**Supplementary information**

**S1 Month wise GSI of six habitats and their significant difference**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Months | Kali River | Gaglajur Haor | Padma River | Meghna River | Tetulia River | Bay of Bengal | *P value* |
| January | 7.5 | 7.1 | 8.1 | 8.2 | 8.1 | 7.6 | 0.970 |
| February | 9.4 | 8.2 | 9.7 | 9.4 | 9.3 | 8.9 | 0.968 |
| March | 5.2 | 5.3 | 5.3 | 5.3 | 5.7 | 5.8 | 0.995 |
| April | 4.7 | 4.5 | 4.0 | 5.2 | 4.9 | 5.3 | 0.847 |
| May | 6.8 | 6.2 | 6.4 | 6.1 | 5.9 | 5.1 | 0.810 |
| June | 5.1 | 4.9 | 5.5 | 5.2 | 5.7 | 4.7 | 0.939 |
| July | 5.6 | 5.7 | 6.0 | 5.9 | 6.1 | 5.5 | 0.995 |
| August | 6.8 | 6.4 | 6.7 | 6.8 | 8.4 | 6.6 | 0.573 |
| September | 8.3 | 8.1 | 9.1 | 8.7 | 9.2 | 9.2 | 0.939 |
| October | 11.6 | 11.2 | 12.4 | 11.6 | 13.3 | 12.4 | 0.977 |
| November | 9.3 | 8.8 | 10.7 | 10.4 | 11.2 | 11.3 | 0.877 |
| December | 8.6 | 7.9 | 8.9 | 8.6 | 8.6 | 9.3 | 0.993 |

**Table S2 Raw data of year-round average water quality parameters and GSI of *Tenualosa ilisha* in Kali river**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Month | GSI | Temperature | Dissolved oxygen | pH |
| January | 7.5 | 26.95 | 7.53 | 9.26 |
| February | 9.4 | 26.88 | 7.44 | 9.46 |
| March | 5.2 | 29.53 | 7.56 | 9.34 |
| April | 4.7 | 28.45 | 7.86 | 9.16 |
| May | 6.8 | 31.15 | 7.56 | 9.34 |
| June | 5.1 | 28.9 | 7.58 | 9.47 |
| July | 5.6 | 29.13 | 7.63 | 9.44 |
| August | 6.8 | 27.9 | 7.58 | 9.47 |
| September | 8.3 | 27.54 | 7.6 | 9.46 |
| October | 11.6 | 27.25 | 7.44 | 9.46 |
| November | 9.3 | 27.05 | 7.47 | 9.52 |
| December | 8.6 | 27.07 | 7.44 | 9.57 |

**Table S3 Raw data of year-round average water quality parameters and GSI of *Tenualosa ilisha* in Gaglajur Haor**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Month | GSI | Temperature | Dissolved oxygen | pH |
| January | 7.1 | 27.4 | 8.26 | 9.32 |
| February | 8.2 | 26.5 | 8.295 | 9.18 |
| March | 5.3 | 27.25 | 8.388 | 9.35 |
| April | 4.5 | 28.77 | 8.35 | 9.18 |
| May | 6.2 | 27.66 | 8.388 | 9.35 |
| June | 4.9 | 28.09 | 8.53 | 9.37 |
| July | 5.7 | 28.66 | 8.33 | 9.18 |
| August | 6.4 | 28.13 | 8.7 | 9.65 |
| September | 8.1 | 27.51 | 8.7 | 9.18 |
| October | 11.2 | 26.5 | 8.295 | 9.18 |
| November | 8.8 | 26.55 | 8.55 | 9.539 |
| December | 7.9 | 26.58 | 8.43 | 9.56 |

**Table S4 Raw data of year-round average water quality parameters and GSI of *Tenualosa ilisha* in Padma river**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Month | GSI | Temperature | Dissolved oxygen | pH |
| January | 8.1 | 27.08 | 12.69 | 8.27 |
| February | 9.7 | 26.65 | 12.95 | 8.29 |
| March | 5.3 | 27.55 | 12.7 | 8.37 |
| April | 4.0 | 28.2 | 12.42 | 8.41 |
| May | 6.4 | 27.61 | 12.7 | 8.37 |
| June | 5.5 | 28.16 | 12.32 | 8.39 |
| July | 6.0 | 28.75 | 12.15 | 8.53 |
| August | 6.7 | 28.75 | 12.15 | 8.53 |
| September | 9.1 | 27.58 | 12.85 | 8.58 |
| October | 12.4 | 27.19 | 13.07 | 8.49 |
| November | 10.7 | 27.05 | 12.58 | 8.46 |
| December | 8.9 | 26.58 | 12.32 | 8.47 |

**Table S5 Raw data of year-round average water quality parameters and GSI of *Tenualosa ilisha* in Meghna river**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Month | GSI | Temperature | Dissolved oxygen | pH |
| January | 8.2 | 26.65 | 11.25 | 8.2 |
| February | 9.4 | 26.55 | 11.3 | 8.23 |
| March | 5.3 | 27.34 | 11.3 | 8.23 |
| April | 5.2 | 27.66 | 12.44 | 8.3 |
| May | 6.1 | 27.35 | 11.3 | 8.23 |
| June | 5.2 | 27.71 | 11.3 | 8.23 |
| July | 5.9 | 28.3 | 11.74 | 8.39 |
| August | 6.8 | 27.71 | 11.3 | 8.23 |
| September | 8.7 | 27.55 | 12.2 | 8.42 |
| October | 11.6 | 26.65 | 11.25 | 8.2 |
| November | 10.4 | 26.51 | 11.4 | 7.61 |
| December | 8.6 | 26.85 | 12.1 | 8.25 |

**Table S6 Raw data of year-round average water quality parameters and GSI of *Tenualosa ilisha* in Tetulia river**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Month | GSI | Temperature | Dissolved oxygen | pH | Salinity |
| January | 8.1 | 27 | 10.34 | 7.46 | 0.535 |
| February | 9.3 | 26.55 | 10.55 | 7.45 | 0.45 |
| March | 5.7 | 27.5 | 10.6 | 7.45 | 0.495 |
| April | 4.9 | 27.75 | 10.6 | 7.61 | 0.616 |
| May | 5.9 | 27.5 | 10.6 | 7.45 | 0.24 |
| June | 5.7 | 27.7 | 10.6 | 7.45 | 0.495 |
| July | 6.1 | 27.93 | 10.52 | 7.6 | 0.352 |
| August | 8.4 | 30.85 | 10.25 | 7.74 | 0.8 |
| September | 9.2 | 27.51 | 10.65 | 7.43 | 0.38 |
| October | 13.3 | 27.4 | 10.59 | 7.92 | 0.25 |
| November | 11.2 | 26.75 | 10.59 | 7.92 | 0.25 |
| December | 8.6 | 26.828 | 10.81 | 7.54 | 0.28 |

**Table S7 Raw data of year-round average water quality parameters and GSI of *Tenualosa ilisha* in Bay of Bengal**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Month | GSI | Temperature | Dissolved oxygen | pH | Salinity |
| January | 7.6 | 26.81 | 6.47 | 6.4 | 30.1 |
| February | 8.9 | 26.55 | 6.53 | 6.61 | 29.4 |
| March | 5.8 | 27.05 | 6.53 | 6.61 | 29.4 |
| April | 5.3 | 27.48 | 6.57 | 6.61 | 29.4 |
| May | 5.1 | 27.55 | 6.53 | 6.61 | 29.4 |
| June | 4.7 | 27.3 | 6.4 | 6.61 | 29.4 |
| July | 5.5 | 28.68 | 6.32 | 6.7 | 30.5 |
| August | 6.6 | 28.68 | 6.32 | 6.7 | 29.7 |
| September | 9.2 | 27.64 | 6.32 | 6.7 | 30.5 |
| October | 12.4 | 28.68 | 6.32 | 6.7 | 29.7 |
| November | 11.3 | 26.29 | 6.46 | 6.65 | 28.9 |
| December | 9.3 | 26.83 | 6.44 | 6.54 | 29.6 |