Table S1: Scoring system used to define relevance of response to decreased ocean pH

Scoring system used to define the relevance of literature studies to informing sensitivity of

Puget Sound species to changes in survival with decreased ocean pH. Modified from Table 1 in

Busch and McElhany (2016).

Rule type	Rule set	Score
Study environment		
	If study took place at a natural CO_2 vent site or takes advantage of a natural gradient in CO_2 conditions	1
	If study took place in a laboratory on multiple species living in the same experimental chamber	0.75
	All else	0.5
Ability to measure population persistence		
	If the response has a known relationship to population persistence	1.0
	All else	0.5
Control pH treatment		
	If pH treatment ≥ 8.1	0.5
	If pH treatment ≥ 7.8, <8.1	1.0
	If pH treatment < 7.8	0.1
Minimum experimental pH treatment		
	If pH treatment > 7.8	0.5
	If pH treatment ≤ 7.8	1.0
Relatedness to species in Puget Sound		
	If species lives in Puget Sound	1.0
	If the genus but not species lives in Puget Sound	0.75
	If the family but not genus lives in Puget Sound	0.5
	If the order but not family lives in Puget Sound	0.25
	All else	0.1
Distribution in the Puget Sound		
	If the species occurs in Puget Sound	1.0
	If the species occurs in the California Current	0.75
	If the species does not occur in the California Current	0.25
Collection location		
	If study subjects were collected in the California Current	1.0
	If study subjects were collected close to the California Current	0.75
	If study subjects were not collected in the California Current or if collection location is unspecified	0.25
Response type		
	If study evaluates decomposition, genomic response, harmful algal bloom variables, nitrogen fixation, proteomic response, viral shedding	0.1
	If study evaluates behavior, body composition, immune function, morphology	0.2
	If study evaluates acid-base balance, metabolism	0.5
	If study evaluates calcification	0.8
	If study evaluates development, growth, photosynthesis, reproductive rate, survival	1.0
Exposure duration		
	If gamete, fertilized egg, spore	1.0

If larvae/early life stage of phytoplankton

  ≥ 6 hours 1.0

  < 6 hours 0.5

If larvae/early life stage of macroalgae, seagrass

  ≥ 5 days 1.0

  < 5 days 0.5

If larvae/early life stage of abalone, krill, copepod, polychaete

  ≥ 6 days 1.0

  < 6 days 0.5

If larvae/early life stage of crab

  ≥ 30 days 1.0

  < 30 days 0.5

If larvae/early life stage of other invertebrates or vertebrates

  ≥ 14 days 1.0

  < 14 days, ≥ 7 days 0.66

  < 7 days 0.33

If juvenile stage of macroalgae or seagrass

  ≥ 30 days 1.0

  < 30 days, ≥ 7 days 0.66

  < 7 days 0.33

If juvenile stage of invertebrate

  ≥ 30 days 1.0

  < 30 days, ≥ 7 days 0.66

  < 7 days 0.33

If juvenile stage of vertebrate

  ≥ 90 days 1.0

  < 90 days 0.5

If adult stage of phytoplankton, bacteria, copepod

  ≥ 5 days 1.0

  < 5 days 0.5

If adult stage of macroalgae, seagrass, invertebrate

  ≥ 50 days 1.0

  < 50 days, ≥ 10 days 0.66

  < 10 days 0.33

If adult stage of vertebrate

  ≥ 100 days 1.0

  < 100 days 0.5

If duration undefined 0.33