**Silky Shark (Carcharhinus falciformis)**

**Stock Status &Trends plus Management Advice and Implications**

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# SC14 2018

**Provision of scientific information**

1. SC14 reviewed the report Pacific-wide Silky Shark (*Carcharhinus falciformis*) stock status assessment (WCPFC-2018-SC14/SA-WP-08 and Addendum) presented by S. Clarke and A. Langley. The assessment presented the development of Pacific-wide model as well as a WCPO-only model of stock status which updates and refines the previous assessment presented to SC8.

**Stock status and trends**

1. **SC14 noted given the inherent uncertainty in the current assessment the current estimates of stock status should be considered indicative only. Although these estimates are not considered a reliable basis for management decision-making they represent progress since the 2013 assessment and the best available science concerning the status of silky sharks in the WCPO. Therefore, as part of its ongoing review of the established conservation and management measure for silky sharks (CMM 2013-08), the Commission may wish to consider these indicative results until such time as better estimates become available.**
2. **SC14 noted that indications from the 2018 WCPO model show that the stock declined steadily over the model period (1995-2016) (Figure FAL-1). The assessment model estimates spawning biomass in 2016 to have been at 47% of the unexploited level (SB2016/SB0 = 0.47). Current biomass is estimated to be above the MSY reference biomass level; however, there is considerable uncertainty associated with the estimate of stock status (SB2016/SBMSY = 1.18, 95% CI 0.59-1.77) (Table FAL-1). Based on these results it is likely that the stock is not overfished, i.e. there is a 78% probability that SB2016 is greater than SBMSY (Table FAL-1).**



**Figure FAL-1:** Estimated spawning biomass relative to unexploited biomass (SB0) for the WCPO assessment model (CPUEqdev).

**Table FAL-1:** Management quantities (and 95% confidence intervals) for the WCPO assessment model (*CPUEqdev*).

|  |  |  |
| --- | --- | --- |
| Management quantity | Value | Confidence interval (95%) |
|  |  |  |
| *SB0* | 11,865 | 6,412-17,318 |
| *SB1995* | 8,552 | 2,590-14,513 |
| *SBMSY* | 4,721 | 2,560-6,882 |
| *SBMSY/SB0* | 0.398 | 0.397-0.399 |
| *SB2016* | 5,560 | 301-10,819 |
| *SB2016/SB0* | 0.469 | 0.229-0.729 |
| *SB2016/SBMSY* | 1.178  | 0.590-1.77 |
| Pr(*SB2016 > SBMSY*) | 0.78 |  |
| *F2016/FMSY* | 1.607 | 0.316-2.810 |
| Pr(*F2016 > FMSY)* | 0.84 |  |
| *F2016* | 0.313 |  |
| *MSY* | 12,162 | 6,711-17,615 |
| Catch 2016 (mt) | 22,503 |  |

1. **Noting the uncertainty related to the assessment Fishing mortality appears to be above FMSY. The current level of catch appears to be substantially higher than the MSY.**



**Figure FAL-2:** Kobe plot for the WCPO assessment model (*CPUEqdev*).

**Management advice and implications**

1. **SC14 concluded that on the basis of the best available science and pending the availability of less uncertain stock status indicators, it appears that the WCPO stock is not overfished but is subject to overfishing (Figure FAL-2).**
2. **Noting the uncertainty in the stock status of silky shark in the WCPO, SC14 recognized the need for ongoing conservation measures and recommends that CMM-2013-08 be maintained as a precautionary measure pending the availability of less uncertain stock indicators.**

# SC13 2017

1. **Stock status and trends**
2. **SC13 noted that no stock assessments were conducted for these shark species in 2017. Therefore, the stock status descriptions from SC9 are still current for silky shark. Updated information on catches was not compiled for and reviewed by SC13.**
3. **Management advice and implications**
4. **SC13 noted that no management advice has been provided since SC9 for silky shark. Therefore, previous advice should be maintained, pending a new assessment or other new information.**

# SC12 2016

1. **Stock status and trends**
2. **SC12 noted that no stock assessments were conducted for these shark species in 2016. Therefore, the stock status descriptions from SC8, SC9, and SC10 are still current for oceanic whitetip shark, silky shark, and North Pacific blue shark respectively. Updated information on catches was not compiled for and reviewed by SC12.**
3. **Management advice and implications**
4. **SC12 noted that no management advice has been provided since SC8, SC9, and SC10 for oceanic whitetip shark, silky shark, and North Pacific blue shark, respectively. Therefore, previous advice should be maintained, pending a new assessment or other new information.**

# SC11 2015

**a. Status and trends**

1. **SC11 noted that no stock assessments were conducted for these shark species in 2015. Therefore, the stock status descriptions from SC8 and SC9 are still current for oceanic whitetip shark and silky shark, respectively.**
2. **SC11 noted that no stock assessment has been conducted for South Pacific blue shark.**

**b. Management advice and implications**

1. **SC11 noted that no management advice has been provided since SC8 and SC9 for oceanic whitetip shark and silky shark, respectively. Therefore, previous advice should be maintained, pending a new assessment or other new information.**

# SC10 2014

**a. Status and trends**

1. **SC10 noted that no stock assessment was conducted for this species in 2014.**
2. **Management advice and implications**
3. **There was no stock assessment for this species, therefore advice from SC9 should be maintained, pending a new assessment or other new information.**

# Useful References

SC14-SA-WP-08 Pacific-wide Silky Shark (Carcharhinus falciformis) Stock Status Assessment and Addendum. <https://www.wcpfc.int/node/31006>

# Previous Assessments

SC9-SA-WP-03 Updated Stock assessment of silky shark in the western and central Pacific Ocean. <https://www.wcpfc.int/node/3685>

SC8-SA-WP-07 Stock Assessment of Silky Sharks in the Western and Central Pacific Ocean Rev 1 (3 August 2012) <https://wcpfc.int/node/3236>