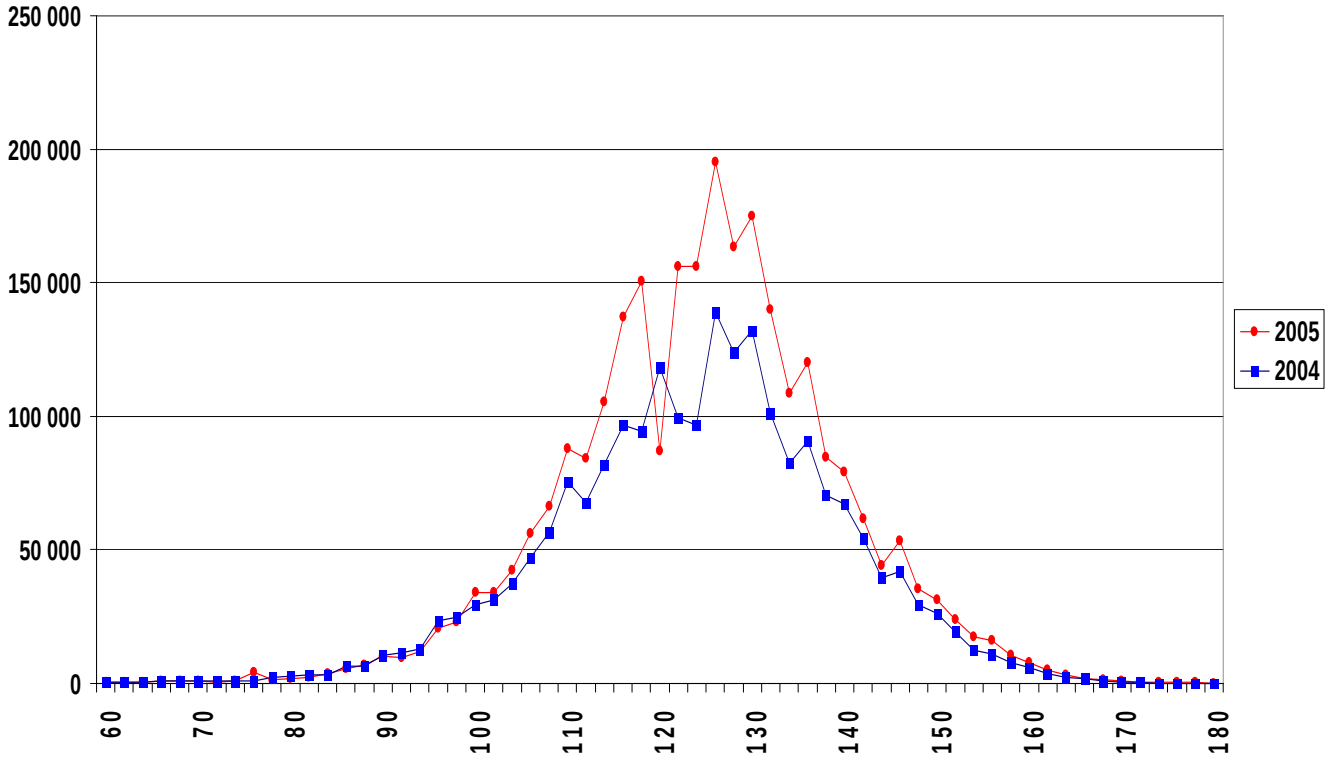
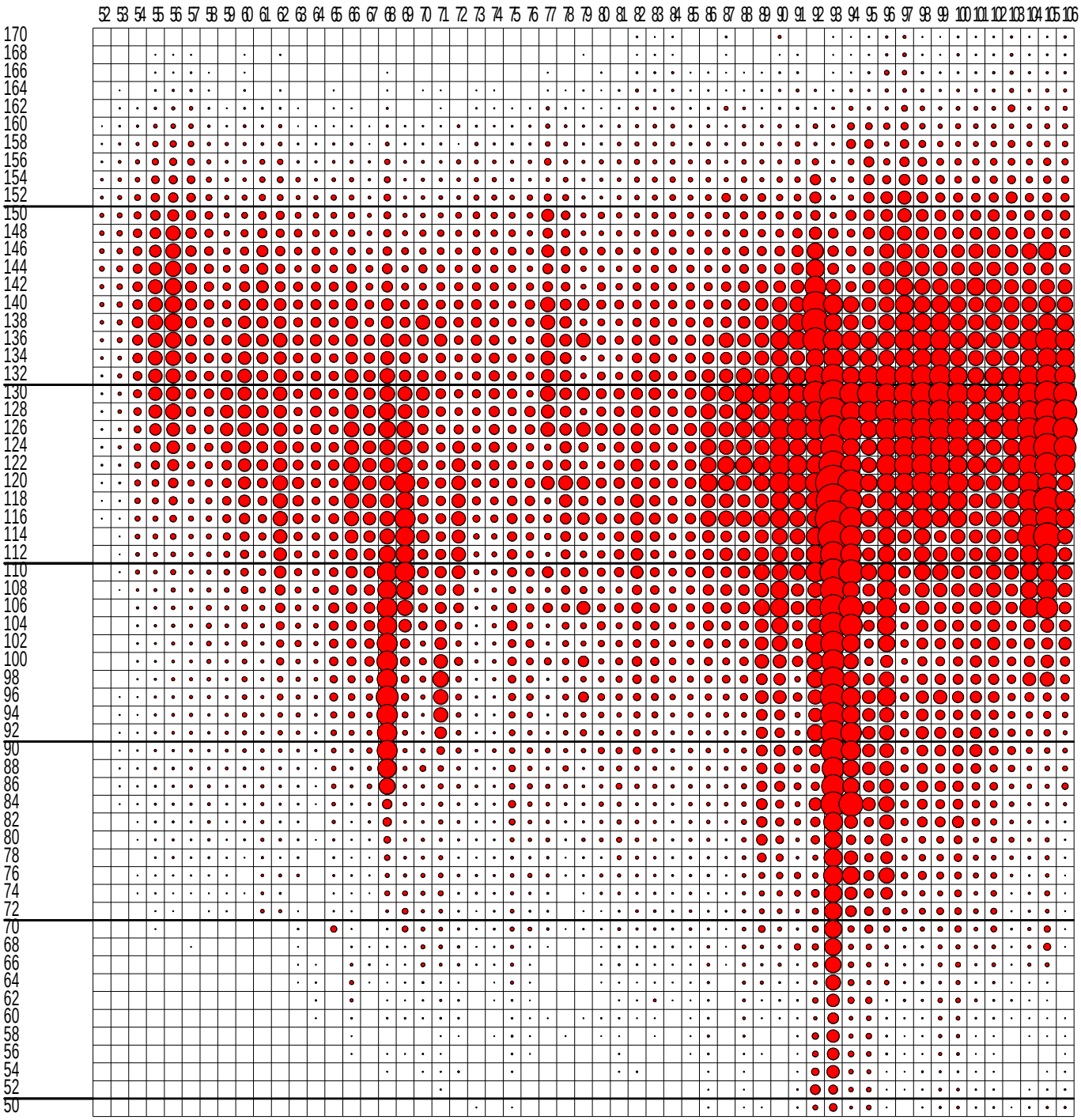
An overview of catch at size: examining some data and problems

- Size data are of key importance in all Analytical assessments
- Then these data should be fully checked and validated
- This note makes a quick review and discussion of the LL and PS size data presently released by the IOTC in its new CAS table





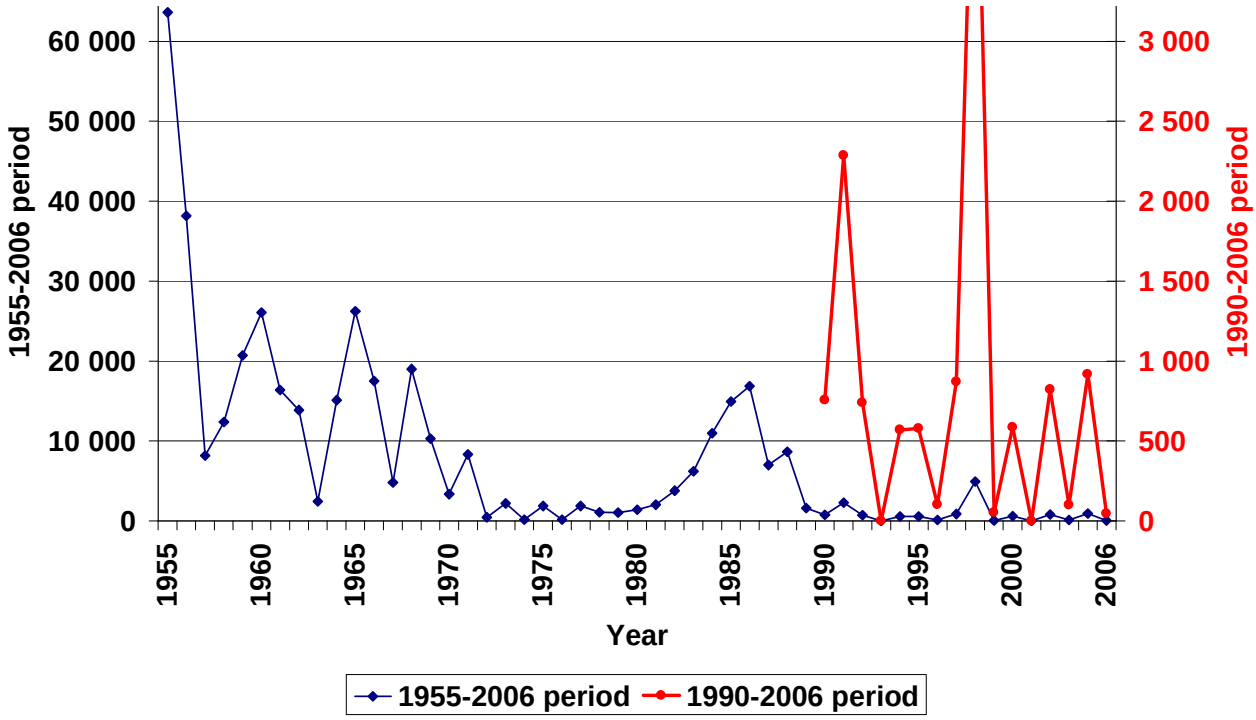
YFT CAS for the entire LL fleets in the Indian Ocean during the period 1950-2007

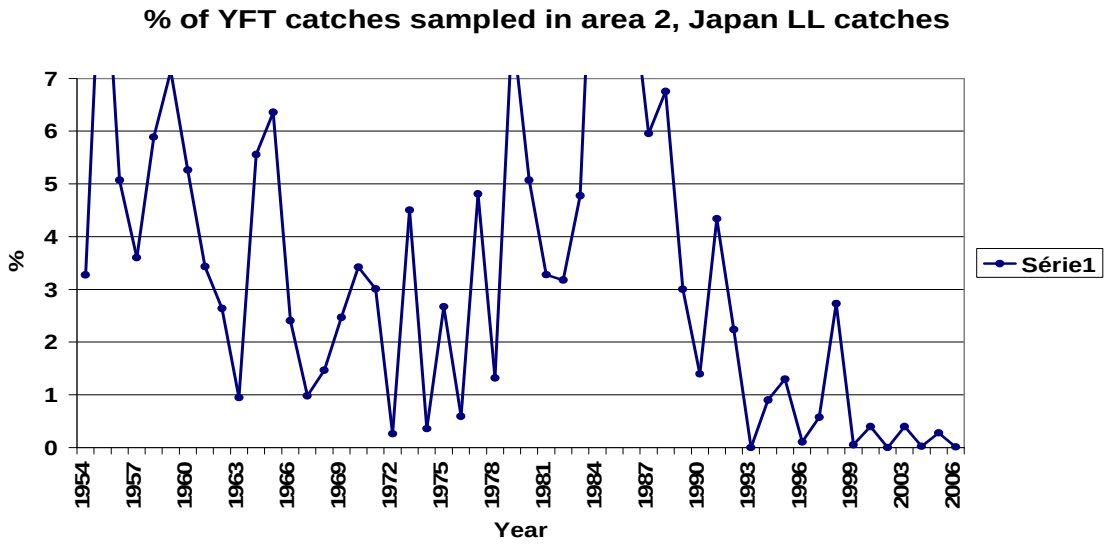
Major changes in the recent CAS during recent years are difficult to see

Japanese size sampling:
widely declining during recent years in the keystone area 2:

an average of only 350 YFT measured each year during the 2000-2006 period upon an average total catch of

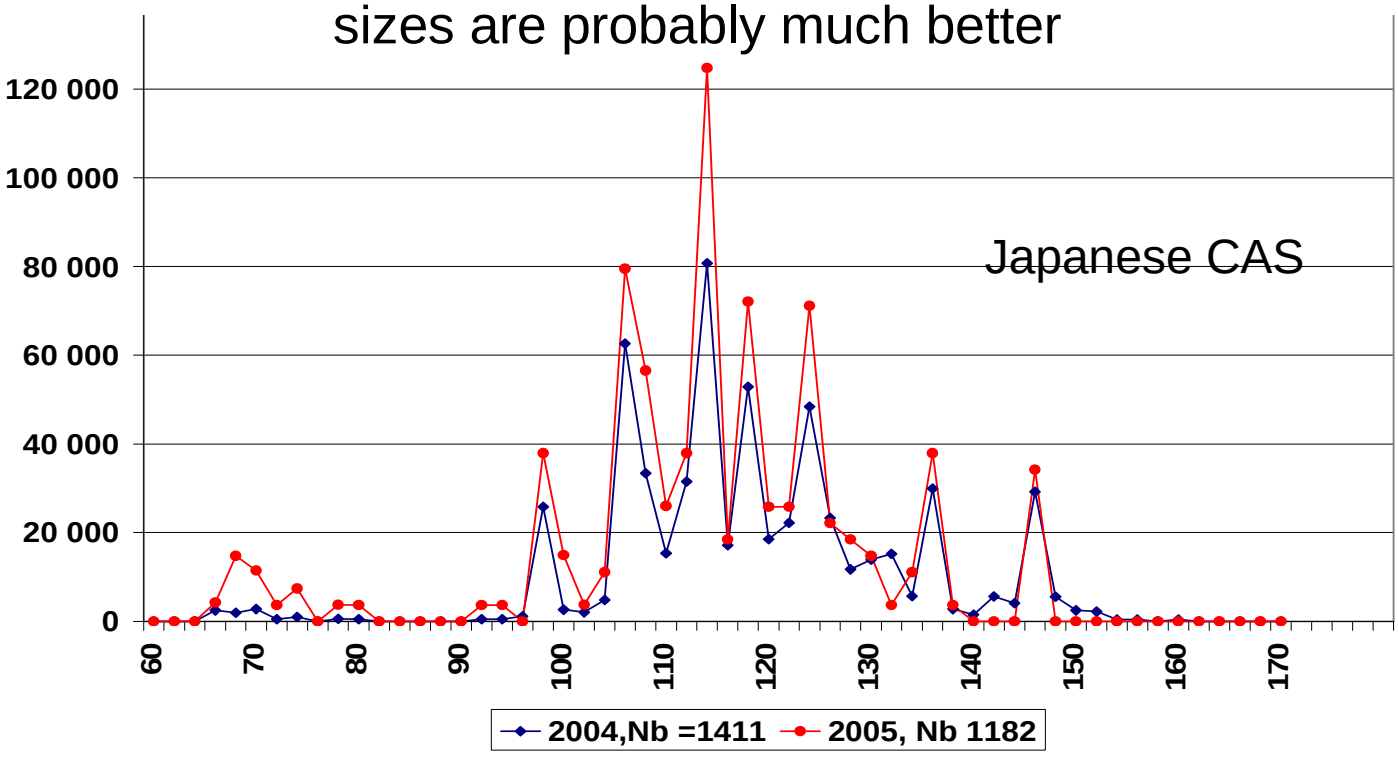
300.000 YFT taken yearly in the area

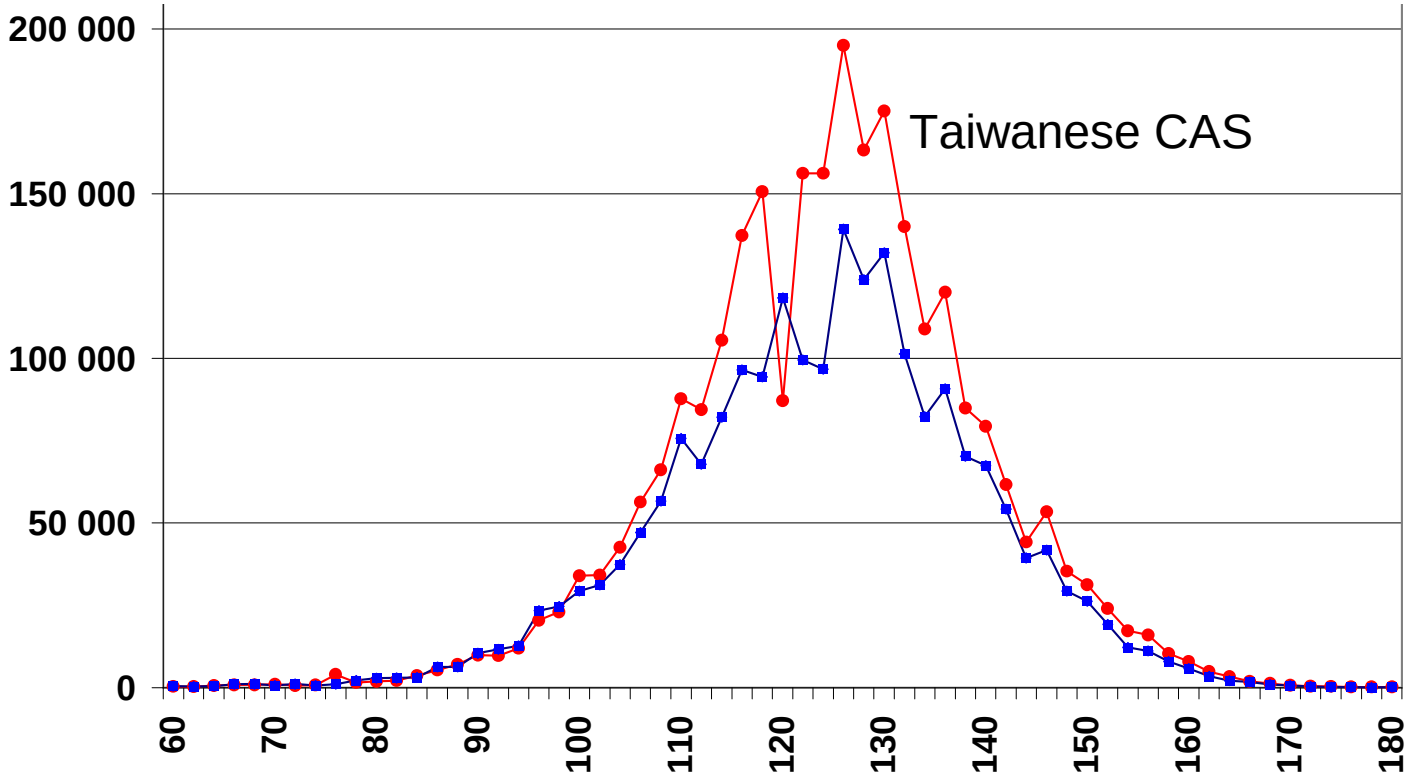




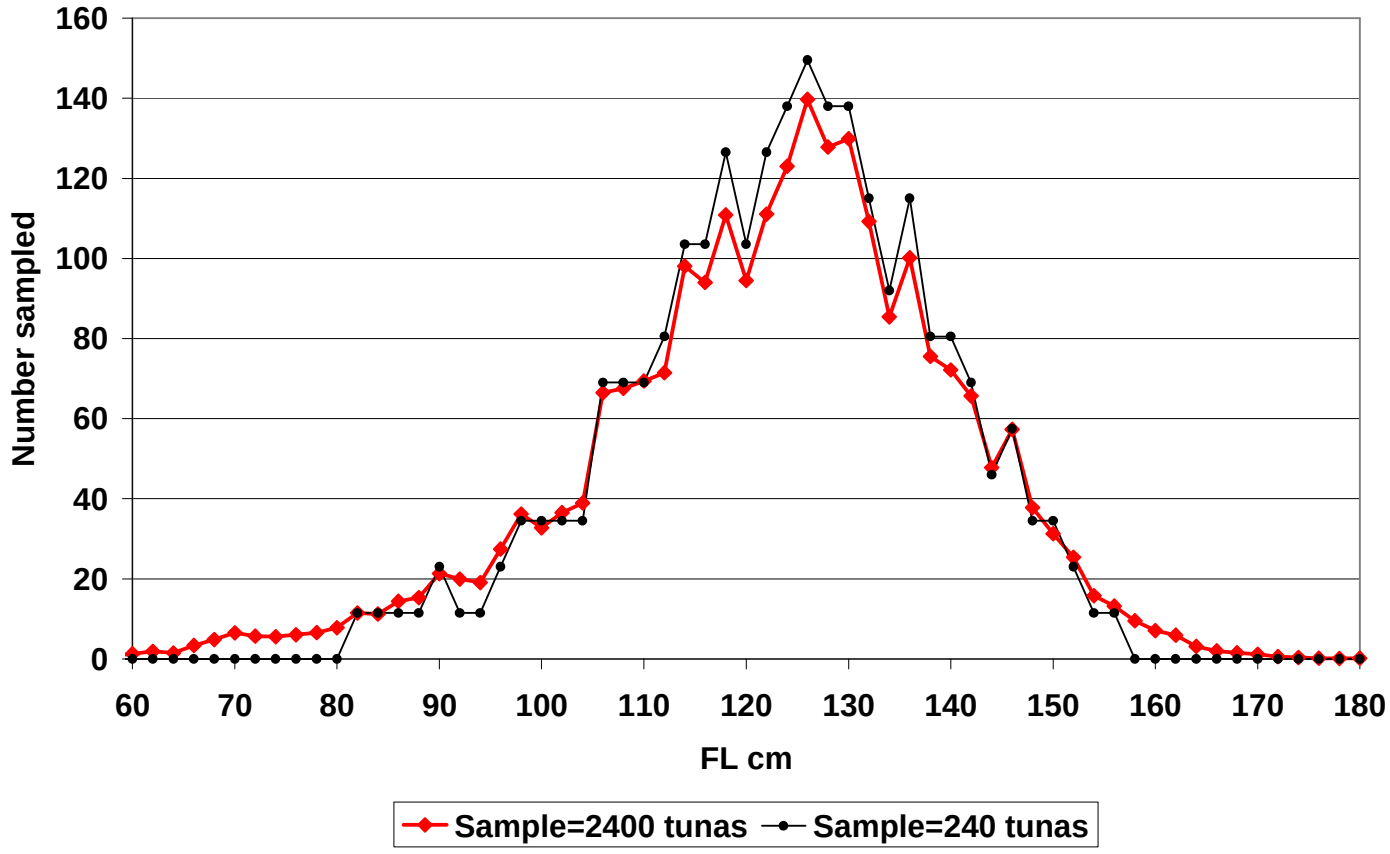
=> Japanese LL sampling cannot allow to estimate recent catch at size

=> Taiwan LL sampling based on larger sample, sizes are probably much better





Effect of decreasing sample sizes on the histograms of catch at size taken by LL



-Red curve shows the real typical size distribution of YFT caught by LL, based here upon a sample of 2400 fishes measured
-- black curve shows the same size distribution, but based on a smaller sample size of only 240 fishes measured, & extrapolated to the same 2400 fishes.

As expected, the 2 tails of the FL distribution, larger and smaller fishes, have been lost from the smaller sample
When we are loosing the 2 tails of FL distribution, we must 1st & necessarily analyze the trend in sample sizes!!!

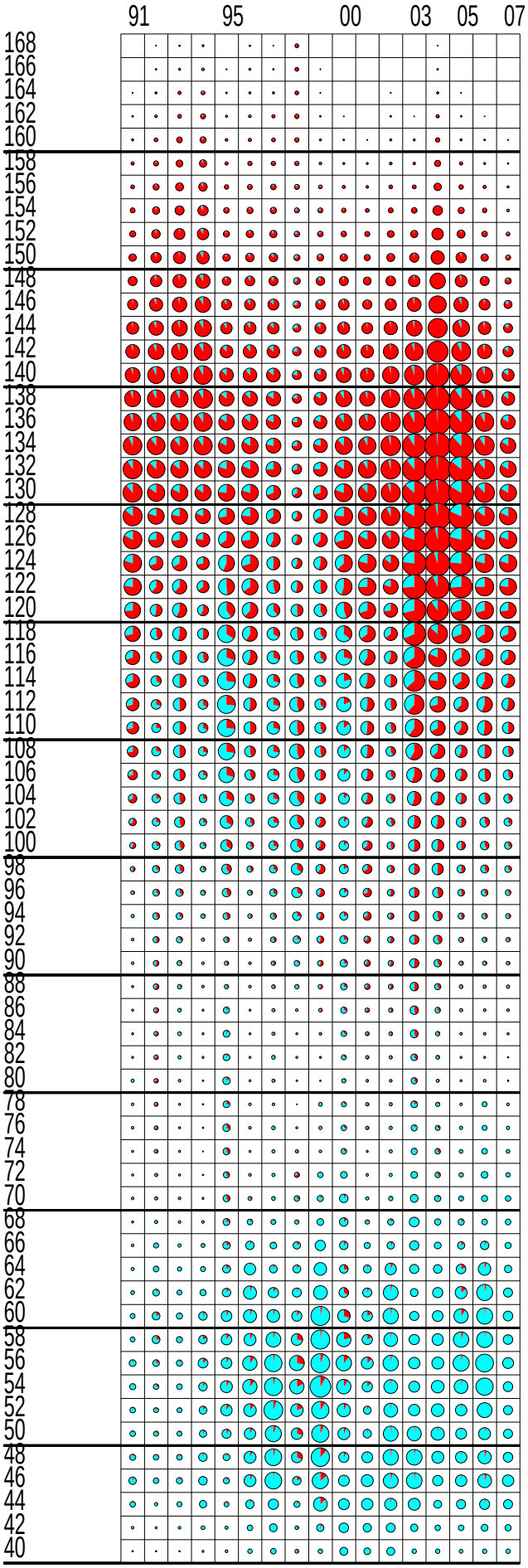
Conclusion

- Catch at size table of LL fleet should be estimated, by time and area strata, but always combining Taiwan & Japanese size data
- Based on the reasonable hypothesis conclusions:

➢ ***that sizes caught in the same strata by the 2 flags should be similar or identical***

➢ ***That too small samples carry a high risk of being highly biased or/and being always questionable***

- These chaotic and biased catch at size data being dangerous in all Analytical models: remember the vanishing catches of small and large YFT in area 2, and their unknown effects on the MC-CL results



PS yearly CAS 1991-2007
Taken on FAD (blue)
And
on free schools (red),
1991-2007

- **A constant bimodal structure, 70-100 cm being always rare**
- **Catches of small YFT dominated by FAD catches**
- **Medium sizes YFT caught some years under FADs**