

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 q
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	
	thousands															
1966	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	23
1967	-	-	-	204	-	-	-	-	-	-	-	-	-	-	-	79
1968	-	-	-	139	-	-	-	0	-	-	-	-	-	-	-	12
1969	-	-	236	236	-	184	-	23	-	-	-	-	-	-	-	125
1970	-	-	687	853	-	282	-	182	-	-	-	-	-	-	-	669
1971	-	-	393	639	-	301	-	183	-	-	-	-	-	-	-	886
1972	-	-	326	486	-	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
1977	278	59	87	315	-	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 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)