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UCSL United Certification Systems Limited
Ostrovnoy-Crab LLC Sea of Okhotsk crab trap
MSC Use of the Risk-Based Framework (RBF)
in a Fishery Assessment

1 Marine Stewardship Council use of the Risk-Based Framework

Table 1 – Fishery information

1	Fishery name
	Ostrovnoy-Crab LLC Sea of Okhotsk crab trap
2	CAB
	UCSL United Certification Systems Limited
3	Date that the proposal to use the RBF is submitted to the MSC
	07 th April 2021
4	Date stakeholder comment period closes on the proposal to use the RBF
	07 th May 2021
5	PI that the RBF is to be applied for
	PI 2.2.1 – Secondary species outcome
6	Justification for use
	<ul style="list-style-type: none"> - Refer to FCP v2.2, 7.7.3 and its associated guidance and the criteria in FCP v2.2, Table 3 when providing justification. - Note that it is required that stakeholder comments on the use of the RBF need to be considered (FCP v2.2, Annex PF2.1.1.e). The stakeholder comment and CAB response shall be included in the Public Comment Draft Report (FCP v2.2, 7.20.5).
	<p>PI 2.2.1 Secondary species outcome:</p> <p>“The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit”.</p> <p>PI 2.2.1 a) - Main secondary species stock status</p> <p>According to catch composition tables facilitated by the Ostrovnoy-Crab LLC (client) there are no main secondary species to consider in the UoAs 1 and 2. The only two secondary species in the UoA 3 for considering are Soldatov’s eelpout <i>Lycodes soldatovi</i> and Verrill’s crab <i>Paralomis verrilli</i> which considered as a main secondary species. The species has been evaluated using the RBF because data-deficient is attending for its stock status. The species has been scored using the RBF approach. During a full assessment process an RBF workshop has to be conducted with different stakeholders in order to agree with the scoring of the susceptibility attributes of the RBF procedure (Productivity Susceptibility Analysis (PSA)).</p> <p>In “Rationale” for this PI 2.2.1 a) noted:</p> <p>“UoA 1 (Red king crab <i>Paralithodes camtschaticus</i>) and UoA 2 (Blue king crab <i>P. platypus</i>) have no main secondary species.</p> <p>For UoA 3 (Golden king crab <i>Lithodes aequispinus</i>), main secondary species are Soldatov’s eelpout <i>Lycodes soldatovi</i> and Verrill’s crab <i>Paralomis verrilli</i>.</p> <p>These are evaluated using the RBF (PSA in Appendix Section 9.8.2 in two Tables, CA to be conducted at the site visit). The preliminary scores are ≥ 80 for both species.”</p> <p>In Appendix Section 9.8.2 assessment team are shown Productivity Susceptibility Analysis (PSA) for both species:</p>

Table X – PSA productivity and susceptibility attributes and scores for Soldatov’s eelpout, *Lycodes soldatovi*

Performance Indicator	2.2.1	
Productivity		
Scoring element (species)	Soldatov’s eelpout, <i>Lycodes soldatovi</i>	
Attribute	Rationale	Score
Average age at maturity	We do not have direct information on this species at present, but Knust et al. (2006) note that life history appears to be similar across both Arctic and Antarctic eelpout species, with an age at maturity of ~5 years and a maximum age of ~14 years.	2
Average maximum age		2
Fecundity	We do not have information on this species, but other species of <i>Lycodes</i> have relatively few small eggs (in the range 20-1000 according to species and female size for species in E. Canada / Greenland (Møller and Jørgensen 2000). Assume <100 eggs per year.	3
Average maximum size Not scored for invertebrates	Maximum length according to FishBase 96cm	1
Average size at maturity Not scored for invertebrates	Extrapolating from other species (Møller and Jørgensen 2000), size at maturity is in the range 11-38 cm depending on species and sex (males apparently maturing slightly larger than females); FishBase has 53cm for this species.	2
Reproductive strategy	Broadcast spawner (Knust et al., 2006)	1
Trophic level	3.6 (FishBase)	3
Density dependence Invertebrates only	NA	
Productivity score		2.00
Susceptibility		
Attribute	Rationale	Score
Areal Overlap	According to FishBase, the species is distributed along both sides of Kamchatka as well as E. Sakhalin and northern Japan, but not found in the north Sea of Okhotsk, so overlap with the golden crab fishery would be only in the southern part of 61.05.2. Assume low.	1
Encounterability	The species is demersal and the traps are on the bottom. High.	3
Selectivity of gear type	Size structure of bycatch unknown – assume high risk	3
Post capture mortality	The species is discarded but we have no information about discard mortality – assume high risk	3
Susceptibility score		1.65

Overall PSA score		2.59
MSC score		84

Table X – PSA productivity and susceptibility attributes and scores for Verrill’s crab *Paralomis verrilli*

Performance Indicator	2.2.1	
Productivity		
Scoring element (species)	Verrill’s crab, <i>Paralomis verrilli</i>	
Attribute	Rationale	Score
Average age at maturity	The conspecific <i>Paralomis granulosa</i> is estimated to have a generation time of 12 years; i.e. age at maturity is lower than 12 years while maximum age is higher. Assume 5-15 years for age at maturity and >25 years for maximum age (Lovrish and Vinuesa, 1999).	2
Average maximum age		3
Fecundity	800-10,000 eggs per clutch for <i>P. granulosa</i> ; assume similar	2
Average maximum size Not scored for invertebrates	NA	
Average size at maturity Not scored for invertebrates	NA	
Reproductive strategy	Females incubate eggs under their bodies	2
Trophic level	Assume generalist feeder as other Lithodid crabs – assume high	3
Density dependence Invertebrates only	No evidence either way	2
Productivity score		2.33
Susceptibility		
Attribute	Rationale	Score
Areal Overlap	According to SealifeBase, this species is widely distributed from Central Japan and the Sea of Okhotsk around E. Kamchatka and the Aleutians to North America as far south as California.	1
Encounterability	Seabed, as traps	3
Selectivity of gear type	Unknown; assume high risk	3

Post capture mortality	Extensive studies have been done on post-release mortality in other Lithodid crabs in this fishery, which show that it is relatively low unless the crab is subjected to multiple trap lifts in succession (ref). Assume medium risk here.	2
Susceptibility score		1.43
Overall PSA score		2.73
MSC score		81

References

Knust R., Pörtner H.O. and Arntz W.E. 2006. Biology of the Antarctic eelpout *Pachycara brachycephalum*. Deep Sea Research II: topical studies in oceanographic, 53, 1131-1140.

Møller PR, Jørgensen OA. 2000. Distribution and abundance of eelpouts (Pisces, Zoarcidae) off West Greenland. Sarsia 85:23-48.

Lovrich G.A. and Vinuesa J.H 1999. Reproductive potential of the lithodids *Lithodes santolla* and *Paralomis granulosa* in the Beagle Channel, Argentina. Scientia Marina 63 (Suppl. 1) 355-360.

2 Corporate branding

This template may be formatted to comply with the Conformity Assessment Body (CAB) corporate identity. The CAB shall ensure that content and structure follow the template.

Examples of appropriate amendments are:

- a. A title page with the company logo;
- b. A company header and footer used throughout the report;
- c. Replacement of font styles;
- d. Inclusion of contact details for the assessment team members in relation to consultation
- e. Deletion of any sections that are not applicable; and,
- f. Deletion of introductory text or instructions.

3 Template information and copyright

This document was drafted using the 'MSC Use of the RBF in a Fishery Assessment Form v3.1'.

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Template version control		
Version	Date of publication	Description of amendment
1.0	15 August 2011 15 November 2011	Date of first release. Date of application. Created as one of the Normative Documents to accompany release of MSC Certification Requirements v1.0
2.0	08 October 2014	Updates in line with release of Fisheries Certification Requirements v2.0
3.0	17 December 2018	Release alongside Fisheries Certification Process v2.1
3.01	28 March 2019	Minor document change for usability
3.1	25 March 2020	Release alongside Fisheries Certification Process v2.2

A controlled document list of MSC program documents is available on the MSC website (msc.org).

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