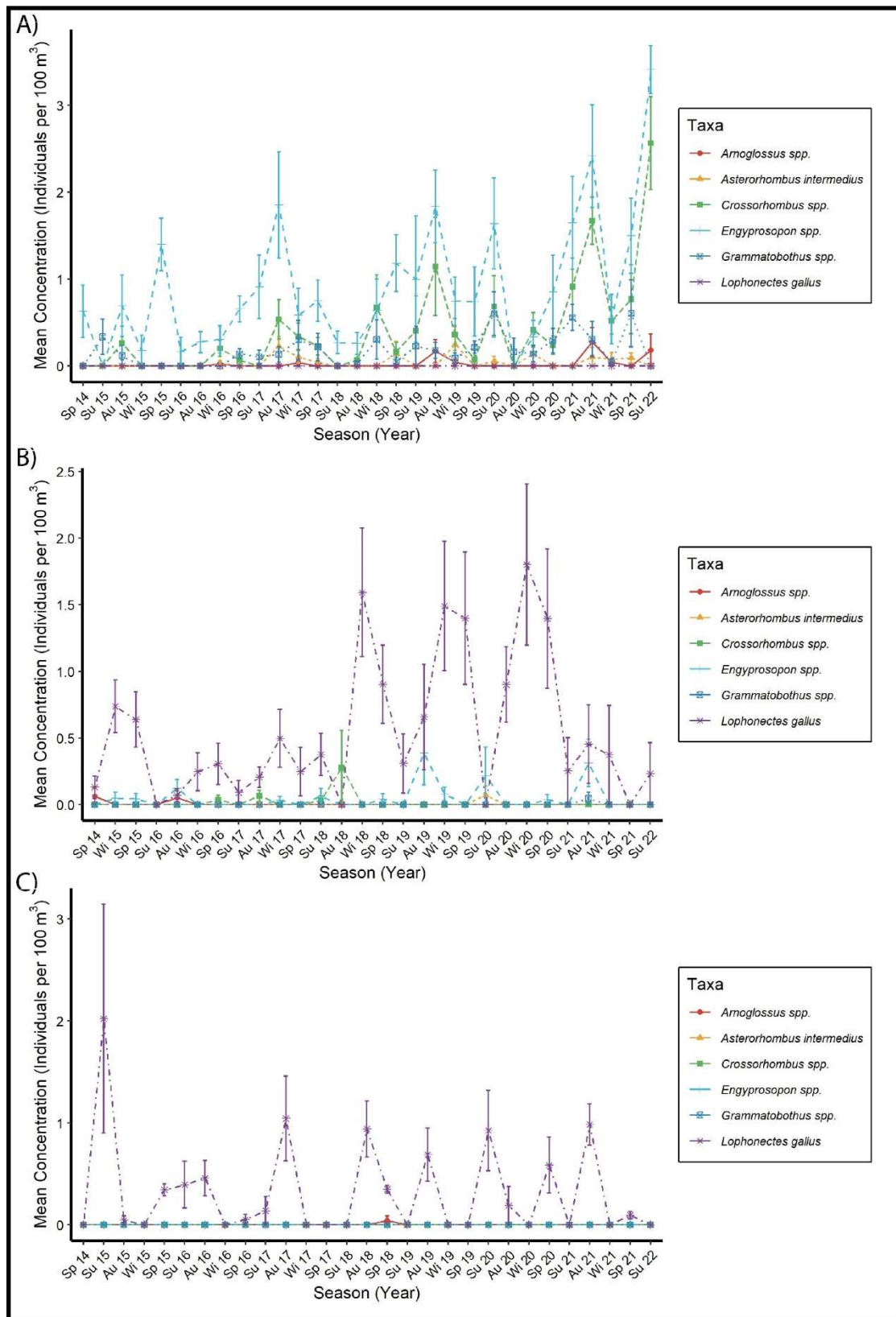
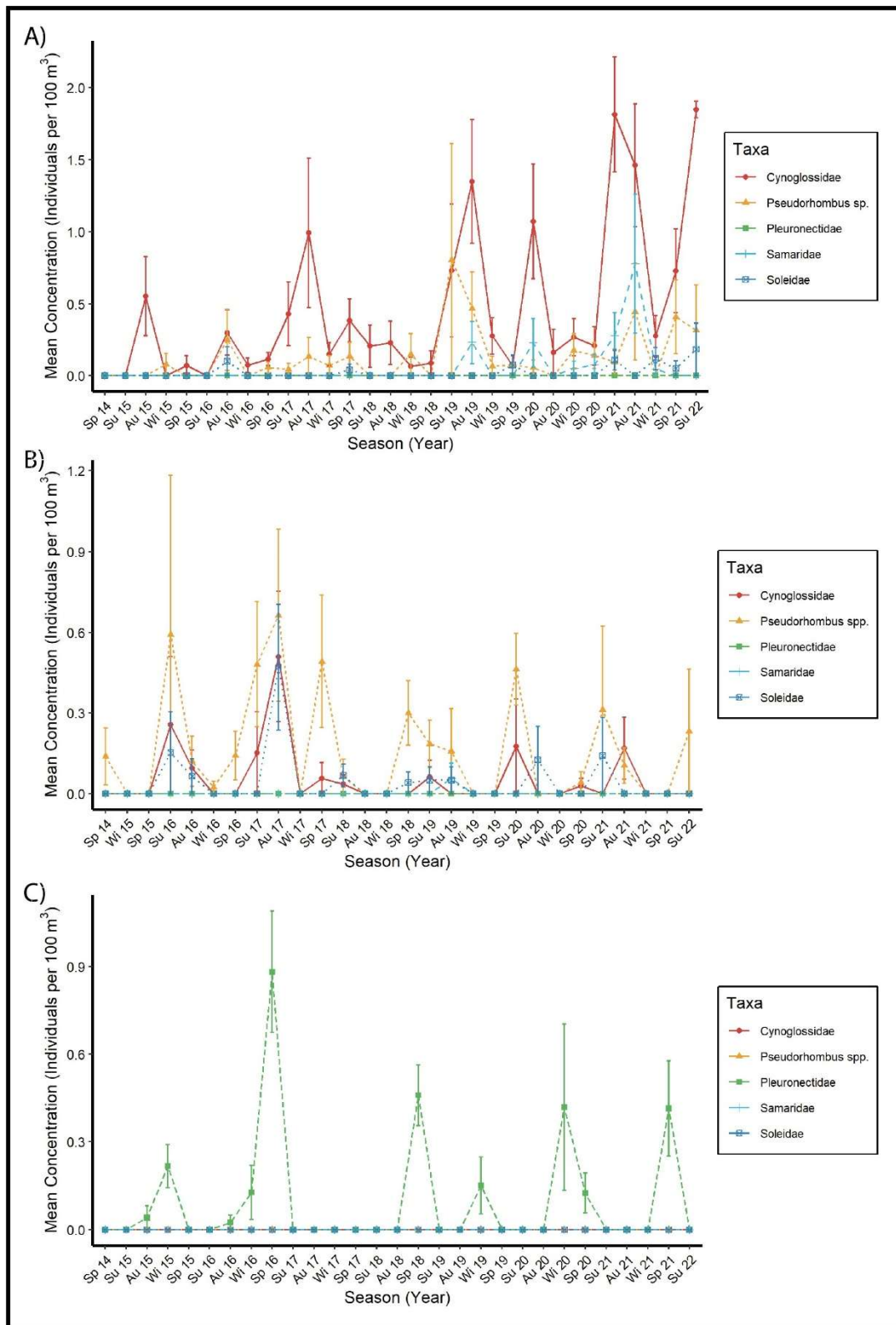


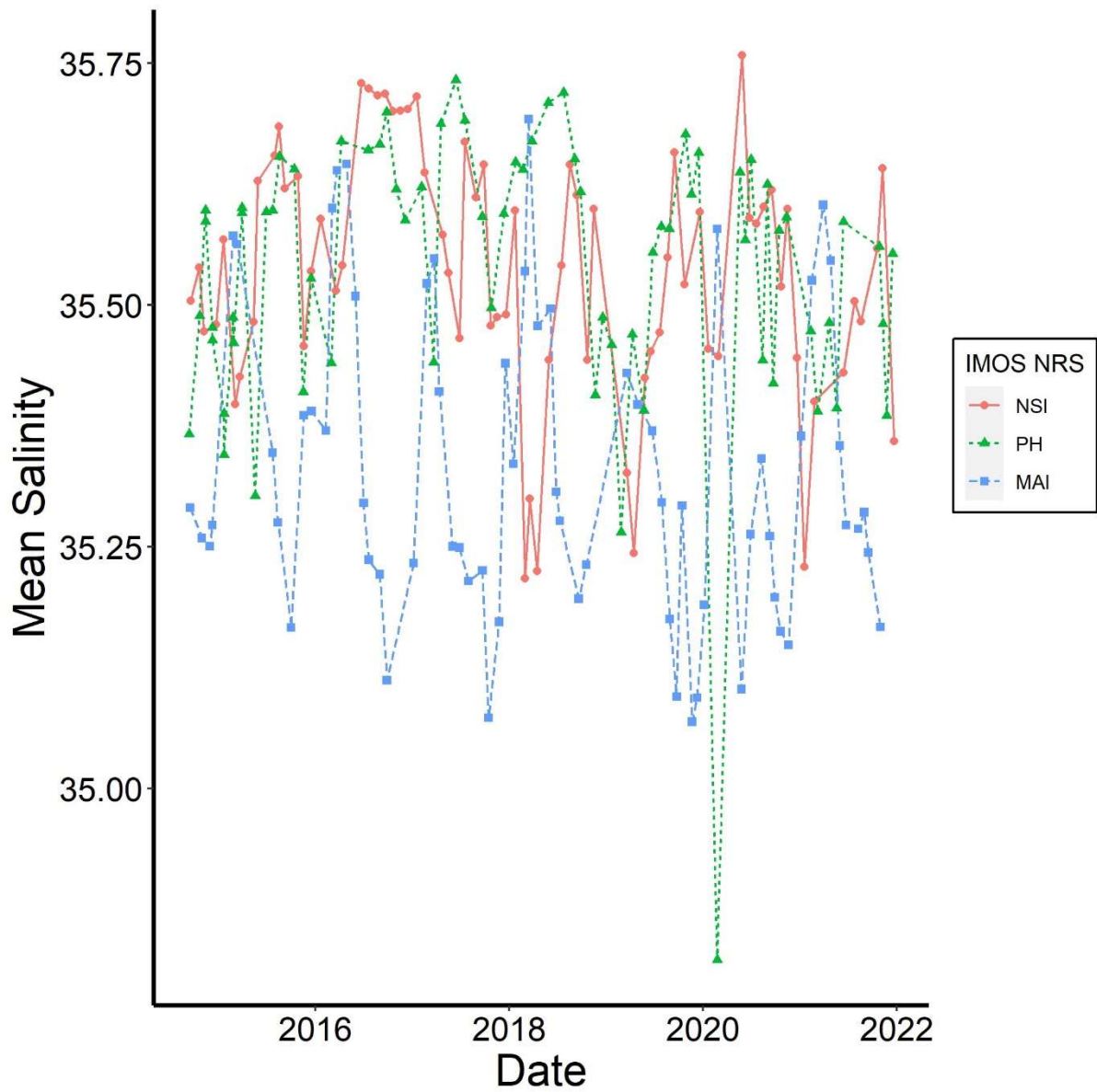
Supplementary Figures and Tables



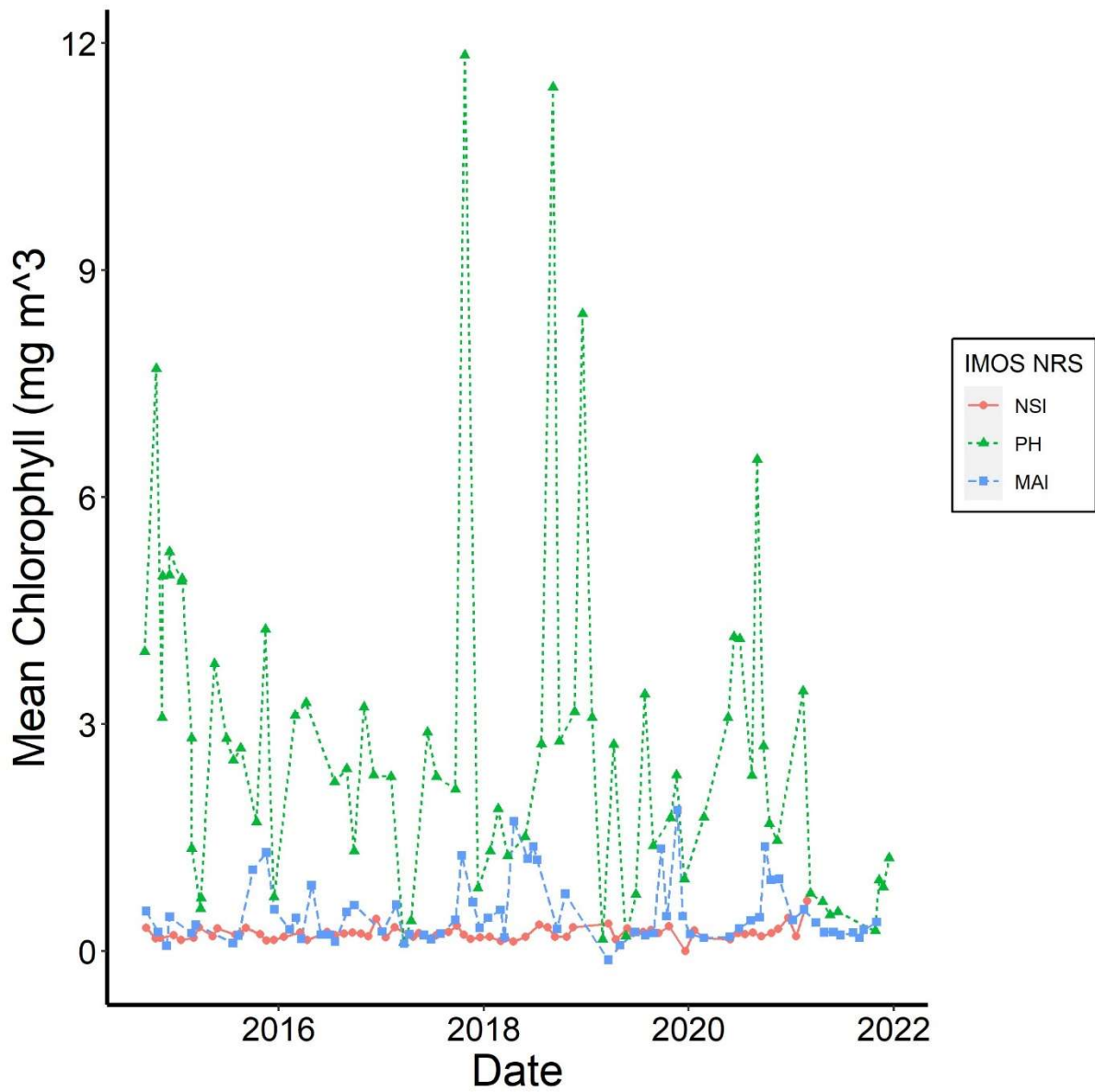
Supplementary Figure 1. Interannual variation in mean (± 1 SE) concentrations (ind.100 m³) of six genera of Bothidae larvae at (A) North Stradbroke Island; (B) Port Hacking and (C) Maria Island National Reference Stations. Data are log₁₀ +1 transformed.



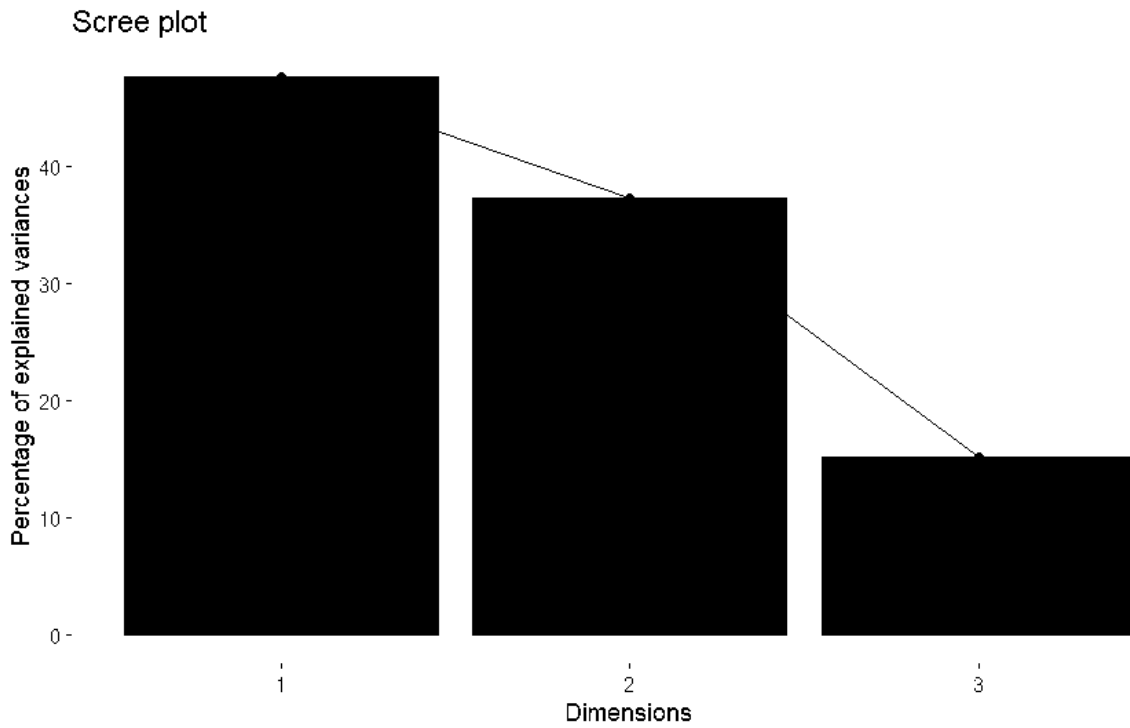
Supplementary Figure 2. Interannual variation in mean (± 1 SE) concentrations (ind.100 m³) of Cynoglossidae, Paralicthyidae (*Pseudorhombus* spp.), Pleuronectidae, Samaridae and Soleidae larvae at (A) North Stradbroke Island; (B) Port Hacking and (C) Maria Island National Reference Stations. Data are log₁₀ +1 transformed.



Supplementary Figure 3. Mean salinity (PSU) (< 30 m) at the North Stradbroke Island (NSI), Port Hacking (PH) and Maria Island (MAI) National Reference Station (NRS) from 2014–2021.



Supplementary Figure 4. Mean chlorophyll concentrations (mg m^3) (< 30 m) at the North Stradbroke Island (NSI), Port Hacking (PH) and Maria Island (MAI) National Reference Station (NRS) from 2014–2021.



Supplementary Figure 5. Scree plot showing the percentage explained variances for the Principal Component Analysis axes comparing water temperature salinity and chlorophyll at the National Reference Stations.

Supplementary Table 1. Analysis of deviance table showing results of GLM analysis comparing larval flatfish assemblages between the three National Reference Stations (NRS).

Multivariate Test:

	Res. Df	Df. diff	Dev	Pr (>Dev)
(Intercept)	282			
NRS	280	2	786.4	0.001

Univariate Test:

Taxa	Dev	Pr (>Dev)	
Bothidae			
<i>Arnoglossus</i> spp.	2.368	0.427	
<i>Asterorhombus intermedius</i>	22.924	0.001	
<i>Crossorhombus</i> spp.	87.583	0.001	
<i>Engyprosopon</i> spp.	189.431	0.001	
<i>Grammatobothus</i> spp.	82.628	0.001	
<i>Lophonectes gallus</i>	169.476	0.001	
Other bothid	3.494	0.427	
Cynoglossidae	86.012	0.001	
Paralichthyidae	<i>Pseudorhombus</i> spp.	38.884	0.001
Pleuronectidae		75.822	0.001
Samaridae		15.006	0.003
Soleidae		12.806	0.008

Supplementary Table 2. Analysis of deviance table comparing flatfish larval assemblages between National Reference Station (NRS), season and year.

	Res. Df	Df. diff	Dev	Pr (>Dev)
(Intercept)	282			
NRS	280	2	786.4	0.001
Season	277	3	242.4	0.001
Year	276	1	56.4	0.001
NRS:Season	270	6	136.9	0.001
NRS:Year	268	2	57.2	0.001
Season:Year	265	3	46.2	0.074
NRS:Season:Year	259	6	9.8	0.761

Supplementary Table 3. PCA loadings for comparison of temperature, salinity and chlorophyll data between the three National Reference Stations (NRS).

	Comp 1	Comp 2	Comp 3
Salinity	0.663	0.421	0.619
Chlorophyll	-0.157	0.887	-0.434
Temperature	0.732	-0.191	-0.654

Supplementary Table 4. Analysis of deviance table comparing flatfish larval assemblages with temperature, salinity and chlorophyll data between the three National Reference Stations.

	Res. Df	Df. diff	Dev	Pr (>Dev)
(Intercept)	282			
Temperature	281	1	618.4	0.001
Salinity	280	1	28.6	0.032
Chlorophyll	279	1	101.3	0.001