## Ahi (Yellowfin) Minimum Size: Should It Be Changed?

Current minimum size weight: 3 lbs. age: 8 months fork length: 16 in. sexually immature

> weight: 15 lbs. age: 19 months fork length: 28 in. 0.5% sexually mature

weight: **30 lbs.** age: 26 months fork length: 35 in. 6% sexually mature

## Source Notes

- (1) Web, R.J., Rocker, J.R. and D.G. Itano 2012. Numery origin of yellowfin turu in the Hawaiian Islands. Mar Scol Prog Ser 451:187-196
- (2) Dagoin, L., Holand, K.N. and D.G. Itano 2007. Behavior of yellowiin (Thurinan albacami) and bigryp (T. obreas) hava in anotherits of fish aggregation devices (FADs). Mar Biol 151:586–606.
- (2) Itano, D.G. and K.N. Halland 2000. Movement and vulneability of bigays (*Thumna obwari)* and yellowfin tura (Taibacare) in elation to FADs and natural aggregation points. Aquat. Living Resour. 13 (2000) 213–223. (4) Hampton, J. 2000. Natural mortality rates in topical turas: size really does matter: Can. J. Reb. Aquat. Sci. 57(5): 1001.0116.
- (5) Uchyama, J.H. and T.K. Karama 2003. Updated weight-on-length instationation for pelasic follow caught in the Center North Pacific Ocean and bottomitates from the Northwest Haelalan Islands. MM557955. Admin. Repl. H-03-01, 45 p
- (4) Uchyama, 1.H. and P. Shuhuaker 1987. Age and growth of skipjack turu (Kahuwoman pelemit), and je/kowfin turu (Thansunalbacarm), as indicated by daily growth increments of sagittae. Fash Bull. 79 (1), 157-162.
- (7) Bano, D.G. 2000. Reproductive biology of yellow/in turu (Thumsus albacame) in Hawaitan watern and the western tropical Pacific Donars. Project Summary, UH 50657 Pelagic Robertes Research Program Report 00-01, 69 pp.

weight: **47 lbs.** age: 30 months fork length: 41 in. 25% sexually mature



weight: 60 lbs. age: 32 months fork length: 45 in. 50% sexually mature

- Local fishermen cannot rely on large influxes of yellowfin tuna from other regions to maintain high catch rates and replace harvested stocks<sup>1</sup>
- Close to 90% of 1–2 year old yellowfin tuna (15–30 lbs) sampled in Hawaii in a recent study were locally spawned in Hawaiian waters1
- Tagging studies show that the vast majority of yellowfin do not leave Hawaiianwaters throughout their lifetime<sup>2,3</sup>
- It makes sense to maximize the production and potential benefits from our 'local stock'
- Natural mortality rates of Hawaii yellowfin drop to their lowest levels at fairly small sizes (about 24" or 10 lb) many will survive and grow after this age<sup>4</sup>
- If we do not harvest yellowfin at very small sizes but wait a little later, these fish will not be lost to natural mortality or migration
- Yellowfin that reach two years old (about 30 lb ) will quickly growto reproductive size and contribute to local spawning and stocks<sup>5,6,7</sup>

Illustration Les Hata, C Secretariat of the Pacific Community

## Source Notes

(1) Wells, R.J., Rooker, J.R. and D.G. Itano 2012. Nursery origin of yellowfin tuna in the Hawaiian Islands. Mar Ecol Prog Ser 461:187-196

(2) Dagorn, L., Holland, K.N. and D.G. Itano 2007. Behavior of yellowfin (*Thunnus albacares*) and bigeye (*T. obesus*) tuna in a network of fish aggregation devices (FADs). Mar Biol 151:595–606

(3) Itano, D.G. and K.N. Holland 2000. Movement and vulnerability of bigeye (*Thunnus obesus*) and yellowfin tuna (*T. albacares*) in relation to FADs and natural aggregation points. Aquat. Living Resour. 13 (2000) 213–223

(4) Hampton, J. 2000. Natural mortality rates in tropical tunas: size really does matter. Can. J. Fish. Aquat. Sci. 57(5): 1002-1010

(5) Uchiyama, J.H. and T.K. Kazama 2003. Updated weight-on-length relationships for pelagic fishes caught in the Central North Pacific Ocean and bottomfishes from the Northwest Hawaiian Islands. NMFS PIFSC Admin. Rep. H-03-01, 46 pp (6 Uchiyama, J.H. and P. Struhsaker 1981. Age and growth of skipjack tuna (*Katsuwonus pelamis*), and yellowfin tuna

(Thunnus albacares), as indicated by daily growth increments of sagittae. Fish Bull. 79 (1), 151-162.

(7) Itano, D.G. 2000. Reproductive biology of yellowfin tuna (*Thunnus albacares*) in Hawaiian waters and the western tropical Pacific Ocean: Project Summary. UH SOEST Pelagic Fisheries Research Program Report 00-01, 69 pp.