

1.1.1 Productivity Susceptibility Analysis (PSA)

Table 1. PSA for European sardine (*Sardinus pilchardus*)

Performance Indicator	PI 2.2.1	
Productivity		
Scoring element (species)	European sardine (<i>Sardinus pilchardus</i>)	
Attribute	Rationale	Score
Average age at maturity	1 year in Bay of Biscay (less than 5 years). Beverton, R.J.H., 1963; Blanchard, J.L., Dulvy N.K., Ellis, Jennings Pinnegar, Tidd, A. & Kell, L.T. 2005; Laurent, V., 2005.	1
Average maximum age	7 – 8 years Cook et al., 2015	1
Fecundity	50,000 – 60,000 eggs (greater than 20,000 eggs yr ⁻¹). Muus et al., 1999.	1
Average maximum size Not scored for invertebrates	17-27.5cm (less than 100cm). Macer. 1974	1
Average size at maturity Not scored for invertebrates	50 cm Beverton, R.J.H., 1963; Blanchard, J.L., Dulvy N.K., Ellis, Jennings Pinnegar, Tidd, A. & Kell, L.T. 2005; Laurent, V., 2005.	1
Reproductive strategy	Broadcast spawner Murua and Saborido-Rey. 2003	1
Trophic level	2.8-3.1 (2.75- 3.25). Sever et al., 2005	2
Density dependence Invertebrates only		N/A

Table 2. PSA for Indian oil sardine

Performance Indicator	PI 2.2.1	
Productivity		
Scoring element (species)	Indian oil sardine (<i>Sardinella longiceps</i>)	
Attribute	Rationale	Score
Average age at maturity	1 – 2 years Rohit and Bhat. 2003.	1
Average maximum age	3 years Fishbase: http://www.fishbase.org/summary/1511	1
Fecundity	19,000 eggs (average) Musallam et al., 2006	2
Average maximum size Not scored for invertebrates	23 cm Fishbase: http://www.fishbase.org/summary/1511	1
Average size at maturity Not scored for invertebrates	16.3 cm Fishbase: http://www.fishbase.org/summary/1511	1
Reproductive strategy	Broadcast spawner Fishbase: http://www.fishbase.org/summary/1511	1
Trophic level	2.4 Fishbase: http://www.fishbase.org/Country/CountrySpeciesSummary.php?code=364&id=1511	1
Density dependence Invertebrates only		N/A

Table 3. PSA for Japanese scad

Performance Indicator	PI 2.2.1	
Productivity		
Scoring element (species)	Japanese scad (<i>Decapterus murusdi</i>)	



Attribute	Rationale	Score
Average age at maturity	1.97 years Ali and Kotah, 2014	1
Average maximum age	9 years Ali and Kotah, 2014	1
Fecundity	38,000 – 515,000 eggs per year Ali and Kotah, 2014	1
Average maximum size Not scored for invertebrates	26.1 cm Ali and Kotah, 2014	1
Average size at maturity Not scored for invertebrates	23.3 cm Ali and Kotah, 2014	1
Reproductive strategy	Broadcast spawner Ali and Kotah, 2014	1
Trophic level	>3.4 Ali and Kotah, 2014	3
Density dependence Invertebrates only		N/A