Figure 1 Map of study sites at the four migrant fisher destinations in Kenya 2

Figure 2 Principal fishing grounds used by migrant fishers as mapped by GPS tracking combined by landing site 6

Figure 3 Fishing time (no. of hours) for different vessels-gear types 6

Figure 4 a) Detected thermal fronts overlaid (dashed line) on sea surface temperature plot with contours spaced at 0.5 °C, b) Favourable range of chlorophyll-a concentration with contours spaced at 0.1 mg/m3 during December to February season 7

Figure 5 Occurrence of fish families as target catch in migrant fish landings at four landing sites 9

Figure 6 Catch per unit effort of different vessel- gear types at four landing sites frequented by migrant fisher 10

Figure 7 Average catch of target fish in migrant fish landings 10

Figure 8 Average catch and nature of fish landed by migrant fisher at four landing sites 11

Figure 9 Average catch by different fishing gear used by migrant fishers at four landing sites 11

Table 1 Migrant fisheries and fishing areas at four landing sites

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Landing site** | **Kipini** | **Gazi** | **Shimoni** | **Vanga-Jimbo** |
| Gear | Hook and line, hook and stick, long line | Cast net, drift net, ring net, shark net | Gill net, hook and line, shark net | Basket trap, long line, ring net, shark net |
| Crew size | 5-20 | 2-30 | 2-5 | 3-28 |
| Fishing duration (hrs.) | 6-14 | 1-16 | 1-19.8 | 3-9.5 |
| Fishing area (km2) | 582.6 | 303.7 | 333.4 | 280.3 |
| Maximum depth | 180 | 400 | 510 | 260 |
| Maximum distance | 40 | 25 | 22 | 21 |

Table 2 Kruskal-Wallis and Mann-Whitney pairwise statistical results of fishing duration by vessel-gear type. NS= not significant, \* p<0.05; \*\* p<0.01; \*\*\*p<0.001

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Vanga-Jimbo (KW-test H =38.05, p<0.001)** | | | | |
| **Mann-Whitney pairwise comparison** | |  |  |  |
|  | Dugout canoe-basket trap | Dugout canoe-long line | Dugout canoe-shark net | |
| Dugout canoe-long line | NS |  |  |  |
| Dugout canoe-shark net | \*\* | NS |  |  |
| Wooden plank boat-ring net | \*\*\* | \*\* | \*\*\* |  |
| **Shimoni (KW-test H =6.53, p<0.05)** | | | | |
| **Mann-Whitney pairwise comparison** | |  |  |  |
|  | Dugout canoe-gill net | Dugout canoe-shark net | | |
| Dugout canoe-shark net | NS |  |  |  |
| Outrigger canoe-hook and line | \* | NS |  |  |
| **Gazi (KW-test H =29.17, p<0.001)** | | | | |
| **Mann-Whitney pairwise comparison** | |  |  |  |
|  | Dugout canoe-cast net | Dugout canoe-drift net | Dugout canoe-shark net | Wooden plank boat-ring net |
| Dugout canoe-drift net | \* |  |  |  |
| Dugout canoe-shark net | NS | NS |  |  |
| Wooden plank boat-ring net | NS | \*\* | \* |  |
| Wooden plank boat-shark net | \*\*\* | \*\*\* | \*\*\* | \*\*\* |
| **Kipini (KW-test H =38.24, p<0.001)** | | | | |
| **Mann-Whitney pairwise comparison** | |  |  |  |
|  | Wooden plank boat-long line | Wooden plank boat-hook and stick | | |
| Wooden plank boat-hook and stick | \*\*\* |  |  |  |
| Wooden plank boat-hook and line | NS | \*\*\* |  |  |

Table 3 GLM of factors influencing fishing intensity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Coefficient** | **Std. Error** | **z-Statistic** | **Prob.** |
| C | -2.576 | 0.18 | -14.66 | 0.00 |
| CREW | 0.01 | 0.01 | 2.47 | 0.01 |
| DEPTH | -0.00 | 0.00 | -3.05 | 0.00 |
| DISTANCE | -0.01 | 0.01 | -2.15 | 0.03 |
| VESSEL | -0.02 | 0.02 | -1.76 | 0.08 |