

ESTIMATES TO JUNE, 1984, OF CATCHES OF SMALL OR UNDERSIZED YELLOWFIN AND BIGEYE TUNAS  
BY EASTERN ATLANTIC SURFACE FLEETS

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Tables 1 and 2 show published estimates of the numbers of small or undersized yellowfin and bigeye tunas caught by surface fleets. Estimates for yellowfin tuna in Table 1 may be summarized as follows:

-Pre-1973 -

-Baitboats:

1. Total from 0.1 to 0.9 million fish/year beginning in 1967.
2. Tema-based - no separate estimates, but by subtraction of Table 1 "c" from Table 1 "d", up to 0.2 million fish/year can be inferred.
3. FISM up to 0.7 million fish/year.

-Purse seiners:

1. Total up to 0.8 million fish/year.
2. American up to 0.4 million fish/year.
3. FISM 0.2 to 0.3 million fish/year.

(ICCAT Recommendation effective July 1973)

-Post-1973 -

-Baitboats:

1. "Total" from 0.5 to 3.3 million fish/year.
2. Tema-based up to 3.0 million fish/year (no estimates post-1978).
3. FISM up to 0.3 million fish/year.

-Purse seiners:

1. "All" from 2.0 to 3.0 million fish/year.
2. US ("American") up to 0.6 million fish/year (no estimates post-1978).
3. FIS(M) from 0.3 to 2.0 million fish/year.
4. Spanish from 0.2 to 4.2 (or 5.8) million fish/year.

-All gears:

1. About 4.6 million fish/year (1976 only).

Estimates for bigeye tuna in Table 2 may be summarized as follows:

-Baitboats:

1. "All" 0.3 million fish/year (1979-80 only).
2. Tema-based 0.4 to 2.3 million fish/year (no estimates post-1978).
3. FISM from 0.1 to 0.2 million fish/year.

-Purse seiners:

1. "All" from 0.1 to 1.2 million fish/year.
2. US ("American") up to 0.2 million fish/year (no estimates post-1978).
3. FIS(M) up to 0.3 million fish/year.
4. Spanish - no estimates.

-All gears:

1. About 3.0 million fish/year (1976 only).

(ICCAT Recommendation effective September 1980)

Table 1 - Published estimates of numbers of small yellowfin taken in Eastern Atlantic surface fisheries, 1966-82.

| Year | Baitboats |       |     |       |       | Purse seiners |     |     |   |       |       |       |       |   |   | All gear<br>q |         |
|------|-----------|-------|-----|-------|-------|---------------|-----|-----|---|-------|-------|-------|-------|---|---|---------------|---------|
|      | a         | b     | c   | d     | e     | f             | g   | h   | j | k     | l     | m     | n     | o | p |               |         |
| 1966 | -         | -     | -   | 0     | -     | -             | -   | -   | - | -     | -     | -     | -     | - | - | 23            | -       |
| 1967 | -         | -     | -   | 204   | -     | -             | -   | -   | - | -     | -     | -     | -     | - | - | 79            | -       |
| 1968 | -         | -     | -   | 139   | -     | -             | -   | 0   | - | -     | -     | -     | -     | - | - | 12            | -       |
| 1969 | -         | -     | 236 | 236   | -     | 184           | -   | 23  | - | -     | -     | -     | -     | - | - | 125           | -       |
| 1970 | -         | -     | 687 | 855   | -     | 282           | -   | 182 | - | -     | -     | -     | -     | - | - | 669           | -       |
| 1971 | -         | -     | 393 | 639   | -     | 301           | -   | 183 | - | -     | -     | -     | -     | - | - | 886           | -       |
| 1972 | -         | -     | 326 | 406   | -     | 228           | -   | 448 | - | -     | -     | -     | -     | - | - | 772           | -       |
| 1973 | -         | -     | 103 | 2,844 | -     | 156           | -   | 43  | - | -     | -     | -     | -     | - | - | 280           | -       |
| 1974 | -         | 3,000 | -   | 3,262 | -     | -             | 650 | 57  | - | -     | -     | -     | -     | - | - | 913           | -       |
| 1975 | -         | 920   | -   | 1,795 | -     | -             | 260 | -   | - | -     | -     | -     | -     | - | - | 1,539         | -       |
| 1976 | 1,787     | 680   | 50  | 2,297 | -     | 884           | 750 | 26  | - | -     | -     | -     | -     | - | - | 1,578         | c.4,600 |
| 1977 | 278       | 59    | 87  | 515   | -     | 916           | 758 | 154 | - | -     | -     | -     | -     | - | - | 1,171         | -       |
| 1978 | 372       | -     | -   | -     | -     | -             | 568 | -   | - | 249   | 1,697 | 249   | -     | - | - | -             | -       |
| 1979 | -         | -     | 54  | -     | 1,283 | 869           | -   | -   | - | 851   | 2,187 | 830   | 1,988 | - | - | -             | -       |
| 1980 | -         | -     | 163 | -     | 1,024 | 2,026         | -   | -   | - | 1,261 | 2,776 | 1,178 | 2,991 | - | - | -             | -       |
| 1981 | -         | -     | 287 | -     | -     | 896           | -   | -   | - | 4,160 | 5,897 | 3,957 | -     | - | - | -             | -       |
| 1982 | -         | -     | 200 | -     | -     | 1,877         | -   | -   | - | 2,352 | -     | -     | 1,638 | - | - | -             | -       |

a & h - Tema-based baitboats and U.S. purse seiners - 1988, Coll. Vol. Sci. Pap. XIII, Tables B & D ((56 or 55 cm)

b & g - Tema baitboats and FIS seiners - Marville & Armada, 1979 - Coll. Vol. Sci. Pap. VIII(1): 108-119 ((3.2 kg)

c & f - FISM fleet - Amen & Fonteneau, 1974 - Coll. Vol. Sci. Pap. III: 240-256; Fonteneau & Slepoukha, 1981 - Coll. Vol. Sci. Pap. XV(1): 6-19; Fonteneau & Cayré, 1982 - Coll. Vol. Sci. Pap. XVII(1): 44-52; idem, 1983 - Coll. Vol. Sci. Pap. XVIII(1): 78-82; idem, 1984 - Coll. Vol. Sci. Pap. XX(1): 27-40 [1976-77 from unpublished data] ((18 cm LD1)

d & p - Total catch - Coan & Heber, 1981 - Coll. Vol. Sci. Pap. XV(1): 26-45 ((55 cm)

e & o - All countries combined - Miyake & Nordstrom, 1983 - Coll. Vol. Sci. Pap. XVIII(1): 131-167 ((55 cm)

j - "American" purse seiners - Sakagawa, Coan & Holzapfel, 1976 - NOAA Tech. Rept. NMFS SSRF - 702, 22 p. ((55 cm midpoint)

k - Large Spanish purse seiners - Fonteneau & Cayré, 1984 - Coll. Vol. Sci. Pap. XX(1): 27-40 ((18 cm LD1)

l & m - Spanish tropical fleet - Pallarés, Mamolar & Fernández, 1983 - Coll. Vol. Sci. Pap. XVIII(1): 106-110 ((3.2 kg, under two hypotheses)

n - Spanish tropical fleet - Pallarés, Fernández & Mamolar, 1984 - Coll. Vol. Sci. Pap. XX(1): 91-95 ((3.2 kg)

q - Total catch - Sakagawa & Coan, 1979 - Coll. Vol. Sci. Pap. VIII(1): 7-14 ((55 cm)

Table 2 - Published estimates of numbers of small bigeye taken in Eastern Atlantic surface fisheries, 1968-81.

| Year | Baitboats |     |     |    |     | Purse seiners |     |     |   |    |     | All gear<br>m |
|------|-----------|-----|-----|----|-----|---------------|-----|-----|---|----|-----|---------------|
|      | a         | b   | c   | d  | e   | f             | g   | h   | j | k  | l   |               |
|      |           |     |     |    |     | thousands     |     |     |   |    |     |               |
| 1968 | -         | -   | -   | -  | -   | -             | -   | <1  | - | -  | -   | -             |
| 1969 | -         | -   | -   | -  | -   | -             | -   | -   | - | -  | -   | -             |
| 1970 | -         | -   | -   | -  | -   | -             | -   | -   | - | -  | -   | -             |
| 1971 | -         | -   | -   | -  | -   | -             | -   | 2   | - | -  | -   | -             |
| 1972 | -         | -   | -   | -  | -   | -             | -   | 1   | - | -  | -   | -             |
| 1973 | -         | -   | -   | -  | -   | -             | -   | <1  | - | -  | -   | -             |
| 1974 | 370       | -   | -   | -  | -   | 20            | -   | 3   | - | -  | -   | -             |
| 1975 | 1,350     | -   | -   | -  | -   | 135           | -   | -   | - | -  | -   | -             |
| 1976 | 2,260     | 647 | -   | -  | -   | 240           | -   | 8   | - | -  | -   | c.3,000       |
| 1977 | 860       | 616 | -   | -  | -   | 280           | -   | 56  | - | -  | -   | -             |
| 1978 | -         | 455 | -   | -  | -   | -             | -   | 153 | - | -  | -   | -             |
| 1979 | -         | -   | -   | 25 | 265 | -             | -   | -   | - | 3  | 104 | -             |
| 1980 | -         | -   | 209 | 63 | 274 | -             | 239 | -   | - | 34 | 347 | -             |
| 1981 | -         | -   | 63  | -  | -   | -             | 123 | -   | - | -  | -   | -             |

a & f - Tuna baitboats and FIS seiners - Marcille & Arnade, 1979 - Coll. Vol. Sci. Pap. VIII(1): 100-119 (<3.2 kg)

b & j - Tuna-based baitboats and U.S. purse seiners - 1980, Coll. Vol. Sci. Pap. XIII, Tables B & D (<56 or 55 cm)

c & g - FISH fleet - Fonteneau & Cayré, 1982 - Coll. Vol. Sci. Pap. XVII(1): 44-52; idem, 1983 - Coll. Vol. Sci. Pap. XVIII(1): 78-82 (<18 cm LD1)

d & k - All countries combined (north) - Miyake & Nordstrom, 1983 - Coll. Vol. Sci. Pap. XVIII(1): 131-167 (<55 cm)

e & l - All countries combined (south) - Miyake & Nordstrom, 1983 - Coll. Vol. Sci. Pap. XVIII(1): 131-167 (<55 cm)

h - "American" purse seiners - Sakagawa, Coan & Holzapfel, 1976 - NOAA Tech. Rept. NMFS SSRF - 702, 22 p. (<55 cm midpoint)

m - Total catch - Sakagawa & Coan, 1979 - Coll. Vol. Sci. Pap. VIII(1): 7-14 (<55 cm)