

**Supplementary Table 2**

Comparisons among different models fit to length-frequency data and used to estimate growth of juvenile white shrimp (*Litopenaeus setiferus*). The mixdist package was used to fit different mixture distributions (i.e., normal, lognormal, and gamma) to length-frequency data for white shrimp collected on different sample dates in 2011 in Sabine Lake. A chi-square statistic, the degrees of freedom (df), and the  $P$ -value ( $P$ ) are given for goodness-of-fit tests for each model. Akaike's information criterion (AIC) was used to assess the distance between the model and the underlying data. The difference between a given model and the model with the lowest AIC value in a given set of models ( $\Delta$ AIC) is also provided. Model weight ( $w_i$ ) is an estimate of the probability that a model best represents the underlying data, relative to the other models being evaluated. Bold entries were the models selected to estimate growth.

Zone	Trip	Model	Chi-square	df	$P$	AIC	$\Delta$ AIC	$w_i$
Intermediate	4	1. Normal	12.46	6	0.05	22.46	10.06	0
		<b>2. Lognormal</b>	2.40	6	0.88	12.4	0	0.72
		<b>3. Gamma</b>	4.34	6	0.63	14.34	1.94	0.27
	5	<b>1. Normal</b>	6.39	6	0.38	16.39	0	0.69
		<b>2. Lognormal</b>	10.06	6	0.12	20.06	3.67	0.11
		<b>3. Gamma</b>	8.90	6	0.18	18.9	2.51	0.2
Brackish	4	<b>1. Normal</b>	1.43	3	0.7	17.43	0	0.75
		<b>2. Lognormal</b>	6.02	3	0.11	22.02	4.58	0.08
		<b>3. Gamma</b>	4.31	3	0.23	20.31	2.88	0.18
	5	<b>1. Normal</b>	6.49	3	0.09	22.49	0	0.95
		2. Lognormal	17.64	3	0	33.64	11.15	0
		3. Gamma	12.58	3	0.01	28.58	6.1	0.05
	6	1. Normal	6.96	3	0.07	22.96	5.27	0.04
		<b>2. Lognormal</b>	1.69	3	0.64	17.69	0	0.57
		<b>3. Gamma</b>	2.43	3	0.49	18.43	0.74	0.39
Saline	2	<b>1. Normal</b>	3.74	3	0.29	19.74	1.73	0.3
		2. Lognormal	22.72	3	0	32.72	14.71	0
		<b>3. Gamma</b>	2.01	3	0.57	18.01	0	0.7
	3	<b>1. Normal</b>	27.79	3	0	43.79	0	0.95
		2. Lognormal	62.10	3	0	62.1	18.32	0
		3. Gamma	49.78	3	0	49.78	5.99	0.05

**Supplementary Table 3**

Mean carapace length estimates [ $\mu$  (SE)] from analyses completed with the `mixdist` package in R software and used to estimate growth rates for juvenile white shrimp (*Litopenaeus setiferus*) collected in 2011 within salinity zones (intermediate [I], brackish [B], and saline [S]) of Sabine Lake.

Trip	Date	Zone	Cohort	$\mu$
2	07/28/11	S	1S	2.328 (0.063)
		S	2S	6.174 (0.154)
3	08/11/11	S	1S	6.347 (0.198)
		S	2S	11.348 (0.645)
4	09/9/11 09/7/11	I	1I	4.286 (0.098)
		B	1B	2.992 (0.133)
		B	2B	5.266 (0.315)
5	09/20/11 09/21/11	I	1I	7.744 (0.345)
		B	3B	2.948 (0.186)
		B	1B	5.161 (1.257)
		B	2B	7.355 (0.728)
6	10/05/11	B	3B	4.982 (1.000)
		B	1B	10.044 (0.633)