

Spilling over deepwater boundaries: evidence of spillover from two deepwater restricted fishing areas in Hawaii

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Table S1. Significant regressions illustrated or described in main article (where no figure is listed, regression statistics are given in text). BRFA: bottomfish restricted fishing area; CPUE: catch per unit effort (per trip: 1 trip \approx 11 h). In (A), Years 1–8 refer to years of monitoring after revision of BRFA boundaries (in 2007)

(A) Length over time

Species	BRFA	Outside/ Inside	Fig.	Equation (Years 1–6)	Equation (Years 1–8)
<i>E. carbunculus</i>	Penguin Bank	Inside	2a	$\text{length}_{1-6} = 380.9 + 11.3*\text{year} - 1.3*(\text{year} - 4.1)^2$	$\text{length}_{1-8} = 437.5 + 0.2*\text{year} - 5.3*(\text{year} - 4.6)^2$
<i>E. coruscans</i>	Penguin Bank	Inside	2c	$\text{length}_{1-6} = 640.9 + 9.1*\text{year} - 3.8*(\text{year} - 3.8)^2$	$\text{length}_{1-8} = 642.4 + 7.8*\text{year} - 2.4*(\text{year} - 4.4)^2$
<i>P. filamentosus</i>	Penguin Bank	Inside	2e	$\text{length}_{1-6} = 450.4 + 28.6*\text{year} - 8.3*(\text{year} - 3.8)^2$	$\text{length}_{1-8} = 468.0 + 22.7*\text{year} - 6.1*(\text{year} - 4.5)^2$
<i>P. sieboldii</i>	Penguin Bank	Inside		$\text{length}_{1-6} = 339.0 + 3.5*\text{year} - 1.2*(\text{year} - 3.8)^2$	$\text{length}_{1-8} = 346.6 + 1.8*\text{year} - 1.4*(\text{year} - 4.3)^2$
<i>A. rutilans</i>	Penguin Bank	Inside		$\text{length}_{1-6} = 664.8 + 24.6*\text{year} - 6.0*(\text{year} - 3.9)^2$	$\text{length}_{1-8} = 666.6 + 23.4*\text{year} - 4.6*(\text{year} - 4.1)^2$
<i>E. coruscans</i>	Penguin Bank	Outside	2d	$\text{length}_{1-6} = 511.0 + 12.8*\text{year} + 26.4*(\text{year} - 3.5)^2$	$\text{length}_{1-8} = 354.4 + 56.5*\text{year} + 15.6*(\text{year} - 4.0)^2 - 5.7*(\text{year} - 4.0)^3$
<i>P. filamentosus</i>	Penguin Bank	Outside	2f	$\text{length}_{1-6} = 442.3 + 27.2*\text{year} - 1.9*(\text{year} - 3.9)^2$	$\text{length}_{1-8} = 571.7 + 0.6*\text{year} - 8.2*(\text{year} - 5.0)^2$
<i>P. sieboldii</i>	Penguin Bank	Outside		$\text{length}_{1-6} = 300.3 + 7.8*\text{year} - 4.6*(\text{year} - 4.3)^2$	$\text{length}_{1-8} = 297.1 + 7.9*\text{year} - 1.9*(\text{year} - 5.4)^2$
<i>A. rutilans</i>	Penguin Bank	Outside		$\text{length}_{1-6} = 836.1 + 14.6*\text{year} - 11.4*(\text{year} - 4.7)^2$	$\text{length}_{1-8} = 917.1 - 1.3*\text{year} - 11.8*(\text{year} - 5.4)^2$
<i>P. filamentosus</i>	Makapu'u	Inside	2g	$\text{length}_{1-6} = 403.3 + 20.3*\text{year} - 2.0*(\text{year} - 3.9)^2$	
<i>P. filamentosus</i>	Makapu'u	Outside	2h	$\text{length}_{1-6} = 519.9 + 8.5*\text{year} - 18.2*(\text{year} - 3.3)^2$	

(B) CPUE over time

Species	BRFA	CPUE	Fig.	Equation
<i>E. coruscans</i>	Penguin Bank	No. trip ⁻¹	5a	$\log(\text{no. trip}^{-1}) = -20.1 + 0.01 * \text{calendar year} + 0.006 * (\text{calendar year} - 2011)^2$
<i>E. carbunculus</i>	Makapu'u	No. trip ⁻¹	5b	$\log(\text{no. trip}^{-1}) = -15.0 + 0.008 * \text{calendar year} + 0.03 * (\text{calendar year} - 2011)^2$
<i>P. filamentosus</i>	Both	No. trip ⁻¹	5c	$\log(\text{no. trip}^{-1}) = -69.7 + 0.04 * \text{calendar year}$
<i>E. coruscans</i>	Penguin Bank	Kg trip ⁻¹	5a	$\log(\text{kg trip}^{-1}) = -15.3 + 0.008 * \text{calendar year} + 0.01 * (\text{calendar year} - 2011)^2$
<i>E. carbunculus</i>	Makapu'u	Kg trip ⁻¹	5b	$\log(\text{kg trip}^{-1}) = -40.9 + 0.02 * \text{calendar year} + 0.03 * (\text{calendar year} - 2011)^2$
<i>P. filamentosus</i>	Both	Kg trip ⁻¹	5c	$\log(\text{kg trip}^{-1}) = -63.3 + 0.03 * \text{calendar year}$
<i>P. sieboldii</i>	Both	No. trip ⁻¹		$\log(\text{no. trip}^{-1}) = -190.1 + 0.10 * \text{calendar year} + 0.02 * (\text{calendar year} - 2011)^2$
<i>P. sieboldii</i>	Penguin Bank	No. trip ⁻¹		$\log(\text{no. trip}^{-1}) = -161.7 + 0.08 * \text{calendar year}$
<i>P. sieboldii</i>	Makapu'u	No. trip ⁻¹		$\log(\text{no. trip}^{-1}) = -218.4 + 0.11 * \text{calendar year} + 0.03 * (\text{calendar year} - 2011)^2$
<i>P. sieboldii</i>	Both	Kg trip ⁻¹		$\log(\text{kg trip}^{-1}) = -182.0 + 0.09 * \text{calendar year} + 0.02 * (\text{calendar year} - 2011)^2$
<i>P. sieboldii</i>	Penguin Bank	Kg trip ⁻¹		$\log(\text{kg trip}^{-1}) = -159.6 + 0.08 * \text{calendar year}$
<i>P. sieboldii</i>	Makapu'u	Kg trip ⁻¹		$\log(\text{kg trip}^{-1}) = -159.6 + 0.04 * \text{calendar year} + 0.003 * (\text{calendar year} - 2011)^2$
<i>H. quernus</i>	Penguin Bank	No. trip ⁻¹		$\log(\text{no. trip}^{-1}) = 116.2 - 0.06 * \text{calendar year} + 0.006 * (\text{calendar year} - 2011)^2$
<i>H. quernus</i>	Penguin Bank	Kg trip ⁻¹		$\log(\text{kg trip}^{-1}) = 106.2 - 0.05 * \text{calendar year}$