | Cibagou National Nature Reserve | Forest ecosystems | 19850923 | 20020702 | 17 | 4 | 1279 | 7.1538338 | 0.01 | 1 |
| **Liaoning** | Yarlung Zangbo Grand Canyon National Nature Reserve | Forest ecosystems | 19850709 | 19860709 | 400 | 4 | 13714 | 9.5261725 | 0.03 | 1 |
| **Shaanxi** | Qinglong River National Nature Reserve | wild animals | 20010401 | 20140304 | 185 | 18 | 185 | 5.2203558 | 1 | 1 |
| **Shaanxi** | Nanhuashan National Nature Reserve | Forest ecosystems | 20041201 | 20140304 | 272 | 18 | 290 | 5.6698809 | 0.94 | 3 |
| **Shaanxi** | Yunwu Mountain National Nature Reserve | Forest ecosystems | 19820401 | 20130608 | 94 | 21 | 94 | 4.5432948 | 1 | 1 |
| **Qinghai** | Hancheng Huanglongshan Crossptilon National Nature Reserve | wild animals | 20031021 | 20120130 | 548 | 17 | 548 | 6.3062753 | 1 | 4 |
| **Hebei** | Keerqin National Natural Reserve | wild animals | 19850209 | 19951106 | 311 | 17 | 3939 | 8.2786822 | 0.08 | 3 |
| **Inner Mongolia** | Taitong-Kongtongshan National Nature Reserve | Forest ecosystems | 19820101 | 20050723 | 266 | 18 | 266 | 5.5834963 | 1 | 4 |
| **Hebei** | Habahu National Nature Reserve | Desert ecosystems | 19980701 | 20060211 | 1274 | 14 | 1274 | 7.1499168 | 1 | 1 |
| **Henan** | Pangquangou National Nature Reserve | wild animals | 19801201 | 19860709 | 270 | 16 | 377 | 5.9322452 | 0.72 | 1 |
| **Beijing** | Lianhuashan National Nature Reserve of Gansu Province | Forest ecosystems | 19821203 | 20030606 | 149 | 22 | 168 | 5.123964 | 0.89 | 1 |
| **Hebei** | Liupanshan National Nature Reserve | Forest ecosystems | 19820501 | 19880509 | 831 | 16 | 960 | 6.8669333 | 0.87 | 1 |
| **Liaoning** | Qomolangma National Nature Reserve | Forest ecosystems | 19880405 | 19940405 | 49 | 9 | 43682 | 10.684691 | 0.01 | 1 |
| **Hebei** | Luoshan National Nature Reserve | Forest ecosystems | 19820701 | 20020702 | 469 | 15 | 475 | 6.1633148 | 0.99 | 4 |
| **Liaoning** | Ar Horqin National Nature Reserve | Grassland and Meadow Ecosystems | 19980201 | 2005072 | 1792 | 16 | 2131 | 7.6643466 | 0.84 | 1 |
| **Liaoning** | Huichun National Nature Reserve | wild animals | 20011022 | 20050723 | 946 | 17 | 1929 | 7.564757 | 0.49 | 1 |
| **Liaoning** | Baijitan National Nature Reserve | Desert ecosystems | 19850101 | 20000404 | 1099 | 16 | 1102 | 7.004882 | 1 | 1 |
| **Ningxia** | Zhanggutai National Nature Reserve | Forest ecosystems | 19861201 | 20120130 | 198 | 23 | 198 | 5.288267 | 1 | 1 |
| **Ningxia** | Yan'anHuanglongshan Crossptilon National Nature Reserve | wild animals | 20010825 | 20110416 | 1167 | 15 | 1167 | 7.0621916 | 1 | 1 |
| **Shanxi** | Nuluer Hushan National Nature Reserve | Forest ecosystems | 20001101 | 20060211 | 219 | 18 | 222 | 5.4026774 | 0.99 | 1 |
| **Qinghai** | Sanjiangyuan National Nature Reserve | Inland wetlands and water ecosystems | 20000523 | 20030124 | 1072 | 6 | 240394 | 12.390035 | 0.01 | 3 |
| **Gansu** | Jilin Xianghai National Nature Reserve | Inland wetlands and water ecosystems | 19810309 | 19860709 | 6 | 18 | 1796 | 7.4933172 | 0 | 2 |
| **Gansu** | Haitangshan Mountain National Nature Reserve | Forest ecosystems | 19861201 | 20070406 | 196 | 19 | 196 | 5.2781147 | 1 | 2 |
| **Shaanxi** | Lingkong Mountain National Nature Reserve | Forest ecosystems | 19930120 | 20140102 | 148 | 19 | 148 | 4.9972123 | 1 | 3 |
| **Shaanxi** | Beiheyuanqu National Nature Reserve | Forest ecosystems | 20051001 | 20140102 | 17 | 16 | 1540 | 7.3395377 | 0.01 | 1 |