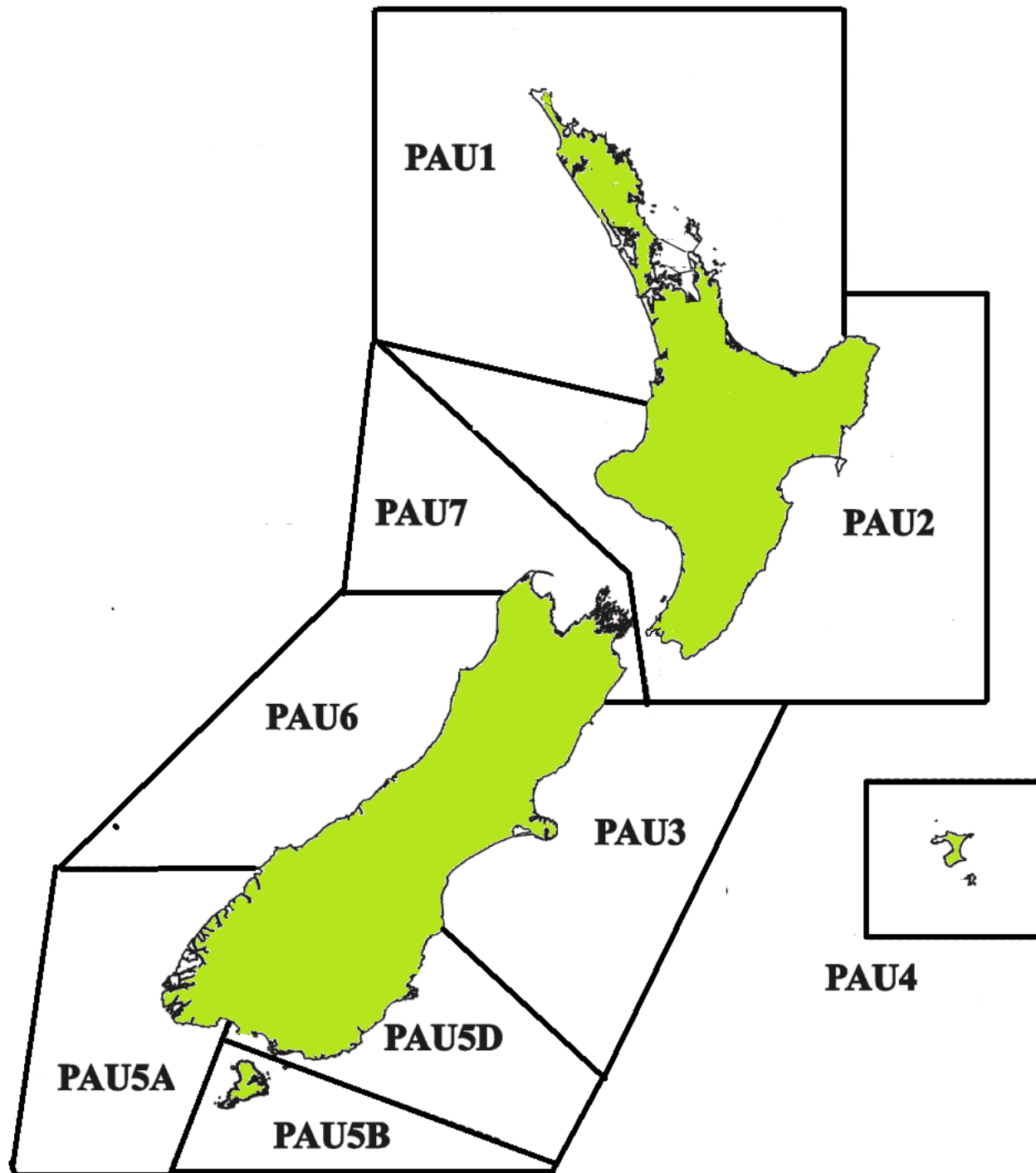
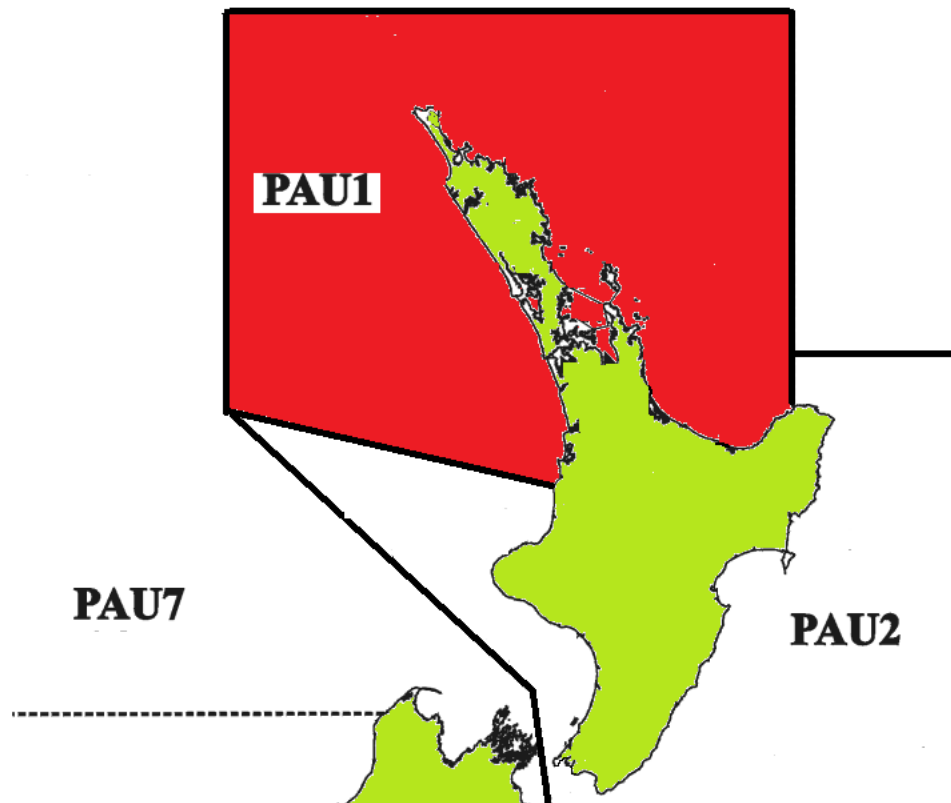


Key **issues** facing Paua Fisheries

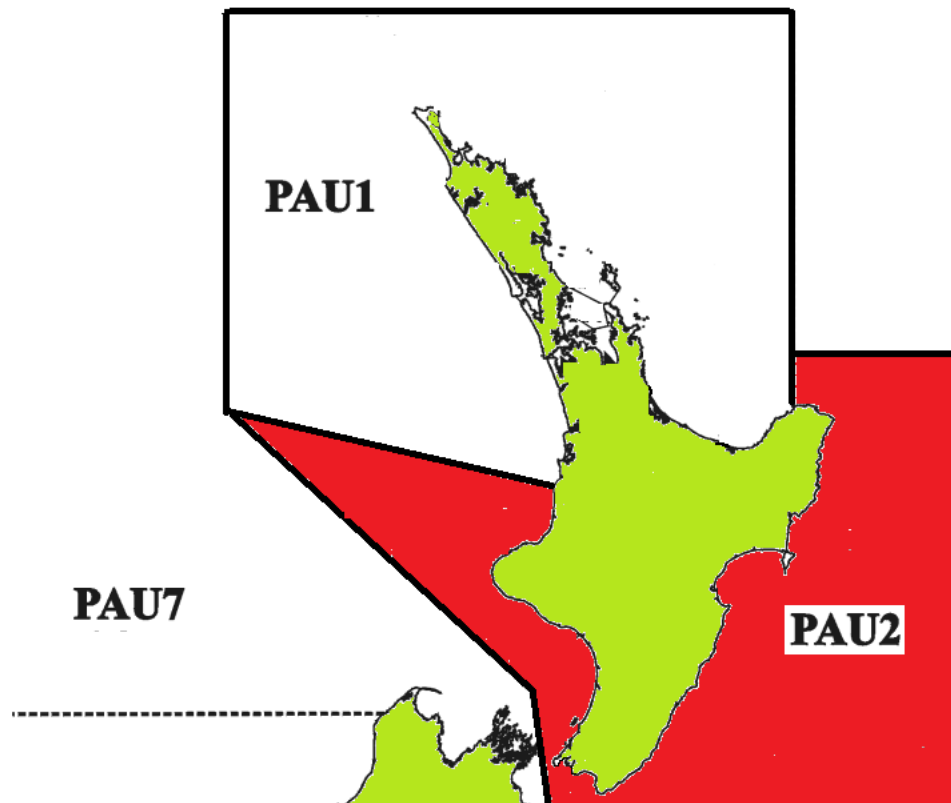
August 2014





Pau1

- Coastline length = 8100 km with a TACC of 1.9 tonnes
- Large recreational fishery
- Large Customary fisheries
- Paua around most of the coastline but the NZ wide MLS of 125mm means most fish die of old age.
- Estimated large poaching problem

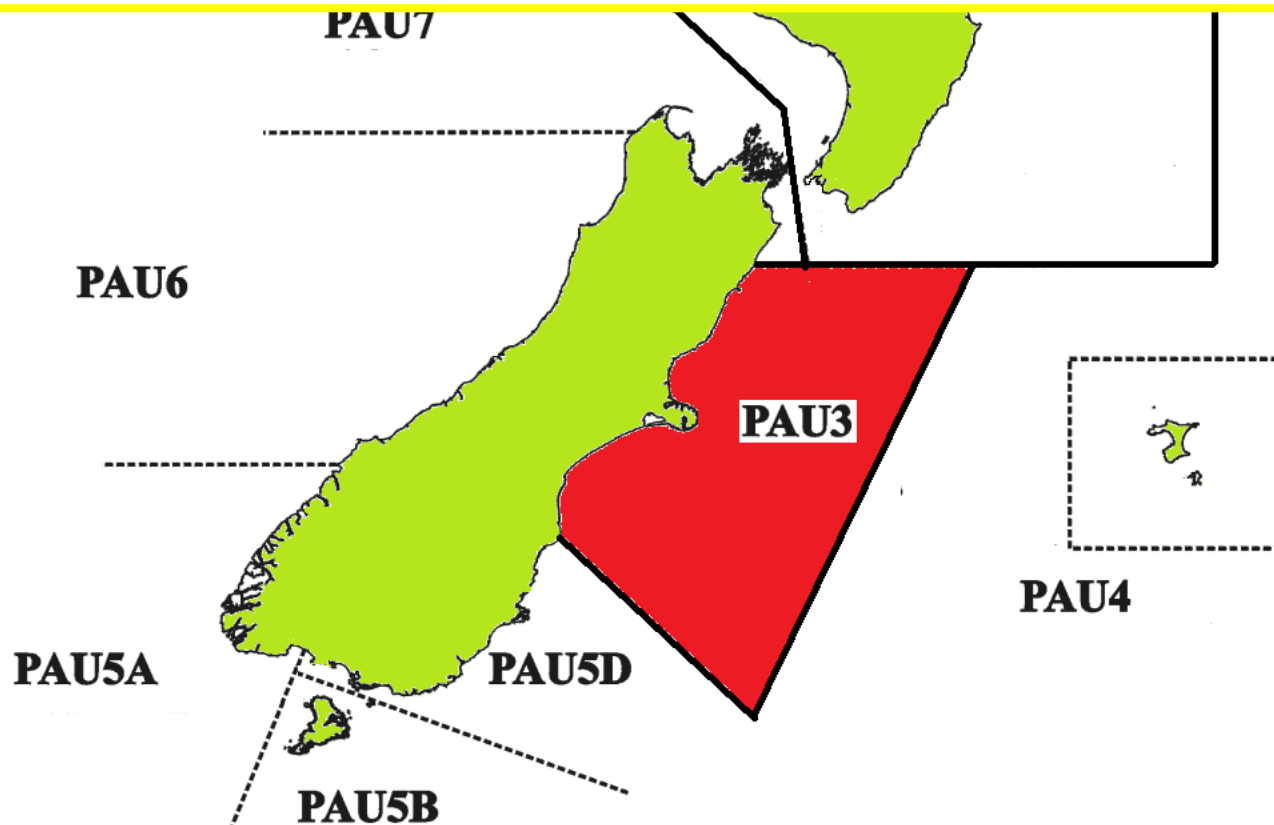


Pau2

- Coastline length = 1600 kms with a TACC of 121 tonnes
- Large recreational fishery (some at 85mm).
- Never had a stock assessment but due for one 2014/15
- Only a small area commercially fished = most of stock < MLS.
- The most productive area has been closed to commercial since the start of the QMS and is now heavily poached.

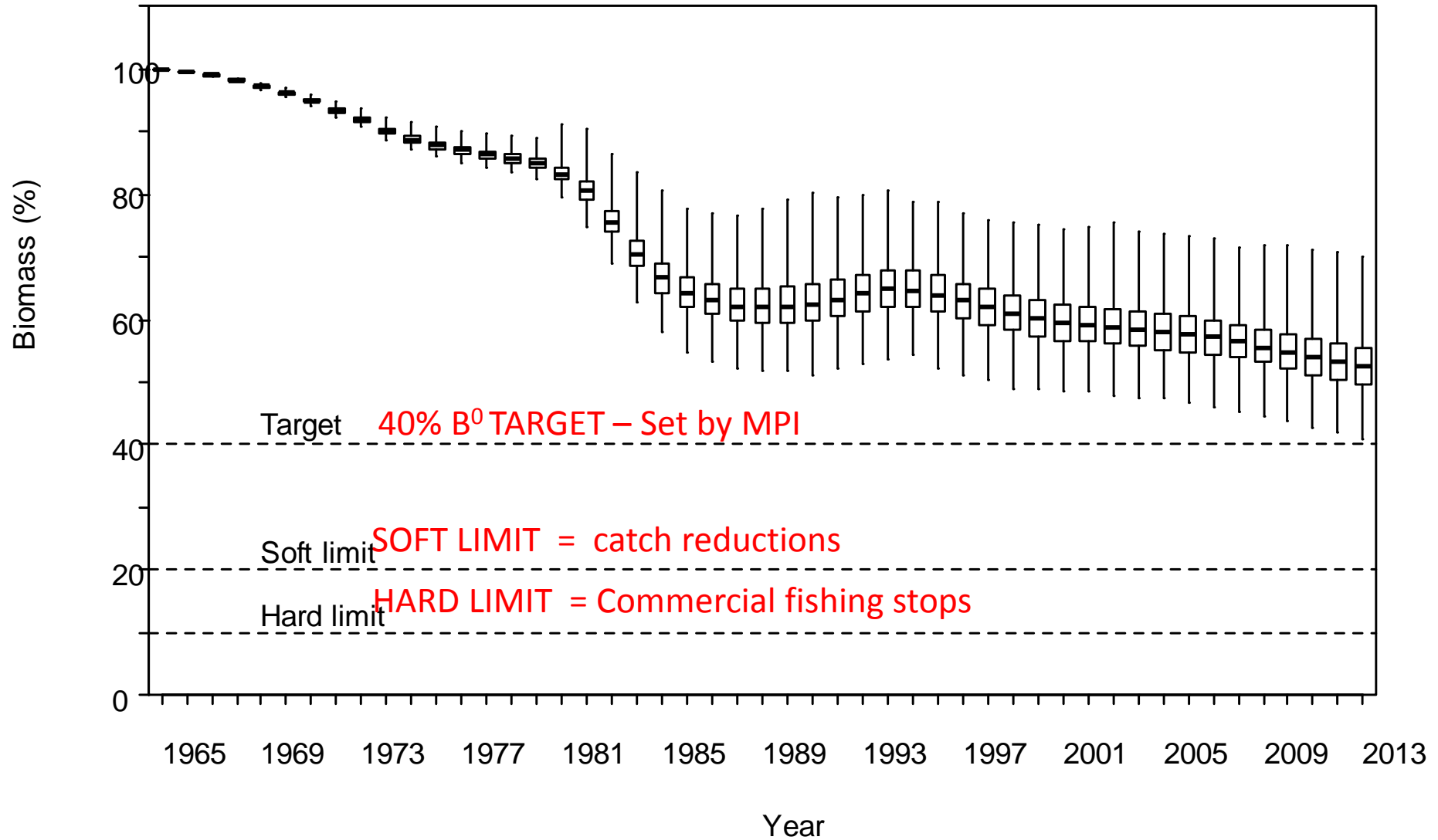
Pau3

- Coastline length = 865 kms with a TACC of 91 tonnes.
- This fishery has “drive on access” which results in high recreational catch and high poaching pressure
- Recent stock assessment shows a high biomass with a slowly declining trajectory over recent years which is presumed to be due to increasing recreational catch.



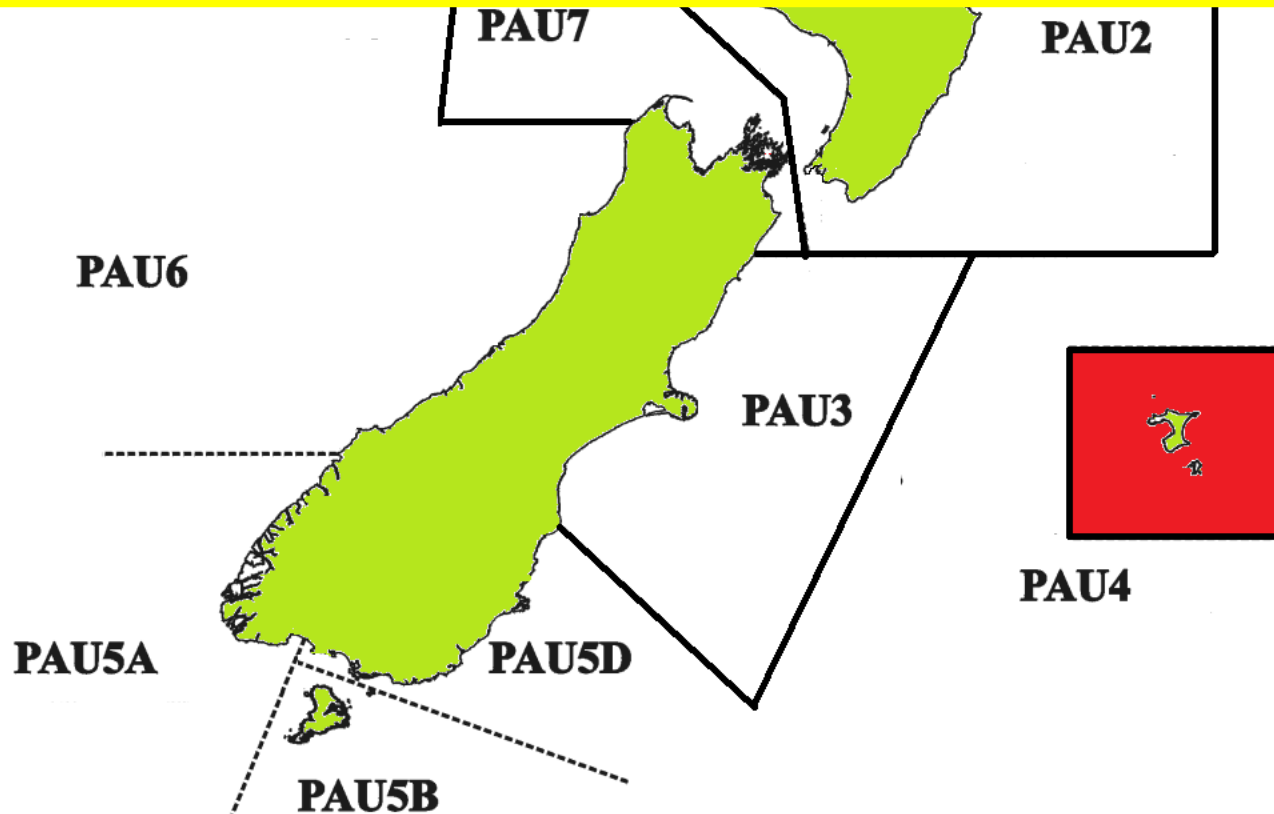
PAU3

MCMC 6.1



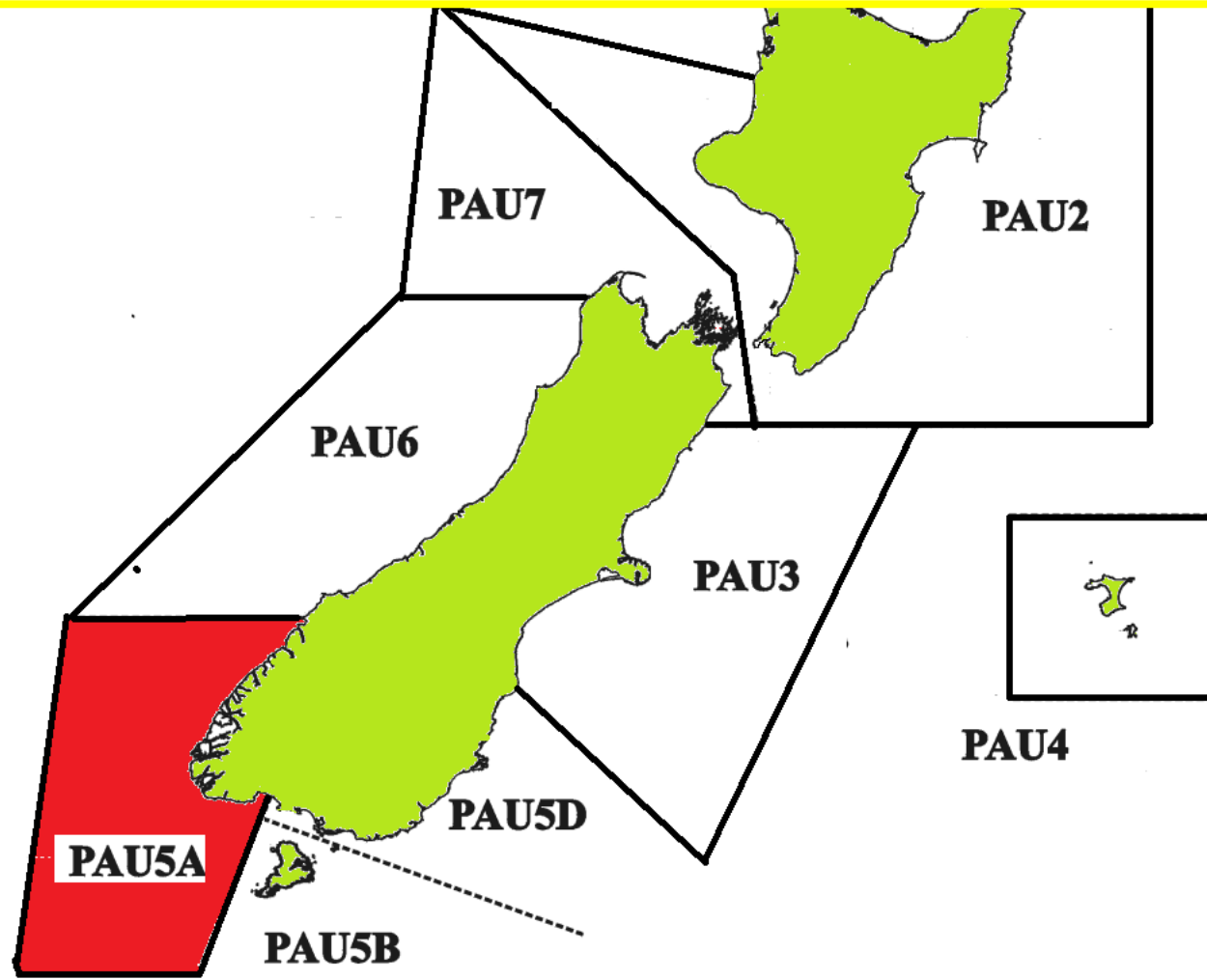
Pau4

- Coastline length = 398 kms, TACC of 326 tonnes (31% of NZ)
- Very low recreational and poaching pressure.
- Best catch rates in NZ
- 2 previous stock assessments but both invalid as problems with catch data & inadequate time series.
- Large areas of stocks that never grow to MLS.



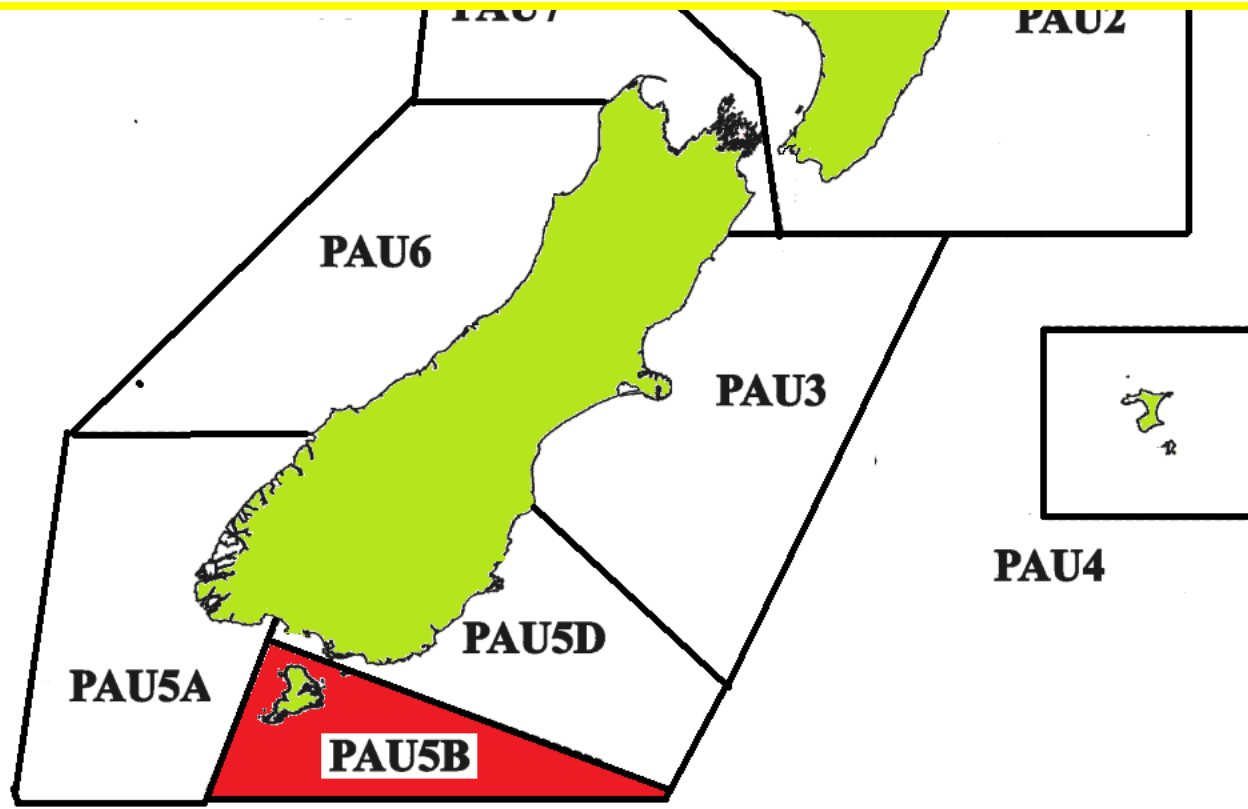
Pau5A

- Coastline length = 2249 kms
- TACC 149 tonne but into our 5th year of a 30% shelving = 104t.
- Little poaching or recreational pressure
- Due for another stock assessment 2014/15



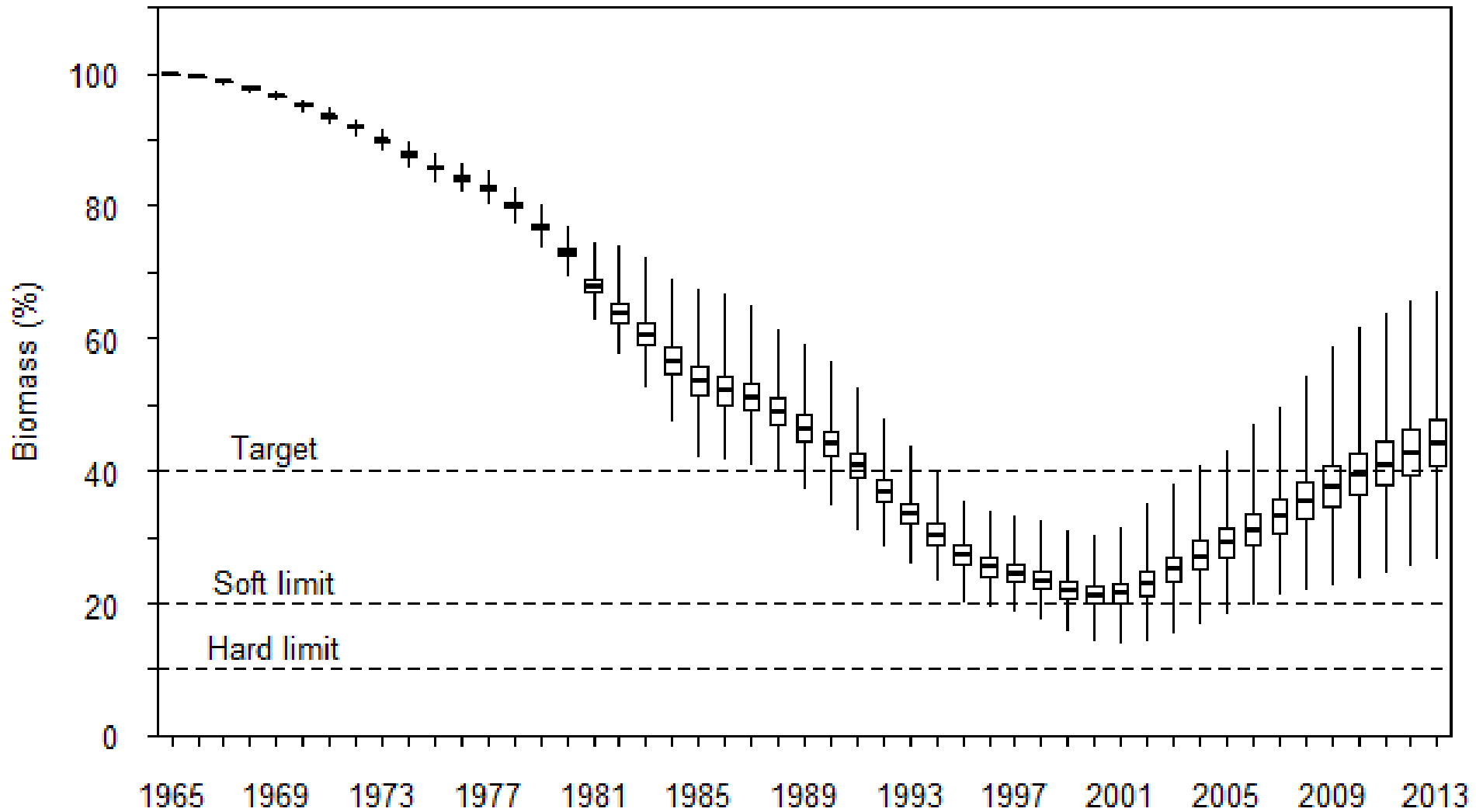
Pau5B

- Coastline length = 1013 kms with a TACC of 90 tonne
- Industry has voluntarily increased MHS to 135mm
- Increasing recreational pressure – (bigger boats)
- Some loss of area to existing mataitai and more likely in future
- Recent stock assessment shows a TACC increase is feasible in medium term.



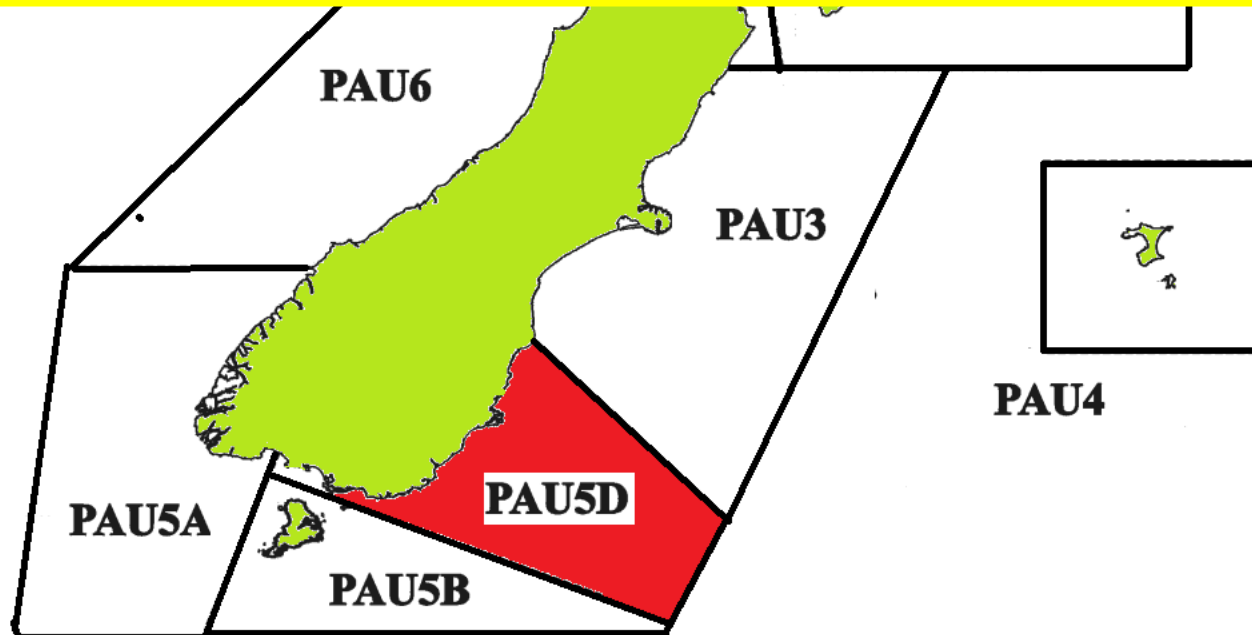
Historical Stock Status Trajectory & Current Status - 2013 Pau5B assessment

PAUA5B

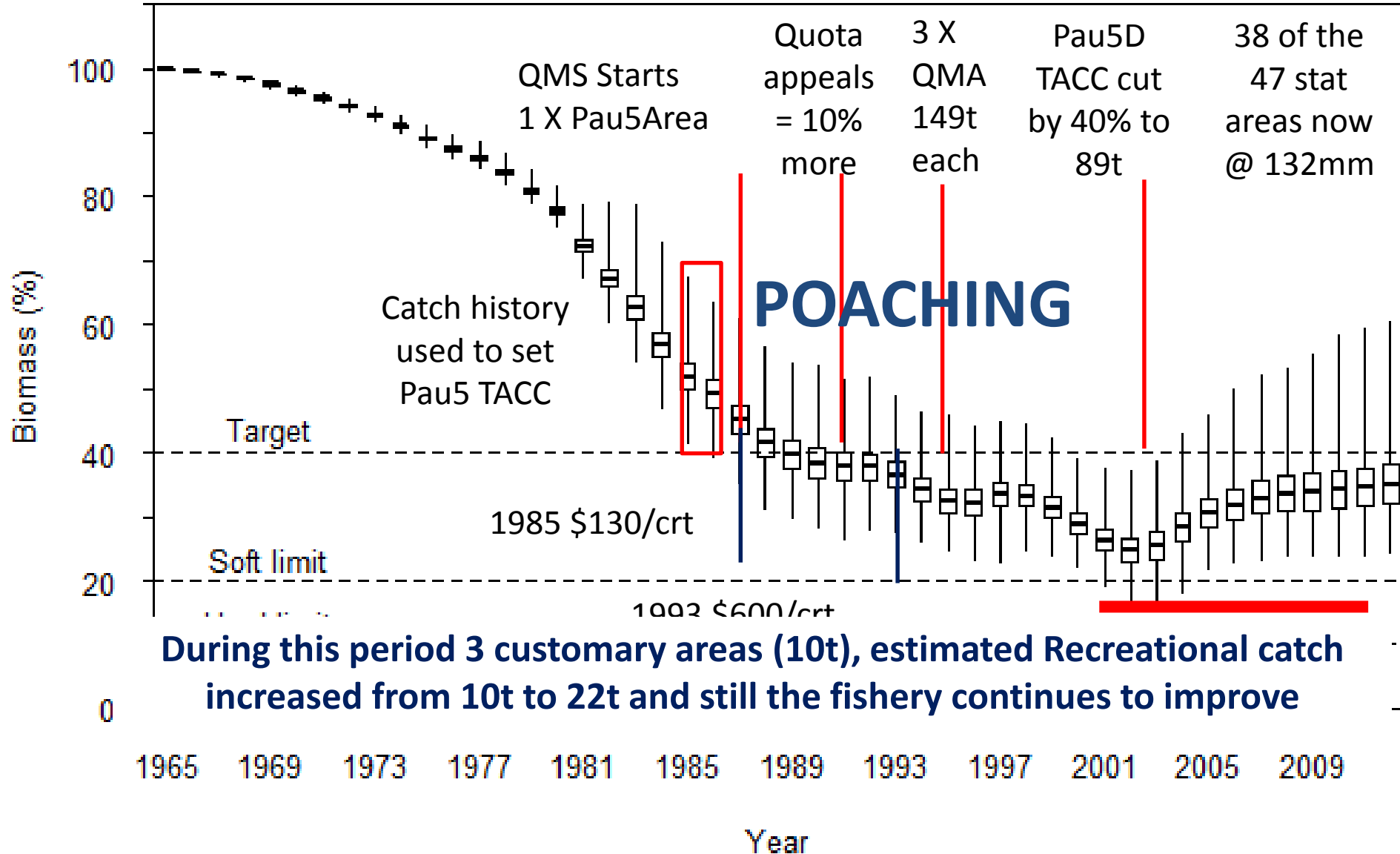


Pau5D

- Coastline length = 972 kms with a TACC of 89 tonnes
- 5 Maitaitai (customary reserves) – more closures in the pipe-line (estimated loss of habitat that supplied 12% of the TACC)
- Increasing recreational catch (bigger boats)
- Accessible isolated coastline = poaching pressure
- **2013 stock assessment estimated stock at 37% B^0 but because of the above the rate of rebuild is leveling out**

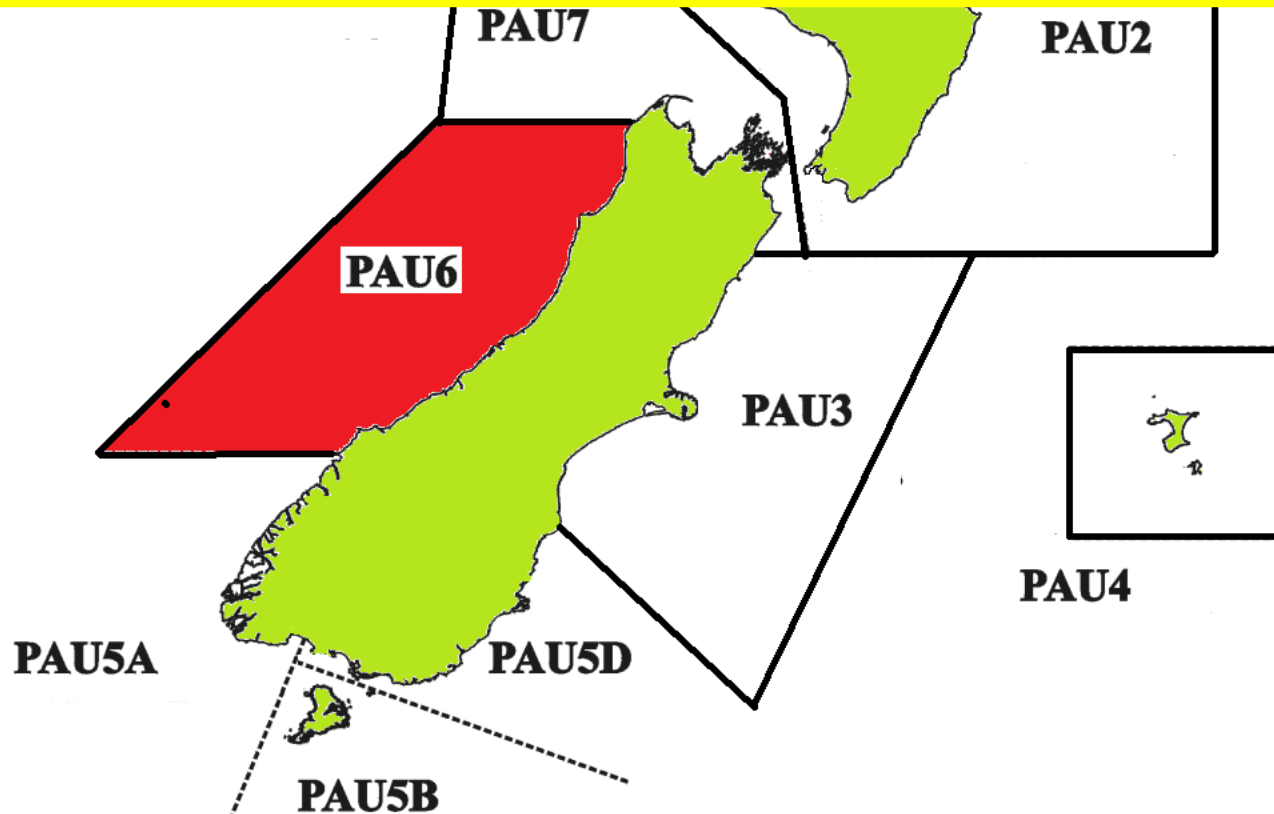


Base case from the 2013 NIWA Pau5D stock assessment



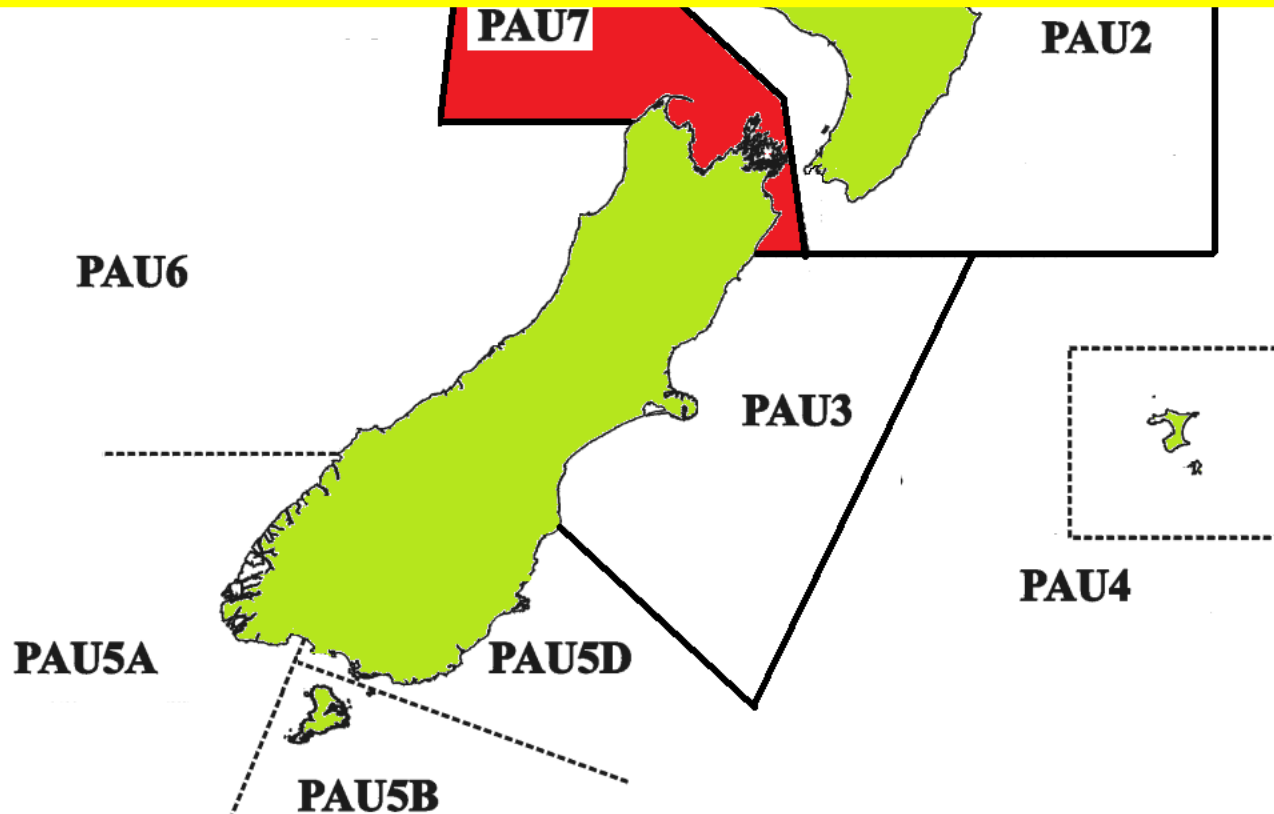
Pau6

- Coastline length = 690 km with a TACC of 1 tonnes
- A conducted fish down in 1995/96 removed 59 tonne
- Unknown recreational pressure,
- Small Customary fisheries
- Drive on access = likely to be significant poaching problem especially in the area of the fishdown.

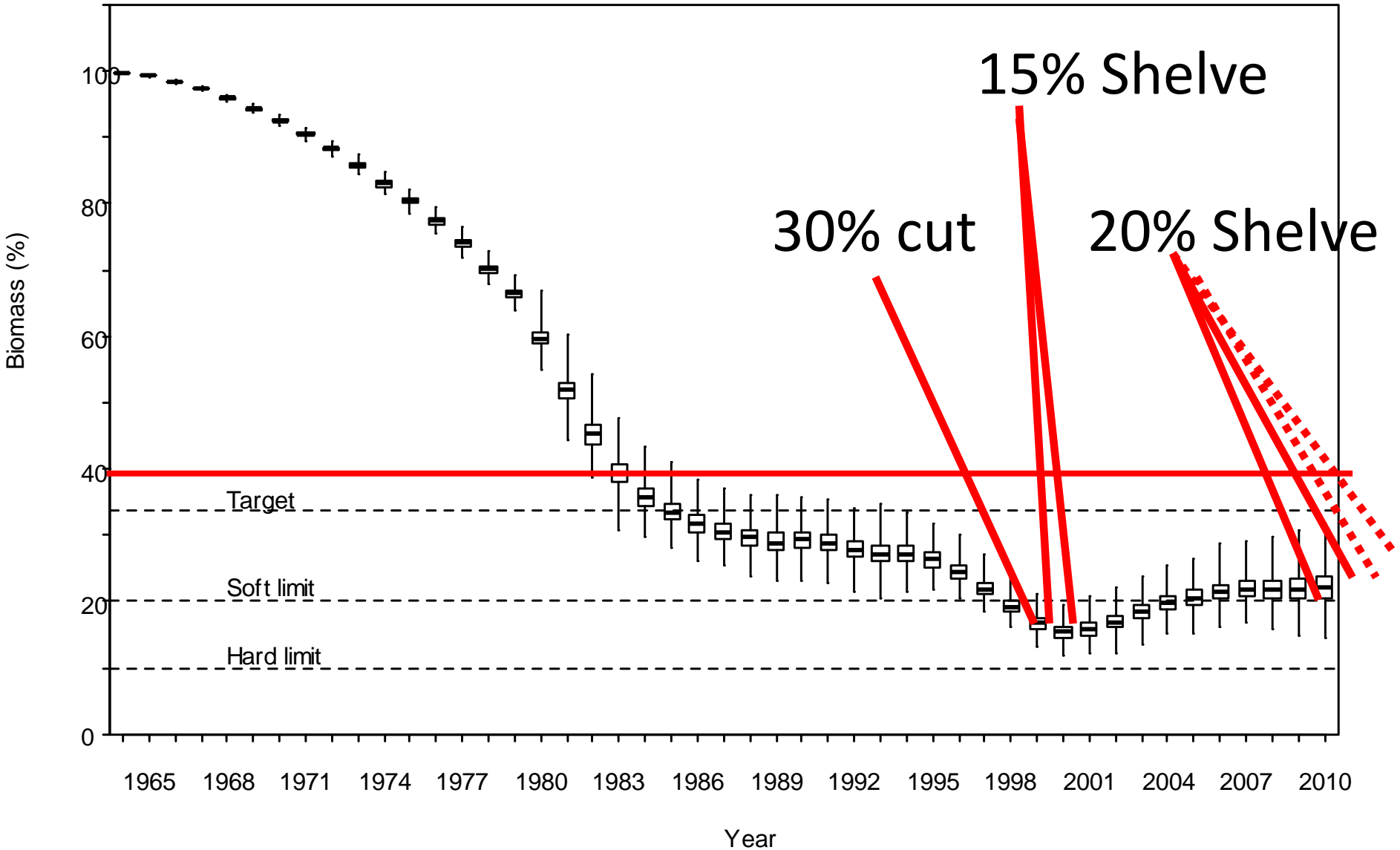


Pau7

- Coastline length = 2650 kms with a TACC 187 tonnes
- Potentially high poaching pressure & recreational catch
- Area commercially fished is reducing (likely causes = land runoff, sedimentation, ocean acidification, loss of seaweed)
- Stock assessment in 2012 showed 22% B⁰
- 2nd yr of 20% shelving with 2 yrs left then another assessment



Historical Stock Status Trajectory & Current Status - 2012 Pau7 assessment



Posterior distributions of spawning stock biomass as a percentage of virgin level from MCMC 1.0. The box shows the median of the posterior distribution (horizontal bar), the 25th and 75th percentiles (box), with the whiskers representing the full range of the distribution. The target is the median reference biomass (33.6% B_0).