

Table S1. Mean traits values for each lake. The parentheses following each entry represent the ± 1.0 s.e.

Lake	<u>Age at Maturation</u>				<u>Size at Maturation</u>				<u>Size of first clutch</u>			
	Non-predator		Predator		Non-predator		Predator		Non-predator		Predator	
	Gen. 1	Gen. 2	Gen. 1	Gen. 2	Gen. 1	Gen. 2	Gen. 1	Gen. 2	Gen. 1	Gen. 2	Gen. 1	Gen. 2
<i>Anadromous:</i>												
Bride	9.78 (0.28)	9.61 (0.29)	8.89 (0.28)	9.16 (0.28)	1.45 (0.014)	1.41 (0.014)	1.41 (0.014)	1.4 (0.014)	4.82 (0.2)	4.24 (0.21)	4.64 (0.2)	4.27 (0.2)
Dodge	10.11 (0.3)	10.12 (0.31)	9.25 (0.3)	10.0 (0.32)	1.5 (0.015)	1.49 (0.015)	1.46 (0.015)	1.44 (0.016)	4.92 (0.22)	5.14 (0.23)	4.92 (0.22)	4.63 (0.23)
Gorton	8.88 (0.38)	9.57 (0.39)	9.13 (0.39)	9.27 (0.4)	1.42 (0.019)	1.44 (0.019)	1.43 (0.019)	1.4 (0.019)	4.5 (0.28)	4.48 (0.28)	5.04 (0.28)	4.36 (0.29)
<i>Landlocked:</i>												
Amos	9.13 (0.28)	10.34 (0.29)	9.92 (0.28)	9.52 (0.29)	1.42 (0.014)	1.4 (0.014)	1.422 (0.014)	1.39 (0.015)	4.91 (0.2)	4.41 (0.21)	4.84 (0.21)	4.93 (0.21)
Long	9.71 (0.28)	9.62 (0.29)	9.9 (0.28)	9.22 (0.29)	1.44 (0.014)	1.45 (0.015)	1.43 (0.014)	1.4 (0.014)	4.75 (0.2)	4.76 (0.21)	4.8 (0.2)	4.55 (0.21)
Quonnipaug	9.71 (0.29)	8.74 (0.3)	10.44 (0.29)	8.65 (0.29)	1.37 (0.014)	1.38 (0.015)	1.4 (0.014)	1.36 (0.014)	4.07 (0.21)	4.46 (0.22)	4.62 (0.21)	4.17 (0.21)
<i>No alewife:</i>												
Black	9.76 (0.28)	8.92 (0.28)	9.88 (0.28)	8.58 (0.28)	1.4 (0.014)	1.41 (0.014)	1.43 (0.014)	1.37 (0.014)	4.36 (0.2)	4.7 (0.21)	5.02 (0.2)	4.58 (0.21)
Gardner	10.04 (0.28)	10.13 (0.29)	9.65 (0.28)	9.49 (0.31)	1.46 (0.014)	1.42 (0.015)	1.45 (0.014)	1.42 (0.014)	4.47 (0.2)	4.63 (0.21)	4.89 (0.2)	4.39 (0.23)
Wyassup	9.95 (0.28)	10.11 (0.29)	9.54 (0.28)	9.10 (0.29)	1.4 (0.014)	1.43 (0.015)	1.42 (0.014)	1.39 (0.014)	3.93 (0.2)	4.1 (0.21)	4.07 (0.2)	4.05 (0.21)

Fig. S1. Experimental design. *Daphnia* from lakes with anadromous, landlocked, and no alewife were reared in the presence (P) and absence (N) of predator cues in generation 1. The influence of initial exposure to predator cues was then tracked in generation 2. That is, all populations were reared in the absence of predator cues in generation 2 (PN vs. NN).

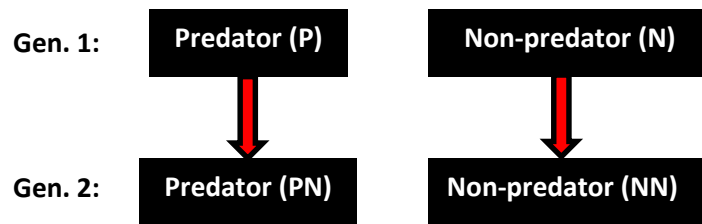


Fig. S2. Clonal variation in TGP for age at maturation. Each panel displays the across-generation responses in response to predator exposure in generation 1 for all clones in (A) anadromous, (B) landlocked, and (C) no alewife lakes. Grey lines = clonal averages, Solid black lines = lake type average.

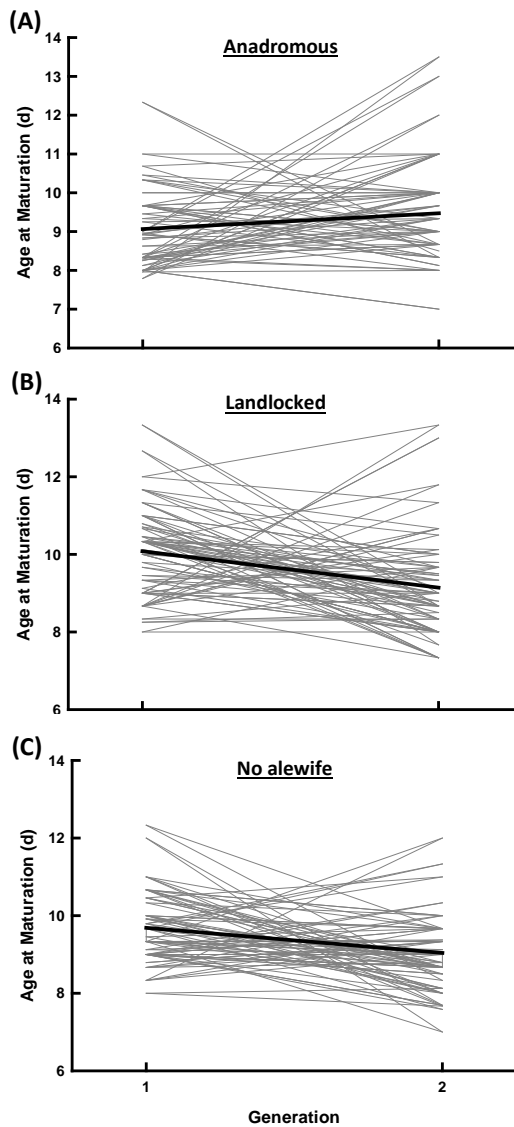


Fig. S3. Evolution of within- vs. across-generation plasticity. Our results argue that: (1) temporal variation in mortality selects for enhanced within-generation phenotypic plasticity but weak or absent TGP. (2) Consistently strong (or weak) predator-induced mortality selects for strong transgenerational responses to predator cues.

