

1984 FISHERIES STATISTICS

LAKE KARIBA - ZIMBABWE SIDE

Compiled by

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SUMMARY

| | |
|-------------------------------------|--------|
| 1. <u>Pelagic Fishery:</u> | t |
| Kariba area - Sardines | 6 286 |
| Bumi - Chalala - Sengwa - Sardines | 3 806 |
| Binga - Mlibizi - Sardines | 312 |
| All areas - tigerfish | 26 |
| <hr/> | |
| Sub-total : Pelagic yield | 10 430 |
| <hr/> | |
| 2. <u>Inshore Fishery:</u> | |
| Area C.1. Concession area | 52 |
| Area C.2. Sanyati East | 417 |
| Area C.3. King's Camp (Matusadonna) | 22 |
| Area C.4. Bumi - Sibilobilo | 54 |
| Area C.5. Sengwa - Mwenda | 99 |
| Area C.6. Senkwi - Binga | 12 |
| Area C.7. Binga-Mlibizi | 76 |
| Others | 105 |
| <hr/> | |
| Sub-total : Inshore yield | 837 |
| <hr/> | |

Grand total : 11 267t

93% from pelagic fishery

7% from inshore fishery

PART I : PELAGIC FISHERY

The pelagic fishery is based at 6 areas on the Zimbabwean side of Kariba (Fig. 1). Kariba and Chalala are the most important producing 93% of the total yield. The fishery consists almost entirely of the introduced clupeid Limnothrissa miodon with the Tigerfish Hydrocynus vittatus occasionally being taken.

The tables give the total catch, total effort and total catch per unit effort at each area for each month. The values may differ from those given in previous statistics which is a result of rounding-off to the nearest tonne. In addition, a number of errors which appeared in earlier statistics have been noted and corrected.

The data are based on returns submitted by the commercial fishermen and their cooperation is acknowledged.

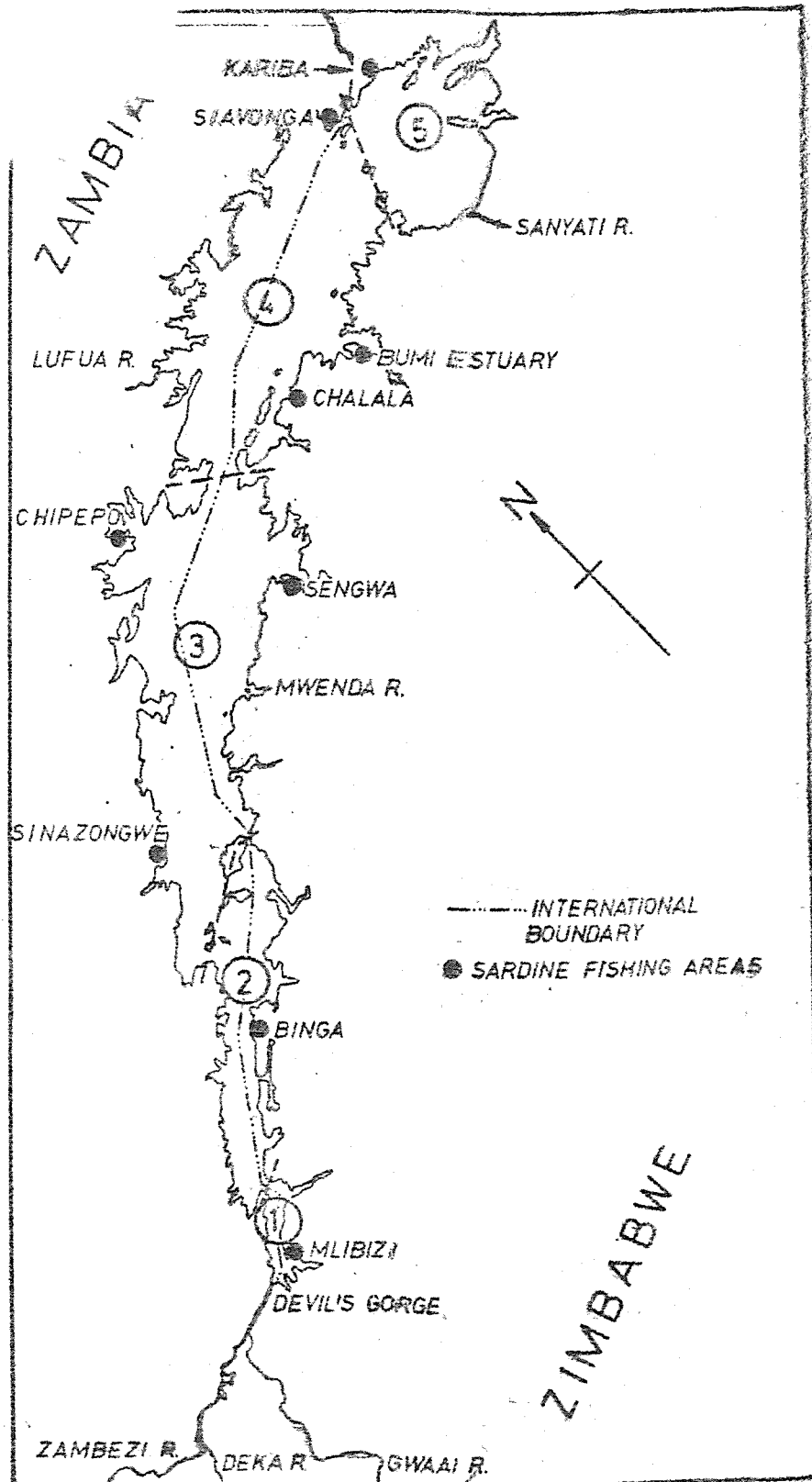


Figure 1: Lake Kariba, showing the location of sardine fishing bases on the Zimbabwean and Zambian sides

Table 1: Total landings of Sardines, Limnothrissa miodon, 1974-1984 (tonnes, rounded-off).

| Area | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---------------|------|------|-------|-------|-------|-------|-------|--------|-------|-------|--------|
| Kariba | 488 | 656 | 1 050 | 1 172 | 2 772 | 4 875 | 5 959 | 7 408 | 5 249 | 5 590 | 6 286 |
| Bumi | | | | | | 78 | 173 | 285 | 234 | 170 | 305 |
| Chalala | | | | | | 8 | 1 261 | 2 879 | 2 605 | 2 566 | 3 417 |
| Sengwa | | | | | 35 | 82 | 115 | 175 | 113 | 99 | 84 |
| Binga-Mlibizi | | | | | | 96 | 485 | 390 | 310 | 177 | 312 |
| TOTAL | 488 | 656 | 1 050 | 1 172 | 2 807 | 5 139 | 7 993 | 11 137 | 8 511 | 8 602 | 10 404 |

Table 2: Total landings of Tigerfish, Hydrocynus vittatus, 1974-1984 (tonnes, rounded-off)

| Area | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---------------|------|------|------|------|------|------|------|------|------|------|------|
| Kariba | 18 | 81 | 91 | 138 | 129 | 64 | 41 | 54 | 44 | 45 | 22 |
| Buwa | | | | | | 1 | 1 | 6 | 3 | 4 | 2 |
| Chalala | | | | | | | | 2 | 1 | 3 | 2 |
| Sengwa | | | | | 1 | 3 | 2 | 1 | 1 | 1 | - |
| Binga-Mlibizi | | | | | | 2 | 5 | 2 | 1 | 1 | 1 |
| TOTAL | 18 | 81 | 91 | 138 | 130 | 70 | 49 | 65 | 50 | 54 | 26 |

NOTE: Accurate data on Tigerfish landings are rarely kept and the values in this table give only an indication of general trends.

Table 3: Monthly sardine landings (tonnes, rounded-off), Kariba area, 1974-1984

| | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January | 9 | 22 | 39 | 35 | 85 | 116 | 361 | 303 | 284 | 395 | 522 |
| February | 14 | 21 | 44 | 44 | 94 | 133 | 374 | 390 | 423 | 399 | 504 |
| March | 17 | 26 | 65 | 50 | 139 | 201 | 42 | 597 | 610 | 632 | 664 |
| April | 41 | 33 | 109 | 87 | 152 | 270 | 420 | 656 | 519 | 572 | 505 |
| May | 23 | 40 | 97 | 108 | 218 | 245 | 513 | 680 | 395 | 384 | 461 |
| June | 56 | 72 | 113 | 77 | 292 | 297 | 457 | 856 | 373 | 396 | 438 |
| July | 81 | 118 | 165 | 162 | 388 | 561 | 533 | 1 117 | 511 | 460 | 676 |
| August | 85 | 136 | 186 | 212 | 714 | 919 | 850 | 1 162 | 631 | 532 | 700 |
| September | 61 | 93 | 144 | 185 | 328 | 911 | 917 | 928 | 570 | 803 | 622 |
| October | 48 | 41 | 41 | 110 | 166 | 534 | 583 | 443 | 339 | 412 | 426 |
| November | 18 | 25 | 25 | 50 | 103 | 369 | 313 | 201 | 393 | 346 | 380 |
| December | 35 | 29 | 22 | 52 | 93 | 319 | 217 | 75 | 201 | 259 | 388 |
| TOTAL | 488 | 656 | 1 050 | 1 172 | 2 772 | 4 875 | 5 959 | 7 408 | 5 249 | 5 590 | 6 286 |

Table 4: Monthly sardine landings (tonnes, rounded-off), Bumi area, 1979-1984.

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|------|------|------|
| January | | - | 13 | - | 9 | 9 |
| February | | - | 12 | 22 | 10 | 22 |
| March | | 4 | 24 | 26 | 11 | 31 |
| April | | 9 | 35 | 26 | 13 | 30 |
| May | | 20 | 31 | 26 | 13 | 30 |
| June | | 19 | 25 | 21 | 15 | 31 |
| July | 6 | 19 | 26 | 24 | 17 | 30 |
| August | 15 | 22 | 41 | 20 | 22 | 22 |
| September | 24 | 24 | 33 | 18 | 27 | 25 |
| October | 19 | 22 | 28 | 15 | 17 | 31 |
| November | 13 | 23 | 17 | 26 | 16 | 28 |
| December | 1 | 11 | - | 10 | - | 16 |
| TOTAL | 78 | 173 | 285 | 234 | 170 | 305 |

Table 5: Monthly sardine landings (tonnes, rounded-off), Chalala area, 1979-1984.

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|-------|-------|-------|-------|-------|
| January | | 13 | 73 | 81 | 51 | 201 |
| February | | 12 | 127 | 136 | 224 | 300 |
| March | | 37 | 223 | 250 | 273 | 365 |
| April | | 46 | 204 | 116 | 194 | 325 |
| May | | 80 | 257 | 362 | 188 | 299 |
| June | | 92 | 293 | 268 | 186 | 274 |
| July | | 146 | 350 | 310 | 182 | 298 |
| August | | 202 | 381 | 396 | 255 | 394 |
| September | | 290 | 549 | 343 | 455 | 415 |
| October | | 184 | 326 | 193 | 322 | 214 |
| November | 3 | 103 | 84 | 133 | 169 | 225 |
| December | 5 | 56 | 12 | 17 | 67 | 107 |
| TOTAL | 8 | 1 261 | 2 879 | 2 605 | 2 566 | 3 417 |

Table 6: Monthly sardine landings (tonnes, rounded-off), Sengwa area, 1978-1984.

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------|------|------|------|------|------|------|------|
| Jan. | | - | 11 | 5 | 2 | - | - |
| Feb. | | 4 | 10 | 13 | 9 | 4 | 11 |
| Mar. | | 7 | 7 | 29 | 13 | 17 | 14 |
| Apr. | | 7 | 8 | 23 | 10 | 14 | 14 |
| May | | 5 | 16 | 16 | 7 | 10 | 13 |
| Jun. | | 4 | 5 | 5 | 14 | 10 | 11 |
| Jul. | 7 | 3 | 9 | 17 | 18 | 7 | 6 |
| Aug. | 14 | 16 | 13 | 23 | 19 | 6 | 5 |
| Sep. | 11 | 24 | 17 | 26 | 10 | 19 | 4 |
| Oct. | 3 | 12 | 11 | 14 | 6 | 12 | 6 |
| Nov. | - | - | 6 | 4 | 5 | - | - |
| Dec. | - | - | - | - | - | - | - |
| TOTAL | 35 | 82 | 115 | 175 | 113 | 99 | 84 |

Table 7: Monthly sardine landings (tonnes, rounded-off), Binga-Mlibizi area, 1979-1984.

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|------|------|------|
| January | | 7 | 42 | 26 | 1 | 10 |
| February | | 17 | 42 | 15 | 10 | 27 |
| March | | 29 | 3 | 19 | 25 | 41 |
| April | 1 | 32 | 2 | 4 | 23 | 31 |
| May | 5 | 24 | 4 | 25 | 15 | 31 |
| June | 5 | 17 | 18 | 45 | 13 | 37 |
| July | 7 | 61 | 61 | 46 | 11 | 49 |
| August | 12 | 88 | 90 | 38 | 21 | 41 |
| September | 16 | 73 | 63 | 50 | 27 | 45 |
| October | 20 | 60 | 27 | 27 | 17 | - |
| November | 24 | 44 | 30 | 15 | 13 | - |
| December | 6 | 33 | 8 | - | 1 | - |
| TOTAL | 96 | 485 | 390 | 310 | 177 | 312 |

Table 8: (a) Mean catch ratios for A, B and C category nets (Kariba area only), 1977-1984

| | A | B | C |
|------|-----|-----|-----|
| 1977 | 1.0 | 3.3 | 5.2 |
| 1978 | 1.0 | 2.2 | 3.9 |
| 1979 | 1.0 | 1.6 | 2.6 |
| 1980 | 1.0 | 1.6 | 2.2 |
| 1981 | 1.0 | 1.3 | 2.1 |
| 1982 | 1.0 | 1.2 | 1.9 |
| 1983 | 1.0 | 1.0 | 1.5 |
| 1984 | 1.0 | 0.8 | 1.1 |
| MEAN | 1.0 | 1.6 | 2.6 |

Table 8: (b) Total effort (nights) for A, B and C category nets (all areas), 1977-1984.

| | A | | B | | C | |
|------|--------|------|--------|------|--------|------|
| | Nights | % | Nights | % | Nights | % |
| 1977 | 112 | 5.9 | 1 109 | 58.7 | 669 | 35.4 |
| 1978 | 905 | 14.9 | 4 260 | 70.3 | 898 | 14.8 |
| 1979 | 4 793 | 41.6 | 5 607 | 48.7 | 1 111 | 9.7 |
| 1980 | 17 224 | 62.1 | 9 272 | 33.4 | 1 227 | 4.5 |
| 1981 | 25 526 | 76.3 | 7 141 | 21.3 | 817 | 2.4 |
| 1982 | 31 201 | 89.0 | 2 897 | 8.3 | 40 | 2.7 |
| 1983 | 33 828 | 91.7 | 2 256 | 6.1 | 789 | 2.2 |
| 1984 | 38 120 | 94.9 | 1 451 | 3.6 | 591 | 1.5 |

Table 9: Total effort (unit-nights) in the Sardine fishery, 1974-1984

| Area | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---------------|------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| Kariba | 616 | 1 298 | 1 833 | 3 114 | 5 877 | 14 405 | 22 819 | 24 393 | 23 776 | 24 481 | 25 344 |
| Bumi | | | | | | 195 | 789 | 1 670 | 1 459 | 1 036 | 1 077 |
| Chalala | | | | | | 43 | 6 052 | 9 953 | 10 560 | 11 645 | 13 261 |
| Sengwa | | | | | 96 | 319 | 586 | 668 | 539 | 565 | 503 |
| Binga-Mlibizi | | | | | | 548 | 1 550 | 1 188 | 1 291 | 1 063 | 1 293 |
| TOTAL | 616 | 1 298 | 1 833 | 3 114 | 5 973 | 15 810 | 31 796 | 37 872 | 37 625 | 38 490 | 41 478 |

Note: A unit-night is the number of nights fished; in the case of B and C category vessels this figure is multiplied by 1.5 and 2.0 respectively.

Table 10: Monthly effort (unit-nights) Kariba area, 1974-1984

| | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------|------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| Jan | 54 | 60 | 164 | 123 | 264 | 581 | 1 594 | 1 940 | 1 217 | 1 019 | 1 977 |
| Feb. | 54 | 58 | 156 | 121 | 310 | 620 | 1 509 | 1 923 | 1 744 | 1 898 | 1 982 |
| Mar. | 32 | 62 | 160 | 153 | 371 | 752 | 1 677 | 2 329 | 2 120 | 2 216 | 2 130 |
| Apr. | 58 | 60 | 162 | 166 | 421 | 899 | 1 565 | 2 124 | 1 873 | 2 152 | 1 988 |
| May | 54 | 101 | 157 | 210 | 480 | 1 015 | 2 115 | 2 473 | 2 221 | 2 204 | 2 075 |
| Jun. | 50 | 103 | 163 | 293 | 528 | 1 133 | 2 094 | 2 450 | 2 192 | 2 239 | 2 026 |
| Jul. | 54 | 147 | 168 | 371 | 582 | 1 422 | 2 122 | 2 547 | 2 252 | 2 339 | 2 255 |
| Aug. | 54 | 151 | 171 | 381 | 650 | 1 788 | 2 170 | 2 460 | 2 373 | 2 135 | 2 265 |
| Sep. | 56 | 138 | 142 | 393 | 671 | 1 680 | 2 297 | 2 186 | 2 368 | 2 144 | 2 261 |
| Oct. | 56 | 148 | 133 | 357 | 667 | 1 738 | 2 252 | 1 916 | 2 002 | 2 044 | 2 217 |
| Nov. | 56 | 131 | 132 | 276 | 501 | 1 492 | 1 922 | 1 355 | 2 044 | 1 853 | 2 161 |
| Dec. | 48 | 139 | 125 | 270 | 432 | 1 285 | 1 502 | 690 | 1 370 | 1 438 | 2 008 |
| TOTAL | 616 | 1 298 | 1 833 | 3 114 | 5 877 | 14 405 | 22 819 | 24 393 | 23 776 | 24 481 | 25 345 |

Table 11: Monthly effort (unit-nights) Bumi area, 1979-1984

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|-------|-------|-------|-------|
| January | | - | 120 | - | 94 | 41 |
| February | | - | 117 | 121 | 94 | 75 |
| March | | 20 | 177 | 154 | 106 | 80 |
| April | | 23 | 155 | 134 | 77 | 83 |
| May | | 14 | 162 | 117 | 98 | 107 |
| June | | 70 | 156 | 119 | 94 | 104 |
| July | 24 | 95 | 184 | 131 | 95 | 107 |
| August | 41 | 117 | 169 | 123 | 107 | 90 |
| September | 60 | 120 | 178 | 128 | 100 | 102 |
| October | 51 | 112 | 156 | 134 | 94 | 108 |
| November | 16 | 112 | 96 | 222 | 77 | 100 |
| December | 3 | 106 | - | 76 | - | 80 |
| TOTAL | 195 | 789 | 1 670 | 1 459 | 1 036 | 1 017 |

Table 12: Monthly effort (unit-nights), Chalala Area 1979-1984

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|-------|-------|--------|--------|--------|
| January | | 76 | 865 | 458 | 323 | 606 |
| February | | 64 | 825 | 795 | 844 | 1 068 |
| March | | 143 | 879 | 987 | 1 111 | 1 227 |
| April | | 254 | 875 | 912 | 1 049 | 1 089 |
| May | | 398 | 1 009 | 1 054 | 1 101 | 1 211 |
| June | | 669 | 1 056 | 1 100 | 1 070 | 1 232 |
| July | | 510 | 960 | 1 098 | 1 116 | 1 276 |
| August | | 928 | 931 | 1 186 | 1 222 | 1 288 |
| September | | 869 | 1 134 | 1 204 | 1 236 | 1 148 |
| October | | 777 | 717 | 830 | 1 149 | 1 286 |
| November | 15 | 743 | 488 | 841 | 973 | 1 274 |
| December | 28 | 621 | 214 | 95 | 451 | 556 |
| TOTAL | 43 | 6 052 | 9 953 | 10 560 | 11 645 | 13 261 |

Table 13: Monthly effort (unit-nights) Sengwa Area, 1978-1984

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------|------|------|------|------|------|------|------|
| Jan. | | - | 51 | 54 | 11 | - | - |
| Feb. | | 21 | 41 | 68 | 52 | 16 | 46 |
| Mar. | | 24 | 36 | 60 | 69 | 72 | 66 |
| Apr. | | 27 | 45 | 65 | 47 | 72 | 68 |
| May | | 28 | 55 | 75 | 42 | 65 | 71 |
| Jun. | | 26 | 41 | 60 | 66 | 70 | 64 |
| July | 24 | 28 | 50 | 63 | 56 | 67 | 50 |
| Aug. | 27 | 48 | 68 | 60 | 78 | 57 | 51 |
| Sep. | 28 | 65 | 66 | 77 | 42 | 72 | 32 |
| Oct. | 17 | 50 | 69 | 65 | 34 | 74 | 55 |
| Nov. | - | 2 | 64 | 21 | 42 | 77 | - |
| Dec. | - | - | - | - | - | - | - |
| TOTAL | 96 | 319 | 586 | 668 | 539 | 565 | 503 |

Table 14: Monthly effort (unit-nights) Binga-Mlibizi area, 1979-1984

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|-------|-------|-------|-------|-------|
| January | | 35 | 154 | 135 | 8 | 46 |
| February | | 83 | 131 | 84 | 60 | 127 |
| March | | 122 | 43 | 140 | 104 | 136 |
| April | 5 | 133 | 36 | 20 | 127 | 154 |
| May | 41 | 138 | 40 | 95 | 101 | 115 |
| June | 48 | 78 | 104 | 165 | 129 | 141 |
| July | 55 | 143 | 162 | 139 | 131 | 162 |
| August | 75 | 207 | 145 | 141 | 132 | 156 |
| September | 79 | 178 | 123 | 143 | 85 | 125 |
| October | 98 | 167 | 72 | 136 | 109 | 45 |
| November | 98 | 143 | 114 | 93 | 60 | 45 |
| December | 49 | 124 | 64 | - | 17 | 41 |
| TOTAL | 548 | 1 550 | 1 188 | 1 291 | 1 063 | 1 293 |

Table 15: Catch per unit effort (t/unit-night) of sardines, 1974-1984

| | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|--------------|------|------|------|------|------|------|------|------|------|------|------|
| Kariba | 0.79 | 0.51 | 0.57 | 0.38 | 0.47 | 0.34 | 0.26 | 0.30 | 0.22 | 0.23 | 0.25 |
| Bumi | | | | | | 0.40 | 0.22 | 0.17 | 0.16 | 0.16 | 0.28 |
| Chalala | | | | | | 0.19 | 0.21 | 0.29 | 0.25 | 0.22 | 0.26 |
| Sengwe | | | | | 0.36 | 0.26 | 0.20 | 0.26 | 0.21 | 0.18 | 0.17 |
| Binga-Mibizi | | | | | | 0.18 | 0.31 | 0.33 | 0.24 | 0.17 | 0.24 |
| MEAN | 0.79 | 0.51 | 0.57 | 0.38 | 0.47 | 0.32 | 0.25 | 0.29 | 0.23 | 0.22 | 0.25 |

Table 16: Monthly catch per unit effort (t/unit-night), Kariba area 1974-1984.

| | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|------|------|------|------|------|------|------|------|
| January | 0.17 | 0.37 | 0.24 | 0.28 | 0.32 | 0.20 | 0.23 | 0.16 | 0.23 | 0.22 | 0.26 |
| February | 0.26 | 0.36 | 0.28 | 0.36 | 0.30 | 0.21 | 0.25 | 0.20 | 0.24 | 0.21 | 0.25 |
| March | 0.53 | 0.42 | 0.41 | 0.33 | 0.37 | 0.27 | 0.25 | 0.26 | 0.29 | 0.29 | 0.31 |
| April | 0.71 | 0.55 | 0.67 | 0.52 | 0.36 | 0.30 | 0.27 | 0.31 | 0.28 | 0.27 | 0.25 |
| May | 0.43 | 0.40 | 0.62 | 0.51 | 0.45 | 0.24 | 0.24 | 0.27 | 0.18 | 0.17 | 0.22 |
| June | 1.12 | 0.70 | 0.69 | 0.26 | 0.55 | 0.26 | 0.22 | 0.35 | 0.17 | 0.18 | 0.22 |
| July | 1.50 | 0.80 | 0.98 | 0.44 | 0.67 | 0.39 | 0.25 | 0.44 | 0.23 | 0.20 | 0.30 |
| August | 1.57 | 0.90 | 1.09 | 0.56 | 1.10 | 0.51 | 0.39 | 0.47 | 0.27 | 0.25 | 0.31 |
| September | 1.09 | 0.67 | 1.01 | 0.47 | 0.49 | 0.54 | 0.40 | 0.42 | 0.24 | 0.37 | 0.28 |
| October | 0.86 | 0.28 | 0.31 | 0.31 | 0.25 | 0.31 | 0.26 | 0.23 | 0.17 | 0.20 | 0.19 |
| November | 0.32 | 0.19 | 0.19 | 0.18 | 0.21 | 0.25 | 0.16 | 0.15 | 0.19 | 0.19 | 0.18 |
| December | 0.73 | 0.21 | 0.18 | 0.19 | 0.22 | 0.25 | 0.14 | 0.11 | 0.15 | 0.18 | 0.19 |
| MEAN | 0.79 | 0.51 | 0.57 | 0.38 | 0.47 | 0.34 | 0.26 | 0.30 | 0.22 | 0.23 | 0.25 |

Table 17: Monthly catch per unit effort (t/unit-night) Bumi Area 1979-1984.

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|------|------|------|
| January | | - | 0.11 | 0.07 | 0.07 | 0.22 |
| February | | - | 0.10 | 0.18 | 0.10 | 0.30 |
| March | | 0.20 | 0.13 | 0.17 | 0.10 | 0.39 |
| April | | 0.39 | 0.26 | 0.19 | 0.17 | 0.36 |
| May | | 0.24 | 0.19 | 0.22 | 0.13 | 0.28 |
| June | | 0.26 | 0.16 | 0.18 | 0.15 | 0.29 |
| July | 0.25 | 0.19 | 0.14 | 0.18 | 0.18 | 0.28 |
| August | 0.37 | 0.16 | 0.24 | 0.16 | 0.21 | 0.25 |
| September | 0.40 | 0.20 | 0.19 | 0.14 | 0.27 | 0.25 |
| October | 0.37 | 0.19 | 0.18 | 0.11 | 0.19 | 0.29 |
| November | 0.81 | 0.20 | 0.17 | 0.11 | 0.21 | 0.28 |
| December | 0.33 | 0.10 | - | 0.12 | - | 0.20 |
| MEAN | 0.40 | 0.22 | 0.17 | 0.16 | 0.16 | 0.28 |

Table 18: Monthly catch per unit effort (t/unit-night), Chalala area 1979-1984.

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|------|------|------|
| January | | 0.17 | 0.08 | 0.18 | 0.16 | 0.33 |
| February | | 0.19 | 0.15 | 0.17 | 0.27 | 0.28 |
| March | | 0.26 | 0.25 | 0.25 | 0.25 | 0.30 |
| April | | 0.18 | 0.23 | 0.13 | 0.18 | 0.30 |
| May | | 0.20 | 0.25 | 0.34 | 0.17 | 0.25 |
| June | | 0.14 | 0.28 | 0.24 | 0.17 | 0.22 |
| July | | 0.29 | 0.36 | 0.28 | 0.16 | 0.23 |
| August | | 0.22 | 0.41 | 0.33 | 0.21 | 0.31 |
| September | | 0.33 | 0.48 | 0.28 | 0.37 | 0.36 |
| October | | 0.24 | 0.45 | 0.23 | 0.28 | 0.17 |
| November | 0.20 | 0.14 | 0.17 | 0.16 | 0.17 | 0.18 |
| December | 0.18 | 0.09 | 0.06 | 0.18 | 0.15 | 0.19 |
| MEAN | 0.19 | 0.21 | 0.29 | 0.25 | 0.22 | 0.26 |

Table 19: Monthly catch per unit-effort (t/unit-night), Sengwa area, 1978-1984.

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|------|------|------|------|------|------|------|------|
| Jan. | | - | 0.21 | 0.08 | 0.14 | - | - |
| Feb. | | 0.18 | 0.25 | 0.19 | 0.16 | 0.24 | 0.24 |
| Mar. | | 0.28 | 0.15 | 0.48 | 0.19 | 0.23 | 0.20 |
| Apr. | | 0.26 | 0.17 | 0.35 | 0.21 | 0.19 | 0.20 |
| May | | 0.17 | 0.29 | 0.21 | 0.17 | 0.16 | 0.19 |
| Jun. | | 0.16 | 0.13 | 0.09 | 0.21 | 0.14 | 0.17 |
| Jul. | 0.31 | 0.10 | 0.19 | 0.26 | 0.32 | 0.10 | 0.11 |
| Aug. | 0.50 | 0.29 | 0.18 | 0.38 | 0.24 | 0.10 | 0.11 |
| Sep. | 0.39 | 0.32 | 0.26 | 0.33 | 0.25 | 0.26 | 0.11 |
| Oct. | 0.18 | 0.20 | 0.16 | 0.21 | 0.16 | 0.15 | 0.11 |
| Nov. | - | 0.15 | 0.12 | 0.19 | 0.13 | - | - |
| Dec. | - | - | - | - | - | - | - |
| MEAN | 0.36 | 0.26 | 0.20 | 0.26 | 0.21 | 0.18 | 0.17 |

Table 20: Catch per unit-effort (t/unit-night), Binga-Mlibizi, area 1979-1984.

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|------|------|------|
| January | | 0.20 | 0.27 | 0.19 | 0.11 | 0.22 |
| February | | 0.20 | 0.32 | 0.22 | 0.16 | 0.21 |
| March | | 0.24 | 0.07 | 0.14 | 0.24 | 0.30 |
| April | 0.20 | 0.24 | 0.06 | 0.18 | 0.18 | 0.20 |
| May | 0.12 | 0.17 | 0.10 | 0.26 | 0.15 | 0.27 |
| June | 0.10 | 0.22 | 0.17 | 0.27 | 0.10 | 0.26 |
| July | 0.13 | 0.43 | 0.38 | 0.32 | 0.09 | 0.30 |
| August | 0.16 | 0.43 | 0.61 | 0.27 | 0.16 | 0.26 |
| September | 0.20 | 0.41 | 0.51 | 0.35 | 0.32 | 0.36 |
| October | 0.20 | 0.36 | 0.38 | 0.20 | 0.17 | 0.31 |
| November | 0.24 | 0.31 | 0.26 | 0.16 | 0.21 | 0.33 |
| December | 0.12 | 0.27 | 0.13 | - | 0.05 | 0.35 |
| MEAN | 0.18 | 0.31 | 0.33 | 0.24 | 0.17 | 0.21 |

PART II : THE INSHORE FISHERY

The inshore fishery utilises gill-nets (minimum mesh size = 100mm) and takes the indigenous Zambezi River fish which occur in shallow waters around the lake shore.

For statistical purposes the lake is divided into 7 areas (Fig. 2) of which two, C.1 and C.3, are allocated to^a commercial company as a concession. The same company also fishes in the Sengwa area (C.5). Fishing is not permitted off the shore of the Chete Safari Area and is restricted off the Charara Safari Area and the Matusadona National Park.

Staff from the Lake Kariba Fisheries Research Institute carry out enumeration in areas C.2 and C.4 as well as from the GacheGache Co-operative, a new venture which is situated on Charara Point and is not in one of the designated fishing areas. Messrs Irvin & Johnson (I & J) supply sata from their concession areas whilst data from areas C.5, C.6 and C.7 are provided by the District Administrator, Binga. Their co-operation is gratefully acknowledged.

Species composition is determined accurately in areas C.2 and C.4 where enumeration is carried out by our staff. In the other areas fish are grouped, as follows:

- "Bream" = cichlids, notably Oreochromis mortimeri,
Serranochromis codringtoni and Tilapia rendalli.
- "Nchilo" = labeos, Labeo altivelis and L. congoro
- "Chessa" = distichodids, Distichodus schenga and
D. mossambicus.
- "Tiger" = Hydrocynus vittatus.
- "Bottle Fish" = mormyrids, notably Mormyrus longirostris and
Mormyrops deliciosus.
- "Barbel" = catfish, especially Clarias variegatus,
Heterobranchus inermis and Synodontis spp.

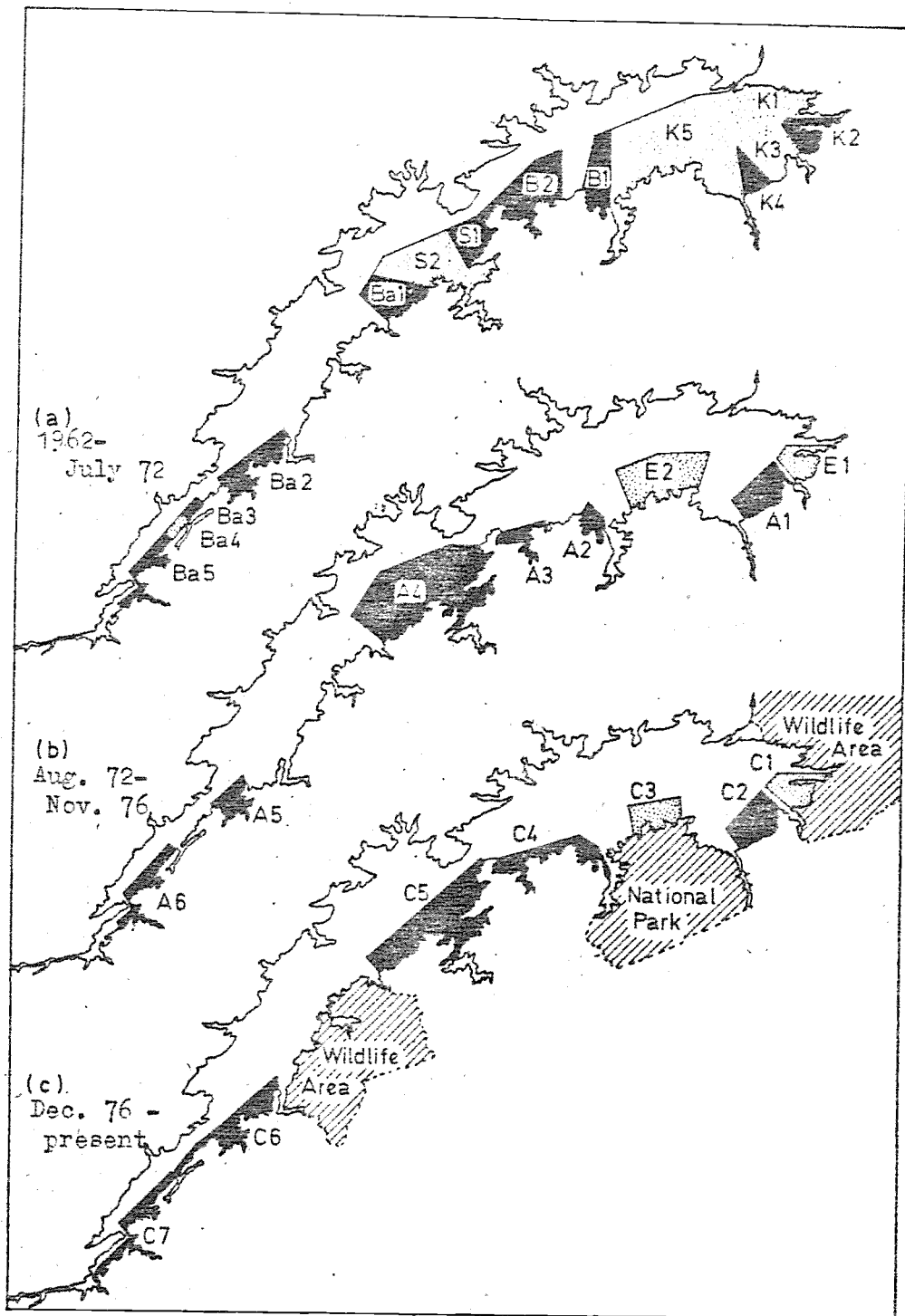


Figure 2: The inshore fishing areas on the Zimbabwe shore of Lake Kariba. National Parks and Wild Life land has been omitted from (a) and (b) for clarity; the stippled areas are those allocated to the commercial concession.

From Marshall et al. (1982) Kariba Studies (10): 175-231.

The tables give, firstly the estimated catch from each village and concession area extrapolated for the 12 month period. The next group of tables give the purchases by I & J from villages; these data give an indication of the value of the catch and an estimate of yield from those where enumeration could not be carried out. The last table shows the yield, number of fishermen and catch per fisherman at the 6 Sanyati East villages. These data are lacking from many of the other villages, especially during the war years 1974-1979, when many of them were closed down.

Table 21 : Catch, effort and species composition from area C.1 (Naodza), 1984

| MONTH | Nets set m | Total Catch kg | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % |
|-----------|---------------|-------------------|------------|-------------|-------------|------------|-----------------|----------------------|
| January | 81900 | 3200.5 | 38.2 | | | 32.1 | 4.6 | 25.1 |
| February | 79170 | 2368.5 | 47.2 | 0.2 | | 2.6 | 8.8 | 41.2 |
| March | 84630 | 1701.5 | 40.3 | 0.2 | | 45.5 | 4.9 | 51.9 |
| April | 84630 | 815.0 | 19.9 | | | 5.3 | 8.7 | 66.1 |
| May | 35490 | 586.5 | 21.7 | 0.1 | | 4.4 | 7.2 | 66.6 |
| June | 81900 | 474.0 | 37.8 | 0.1 | | 6.7 | 2.0 | 53.4 |
| July | 84630 | 576.5 | 21.4 | | | 5.0 | 8.3 | 65.0 |
| August | 84630 | 1382.5 | 44.0 | 0.5 | | 7.0 | 3.8 | 44.7 |
| September | 80672 | 1357.5 | 42.0 | 0.7 | | 4.6 | 2.6 | 50.1 |
| October | 81900 | 1074.0 | 51 | 0.6 | | 3.2 | 2.7 | 42.0 |
| November | 81900 | 1158.5 | 52.1 | 0.2 | | 1.5 | 3.2 | 42.9 |
| December | 1183 | 1947.0 | 43.8 | 0.1 | | 2.9 | 2.1 | 51.1 |
| TOTAL | 862635 | 16642 | 40.9 | 0.2 | | 9.2 | 4.8 | 44.9 |

Total Catch = 16.6t.

C.P.U.E. = 1.9kg/100m

Table 22 : Catch, effort and species composition, Area C.1 (Gache Gache), 1984

| | Effort (m) | Total Catch (kg) | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % |
|-----------|---------------|---------------------|------------|-------------|-------------|------------|-----------------|----------------------|
| January | 192465 | 5126.0 | 44.3 | | | 2.1 | 3.7 | 49.8 |
| February | 185913 | 4133.0 | 45.0 | | | 2.8 | 6.6 | 45.6 |
| March | 1985165 | 3412.0 | 33.7 | | | 2.8 | 6.0 | 57.5 |
| April | 168350 | 1914.0 | 19.3 | | | 3.5 | 9.1 | 68.1 |
| May | 146914 | 1735.5 | 20.2 | 0.1 | | 5.6 | 10.4 | 63.7 |
| June | 152789 | 1354.0 | 24.8 | 0.1 | | 12.7 | 4.2 | 58.1 |
| July | 155064 | 1721.0 | 32.4 | 0.1 | | 6.8 | 4.6 | 56.1 |
| August | 157976 | 3355.0 | 58.1 | 0.1 | | 6.9 | 2.9 | 32.0 |
| September | 18064 | 3258.5 | 51.9 | 0.2 | | 4.2 | 2.5 | 41.2 |
| October | 148512 | 2154.5 | 40.5 | 0.1 | | 5.1 | 3.6 | 50.7 |
| November | 152880 | 2442.0 | 42.3 | 0.1 | | 4.9 | 3.5 | 49.2 |
| December | 132496 | 4273.5 | 48.5 | | | 1.9 | 2.5 | 47.1 |
| TOTAL | 3596598 | 34879.0 | 41.6 | 0.1 | | 4.2 | 4.6 | 49.5 |

Total Catch = 34.9t

C.P.U.E. = 0.9kg/100m

Table 23: Catch and effort statistics, area C.2., 1984. (Enumeration extrapolated to 12 months)

| Village | Total Catch kg | Total Effort m | C.P.U.E. kg 100m |
|-----------|-------------------|-------------------|---------------------|
| Tsetse | 92984 | 2622819 | 3.54 |
| Nematombo | 38863 | 716125 | 5.42 |
| Mudzimu | 4502 | 85790 | 5.24 |
| Nyamhunga | 14741 | 150003 | 9.82 |
| Monga | 27113 | 582333 | 4.65 |
| Dandawa | 238836 | 546507 | 43.70 |
| TOTAL | 417039 | 4703577 | 8.86 |

Table 24: Species composition and total catch, area C.2., 1984

| | | Tsetse | Nematombo | Mudzimu | Nyamhunga | Monga | Dandawa |
|-----------------------------------|---|--------|-----------|---------|-----------|-------|---------|
| TOTAL CATCH (TONNES) | | 92.98 | 38.86 | 4.50 | 14.74 | 27.11 | 238.83 |
| <u>Oreochromis mortimeri</u> | % | 13.8 | 9.4 | 26.1 | 11.7 | 5.5 | 2.6 |
| <u>Tilapia rendalli</u> | % | 28.3 | 55.5 | 43.6 | 22.3 | 4.9 | 1.1 |
| <u>Serranochromis codringtoni</u> | % | 10.1 | 13.7 | 9.9 | 27.6 | 8.2 | 0.4 |
| <u>Labeo altivelis</u> | % | 0.1 | | | 0.2 | 0.4 | 0.5 |
| <u>Labeo congoro</u> | % | | | | | 0.1 | 0.7 |
| <u>Distichodus schenga</u> | % | 0.1 | 0.4 | | 0.7 | 1.3 | 7.0 |
| <u>Distichodus mossambicus</u> | % | 0.1 | 0.4 | | | 0.2 | 1.6 |
| <u>Hydrocynus vittatus</u> | % | 20.3 | 10.0 | 3.9 | 18.2 | 55.8 | 79.9 |
| <u>Clarias gariepinus</u> | % | 6.3 | 3.8 | 13.0 | 11.4 | 4.0 | 1.3 |
| <u>Heterobranchus longifilis</u> | % | 1.1 | 0.4 | | | 0.6 | 0.1 |
| <u>Mormyrus longirostris</u> | % | 10.6 | 3.1 | 2.5 | 4.1 | 5.8 | 3.5 |
| <u>Mormyrops deliciosus</u> | % | 1.7 | 0.3 | | 0.3 | 1.0 | 0.7 |
| Others | % | 7.5 | 3.0 | 1.0 | 3.5 | 12.1 | 0.5 |

Table 25: Catch and effort summary, area C.2, 1970-1984 (All villages combined)

| | Total Catch (kg) | Total Effort (m) | C.P.U.E. (kg/100m) |
|------|---------------------|---------------------|-----------------------|
| 1970 | 114937 | 3504045 | 3.24 |
| 1971 | 67099 | 2472359 | 2.71 |
| 1972 | 126323 | 1852147 | 6.82 |
| 1973 | 199049 | 6054815 | 3.29 |
| 1974 | 277671 | 8699007 | 3.19 |
| 1975 | 311979 | 8012427 | 3.89 |
| 1976 | 230797 | 6745253 | 3.42 |
| 1977 | 234844 | 8235006 | 2.85 |
| 1978 | 340514 | 9856397 | 3.45 |
| 1979 | | No enumeration | |
| 1980 | 187982 | 5433118 | 3.46 |
| 1981 | 168600 | 6050384 | 2.79 |
| 1982 | 164063 | 5436199 | 3.01 |
| 1983 | 170189 | 2540788 | 6.69 |
| 1984 | 417039 | 4703577 | 8.86 |

Table 26 : Catch, effort and species composition at King's Camp (Area C.3), 1984

| | Effort (m) | Total Catch (kg) | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % |
|-----------|---------------|---------------------|------------|-------------|-------------|------------|-----------------|----------------------|
| January | 158795 | 2186.0 | 35.5 | 0.1 | 0.1 | 5.1 | 22.9 | 36.0 |
| February | 106834 | 2670.5 | 51.3 | 0.5 | 0.1 | 2.2 | 16.8 | 29.1 |
| March | 1292655 | 1507.5 | 49.5 | 0.1 | | 1.6 | 20.0 | 28.7 |
| April | 133588 | 1942.0 | 39.5 | 0.2 | | 2.4 | 18.4 | 39.7 |
| May | 14811 | 1467.0 | 39.6 | 0.4 | | 2.8 | 25.2 | 45.3 |
| June | 140140 | 1067.0 | 26.2 | 0.4 | | 4.6 | 14.5 | 60.9 |
| July | 146556 | 1755.5 | 19.6 | 0.1 | | 7.3 | 15.1 | 50.6 |
| August | 142779 | 2115.5 | 26.9 | 0.1 | | 5.9 | 7.2 | 26.8 |
| September | 139822 | 2151.0 | 60.0 | 0.1 | | 4.7 | 7.8 | 30.8 |
| October | 905555 | 1685.0 | 56.6 | | | 4.7 | 7.2 | 39.4 |
| November | 56238 | 1729.0 | 48.7 | 0.3 | 0.1 | 7.9 | 12.1 | 27.5 |
| December | 105879 | 1580.0 | 49.1 | 0.2 | | 7.3 | 14.4 | 28.9 |
| TOTAL | 11503152 | 21856.0 | 44.4 | 0.2 | 0.1 | 4.6 | 15.0 | 35.7 |

Total Catch = 21.9t

C.P.U.E. = 0.2kg/100m

Table 27: Catch and effort statistics, area C.4., 1984 (enumeration extrapolated to 12 months).

| Village | Total Catch (kg) | Total Effort (m) | C.P.U.E (kg/100m) |
|---------------|---------------------|---------------------|----------------------|
| Musamba | 29212 | 730995 | 3.99 |
| Chalala | 9852 | 124704 | 7.90 |
| Sibilobilo II | 14961 | 202727 | 7.37 |
| TOTAL | 54025 | 1058426 | 5.10 |

Table 29: Catch and effort summary, area C.4., 1970-1984

| | Total Catch (kg) | Total Effort (m) | C.P.U.E. (kg/100m) |
|------|---------------------|---------------------|-----------------------|
| 1970 | 93 578 | 1 179 609 | 7.92 |
| 1971 | 91 963 | 1 267 303 | 7.25 |
| 1972 | 78 145 | 978 530 | 7.98 |
| 1973 | 77 512 | 1 551 514 | 5.00 |
| 1974 | 84 210 | 1 535 458 | 5.48 |
| 1975 | 59 292 | 736 212 | 8.05 |
| 1976 | 31 924 | 429 982 | 7.53 |
| 1977 | | No enumeration | |
| 1978 | 63 864 | 1 291 114 | 4.94 |
| 1979 | | No enumeration | |
| 1980 | 66 587 | 1 090 772 | 6.10 |
| 1981 | 99 718 | 2 063 793 | 4.83 |
| 1982 | 78 582 | 1 928 563 | 4.07 |
| 1983 | 71 475 | 1 001 906 | 7.13 |
| 1984 | 54 025 | 1 058 426 | 5.10 |

Table 30 : Catch, effort and species composition, area C.5 (I & J concession catches), 1984

| | Nets Set (m) | Total Catch (kg) | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % |
|-----------|-----------------|---------------------|------------|-------------|-------------|------------|-----------------|----------------------|
| January | 236145 | 4036.5 | 56.9 | 0.2 | 0.1 | 2.3 | 11.2 | 29.3 |
| February | 231276 | 4316.0 | 59.8 | 0.2 | | 1.4 | 13.5 | 25.1 |
| March | 2534805 | 6439.0 | 70.8 | 0.6 | | 1.1 | 6.9 | 20.6 |
| April | 2524795 | 4130.0 | 54.2 | 0.1 | | 1.4 | 8.6 | 35.7 |
| May | 247839 | 4831.0 | 50.6 | 0.3 | | 2.9 | 4.9 | 41.2 |
| June | 242652 | 4558.0 | 55.7 | 0.5 | | 5.1 | 2.5 | 36.2 |
| July | 235690 | 6574.5 | 55.9 | 0.3 | | 3.9 | 2.4 | 37.5 |
| August | 239330 | 8888.5 | 76.4 | 0.2 | | 1.9 | 3.7 | 17.8 |
| September | 228911 | 2881.5 | 85.3 | 0.1 | | 0.9 | 3.4 | 10.2 |
| October | 242288 | 8949.0 | 81.5 | 0.1 | | 0.7 | 2.4 | 15.3 |
| November | 230640 | 8377.5 | 75.5 | 0.1 | | 0.5 | 2.1 | 21.8 |
| December | 190764 | 5274.5 | 74.9 | | | 0.5 | 2.4 | 22.2 |
| TOTAL | 7365335 | 75178.0 | 69.4 | 0.2 | | 1.7 | 4.6 | 24.0 |

Total Catch = 75.2t
C.F.T.B. = 1.0kg/100m

Table 30: Catch and effort summary, I & J concession areas (C.1., C.3., C.5.), 1973-1984

| | AREA C.1 | | AREA C.3 | | AREA C.5 | | | | |
|------|----------|--------|----------|----------|----------|---------|---------|--------|---------|
| | Metres | Tonnes | kg 100m | Metres | Tonnes | kg 100m | Metres | Tonnes | kg 100m |
| 1973 | 4245514 | 87.77 | 2.07 | 3456725 | 97.18 | 2.74 | 3840473 | 94.10 | 2.45 |
| 1974 | 4067700 | 171.12 | 4.21 | 3473470 | 124.48 | 3.58 | 3961230 | 106.67 | 2.69 |
| 1975 | 5823454 | 216.14 | 3.71 | 3387575 | 78.13 | 1.19 | | | |
| 1976 | 4693325 | 184.89 | 3.94 | 3079440 | 80.20 | 2.60 | 1094730 | 70.86 | 6.47 |
| 1977 | 2585583 | 100.17 | 3.87 | 2489851 | 75.35 | 3.03 | | | |
| 1978 | 4232547 | 178.57 | 4.22 | 2616114 | 120.00 | 4.59 | | | |
| 1979 | 3604010 | 168.15 | 4.67 | 2000135 | 119.73 | 5.99 | | | |
| 1980 | 3435068 | 97.37 | 2.83 | 2452951 | 101.11 | 4.12 | 574756 | 100.42 | 17.47 |
| 1981 | 2919457 | 72.17 | 2.47 | 2091404 | 66.77 | 3.19 | 2124842 | 177.26 | 8.34 |
| 1982 | 2614884 | 86.99 | 3.32 | 1642321 | 50.40 | 3.06 | 2131082 | 106.31 | 4.98 |
| 1983 | 3553053 | 77.73 | 2.18 | 1530166 | 37.43 | 2.44 | 3078396 | 83.51 | 2.71 |
| 1984 | 4459223 | 51.51 | 2.88 | 11503152 | 21.85 | 0.19 | 7385335 | 75.17 | 1.01 |

Table 32: Catch and effort summary for villages in areas C.5., C.6 and C.7, 1984

| | | Total Catch (kg) | Total Effort (m) | C.P.U.E. (kg/100m) |
|-----|------------|---------------------|---------------------|-----------------------|
| C.5 | Mujere | 8 401 | 1090733 | 0,79 |
| | Chipamba | 3 572 | 75257 | 4.74 |
| | Mwenda | 11 437 | 309720 | 3.69 |
| | TOTAL | 23 410 | 1435710 | 1.63 |
| C.6 | Kalulwe | 12 401 | 336882 | 3.68 |
| | TOTAL | *1 401 | 336882 | 3.68 |
| C.7 | Chinzonzo | 15 251 | 230008 | 6.63 |
| | Lokola | 6 512 | 206585 | 3.15 |
| | Chiteme | 18 000 | 324821 | 5.54 |
| | Kabulawu | 6 924 | 291592 | 2.37 |
| | Simatelele | 11 239 | 180866 | 6.21 |
| | Mbila | 3 648 | 97188 | 3.75 |
| | Chibuyu | 14 229 | 69275 | 20.53 |
| | TOTAL | 75.803 | 1400335 | 5.41 |

Table 11: Catch and species composition from villages in areas C.5 and C.7

| | Village | Total Catch kg | Bream % | Nohila % | Chesss % | Tiger % | Barbel % | Others % |
|-----|-------------|-------------------|------------|-------------|-------------|------------|-------------|-------------|
| C.5 | Mujere | 8401 | 47.6 | 22.9 | 2.6 | 8.3 | 3.7 | 14.8 |
| | Chipamba | 3572 | 52.5 | 12.2 | 2.5 | 7.0 | 2.4 | 23.4 |
| | Mwenda | 11437 | 29.4 | 26.7 | 0.7 | 16.2 | 1.2 | 25.8 |
| C.6 | Kalulwe | 12401 | 25.9 | 29.9 | 2.4 | 17.0 | 1.7 | 23.1 |
| | Chinzozo | 15251 | 4.3 | 3.4 | 47.5 | 17.4 | 0.5 | 26.7 |
| | Lokola | 6512 | 4.2 | 7.2 | 42.2 | 18.0 | 2.6 | 25.8 |
| C.7 | Chitame | 18000 | 26.7 | 15.7 | 10.9 | 19.5 | 3.9 | 23.3 |
| | Kabulawu | 6924 | 0.4 | 1.3 | 70.1 | 22.1 | 0.1 | 6.0 |
| | Siamatelele | 11239 | 13.0 | 9.8 | 26.3 | 12.2 | 4.9 | 33.7 |
| | Mbila | 3648 | 26.4 | 6.7 | 16.7 | 16.9 | 6.8 | 26.5 |
| | Chibuyu | 14229 | 52.8 | 16.4 | 0.5 | 16.6 | 2.2 | 11.4 |

Total Landings: C.5, 3,46t; C.6, 12,4t; C.7, 75,8t

Table 34: Gachegache Co-operative society, catch, effort and species composition. 1984.

| | |
|-----------------------------------|-----------|
| Total Catch (kg) | 90 396.6 |
| Effort (m) | 2 455 744 |
| CPUE (kg/100) | 2.71 |
| <u>Oreochromis mortimeri</u> (%) | 44.1 |
| <u>Tilapia rendalli</u> | 10.5 |
| <u>Serranochromis codringtoni</u> | 27.3 |
| <u>Labeo altivelis</u> | 2.4 |
| <u>Labeo congoro</u> | 0.2 |
| <u>Distichodus schenga</u> | 0.1 |
| <u>Hydrocynus vittatus</u> | 11.9 |
| <u>Clarias gariepinus</u> | 12.0 |
| <u>Heterobranchus longifilis</u> | 0.9 |
| <u>Mormyrus longirostris</u> | 14.7 |
| <u>Mormyrops deliciosus</u> | 7.9 |
| <u>Others</u> | 8.0 |

Table 35: Area C.2 (Sanyati East) Purchases by I & J 1984

| Month | kg | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & others % | Payments \$ |
|--------------|----------------|-------------|------------|------------|-------------|--------------|-------------------|------------------|
| January | 9800.0 | 4.0 | 0.1 | 3.4 | 83.7 | 1.5 | 7.3 | 4 972.18 |
| February | 7155.0 | 16.0 | 0.3 | 1.7 | 62.0 | 6.0 | 13.9 | 3 167.10 |
| March | 5954.5 | 21.1 | 0.1 | | 36.5 | 4.5 | 37.8 | 2 171.96 |
| April | 2998.5 | 20.9 | 0.4 | | 29.3 | 4.0 | 45.4 | 1 014.69 |
| May | 2361.0 | 22.2 | | | 44.1 | 4.6 | 29.1 | 937.97 |
| June | 2824.5 | 15.9 | 0.2 | | 55.3 | 2.5 | 26.1 | 1 157.23 |
| July | 1613.5 | 24.7 | | | 32.6 | 2.8 | 39.8 | 581.95 |
| August | 1015.5 | 26.2 | | | 40.8 | 2.7 | 30.3 | 400.56 |
| September | 7192.0 | 32.8 | | | 34.1 | 1.8 | 31.3 | 2 821.68 |
| October | 6313.5 | 28.6 | | 0.1 | 44.4 | 1.9 | 25.0 | 3 748.85 |
| November | 7708.5 | 22.6 | 0.3 | 0.7 | 58.2 | 1.9 | 16.3 | 4 826.10 |
| December | 13289.5 | 25.0 | 0.2 | 2.4 | 51.7 | 3.3 | 17.3 | 8 145.75 |
| TOTAL | 68137.0 | 21.0 | 0.2 | 1.2 | 52.6 | 2.9 | 22.1 | 33 946.02 |

Total purchases - 68,137 kg
 Total payments - \$ 33,946.02
 Value - \$ 496.20 / tonne

Table 36: Area C.4 (Chalala) Purchases by I & J 1984

| Month | kg | Bream % | Nchilla % | Chessá % | Tiger % | Bottlefish % | Barbel & Others % | Payments \$ |
|-----------|---------|------------|--------------|-------------|------------|-----------------|----------------------|----------------|
| January | 2042.0 | 58.4 | 1.9 | | 25.3 | 9.4 | 5.0 | 1 092.21 |
| February | 3040.5 | 59.7 | 1.2 | | 19.3 | 8.8 | 11.0 | 1 361.20 |
| March | 2485.0 | 72.6 | 0.8 | | 12.5 | 4.9 | 9.2 | 1 151.96 |
| April | 2533.0 | 45.2 | 2.0 | 0.1 | 27.6 | 9.7 | 15.4 | 1 888.82 |
| May | 2970.5 | 60.5 | 3.4 | | 9.2 | 12.3 | 14.6 | 1,264.19 |
| June | 1569.0 | 45.5 | 4.4 | 0.2 | 18.4 | 7.8 | 23.8 | 628.23 |
| July | 1362.5 | 44.4 | 3.0 | | 20.1 | 8.4 | 24.0 | 545.89 |
| August | 3471.5 | 44.7 | 2.0 | | 7.3 | 5.3 | 40.6 | 1 214.90 |
| September | 2087.0 | 71.4 | 0.4 | | 5.1 | 3.1 | 20.6 | 896.08 |
| October | 2362.5 | 65.5 | 1.7 | | 11.3 | 4.9 | 16.6 | 784.54 |
| November | 1890.0 | 74.0 | 0.2 | | 6.7 | 6.3 | 12.8 | 848.21 |
| December | 3735.5 | 59.2 | 1.1 | 0.1 | 22.6 | 5.9 | 11.0 | 1 697.45 |
| TOTAL | 29558.5 | 58.5 | 1.8 | | 15.4 | 7.2 | 17.1 | 13 373.68 |

Total Purchases = 29.6 tonnes

Total Payments = \$ 13 373.68

Value = \$ 452.44/tonne

Table 17: Area C.5 (Sengwa West) purchases by I & J 1984

| Month | kg | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % | Payments \$ |
|-----------|---------|---------|----------|----------|---------|--------------|-------------------|-------------|
| January | 3305.5 | 36.4 | 14.3 | 0.4 | 16.7 | 12.9 | 19.3 | 1 476.33 |
| February | 3118.5 | 30.9 | 15.1 | 0.1 | 17.4 | 13.2 | 23.3 | 1 169.33 |
| March | 4515.5 | 48.7 | 6.7 | | 5.9 | 11.0 | 27.6 | 1 702.76 |
| April | 3969.0 | 47.9 | 6.7 | | 7.8 | 11.7 | 25.9 | 1 478.23 |
| May | 3472.5 | 44.7 | 9.5 | | 10.7 | 9.2 | 25.9 | 1 328.91 |
| June | 1069.5 | 41.7 | 9.7 | | 12.4 | 3.3 | 32.9 | 945.74 |
| July | 3194.0 | 37.3 | 14.1 | | 8.5 | 8.3 | 31.8 | 1 138.84 |
| August | 5123.0 | 53.3 | 4.0 | | 5.9 | 7.4 | 29.4 | 1 958.77 |
| September | 6382.0 | 56.5 | 3.2 | | 5.5 | 7.7 | 27.2 | 2 492.76 |
| October | 3613.0 | 59.3 | 2.4 | 0.1 | 6.4 | 11.6 | 20.1 | 1 477.32 |
| November | 3983.5 | 49.6 | 5.6 | | 9.3 | 16.5 | 18.9 | 1 588.33 |
| December | 3337.0 | 54.4 | 11.7 | 0.1 | 6.3 | 11.4 | 16.0 | 1 366.29 |
| TOTAL | 46076.5 | 46.4 | 6.9 | 0.1 | 8.9 | 10.4 | 25.3 | 18 123.61 |

Total purchase = \$6.11

Total payments = \$ 18 123.61

Value = \$ 391.50/ha/ann

Table 38: Purchases by I & J, CacheCache Co-operative Society, 1984

| Month | kg | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % | Payments \$ |
|-----------|---------|------------|-------------|-------------|------------|-----------------|----------------------|----------------|
| January | | | | | | | | |
| February | | | | | | | | |
| March | 2150.0 | 11.9 | | | 3.9 | 10.6 | 73.6 | 252.22 |
| April | | | | | | | | |
| May | | | | | | | | |
| June | | | | | | | | |
| July | | | | | | | | |
| August | | | | | | | | |
| September | 2980.0 | 32.1 | 0.1 | | 9.3 | 3.9 | 54.6 | 3 177.28 |
| October | 3176.5 | 33.6 | 0.1 | | 10.0 | 7.1 | 49.1 | 3 434.98 |
| November | 3289.5 | 21.1 | 0.1 | | 20.8 | 11.7 | 46.3 | 10 807.14 |
| December | 3117.5 | 12.9 | 0.1 | 0.3 | 29.2 | 12.2 | 45.3 | 3 455.58 |
| TOTAL | 14773.5 | 22.9 | 0.1 | 0.1 | 15.4 | 9.1 | 52.3 | 21 127.20 |

Total purchases = 14.8 t

Total payments = \$ 21 127.20

Value = \$ 699.26/tonne

Table 19: Purchases by I & J from Old Nyamhunga (area C.1), Co-operative Society

| Month | kg | Bream % | Nchila % | Chessa % | Tiger % | Bottlefish % | Barbel & Others % | Payments \$ |
|-----------|--------|------------|-------------|-------------|------------|-----------------|----------------------|----------------|
| January | | | | | | | | |
| February | | | | | | | | |
| March | | | | | | | | |
| April | | | | | | | | |
| May | | | | | | | | |
| June | | | | | | | | |
| July | | | | | | | | |
| August | | | | | | | | |
| September | 1085.5 | 42.2 | 0.1 | | 10.7 | 3.5 | 44.5 | 1 176.12 |
| October | 1283.5 | 67.6 | | | 1.1 | 2.9 | 27.3 | 1 432.70 |
| November | 2046.0 | 45.1 | | | 29.0 | 5.1 | 20.8 | 2 305.12 |
| December | 2180.0 | 26.3 | | | 21.8 | 9.1 | 42.8 | 2 379.44 |
| TOTAL | 6595.0 | 42.6 | | | 18.4 | 5.7 | 33.3 | 7 293.38 |

Total purchases = 6.6t
 Total payments = \$ 7 293.38
 Value = \$ 904.42

Table 40: Yield, number of fishermen and yield per fisherman at Sanyati East villages (Area C.2), 1973-1984.

Y = yield (t) extrapolated to 12 months; F = mean number of fishermen in each month;
Y/F = monthly catch per fisherman (kg)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-----------|------|------|------|-------|------|------|-------|------|------|------|------|-------|
| Tsetse | Y | | | 24.0 | 22.8 | 52.4 | | 19.7 | 14.6 | 17.5 | 29.0 | 93.0* |
| | F | | | 8.3 | 10.3 | 17.8 | | 6.5 | 6.1 | 5.5 | 6.7 | 17.7 |
| | Y/F | | | 241 | 184 | 245 | | 253 | 199 | 269 | 361 | 438 |
| Nematombo | Y | 55.0 | 90.1 | 118.3 | 55.0 | 73.8 | 126.8 | 25.2 | 43.8 | 34.3 | 29.8 | 38.9 |
| | F | 21.3 | 20.2 | 25.2 | 14.5 | 24.8 | 27.4 | 8.9 | 14.2 | 9.3 | 12.0 | 7.1 |
| | Y/F | 215 | 372 | 391 | 316 | 248 | 386 | 236 | 257 | 307 | 144 | 456 |
| Mudzimu | Y | 34.4 | 33.9 | 28.6 | 26.2 | 20.0 | 32.0 | 10.2 | 11.2 | 13.8 | 12.9 | 4.5 |
| | F | 11.3 | 9.3 | 8.6 | 9.4 | 10.4 | 12.1 | 3.5 | 4.3 | 5.5 | 4.3 | 1.0 |
| | Y/F | 254 | 304 | 277 | 232 | 160 | 220 | 243 | 217 | 209 | 231 | 375 |
| Nyachunga | Y | 34.9 | 42.5 | 48.9 | 33.9 | 31.9 | 29.5 | 25.0 | 21.6 | 22.8 | 12.5 | 14.7 |
| | F | 12.3 | 12.3 | 14.4 | 13.6 | 13.8 | 11.3 | 7.8 | 7.6 | 5.5 | 7.6 | 2.7 |
| | Y/F | 236 | 288 | 283 | 208 | 193 | 218 | 267 | 237 | 345 | 137 | 453 |
| Monga | Y | 26.9 | 51.6 | 50.8 | 41.7 | 40.2 | 44.6 | 42.8 | 33.7 | 30.7 | 35.3 | 27.1 |
| | F | 10.0 | 16.4 | 17.8 | 14.9 | 17.5 | 13.8 | 11.5 | 12.2 | 8.4 | 12.2 | 6.6 |
| | Y/F | 224 | 262 | 238 | 233 | 191 | 269 | 310 | 230 | 304 | 241 | 342 |
| Dandawa | Y | 47.8 | 59.6 | 63.4 | 50.0 | 46.1 | 55.2 | 65.2 | 43.7 | 44.8 | 59.8 | 238.8 |
| | F | 13.8 | 15.3 | 16.8 | 13.1 | 12.4 | 14.4 | 12.8 | 14.3 | 12.2 | 14.3 | 11.4 |
| | Y/F | 289 | 325 | 314 | 318 | 309 | 319 | 424 | 255 | 306 | 348 | 1746 |

