**Table 1:** ES potential changes in 2012-2018 due to NMM and Istanbul Airport construction

|  |  |
| --- | --- |
|  | Total ES Potential |
| 2012 CLC Dataset | 608.629,74 |
| 2018 CLC Dataset | 3.796,08 |
| ES Potential Loss | 604.833,82 |

**Table 2:** Distribution of spatial use types within the impact zone in 2012 and 2018

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Spatial Use** | **Area in 2012 (ha)** | **Ratio (%)** | **Area in 2018 (ha)** | **Ratio (%)** |
| Non-irrigated arable land | 9251,27 | 33,31 | 8951,11 | 32,23 |
| Broad-leaved forest | 6246,25 | 22,49 | 4530,54 | 16,31 |
| Construction sites | 216,23 | 0,78 | 3414,59 | 12,29 |
| Road and rail networks and associated land | 503,00 | 1,81 | 1658,00 | 5,97 |
| Complex cultivation patterns | 1572,45 | 5,66 | 1371,81 | 4,94 |
| Mixed forest | 1801,66 | 6,49 | 1252,77 | 4,51 |
| Land principally occupied by agriculture, with significant areas of natural vegetation | 1220,38 | 4,39 | 1228,24 | 4,42 |
| Discontinuous urban fabric | 979,47 | 3,53 | 1053,62 | 3,79 |
| Transitional woodland-shrub | 1335,42 | 4,81 | 837,99 | 3,02 |
| Industrial or commercial units | 711,90 | 2,56 | 733,31 | 2,64 |
| Pastures | 1149,42 | 4,14 | 727,91 | 2,62 |
| Coniferous forest | 1033,21 | 3,72 | 584,19 | 2,10 |
| Mineral extraction sites | 365,51 | 1,32 | 379,42 | 1,37 |
| Continuous urban fabric | 303,38 | 1,09 | 320,48 | 1,15 |
| Natural grasslands | 584,77 | 2,11 | 300,45 | 1,08 |
| Green urban areas | 132,12 | 0,48 | 126,45 | 0,46 |
| Sea and ocean | 131,21 | 0,47 | 113,18 | 0,41 |
| Permanently irrigated land | 74,26 | 0,27 | 74,26 | 0,27 |
| Sport and leisure facilities | 55,35 | 0,20 | 55,35 | 0,20 |
| Water bodies | 72,07 | 0,26 | 35,83 | 0,13 |
| Dump sites | 34,15 | 0,12 | 24,02 | 0,09 |
| Sparsely vegetated areas | 0,00 | 0,00 | 0,00 | 0,00 |

**Table 3:** ES potential change between 2012 and 2018 in NMM impact zone

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Spatial Use** | **Areal Change** | **ES Score** | **ES Potential 2012** | **ES Potential 2018** | **ES Potential Change** |
| Broad-leaved forest | -1715,72 | 87 | 543424,09 | 394156,60 | -149267,49 |
| Mixed forest | -548,89 | 89 | 160348,00 | 111496,48 | -48851,52 |
| Coniferous forest | -449,02 | 87 | 89889,37 | 50824,31 | -39065,07 |
| Transitional woodland-shrub | -497,43 | 60 | 80125,47 | 50279,50 | -29845,96 |
| Pastures | -421,50 | 51 | 58620,19 | 37123,49 | -21496,70 |
| Non-irrigated arable land | -300,15 | 54 | 499568,36 | 483360,14 | -16208,22 |
| Natural grasslands | -284,32 | 51 | 29823,32 | 15322,85 | -14500,48 |
| Complex cultivation patterns | -200,64 | 44 | 69187,98 | 60359,72 | -8828,26 |
| Water bodies | -36,24 | 69 | 4972,87 | 2472,09 | -2500,78 |
| Sea and ocean | -18,02 | 66 | 8659,68 | 7470,12 | -1189,56 |
| Green urban areas | -5,67 | 23 | 3038,68 | 2908,36 | -130,31 |
| Sparsely vegetated areas | 0,00 | 22 | 0,00 | 0,00 | 0,00 |
| Construction sites | 3198,36 | 0 | 0,00 | 0,00 | 0,00 |
| Road and rail networks and associated land | 1155,00 | 0 | 0,00 | 0,00 | 0,00 |
| Industrial or commercial units | 21,40 | 0 | 0,00 | 0,00 | 0,00 |
| Mineral extraction sites | 13,90 | 0 | 0,00 | 0,00 | 0,00 |
| Dump sites | -10,14 | 0 | 0,00 | 0,00 | 0,00 |
| Sport and leisure facilities | 0,00 | 15 | 830,23 | 830,23 | 0,00 |
| Permanently irrigated land | 0,00 | 44 | 3267,33 | 3267,33 | 0,00 |
| Continuous urban fabric | 17,09 | 22 | 6674,43 | 7050,46 | 376,03 |
| Land principally occupied by agriculture, with significant areas of natural vegetation | 7,86 | 49 | 59798,75 | 60183,67 | 384,92 |
| Discontinuous urban fabric | 74,15 | 24 | 23507,21 | 25286,76 | 1779,55 |
|  | Total | 1.641.735,96 | 1.312.392,12 | -329.343,84 |

**Table 4:** Spatial uses in the plan area in 2012 and 2018

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Spatial Use** | **Area in 2012 (ha)** | **Ratio (%)** | **Area in 2018 (ha)** | **Ratio (%)** |
| Non-irrigated arable land | 6.704,93 | 60,28 | 6.706,50 | 60,29 |
| Land principally occupied by agriculture, with significant areas of natural vegetation | 1.542,85 | 13,87 | 1.550,75 | 13,94 |
| Water bodies | 772,98 | 6,95 | 772,98 | 6,95 |
| Pastures | 779,39 | 7,01 | 770,73 | 6,93 |
| Complex cultivation patterns | 547,34 | 4,92 | 547,34 | 4,92 |
| Discontinuous urban fabric | 344,53 | 3,10 | 344,53 | 3,10 |
| Transitional woodland-shrub | 180,29 | 1,62 | 171,54 | 1,54 |
| Broad-leaved forest | 138,15 | 1,24 | 127,49 | 1,15 |
| Mineral extraction sites | 43,74 | 0,39 | 52,40 | 0,47 |
| Mixed forest | 41,56 | 0,37 | 29,04 | 0,26 |
| Natural grasslands | 17,21 | 0,15 | 26,06 | 0,23 |
| Construction sites | 0,42 | 0,00 | 13,63 | 0,12 |
| Beaches, dunes, sands | 4,94 | 0,04 | 4,94 | 0,04 |
| Coniferous forest | 4,20 | 0,04 | 4,20 | 0,04 |
| Industrial or commercial units | 0,95 | 0,01 | 1,37 | 0,01 |

**Table 5:** Spatial use types as given in Canal Istanbul’s spatial plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Spatial Use Type** | **CLC taxonomy equivalent** | **Area (ha)** | **Ratio (%)** |
| Low-density residential area | Discontinuous urban fabric | 2905,38 | 26,12 |
| Park and recreation area | Green urban areas | 2169,35 | 19,50 |
| Water body | Water body | 1462,98 | 13,15 |
| Commercial-residential area | Continuous urban fabric | 1061,95 | 9,55 |
| Mid-density residential area | Continuous urban fabric | 868,76 | 7,81 |
| Forest area | Mixed forest | 401,58 | 3,61 |
| Commercial area | Industrial or commercial units | 330,49 | 2,97 |
| Education area | Discontinuous urban fabric | 323,89 | 2,91 |
| Technology development zone | Industrial or commercial units | 223,20 | 2,01 |
| Logistic facility area | Industrial or commercial units | 203,64 | 1,83 |
| Highway protection zone | Road and rail networks and associated land | 150,83 | 1,36 |
| Fair area | Industrial or commercial units | 140,79 | 1,27 |
| Commercial-tourism area | Industrial or commercial units | 137,79 | 1,24 |
| Special project area | Continuous urban fabric | 115,79 | 1,04 |
| Railway protection zone | Road and rail networks and associated land | 75,83 | 0,68 |
| Health facility area | Sport and leisure facilities | 74,28 | 0,67 |
| Technical infrastructure area | Industrial or commercial units | 72,49 | 0,65 |
| Public service area | Discontinuous urban fabric | 44,47 | 0,40 |
| Worship area | Sport and leisure facilities | 41,03 | 0,37 |
| University area | Discontinuous urban fabric | 38,47 | 0,35 |
| Afforestation area | Coniferous forest | 37,76 | 0,34 |
| Special health facility area | Discontinuous urban fabric | 35,86 | 0,32 |
| Special education area | Discontinuous urban fabric | 30,14 | 0,27 |
| Social facility area | Sport and leisure facilities | 29,79 | 0,27 |
| Cultural facility area | Sport and leisure facilities | 29,70 | 0,27 |
| Railway protection zone | Road and rail networks and associated land | 25,20 | 0,23 |
| Municipal service area | Discontinuous urban fabric | 24,74 | 0,22 |
| Special social facility area | Sport and leisure facilities | 19,64 | 0,18 |
| Sport facility | Sport and leisure facilities | 16,83 | 0,15 |
| Urban business area | Discontinuous urban fabric | 12,93 | 0,12 |
| Market place | Industrial or commercial units | 10,98 | 0,10 |
| Fuel-oil station area | Industrial or commercial units | 6,93 | 0,06 |

**Table 6:** ES potential estimations of Canal Istanbul’s spatial plan and CLC 2018

|  |  |  |
| --- | --- | --- |
| **SPATIAL PLAN'S ES POTENTIAL** |  | **CLC 2018 ES POTENTIAL** |
| **SPATIAL USE TYPES** | **TOTAL ES POTENTIAL** |  | **SPATIAL USE TYPES** | **TOTAL ES POTENTIAL** |
| Low-density residential area | 69729,12 |  | Water bodies | 53335,50 |
| Park and recreation area | 49895,05 |  | Transitional woodland-shrub | 10292,31 |
| Forest area | 35740,62 |  | Pastures | 39307,42 |
| Commercial-residential area | 23362,90 |  | Non-irrigated arable land | 362150,86 |
| Mid-density residential area | 19112,72 |  | Natural grasslands | 1329,10 |
| Education area | 7773,32 |  | Mixed forest | 2584,87 |
| Afforestation area | 3284,78 |  | Mineral extraction sites | 0,00 |
| Special project area | 2778,95 |  | Land principally occupied by agriculture, with significant areas of natural vegetation | 75986,66 |
| Health facility area | 1114,20 |  | Industrial or commercial units | 0,00 |
| Public service area | 978,34 |  | Discontinuous urban fabric | 8268,60 |
| University area | 923,28 |  | Construction sites | 0,00 |
| Special health facility area | 860,61 |  | Coniferous forest | 365,35 |
| Special education area | 723,47 |  | Complex cultivation patterns | 24083,09 |
| Worship area | 615,45 |  | Broad-leaved forest | 11091,30 |
| Municipal service area | 593,79 |  | Beaches, dunes, sands | 177,77 |
| Social facility area | 446,85 |  | **TOTAL** | **588.972,84** |
| Cultural facility area | 445,50 |  |  |  |
| Urban business area | 310,20 |  |  |  |
| Special social facility area | 294,65 |  |  |  |
| Sport facility | 252,45 |  |  |  |
| Commercial area | 0,00 |  |  |  |
| Technology development zone | 0,00 |  |  |  |
| Logistic facility area | 0,00 |  |  |  |
| Highway zone | 0,00 |  |  |  |
| Fair area | 0,00 |  |  |  |
| Commercial-tourism area | 0,00 |  |  |  |
| Railway zone | 0,00 |  |  |  |
| Technical infrastructure area | 0,00 |  |  |  |
| Railway zone | 0,00 |  |  |  |
| Market place | 0,00 |  |  |  |
| Fuel-oil station area | 0,00 |  |  |  |
| Water body | 0,00 |  |  |  |
| **TOTAL** | **219.236,26** |  |  |  |