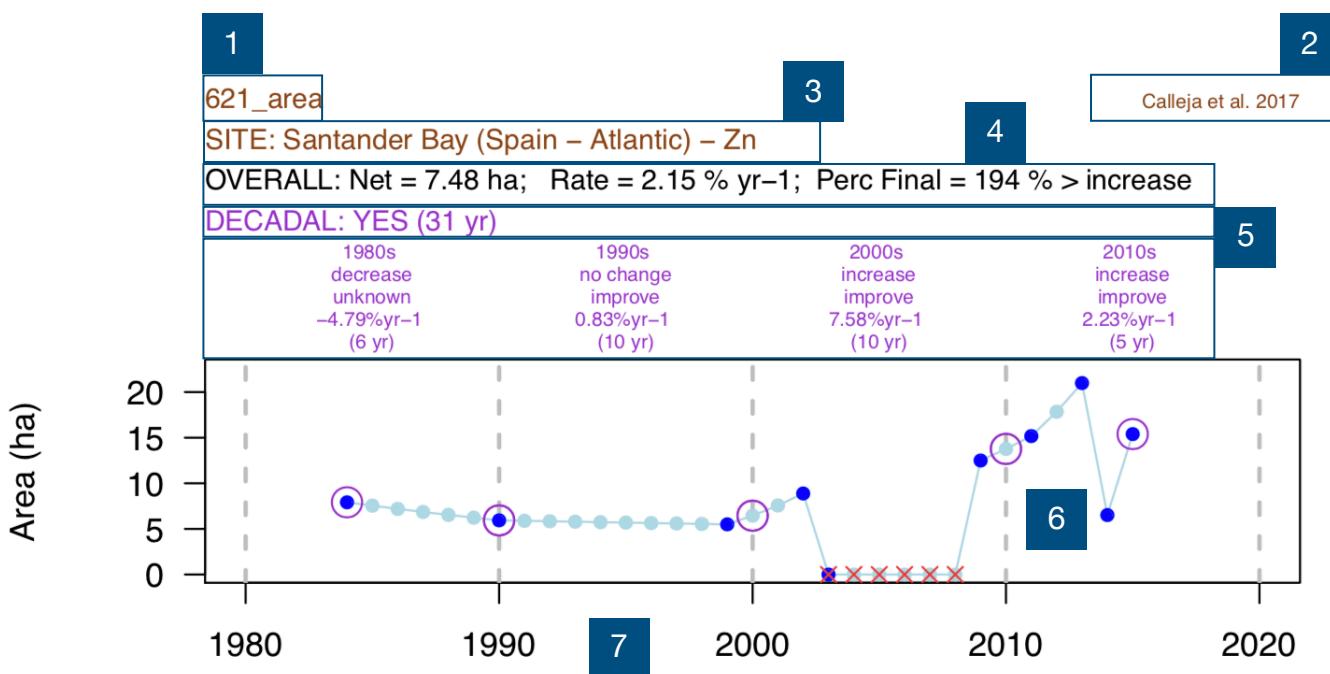


Supplementary Data 2. Visualisation of the compiled time-series of extent and/or density of seagrass sites in Europe, with time-windows from 1869 to 2016.

Elements in each figure are (see example below):

1. Code of the assessment (site ID_metric), as in Supplementary Data 1.
2. Code of the source, as in Supplementary Data 1.
3. Name of the site (country - region) - Species code (if known, depth in m).
4. Overall analysis: Net rate of change (units depend on the metric), specific rate of change (% yr-1), and percentage of change (%) for the overall time period (from first to last observation) > trajectory for the overall time period (decrease, increase, no change).
5. Decadal analysis: Whether the time-series is included or not in the decadal analysis (YES or NO). Time window is given between brackets (in years). Next lines shows: decade, trajectory for that decade using the observations at the decade boundaries, evolution of the trajectory (from previous decade), specific rate of change for that decade (% yr-1), and time window available for that decade.
6. Dark blue dots are observed values, light blue dots are interpolated values, purple circles show values used for the decadal calculations, red crosses indicate absence of seagrasses for that year (either based on observation or interpolations).
7. Grey dashed lines separate decades.



3_area

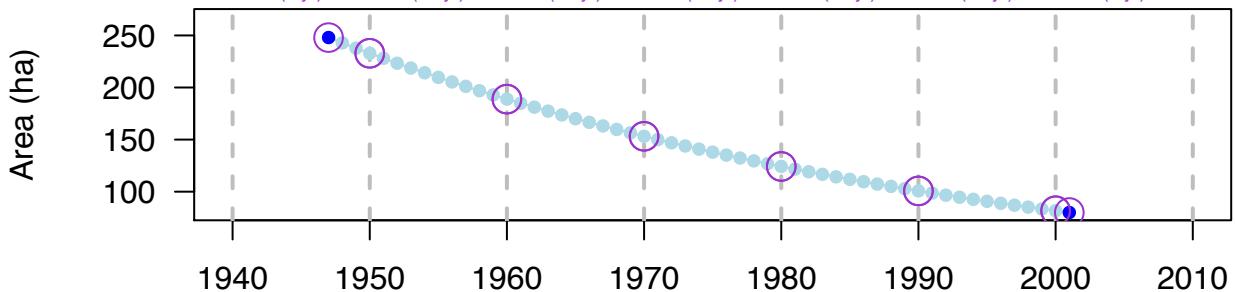
Cochón and Sánchez 2005

SITE: Ría de Pontevedra (Spain – Atlantic) – Zn (? m)

OVERALL: Net = -167.94 ha; Rate = -2.09 % yr⁻¹; Perc Final = 32 % > decrease

DECADAL: YES (54 yr)

| 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| no change | decrease | decrease | decrease | decrease | decrease | no change |
| unknown | worsen | worsen | worsen | worsen | worsen | improve |
| -2.09%yr ⁻¹ |
| (3 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (1 yr) |



5_area

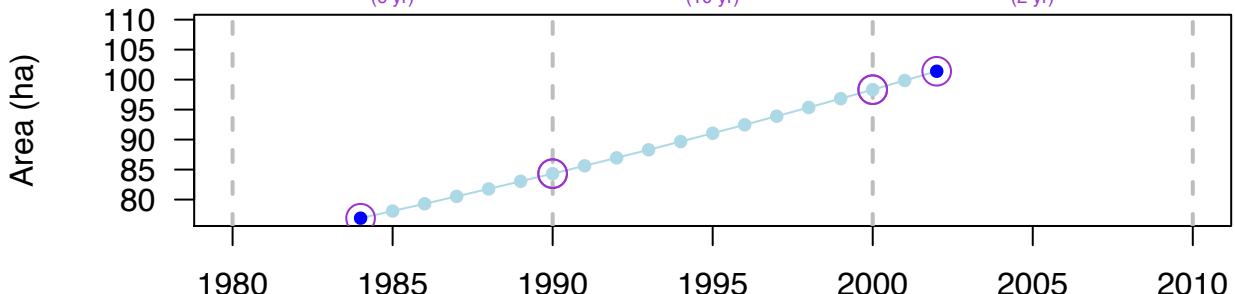
Castellanos et al. 2003

SITE: Ría de Foz (Spain – Atlantic) – Zn (? m)

OVERALL: Net = 24.5 ha; Rate = 1.54 % yr⁻¹; Perc Final = 132 % > increase

DECADAL: YES (18 yr)

| 1980s | 1990s | 2000s |
|-----------------------|-----------------------|-----------------------|
| no change | increase | no change |
| unknown | improve | steady |
| 1.54%yr ⁻¹ | 1.54%yr ⁻¹ | 1.54%yr ⁻¹ |
| (6 yr) | (10 yr) | (2 yr) |



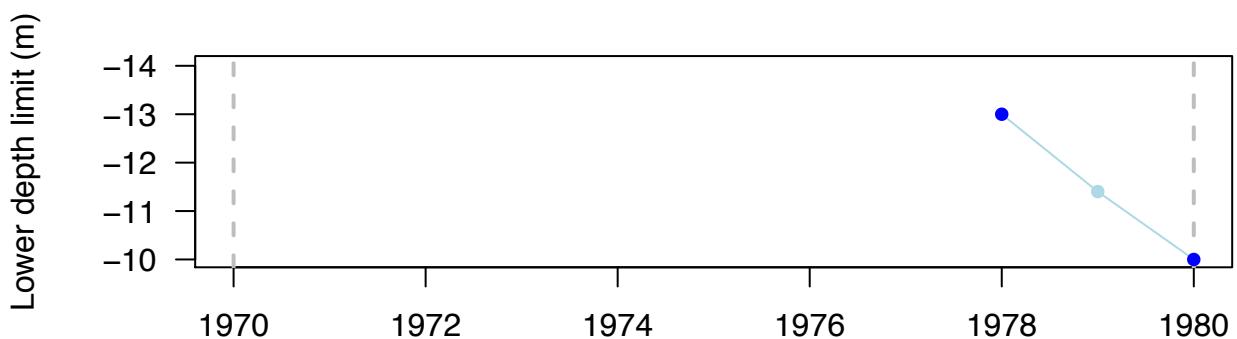
7_lowerlimit

Whelan 1986 (in Hily et al. 2003)

SITE: Ventry Bay (Ireland – Atlantic) – Zm (-13 m)

OVERALL: Net = -3 m; Rate = $-13.12\% \text{ yr}^{-1}$; Perc Final = $77\% >$ decrease

DECADAL: NO (2 yr)



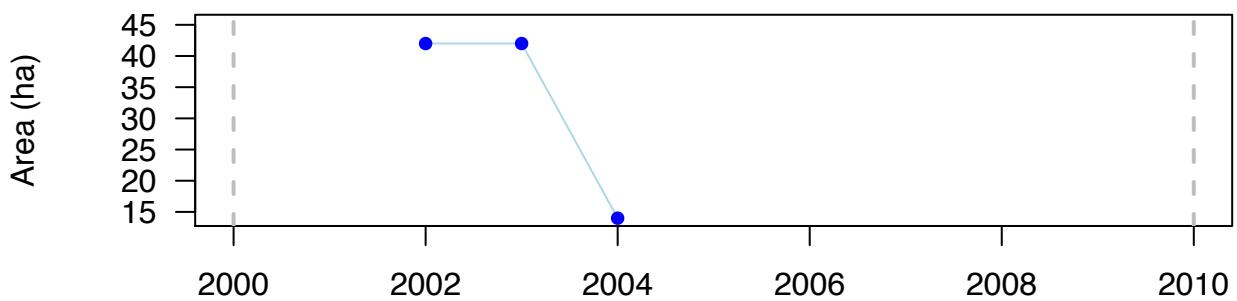
8_area

Tagliapietra et al. 1998, Rismonto and Mion 2008

SITE: Venice Lagoon (Italy – Mediterranean) – Zn (? m)

OVERALL: Net = -28 ha; Rate = $-54.93\% \text{ yr}^{-1}$; Perc Final = $33\% >$ decrease

DECADAL: NO (2 yr)



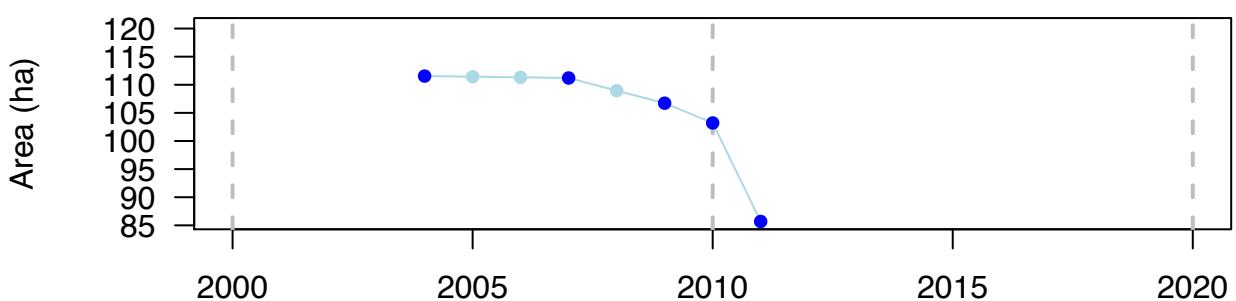
9_area

Arconada et al. 2013

SITE: Águilas (desalination plant) (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -25.86 ha; Rate = -3.77 % yr⁻¹; Perc Final = 77 % > decrease

DECadal: NO (7 yr)



11_area

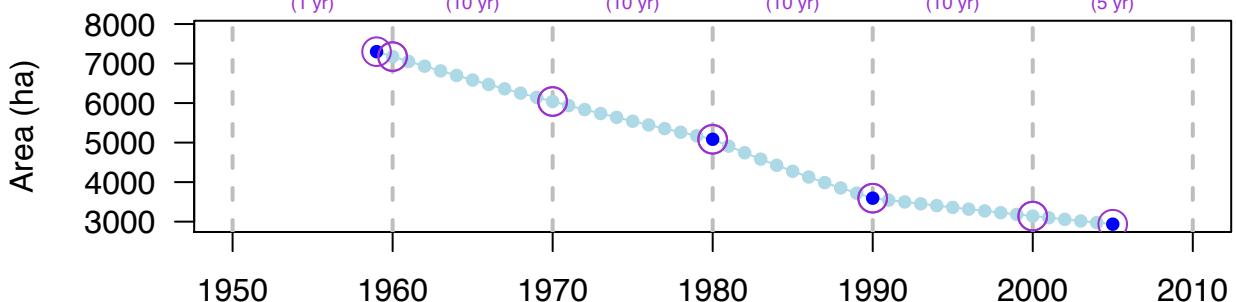
Ardizzone et al. 2006

SITE: Cape Circeo and Sperlonga (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -4364.8 ha; Rate = -1.98 % yr⁻¹; Perc Final = 40 % > decrease

DECadal: YES (46 yr)

| Decade | Change Type | Rate | Period |
|--------|------------------------|---------|--------|
| 1950s | no change | | |
| 1950s | unknown | | |
| 1950s | -1.72%yr ⁻¹ | (1 yr) | |
| 1960s | decrease | | |
| 1960s | worsen | | |
| 1960s | -1.72%yr ⁻¹ | (10 yr) | |
| 1970s | decrease | | |
| 1970s | worsen | | |
| 1970s | -1.72%yr ⁻¹ | (10 yr) | |
| 1980s | decrease | | |
| 1980s | worsen | | |
| 1980s | -3.47%yr ⁻¹ | (10 yr) | |
| 1990s | decrease | | |
| 1990s | worsen | | |
| 1990s | -1.35%yr ⁻¹ | (10 yr) | |
| 2000s | no change | | |
| 2000s | improve | | |
| 2000s | -1.35%yr ⁻¹ | (5 yr) | |



11_lowerlimit

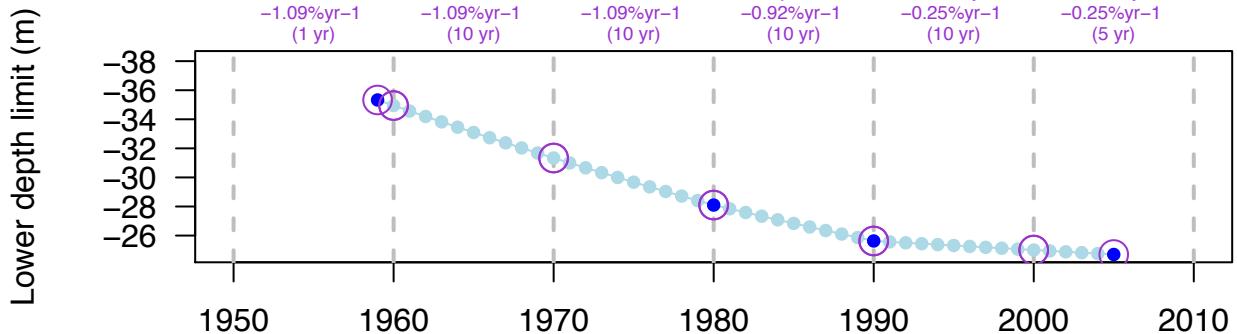
Ardizzone et al. 2006

SITE: Cape Circeo and Sperlonga (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -10.63 m ; Rate = $-0.78 \% \text{ yr}^{-1}$; Perc Final = 70 % > decrease

DECadal: YES (46 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| no change | decrease | decrease | no change | no change | no change |
| unknown | worsen | worsen | improve | steady | steady |
| $-1.09\% \text{ yr}^{-1}$ | $-1.09\% \text{ yr}^{-1}$ | $-1.09\% \text{ yr}^{-1}$ | $-0.92\% \text{ yr}^{-1}$ | $-0.25\% \text{ yr}^{-1}$ | $-0.25\% \text{ yr}^{-1}$ |
| (1 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (5 yr) |



11_upperlimit

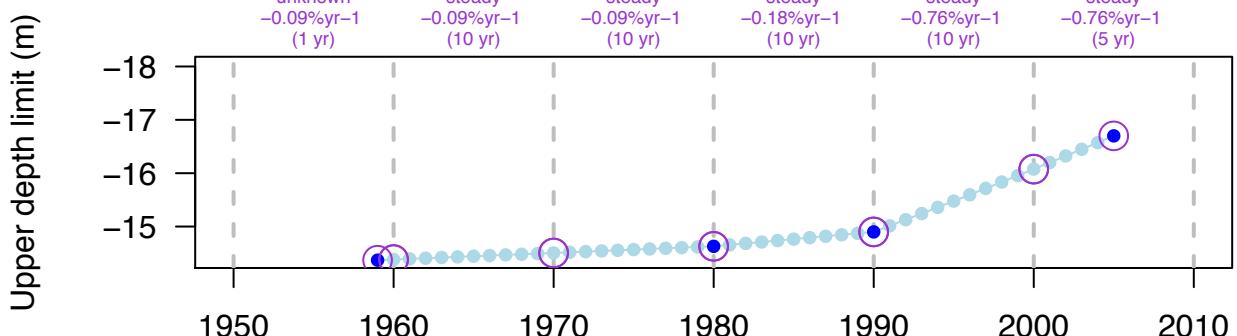
Ardizzone et al. 2006

SITE: Cape Circeo and Sperlonga (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -2.33 m ; Rate = $-0.33 \% \text{ yr}^{-1}$; Perc Final = 86 % > decrease

DECadal: YES (46 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| no change |
| unknown | steady | steady | steady | steady | steady |
| $-0.09\% \text{ yr}^{-1}$ | $-0.09\% \text{ yr}^{-1}$ | $-0.09\% \text{ yr}^{-1}$ | $-0.18\% \text{ yr}^{-1}$ | $-0.76\% \text{ yr}^{-1}$ | $-0.76\% \text{ yr}^{-1}$ |
| (1 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (5 yr) |



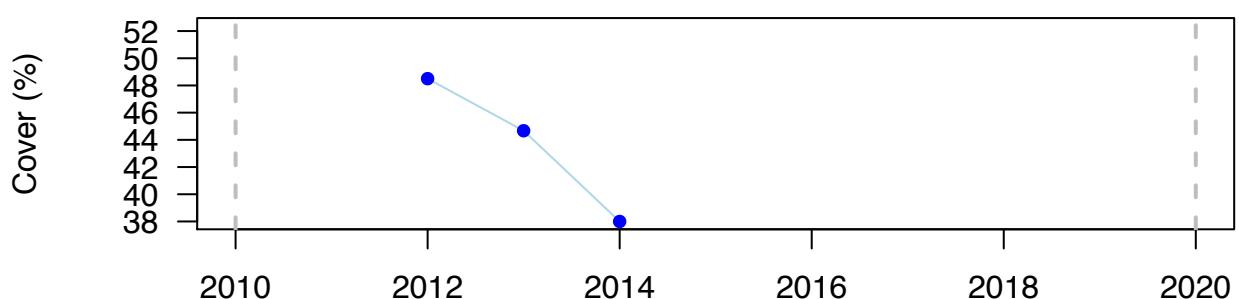
12_cover

Marbà et al. 2015

SITE: Agua Amarga (POS_08) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = -10.5 %; Rate = -12.2 % yr⁻¹; Perc Final = 78 % > no change

DECADAL: NO (2 yr)



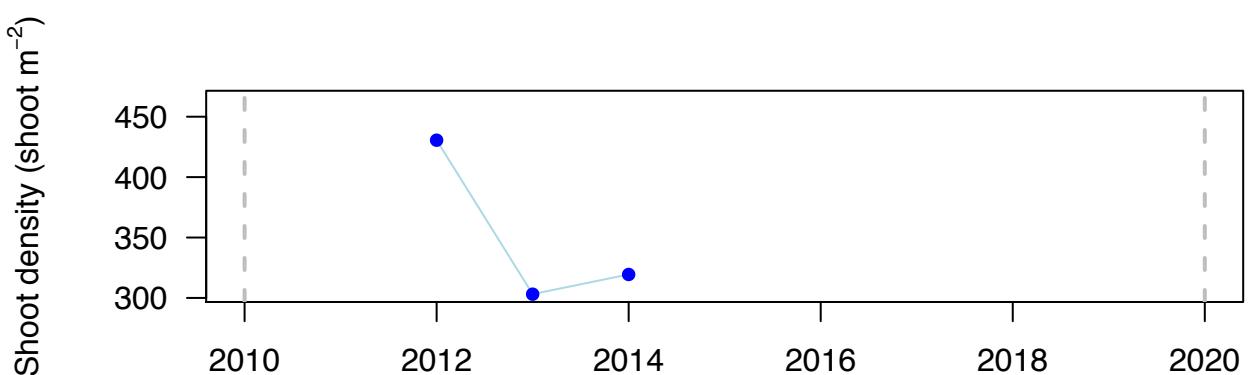
12_density

Marbà et al. 2015

SITE: Agua Amarga (POS_08) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = -111.12 shoot m⁻²; Rate = -14.93 % yr⁻¹; Perc Final = 74 % > decrease

DECADAL: NO (2 yr)



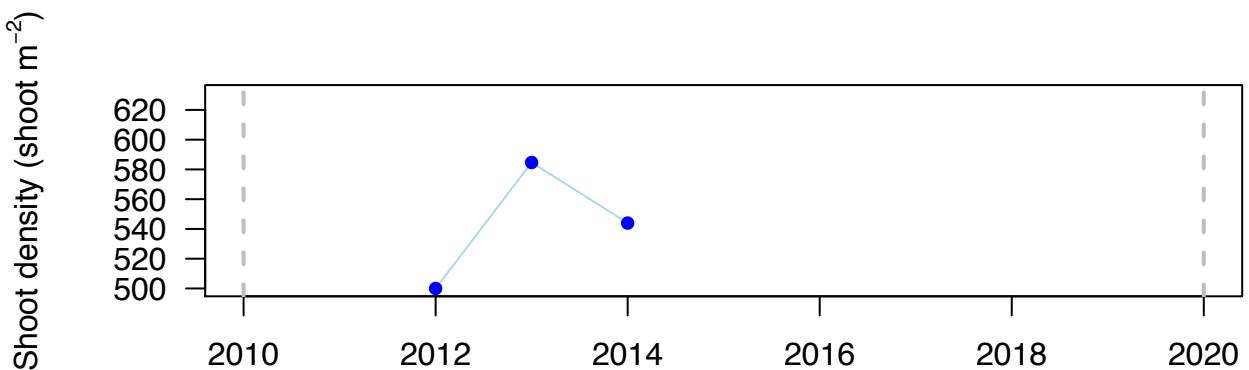
13_density

Marbà et al. 2015

SITE: Carnaje (POS_10) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = 43.97 shoot m⁻²; Rate = 4.21 % yr⁻¹; Perc Final = 109 % > no change

DECADAL: NO (2 yr)



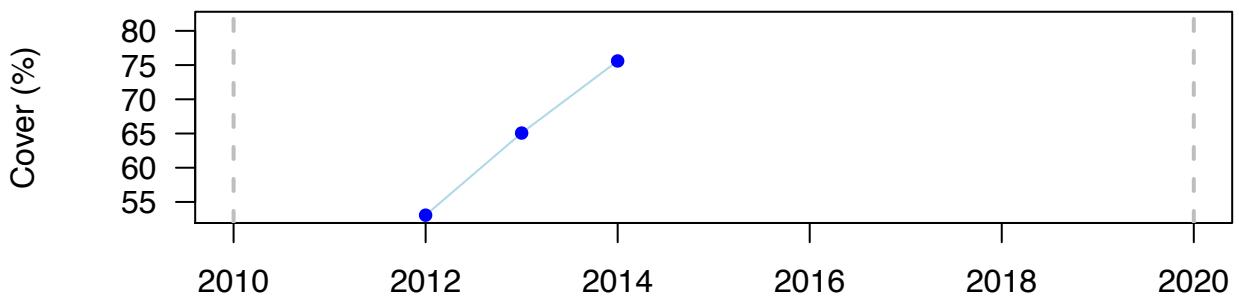
14_cover

Marbà et al. 2015

SITE: Las Negras (POS_09) (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 22.53 %; Rate = 17.69 % yr⁻¹; Perc Final = 142 % > increase

DECADAL: NO (2 yr)



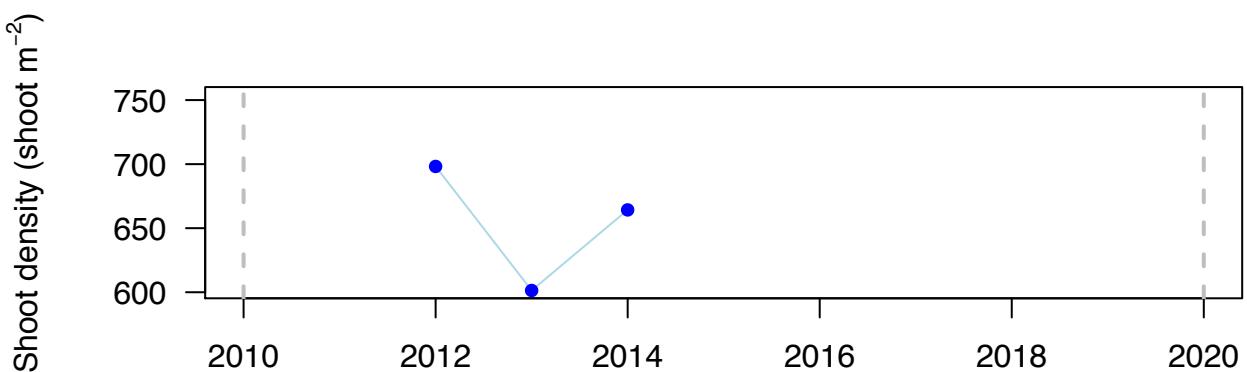
14_density

Marbà et al. 2015

SITE: Las Negras (POS_09) (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = -33.92 shoot m⁻²; Rate = -2.49 % yr⁻¹; Perc Final = 95 % > no change

DECADAL: NO (2 yr)



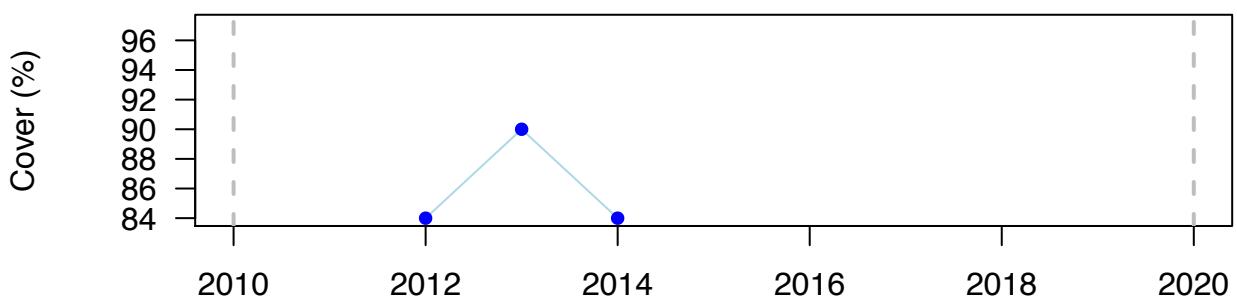
15_cover

Marbà et al. 2015

SITE: Los Escullos (POS_11) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = 0 %; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (2 yr)



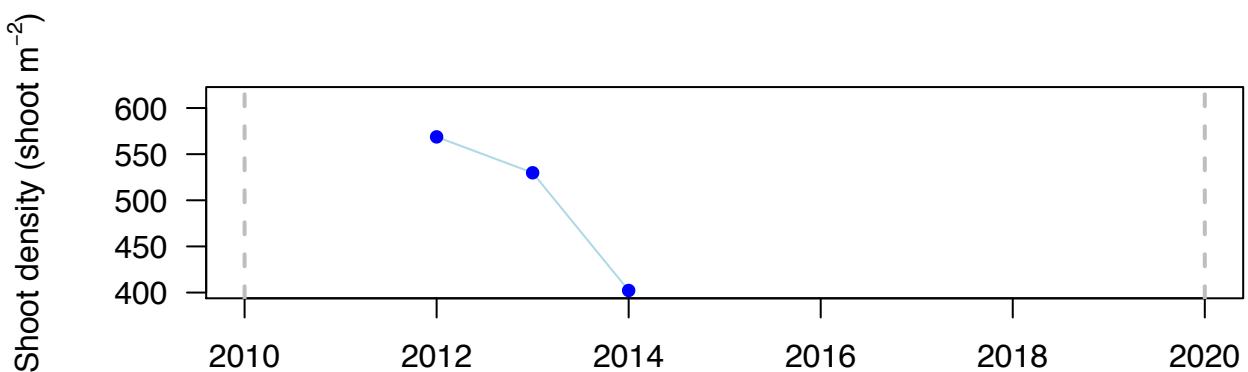
15_density

Marbà et al. 2015

SITE: Los Escullos (POS_11) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -166.48 shoot m⁻²; Rate = -17.32 % yr⁻¹; Perc Final = 71 % > decrease

DECADAL: NO (2 yr)



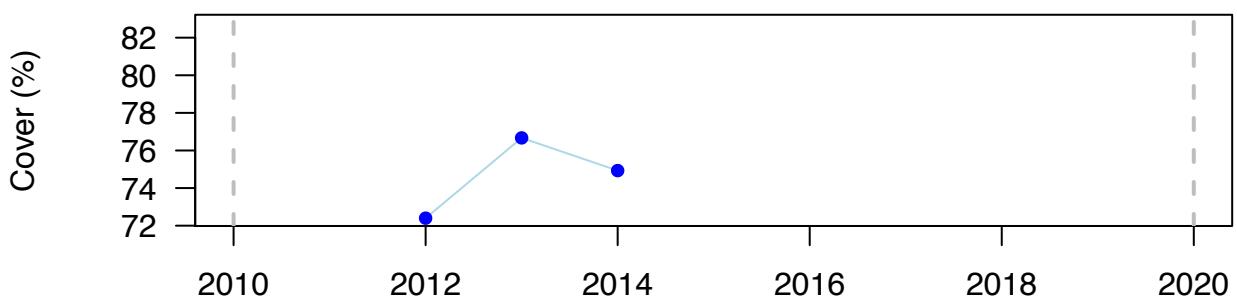
16_cover

Marbà et al. 2015

SITE: Bajos de Roquetas (POS_12) (Spain – Mediterranean) – Po (-11.5 m)

OVERALL: Net = 2.53 %; Rate = 1.72 % yr⁻¹; Perc Final = 103 % > no change

DECADAL: NO (2 yr)



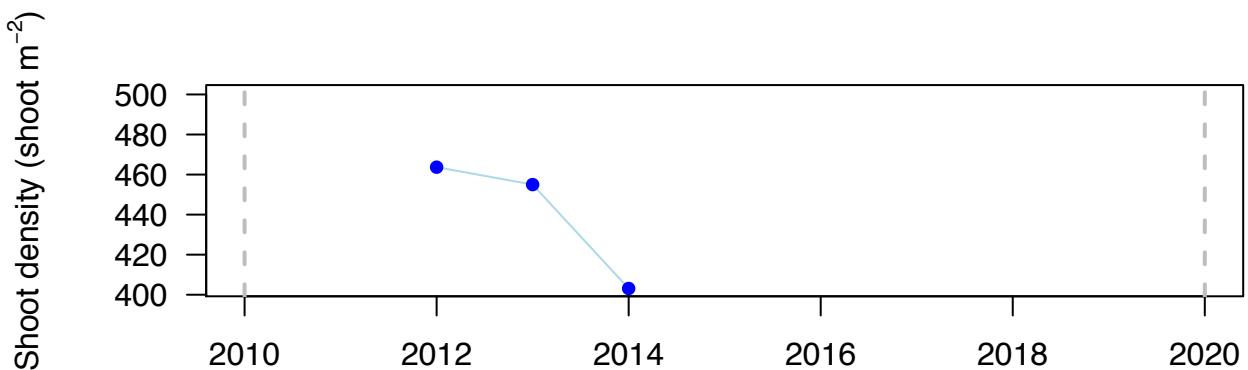
16_density

Marbà et al. 2015

SITE: Bajos de Roquetas (POS_12) (Spain – Mediterranean) – Po (-11.5 m)

OVERALL: Net = -60.56 shoot m⁻²; Rate = -7 % yr⁻¹; Perc Final = 87 % > no change

DECADAL: NO (2 yr)



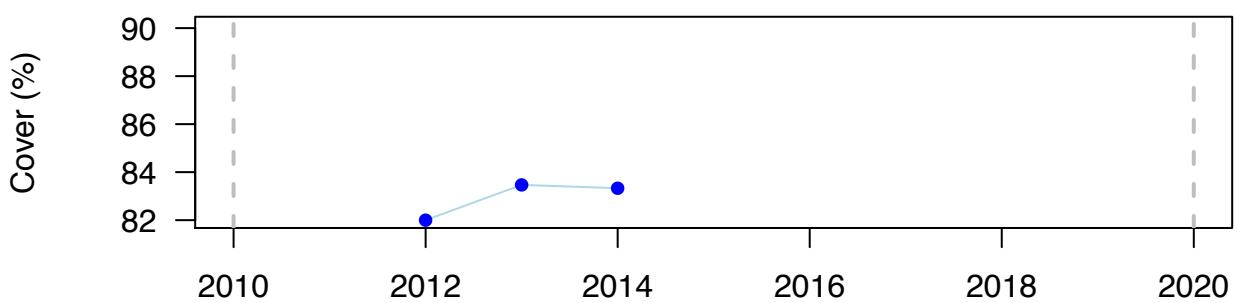
17_cover

Marbà et al. 2015

SITE: Punta Entinas (POS_14) (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 1.33 %; Rate = 0.8 % yr⁻¹; Perc Final = 102 % > no change

DECADAL: NO (2 yr)



17_density

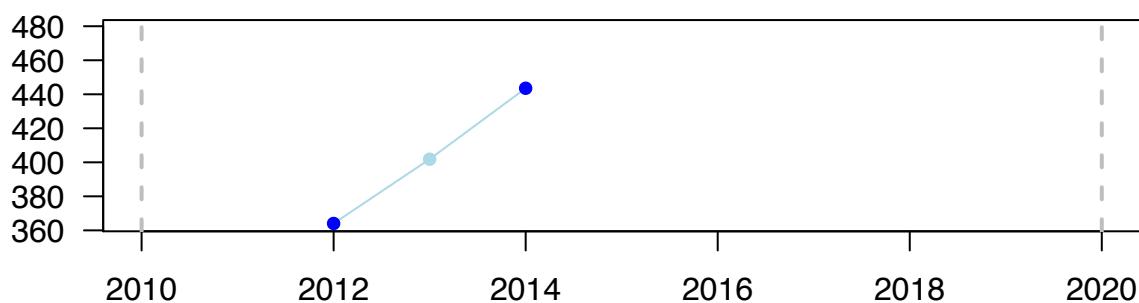
Marbà et al. 2015

SITE: Punta Entinas (POS_14) (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 79.49 shoot m⁻²; Rate = 9.87 % yr⁻¹; Perc Final = 122 % > no change

DECADAL: NO (2 yr)

Shoot density (shoot m⁻²)



18_cover

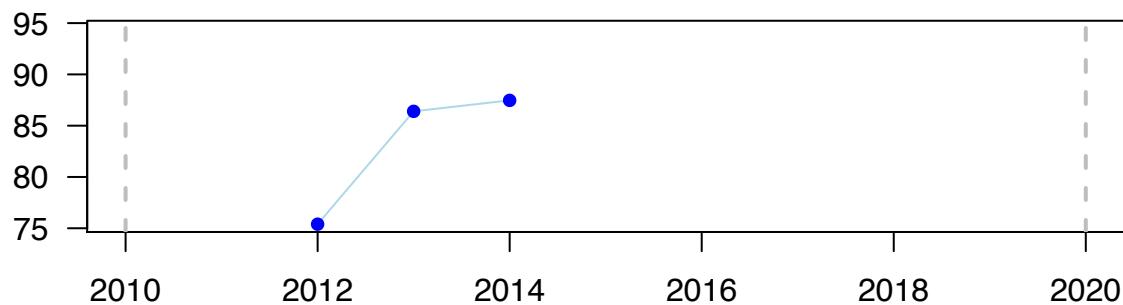
Marbà et al. 2015

SITE: Cecedores (POS_01) (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 12.07 %; Rate = 7.42 % yr⁻¹; Perc Final = 116 % > no change

DECADAL: NO (2 yr)

Cover (%)



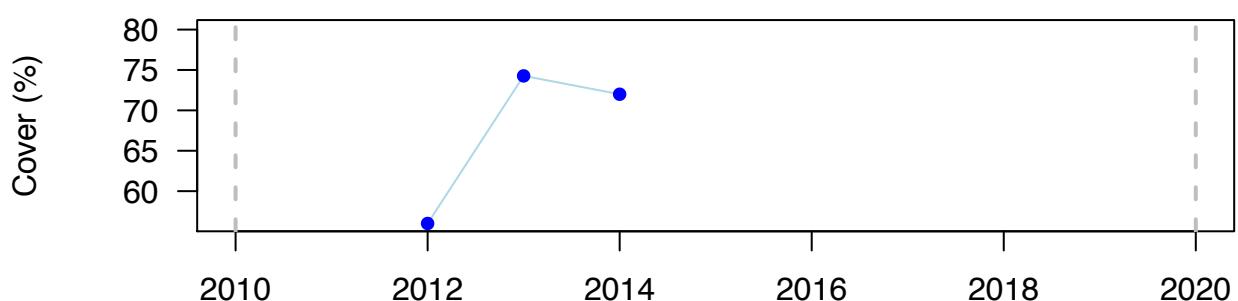
19_cover

Marbà et al. 2015

SITE: Isla de Terreros (POS_02) (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 16 %; Rate = 12.57 % yr⁻¹; Perc Final = 129 % > increase

DECADAL: NO (2 yr)



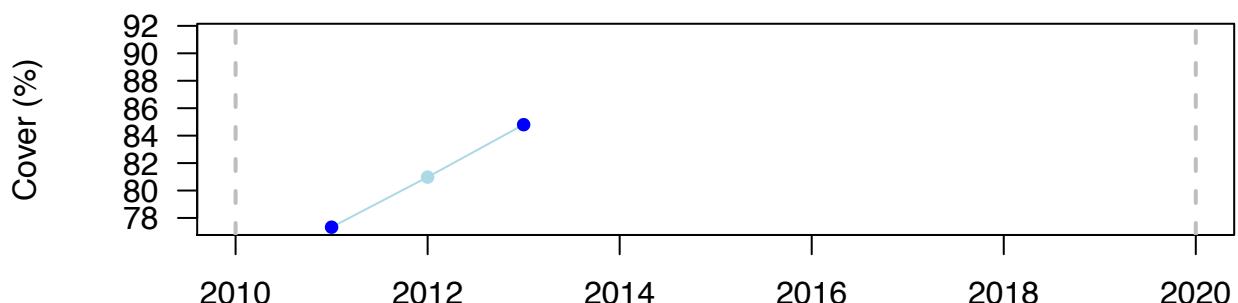
20_cover

Marbà et al. 2015

SITE: Pozo de Esparto (POS_03) (Spain – Mediterranean) – Po (-12.5 m)

OVERALL: Net = 7.47 %; Rate = 4.61 % yr⁻¹; Perc Final = 110 % > no change

DECADAL: NO (2 yr)



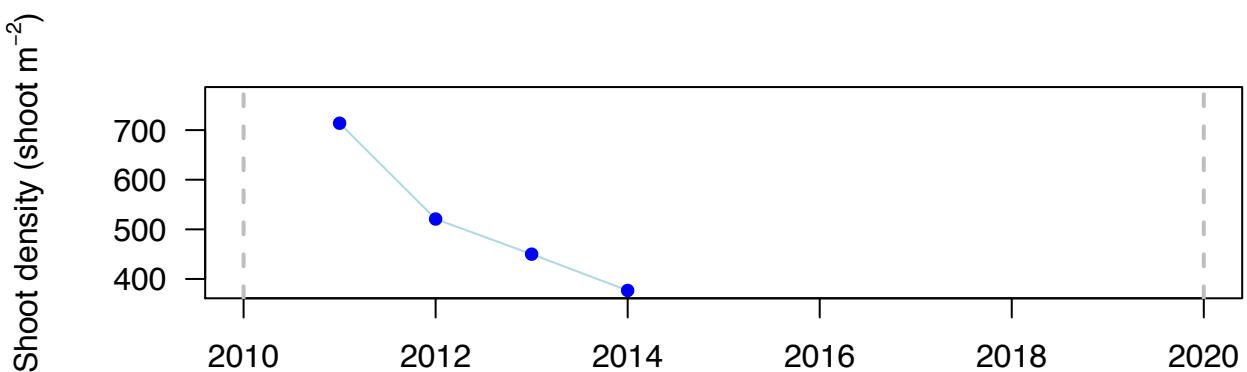
20_density

Marbà et al. 2015

SITE: Pozo de Esparto (POS_03) (Spain – Mediterranean) – Po (-12.5 m)

OVERALL: Net = -337.04 shoot m⁻²; Rate = -21.3 % yr⁻¹; Perc Final = 53 % > decrease

DECADAL: NO (3 yr)



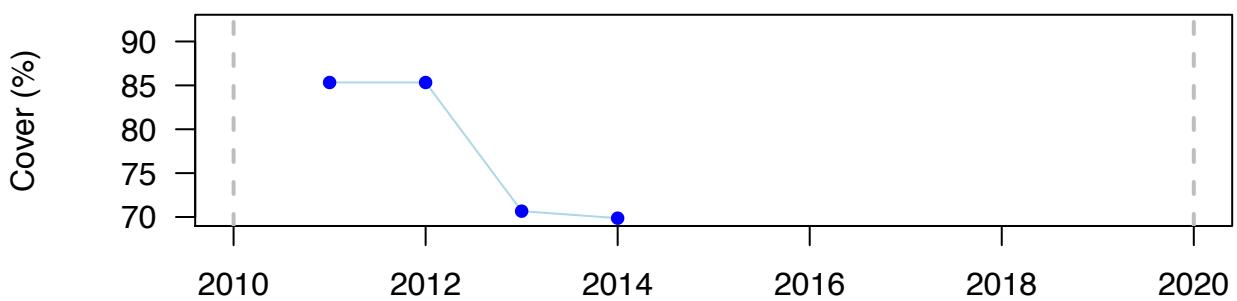
21_cover

Marbà et al. 2015

SITE: El Calón (POS_04) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -15.46 %; Rate = -6.66 % yr⁻¹; Perc Final = 82 % > no change

DECADAL: NO (3 yr)



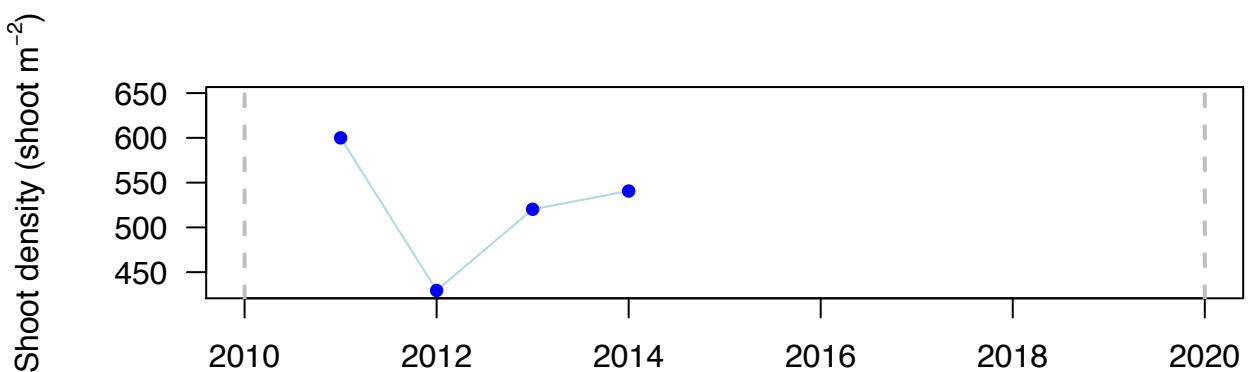
21_density

Marbà et al. 2015

SITE: El Calón (POS_04) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -59.37 shoot m⁻²; Rate = -3.47 % yr⁻¹; Perc Final = 90 % > no change

DECADAL: NO (3 yr)



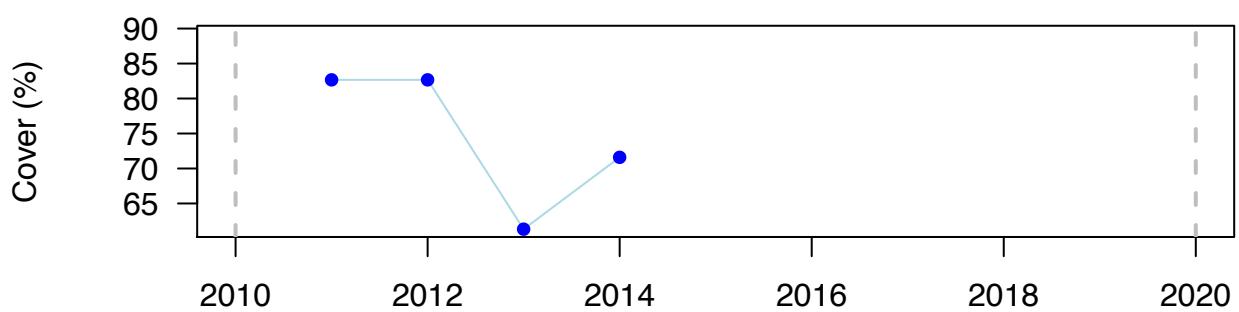
22_cover

Marbà et al. 2015

SITE: Loza del Payo (POS_05) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = -11.07 %; Rate = -4.79 % yr⁻¹; Perc Final = 87 % > no change

DECADAL: NO (3 yr)



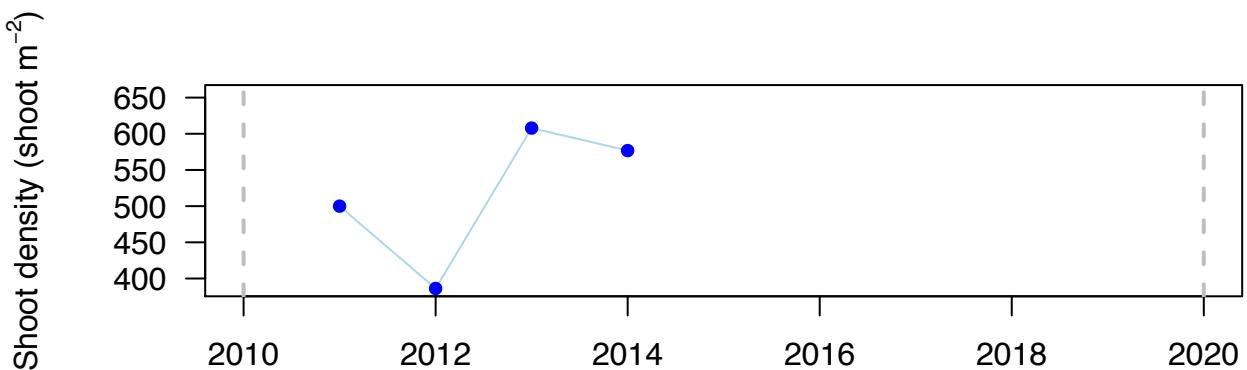
22_density

Marbà et al. 2015

SITE: Loza del Payo (POS_05) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = 76.79 shoot m⁻²; Rate = 4.76 % yr⁻¹; Perc Final = 115 % > no change

DECADAL: NO (3 yr)



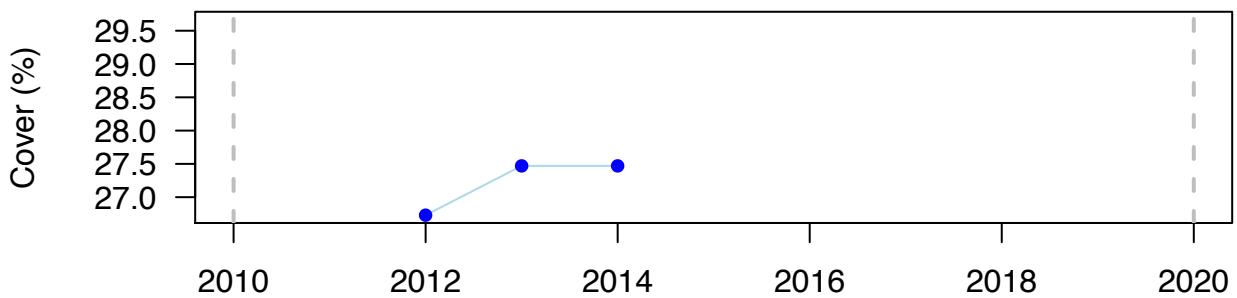
23_cover

Marbà et al. 2015

SITE: Deretil (POS_06) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = 0.74 %; Rate = 1.37 % yr⁻¹; Perc Final = 103 % > no change

DECADAL: NO (2 yr)



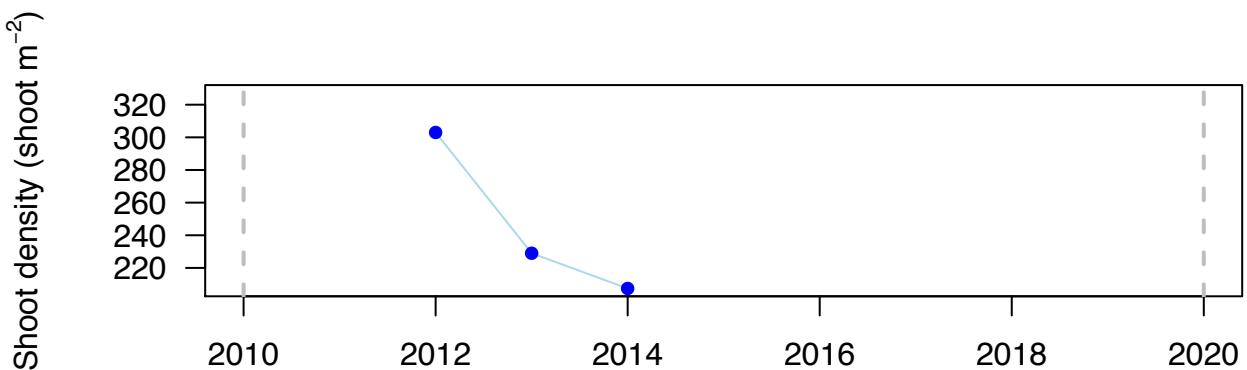
23_density

Marbà et al. 2015

SITE: Deretil (POS_06) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -95.59 shoot m⁻²; Rate = -18.95 % yr⁻¹; Perc Final = 68 % > decrease

DECADAL: NO (2 yr)



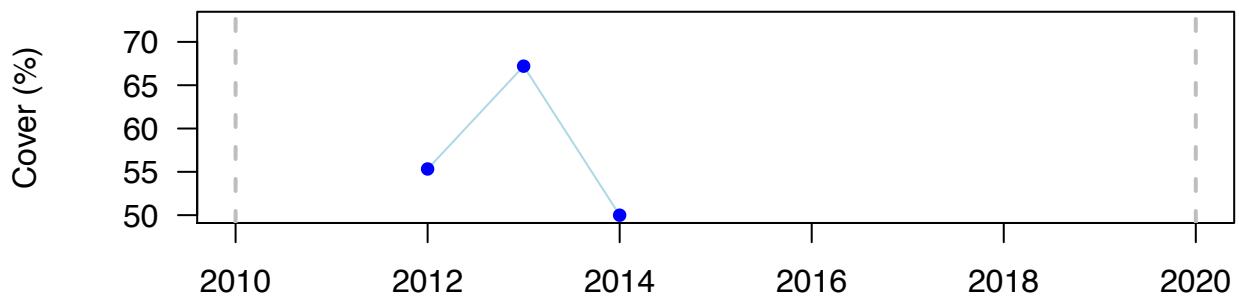
24_cover

Marbà et al. 2015

SITE: Isla de San Andrés (POS_07) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -5.33 %; Rate = -5.06 % yr⁻¹; Perc Final = 90 % > no change

DECADAL: NO (2 yr)



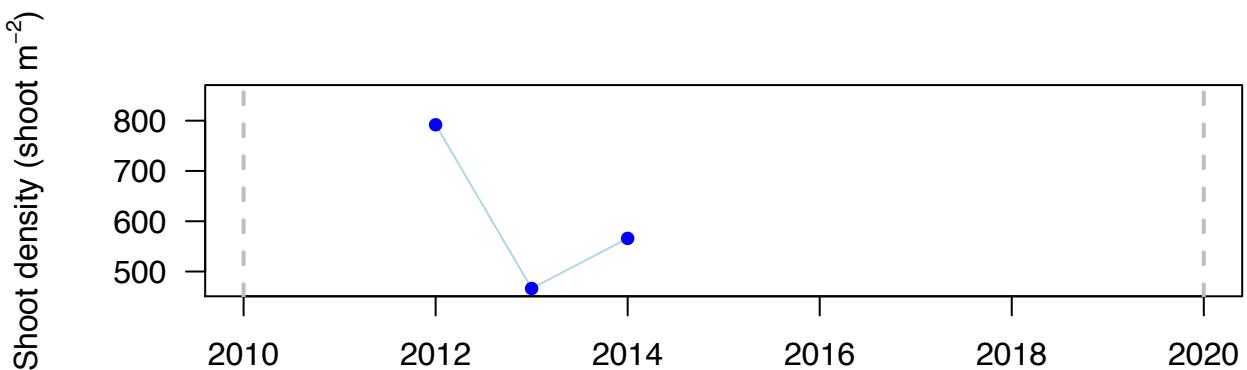
24_density

Marbà et al. 2015

SITE: Isla de San Andrés (POS_07) (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -226.03 shoot m⁻²; Rate = -16.8 % yr⁻¹; Perc Final = 71 % > decrease

DECadal: NO (2 yr)



25_biomass

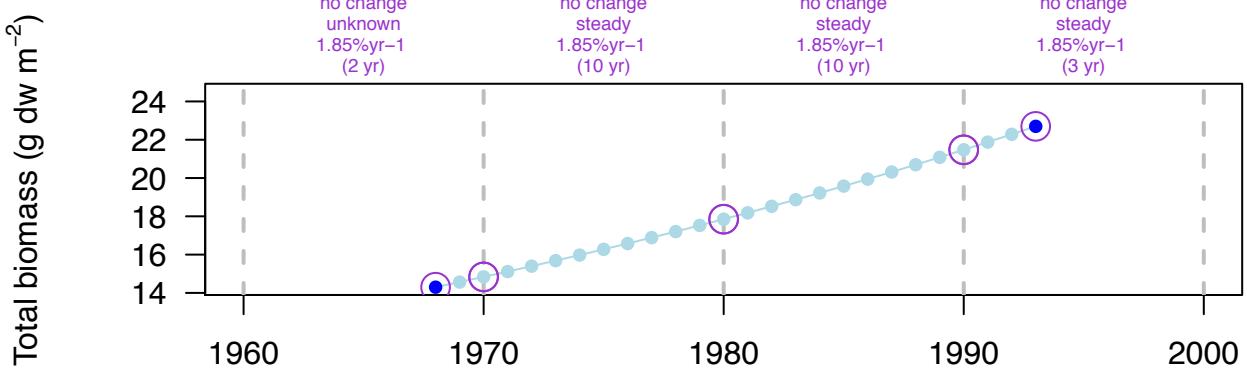
Boström et al. 2002

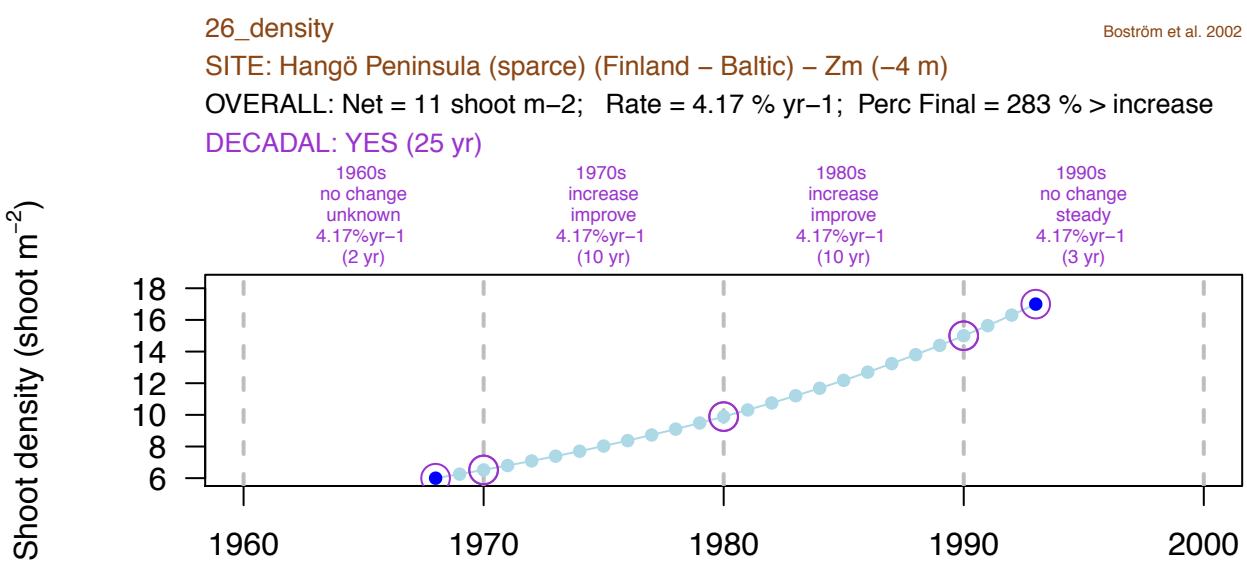
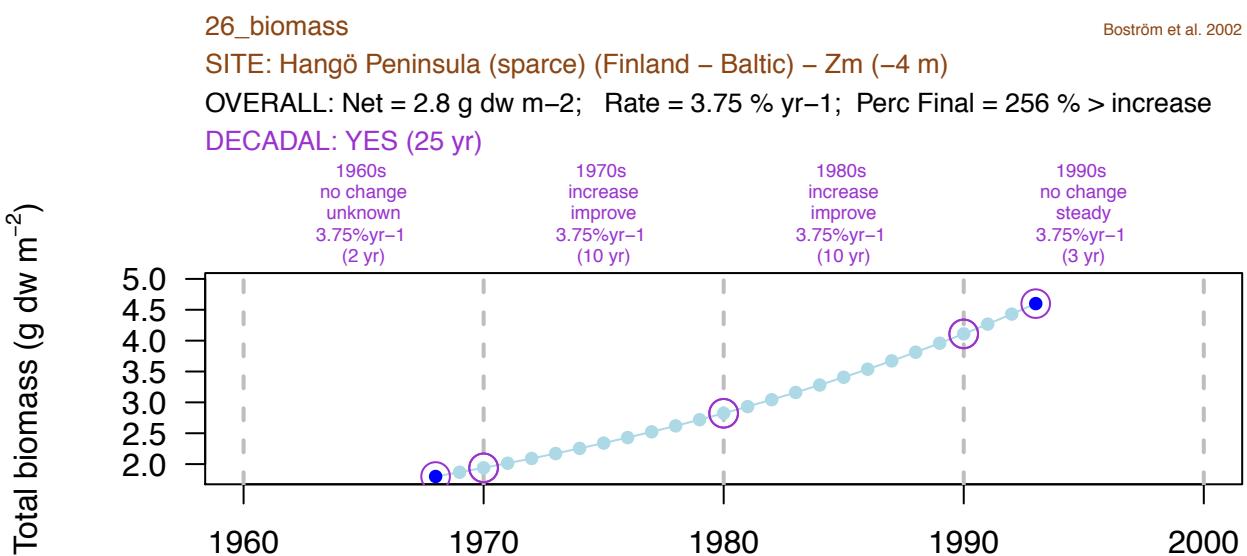
SITE: Hangö Peninsula (dense) (Finland – Baltic) – Zm (-4 m)

OVERALL: Net = 8.4 g dw m⁻²; Rate = 1.85 % yr⁻¹; Perc Final = 159 % > increase

DECadal: YES (25 yr)

| Decade | Change Type | Rate |
|--------|-----------------------|---------|
| 1960s | no change | |
| 1960s | unknown | |
| 1960s | 1.85%yr ⁻¹ | (2 yr) |
| 1970s | no change | |
| 1970s | steady | |
| 1970s | 1.85%yr ⁻¹ | (10 yr) |
| 1980s | no change | |
| 1980s | steady | |
| 1980s | 1.85%yr ⁻¹ | (10 yr) |
| 1990s | no change | |
| 1990s | steady | |
| 1990s | 1.85%yr ⁻¹ | (3 yr) |





27_area

Bull et al. 2010

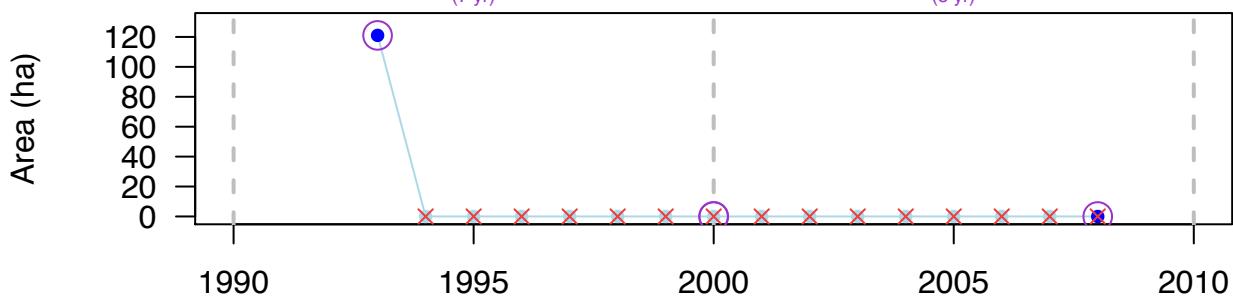
SITE: Gibraltar (United Kingdom – Mediterranean) – Zm (? m)

OVERALL: Net = -121.05 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (15 yr)

1990s
decrease
unknown
-Inf%yr⁻¹
(7 yr)

2000s
decrease
worsen
NaN%yr⁻¹
(8 yr)



28_area

Bull et al. 2010

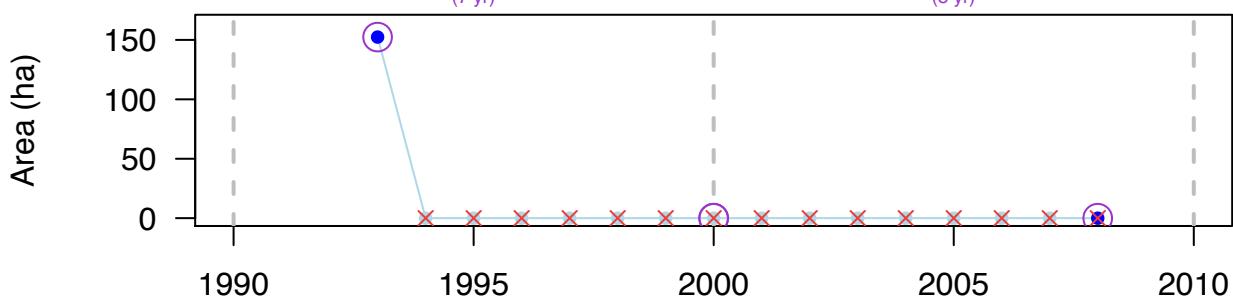
SITE: Gibraltar (United Kingdom – Mediterranean) – Po (? m)

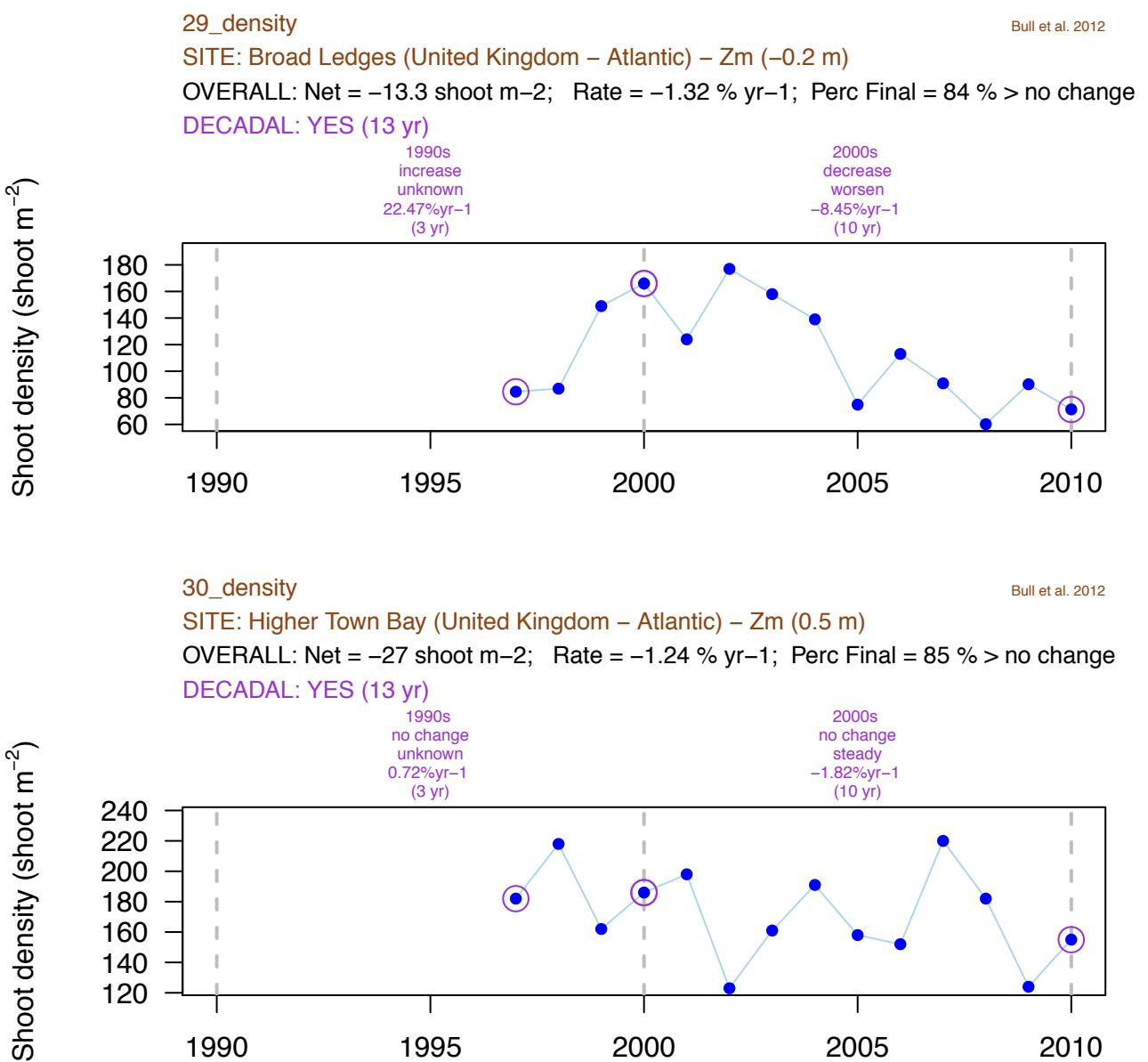
OVERALL: Net = -152.41 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

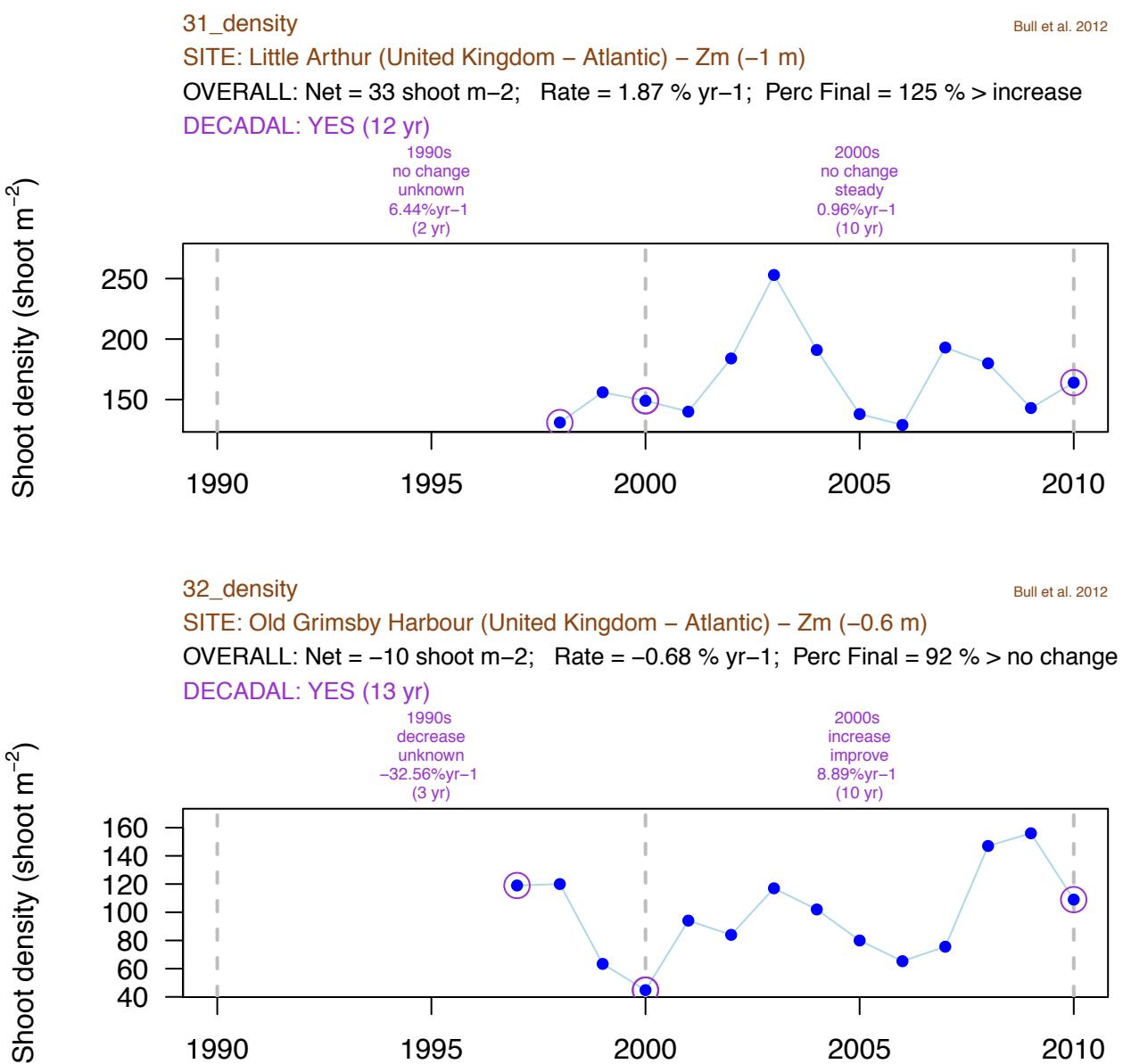
DECADAL: YES (15 yr)

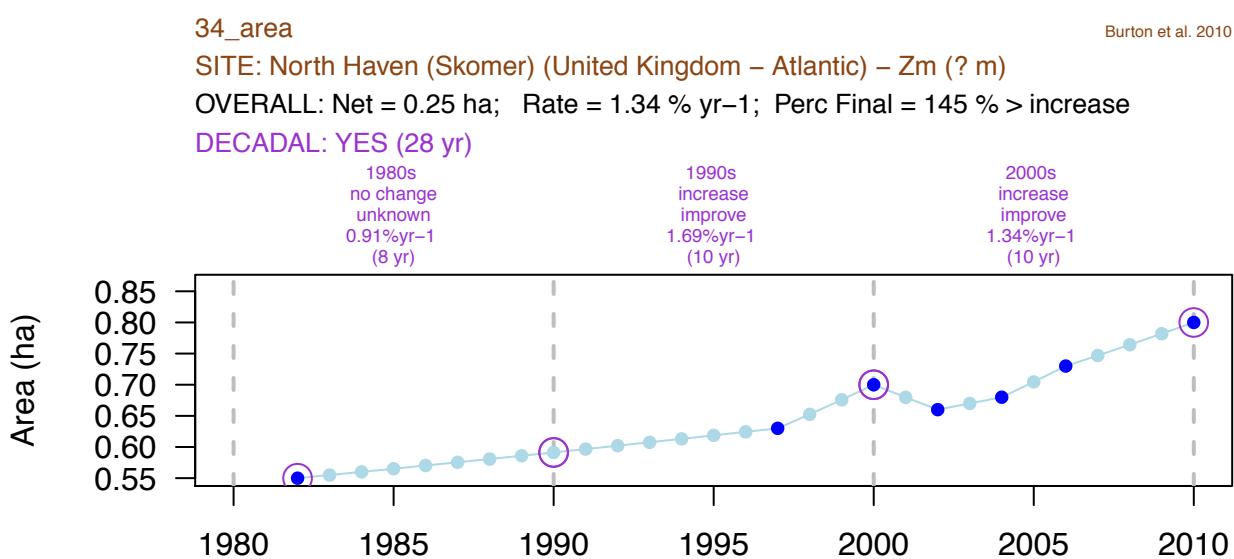
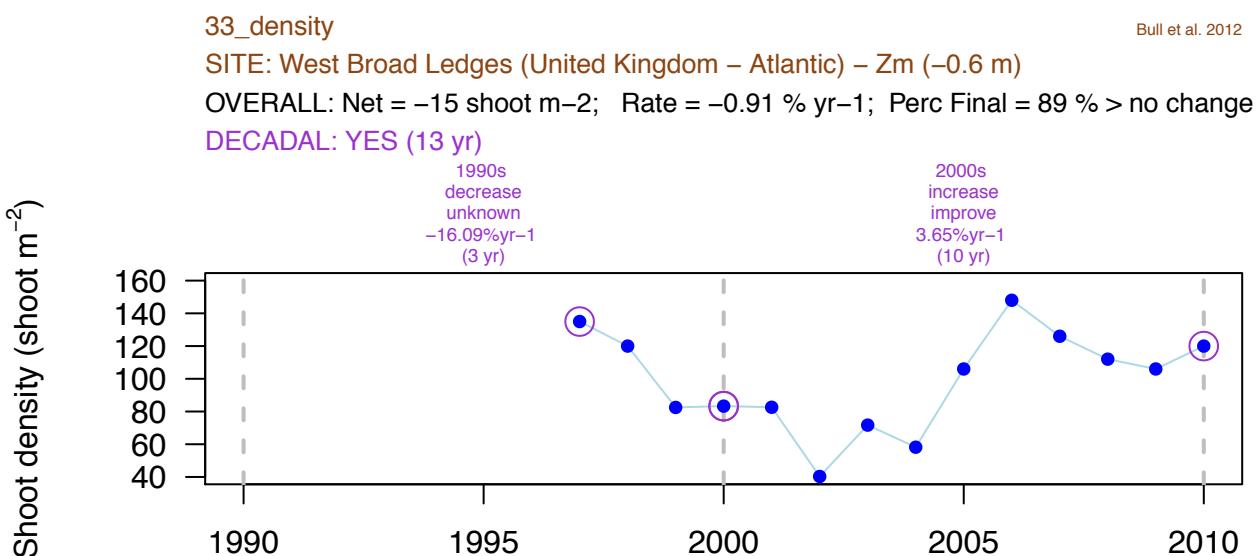
1990s
decrease
unknown
-Inf%yr⁻¹
(7 yr)

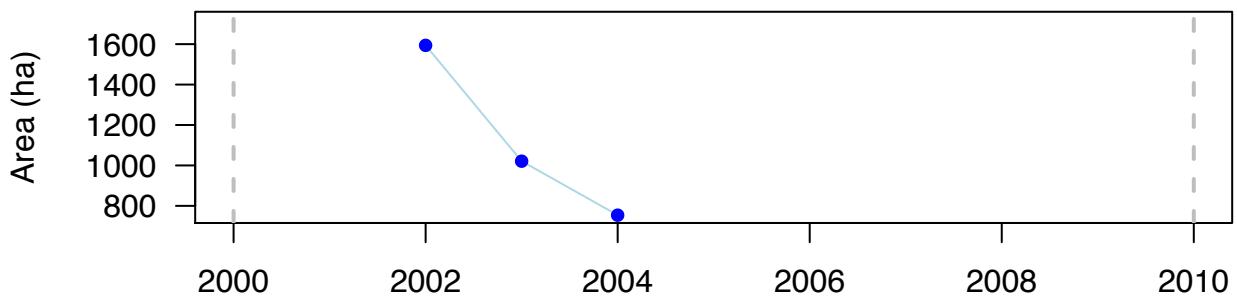
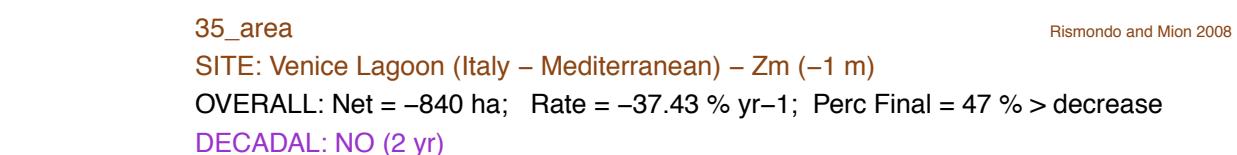
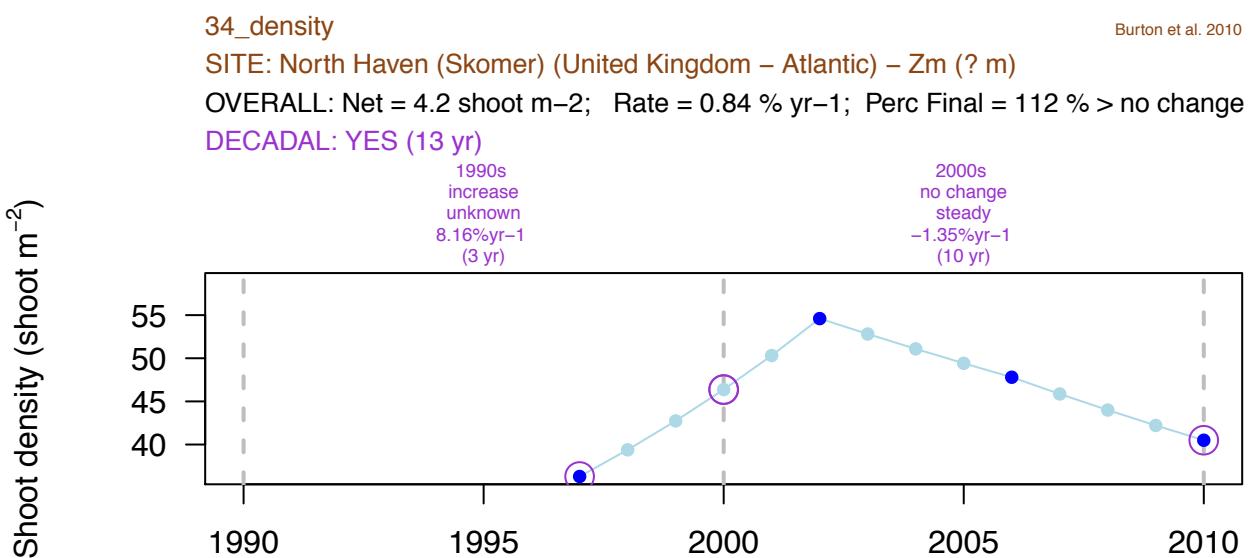
2000s
decrease
worsen
NaN%yr⁻¹
(8 yr)











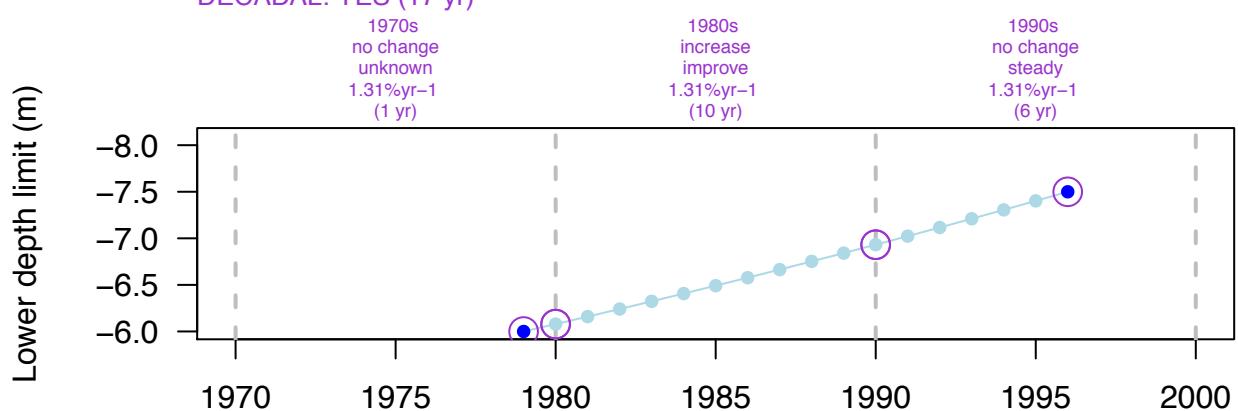
37_lowerlimit

Rask et al. 1999

SITE: South Funen Archipelago (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 1.5 m; Rate = 1.31 % yr⁻¹; Perc Final = 125 % > increase

DECadal: YES (17 yr)



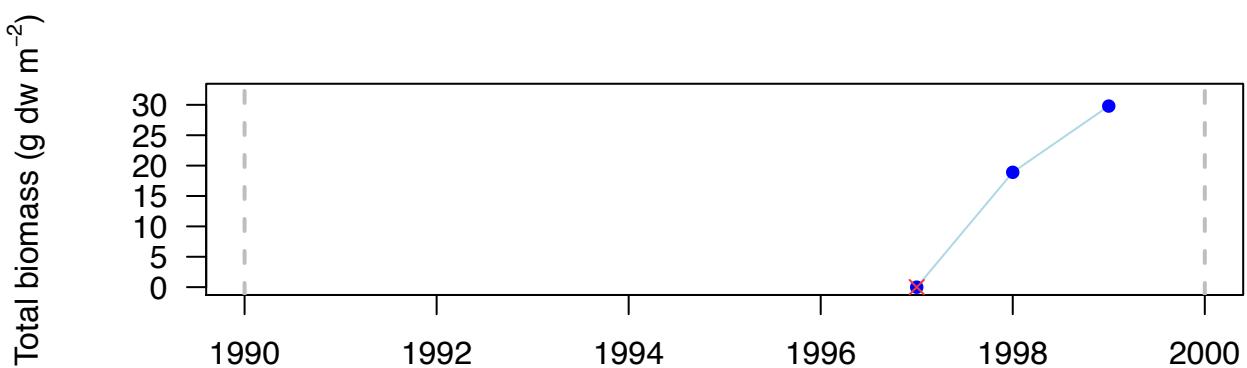
45_biomass

Plus et al. 2003

SITE: Thau Lagoon (France – Mediterranean) – Zm (-4.2 m)

OVERALL: Net = 29.8 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECadal: NO (2 yr)



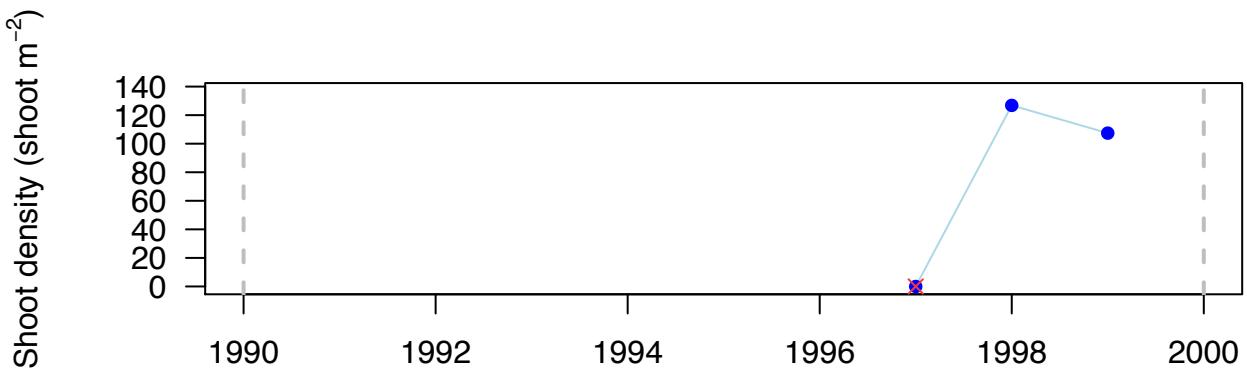
45_density

Plus et al. 2003

SITE: Thau Lagoon (France – Mediterranean) – Zm (-4.2 m)

OVERALL: Net = 107.41 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECADAL: NO (2 yr)



46_area

Ballesta et al. 2000

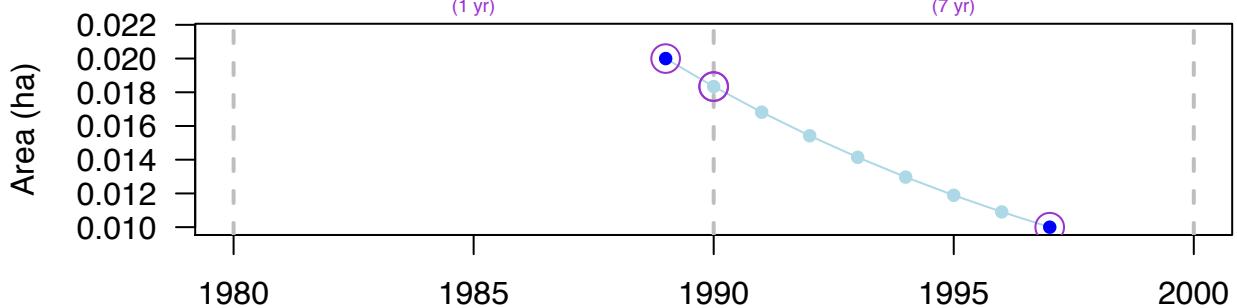
SITE: Pin Parasol Cove (France – Mediterranean) – Po (? m)

OVERALL: Net = -0.01 ha; Rate = -8.66 % yr⁻¹; Perc Final = 50 % > decrease

DECADAL: YES (8 yr)

1980s
no change
unknown
-8.66%yr⁻¹
(1 yr)

1990s
decrease
worsen
-8.66%yr⁻¹
(7 yr)



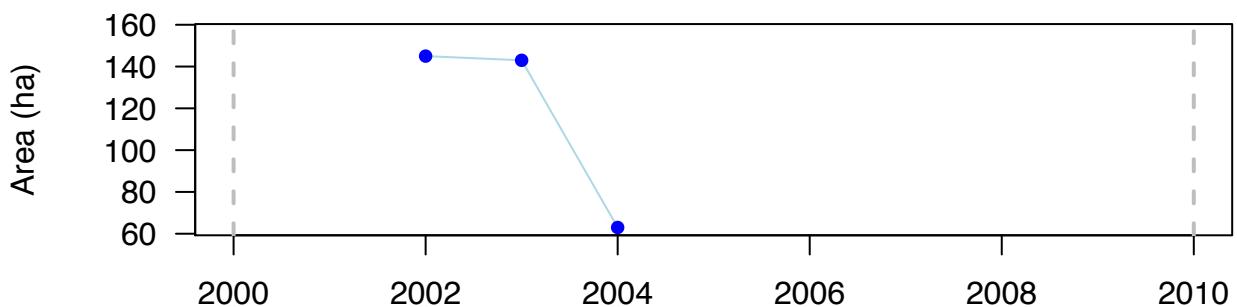
47_area

Rismondo and Mion 2008

SITE: Venice Lagoon (Italy – Mediterranean) – Cn (? m)

OVERALL: Net = -82 ha; Rate = -41.68 % yr⁻¹; Perc Final = 43 % > decrease

DECADAL: NO (2 yr)



48_area

Charpentier et al. 2005

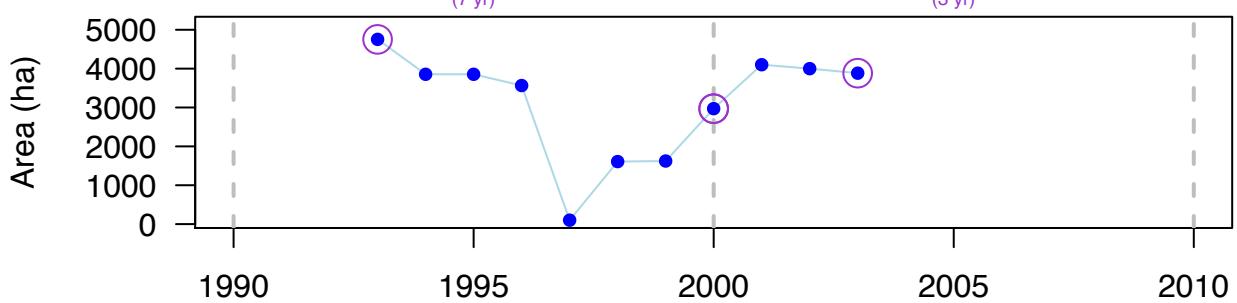
SITE: Vaccarès Lagoon (France – Mediterranean) – Zn (? m)

OVERALL: Net = -869.5 ha; Rate = -2.02 % yr⁻¹; Perc Final = 82 % > decrease

DECADAL: YES (10 yr)

1990s
decrease
unknown
-6.71%yr⁻¹
(7 yr)

2000s
increase
improve
8.93%yr⁻¹
(3 yr)



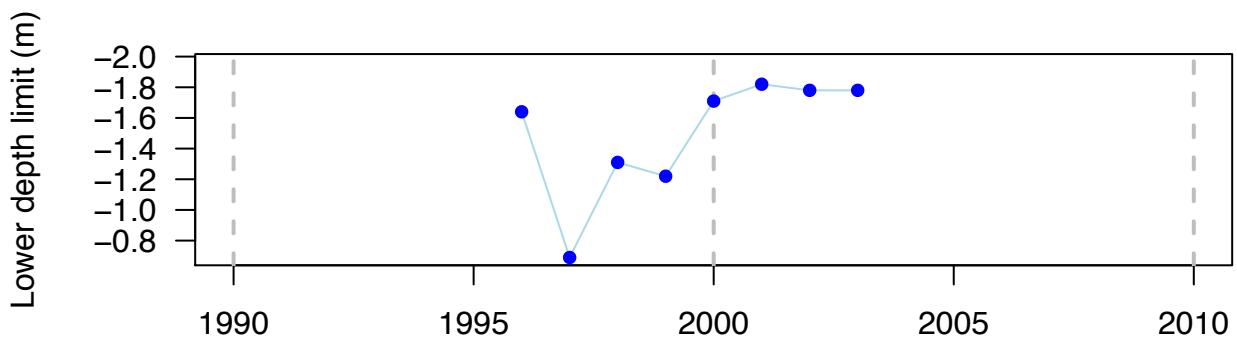
48_lowerlimit

Charpentier et al. 2005

SITE: Vaccarès Lagoon (France – Mediterranean) – Zn (? m)

OVERALL: Net = 0.14 m; Rate = 1.17 % yr⁻¹; Perc Final = 109 % > no change

DECadal: NO (7 yr)



49_area

Nyqvist et al. 2009, Baden et al. 2003

SITE: Kungälv (Sweden – Baltic) – Zm (? m)

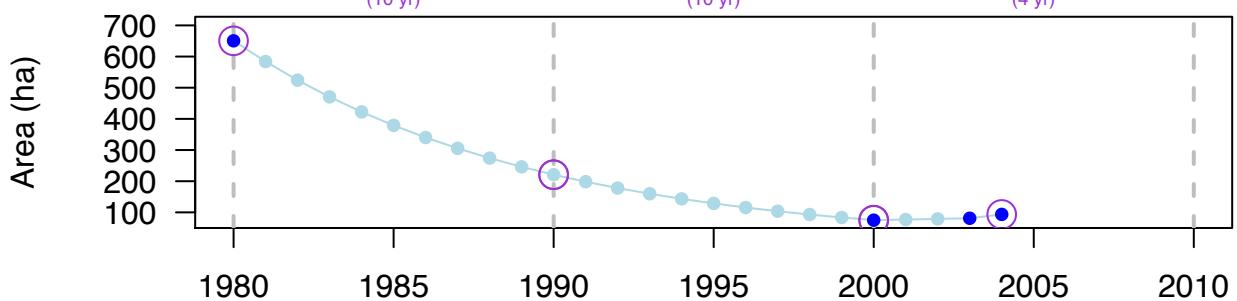
OVERALL: Net = -557.03 ha; Rate = -8.08 % yr⁻¹; Perc Final = 14 % > decrease

DECadal: YES (24 yr)

1980s
decrease
unknown
-10.8%yr⁻¹
(10 yr)

1990s
decrease
worsen
-10.8%yr⁻¹
(10 yr)

2000s
increase
improve
5.52%yr⁻¹
(4 yr)



50_area

Nyqvist et al. 2009

SITE: Lysekil (Sweden – Baltic) – Zm (? m)

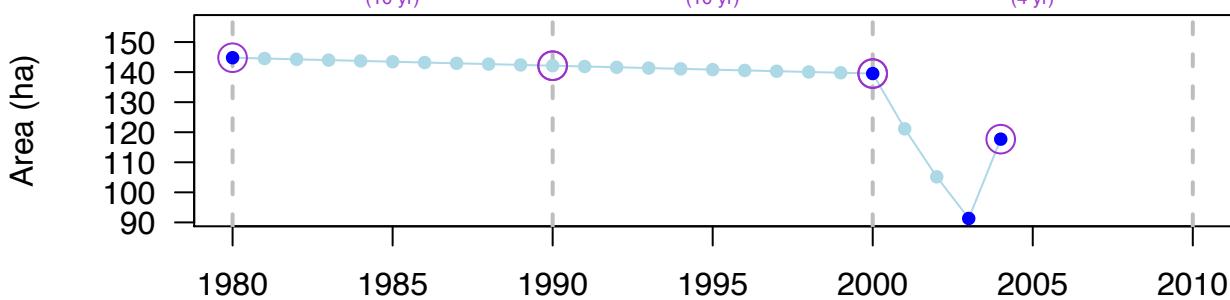
OVERALL: Net = -27.1 ha; Rate = -0.86 % yr⁻¹; Perc Final = 81 % > decrease

DECADAL: YES (24 yr)

1980s
no change
unknown
-0.19%yr⁻¹
(10 yr)

1990s
no change
steady
-0.19%yr⁻¹
(10 yr)

2000s
decrease
worsen
-4.25%yr⁻¹
(4 yr)



51_area

Nyqvist et al. 2009

SITE: Stenungsund (Sweden – Baltic) – Zm (? m)

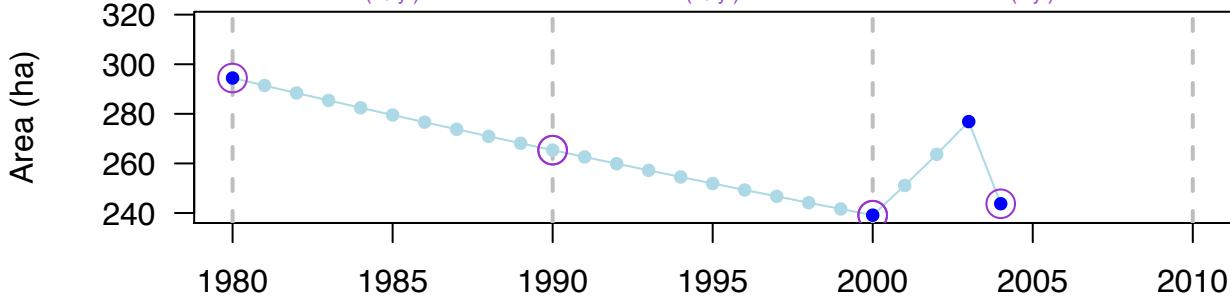
OVERALL: Net = -50.71 ha; Rate = -0.79 % yr⁻¹; Perc Final = 83 % > decrease

DECADAL: YES (24 yr)

1980s
no change
unknown
-1.04%yr⁻¹
(10 yr)

1990s
no change
steady
-1.04%yr⁻¹
(10 yr)

2000s
no change
steady
0.48%yr⁻¹
(4 yr)



52_area

Nyqvist et al. 2009

SITE: Strömstad (Sweden – Baltic) – Zm (? m)

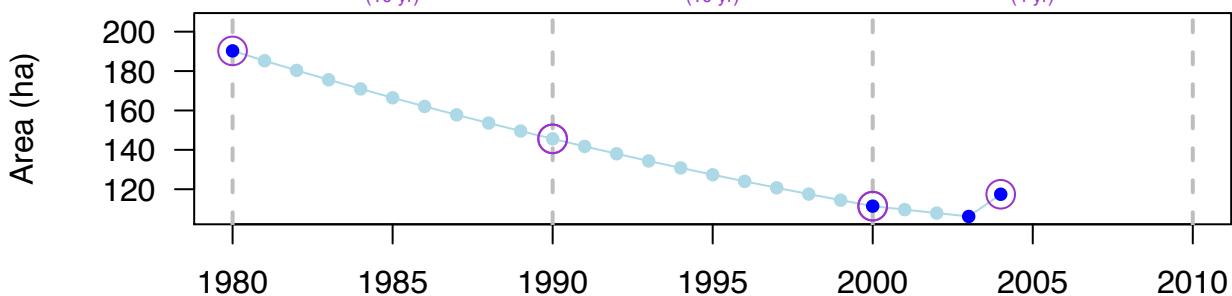
OVERALL: Net = -72.81 ha; Rate = -2.01 % yr⁻¹; Perc Final = 62 % > decrease

DECADAL: YES (24 yr)

1980s
decrease
unknown
-2.68%yr⁻¹
(10 yr)

1990s
decrease
worsen
-2.68%yr⁻¹
(10 yr)

2000s
no change
improve
1.32%yr⁻¹
(4 yr)



53_area

Nyqvist et al. 2009

SITE: Uddevalla (Sweden – Baltic) – Zm (? m)

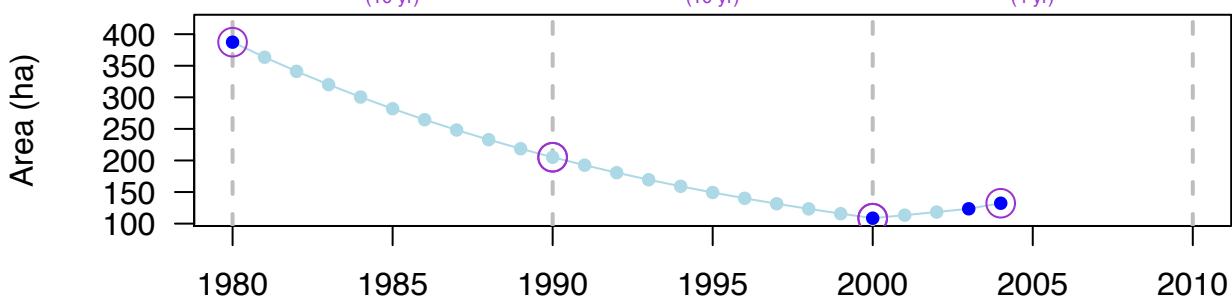
OVERALL: Net = -255.06 ha; Rate = -4.48 % yr⁻¹; Perc Final = 34 % > decrease

DECADAL: YES (24 yr)

1980s
decrease
unknown
-6.36%yr⁻¹
(10 yr)

1990s
decrease
worsen
-6.36%yr⁻¹
(10 yr)

2000s
increase
improve
4.92%yr⁻¹
(4 yr)



54_area

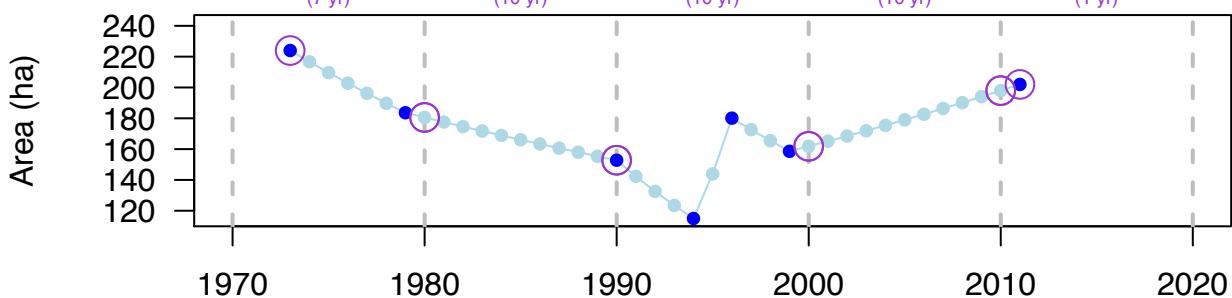
Garrido et al. 2013

SITE: Urbino Lagoon (France – Mediterranean) – Cn (? m)

OVERALL: Net = -22 ha; Rate = -0.27 % yr⁻¹; Perc Final = 90 % > no change

DECadal: YES (38 yr)

| Decade | Trend | Rate | Period |
|--------|----------|-------------------------|-------------------|
| 1970s | decrease | -3.08% yr ⁻¹ | unknown (7 yr) |
| 1980s | worsen | -1.67% yr ⁻¹ | (10 yr) |
| 1990s | improve | 0.57% yr ⁻¹ | (10 yr) |
| 2000s | improve | 2.02% yr ⁻¹ | (10 yr) |
| 2010s | steady | 2.02% yr ⁻¹ | (1 yr) |



55_area

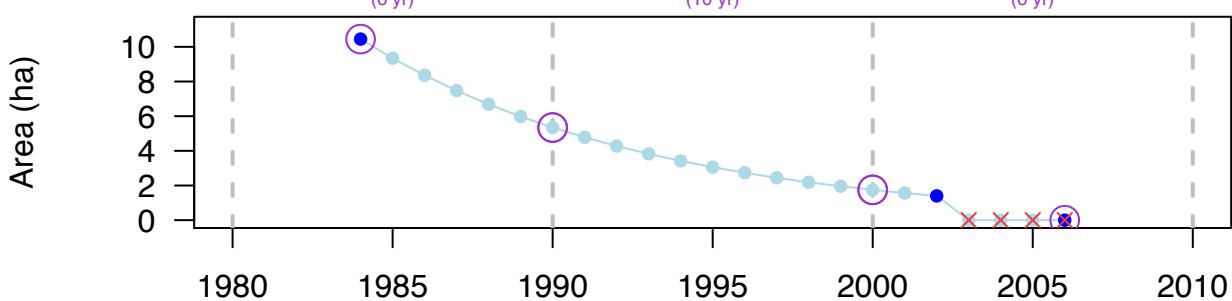
Martínez-Samper et al. 2011

SITE: Bahía de Conflit (Spain – Atlantic) – Cn (? m)

OVERALL: Net = -10.45 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

Decadal: YES (22 yr)

| Decade | Trend | Rate | Period |
|--------|----------|--------------------------|-------------------|
| 1980s | decrease | -11.17% yr ⁻¹ | unknown (6 yr) |
| 1990s | worsen | -11.17% yr ⁻¹ | (10 yr) |
| 2000s | worsen | -Inf% yr ⁻¹ | (6 yr) |



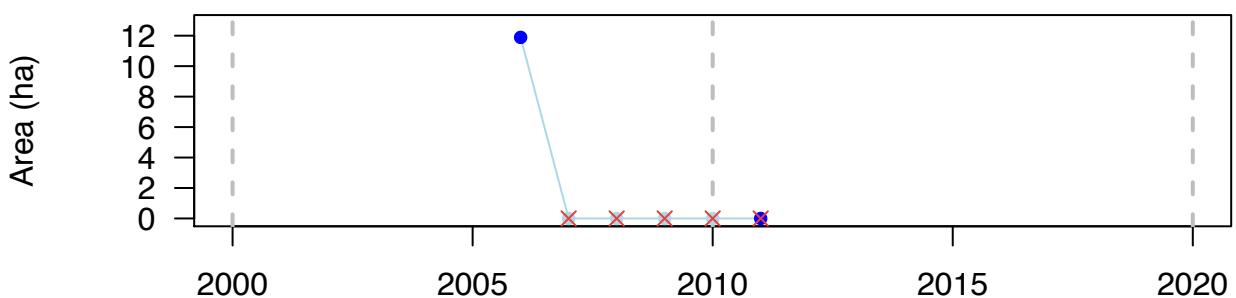
56_area

Martínez-Samper et al. 2011

SITE: Franja Las Palmas de Gran Canaria (Spain – Atlantic) – Cn (-16 m)

OVERALL: Net = -11.89 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: NO (5 yr)



57_area

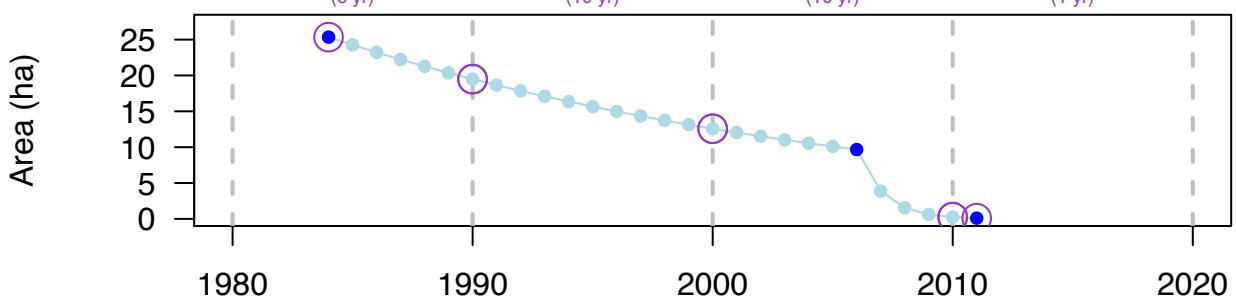
Martínez-Samper et al. 2011

SITE: Franja Marina del Telde (Spain – Atlantic) – Cn (-11.7 m)

OVERALL: Net = -25.25 ha; Rate = -20.5 % yr⁻¹; Perc Final = 0 % > decrease

DECadal: YES (27 yr)

| Decade | Type | Condition | Rate |
|---------|----------|-----------|--------------------------|
| 1980s | decrease | unknown | -4.38% yr ⁻¹ |
| (6 yr) | | | |
| 1990s | decrease | worsen | -4.38% yr ⁻¹ |
| (10 yr) | | | |
| 2000s | decrease | worsen | -39.2% yr ⁻¹ |
| (10 yr) | | | |
| 2010s | decrease | worsen | -91.43% yr ⁻¹ |
| (1 yr) | | | |



58_area

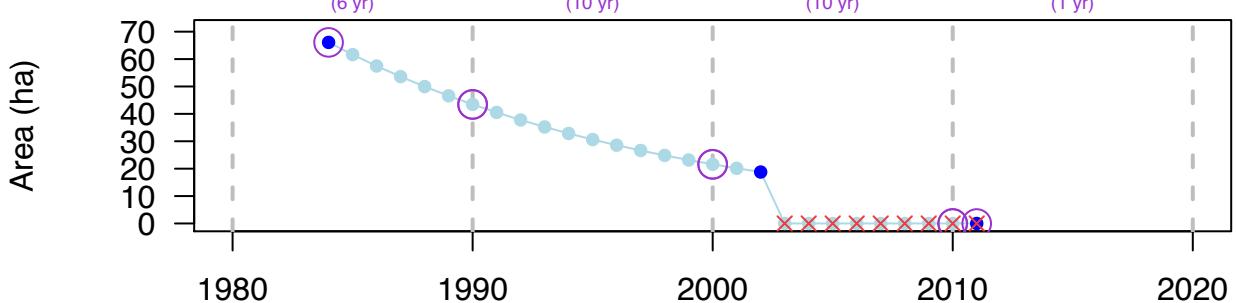
Martínez-Samper et al. 2011

SITE: Bahía de Gando (Spain – Atlantic) – Cn (-7.2 m)

OVERALL: Net = -66.1 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (27 yr)

| | | | |
|--|--|---|---|
| 1980s decrease unknown -6.99%yr ⁻¹ (6 yr) | 1990s decrease worsen -6.99%yr ⁻¹ (10 yr) | 2000s decrease worsen -Inf%yr ⁻¹ (10 yr) | 2010s decrease worsen NaN%yr ⁻¹ (1 yr) |
|--|--|---|---|



59_area

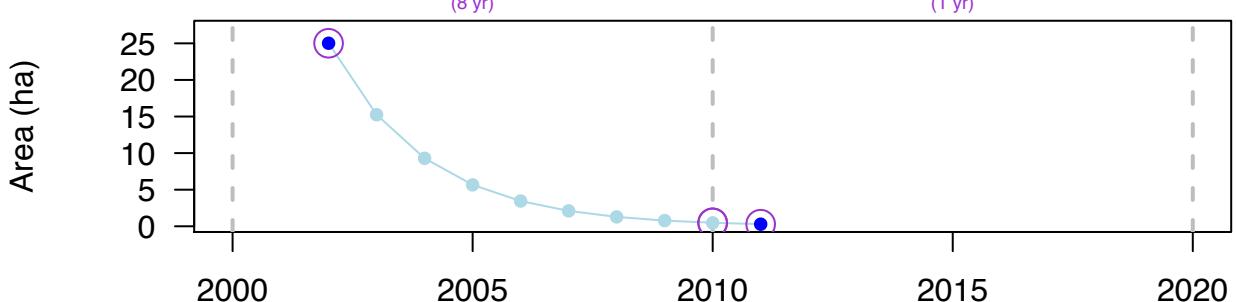
Martínez-Samper et al. 2011

SITE: Playa de Vargas (Spain – Atlantic) – Cn (-12.9 m)

OVERALL: Net = -24.73 ha; Rate = -49.53 % yr⁻¹; Perc Final = 1 % > decrease

DECADAL: YES (9 yr)

| | |
|---|--|
| 2000s decrease unknown -49.53%yr ⁻¹ (8 yr) | 2010s decrease worsen -49.53%yr ⁻¹ (1 yr) |
|---|--|



60_area

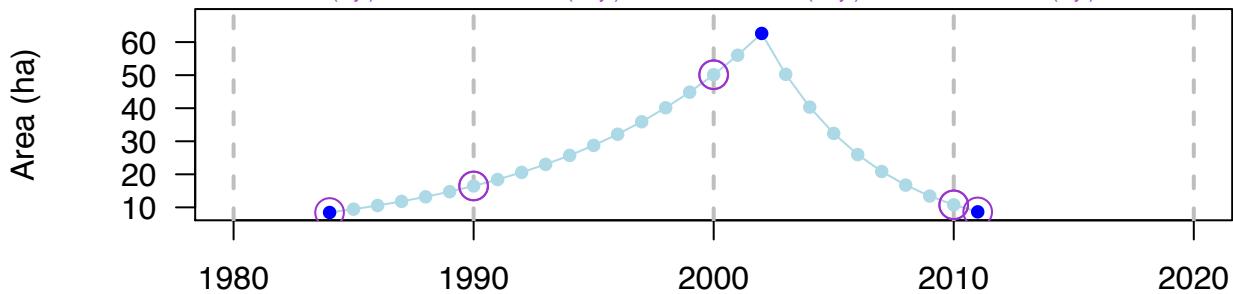
Martínez-Samper et al. 2011

SITE: Playa del Cabrón (Spain – Atlantic) – Cn (-9 m)

OVERALL: Net = 0.19 ha; Rate = 0.08 % yr⁻¹; Perc Final = 102 % > no change

DECadal: YES (27 yr)

| | | | |
|--|---|---|--|
| 1980s increase unknown 11.12%yr ⁻¹ (6 yr) | 1990s increase improve 11.12%yr ⁻¹ (10 yr) | 2000s decrease worsen -15.37%yr ⁻¹ (10 yr) | 2010s decrease worsen -21.99%yr ⁻¹ (1 yr) |
|--|---|---|--|



61_area

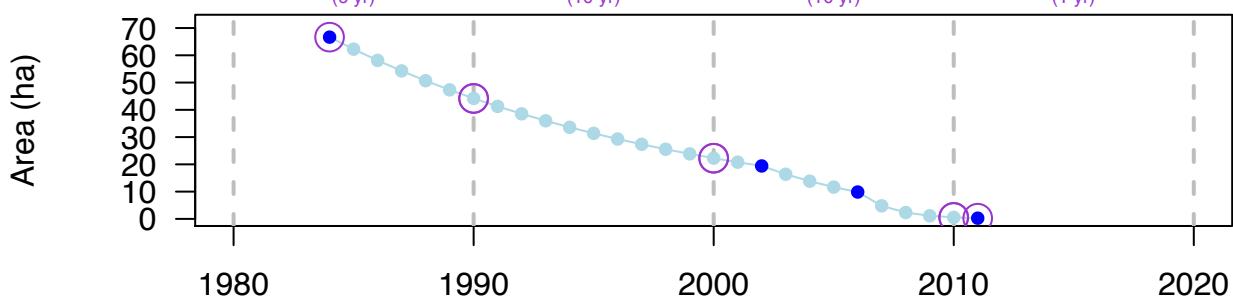
Martínez-Samper et al. 2011

SITE: Arinaga (Spain – Atlantic) – Cn (-6.6 m)

OVERALL: Net = -66.4 ha; Rate = -20.4 % yr⁻¹; Perc Final = 0 % > decrease

DECadal: YES (27 yr)

| | | | |
|--|--|---|--|
| 1980s decrease unknown -6.85%yr ⁻¹ (6 yr) | 1990s decrease worsen -6.85%yr ⁻¹ (10 yr) | 2000s decrease worsen -36.93%yr ⁻¹ (10 yr) | 2010s decrease worsen -71.94%yr ⁻¹ (1 yr) |
|--|--|---|--|



62_area

Martínez-Samper et al. 2011

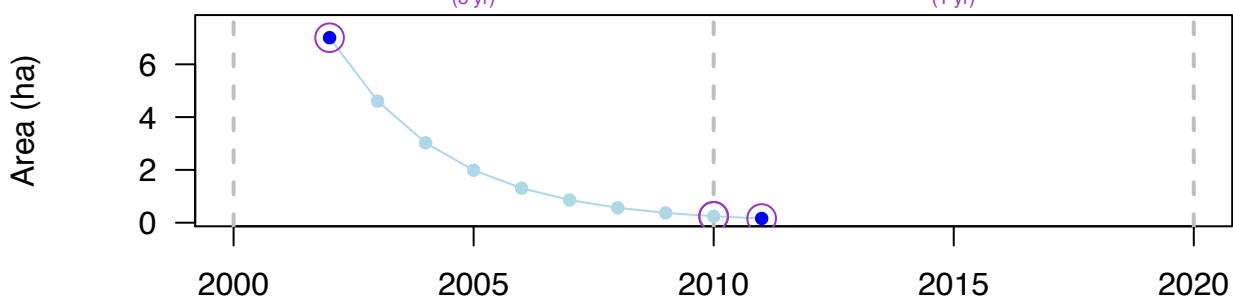
SITE: Juan Grande (Spain – Atlantic) – Cn (-11.3 m)

OVERALL: Net = -6.85 ha; Rate = -42 % yr⁻¹; Perc Final = 2 % > decrease

DECADAL: YES (9 yr)

2000s
decrease
unknown
-42%yr⁻¹
(8 yr)

2010s
decrease
worsen
-42%yr⁻¹
(1 yr)



63_area

Martínez-Samper et al. 2011

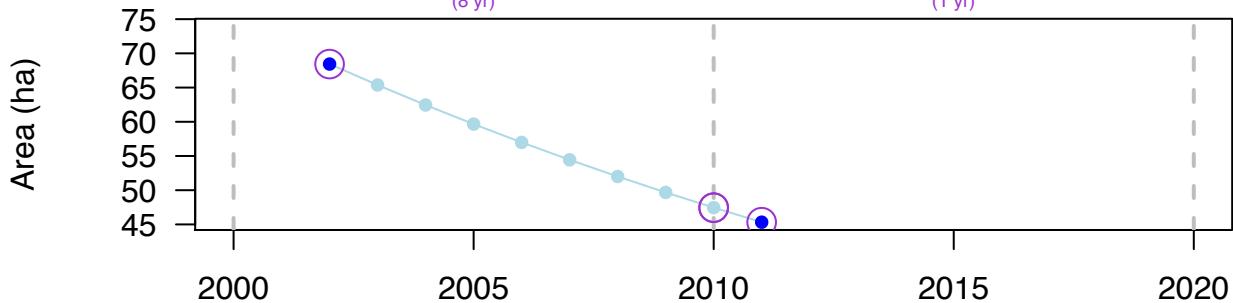
SITE: Juncalillo del Sur (Spain – Atlantic) – Cn (-6.8 m)

OVERALL: Net = -23.11 ha; Rate = -4.58 % yr⁻¹; Perc Final = 66 % > decrease

DECADAL: YES (9 yr)

2000s
decrease
unknown
-4.58%yr⁻¹
(8 yr)

2010s
no change
improve
-4.58%yr⁻¹
(1 yr)



64_area

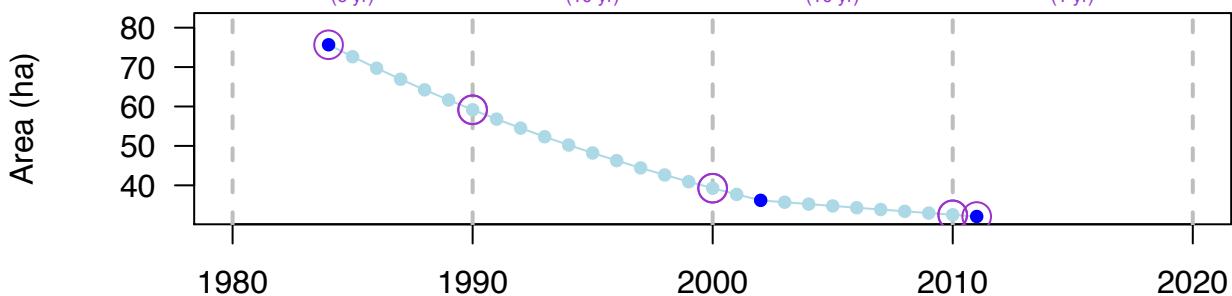
Martínez-Samper et al. 2011

SITE: Playa del Inglés (Spain – Atlantic) – Cn (-5.3 m)

OVERALL: Net = -43.57 ha; Rate = -3.18 % yr⁻¹; Perc Final = 42 % > decrease

DECadal: YES (27 yr)

| Decade | Change Type | Rate | Period |
|--------|----------------------|-----------------------------------|--------|
| 1980s | decrease unknown | -4.1%yr ⁻¹ (6 yr) | |
| 1990s | decrease worsen | -4.1%yr ⁻¹ (10 yr) | |
| 2000s | decrease worsen | -1.89%yr ⁻¹ (10 yr) | |
| 2010s | no change improve | -1.33%yr ⁻¹ (1 yr) | |



65_area

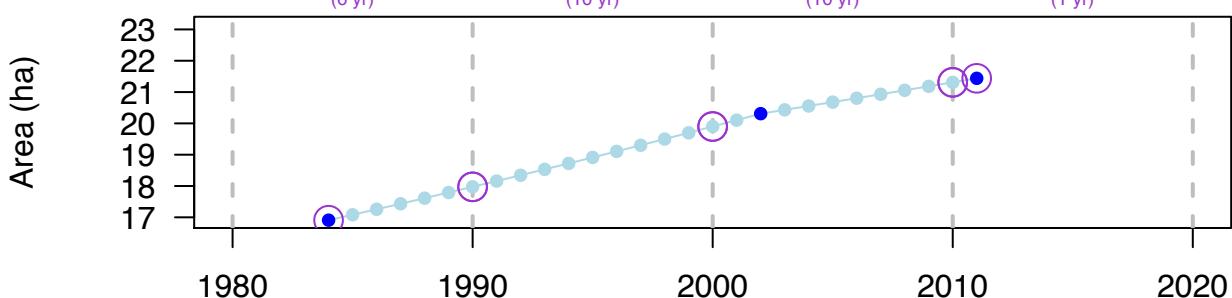
Martínez-Samper et al. 2011

SITE: Bahía Feliz – San Agustín (Spain – Atlantic) – Cn (-4.6 m)

OVERALL: Net = 4.53 ha; Rate = 0.88 % yr⁻¹; Perc Final = 127 % > increase

DECadal: YES (27 yr)

| Decade | Change Type | Rate | Period |
|--------|----------------------|----------------------------------|--------|
| 1980s | no change unknown | 1.02%yr ⁻¹ (6 yr) | |
| 1990s | increase improve | 1.02%yr ⁻¹ (10 yr) | |
| 2000s | no change steady | 0.68%yr ⁻¹ (10 yr) | |
| 2010s | no change steady | 0.6%yr ⁻¹ (1 yr) | |



66_area

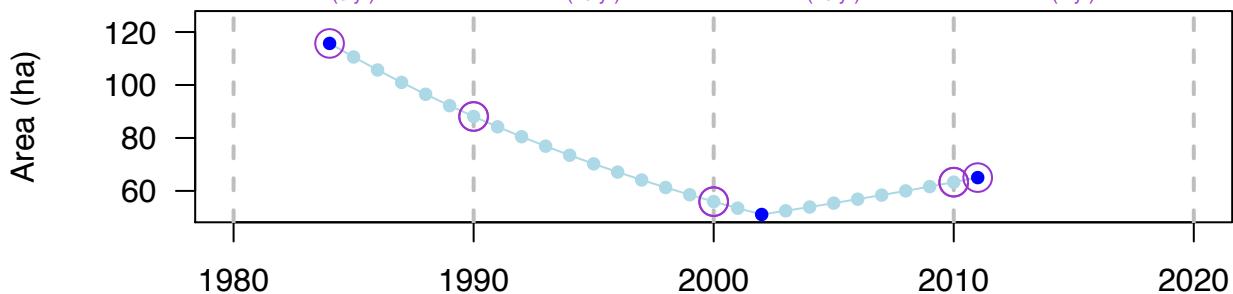
Martínez-Samper et al. 2011

SITE: Franja Marina de Mogán (Spain – Atlantic) – Cn (-5.5 m)

OVERALL: Net = -50.67 ha; Rate = -2.13 % yr⁻¹; Perc Final = 56 % > decrease

DECadal: YES (27 yr)

| | | | |
|---|---|---|--|
| 1980s decrease unknown $-4.54\%\text{yr}^{-1}$ (6 yr) | 1990s decrease worsen $-4.54\%\text{yr}^{-1}$ (10 yr) | 2000s increase improve $1.23\%\text{yr}^{-1}$ (10 yr) | 2010s no change steady $2.68\%\text{yr}^{-1}$ (1 yr) |
|---|---|---|--|



67_area

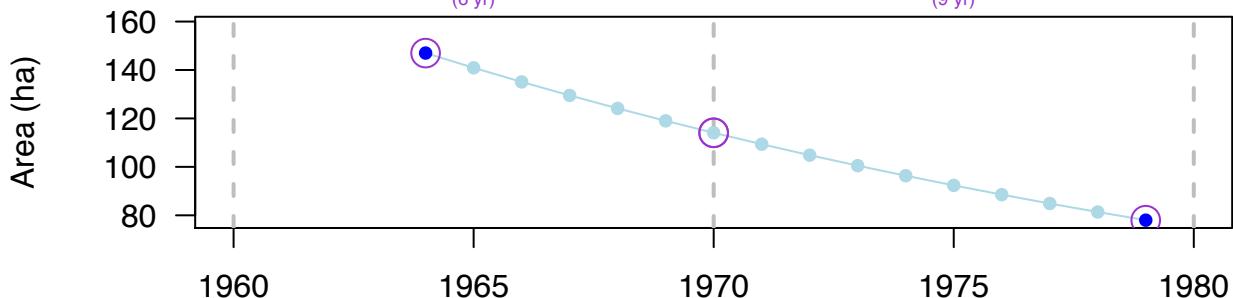
Boudouresque et al. 2006

SITE: Mourillion (France – Mediterranean) – Po (? m)

OVERALL: Net = -69 ha; Rate = -4.22 % yr⁻¹; Perc Final = 53 % > decrease

Decadal: YES (15 yr)

| | |
|---|--|
| 1960s decrease unknown $-4.22\%\text{yr}^{-1}$ (6 yr) | 1970s decrease worsen $-4.22\%\text{yr}^{-1}$ (9 yr) |
|---|--|



68_area

Philippart and Dijkema 1995

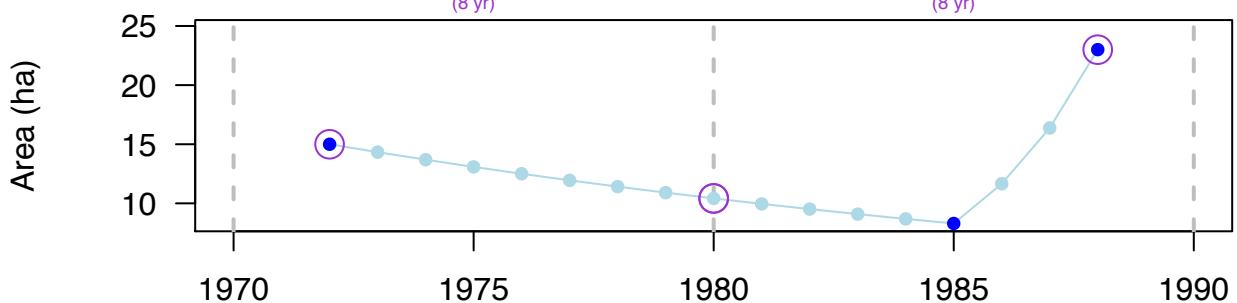
SITE: De Keeg – De Ans (The Netherlands – Atlantic) – Zn (? m)

OVERALL: Net = 8 ha; Rate = 2.67 % yr⁻¹; Perc Final = 153 % > increase

DECadal: YES (16 yr)

1970s
decrease
unknown
 $-4.55\% \text{yr}^{-1}$
(8 yr)

1980s
increase
improve
 $9.9\% \text{yr}^{-1}$
(8 yr)



69_area

Philippart and Dijkema 1995

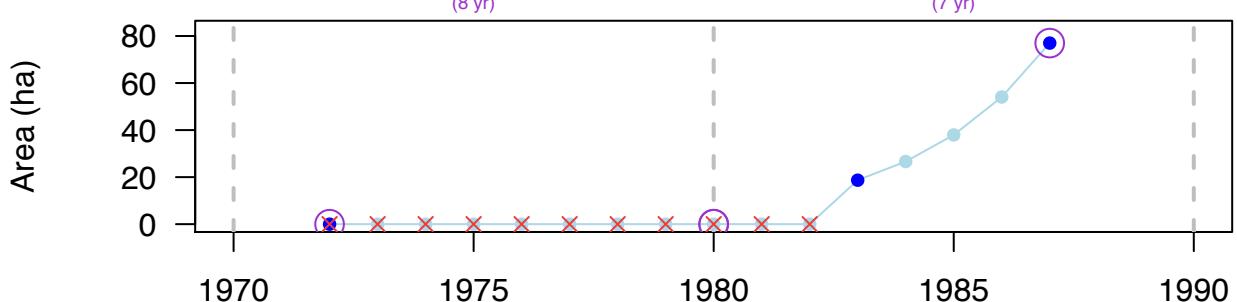
SITE: Emmapolder (The Netherlands – Atlantic) – Zn (? m)

OVERALL: Net = 77 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECadal: YES (15 yr)

1970s
decrease
unknown
 $\text{NA}\% \text{yr}^{-1}$
(8 yr)

1980s
increase
improve
 $\text{Inf}\% \text{yr}^{-1}$
(7 yr)



71_area

Philippart and Dijkema 1995

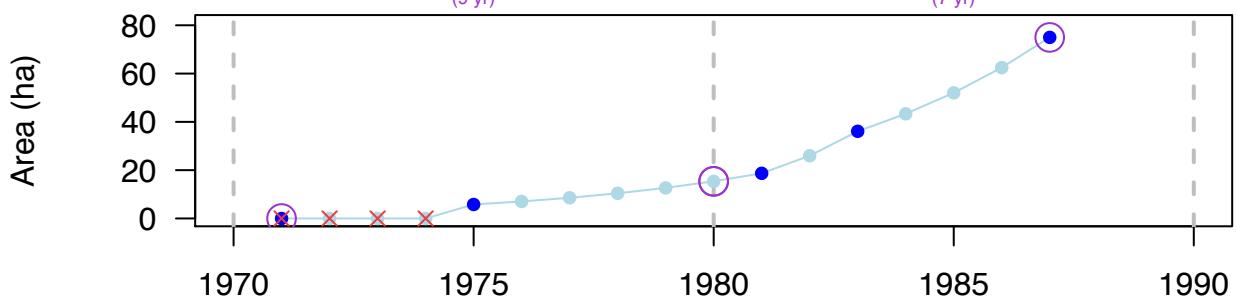
SITE: Linthorst Homanpolder (The Netherlands – Atlantic) – Zn (? m)

OVERALL: Net = 75 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECADAL: YES (16 yr)

1970s
increase
unknown
Inf%yr⁻¹
(9 yr)

1980s
increase
improve
22.63%yr⁻¹
(7 yr)



76_area

Portig 2006

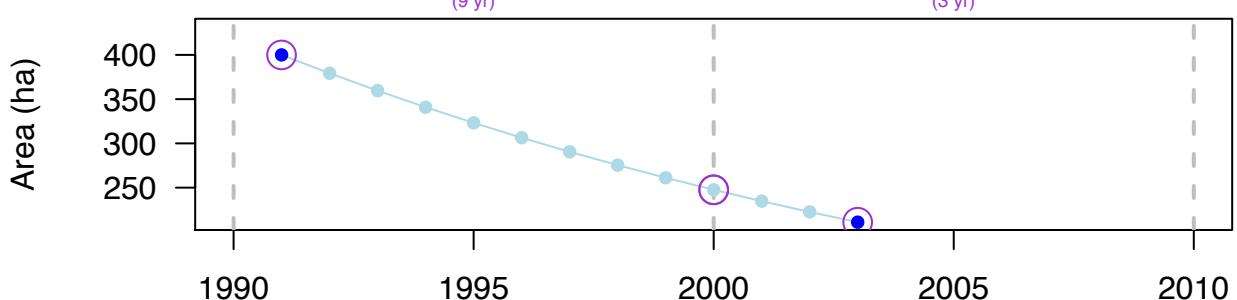
SITE: Lough Foyle (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = -189 ha; Rate = -5.33 % yr⁻¹; Perc Final = 53 % > decrease

DECADAL: YES (12 yr)

1990s
decrease
unknown
-5.33%yr⁻¹
(9 yr)

2000s
decrease
worsen
-5.33%yr⁻¹
(3 yr)



77_area

Portig 2006

SITE: Strangford Lough (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = -646.8 ha; Rate = -1.61 % yr⁻¹; Perc Final = 59 % > decrease

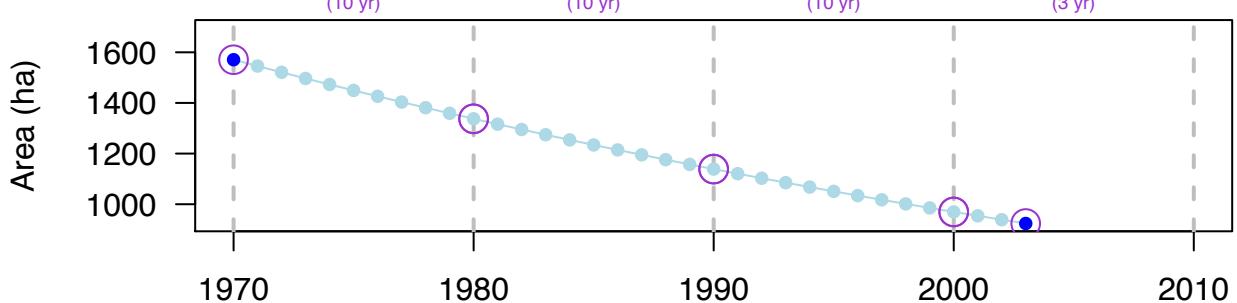
DECADAL: YES (33 yr)

1970s
decrease
unknown
-1.61%yr⁻¹
(10 yr)

1980s
decrease
worsen
-1.61%yr⁻¹
(10 yr)

1990s
decrease
worsen
-1.61%yr⁻¹
(10 yr)

2000s
no change
improve
-1.61%yr⁻¹
(3 yr)



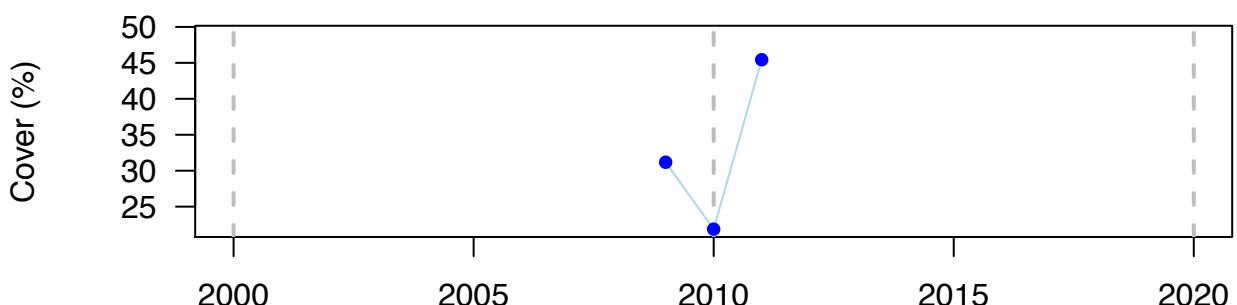
78_cover

Cook (unpublished)

SITE: Carrick Roads (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 14.26 %; Rate = 18.83 % yr⁻¹; Perc Final = 146 % > increase

DECADAL: NO (2 yr)



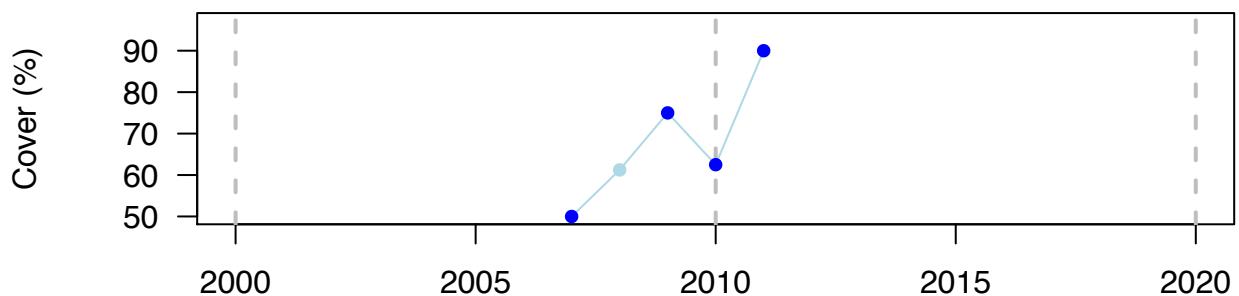
79_cover

Cook (unpublished)

SITE: Conwy Estuary (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 40 %; Rate = 14.69 % yr⁻¹; Perc Final = 180 % > increase

DECADAL: NO (4 yr)



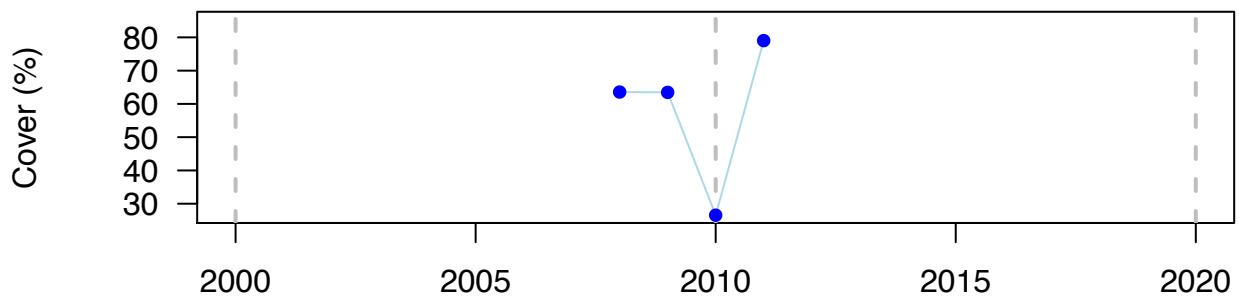
80_cover

Cook (unpublished)

SITE: Exe Estuary (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 15.46 %; Rate = 7.26 % yr⁻¹; Perc Final = 124 % > no change

DECADAL: NO (3 yr)



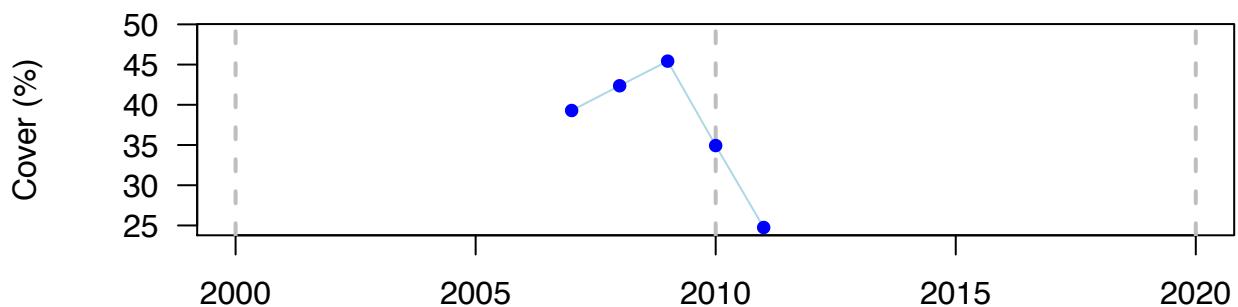
81_cover

Cook (unpublished)

SITE: Foryd bay (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = -14.54 %; Rate = -11.55 % yr-1; Perc Final = 63 % > decrease

DECADAL: NO (4 yr)



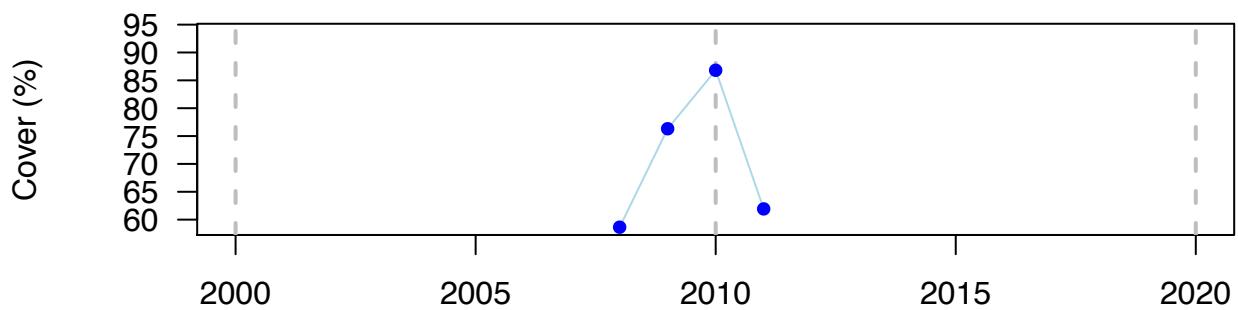
82_cover

Cook (unpublished)

SITE: Milford Haven (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 3.28 %; Rate = 1.81 % yr-1; Perc Final = 106 % > no change

DECADAL: NO (3 yr)



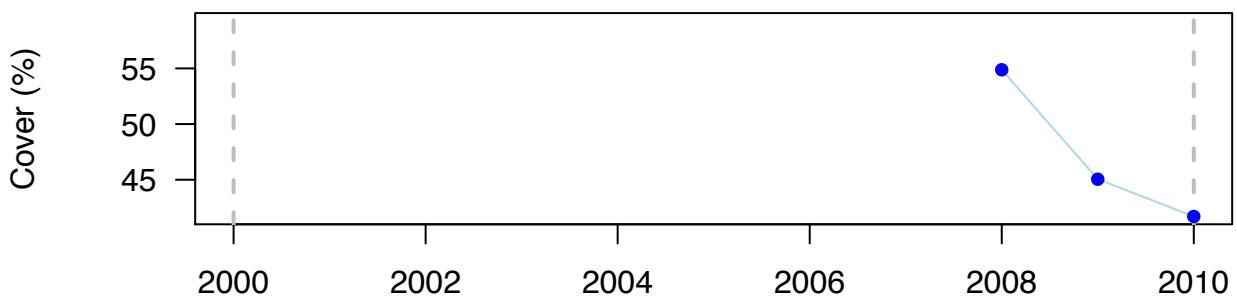
83_cover

Cook (unpublished)

SITE: Milford Haven (coastal) (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = -13.18 %; Rate = -13.73 % yr⁻¹; Perc Final = 76 % > no change

DECADAL: NO (2 yr)



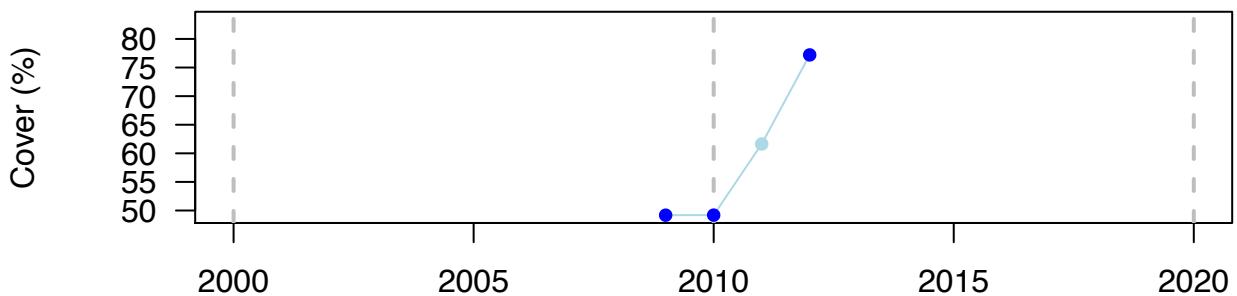
84_cover

Cook (unpublished)

SITE: Papham Harbour (coastal) (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = 28.02 %; Rate = 15.03 % yr⁻¹; Perc Final = 157 % > increase

DECADAL: NO (3 yr)



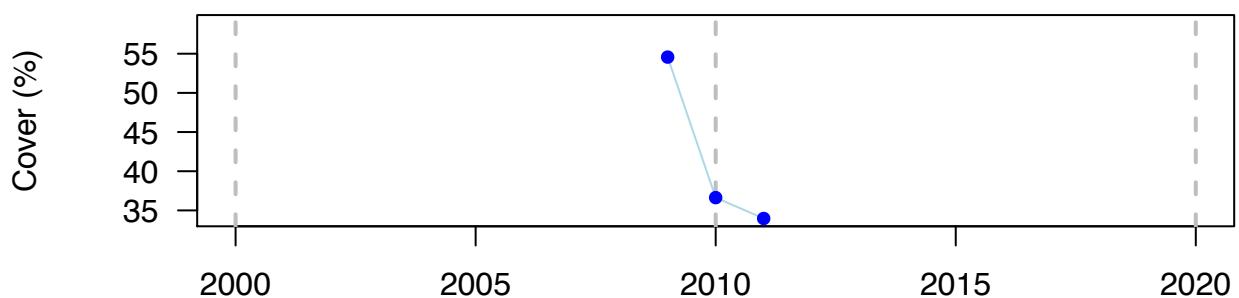
85_cover

Cook (unpublished)

SITE: Portsmouth Harbour (coastal) (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = -20.6 %; Rate = -23.7 % yr⁻¹; Perc Final = 62 % > decrease

DECADAL: NO (2 yr)



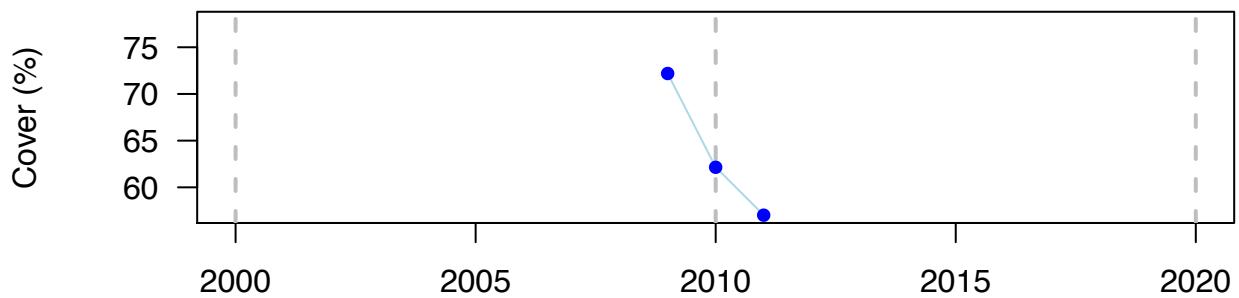
86_cover

Cook (unpublished)

SITE: Solent (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = -15.17 %; Rate = -11.79 % yr⁻¹; Perc Final = 79 % > no change

DECADAL: NO (2 yr)



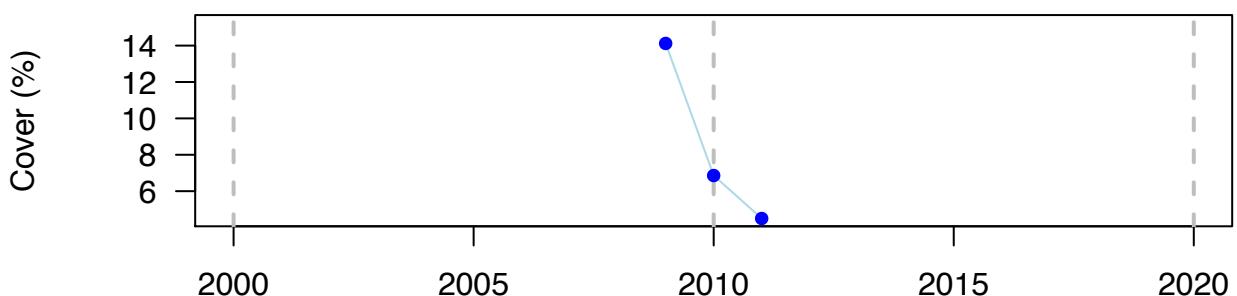
87_cover

Cook (unpublished)

SITE: Solent (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = -9.62 %; Rate = -57.18 % yr⁻¹; Perc Final = 32 % > decrease

DECADAL: NO (2 yr)



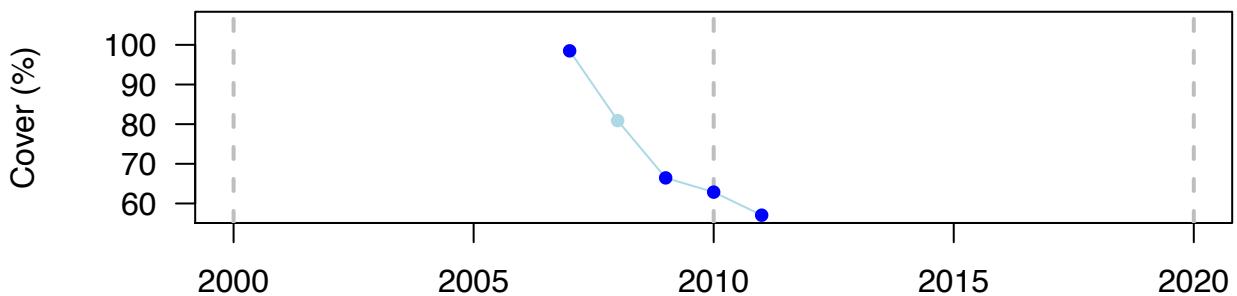
88_cover

Cook (unpublished)

SITE: Thames Estuary (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = -41.45 %; Rate = -13.65 % yr⁻¹; Perc Final = 58 % > decrease

DECADAL: NO (4 yr)



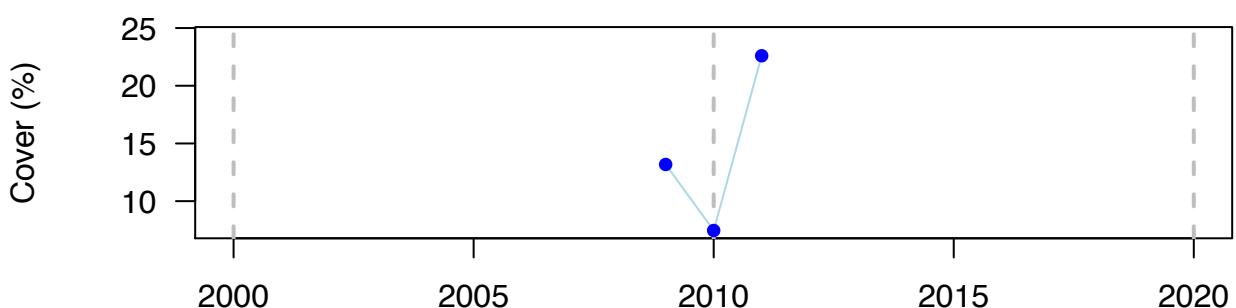
89_cover

Cook (unpublished)

SITE: Thames Estuary (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = 9.42 %; Rate = 26.96 % yr⁻¹; Perc Final = 171 % > increase

DECADAL: NO (2 yr)



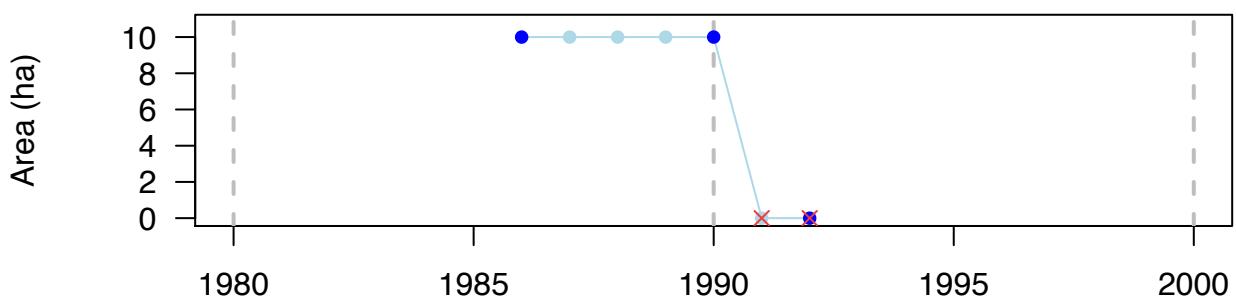
90_area

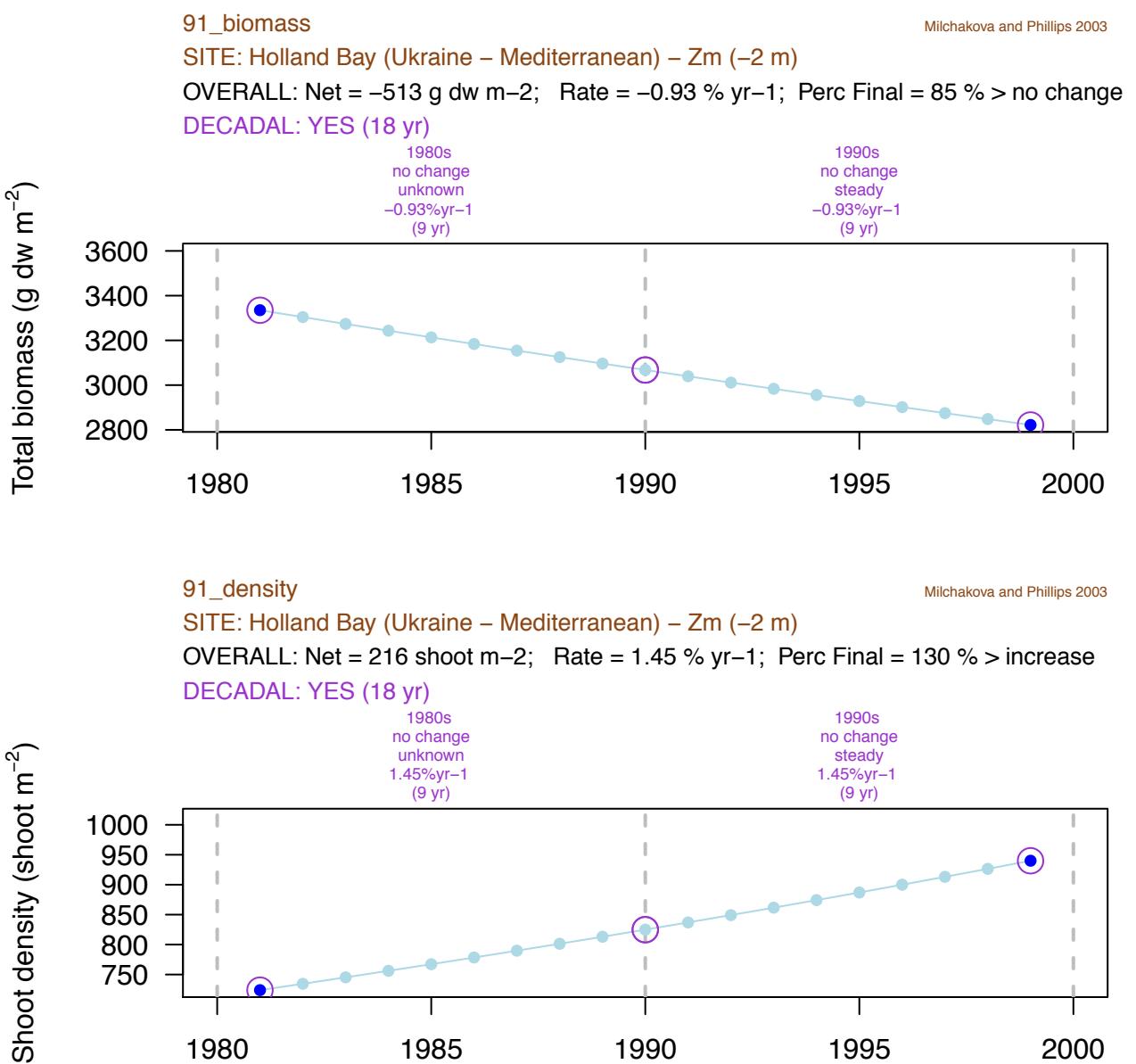
Den Hartog 1994

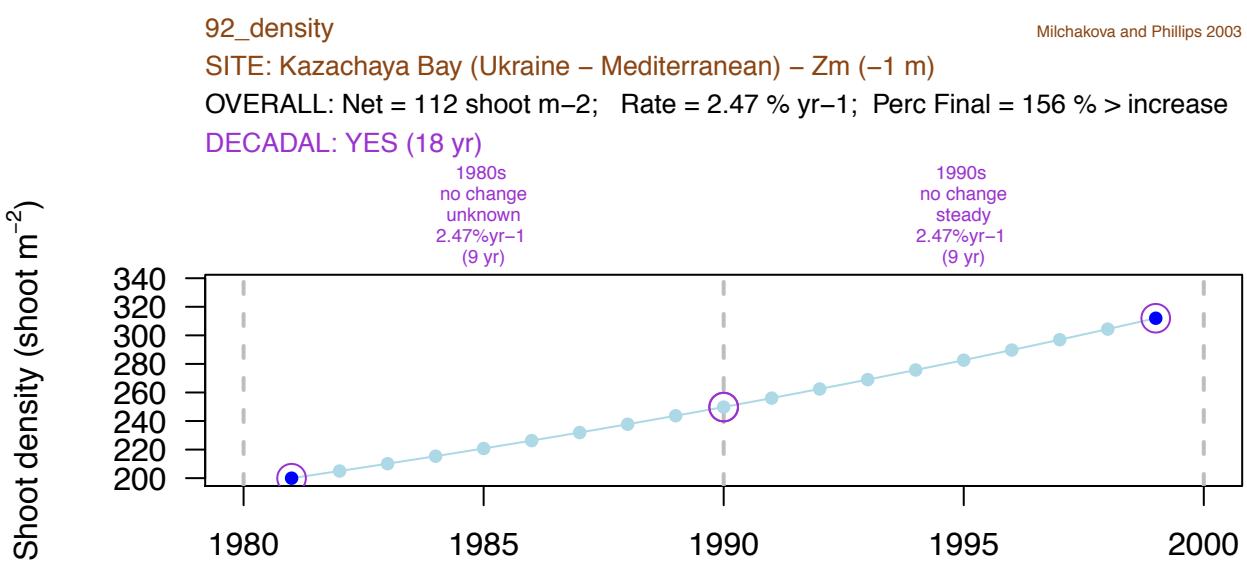
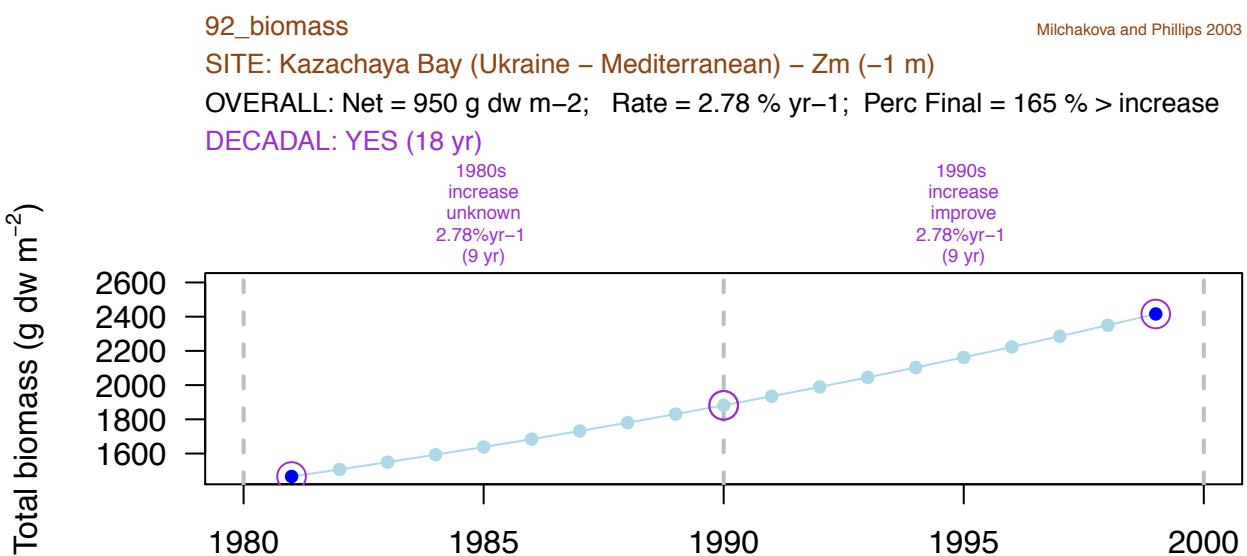
SITE: Langstone Harbour (United Kingdom – Atlantic) – Zm (? m)

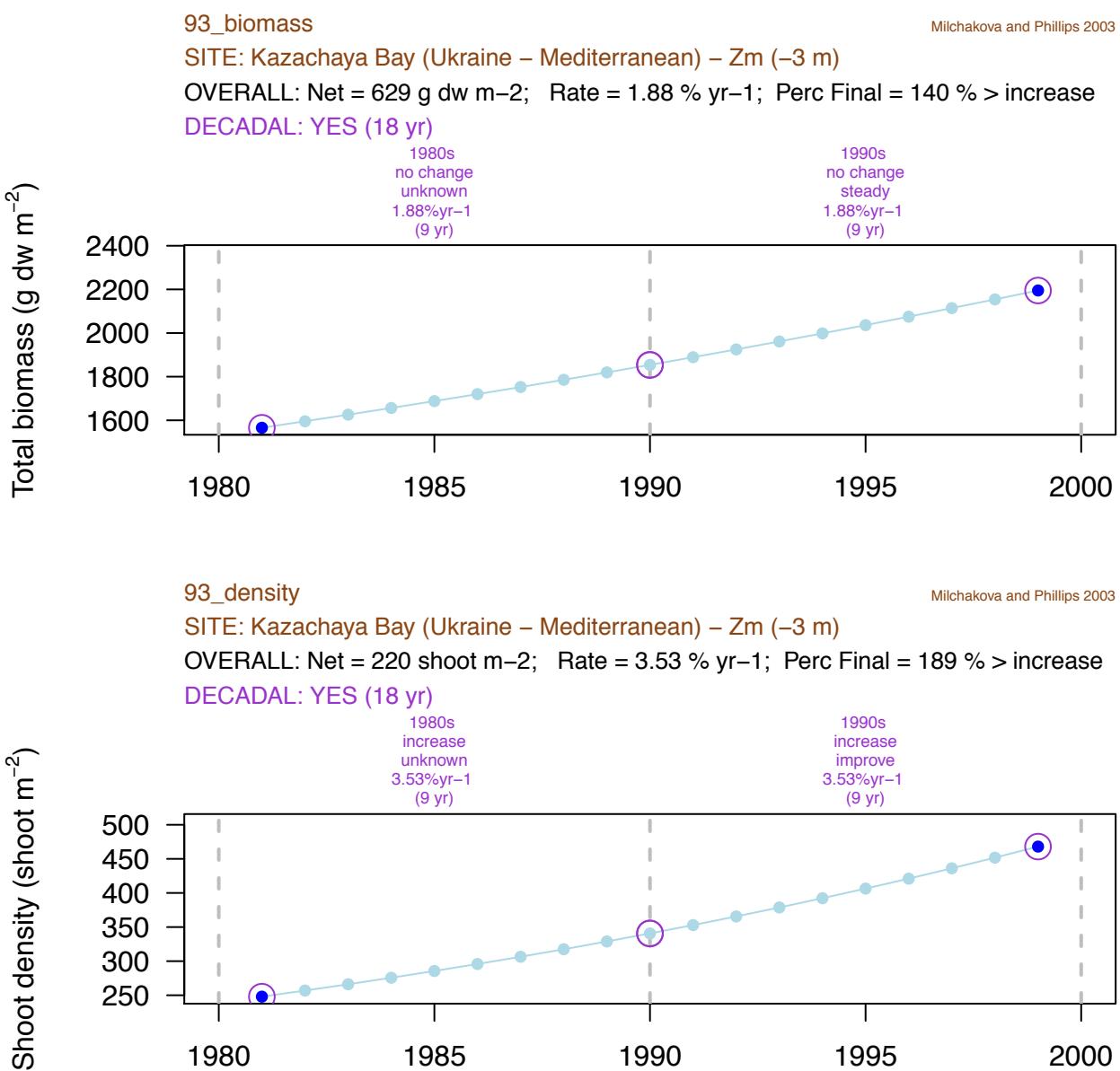
OVERALL: Net = -10 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

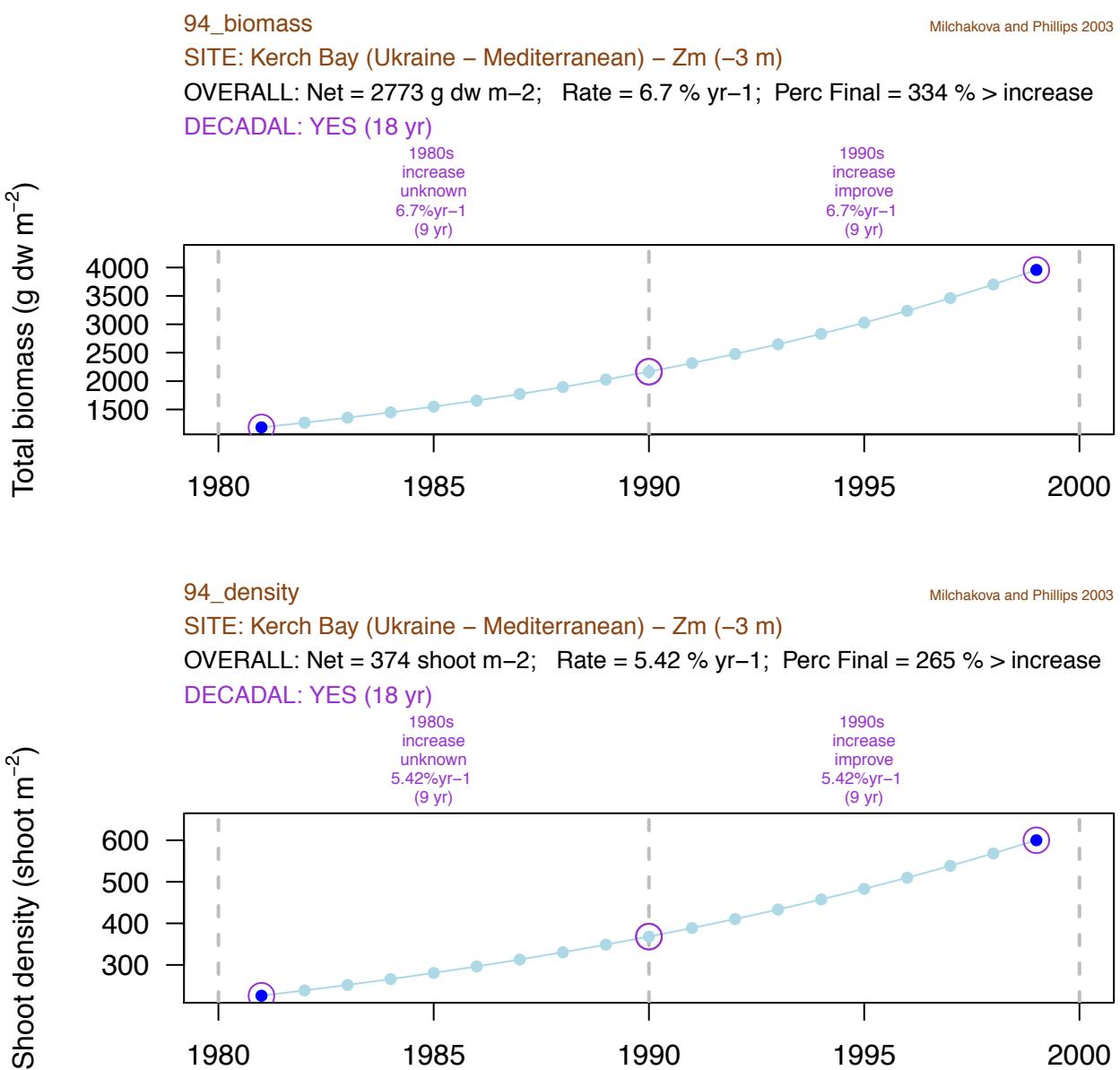
DECADAL: NO (6 yr)

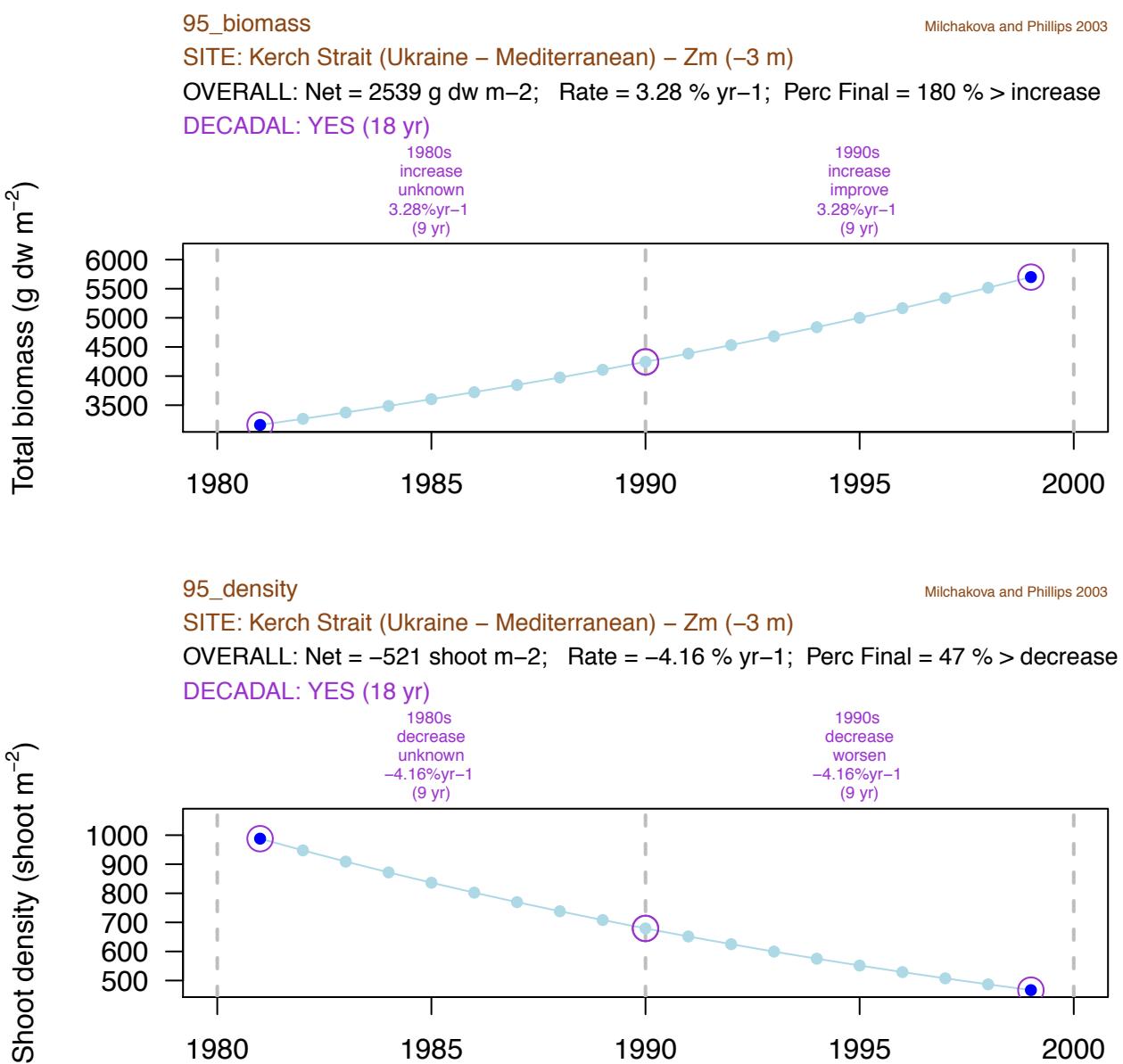












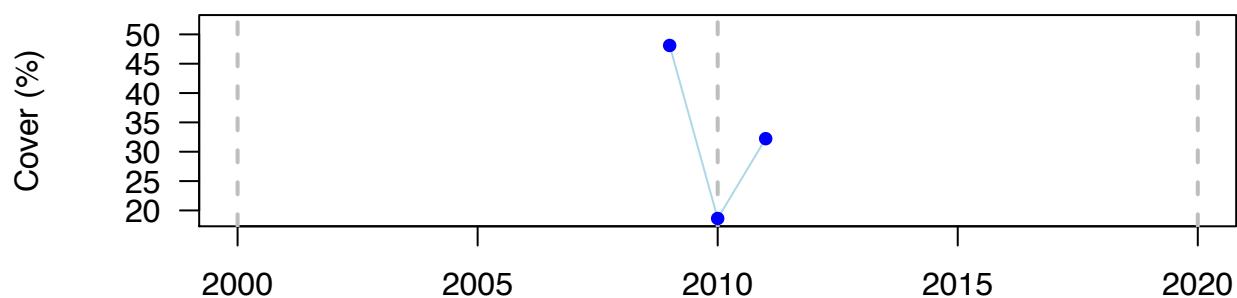
96_cover

Cook (unpublished)

SITE: Portsmouth Harbour (coastal) (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = -15.88 %; Rate = -20.03 % yr⁻¹; Perc Final = 67 % > decrease

DECADAL: NO (2 yr)



97_biomass

Milchakova and Phillips 2003

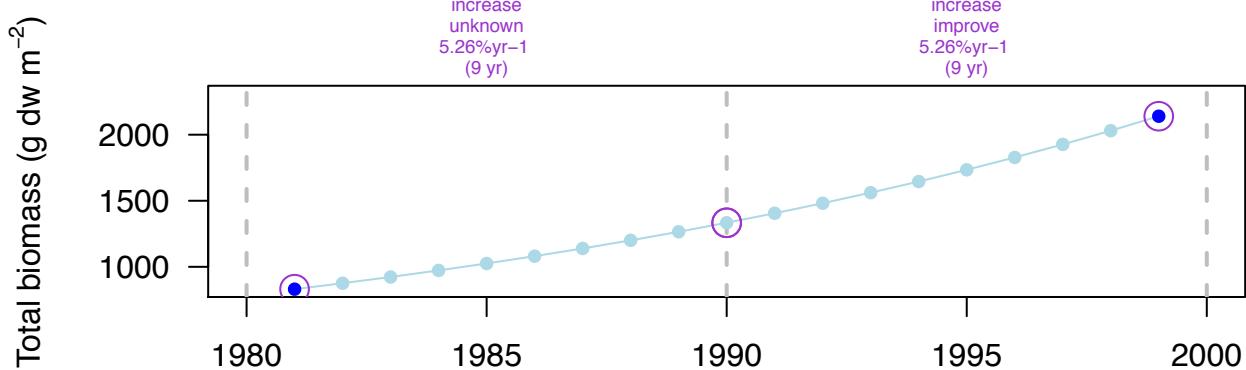
SITE: Laspi Bay (Ukraine – Mediterranean) – Zm (-5 m)

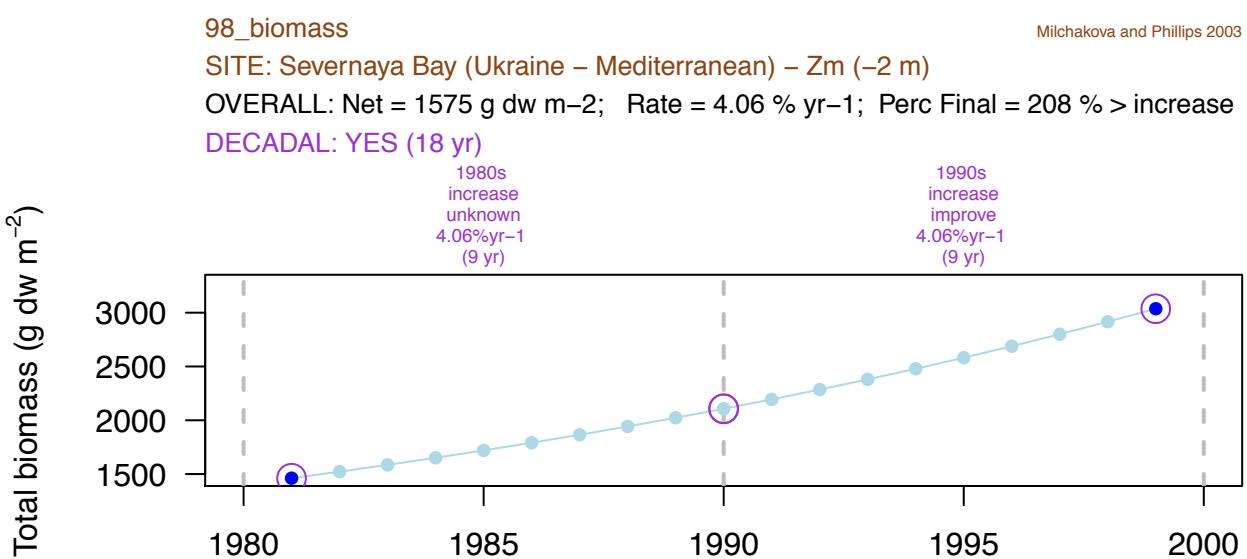
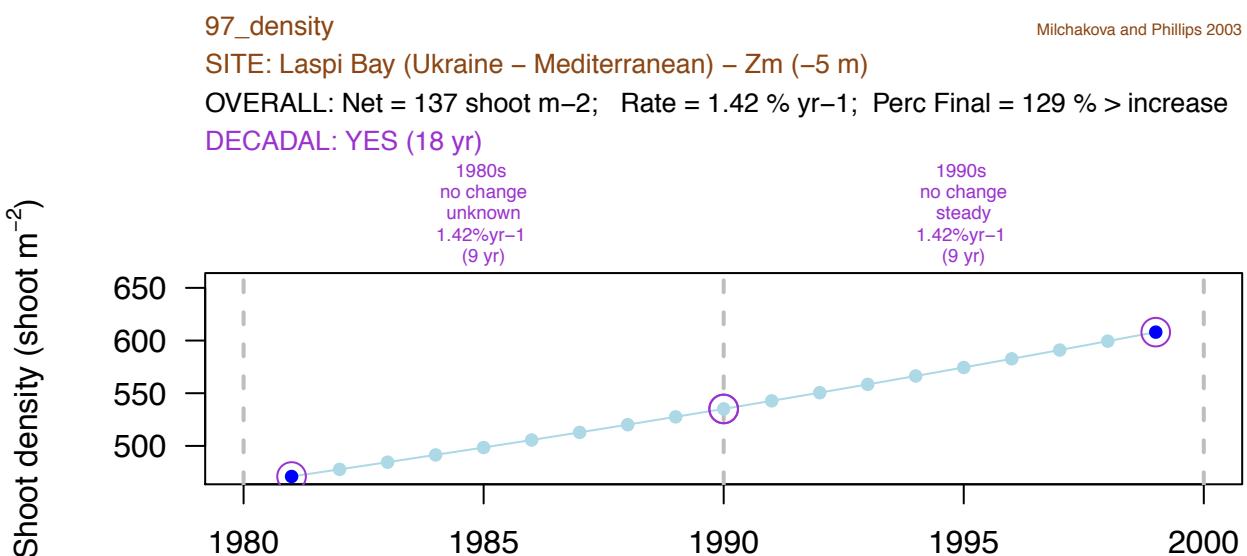
OVERALL: Net = 1309 g dw m⁻²; Rate = 5.26 % yr⁻¹; Perc Final = 258 % > increase

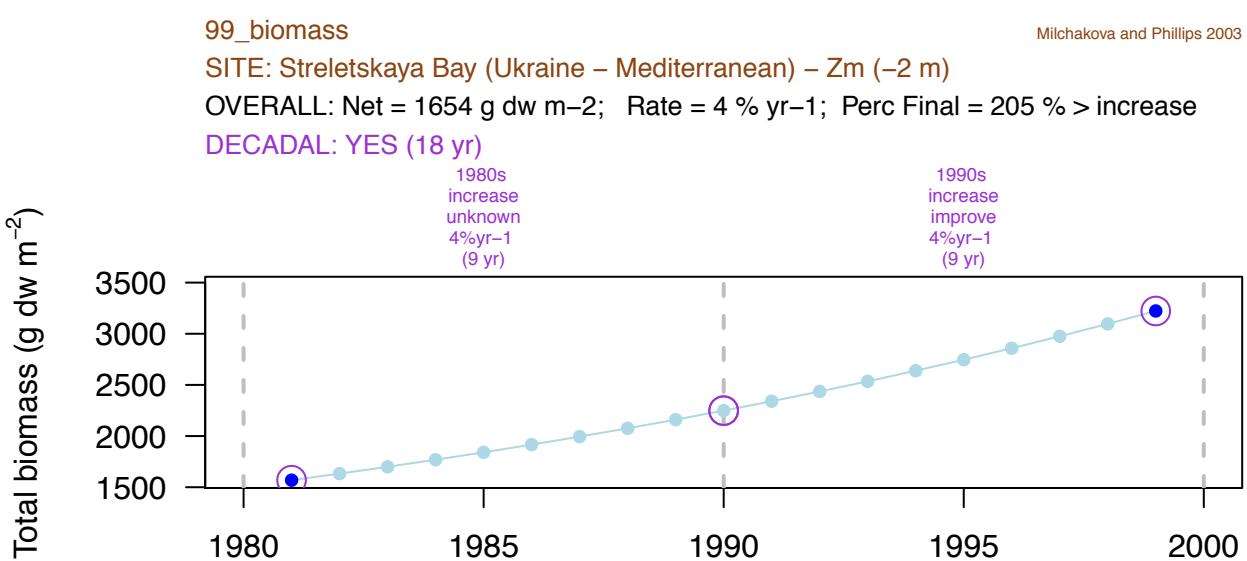
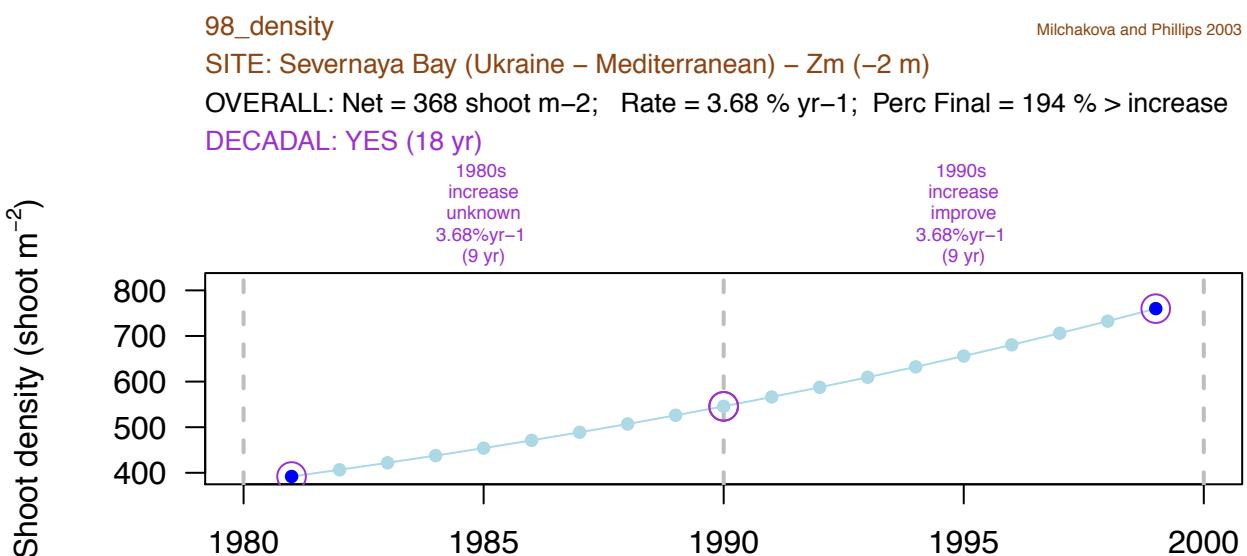
DECADAL: YES (18 yr)

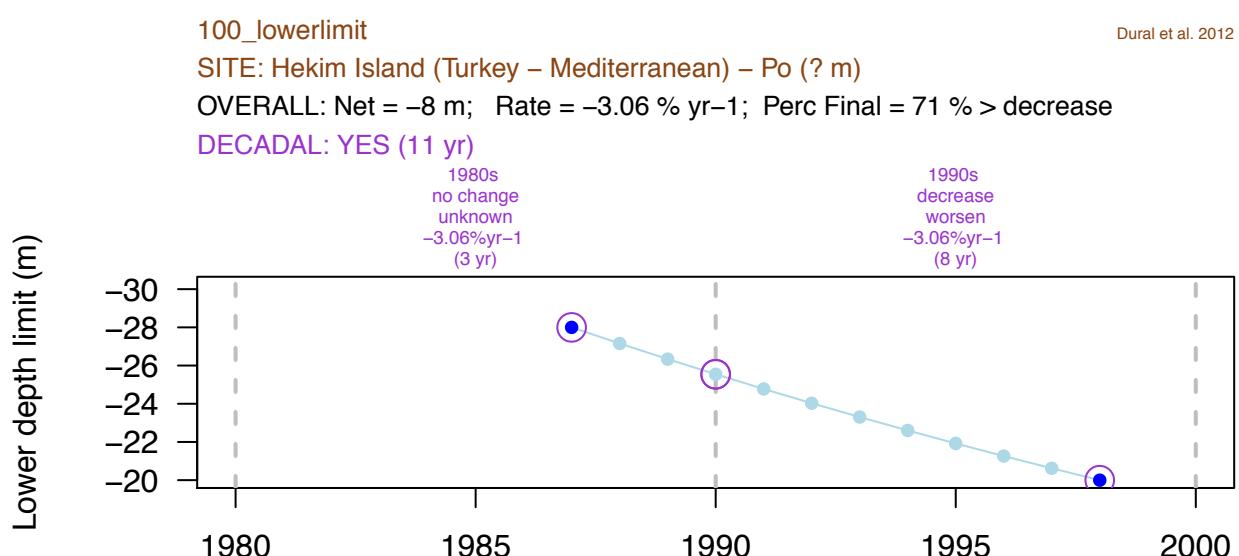
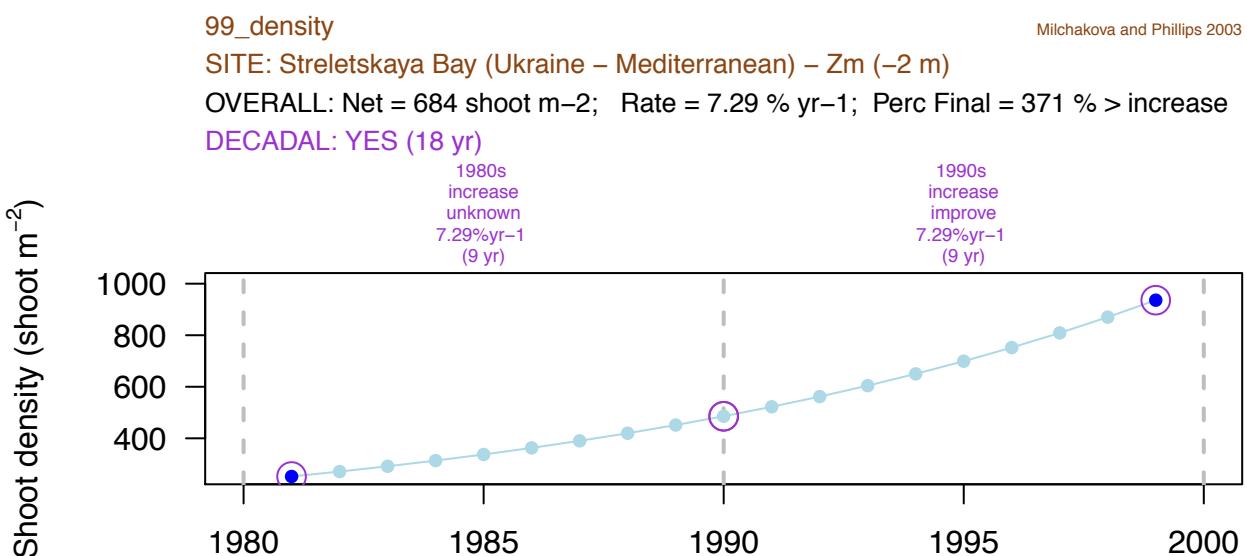
1980s
increase
unknown
5.26%yr⁻¹
(9 yr)

1990s
increase
improve
5.26%yr⁻¹
(9 yr)









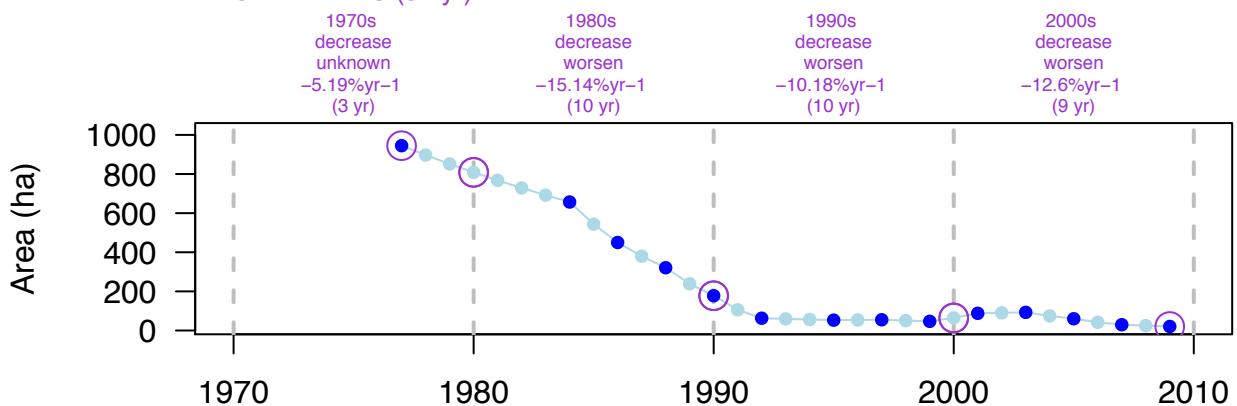
101_area

de Jong (unpublished)

SITE: Eastern Scheldt (The Netherlands – Atlantic) – Zn (0.4 m)

OVERALL: Net = -924.3 ha; Rate = -11.94 % yr⁻¹; Perc Final = 2 % > decrease

DECadal: YES (32 yr)



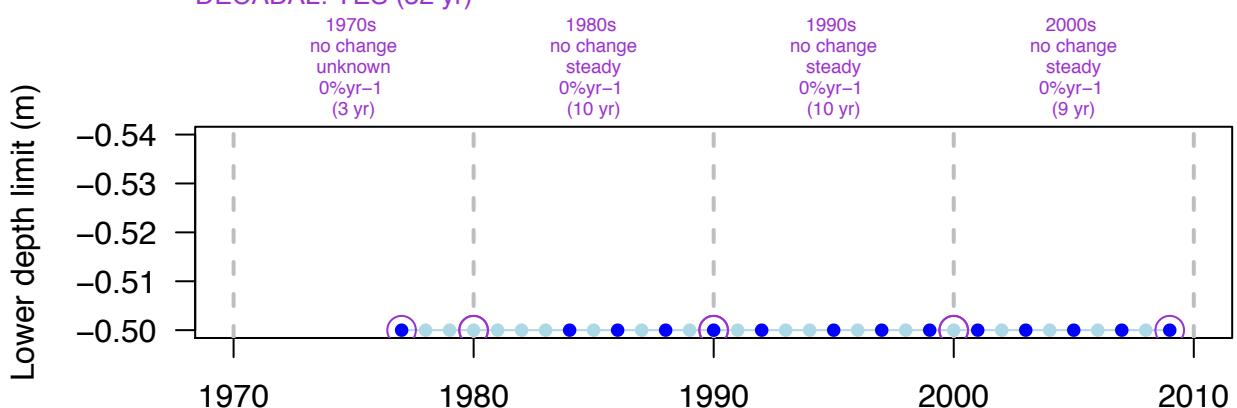
101_lowerlimit

de Jong (unpublished)

SITE: Eastern Scheldt (The Netherlands – Atlantic) – Zn (0.4 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (32 yr)



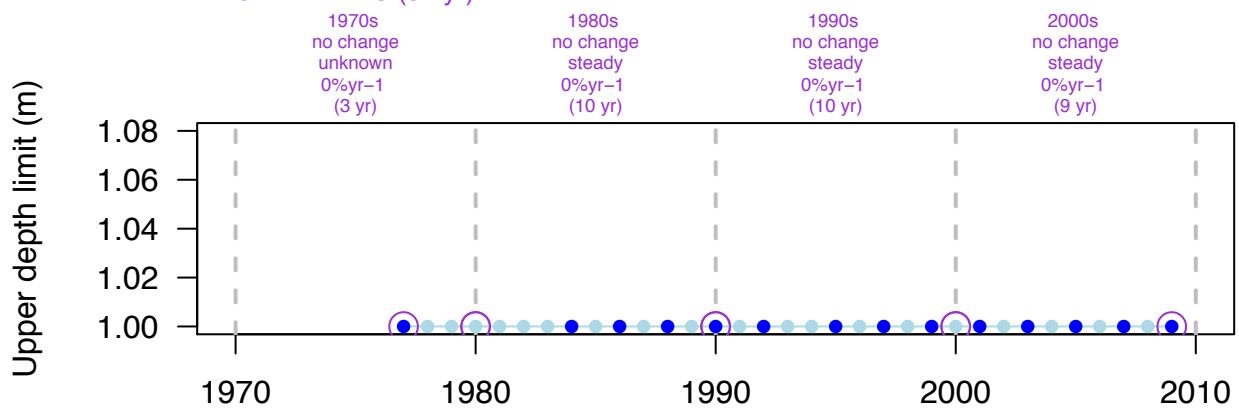
101_upperlimit

de Jong (unpublished)

SITE: Eastern Scheldt (The Netherlands – Atlantic) – Zn (0.4 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (32 yr)



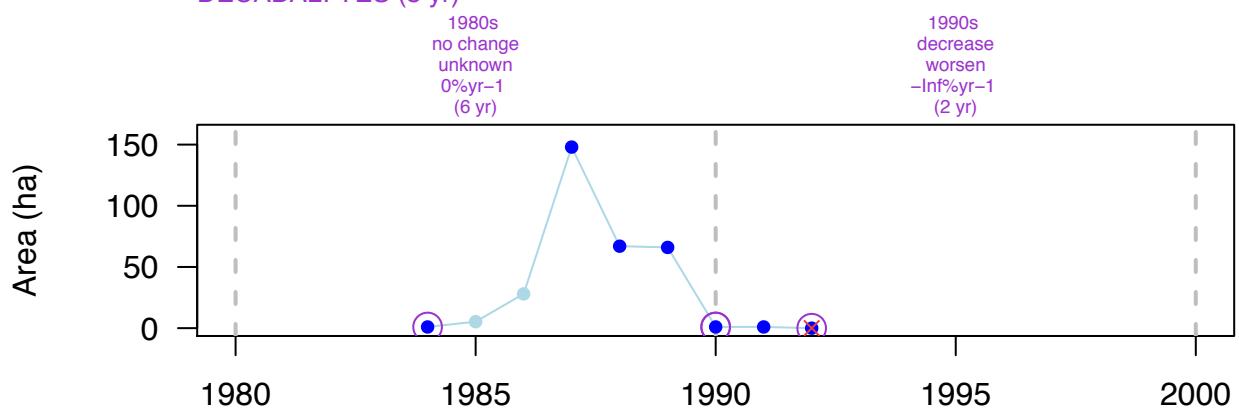
102_area

de Jong (unpublished)

SITE: Eastern Scheldt Galgeplaat (The Netherlands – Atlantic) – Zm (-0.2 m)

OVERALL: Net = -1 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (8 yr)



103_area

de Jong (unpublished)

SITE: Eastern Scheldt Roggenplaat (The Netherlands – Atlantic) – Zm (-0.1 m)

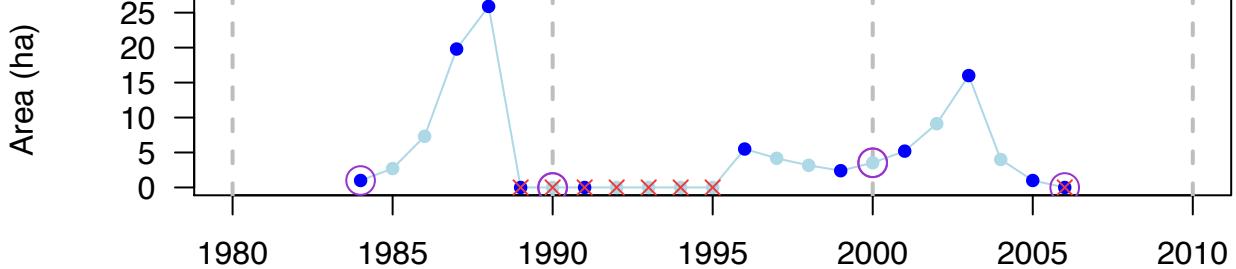
OVERALL: Net = -1 ha ; Rate = NA % yr $^{-1}$; Perc Final = NA % > decrease

DECADAL: YES (22 yr)

1980s
decrease
unknown
 $-\text{Inf}\%\text{yr}^{-1}$
(6 yr)

1990s
increase
improve
 $\text{Inf}\%\text{yr}^{-1}$
(10 yr)

2000s
decrease
worsen
 $-\text{Inf}\%\text{yr}^{-1}$
(6 yr)



103_lowerlimit

de Jong (unpublished)

SITE: Eastern Scheldt Roggenplaat (The Netherlands – Atlantic) – Zm (-0.1 m)

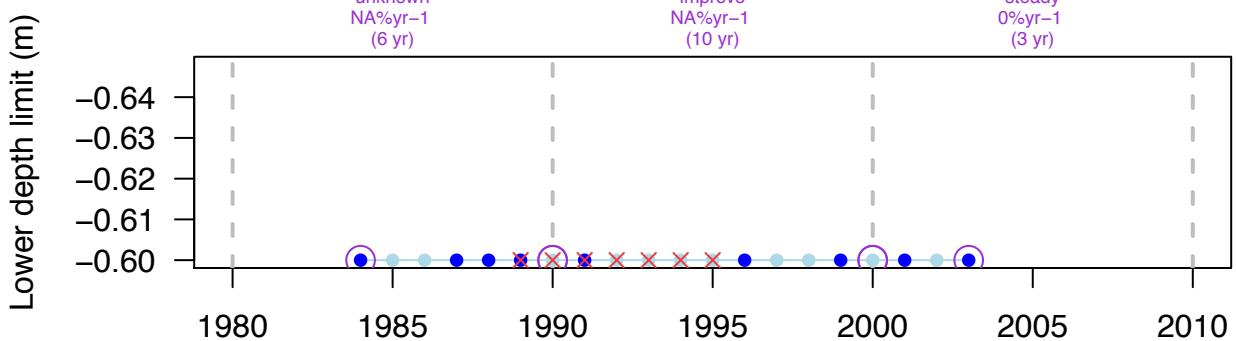
OVERALL: Net = 0 m ; Rate = 0 \% yr^{-1} ; Perc Final = 100 \% > no change

DECADAL: YES (19 yr)

1980s
decrease
unknown
 $\text{NA}\%\text{yr}^{-1}$
(6 yr)

1990s
increase
improve
 $\text{NA}\%\text{yr}^{-1}$
(10 yr)

2000s
no change
steady
 $0\%\text{yr}^{-1}$
(3 yr)



103_upperlimit

de Jong (unpublished)

SITE: Eastern Scheldt Roggenplaat (The Netherlands – Atlantic) – Zm (-0.1 m)

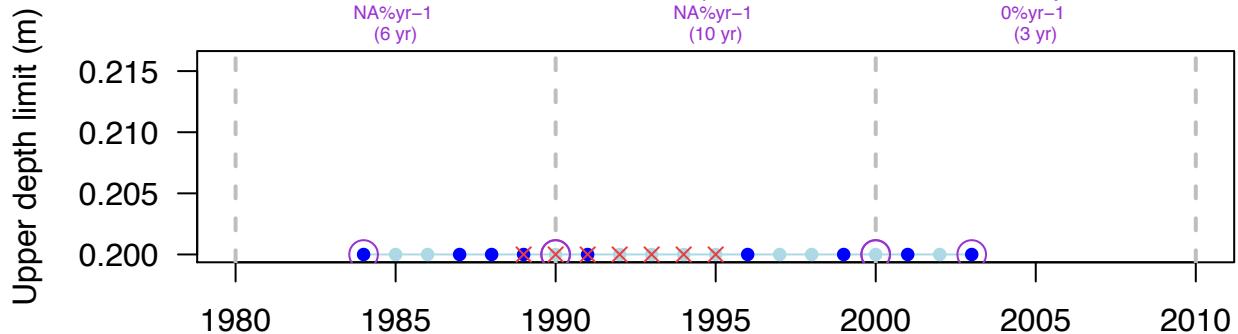
OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (19 yr)

1980s
decrease
unknown
NA%yr⁻¹
(6 yr)

1990s
increase
improve
NA%yr⁻¹
(10 yr)

2000s
no change
steady
0%yr⁻¹
(3 yr)



104_area

de Jong (unpublished)

SITE: Groningen kwelderwerken (The Netherlands – Atlantic) – Zn (0 m)

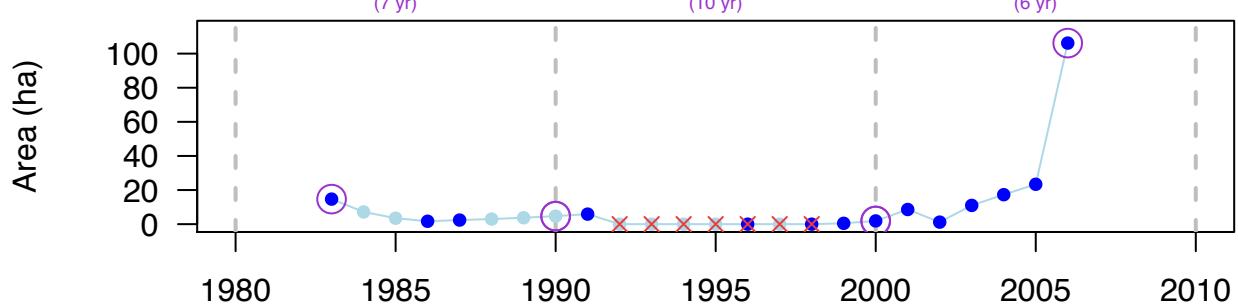
OVERALL: Net = 91.5 ha; Rate = 8.6 % yr⁻¹; Perc Final = 722 % > increase

DECADAL: YES (23 yr)

1980s
decrease
unknown
-16.25%yr⁻¹
(7 yr)

1990s
decrease
worsen
-9.08%yr⁻¹
(10 yr)

2000s
increase
improve
67.06%yr⁻¹
(6 yr)



104_lowerlimit

de Jong (unpublished)

SITE: Groningen kwelderwerken (The Netherlands – Atlantic) – Zn (0 m)

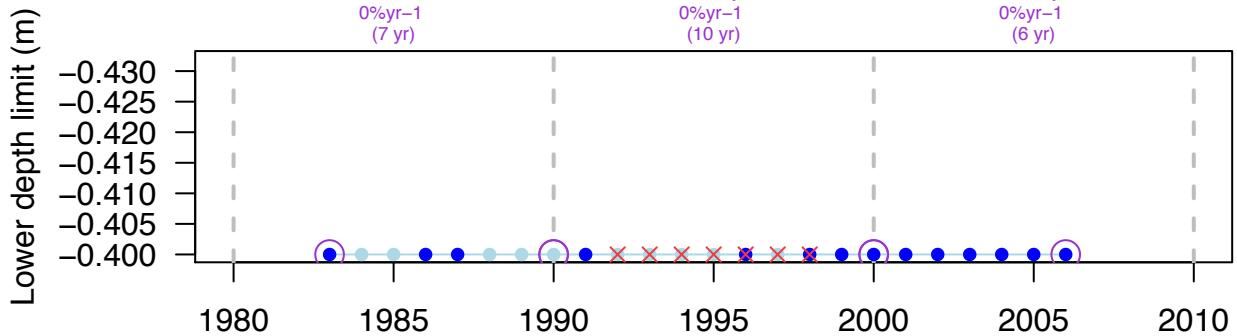
OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (23 yr)

1980s
no change
unknown
0%yr⁻¹
(7 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
no change
steady
0%yr⁻¹
(6 yr)



104_upperlimit

de Jong (unpublished)

SITE: Groningen kwelderwerken (The Netherlands – Atlantic) – Zn (0 m)

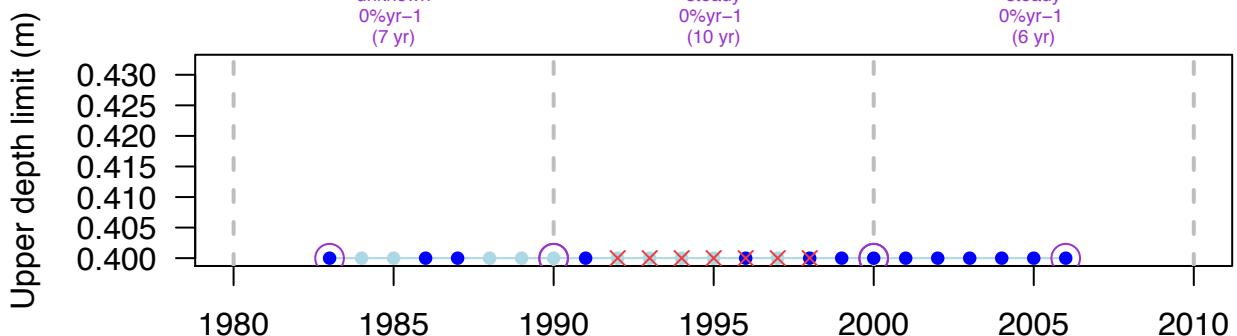
OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (23 yr)

1980s
no change
unknown
0%yr⁻¹
(7 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
no change
steady
0%yr⁻¹
(6 yr)



105_area

de Jong (unpublished)

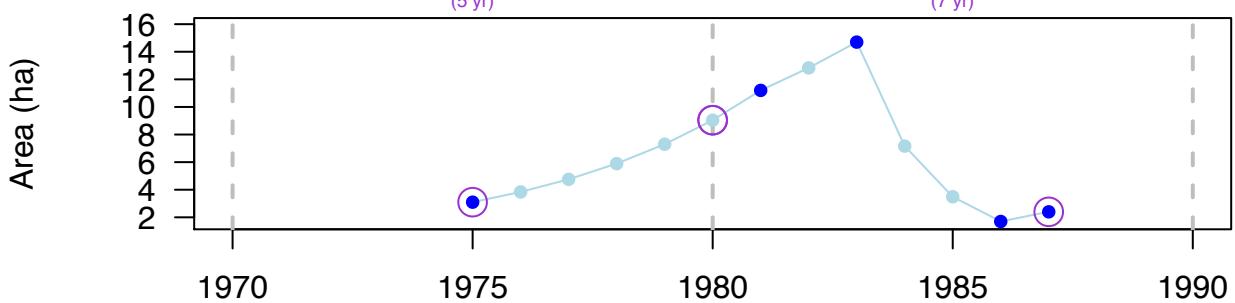
SITE: Groningen kwelderwerken (The Netherlands – Atlantic) – Zm (0 m)

OVERALL: Net = -0.7 ha; Rate = -2.13 % yr⁻¹; Perc Final = 77 % > decrease

DECADAL: YES (12 yr)

1970s
increase
unknown
21.41%yr⁻¹
(5 yr)

1980s
decrease
worsen
-18.95%yr⁻¹
(7 yr)



105_lowerlimit

de Jong (unpublished)

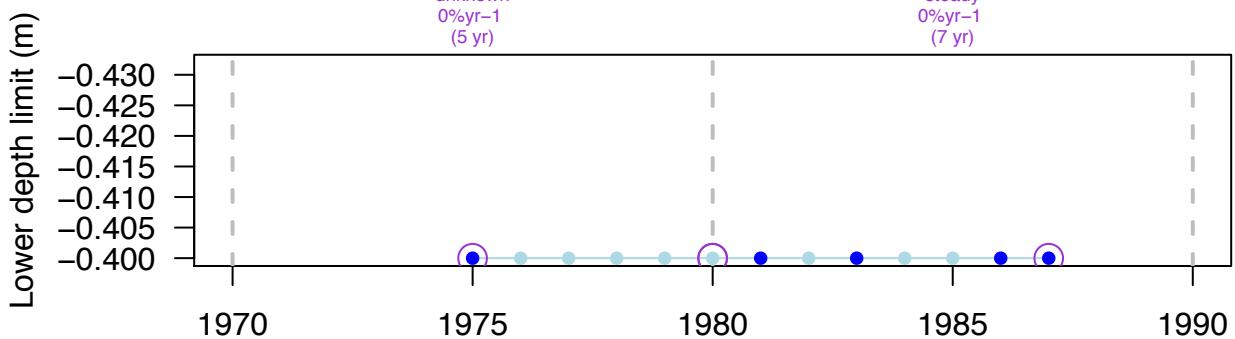
SITE: Groningen kwelderwerken (The Netherlands – Atlantic) – Zm (0 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (12 yr)

1970s
no change
unknown
0%yr⁻¹
(5 yr)

1980s
no change
steady
0%yr⁻¹
(7 yr)



105_upperlimit

de Jong (unpublished)

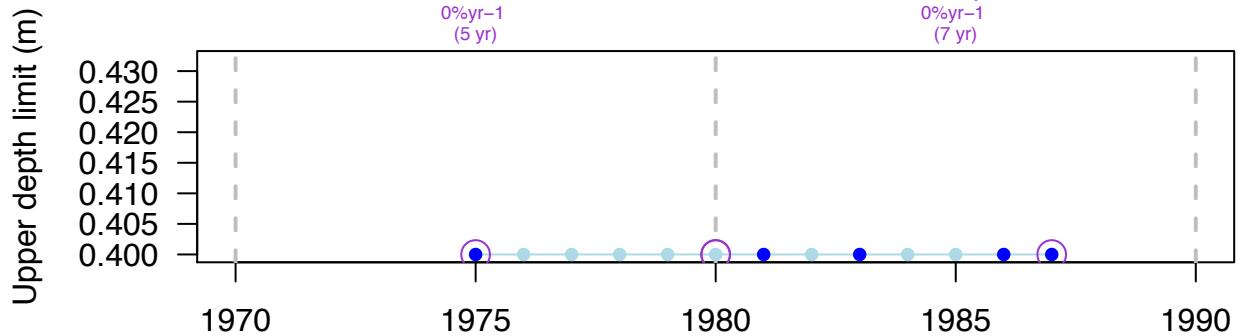
SITE: Groningen kwelderwerken (The Netherlands – Atlantic) – Zm (0 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (12 yr)

1970s
no change
unknown
0%yr⁻¹
(5 yr)

1980s
no change
steady
0%yr⁻¹
(7 yr)



106_area

de Jong (unpublished)

SITE: Lake Veere (The Netherlands – Atlantic) – Zm (-2 m)

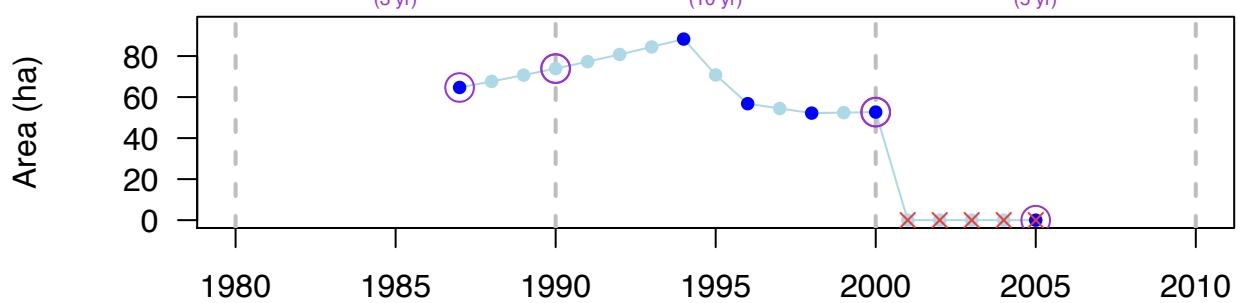
OVERALL: Net = -64.7 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (18 yr)

1980s
increase
unknown
4.44%yr⁻¹
(3 yr)

1990s
decrease
worsen
-3.38%yr⁻¹
(10 yr)

2000s
decrease
worsen
-Inf%yr⁻¹
(5 yr)



106_lowerlimit

de Jong (unpublished)

SITE: Lake Veere (The Netherlands – Atlantic) – Zm (-2 m)

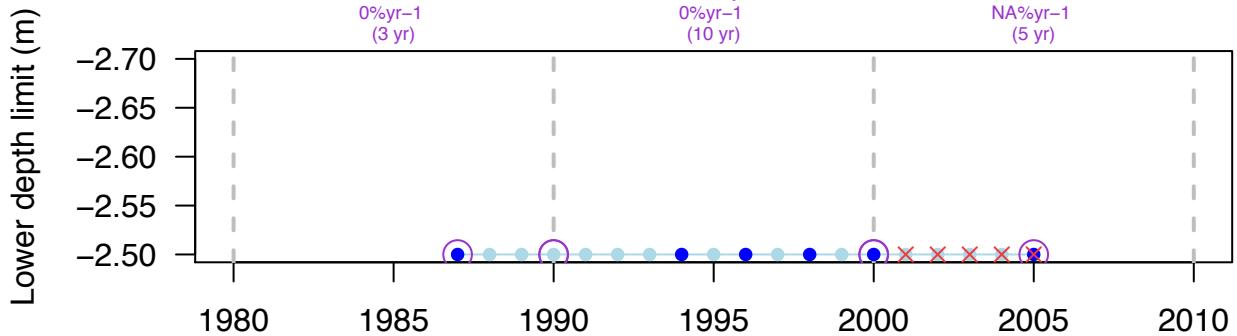
OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (18 yr)

1980s
no change
unknown
0%yr⁻¹
(3 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
decrease
worsen
NA%yr⁻¹
(5 yr)



106_upperlimit

de Jong (unpublished)

SITE: Lake Veere (The Netherlands – Atlantic) – Zm (-2 m)

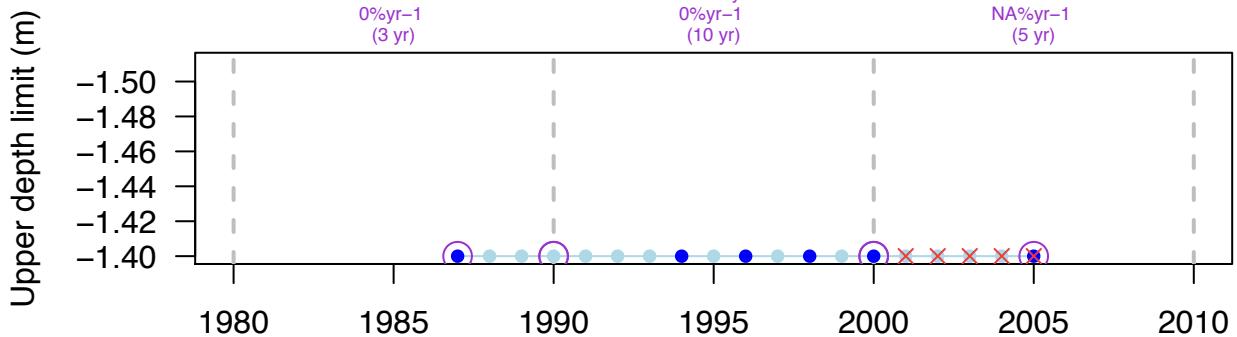
OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (18 yr)

1980s
no change
unknown
0%yr⁻¹
(3 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
decrease
worsen
NA%yr⁻¹
(5 yr)



107_area de Jong (unpublished)

SITE: Westerschelde Sloehaven (The Netherlands – Atlantic) – Zn (0.8 m)

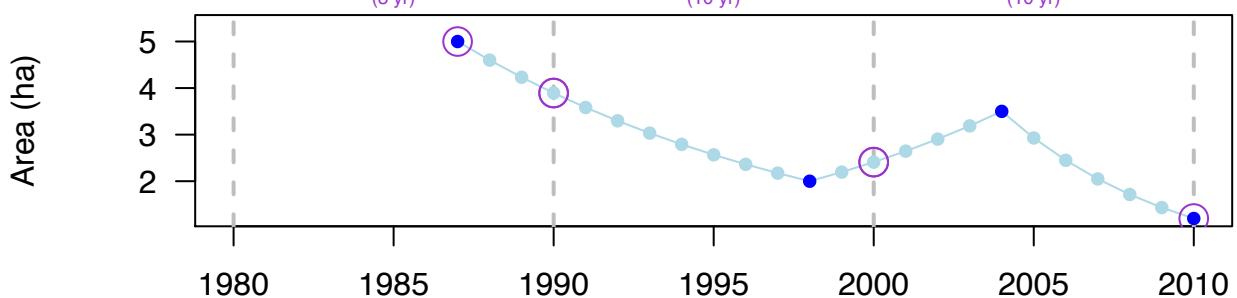
OVERALL: Net = -3.8 ha; Rate = -6.2 % yr⁻¹; Perc Final = 24 % > decrease

DECADAL: YES (23 yr)

1980s
decrease
unknown
-8.33%yr⁻¹
(3 yr)

1990s
decrease
worsen
-4.8%yr⁻¹
(10 yr)

2000s
decrease
worsen
-6.97%yr⁻¹
(10 yr)



107_lowerlimit de Jong (unpublished)

SITE: Westerschelde Sloehaven (The Netherlands – Atlantic) – Zn (0.8 m)

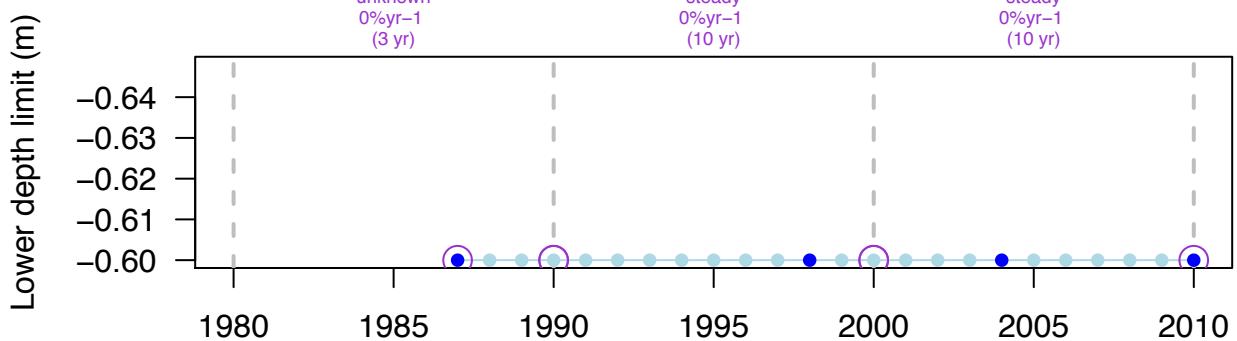
OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (23 yr)

1980s
no change
unknown
0%yr⁻¹
(3 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
no change
steady
0%yr⁻¹
(10 yr)



107_upperlimit

de Jong (unpublished)

SITE: Westerschelde Sloehaven (The Netherlands – Atlantic) – Zn (0.8 m)

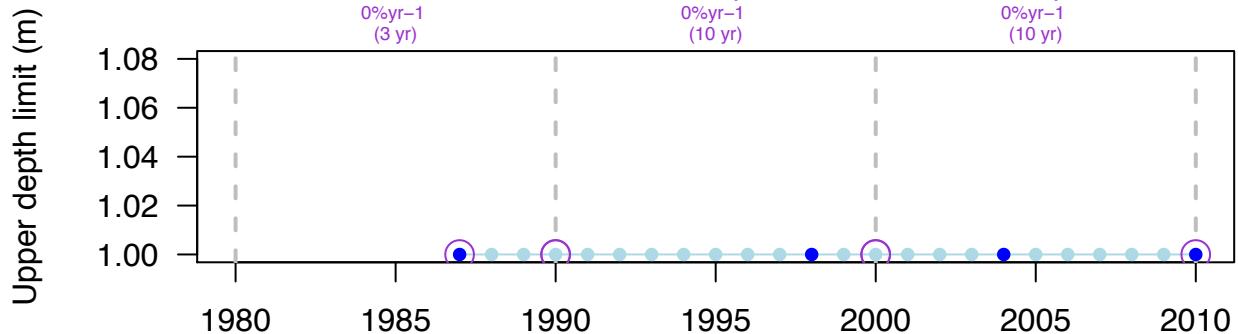
OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (23 yr)

1980s
no change
unknown
0%yr⁻¹
(3 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
no change
steady
0%yr⁻¹
(10 yr)



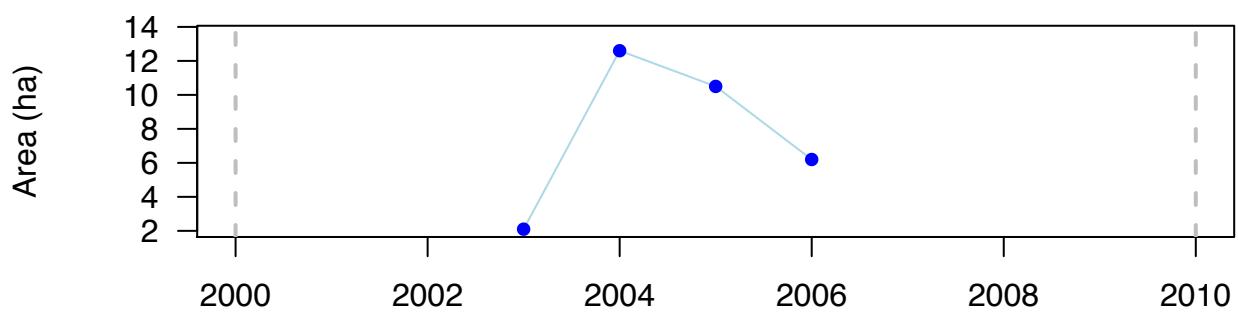
108_area

de Jong (unpublished)

SITE: Voolhok (The Netherlands – Atlantic) – Zm (0 m)

OVERALL: Net = 4.1 ha; Rate = 36.09 % yr⁻¹; Perc Final = 295 % > increase

DECadal: NO (3 yr)



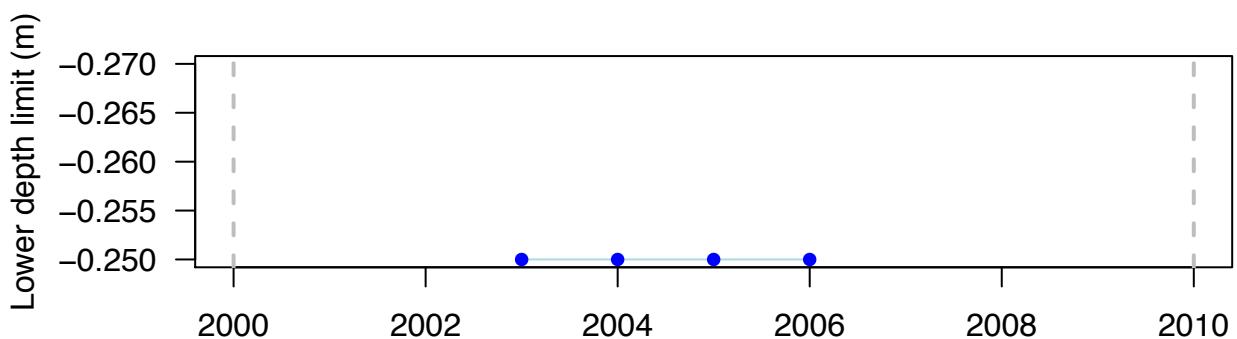
108_lowerlimit

de Jong (unpublished)

SITE: Voolhok (The Netherlands – Atlantic) – Zm (0 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (3 yr)



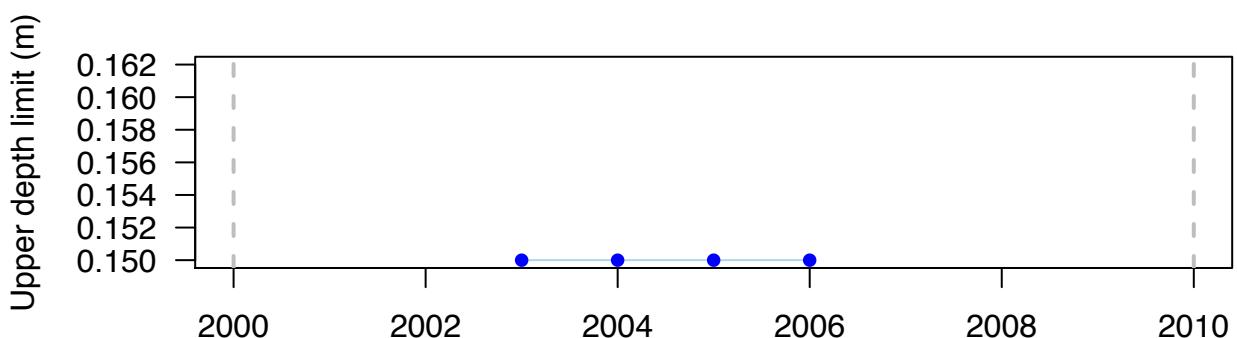
108_upperlimit

de Jong (unpublished)

SITE: Voolhok (The Netherlands – Atlantic) – Zm (0 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (3 yr)



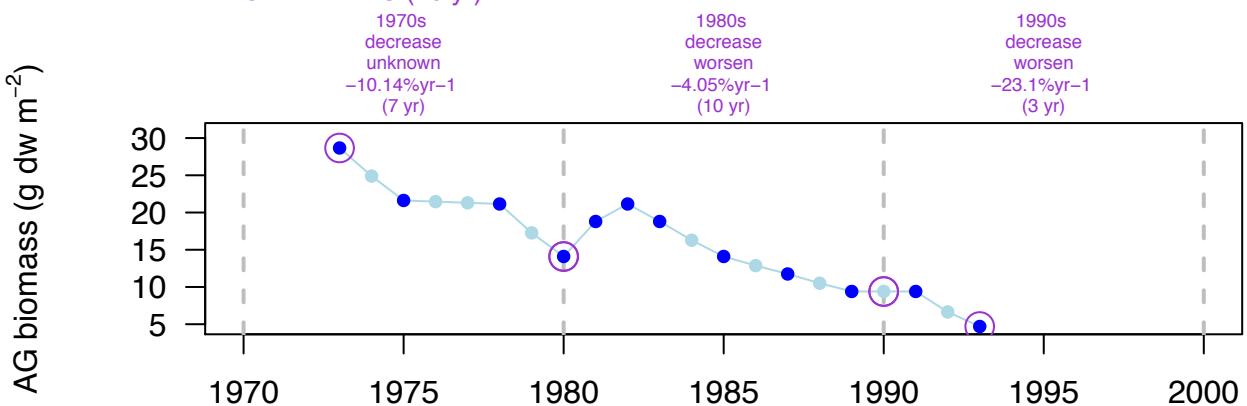
109_abiomass

Nienhuis et al. 1996, Herman et al. 1996, de Jong (unpublished)

SITE: Lake Grevelingen (The Netherlands – Atlantic) – Zm (-2 m)

OVERALL: Net = -23.97 g dw m⁻²; Rate = -9.04 % yr⁻¹; Perc Final = 16 % > decrease

DECadal: YES (20 yr)



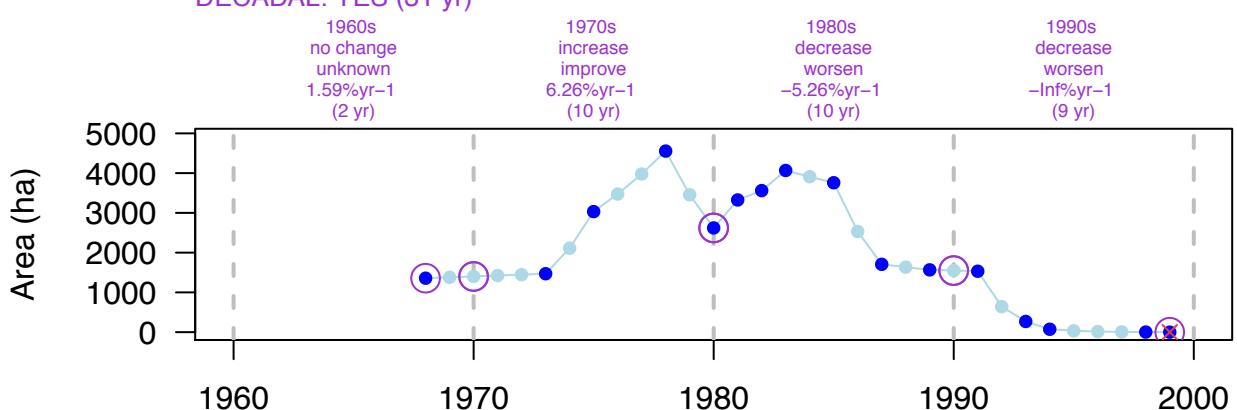
109_area

Nienhuis et al. 1996, Herman et al. 1996, de Jong (unpublished)

SITE: Lake Grevelingen (The Netherlands – Atlantic) – Zm (-2 m)

OVERALL: Net = -1357.9 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

Decadal: YES (31 yr)



109_lowerlimit

Nienhuis et al. 1996, Herman et al. 1996, de Jong (unpublished)

SITE: Lake Grevelingen (The Netherlands – Atlantic) – Zm (-2 m)

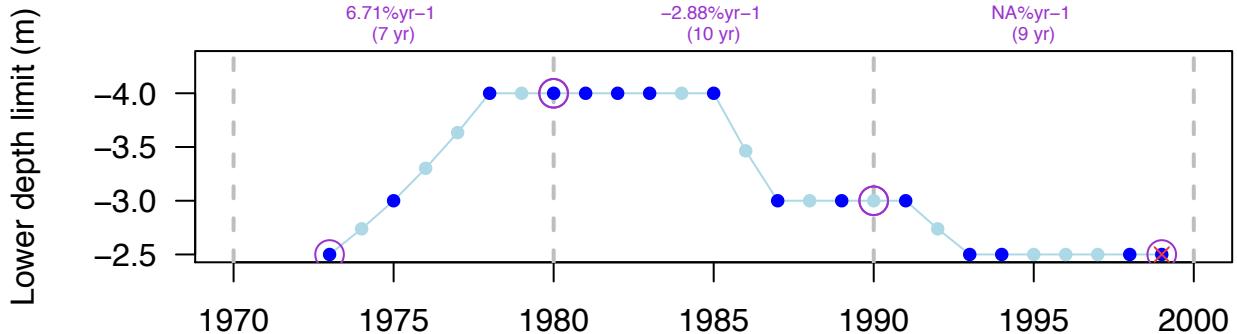
OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (26 yr)

1970s
increase
unknown
6.71%yr⁻¹
(7 yr)

1980s
decrease
worsen
-2.88%yr⁻¹
(10 yr)

1990s
decrease
worsen
NA%yr⁻¹
(9 yr)



109_upperlimit

Nienhuis et al. 1996, Herman et al. 1996, de Jong (unpublished)

SITE: Lake Grevelingen (The Netherlands – Atlantic) – Zm (-2 m)

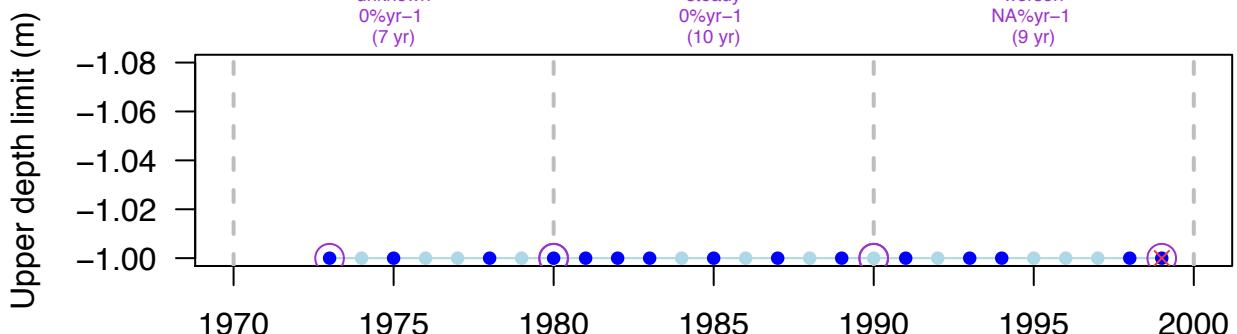
OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (26 yr)

1970s
no change
unknown
0%yr⁻¹
(7 yr)

1980s
no change
steady
0%yr⁻¹
(10 yr)

1990s
decrease
worsen
NA%yr⁻¹
(9 yr)



110_area

Valle et al. 2013

SITE: Hond Paap (The Netherlands – Atlantic) – Zm (0 m)

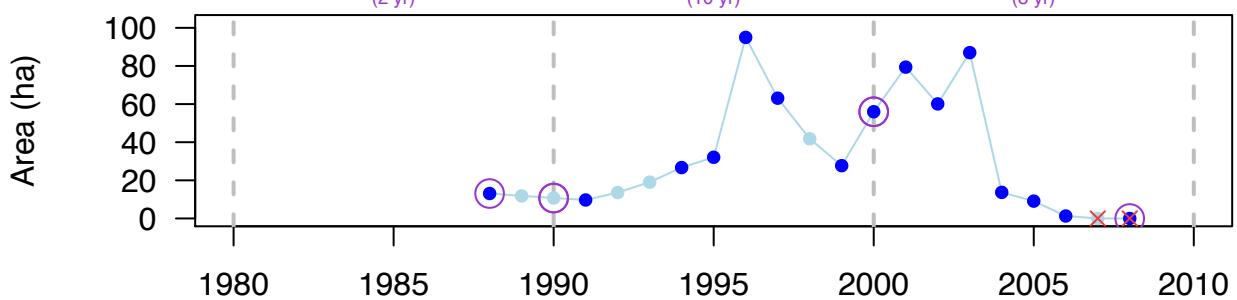
OVERALL: Net = -13.1 ha; Rate = NA % yr-1; Perc Final = NA % > decrease

DECADAL: YES (20 yr)

1980s
decrease
unknown
 $-10.02\% \text{yr}^{-1}$
(2 yr)

1990s
increase
improve
 $16.53\% \text{yr}^{-1}$
(10 yr)

2000s
decrease
worsen
 $-\text{Inf}\% \text{yr}^{-1}$
(8 yr)



110_lowerlimit

Valle et al. 2013

SITE: Hond Paap (The Netherlands – Atlantic) – Zm (0 m)

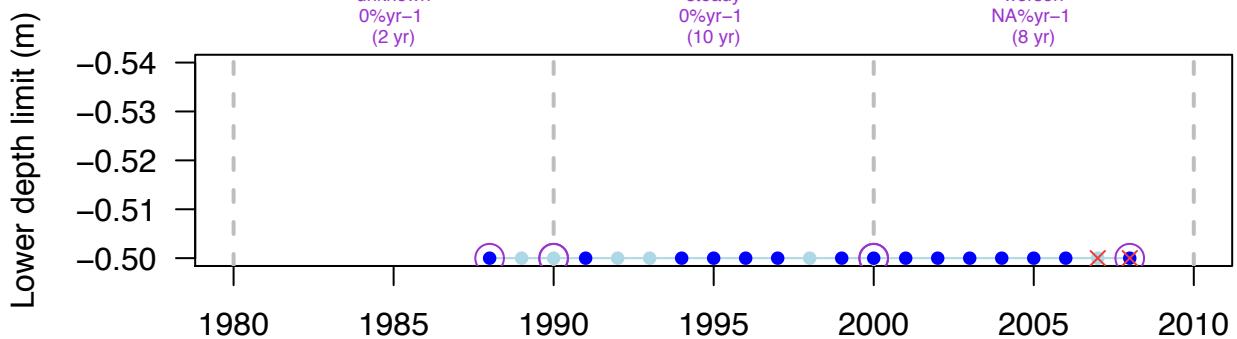
OVERALL: Net = NA m; Rate = NA % yr-1; Perc Final = NA % > decrease

DECADAL: YES (20 yr)

1980s
no change
unknown
 $0\% \text{yr}^{-1}$
(2 yr)

1990s
no change
steady
 $0\% \text{yr}^{-1}$
(10 yr)

2000s
decrease
worsen
 $\text{NA}\% \text{yr}^{-1}$
(8 yr)



110_upperlimit

Valle et al. 2013

SITE: Hond Paap (The Netherlands – Atlantic) – Zm (0 m)

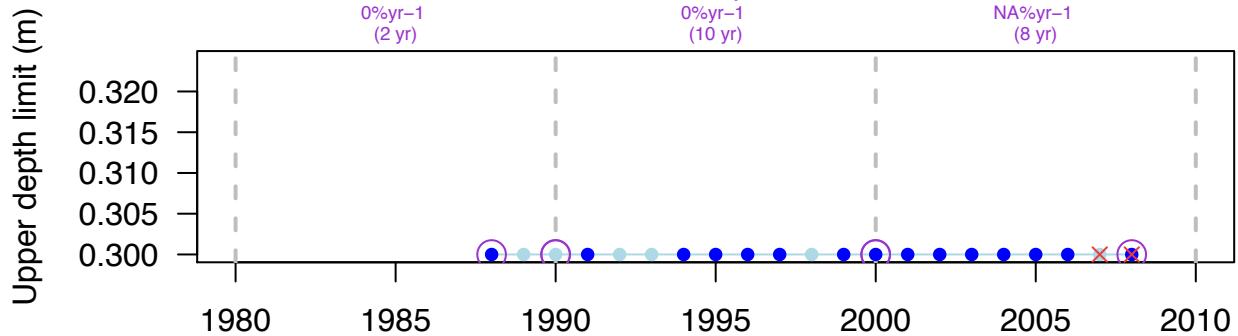
OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (20 yr)

1980s
no change
unknown
0%yr⁻¹
(2 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
decrease
worsen
NA%yr⁻¹
(8 yr)



111_area

van Katwijk et al. 2010

SITE: Terschelling Haven (The Netherlands – Atlantic) – Zm (-0.3 m)

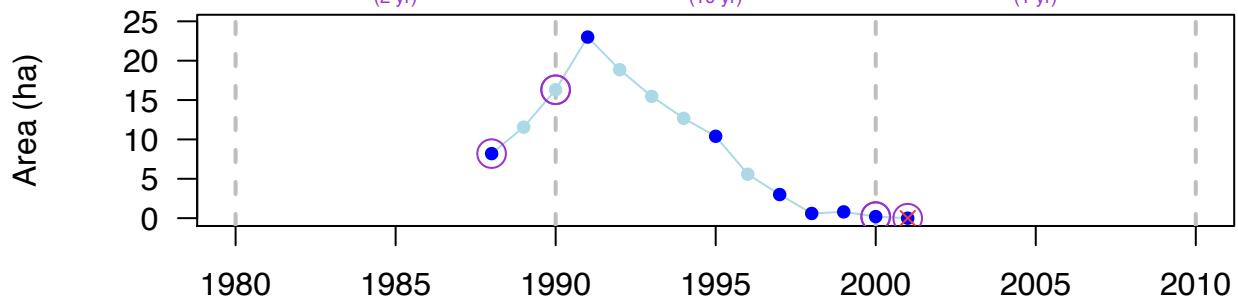
OVERALL: Net = -8.2 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (13 yr)

1980s
increase
unknown
34.38%yr⁻¹
(2 yr)

1990s
decrease
worsen
-44.01%yr⁻¹
(10 yr)

2000s
decrease
worsen
-Inf%yr⁻¹
(1 yr)



111_lowerlimit

van Katwijk et al. 2010

SITE: Terschelling Haven (The Netherlands – Atlantic) – Zm (-0.3 m)

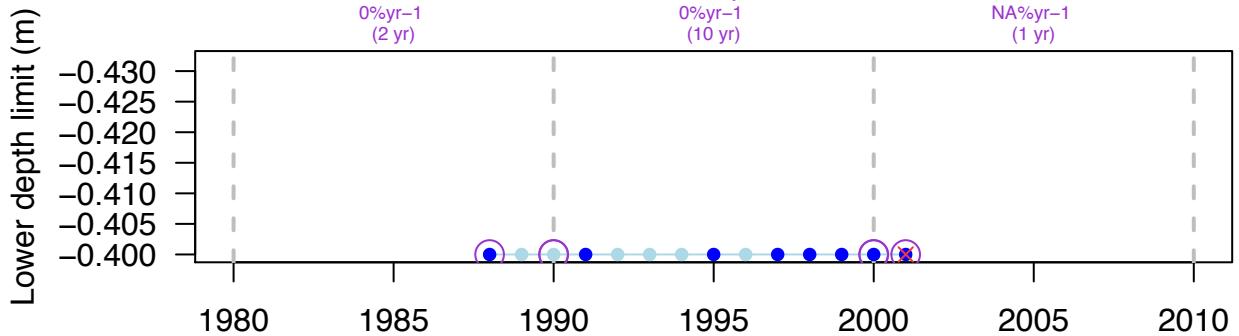
OVERALL: Net = NA m; Rate = NA % yr $^{-1}$; Perc Final = NA % > decrease

DECADAL: YES (13 yr)

1980s
no change
unknown
0%yr $^{-1}$
(2 yr)

1990s
no change
steady
0%yr $^{-1}$
(10 yr)

2000s
decrease
worsen
NA%yr $^{-1}$
(1 yr)



111_upperlimit

van Katwijk et al. 2010

SITE: Terschelling Haven (The Netherlands – Atlantic) – Zm (-0.3 m)

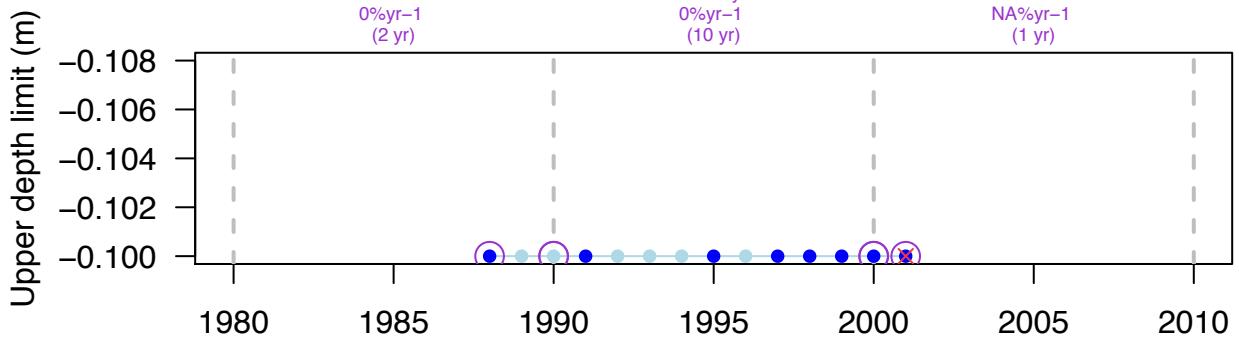
OVERALL: Net = NA m; Rate = NA % yr $^{-1}$; Perc Final = NA % > decrease

DECADAL: YES (13 yr)

1980s
no change
unknown
0%yr $^{-1}$
(2 yr)

1990s
no change
steady
0%yr $^{-1}$
(10 yr)

2000s
decrease
worsen
NA%yr $^{-1}$
(1 yr)



112_area

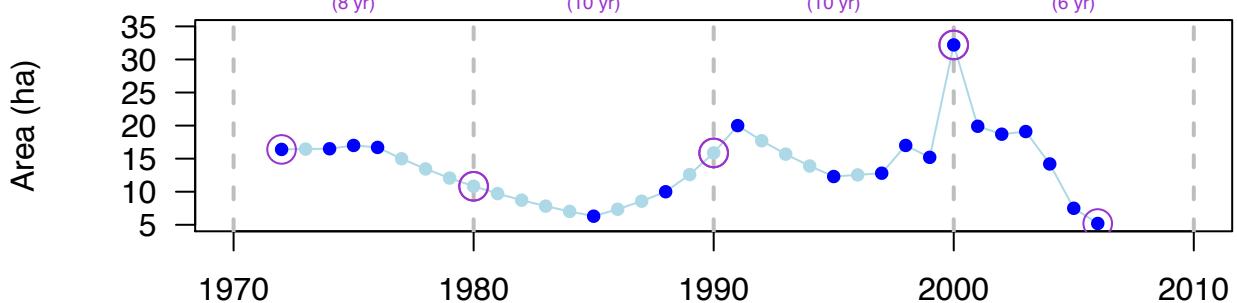
Polderman and den Hartog 1975, Braster and Carrière 1976, de Jong (unpublished)

SITE: Terschelling Hoorn (The Netherlands – Atlantic) – Zn (0.1 m)

OVERALL: Net = -11.2 ha; Rate = -3.38 % yr⁻¹; Perc Final = 32 % > decrease

DECadal: YES (34 yr)

| | | | |
|--|--|--|--|
| 1970s decrease unknown -5.19%yr ⁻¹ (8 yr) | 1980s increase improve 3.83%yr ⁻¹ (10 yr) | 1990s increase improve 7.07%yr ⁻¹ (10 yr) | 2000s decrease worsen -30.39%yr ⁻¹ (6 yr) |
|--|--|--|--|



112_lowerlimit

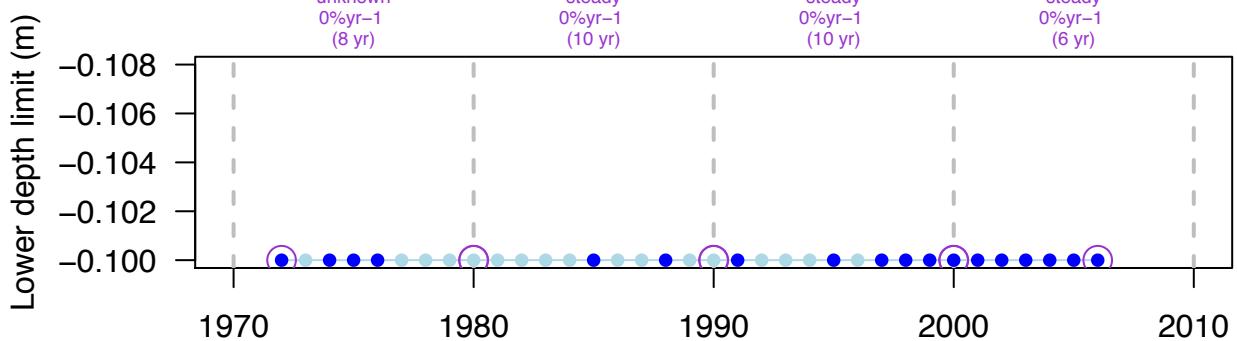
Polderman and den Hartog 1975, Braster and Carrière 1976, de Jong (unpublished)

SITE: Terschelling Hoorn (The Netherlands – Atlantic) – Zn (0.1 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (34 yr)

| | | | |
|---|---|---|--|
| 1970s no change unknown 0%yr ⁻¹ (8 yr) | 1980s no change steady 0%yr ⁻¹ (10 yr) | 1990s no change steady 0%yr ⁻¹ (10 yr) | 2000s no change steady 0%yr ⁻¹ (6 yr) |
|---|---|---|--|



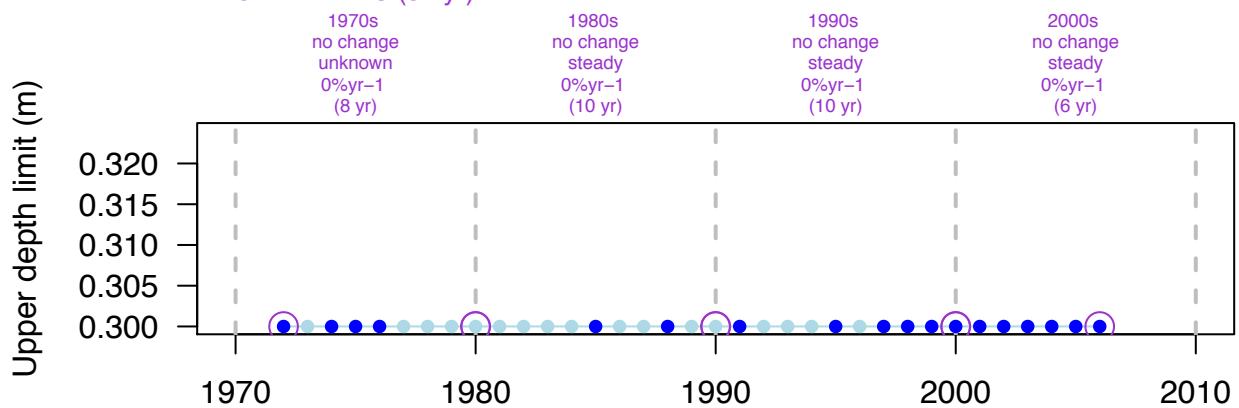
112_upperlimit

Polderman and den Hartog 1975, Braster and Carrière 1976, de Jong (unpublished)

SITE: Terschelling Hoorn (The Netherlands – Atlantic) – Zn (0.1 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (34 yr)



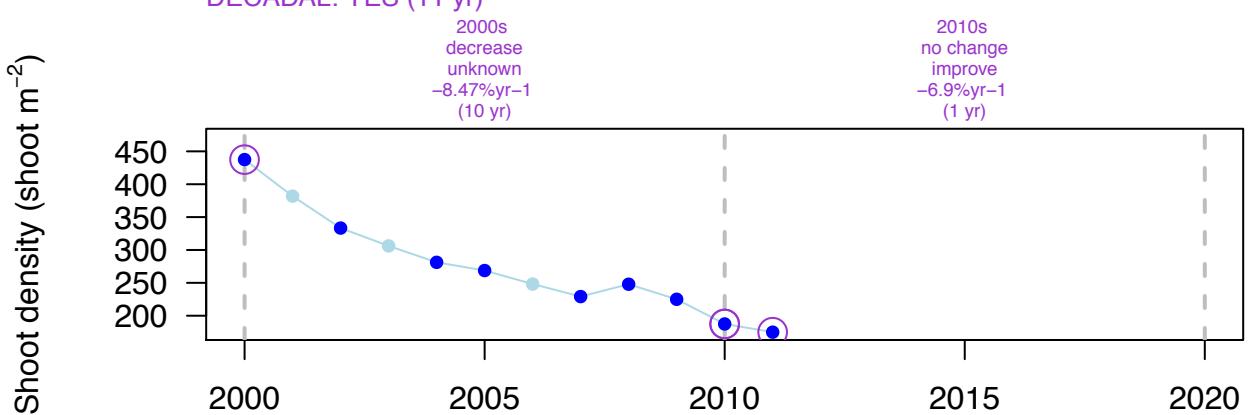
113_density

Marbà and Duarte 2010, Duarte and Marbà (unpublished)

SITE: El Castell (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -262.5 shoot m⁻²; Rate = -8.33 % yr⁻¹; Perc Final = 40 % > decrease

Decadal: YES (11 yr)



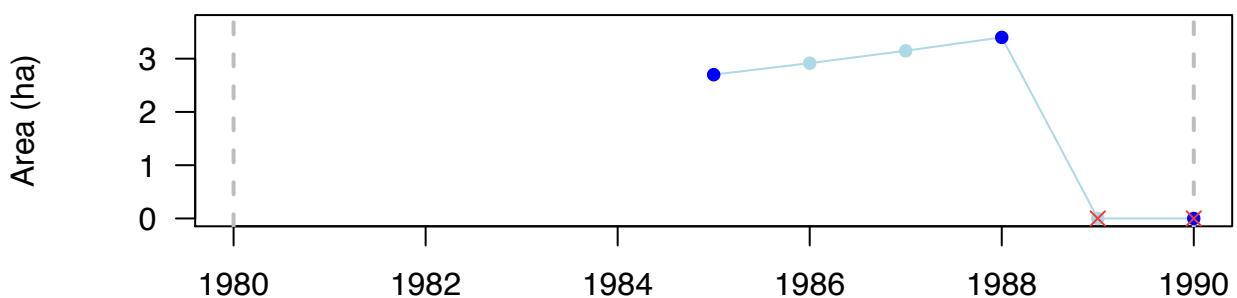
114_area

de Jong (unpublished)

SITE: Terschelling Keeg Ans (The Netherlands – Atlantic) – Zn (0.1 m)

OVERALL: Net = -2.7 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



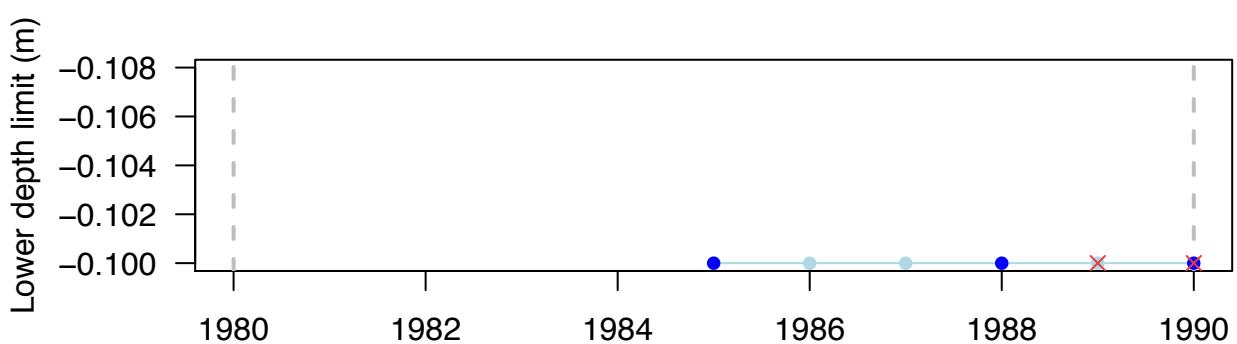
114_lowerlimit

de Jong (unpublished)

SITE: Terschelling Keeg Ans (The Netherlands – Atlantic) – Zn (0.1 m)

OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



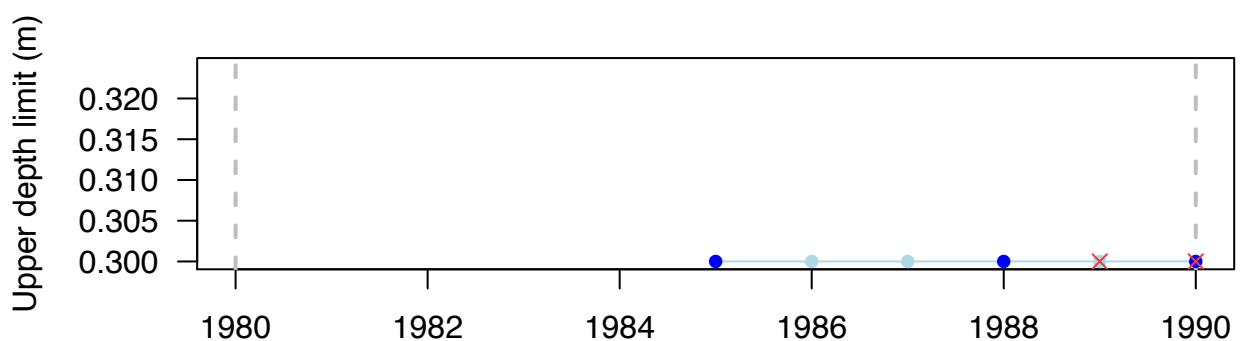
114_upperlimit

de Jong (unpublished)

SITE: Terschelling Keeg Ans (The Netherlands – Atlantic) – Zn (0.1 m)

OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



115_density

Marbà and Duarte 2010, Duarte and Marbà (unpublished)

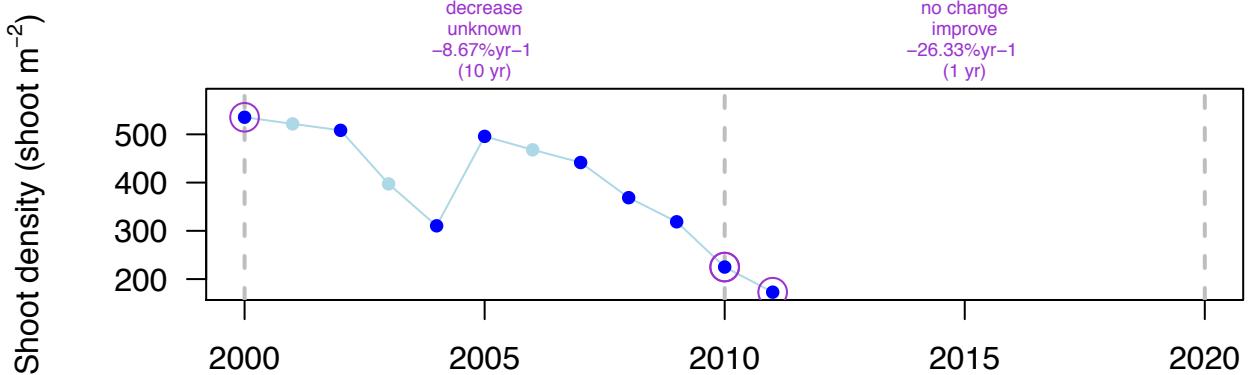
SITE: El Castell (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = -362.5 shoot m⁻²; Rate = -10.27 % yr⁻¹; Perc Final = 32 % > decrease

DECADAL: YES (11 yr)

2000s
decrease
unknown
-8.67%yr⁻¹
(10 yr)

2010s
no change
improve
-26.33%yr⁻¹
(1 yr)



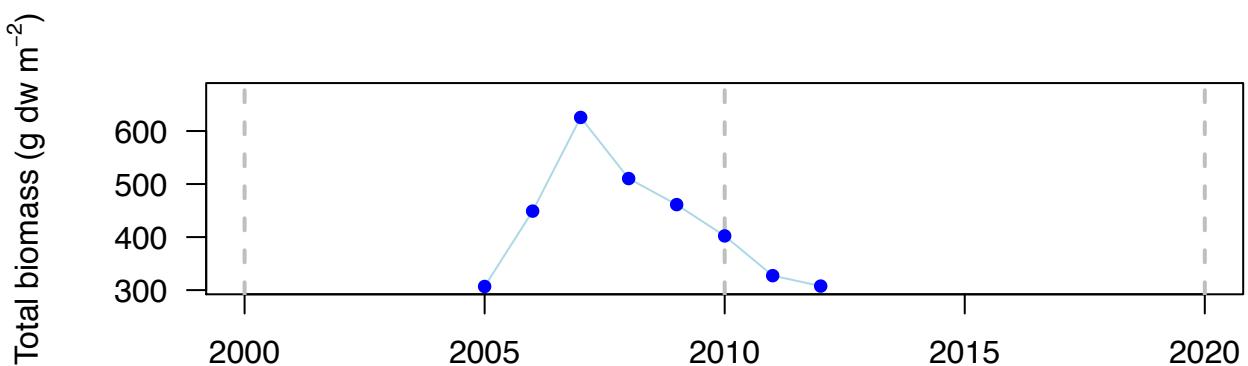
116_biomass

Peralta et al. (unpublished)

SITE: Santibañez (Spain – Atlantic) – Cn (-0.1 m)

OVERALL: Net = 0.73 g dw m⁻²; Rate = 0.03 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (7 yr)



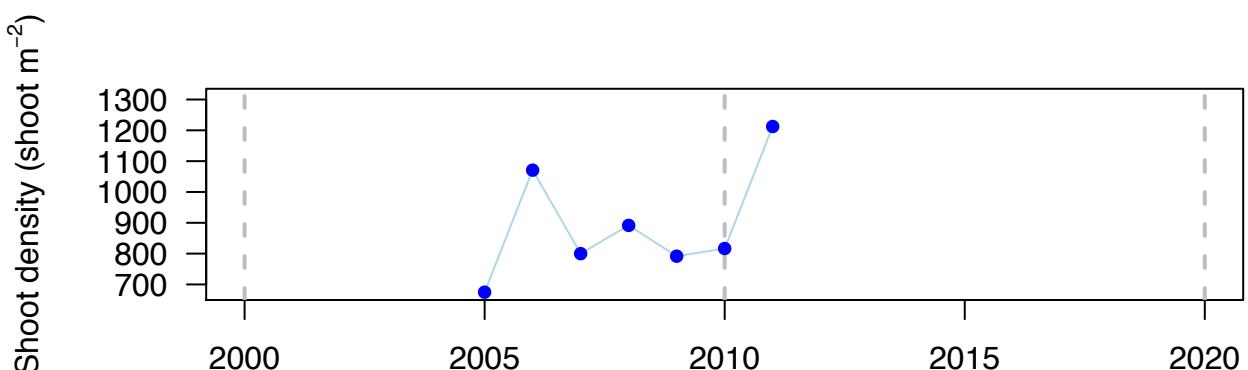
116_density

Peralta et al. (unpublished)

SITE: Santibañez (Spain – Atlantic) – Cn (-0.1 m)

OVERALL: Net = 537.5 shoot m⁻²; Rate = 9.76 % yr⁻¹; Perc Final = 180 % > increase

DECADAL: NO (6 yr)



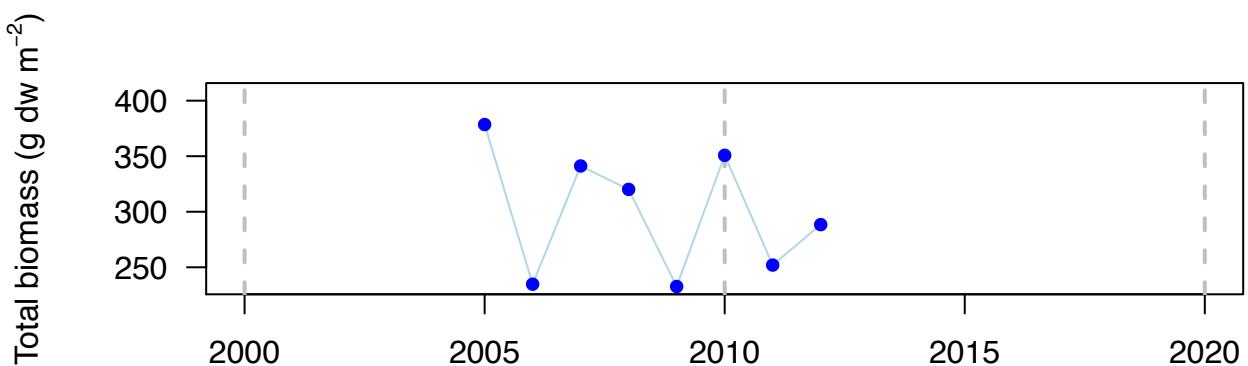
117_biomass

Peralta et al. (unpublished)

SITE: Santibañez (Spain – Atlantic) – Cn (-0.5 m)

OVERALL: Net = -90.12 g dw m⁻²; Rate = -3.88 % yr⁻¹; Perc Final = 76 % > no change

DECadal: NO (7 yr)



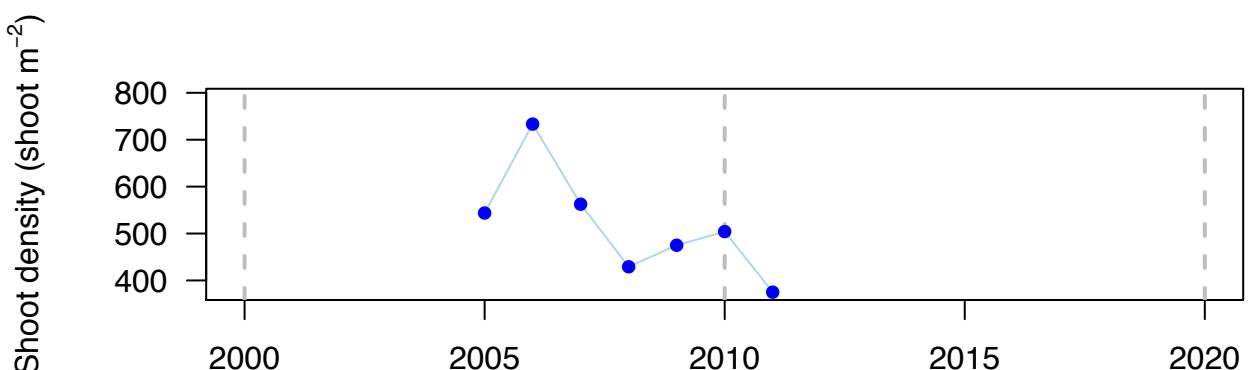
117_density

Peralta et al. (unpublished)

SITE: Santibañez (Spain – Atlantic) – Cn (-0.5 m)

OVERALL: Net = -168.75 shoot m⁻²; Rate = -6.19 % yr⁻¹; Perc Final = 69 % > decrease

Decadal: NO (6 yr)



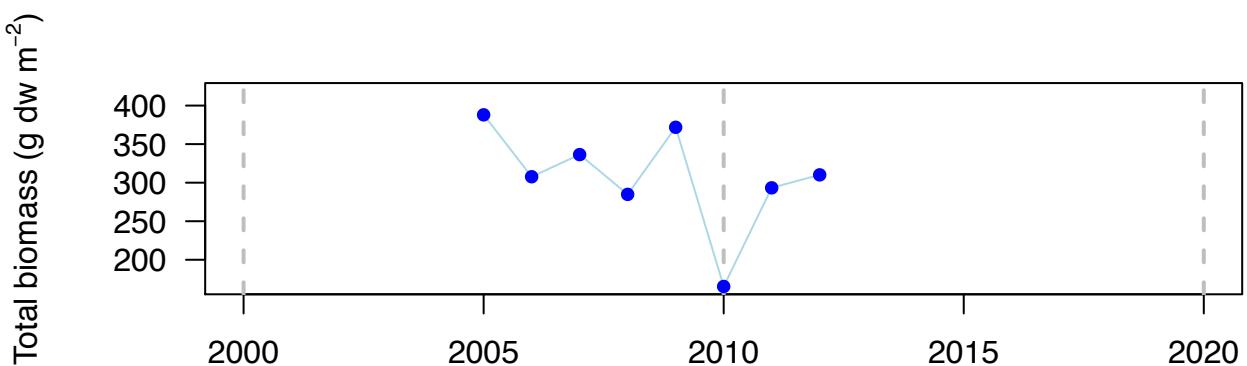
118_biomass

Peralta et al. (unpublished)

SITE: Santibañez (Spain – Atlantic) – Cn (0.4 m)

OVERALL: Net = -77.88 g dw m⁻²; Rate = -3.2 % yr⁻¹; Perc Final = 80 % > no change

DECADAL: NO (7 yr)



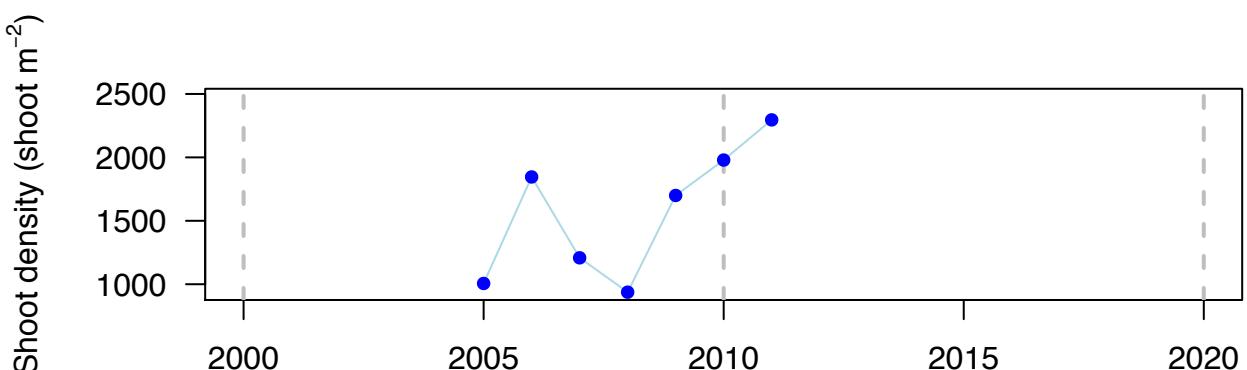
118_density

Peralta et al. (unpublished)

SITE: Santibañez (Spain – Atlantic) – Cn (0.4 m)

OVERALL: Net = 1289.58 shoot m⁻²; Rate = 13.75 % yr⁻¹; Perc Final = 228 % > increase

DECADAL: NO (6 yr)



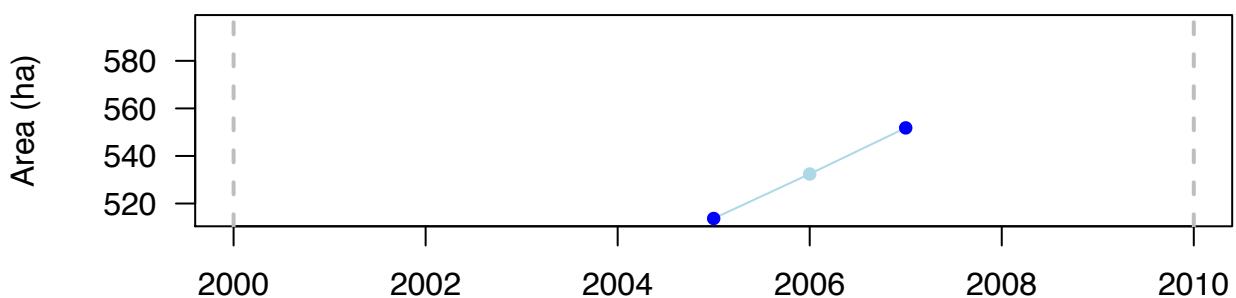
119_area

del Rei 2009

SITE: Inner Cádiz Bay (Spain – Atlantic) – Zn (? m)

OVERALL: Net = 38.1 ha; Rate = 3.58 % yr⁻¹; Perc Final = 107 % > no change

DECadal: NO (2 yr)



120_area

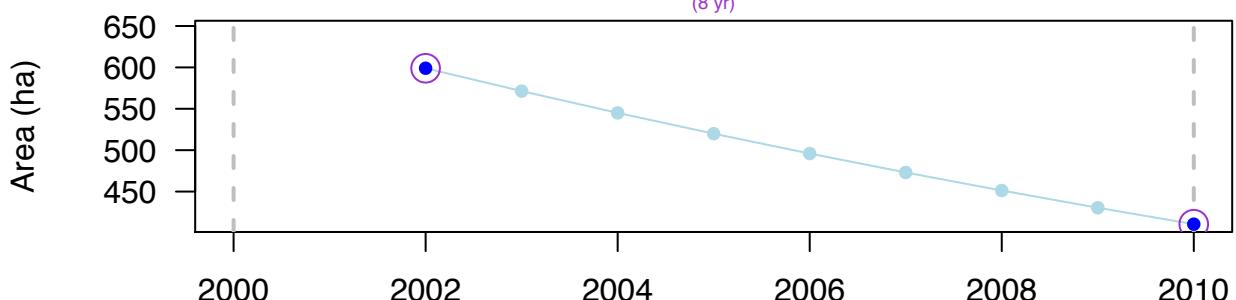
Muñoz-Ramos and Seglar (unpublished)

SITE: Mataró (Spain – Mediterranean) – Po (-16.2 m)

OVERALL: Net = -188.4 ha; Rate = -4.72 % yr⁻¹; Perc Final = 69 % > decrease

Decadal: YES (8 yr)

2000s
decrease
unknown
-4.72%yr⁻¹
(8 yr)



121_area

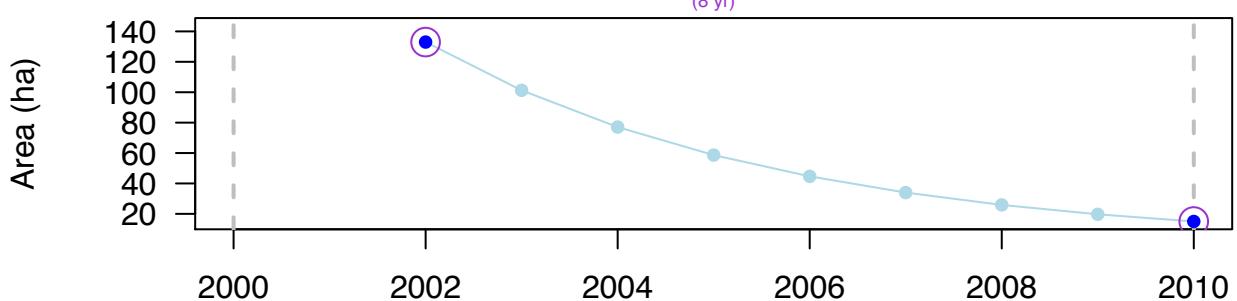
Muñoz-Ramos and Seglar (unpublished)

SITE: Mataró (Spain – Mediterranean) – Cn (-16.2 m)

OVERALL: Net = -118 ha; Rate = -27.28 % yr⁻¹; Perc Final = 11 % > decrease

DECADAL: YES (8 yr)

2000s
decrease
unknown
-27.28%yr⁻¹
(8 yr)



122_cover

Muñoz-Ramos and Seglar 2015

SITE: Estació Mataró I (Spain – Mediterranean) – Po (-12.5 m)

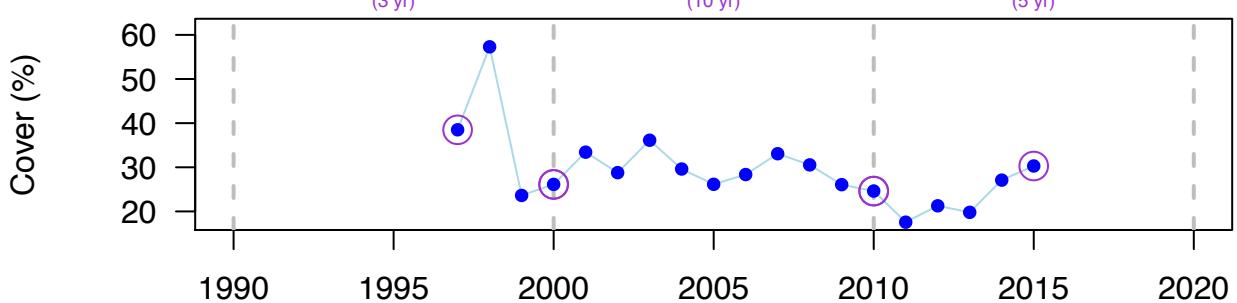
OVERALL: Net = -8.2 %; Rate = -1.33 % yr⁻¹; Perc Final = 79 % > no change

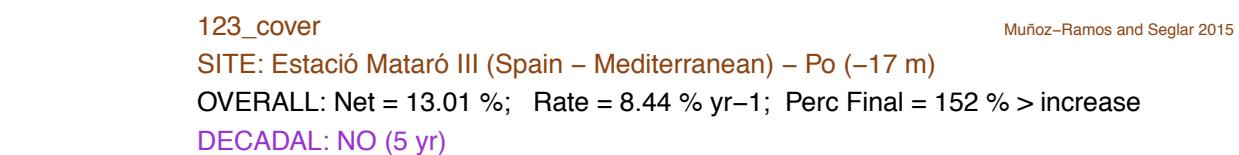
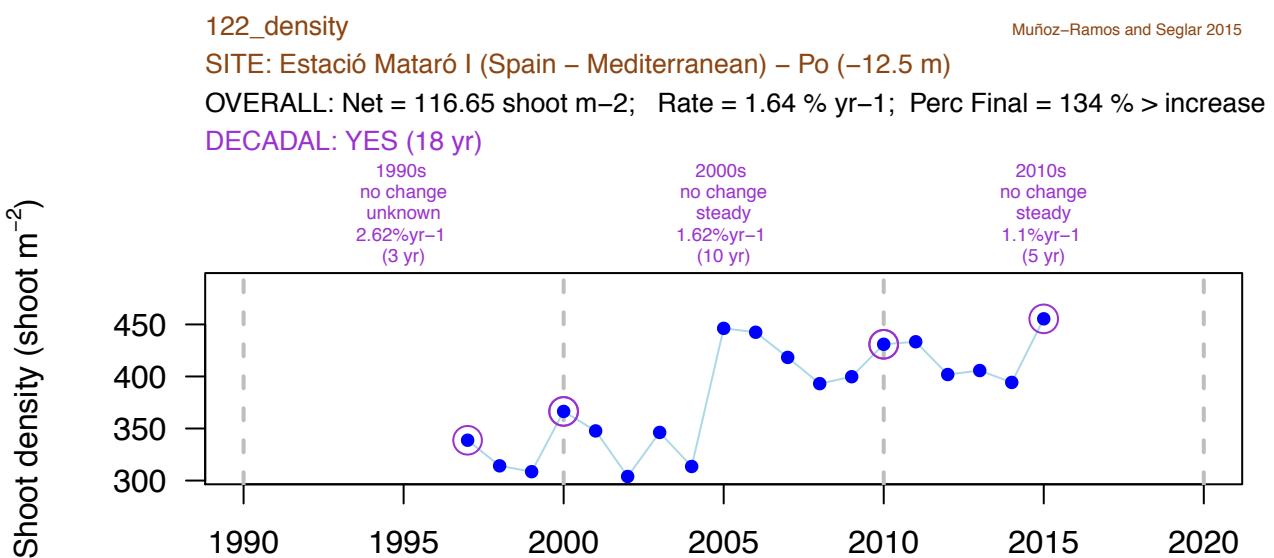
DECADAL: YES (18 yr)

1990s
decrease
unknown
-12.92%yr⁻¹
(3 yr)

2000s
no change
improve
-0.6%yr⁻¹
(10 yr)

2010s
no change
steady
4.15%yr⁻¹
(5 yr)





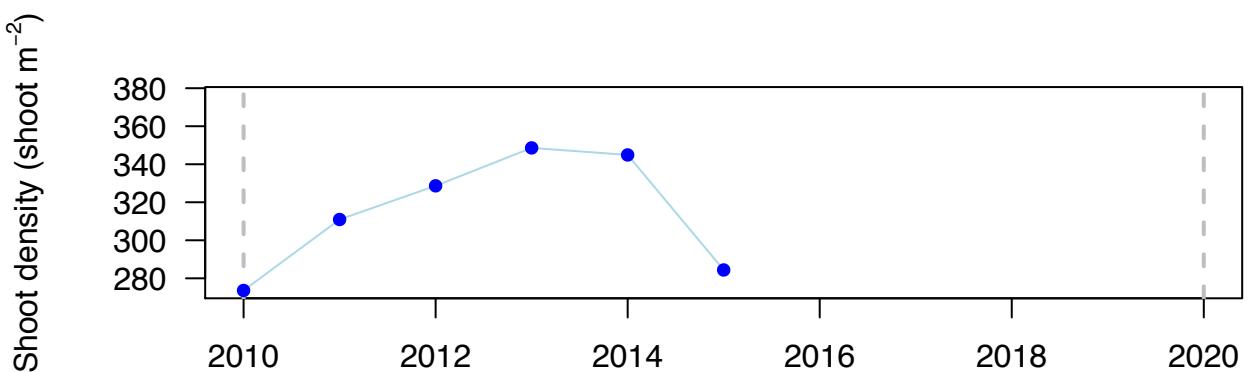
123_density

Muñoz-Ramos and Seglar 2015

SITE: Estació Mataró III (Spain – Mediterranean) – Po (-17 m)

OVERALL: Net = 10.79 shoot m⁻²; Rate = 0.77 % yr⁻¹; Perc Final = 104 % > no change

DECADAL: NO (5 yr)



124_cover

Muñoz-Ramos and Seglar 2015

SITE: Estació Mataró III (Spain – Mediterranean) – Po (-19 m)

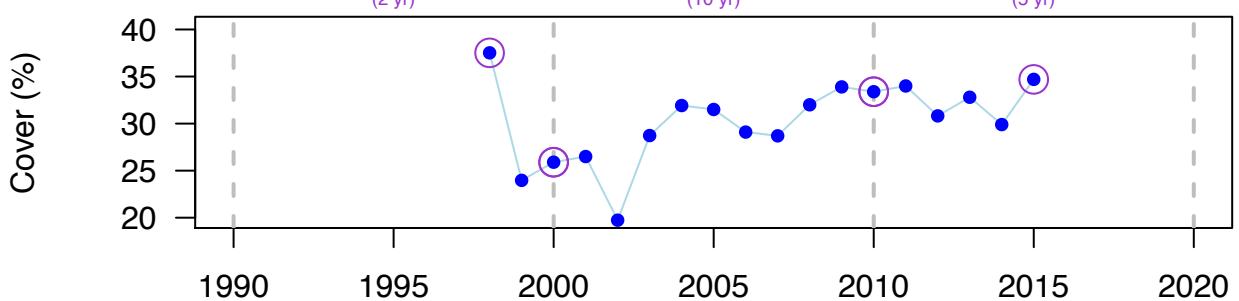
OVERALL: Net = -2.82 %; Rate = -0.46 % yr⁻¹; Perc Final = 92 % > no change

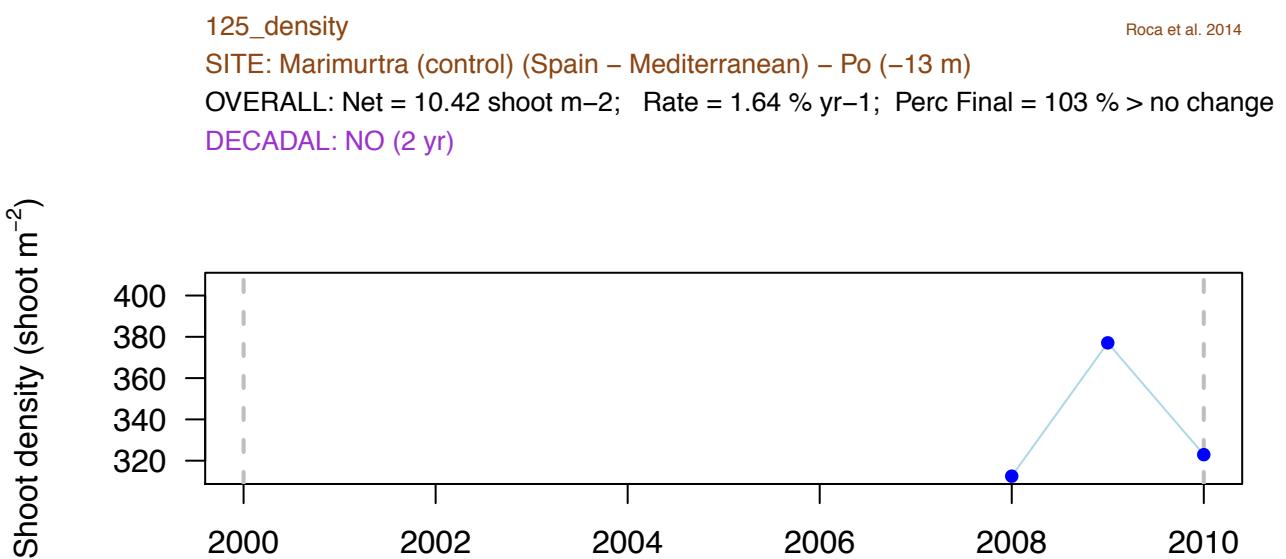
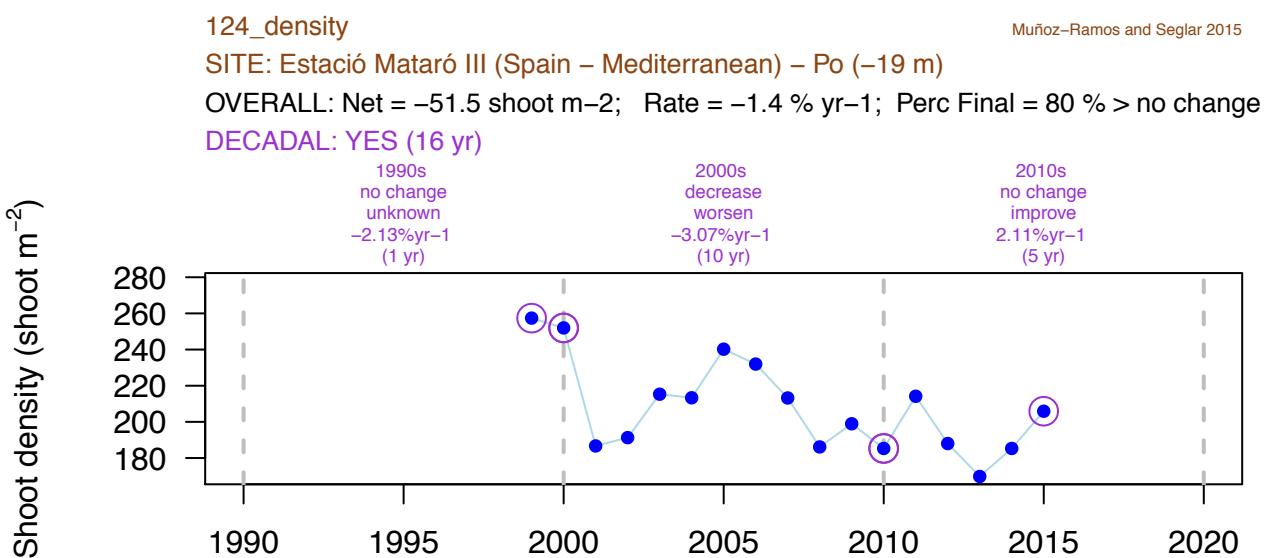
DECADAL: YES (17 yr)

1990s
decrease
unknown
-18.53%yr⁻¹
(2 yr)

2000s
increase
improve
2.54%yr⁻¹
(10 yr)

2010s
no change
steady
0.77%yr⁻¹
(5 yr)





126_density

Roca et al. 2014

SITE: Port Blanes (impacted) (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -152.09 shoot m⁻²; Rate = -26.79 % yr⁻¹; Perc Final = 59 % > decrease

DECadal: NO (2 yr)



127_area

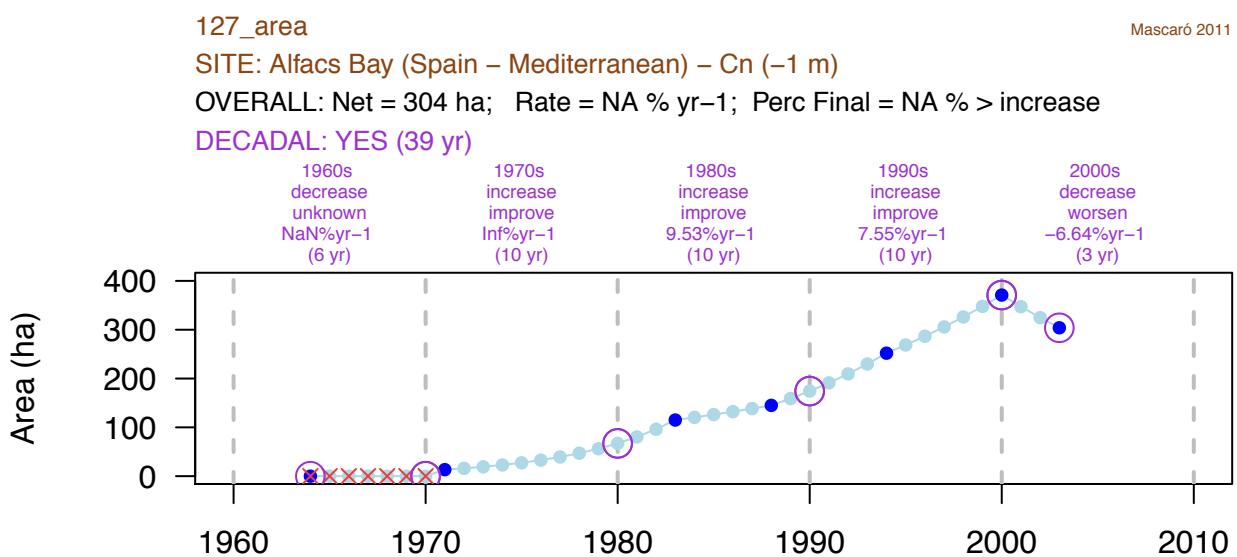
Mascaró 2011

SITE: Alfacas Bay (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = 304 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECadal: YES (39 yr)

| Decade | Trend | Rate |
|--------|----------|-----------------------|
| 1960s | decrease | NA % yr ⁻¹ |
| 1960s | unknown | (6 yr) |
| 1970s | increase | NA % yr ⁻¹ |
| 1970s | improve | (10 yr) |
| 1980s | increase | NA % yr ⁻¹ |
| 1980s | improve | (10 yr) |
| 1990s | increase | NA % yr ⁻¹ |
| 1990s | improve | (10 yr) |
| 2000s | decrease | NA % yr ⁻¹ |
| 2000s | worsen | (3 yr) |



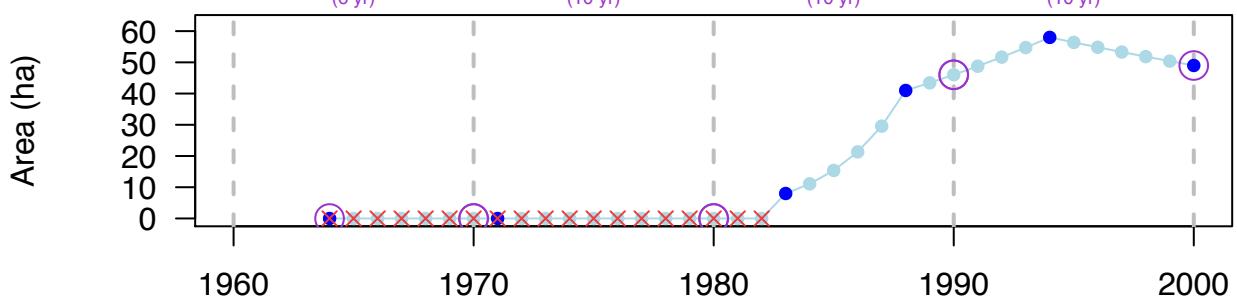
128_area Mascaró 2011

SITE: Fangar Bay (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = 49 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECADAL: YES (36 yr)

1960s decrease unknown NaN%yr⁻¹ (6 yr)
1970s decrease worsen NaN%yr⁻¹ (10 yr)
1980s increase improve Inf%yr⁻¹ (10 yr)
1990s no change steady 0.63%yr⁻¹ (10 yr)

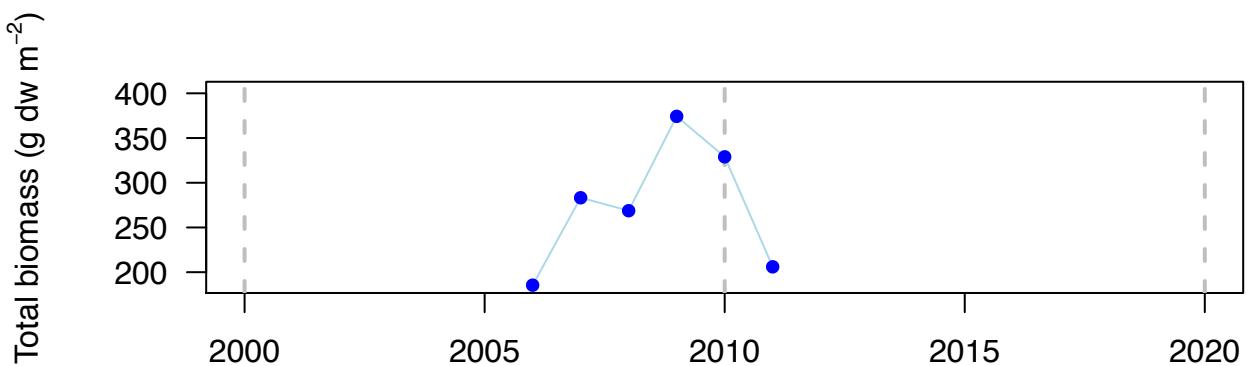


129_biomass Romero et al. 2010 (b)

SITE: Alfacas (eutrophic) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = 20.5 g dw m⁻²; Rate = 2.1 % yr⁻¹; Perc Final = 111 % > no change

DECADAL: NO (5 yr)



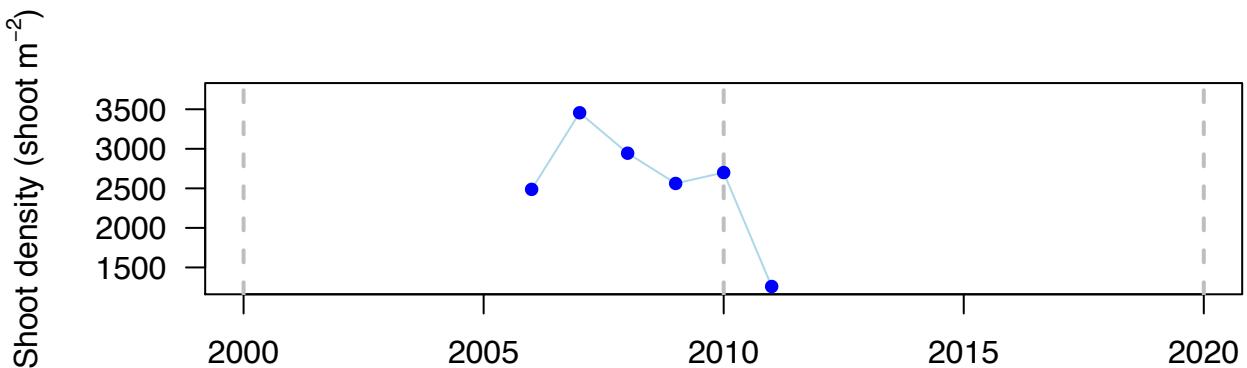
129_density

Romero et al. 2010 (b)

SITE: Alfacas (eutrophic) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = -1227.75 shoot m⁻²; Rate = -13.61 % yr⁻¹; Perc Final = 51 % > decrease

DECADAL: NO (5 yr)



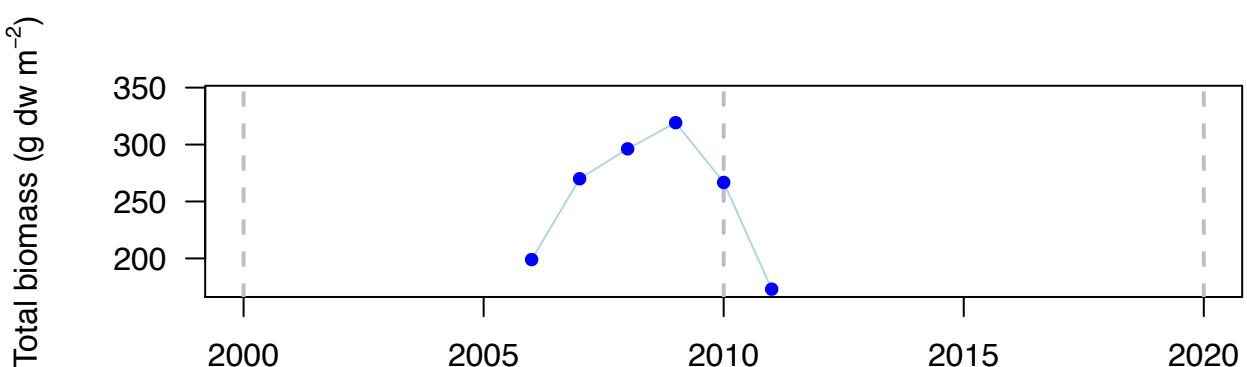
130_biomass

Romero et al. 2010 (b)

SITE: Alfacas (marine) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = -26 g dw m⁻²; Rate = -2.8 % yr⁻¹; Perc Final = 87 % > no change

DECADAL: NO (5 yr)



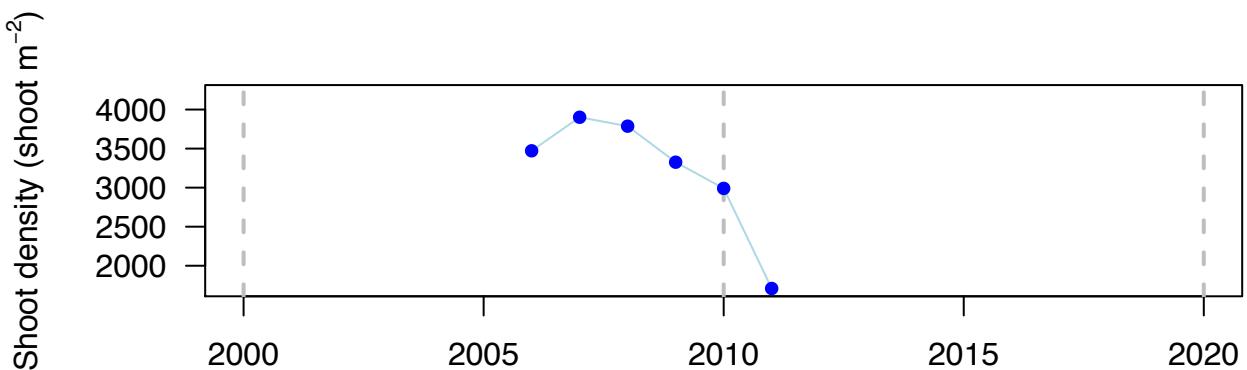
130_density

Romero et al. 2010 (b)

SITE: Alfacas (marine) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = -1763.32 shoot m⁻²; Rate = -14.18 % yr⁻¹; Perc Final = 49 % > decrease

DECADAL: NO (5 yr)



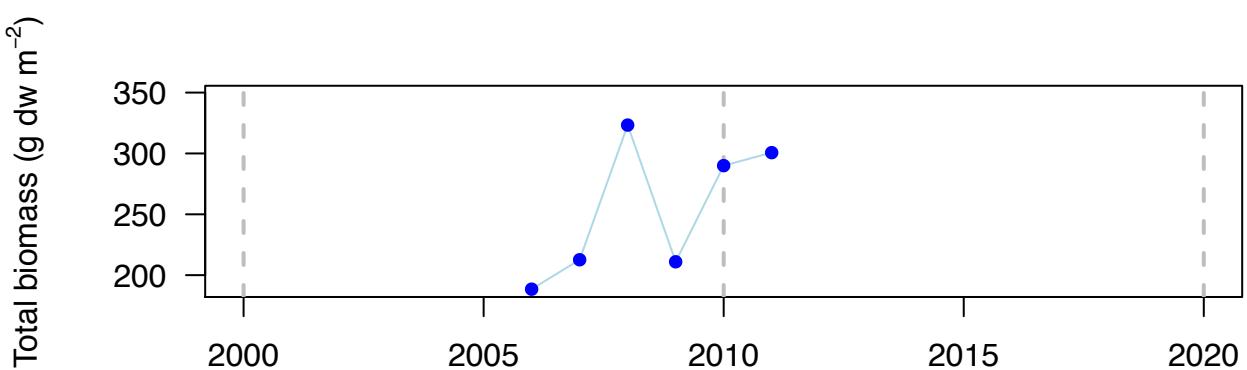
131_biomass

Romero et al. 2010 (b)

SITE: Fangar (eutrophic) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = 112.17 g dw m⁻²; Rate = 9.34 % yr⁻¹; Perc Final = 160 % > increase

DECADAL: NO (5 yr)



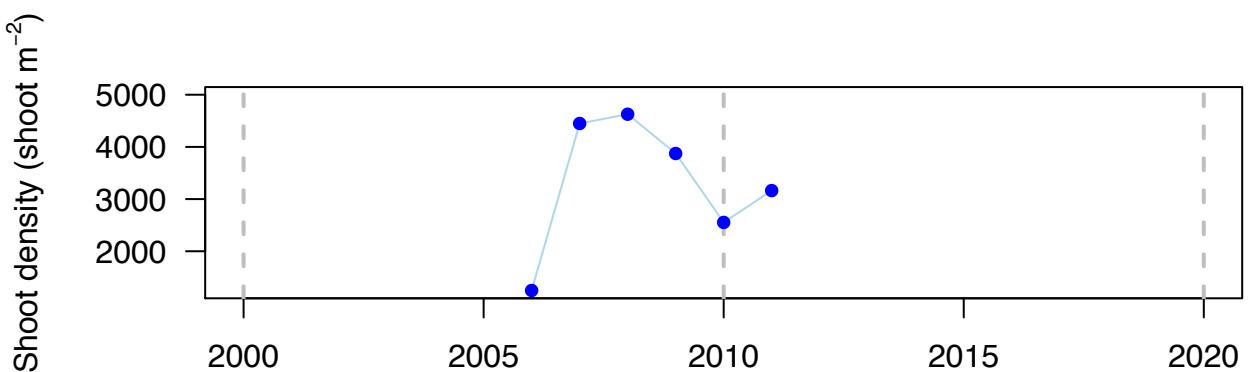
131_density

Romero et al. 2010 (b)

SITE: Fangar (eutrophic) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = 1914.35 shoot m⁻²; Rate = 18.59 % yr⁻¹; Perc Final = 253 % > increase

DECadal: NO (5 yr)



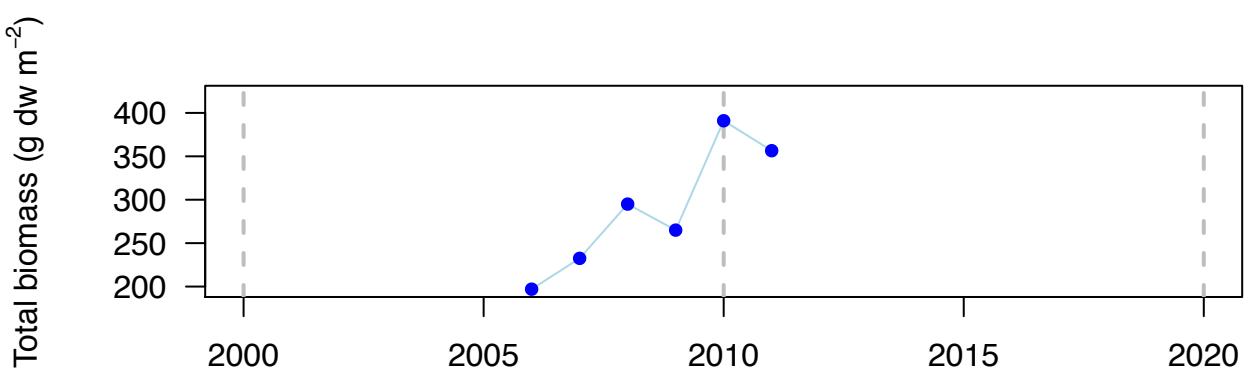
132_biomass

Romero et al. 2010 (b)

SITE: Fangar (marine) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = 159.5 g dw m⁻²; Rate = 11.86 % yr⁻¹; Perc Final = 181 % > increase

DECadal: NO (5 yr)



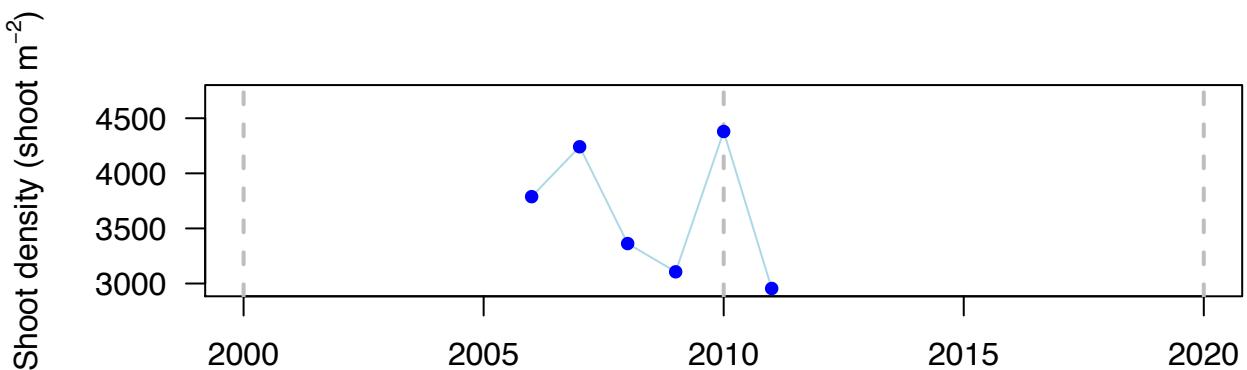
132_density

Romero et al. 2010 (b)

SITE: Fangar (marine) (Spain – Mediterranean) – Cn (-1 m)

OVERALL: Net = -833.24 shoot m⁻²; Rate = -4.97 % yr⁻¹; Perc Final = 78 % > no change

DECADAL: NO (5 yr)



133_cover

Romero et al. 2012

SITE: Islas Medas (station) (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -14 %; Rate = -1.59 % yr⁻¹; Perc Final = 64 % > decrease

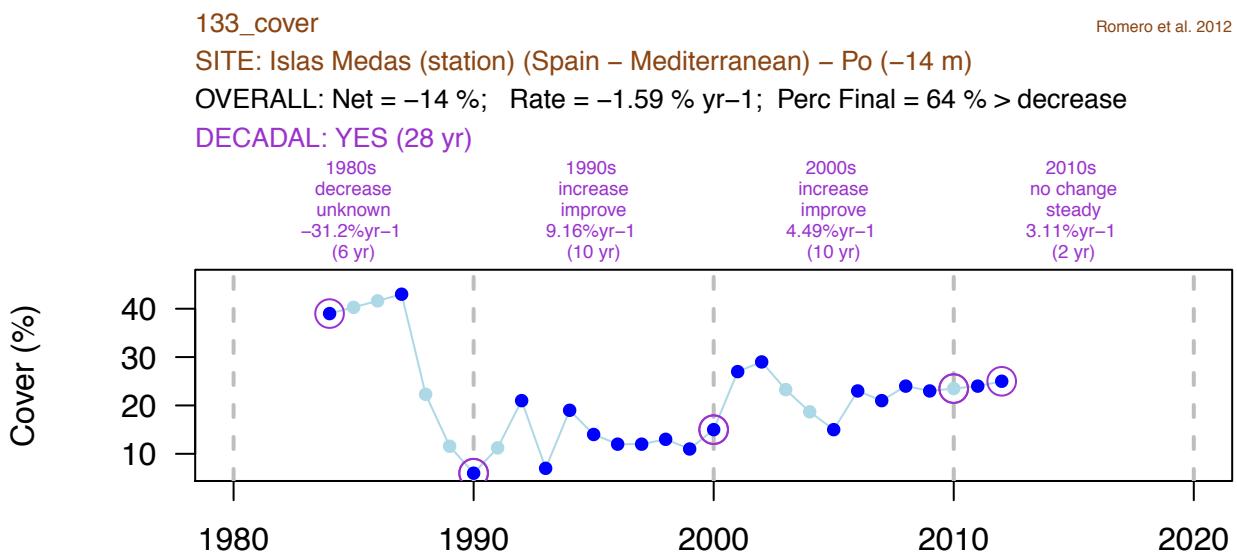
DECADAL: YES (28 yr)

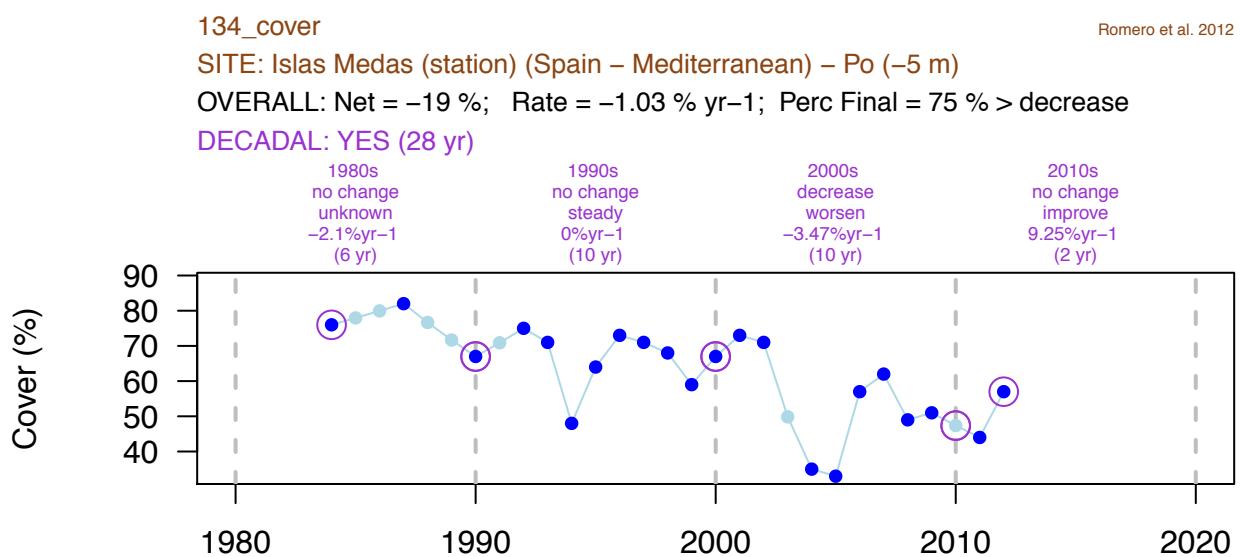
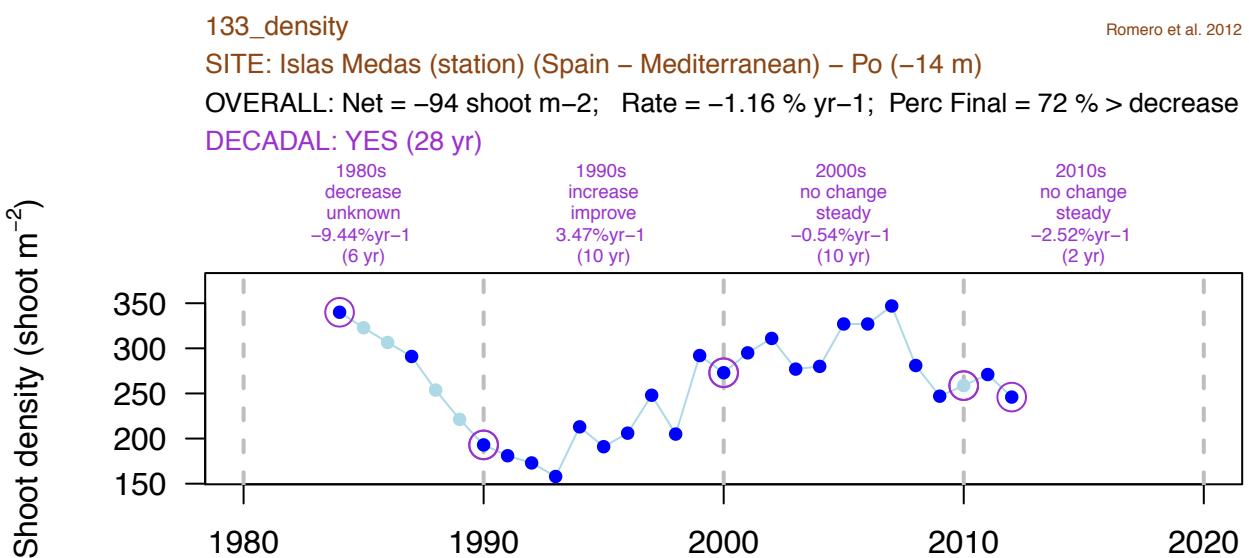
1980s
decrease
unknown
-31.2%yr⁻¹
(6 yr)

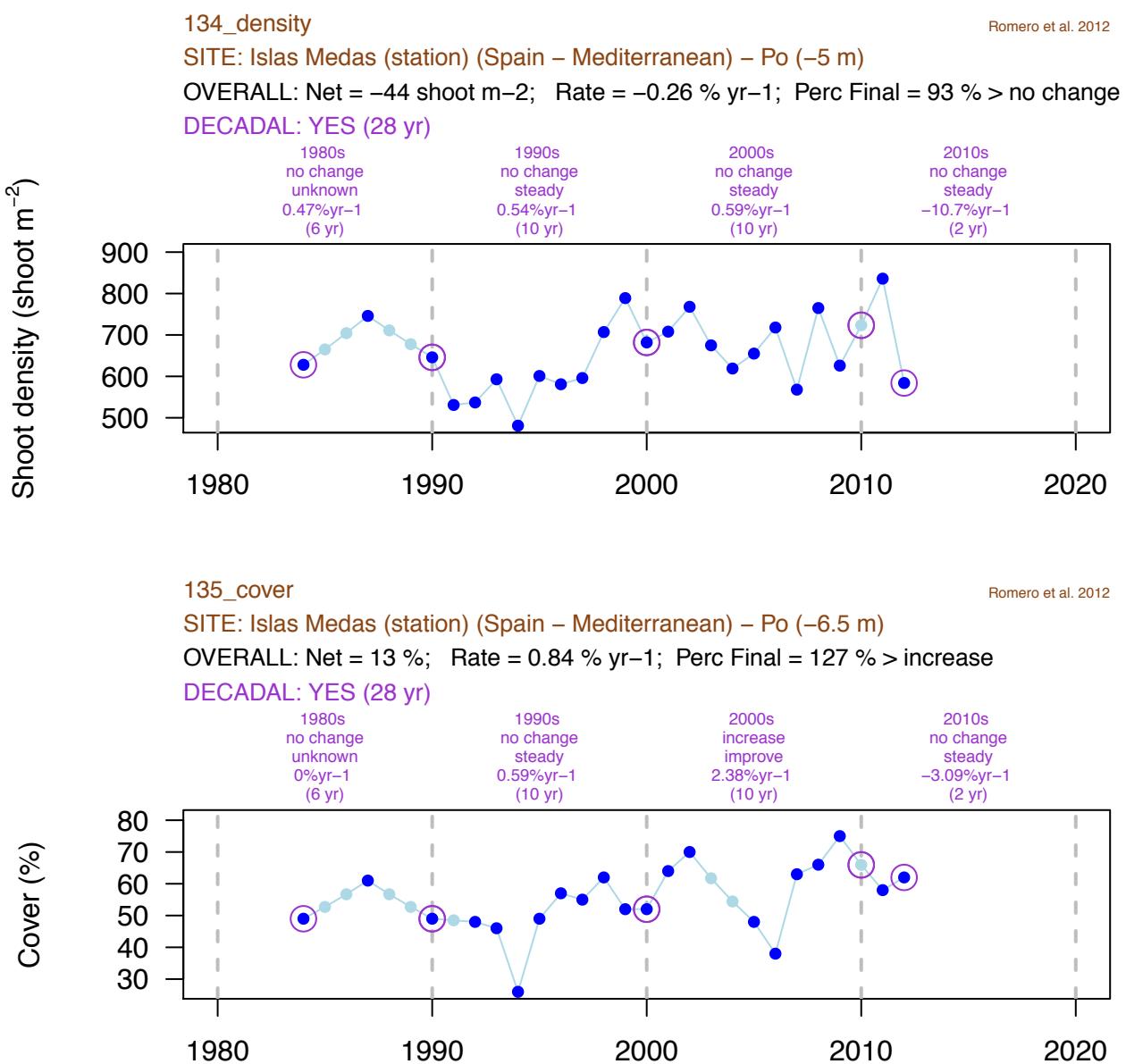
1990s
increase
improve
9.16%yr⁻¹
(10 yr)

2000s
increase
improve
4.49%yr⁻¹
(10 yr)

2010s
no change
steady
3.11%yr⁻¹
(2 yr)







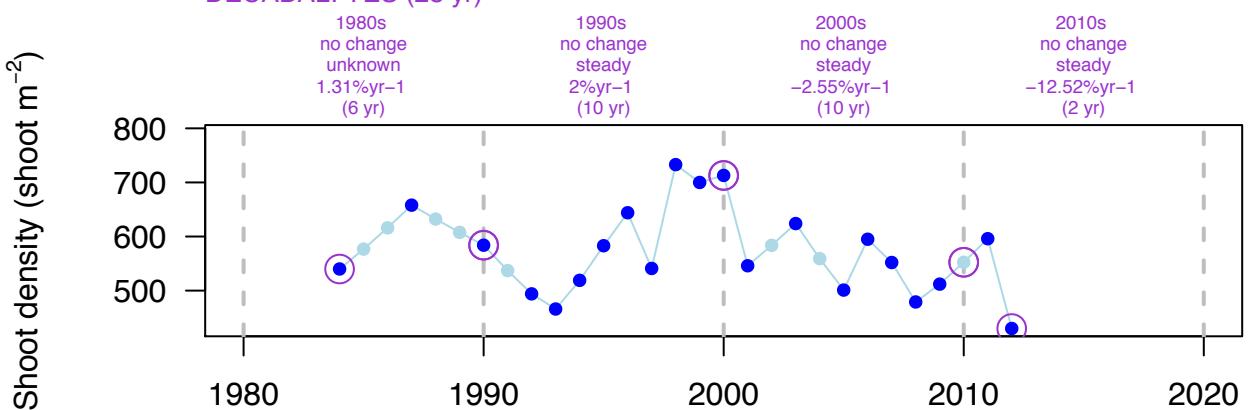
135_density

Romero et al. 2012

SITE: Islas Medas (station) (Spain – Mediterranean) – Po (-6.5 m)

OVERALL: Net = -110 shoot m⁻²; Rate = -0.81 % yr⁻¹; Perc Final = 80 % > no change

DECadal: YES (28 yr)



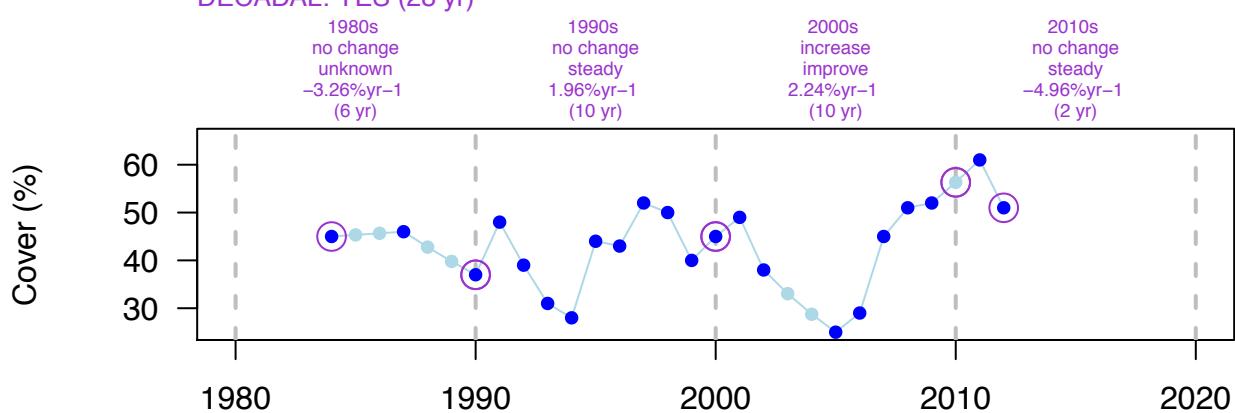
136_cover

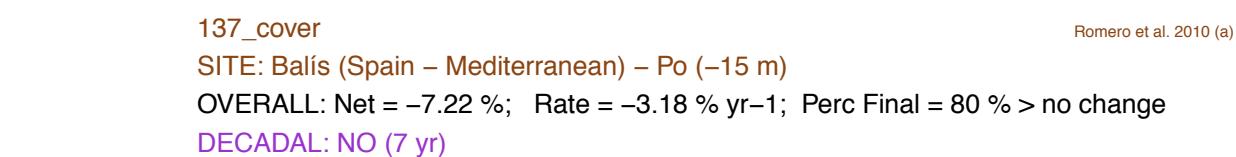
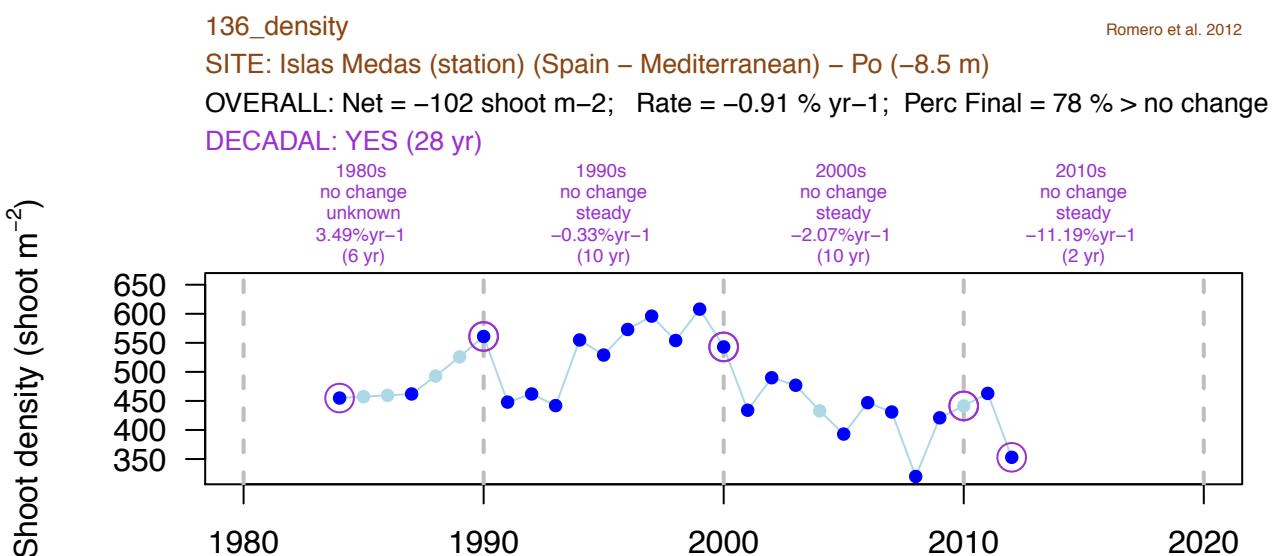
Romero et al. 2012

SITE: Islas Medas (station) (Spain – Mediterranean) – Po (-8.5 m)

OVERALL: Net = 6 %; Rate = 0.45 % yr⁻¹; Perc Final = 113 % > no change

DECadal: YES (28 yr)





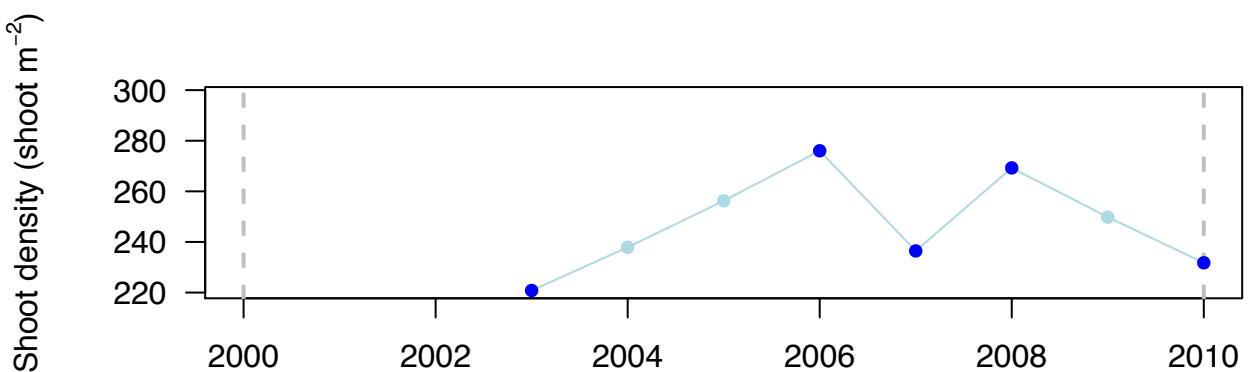
137_density

Romero et al. 2010 (a)

SITE: Balís (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 10.94 shoot m⁻²; Rate = 0.69 % yr⁻¹; Perc Final = 105 % > no change

DECADAL: NO (7 yr)



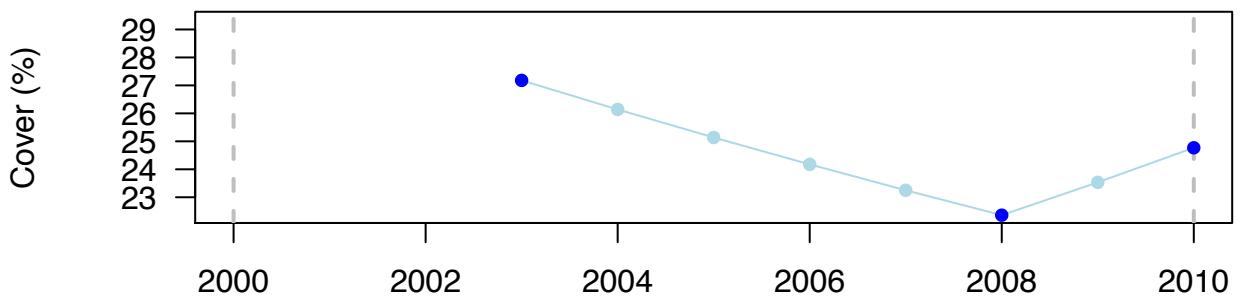
138_cover

Romero et al. 2010 (a)

SITE: Calafat (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -2.41 %; Rate = -1.33 % yr⁻¹; Perc Final = 91 % > no change

DECADAL: NO (7 yr)



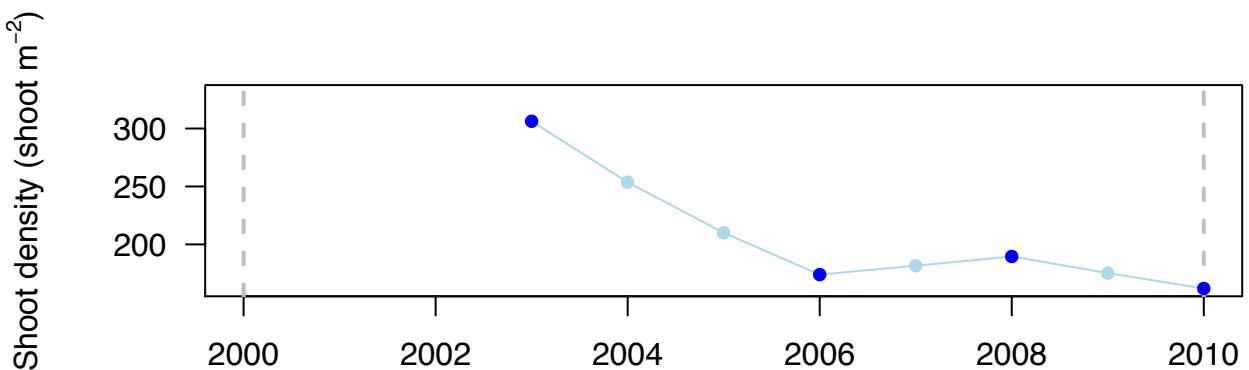
138_density

Romero et al. 2010 (a)

SITE: Calafat (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -144.27 shoot m⁻²; Rate = -9.1 % yr⁻¹; Perc Final = 53 % > decrease

DECADAL: NO (7 yr)



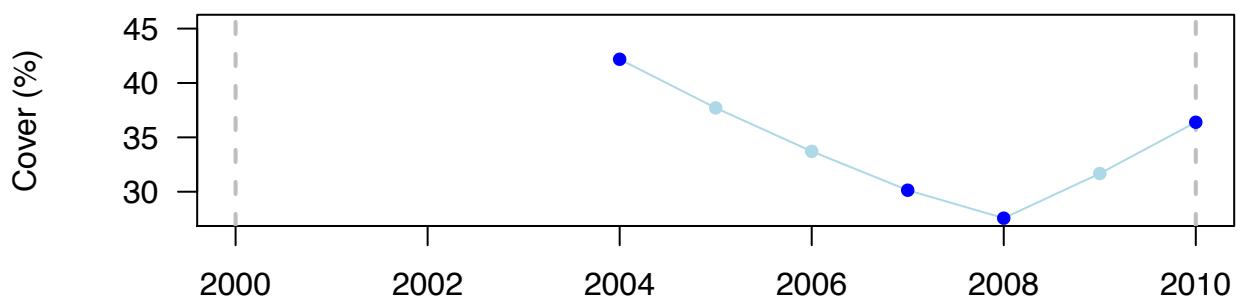
139_cover

Romero et al. 2010 (a), Gera et al. 2014

SITE: Canyelles (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -5.79 %; Rate = -2.46 % yr⁻¹; Perc Final = 86 % > no change

DECADAL: NO (6 yr)



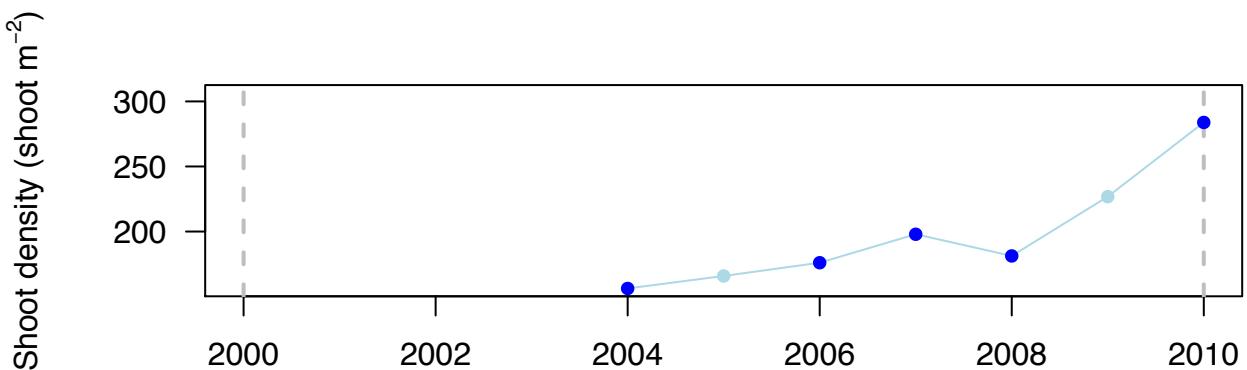
139_density

Romero et al. 2010 (a), Gera et al. 2014

SITE: Canyelles (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 127.6 shoot m⁻²; Rate = 9.95 % yr⁻¹; Perc Final = 182 % > increase

DECADAL: NO (6 yr)



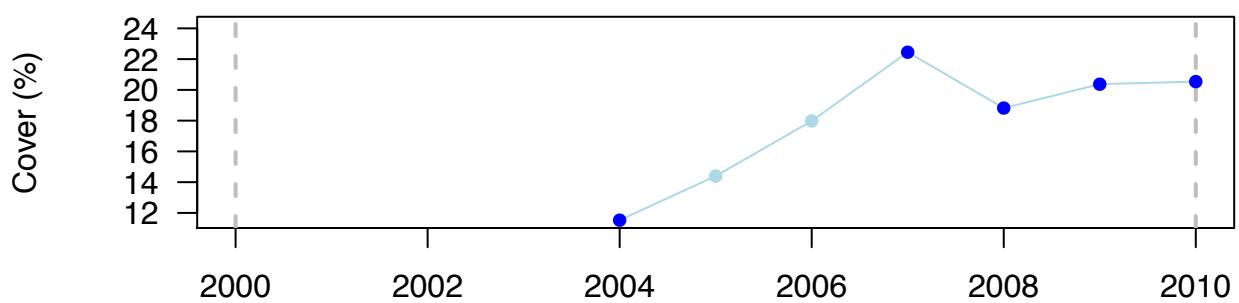
140_cover

Romero et al. 2010 (a)

SITE: Cap Roig (Spain – Mediterranean) – Po (-9 m)

OVERALL: Net = 9.01 %; Rate = 9.62 % yr⁻¹; Perc Final = 178 % > increase

DECADAL: NO (6 yr)



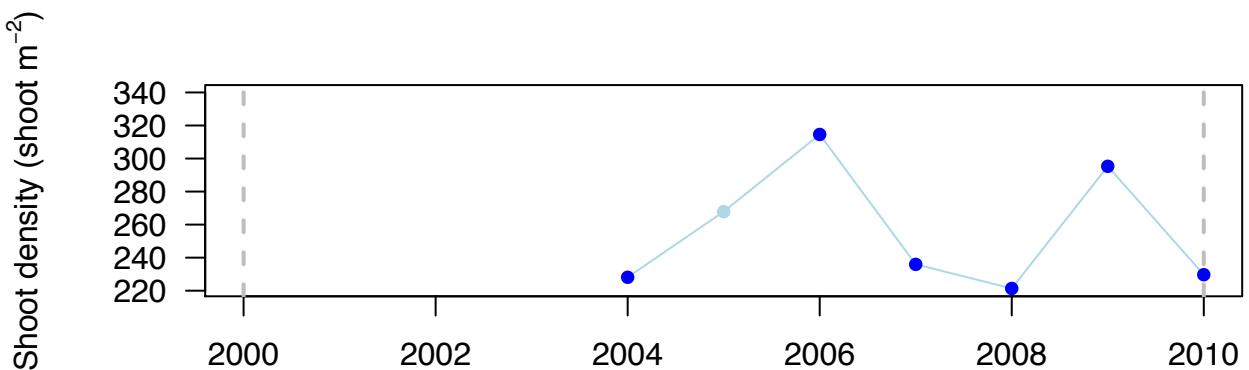
140_density

Romero et al. 2010 (a)

SITE: Cap Roig (Spain – Mediterranean) – Po (-9 m)

OVERALL: Net = 1.57 shoot m⁻²; Rate = 0.11 % yr⁻¹; Perc Final = 101 % > no change

DECADAL: NO (6 yr)



141_cover

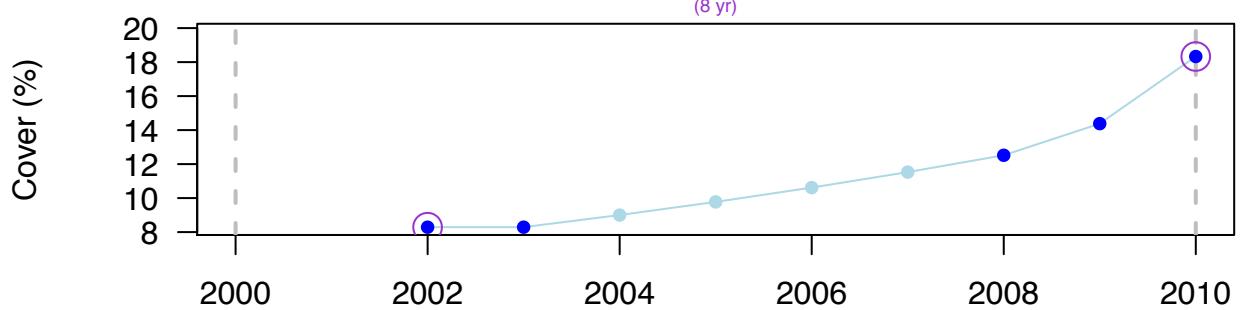
Romero et al. 2010 (a)

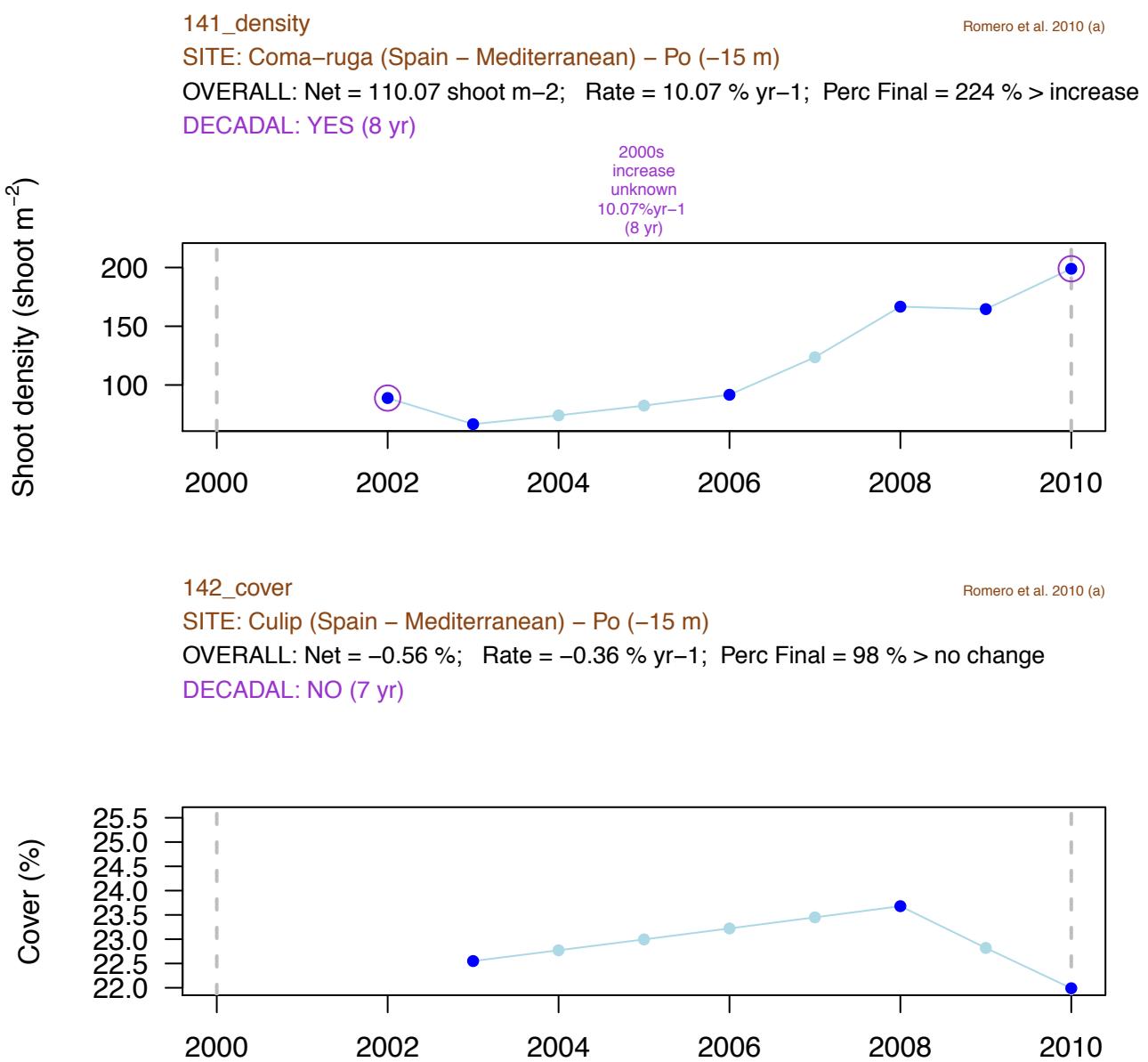
SITE: Coma-ruga (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 10.04 %; Rate = 9.92 % yr⁻¹; Perc Final = 221 % > increase

DECADAL: YES (8 yr)

2000s
increase
unknown
9.92%yr⁻¹
(8 yr)





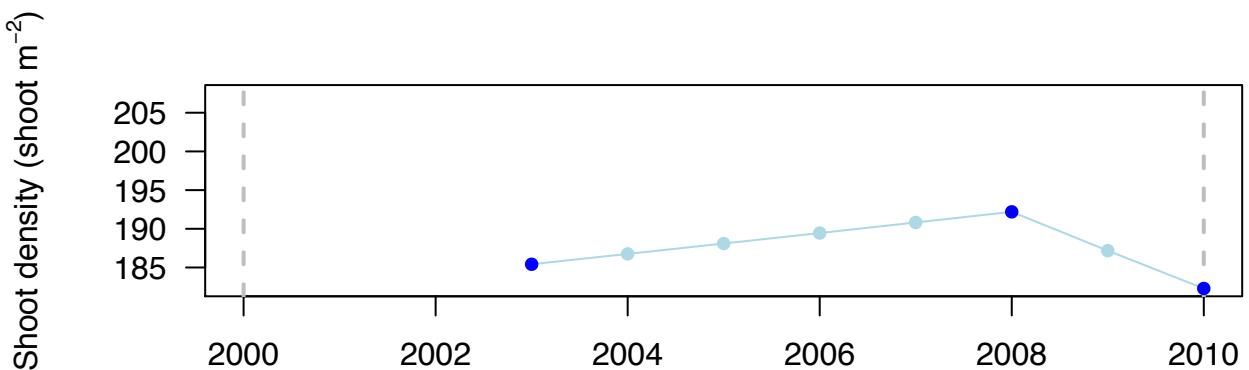
142_density

Romero et al. 2010 (a)

SITE: Culip (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -3.13 shoot m⁻²; Rate = -0.24 % yr⁻¹; Perc Final = 98 % > no change

DECadal: NO (7 yr)



143_cover

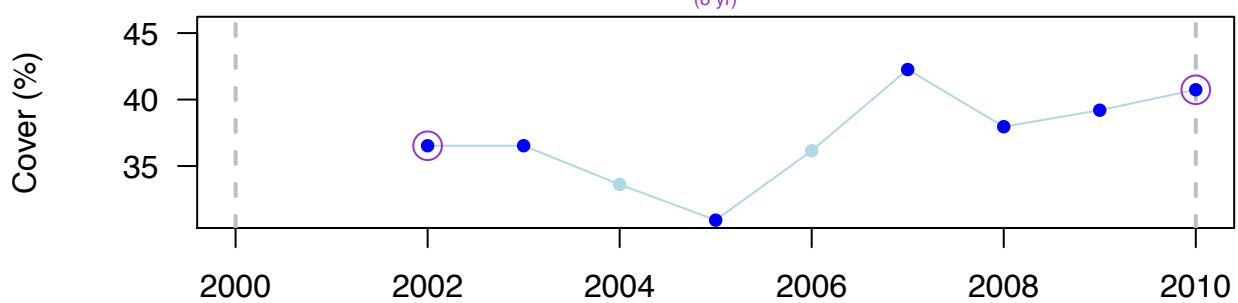
Romero et al. 2010 (a), Gera et al. 2014

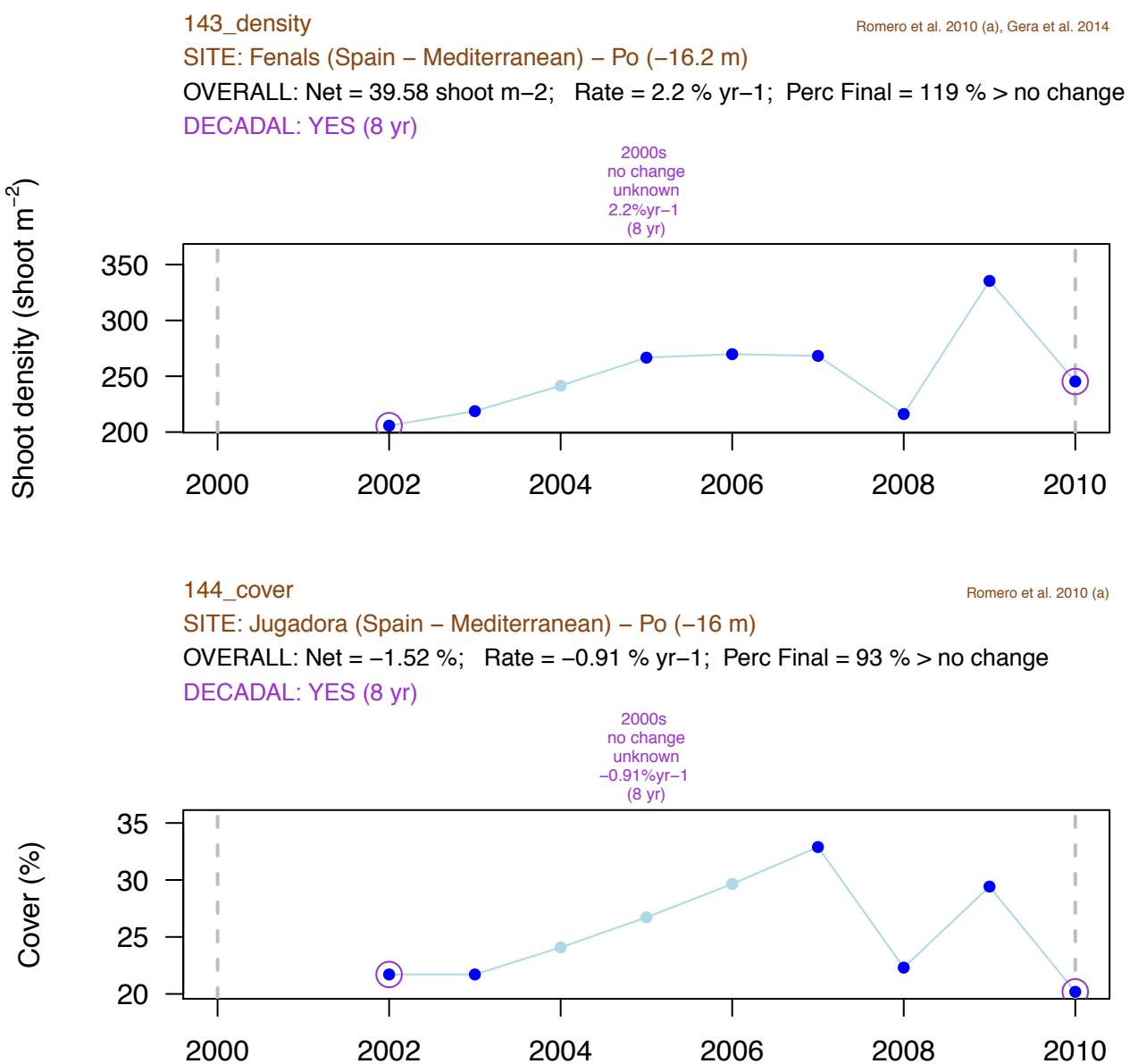
SITE: Fenals (Spain – Mediterranean) – Po (-16.2 m)

OVERALL: Net = 4.21 %; Rate = 1.36 % yr⁻¹; Perc Final = 112 % > no change

Decadal: YES (8 yr)

2000s
no change
unknown
1.36%yr⁻¹
(8 yr)





144_density

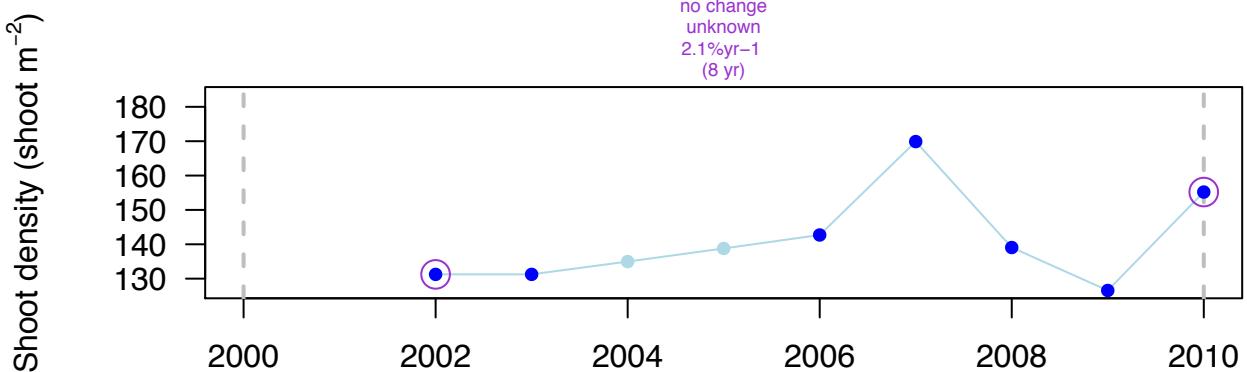
Romero et al. 2010 (a)

SITE: Jugadora (Spain – Mediterranean) – Po (-16 m)

OVERALL: Net = 23.96 shoot m⁻²; Rate = 2.1 % yr⁻¹; Perc Final = 118 % > no change

DECadal: YES (8 yr)

2000s
no change
unknown
2.1%yr⁻¹
(8 yr)



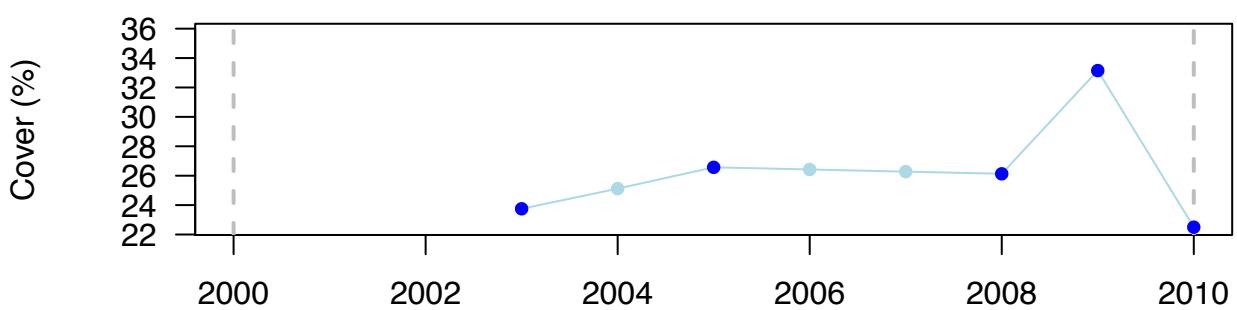
145_cover

Romero et al. 2010 (a)

SITE: L'Ametlla de Mar (Spain – Mediterranean) – Po (-14.8 m)

OVERALL: Net = -1.25 %; Rate = -0.77 % yr⁻¹; Perc Final = 95 % > no change

DECadal: NO (7 yr)



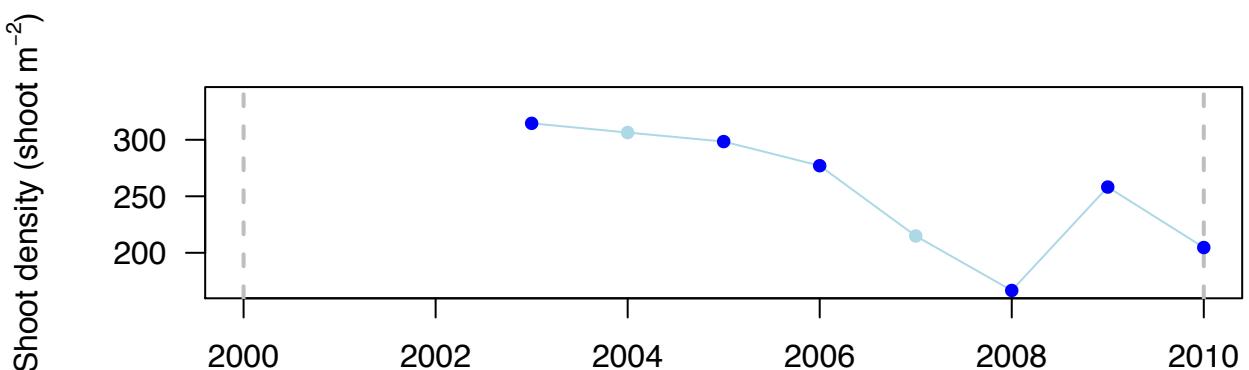
145_density

Romero et al. 2010 (a)

SITE: L'Ametlla de Mar (Spain – Mediterranean) – Po (-14.8 m)

OVERALL: Net = -109.89 shoot m⁻²; Rate = -6.14 % yr⁻¹; Perc Final = 65 % > decrease

DECADAL: NO (7 yr)



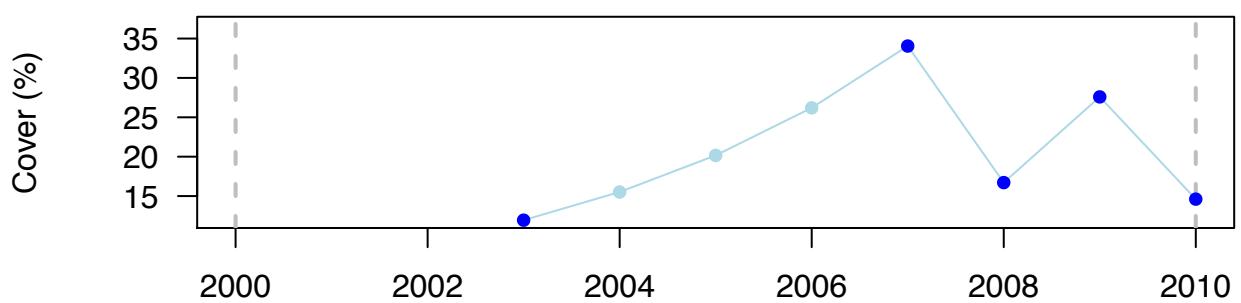
146_cover

Romero et al. 2010 (a)

SITE: L'Hospitalet (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 2.67 %; Rate = 2.88 % yr⁻¹; Perc Final = 122 % > no change

DECADAL: NO (7 yr)



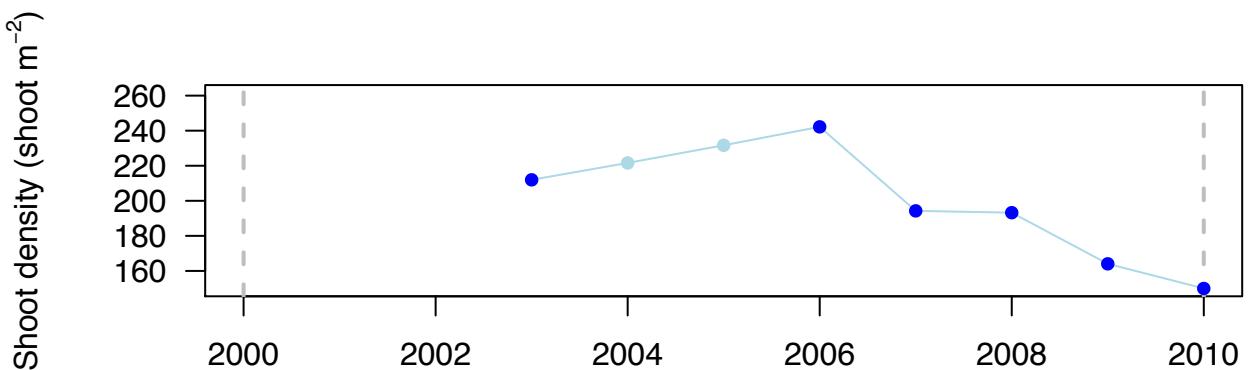
146_density

Romero et al. 2010 (a)

SITE: L'Hospitalet (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -61.98 shoot m⁻²; Rate = -4.94 % yr⁻¹; Perc Final = 71 % > decrease

DECadal: NO (7 yr)



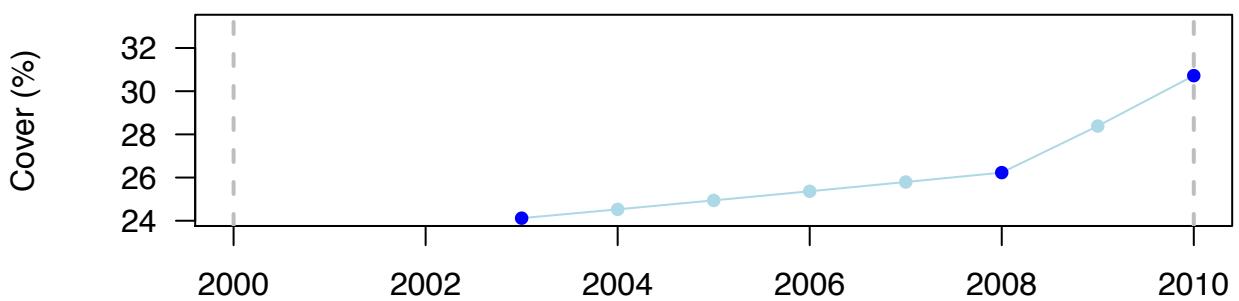
147_cover

Romero et al. 2010 (a)

SITE: Llafranc (Spain – Mediterranean) – Po (-15.5 m)

OVERALL: Net = 6.6 %; Rate = 3.46 % yr⁻¹; Perc Final = 127 % > increase

DECadal: NO (7 yr)



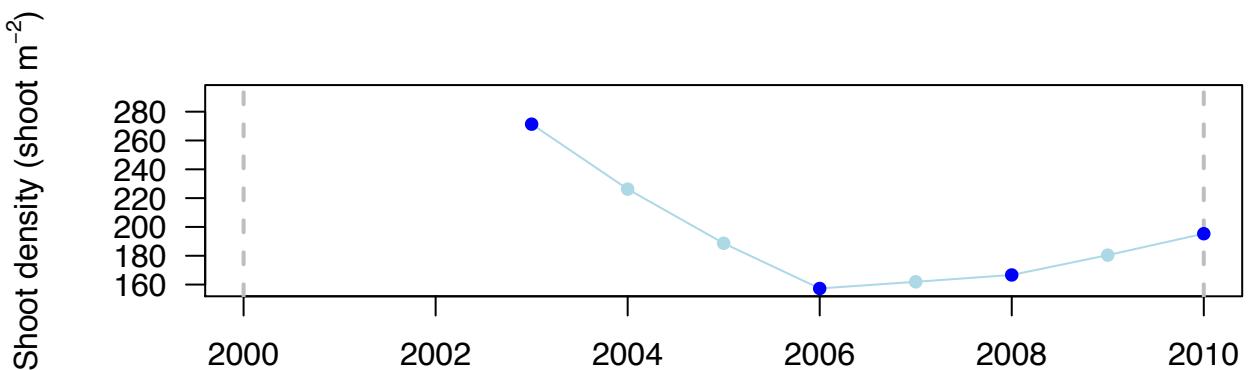
147_density

Romero et al. 2010 (a)

SITE: Llafranc (Spain – Mediterranean) – Po (-15.5 m)

OVERALL: Net = -76.04 shoot m⁻²; Rate = -4.7 % yr⁻¹; Perc Final = 72 % > decrease

DECadal: NO (7 yr)



148_abiomass

Milchakova 2003

SITE: Utlyuk Salt Lake (Ukraine – Mediterranean) – Zn (? m)

OVERALL: Net = 407 g dw m⁻²; Rate = 2.85 % yr⁻¹; Perc Final = 257 % > increase

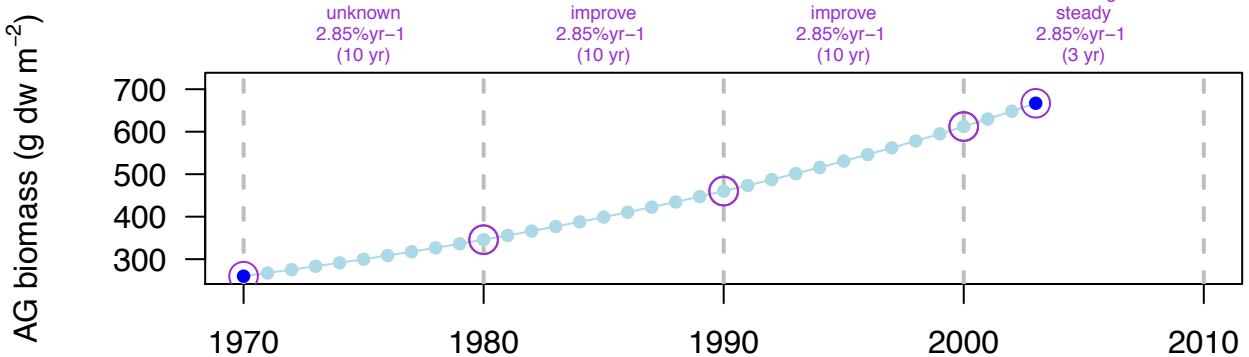
Decadal: YES (33 yr)

1970s
increase
unknown
2.85%yr⁻¹
(10 yr)

1980s
increase
improve
2.85%yr⁻¹
(10 yr)

1990s
increase
improve
2.85%yr⁻¹
(10 yr)

2000s
no change
steady
2.85%yr⁻¹
(3 yr)



149_cover

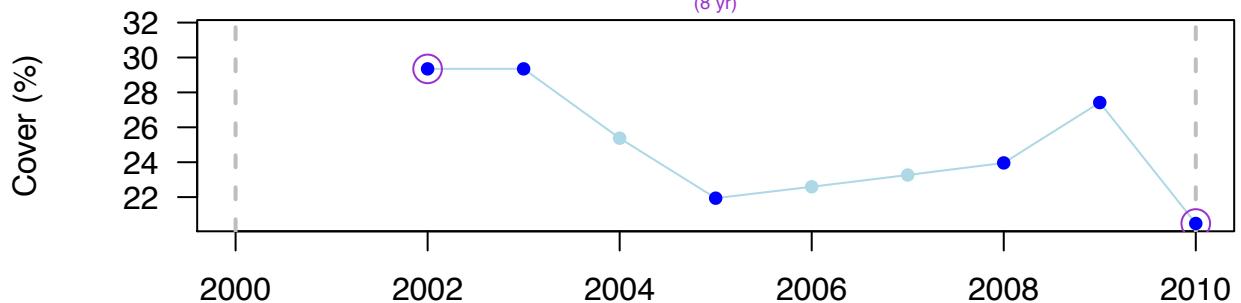
Romero et al. 2010 (a)

SITE: Montgó (Spain – Mediterranean) – Po (-12.5 m)

OVERALL: Net = -8.86 %; Rate = -4.49 % yr⁻¹; Perc Final = 70 % > decrease

DECADAL: YES (8 yr)

2000s
decrease
unknown
-4.49%yr⁻¹
(8 yr)



149_density

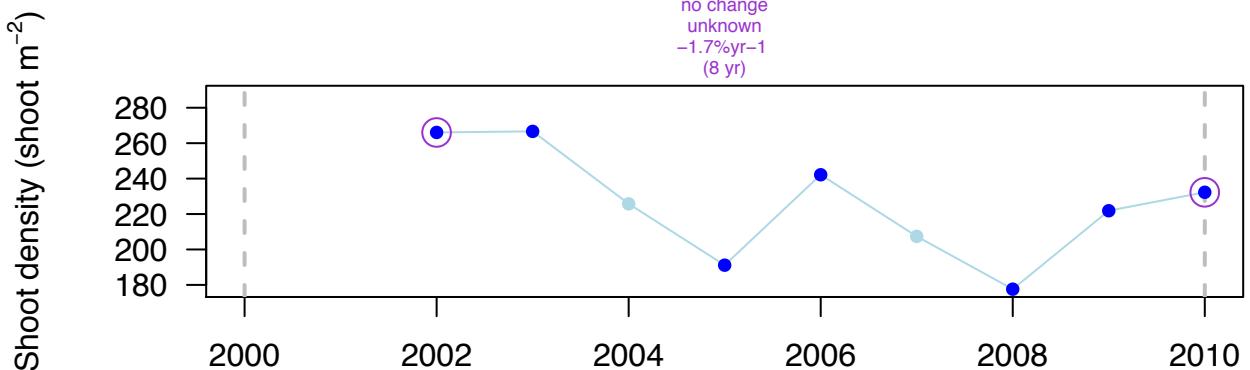
Romero et al. 2010 (a)

SITE: Montgó (Spain – Mediterranean) – Po (-12.5 m)

OVERALL: Net = -33.78 shoot m⁻²; Rate = -1.7 % yr⁻¹; Perc Final = 87 % > no change

DECADAL: YES (8 yr)

2000s
no change
unknown
-1.7%yr⁻¹
(8 yr)



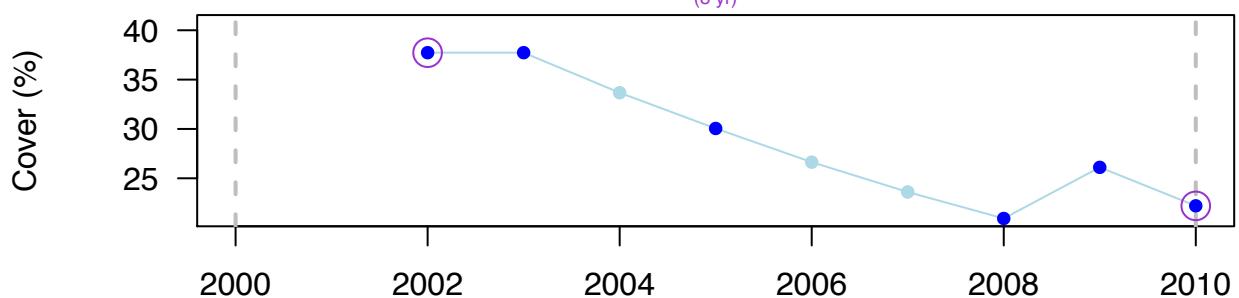
150_cover Romero et al. 2010 (a)

SITE: Montjoi (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -15.52 %; Rate = -6.62 % yr⁻¹; Perc Final = 59 % > decrease

DECADAL: YES (8 yr)

2000s
decrease
unknown
-6.62%yr⁻¹
(8 yr)



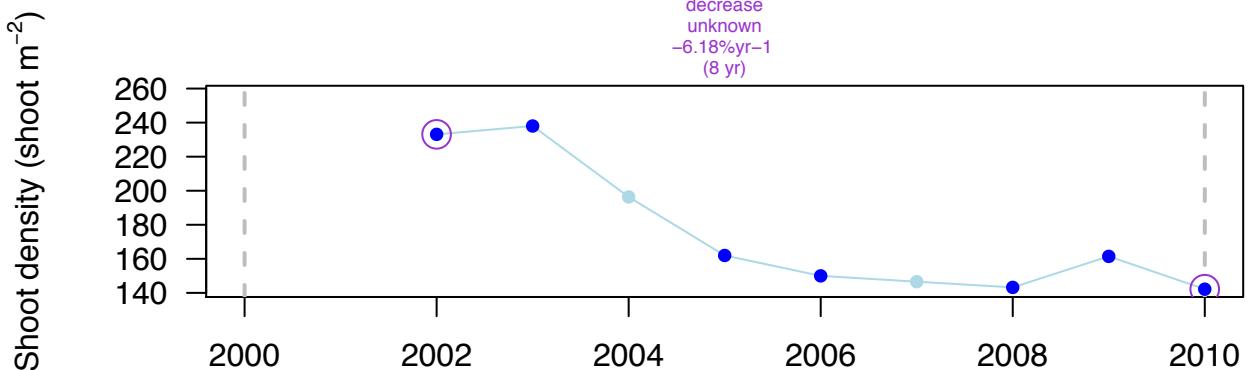
150_density Romero et al. 2010 (a)

SITE: Montjoi (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -90.93 shoot m⁻²; Rate = -6.18 % yr⁻¹; Perc Final = 61 % > decrease

DECADAL: YES (8 yr)

2000s
decrease
unknown
-6.18%yr⁻¹
(8 yr)



151_cover

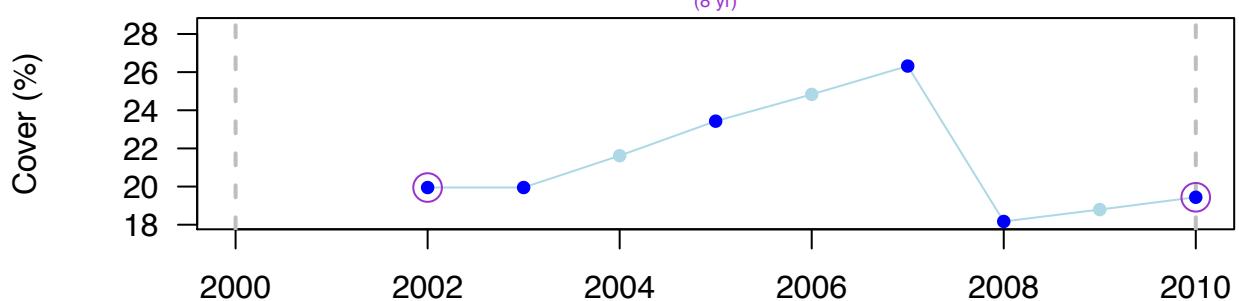
Romero et al. 2010 (a)

SITE: Montroig del Camp (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -0.51 %; Rate = -0.32 % yr⁻¹; Perc Final = 97 % > no change

DECADAL: YES (8 yr)

2000s
no change
unknown
-0.32%yr⁻¹
(8 yr)



151_density

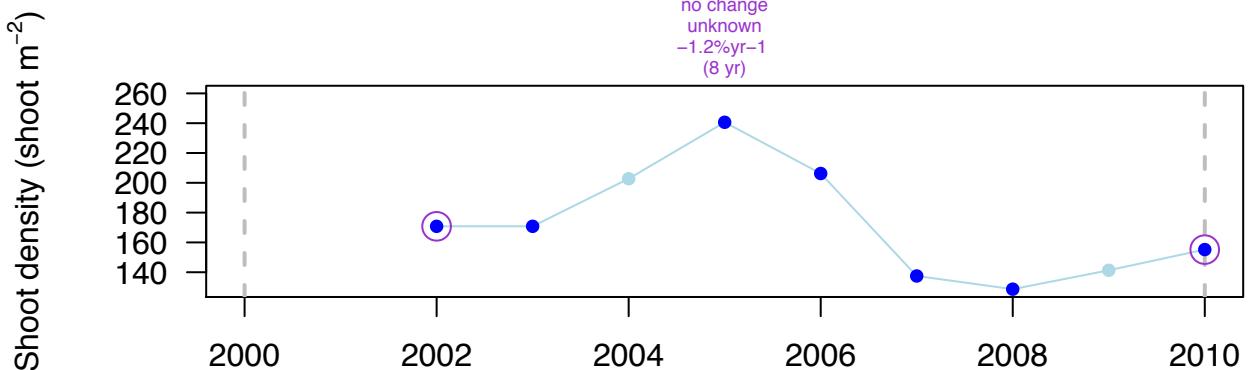
Romero et al. 2010 (a)

SITE: Montroig del Camp (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -15.62 shoot m⁻²; Rate = -1.2 % yr⁻¹; Perc Final = 91 % > no change

DECADAL: YES (8 yr)

2000s
no change
unknown
-1.2%yr⁻¹
(8 yr)



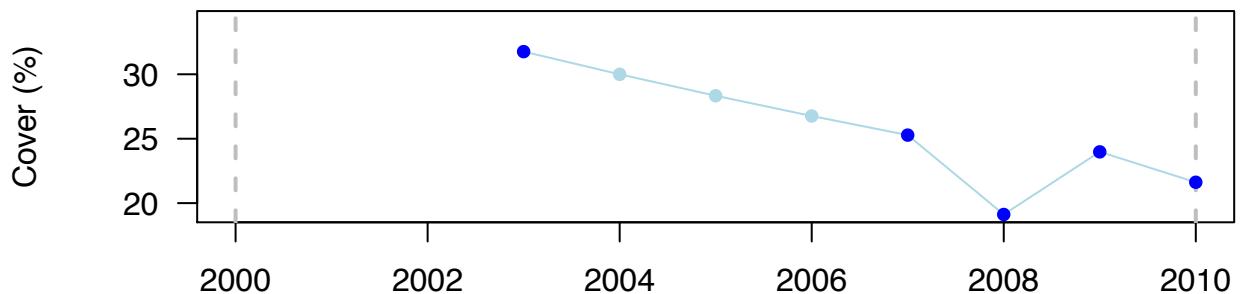
152_cover

Romero et al. 2010 (a), Gera et al. 2014

SITE: Palamós (Spain – Mediterranean) – Po (-14.2 m)

OVERALL: Net = -10.14 %; Rate = -5.49 % yr-1; Perc Final = 68 % > decrease

DECADAL: NO (7 yr)



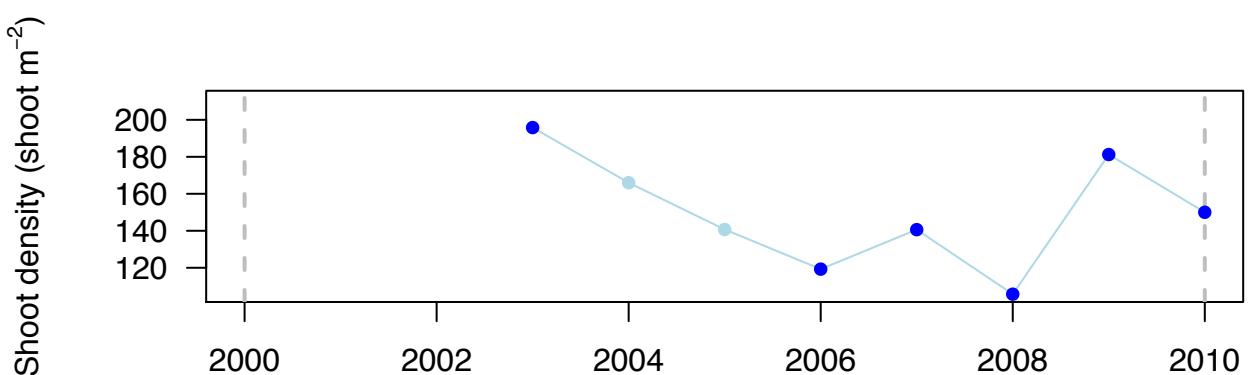
152_density

Romero et al. 2010 (a), Gera et al. 2014

SITE: Palamós (Spain – Mediterranean) – Po (-14.2 m)

OVERALL: Net = -45.83 shoot m⁻²; Rate = -3.81 % yr-1; Perc Final = 77 % > no change

DECADAL: NO (7 yr)



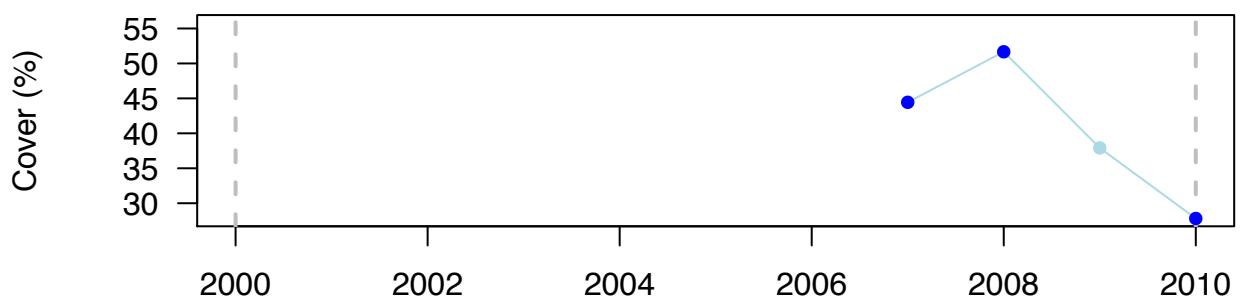
153_cover

Romero et al. 2010 (a)

SITE: Port de la Selva (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -16.62 %; Rate = -15.61 % yr⁻¹; Perc Final = 63 % > decrease

DECADAL: NO (3 yr)



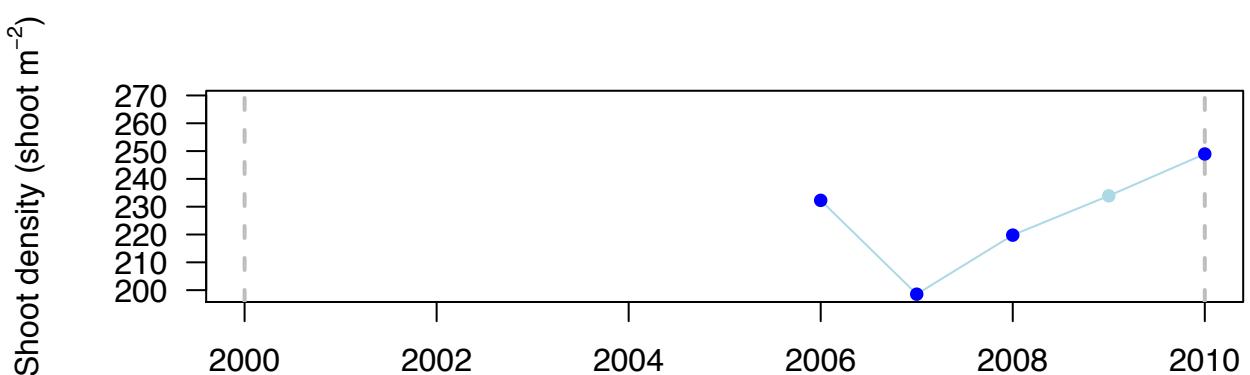
153_density

Romero et al. 2010 (a)

SITE: Port de la Selva (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = 16.67 shoot m⁻²; Rate = 1.73 % yr⁻¹; Perc Final = 107 % > no change

DECADAL: NO (4 yr)



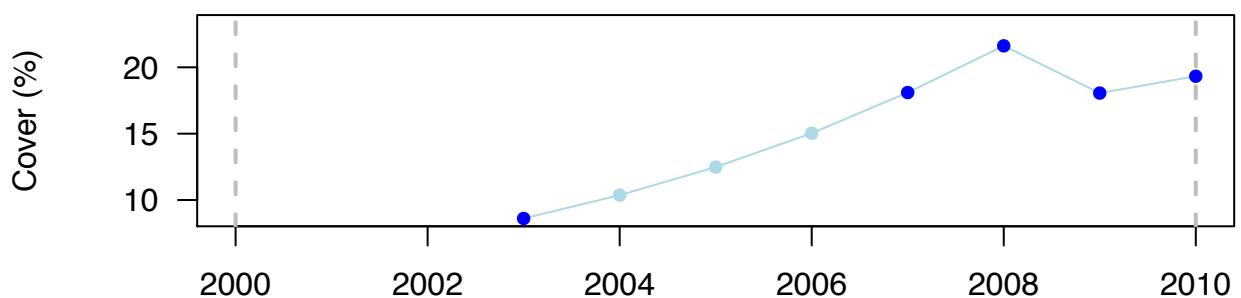
154_cover

Romero et al. 2010 (a)

SITE: Roses (near port) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = 10.72 %; Rate = 11.55 % yr⁻¹; Perc Final = 225 % > increase

DECADAL: NO (7 yr)



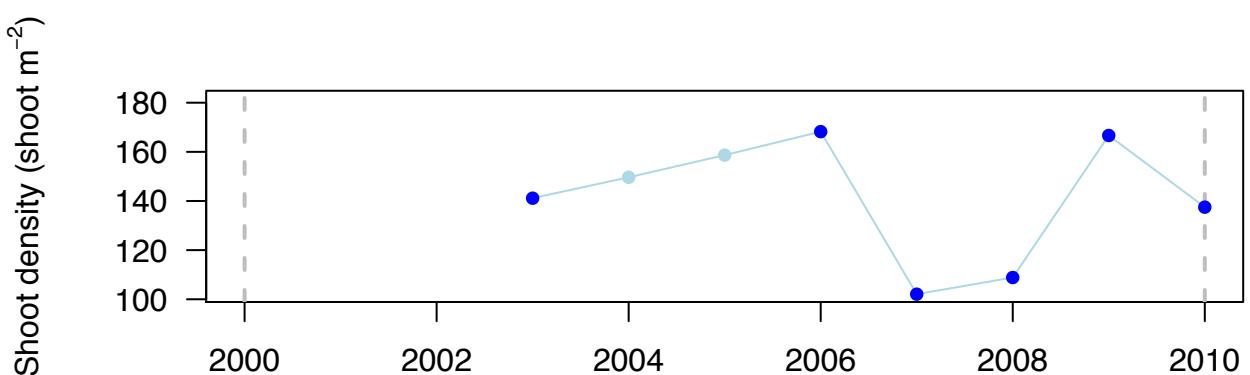
154_density

Romero et al. 2010 (a)

SITE: Roses (near port) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = -3.65 shoot m⁻²; Rate = -0.37 % yr⁻¹; Perc Final = 97 % > no change

DECADAL: NO (7 yr)



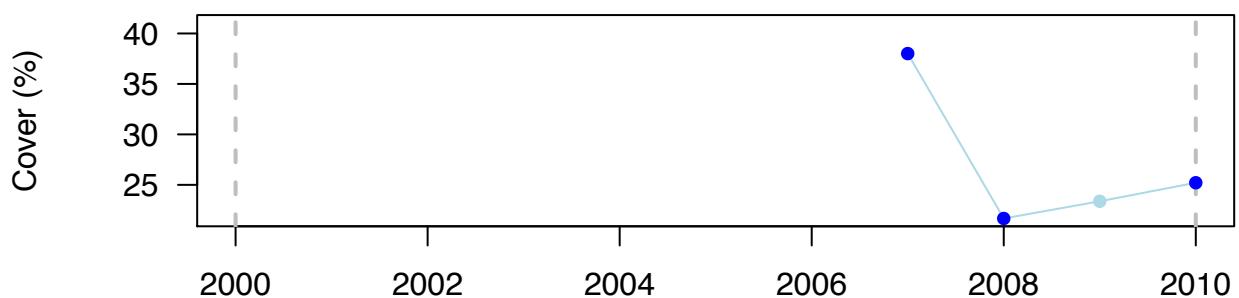
155_cover

Romero et al. 2010 (a)

SITE: Roses (Playa Almadraba) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = -12.8 %; Rate = -13.69 % yr⁻¹; Perc Final = 66 % > decrease

DECADAL: NO (3 yr)



155_density

Romero et al. 2010 (a)

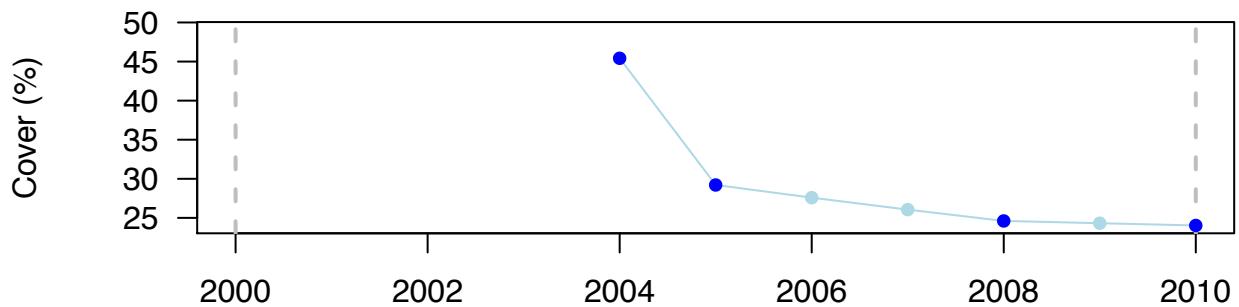
SITE: Roses (Playa Almadraba) (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = 9.38 shoot m⁻²; Rate = 1.79 % yr⁻¹; Perc Final = 106 % > no change

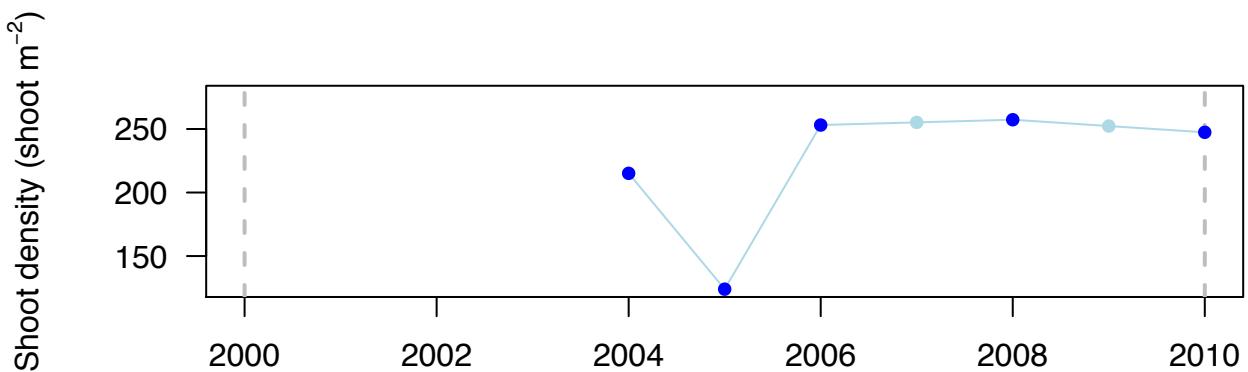
DECADAL: NO (3 yr)



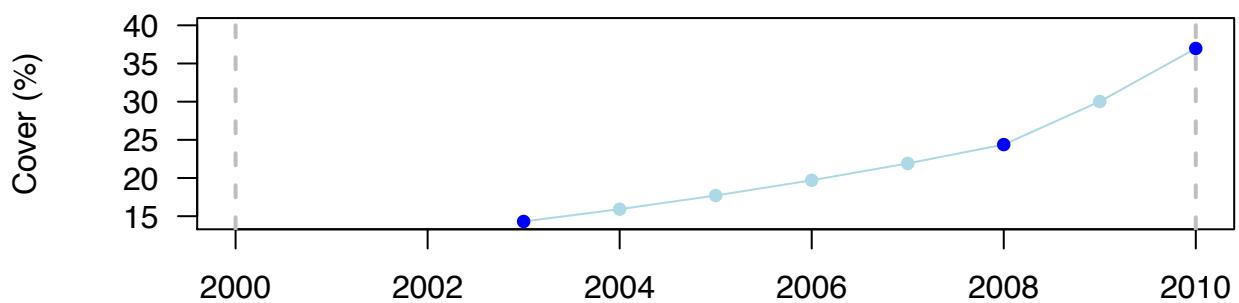
156_cover Romero et al. 2010 (a)
SITE: Rovellada (Spain – Mediterranean) – Po (-14 m)
OVERALL: Net = -21.39 %; Rate = -10.61 % yr⁻¹; Perc Final = 53 % > decrease
DECADAL: NO (6 yr)



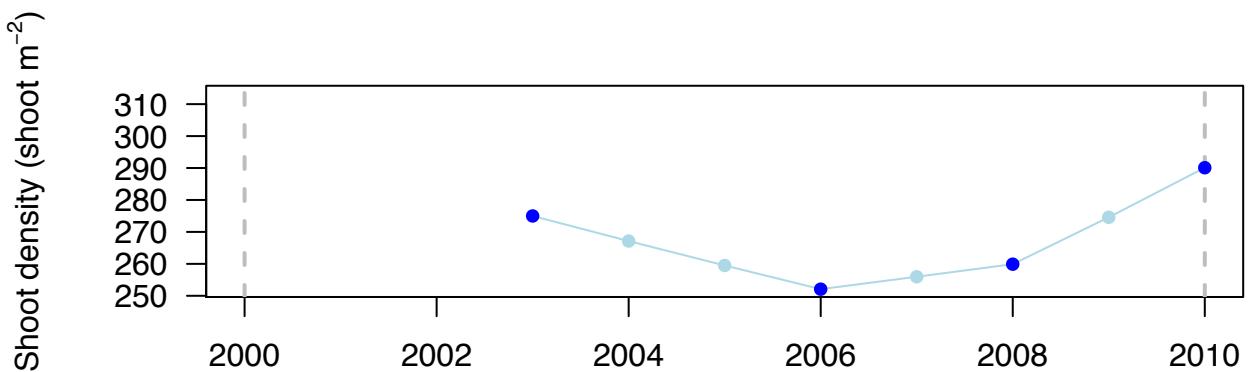
156_density Romero et al. 2010 (a)
SITE: Rovellada (Spain – Mediterranean) – Po (-14 m)
OVERALL: Net = 32.3 shoot m⁻²; Rate = 2.33 % yr⁻¹; Perc Final = 115 % > no change
DECADAL: NO (6 yr)



157_cover Romero et al. 2010 (a)
SITE: Sa Tuna (Spain – Mediterranean) – Po (-14 m)
OVERALL: Net = 22.66 %; Rate = 13.56 % yr⁻¹; Perc Final = 258 % > increase
DECADAL: NO (7 yr)



157_density Romero et al. 2010 (a)
SITE: Sa Tuna (Spain – Mediterranean) – Po (-14 m)
OVERALL: Net = 15.1 shoot m⁻²; Rate = 0.76 % yr⁻¹; Perc Final = 105 % > no change
DECADAL: NO (7 yr)



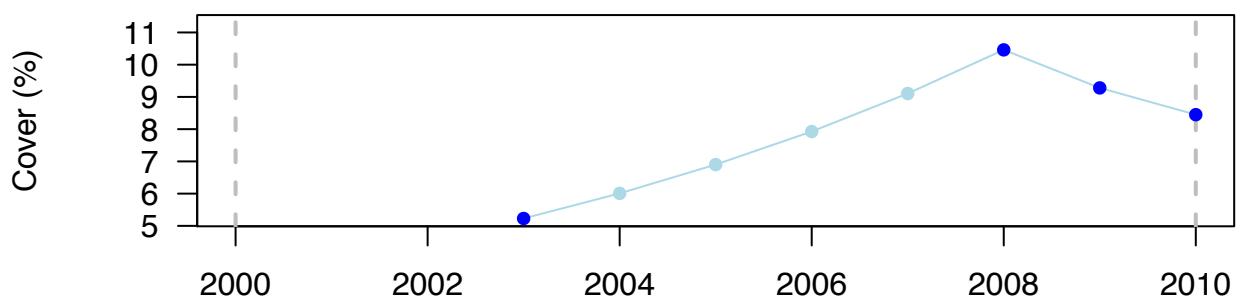
158_cover

Romero et al. 2010 (a)

SITE: Salou (Spain – Mediterranean) – Po (-14.5 m)

OVERALL: Net = 3.22 %; Rate = 6.85 % yr⁻¹; Perc Final = 162 % > increase

DECADAL: NO (7 yr)



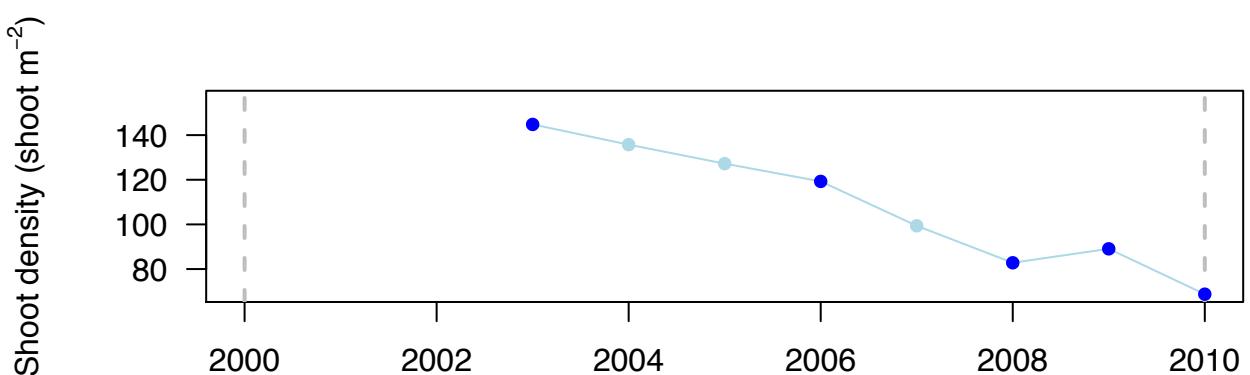
158_density

Romero et al. 2010 (a)

SITE: Salou (Spain – Mediterranean) – Po (-14.5 m)

OVERALL: Net = -76.04 shoot m⁻²; Rate = -10.64 % yr⁻¹; Perc Final = 47 % > decrease

DECADAL: NO (7 yr)



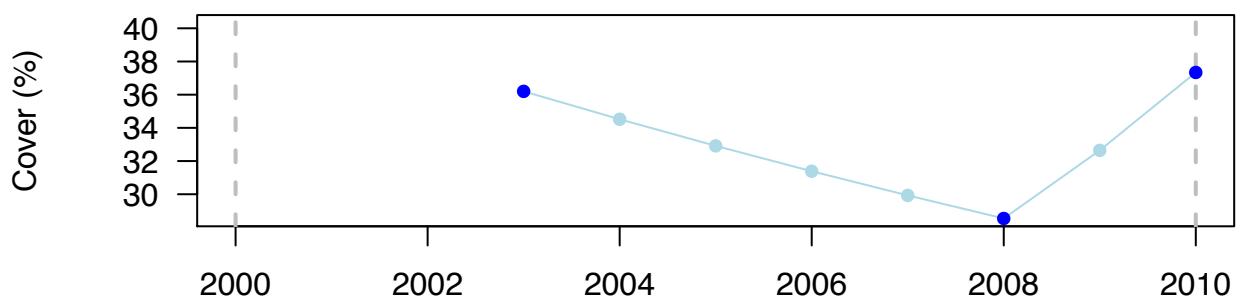
159_cover

Romero et al. 2010 (a)

SITE: Sant Feliu (Spain – Mediterranean) – Po (-14.5 m)

OVERALL: Net = 1.14 %; Rate = 0.44 % yr⁻¹; Perc Final = 103 % > no change

DECADAL: NO (7 yr)



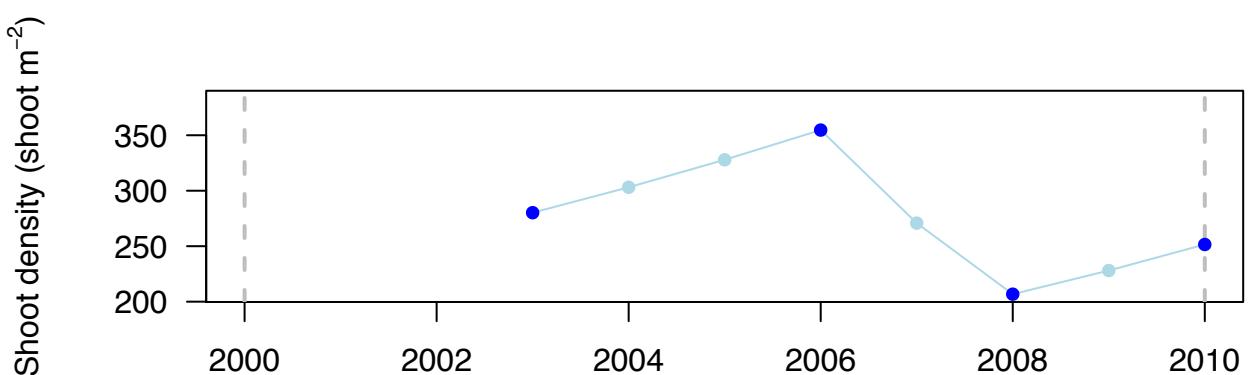
159_density

Romero et al. 2010 (a)

SITE: Sant Feliu (Spain – Mediterranean) – Po (-14.5 m)

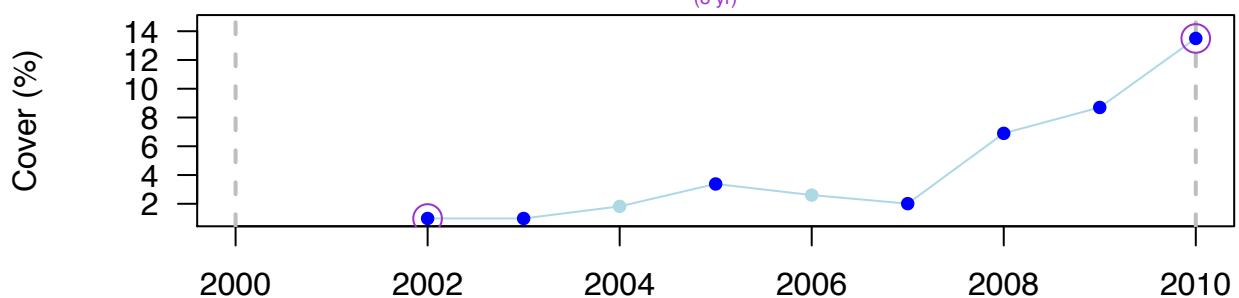
OVERALL: Net = -28.65 shoot m⁻²; Rate = -1.54 % yr⁻¹; Perc Final = 90 % > no change

DECADAL: NO (7 yr)



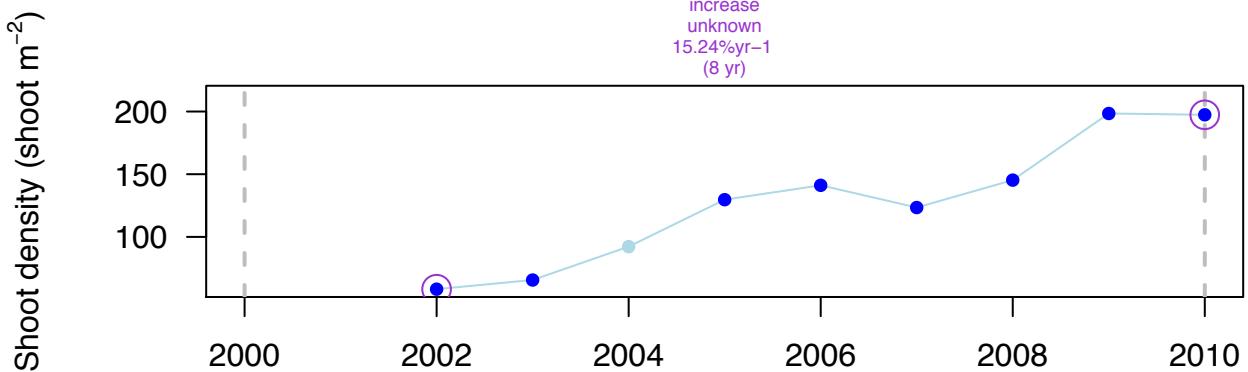
160_cover
 SITE: Sitges (Spain – Mediterranean) – Po (-16.5 m)
 OVERALL: Net = 12.52 %; Rate = 32.79 % yr⁻¹; Perc Final = 1378 % > increase
 DECADAL: YES (8 yr)

2000s
 increase
 unknown
 32.79%yr⁻¹
 (8 yr)



160_density
 SITE: Sitges (Spain – Mediterranean) – Po (-16.5 m)
 OVERALL: Net = 139.07 shoot m⁻²; Rate = 15.24 % yr⁻¹; Perc Final = 338 % > increase
 DECADAL: YES (8 yr)

2000s
 increase
 unknown
 15.24%yr⁻¹
 (8 yr)



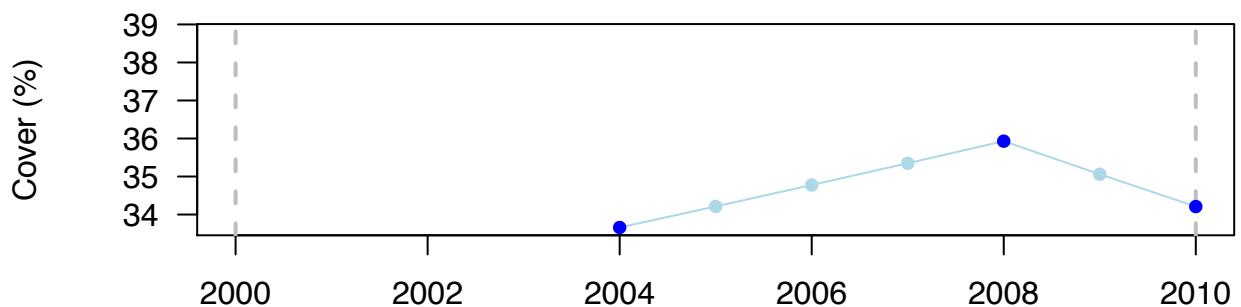
161_cover

Romero et al. 2010 (a)

SITE: Tamariua (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 0.55 %; Rate = 0.27 % yr⁻¹; Perc Final = 102 % > no change

DECADAL: NO (6 yr)



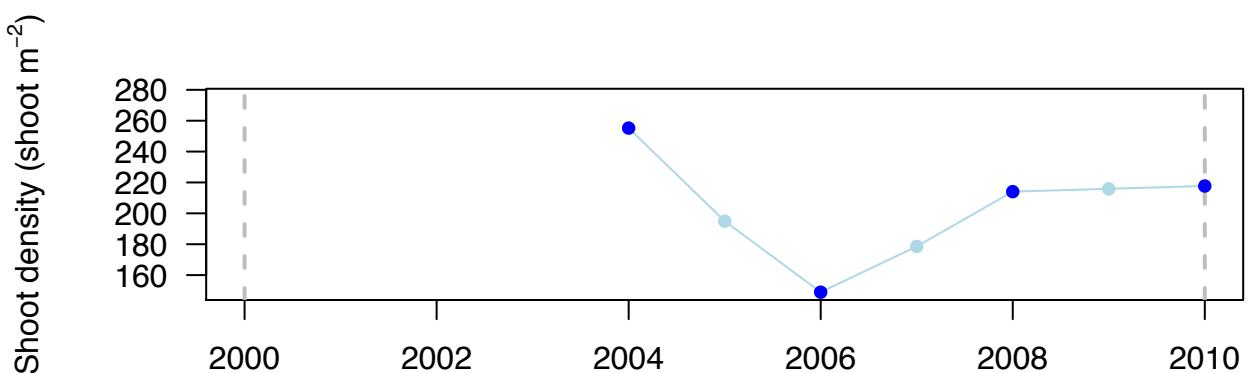
161_density

Romero et al. 2010 (a)

SITE: Tamariua (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -37.5 shoot m⁻²; Rate = -2.65 % yr⁻¹; Perc Final = 85 % > no change

DECADAL: NO (6 yr)



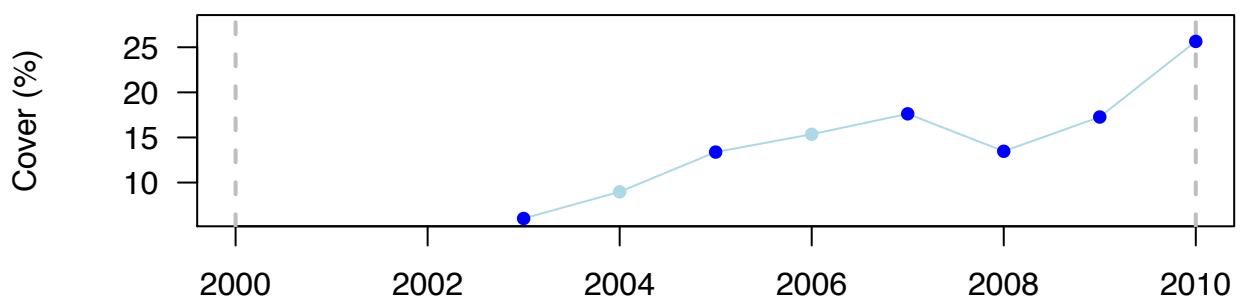
162_cover

Romero et al. 2010 (a)

SITE: Torredembarra (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 19.63 %; Rate = 20.71 % yr⁻¹; Perc Final = 426 % > increase

DECADAL: NO (7 yr)



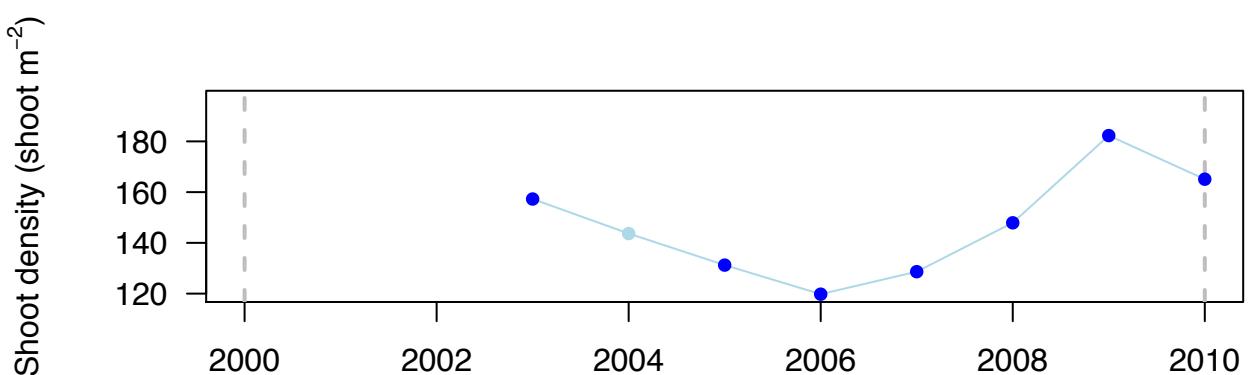
162_density

Romero et al. 2010 (a)

SITE: Torredembarra (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 7.81 shoot m⁻²; Rate = 0.69 % yr⁻¹; Perc Final = 105 % > no change

DECADAL: NO (7 yr)



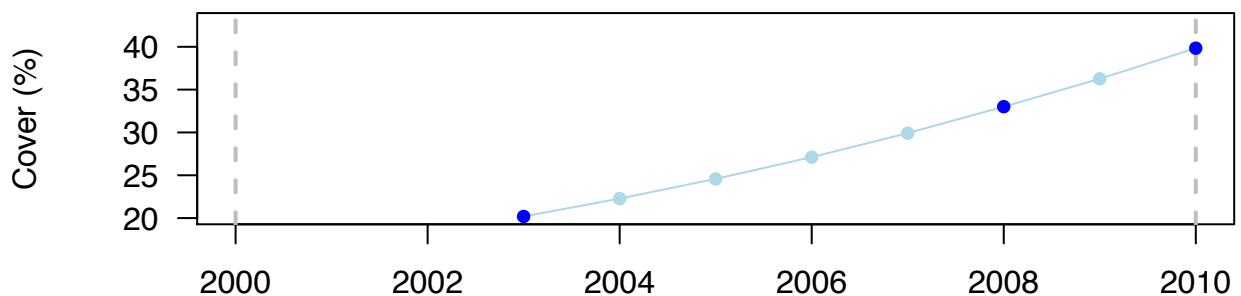
163_cover

Romero et al. 2010 (a)

SITE: Tossa de Mar (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = 19.65 %; Rate = 9.71 % yr⁻¹; Perc Final = 197 % > increase

DECADAL: NO (7 yr)



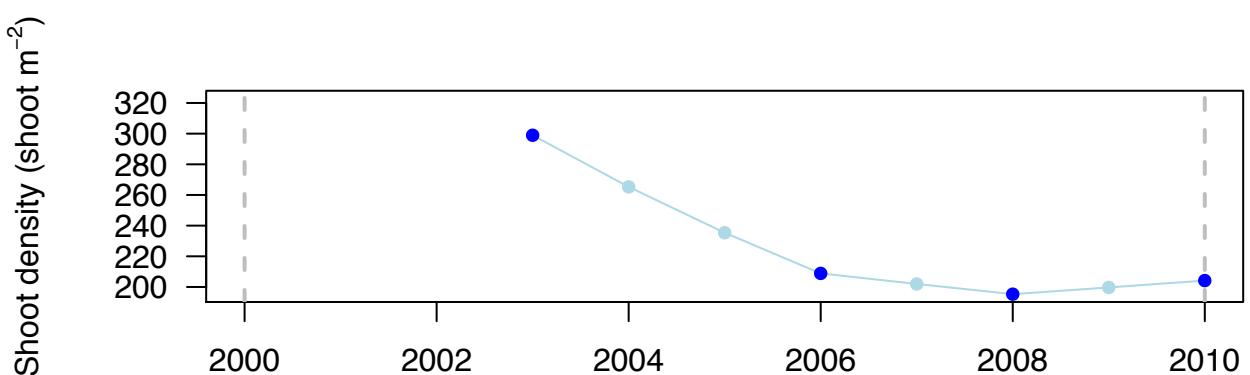
163_density

Romero et al. 2010 (a)

SITE: Tossa de Mar (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -94.79 shoot m⁻²; Rate = -5.45 % yr⁻¹; Perc Final = 68 % > decrease

DECADAL: NO (7 yr)



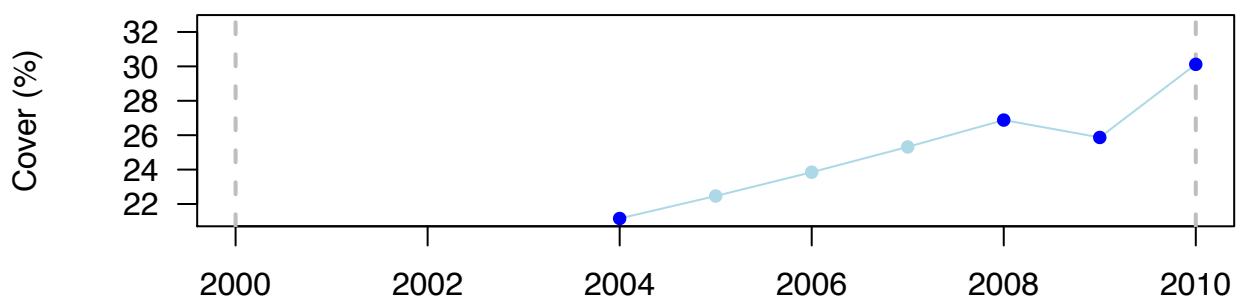
164_cover

Romero et al. 2010 (a)

SITE: Vilanova (Spain – Mediterranean) – Po (-17.5 m)

OVERALL: Net = 8.96 %; Rate = 5.88 % yr⁻¹; Perc Final = 142 % > increase

DECADAL: NO (6 yr)



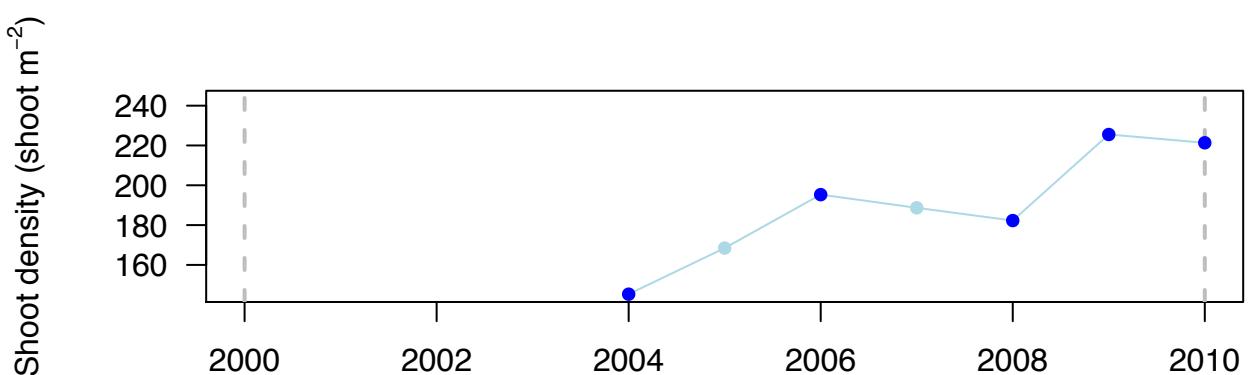
164_density

Romero et al. 2010 (a)

SITE: Vilanova (Spain – Mediterranean) – Po (-17.5 m)

OVERALL: Net = 76.04 shoot m⁻²; Rate = 7.01 % yr⁻¹; Perc Final = 152 % > increase

DECADAL: NO (6 yr)



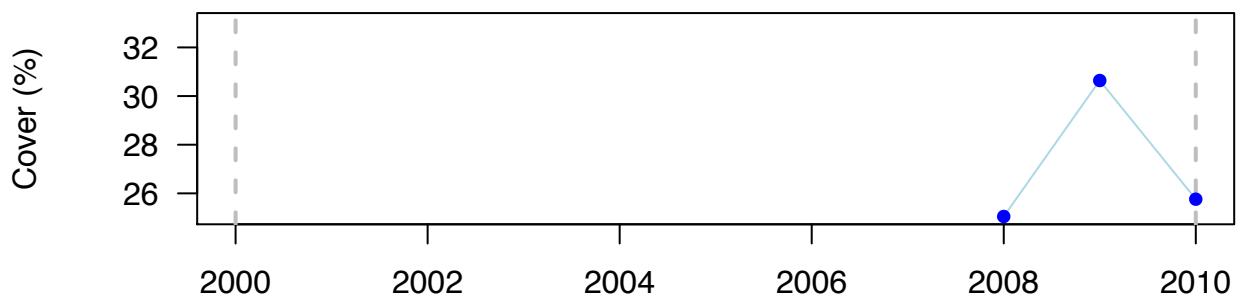
165_cover

Romero et al. 2010 (a)

SITE: Cadaqués (Spain – Mediterranean) – Po (-13.8 m)

OVERALL: Net = 0.71 %; Rate = 1.4 % yr⁻¹; Perc Final = 103 % > no change

DECADAL: NO (2 yr)



165_density

Romero et al. 2010 (a)

SITE: Cadaqués (Spain – Mediterranean) – Po (-13.8 m)

OVERALL: Net = 93.23 shoot m⁻²; Rate = 34.11 % yr⁻¹; Perc Final = 198 % > increase

DECADAL: NO (2 yr)



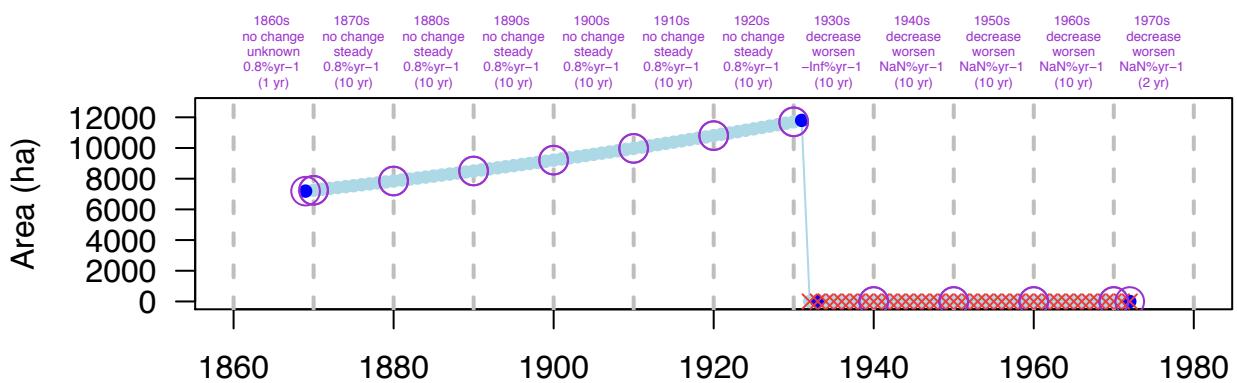
166_area

den Hartog and Polderman 1975

SITE: Western Dutch Wadden Sea (The Netherlands – Atlantic) – Zm (–2 m)

OVERALL: Net = –7190 ha; Rate = NA % yr–1; Perc Final = NA % > decrease

DECadal: YES (103 yr)



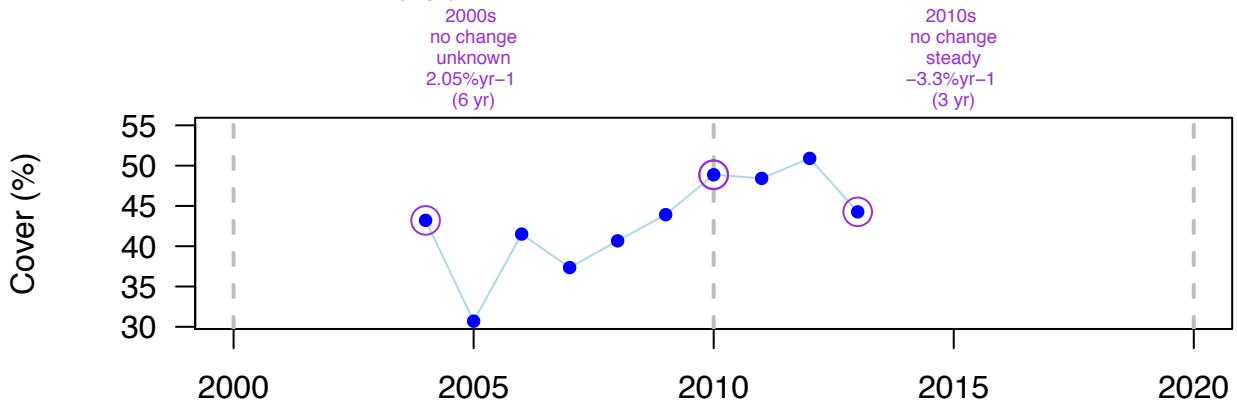
167_cover

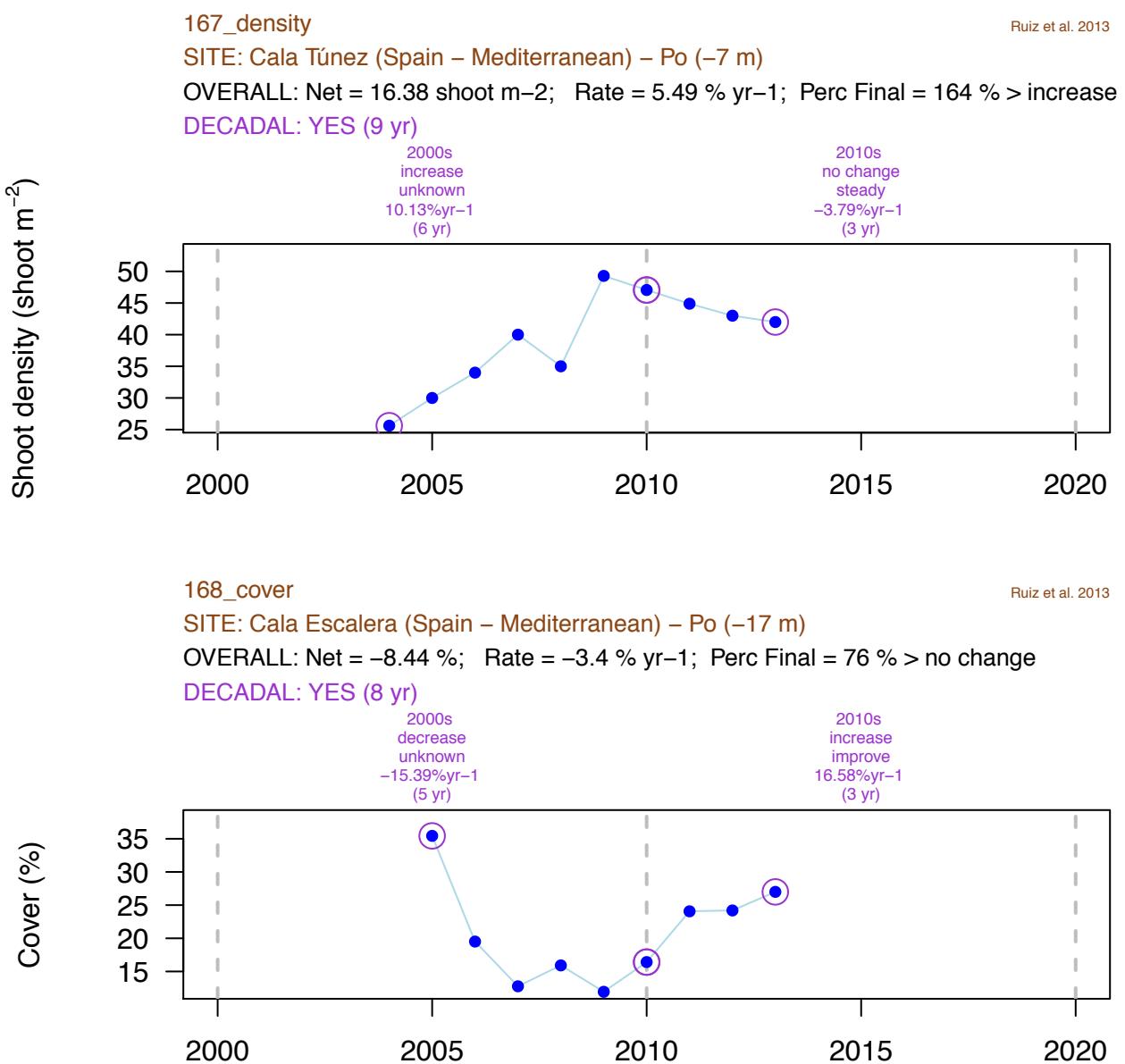
Ruiz et al. 2013

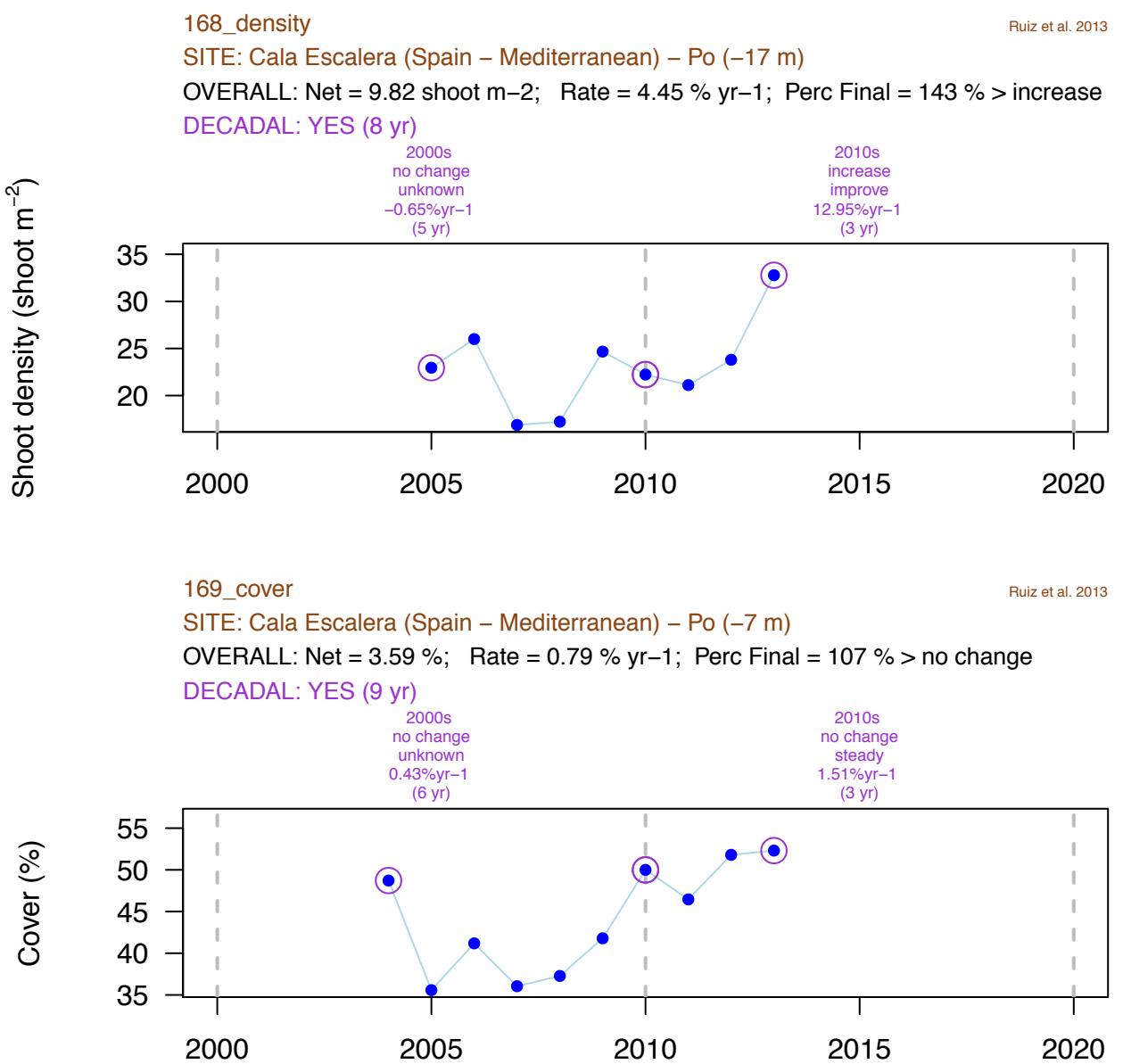
SITE: Cala Túnez (Spain – Mediterranean) – Po (–7 m)

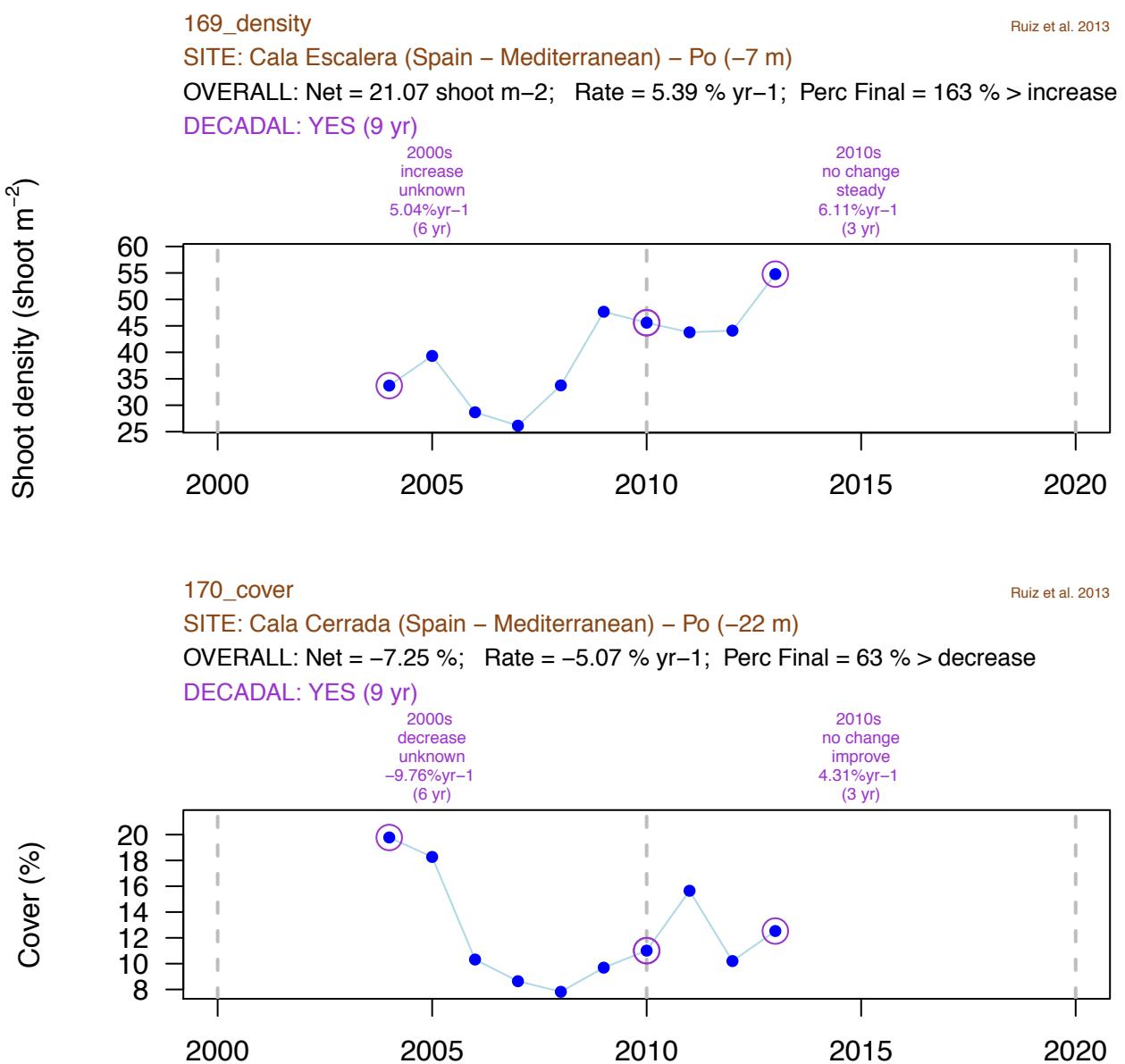
OVERALL: Net = 1.06%; Rate = 0.27 % yr–1; Perc Final = 102 % > no change

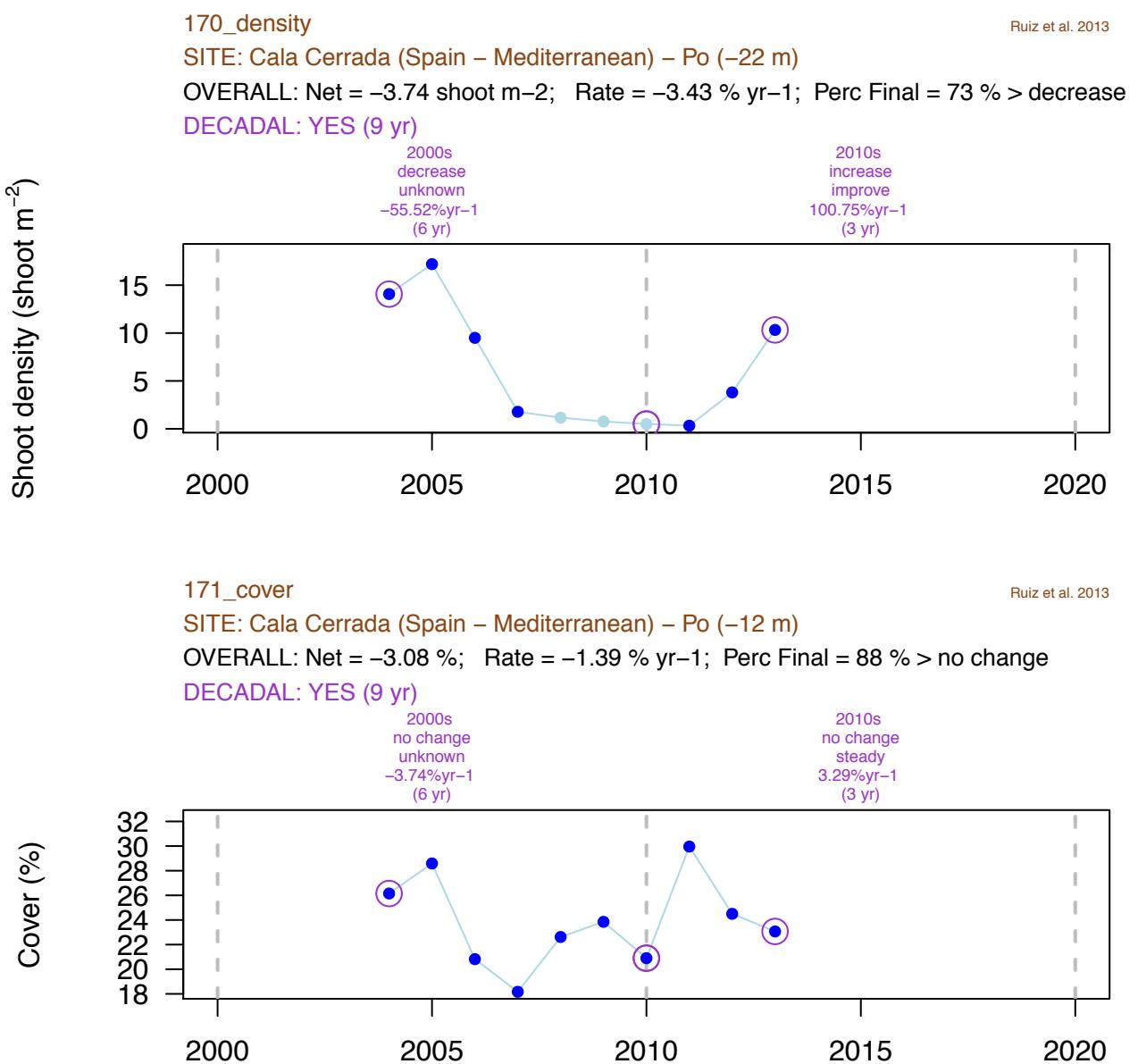
DECadal: YES (9 yr)

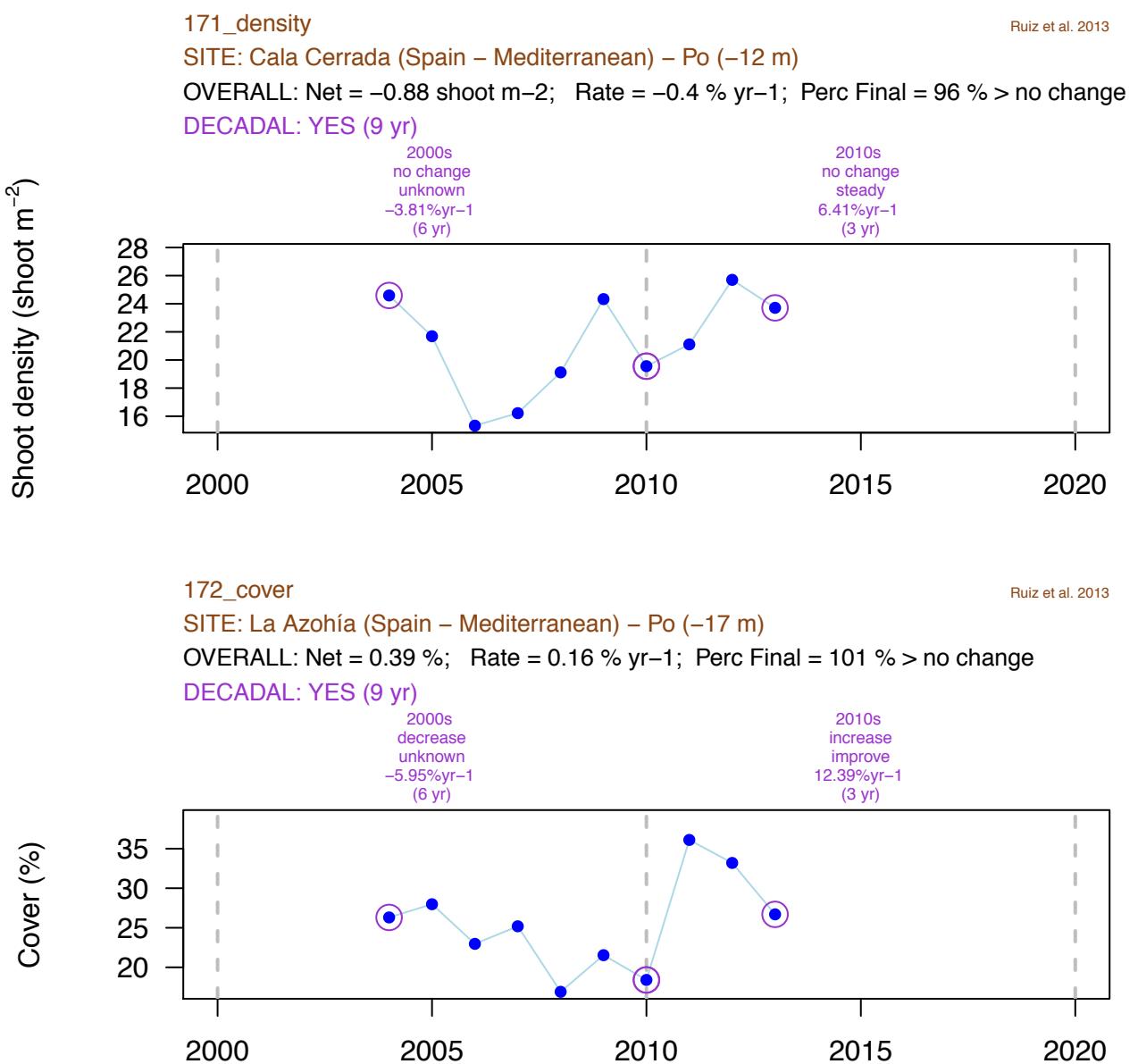


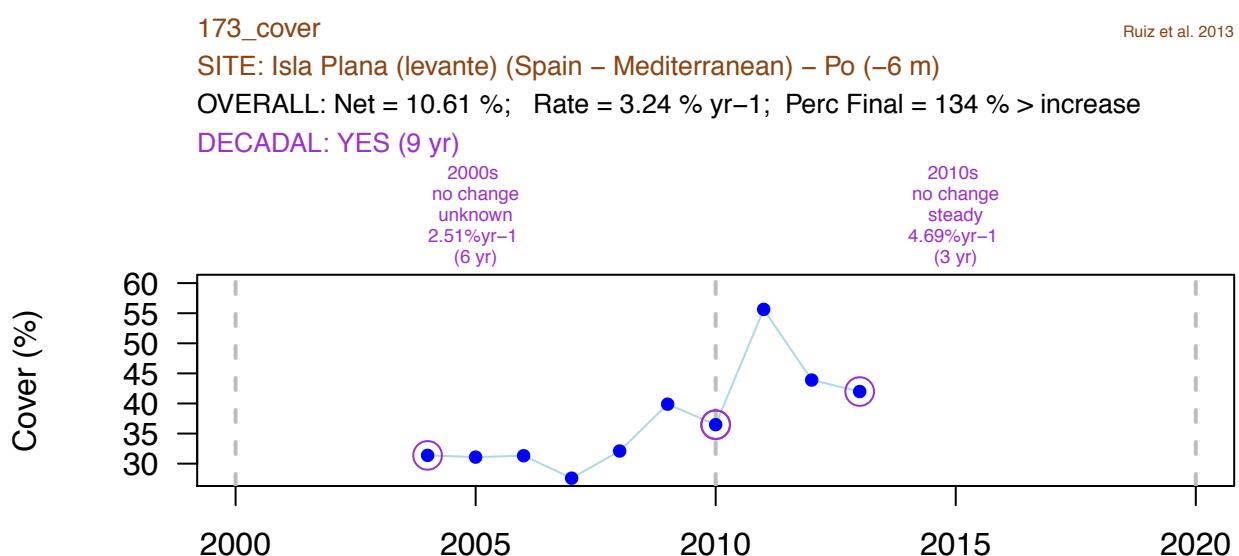
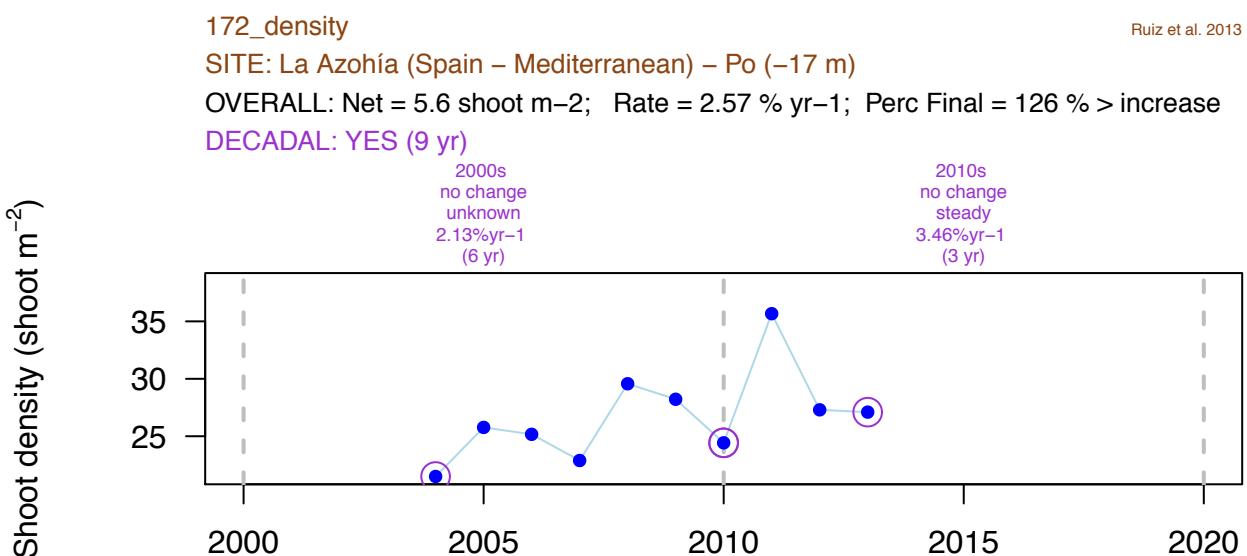


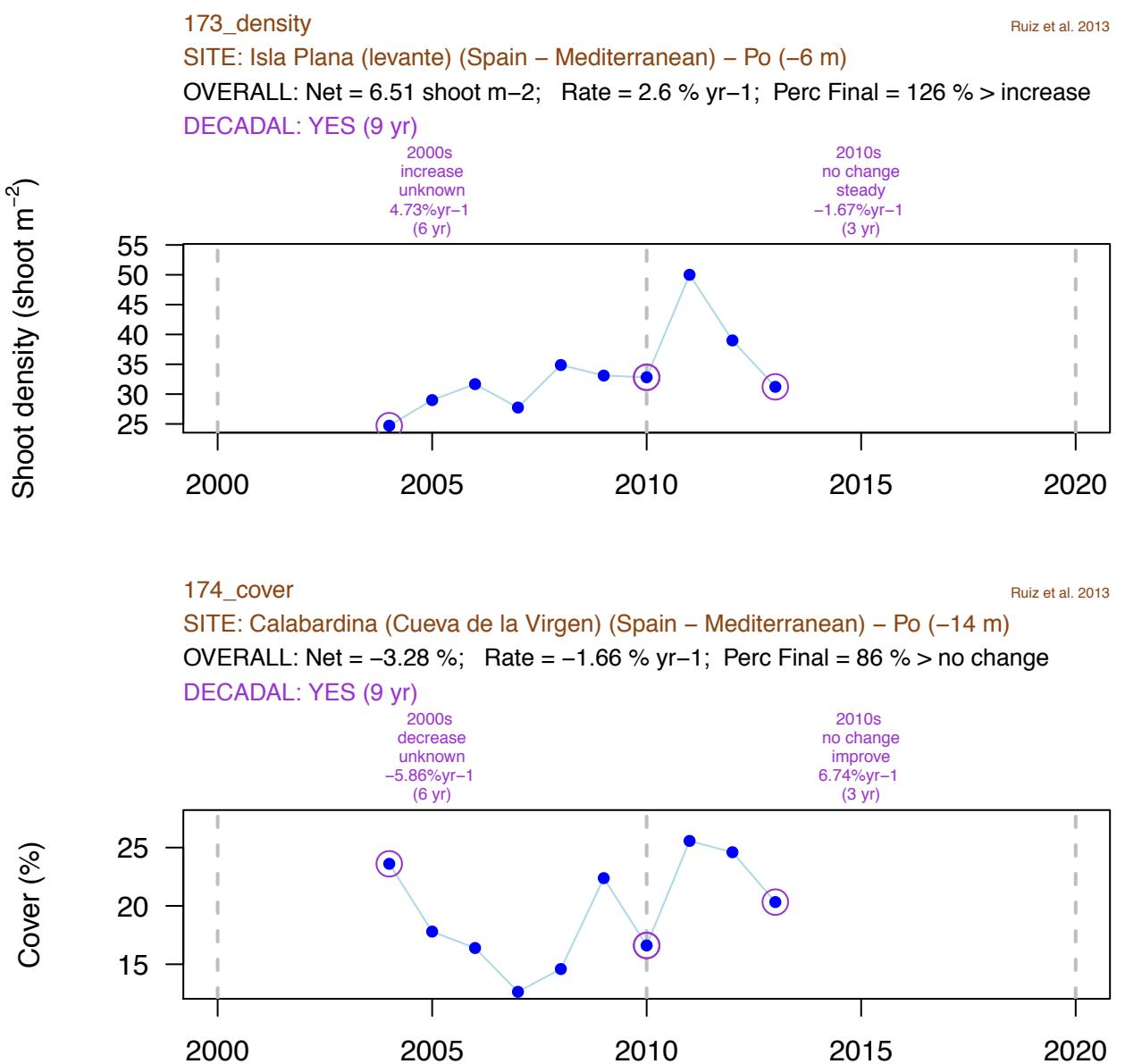


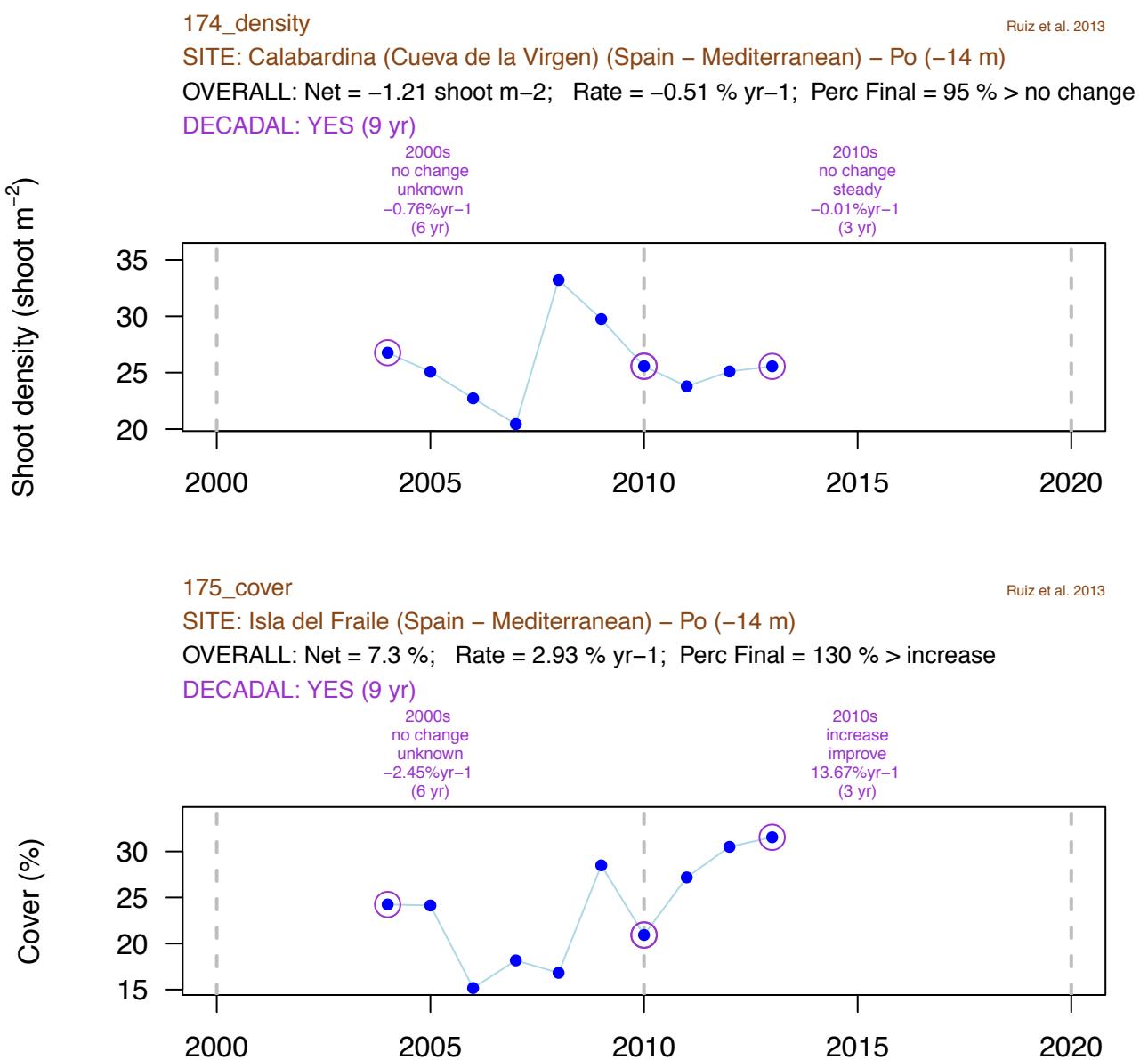


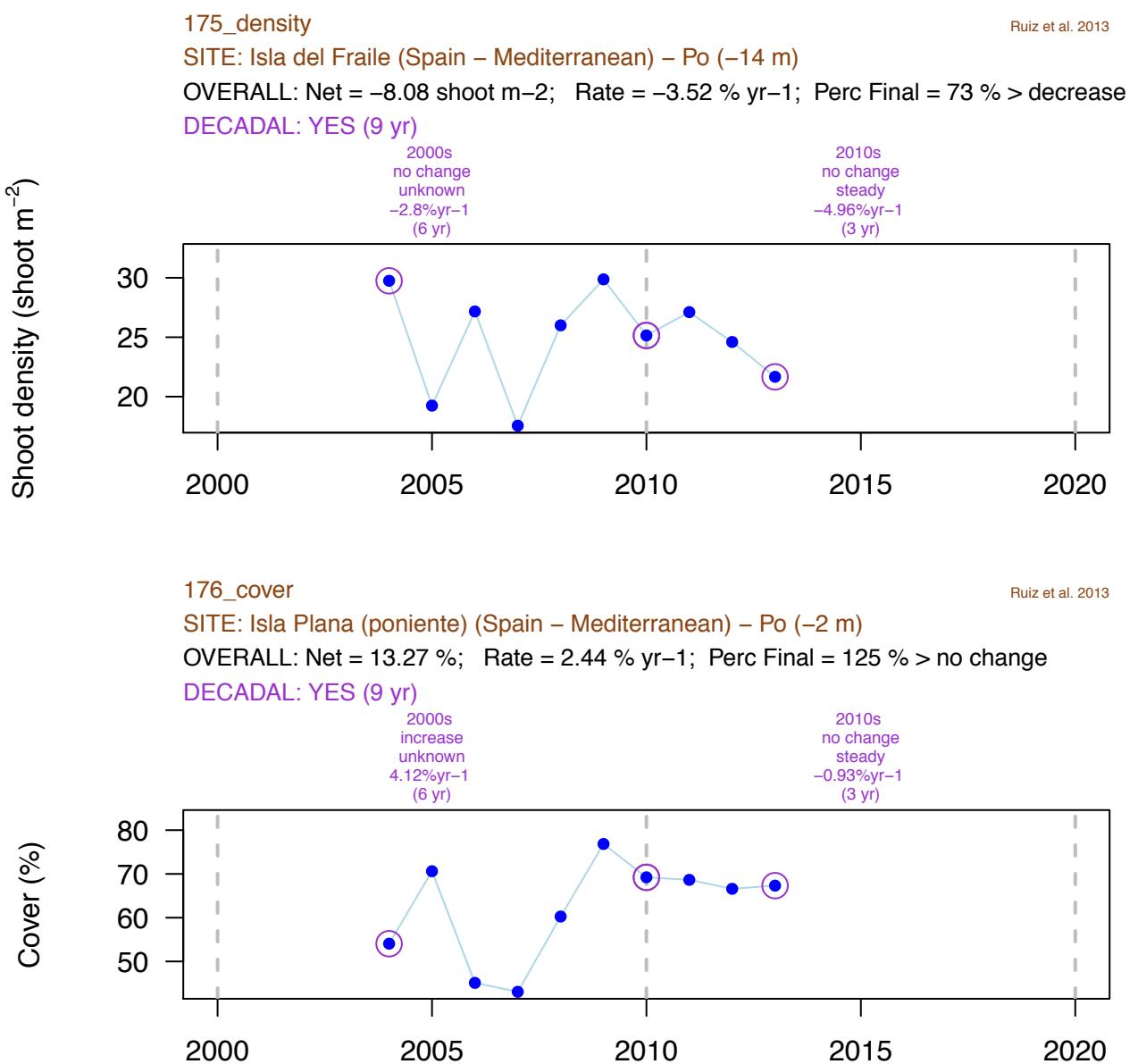


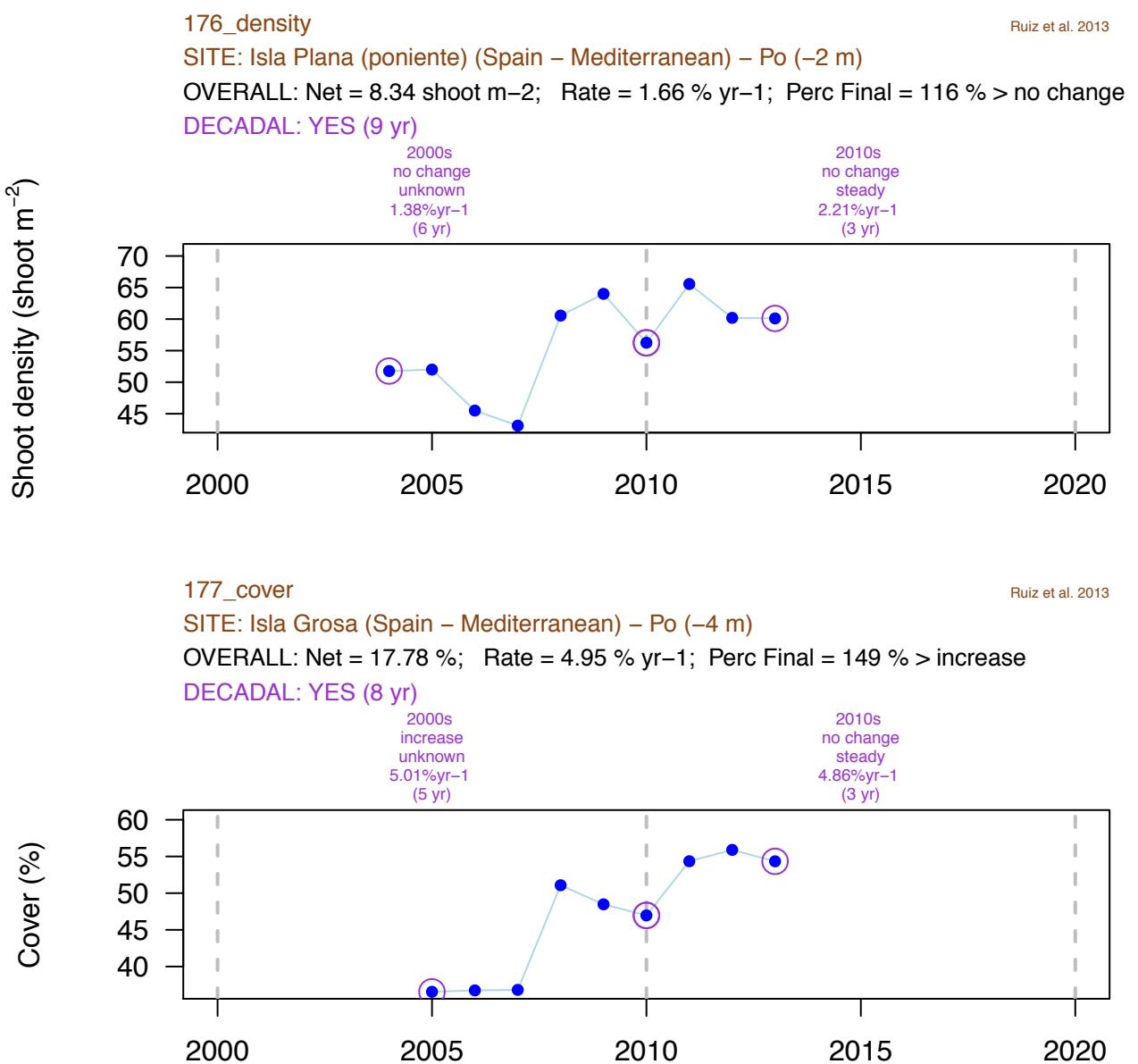












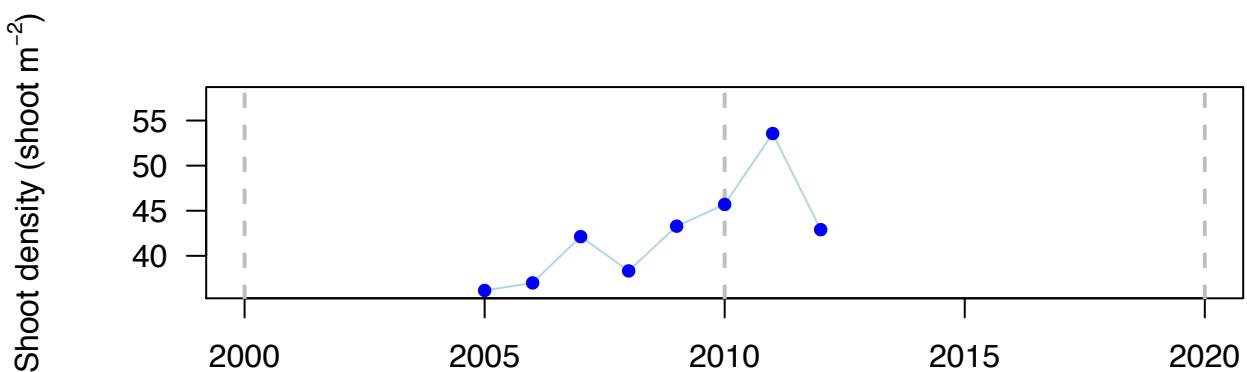
177_density

Ruiz et al. 2013

SITE: Isla Grosa (Spain – Mediterranean) – Po (-4 m)

OVERALL: Net = 6.74 shoot m⁻²; Rate = 2.44 % yr⁻¹; Perc Final = 119 % > no change

DECadal: NO (7 yr)



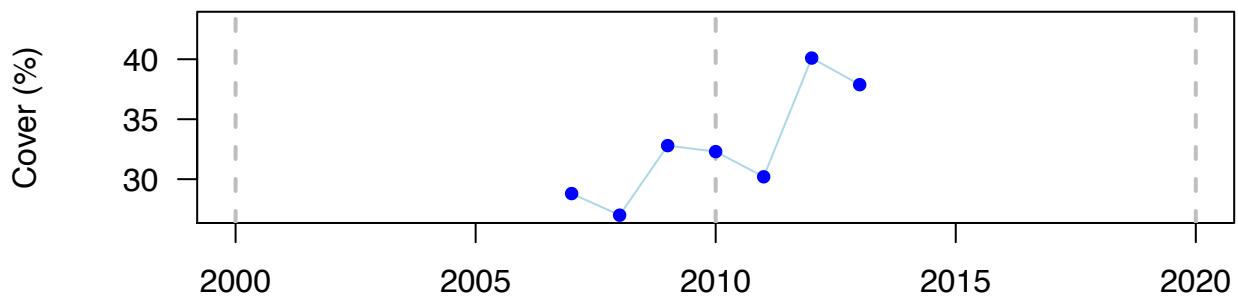
178_cover

Ruiz et al. 2013

SITE: Isla Grosa (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = 9.08 %; Rate = 4.57 % yr⁻¹; Perc Final = 132 % > increase

Decadal: NO (6 yr)



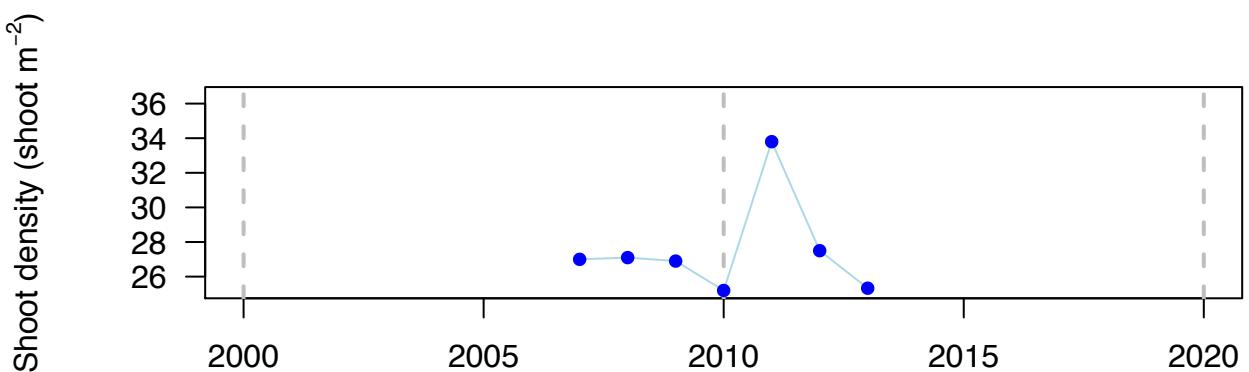
178_density

Ruiz et al. 2013

SITE: Isla Grosa (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -1.67 shoot m⁻²; Rate = -1.06 % yr⁻¹; Perc Final = 94 % > no change

DECADAL: NO (6 yr)



179_cover

Ruiz et al. 2013

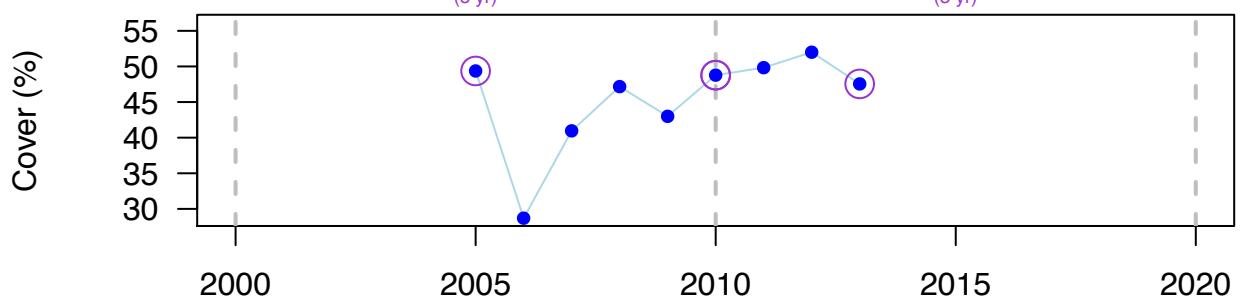
SITE: Puerto de Tomás Maestre (Spain – Mediterranean) – Po (-4 m)

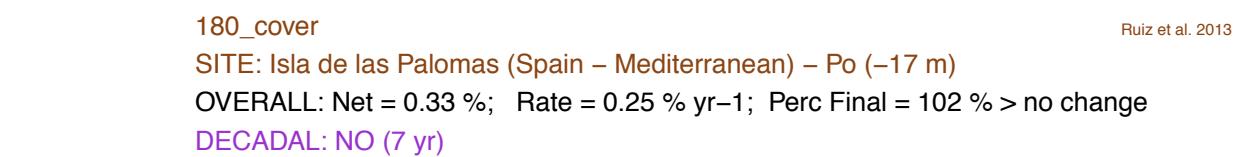
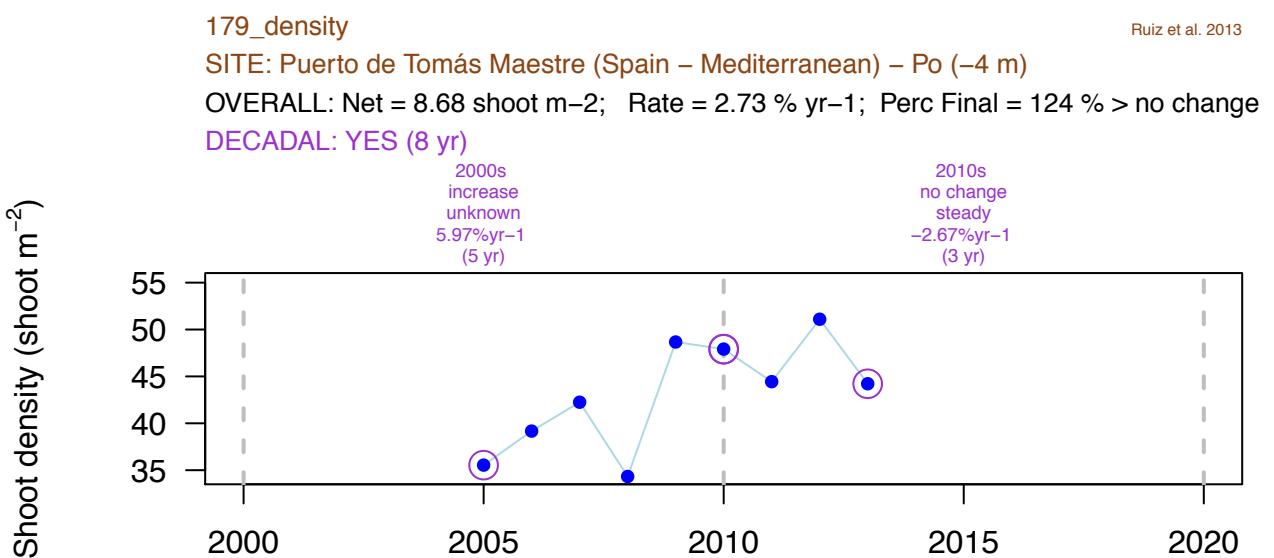
OVERALL: Net = -1.82 %; Rate = -0.47 % yr⁻¹; Perc Final = 96 % > no change

DECADAL: YES (8 yr)

2000s
no change
unknown
-0.24%yr⁻¹
(5 yr)

2010s
no change
steady
-0.85%yr⁻¹
(3 yr)





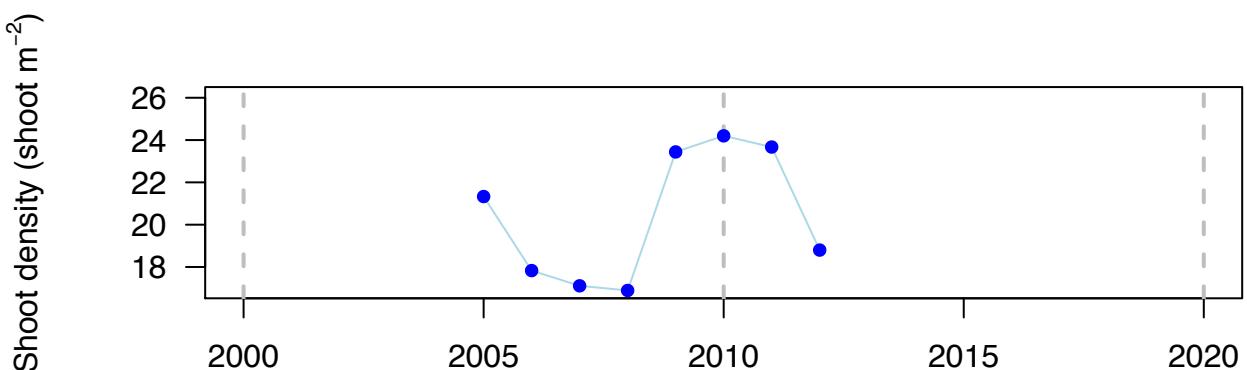
180_density

Ruiz et al. 2013

SITE: Isla de las Palomas (Spain – Mediterranean) – Po (-17 m)

OVERALL: Net = -2.53 shoot m⁻²; Rate = -1.8 % yr⁻¹; Perc Final = 88 % > no change

DECadal: NO (7 yr)



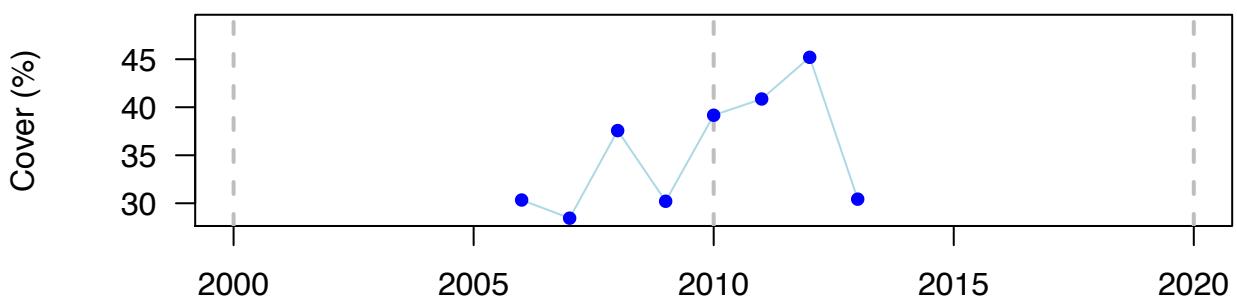
181_cover

Ruiz et al. 2013

SITE: Cala Reona (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 0.09 %; Rate = 0.04 % yr⁻¹; Perc Final = 100 % > no change

DECadal: NO (7 yr)



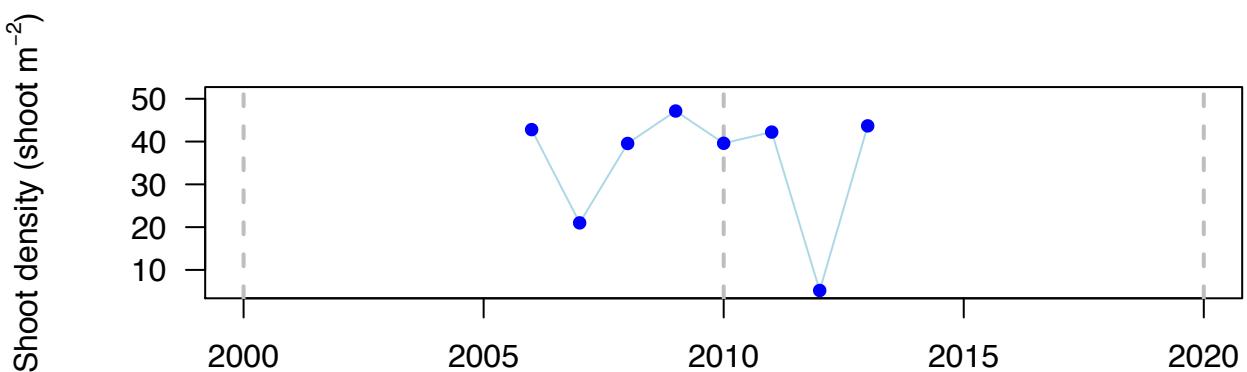
181_density

Ruiz et al. 2013

SITE: Cala Reona (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 0.87 shoot m⁻²; Rate = 0.29 % yr⁻¹; Perc Final = 102 % > no change

DECADAL: NO (7 yr)



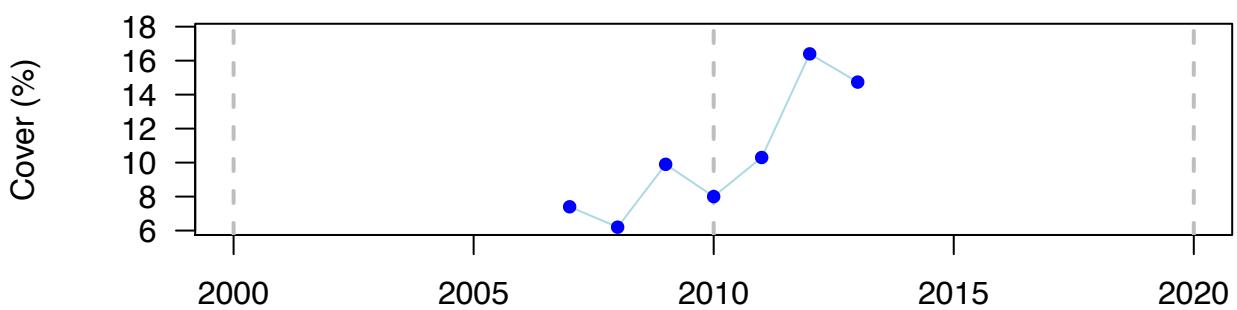
182_cover

Ruiz et al. 2013

SITE: Calblanque (Spain – Mediterranean) – Po (-26 m)

OVERALL: Net = 7.34 %; Rate = 11.48 % yr⁻¹; Perc Final = 199 % > increase

DECADAL: NO (6 yr)



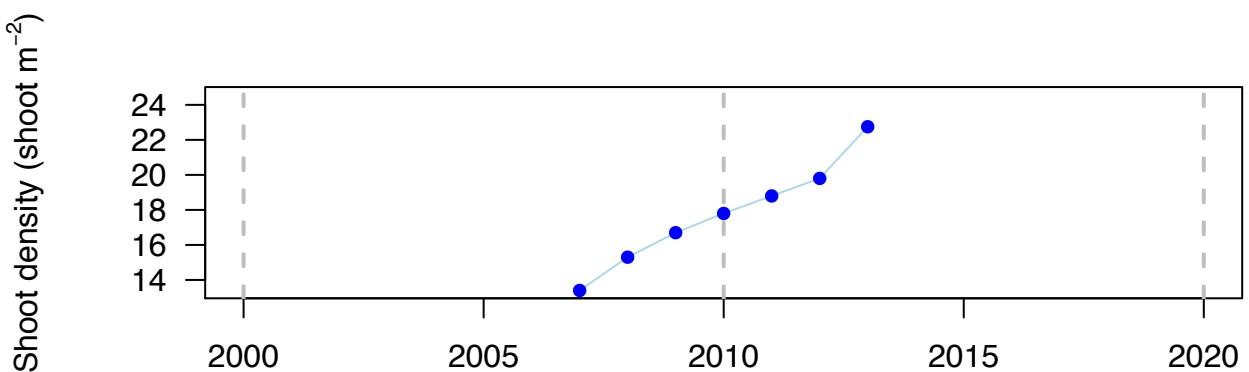
182_density

Ruiz et al. 2013

SITE: Calblanque (Spain – Mediterranean) – Po (-26 m)

OVERALL: Net = 9.35 shoot m⁻²; Rate = 8.82 % yr⁻¹; Perc Final = 170 % > increase

DECadal: NO (6 yr)



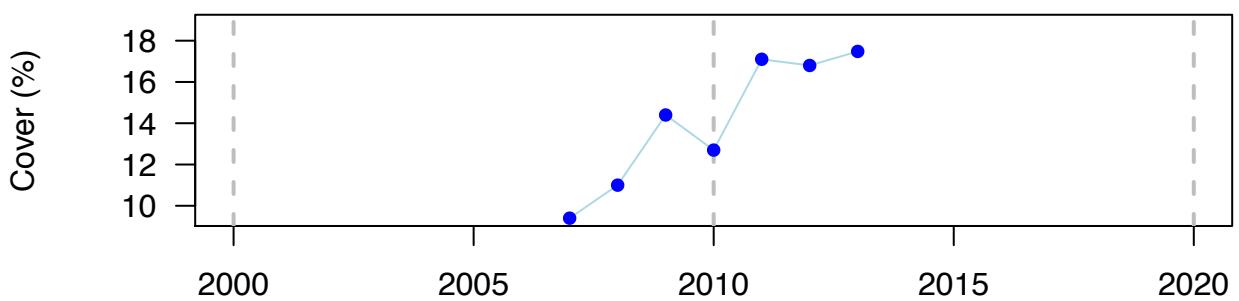
183_cover

Ruiz et al. 2013

SITE: El Muellecico (Cabo Tiñoso) (Spain – Mediterranean) – Po (-22 m)

OVERALL: Net = 8.08 %; Rate = 10.34 % yr⁻¹; Perc Final = 186 % > increase

DECadal: NO (6 yr)



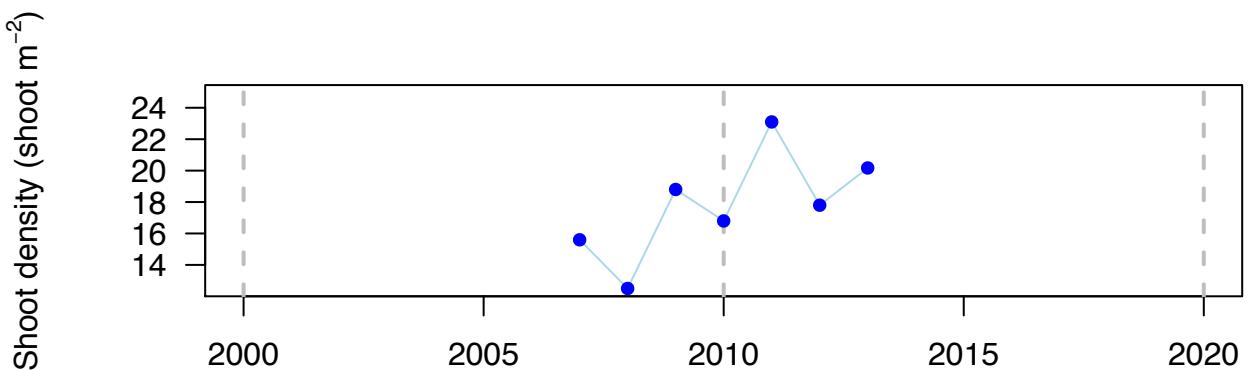
183_density

Ruiz et al. 2013

SITE: El Muellecico (Cabo Tiñoso) (Spain – Mediterranean) – Po (-22 m)

OVERALL: Net = 4.57 shoot m⁻²; Rate = 4.28 % yr⁻¹; Perc Final = 129 % > increase

DECADAL: NO (6 yr)



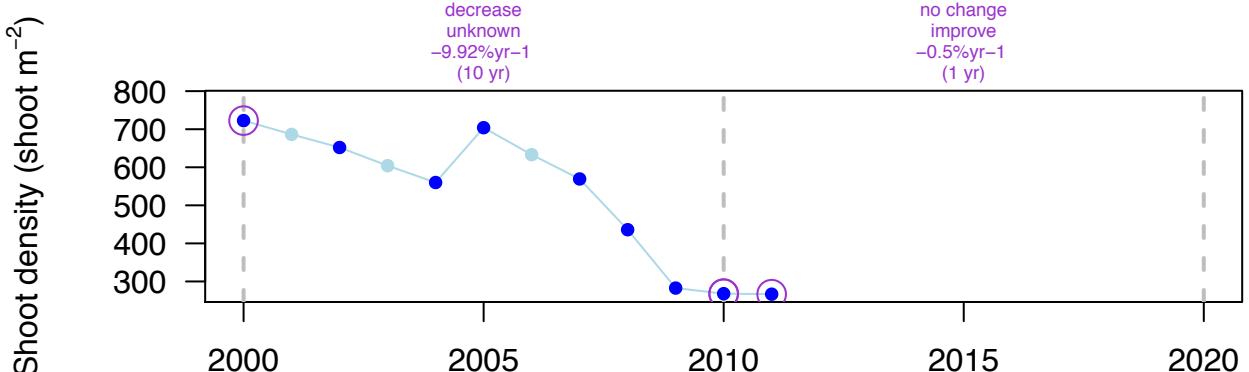
184_density

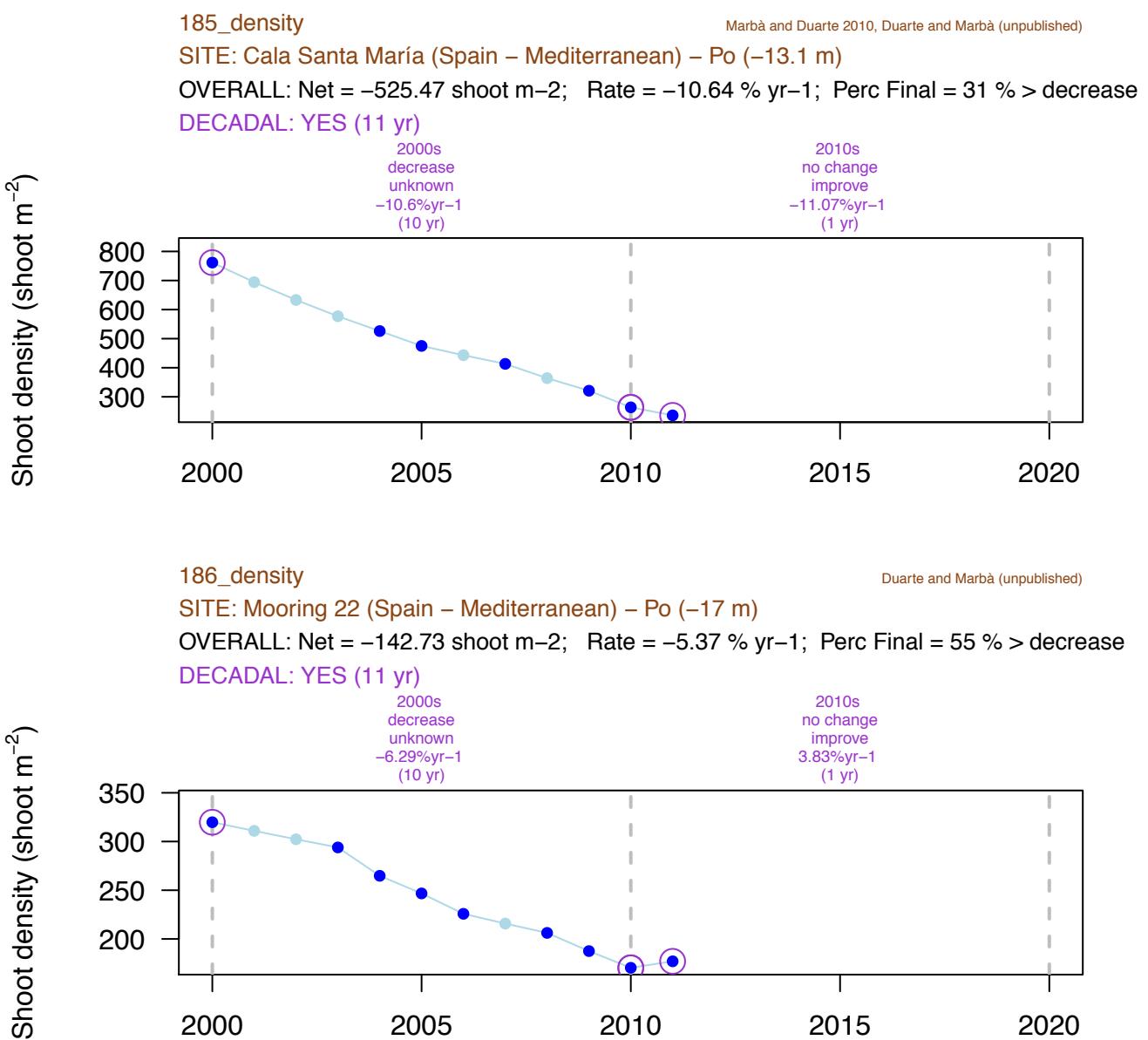
Marbà and Duarte 2010, Duarte and Marbà (unpublished)

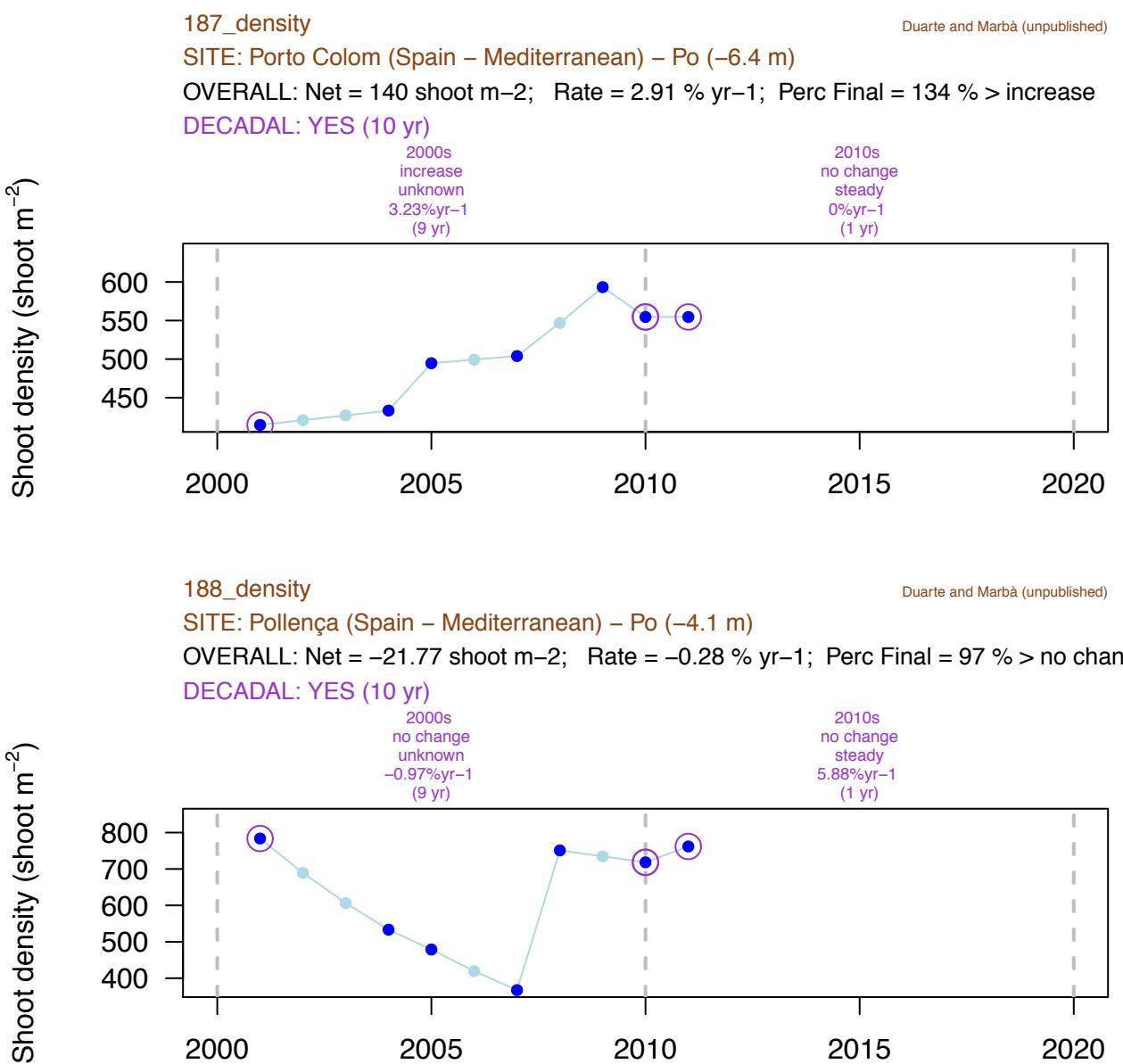
SITE: El Castell (Spain – Mediterranean) – Po (-5 m)

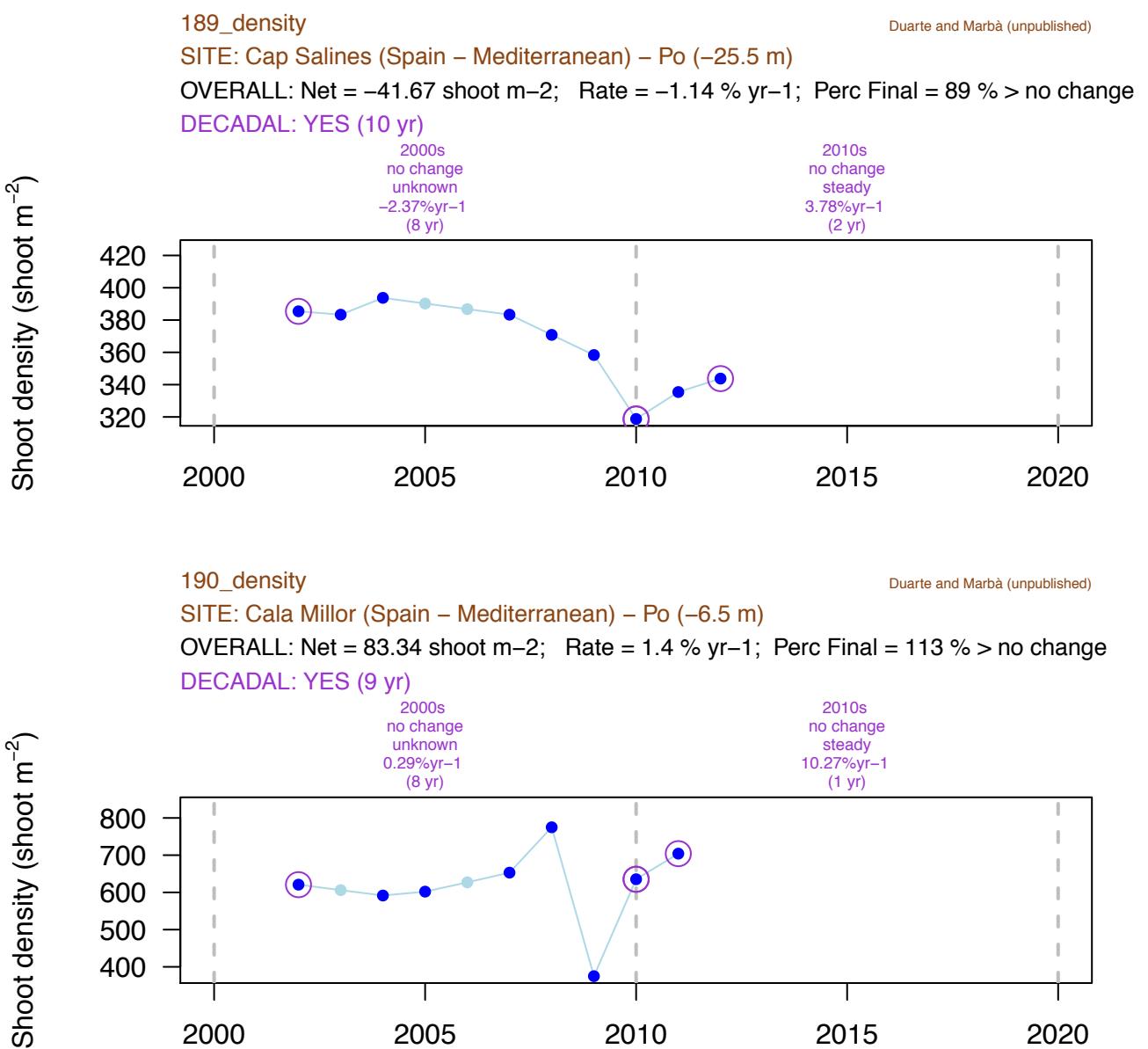
OVERALL: Net = -456 shoot m⁻²; Rate = -9.06 % yr⁻¹; Perc Final = 37 % > decrease

DECADAL: YES (11 yr)









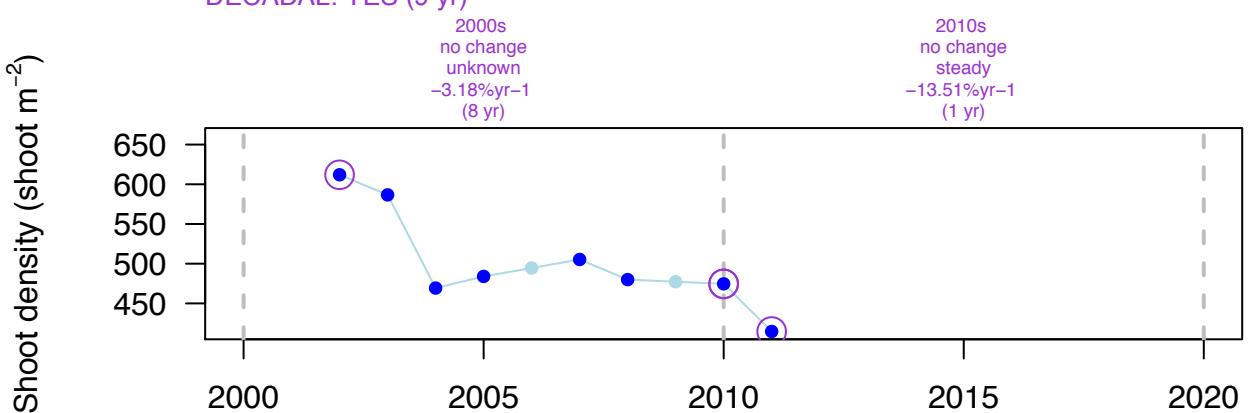
191_density

Duarte and Marbà (unpublished)

SITE: Can Picafort (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = -197.33 shoot m⁻²; Rate = -4.32 % yr⁻¹; Perc Final = 68 % > decrease

DECadal: YES (9 yr)



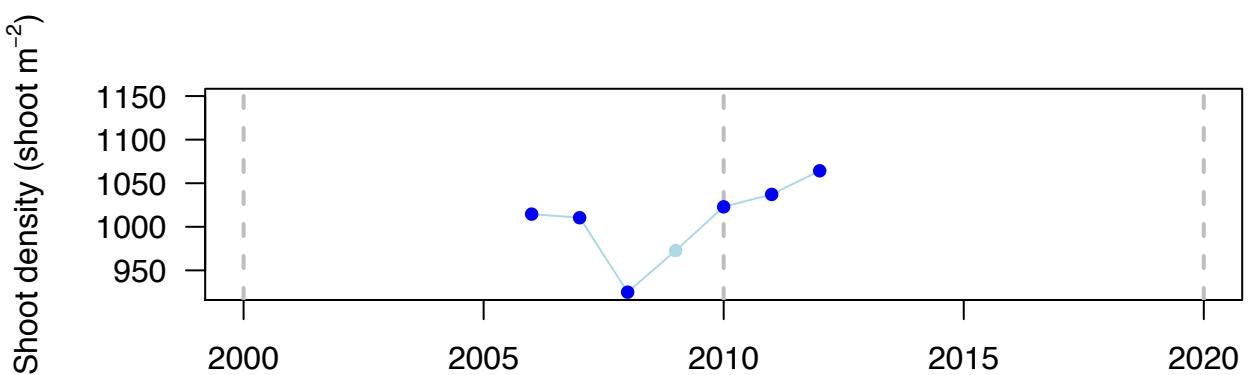
192_density

Duarte and Marbà (unpublished)

SITE: Es Cargol (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 49.71 shoot m⁻²; Rate = 0.8 % yr⁻¹; Perc Final = 105 % > no change

DECadal: NO (6 yr)



193_density

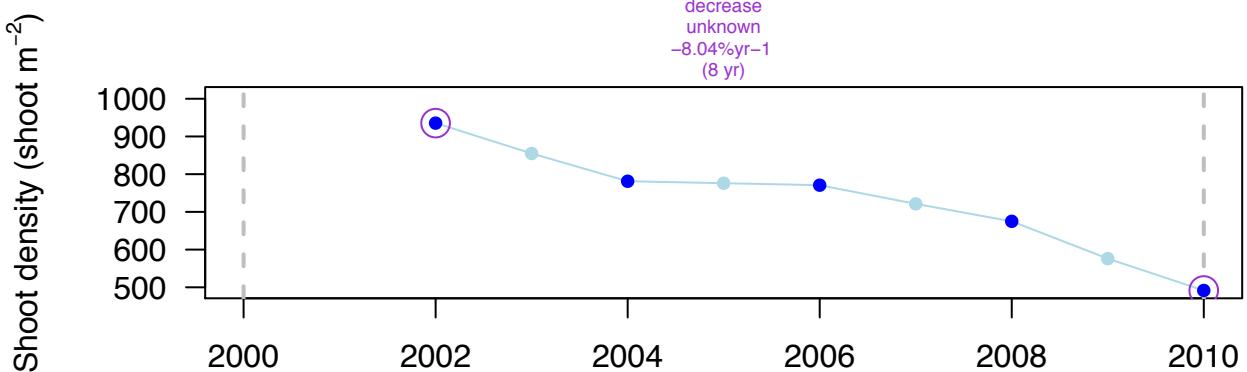
Duarte and Marbà (unpublished)

SITE: Fornells (Spain – Mediterranean) – Po (-6.8 m)

OVERALL: Net = -443.75 shoot m⁻²; Rate = -8.04 % yr⁻¹; Perc Final = 53 % > decrease

DECadal: YES (8 yr)

2000s
decrease
unknown
-8.04%yr⁻¹
(8 yr)



194_density

Duarte and Marbà (unpublished)

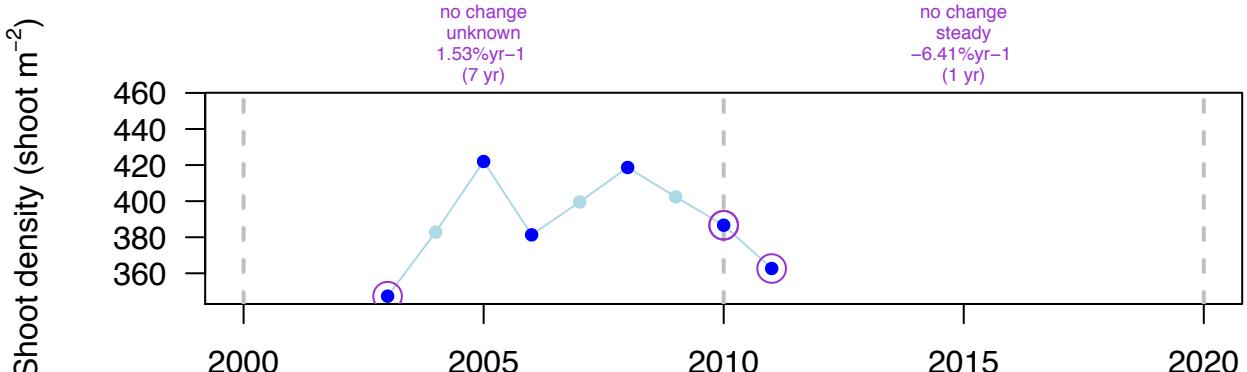
SITE: Cala d'Or (Spain – Mediterranean) – Po (-7 m)

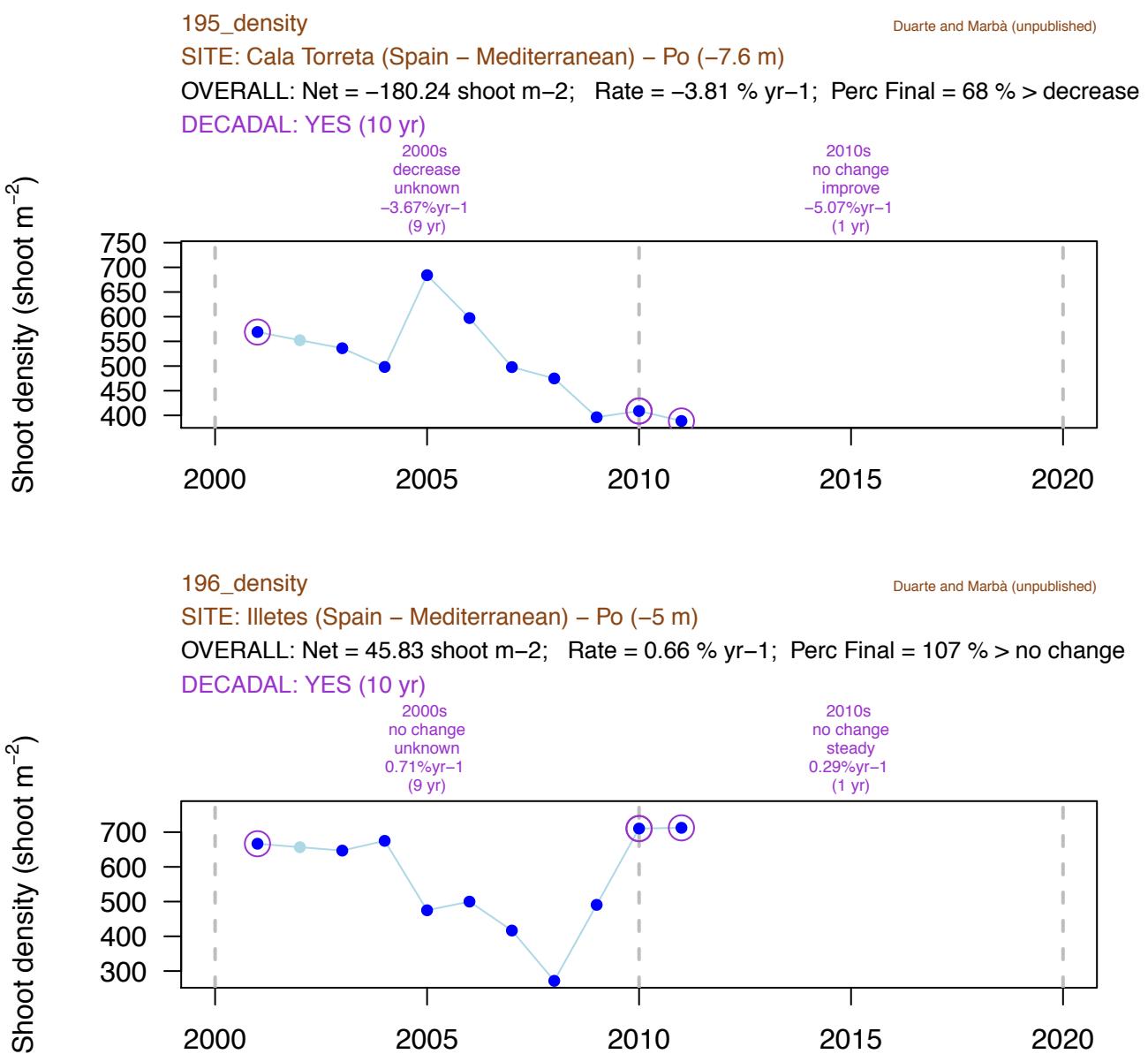
OVERALL: Net = 15.34 shoot m⁻²; Rate = 0.54 % yr⁻¹; Perc Final = 104 % > no change

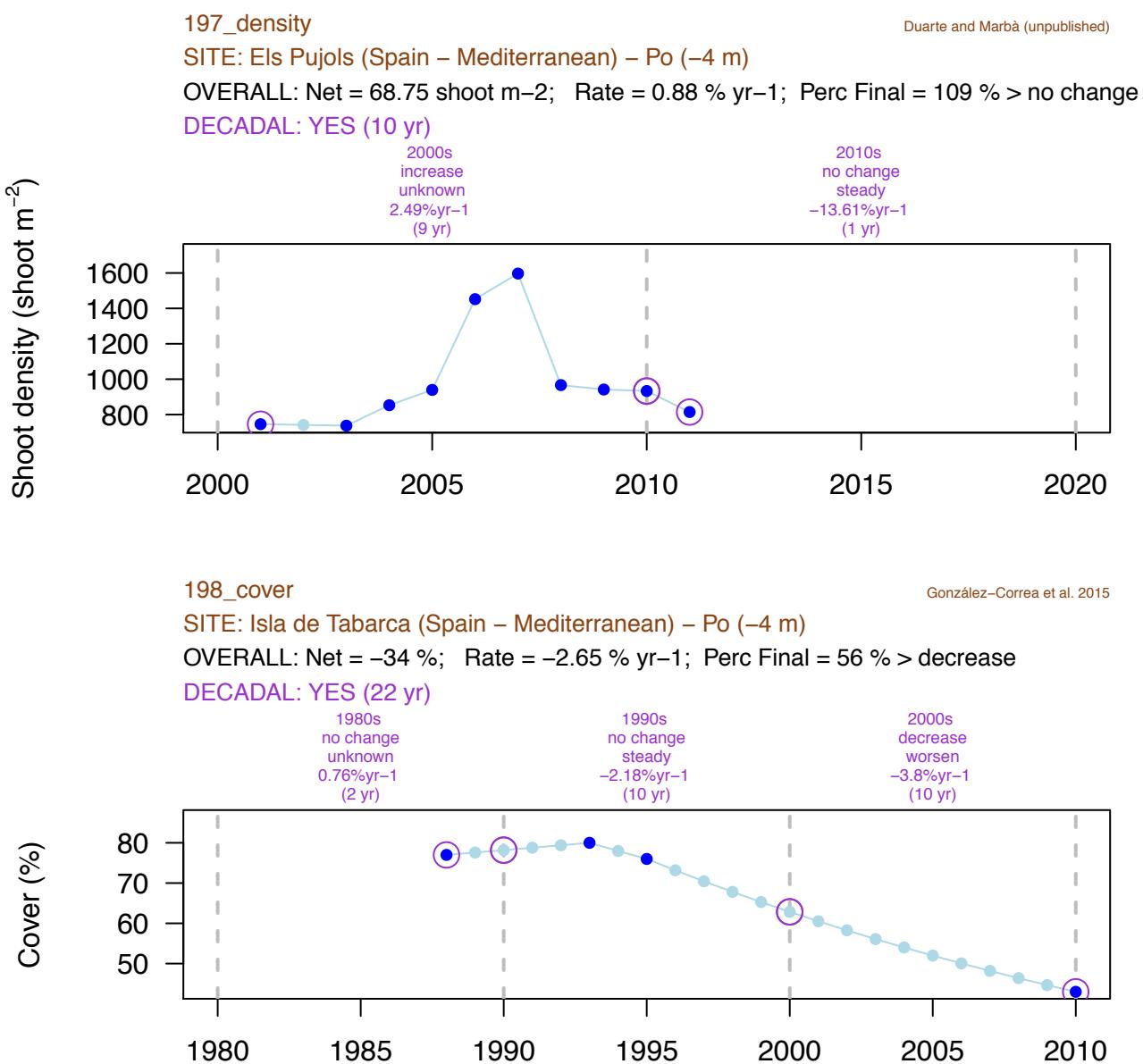
Decadal: YES (8 yr)

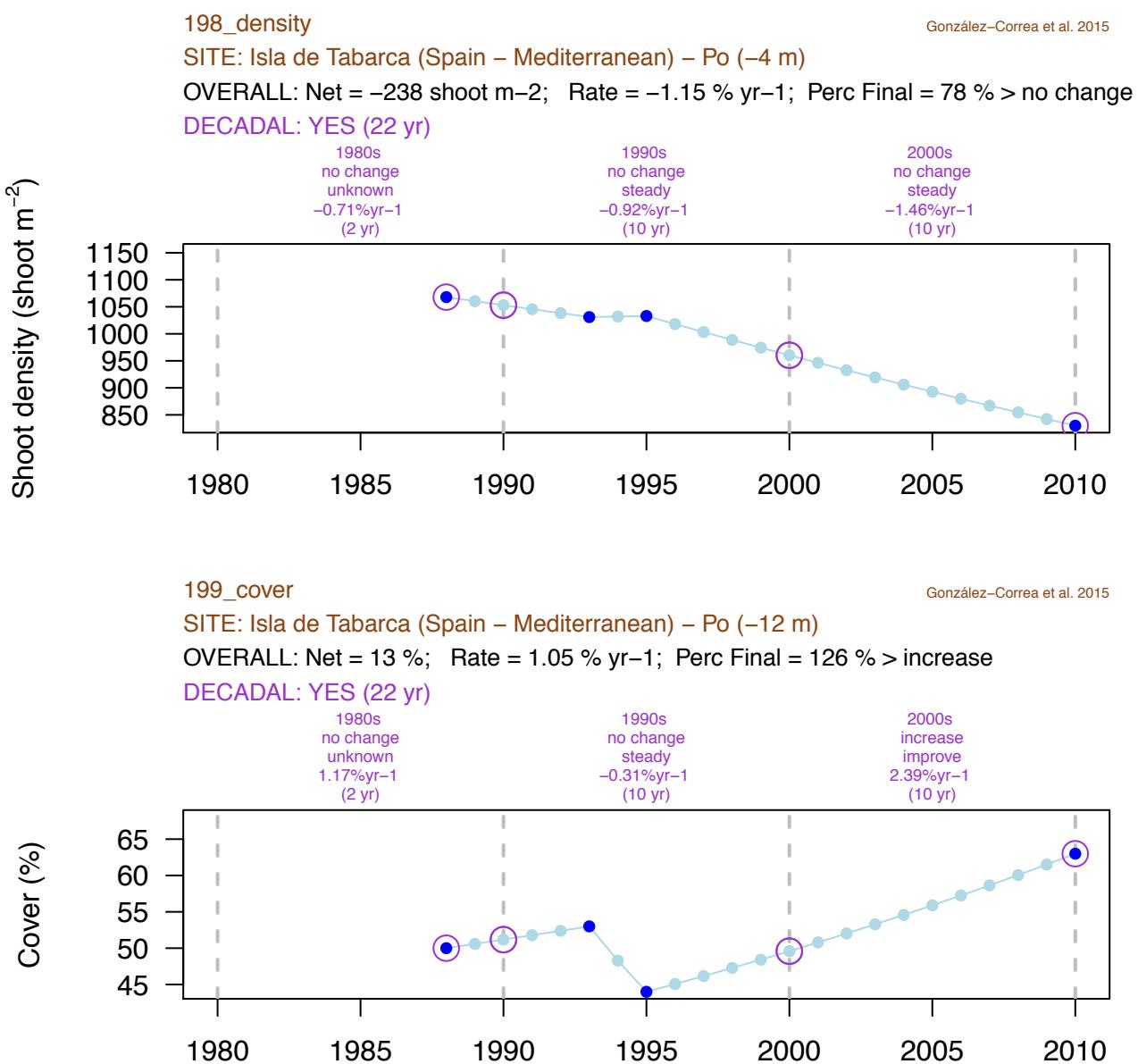
2000s
no change
unknown
1.53%yr⁻¹
(7 yr)

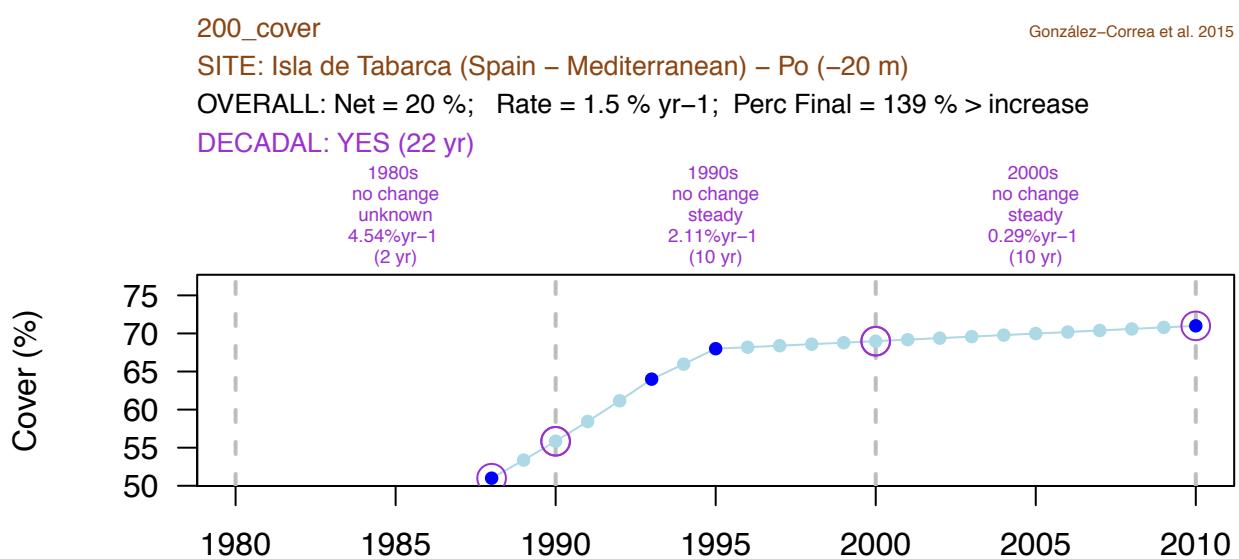
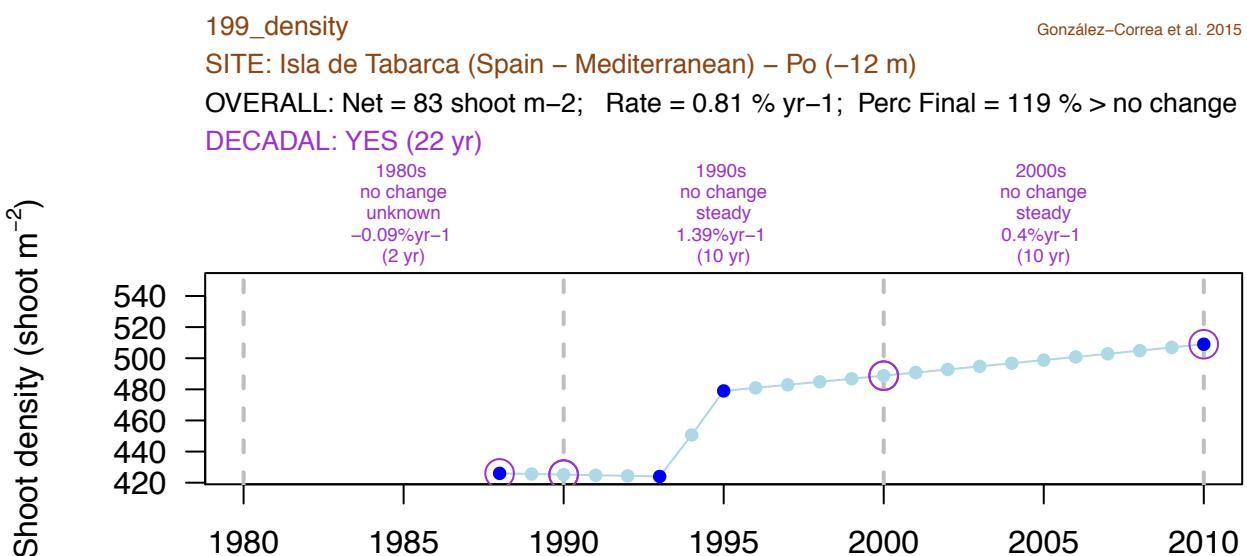
2010s
no change
steady
-6.41%yr⁻¹
(1 yr)

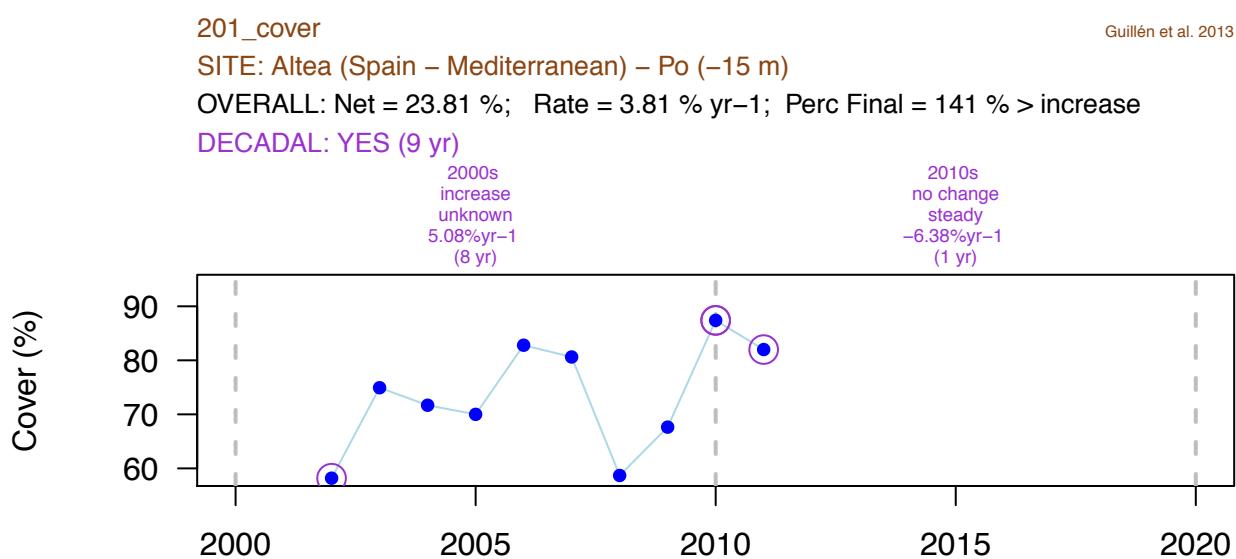
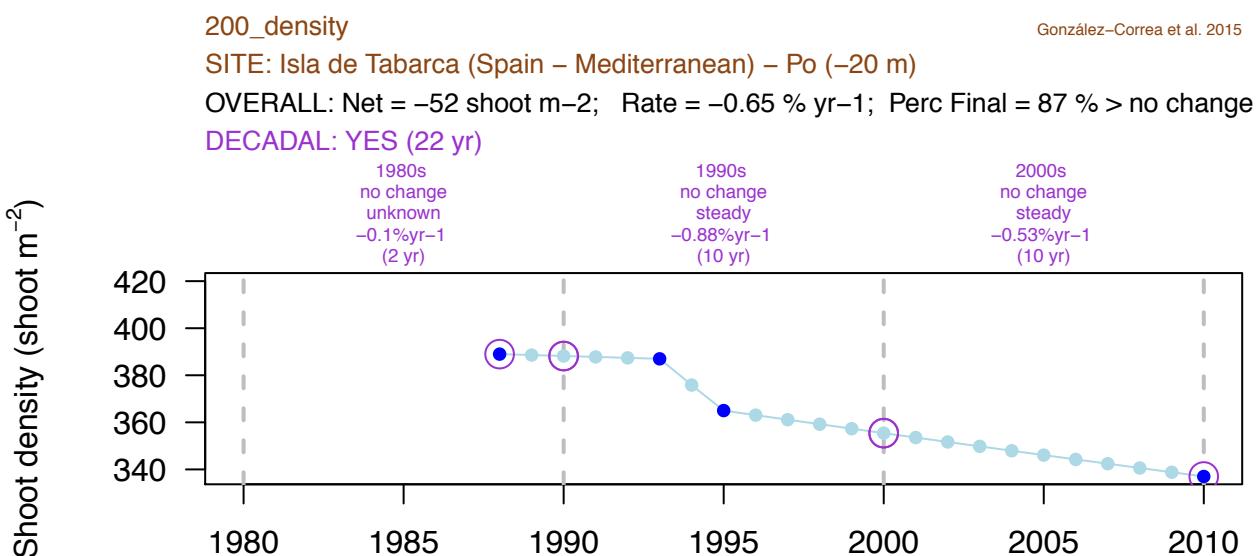


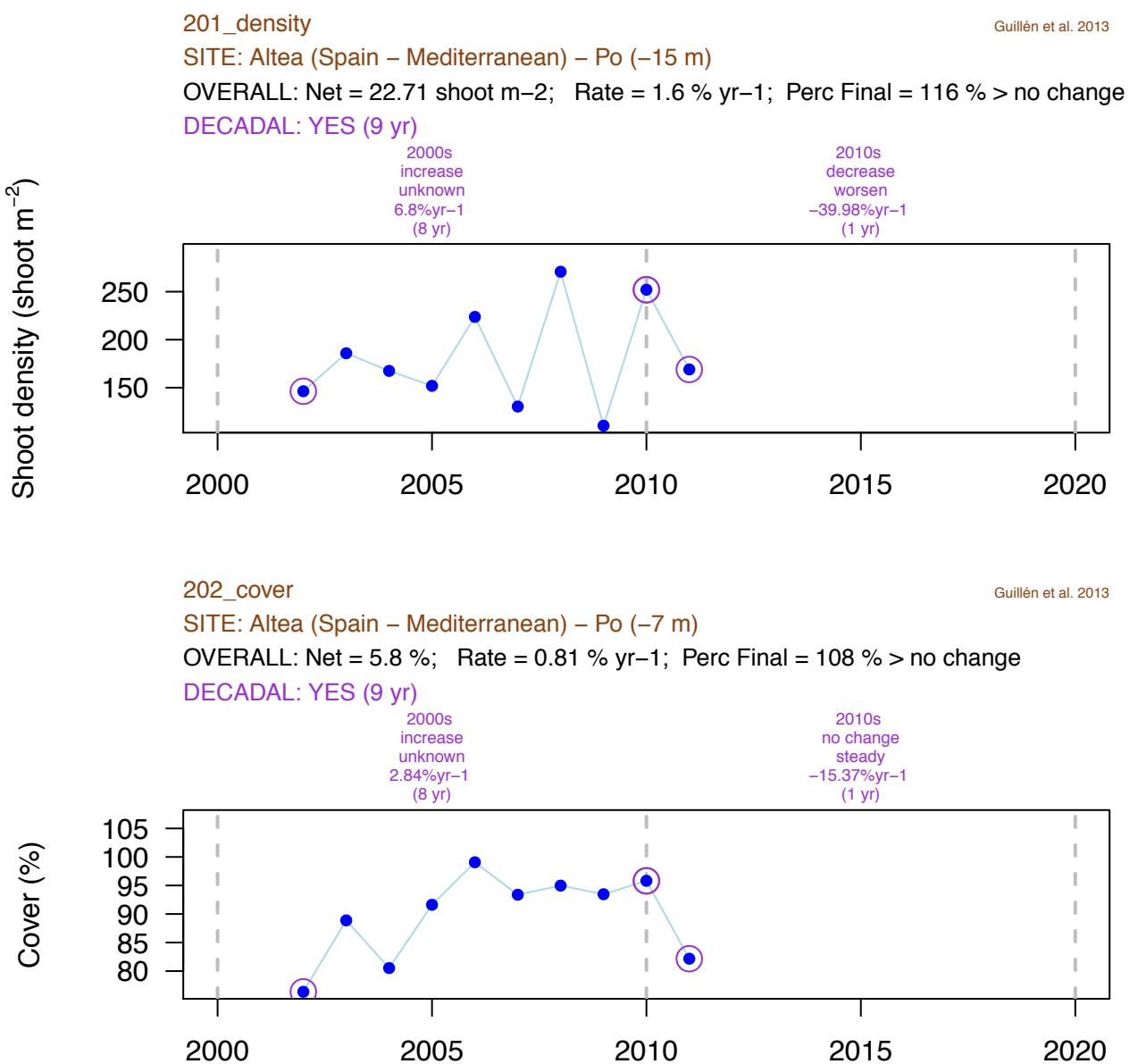


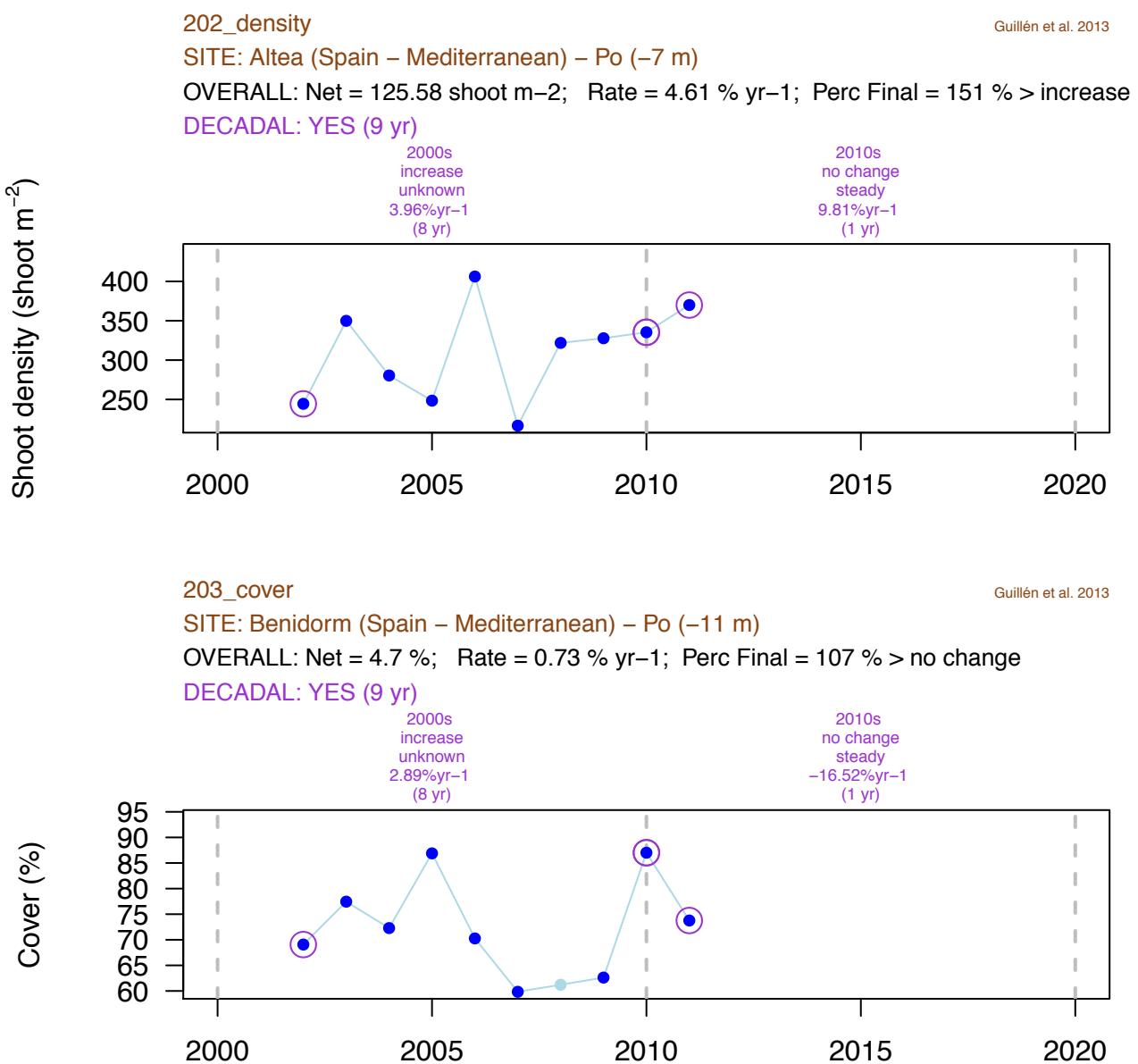


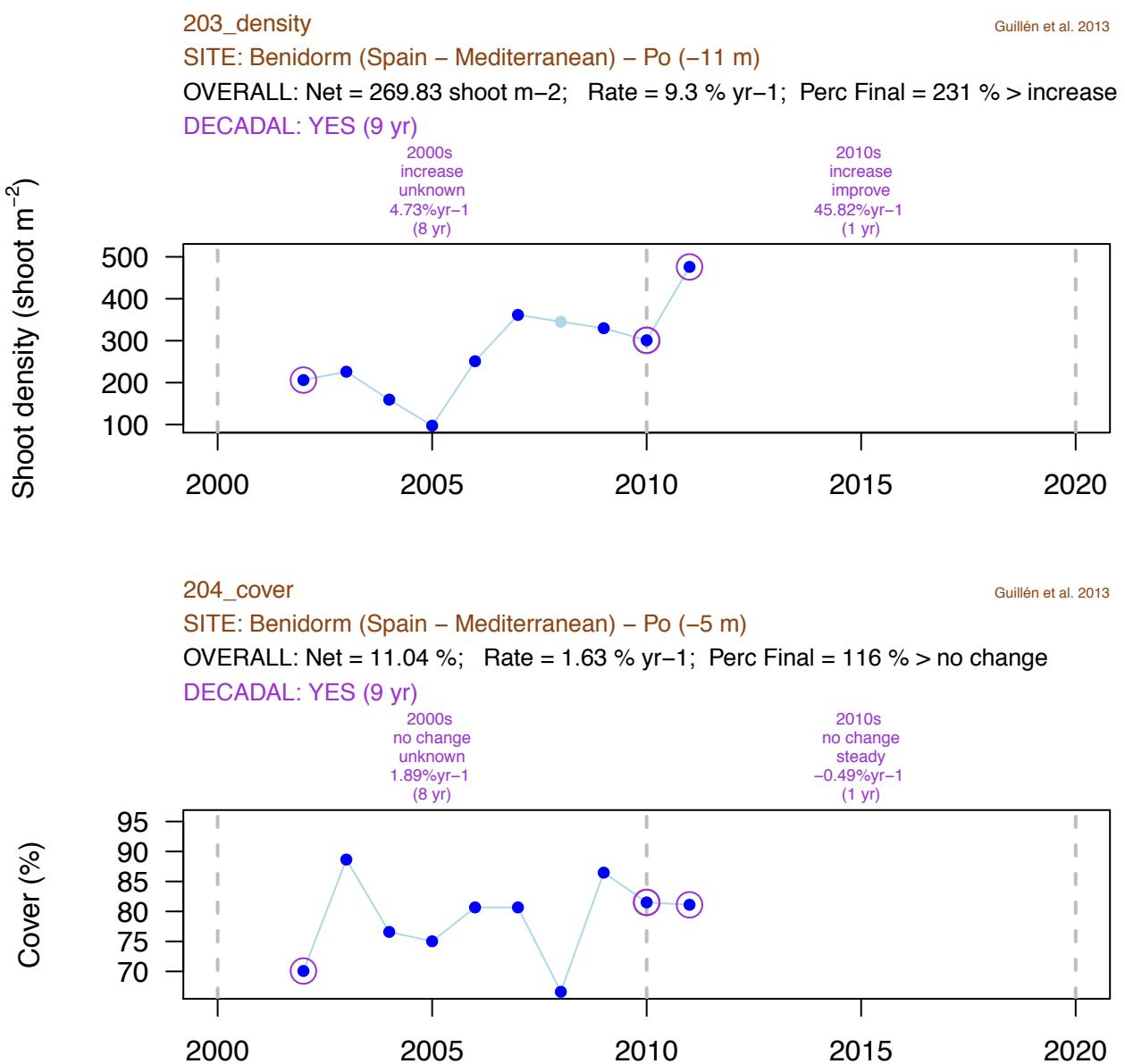


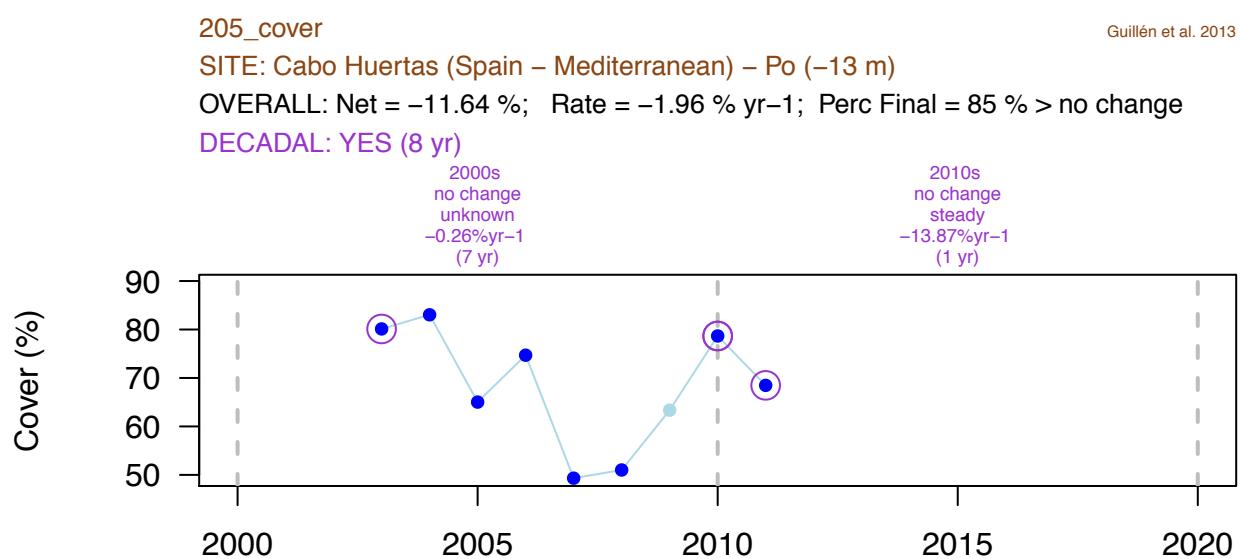
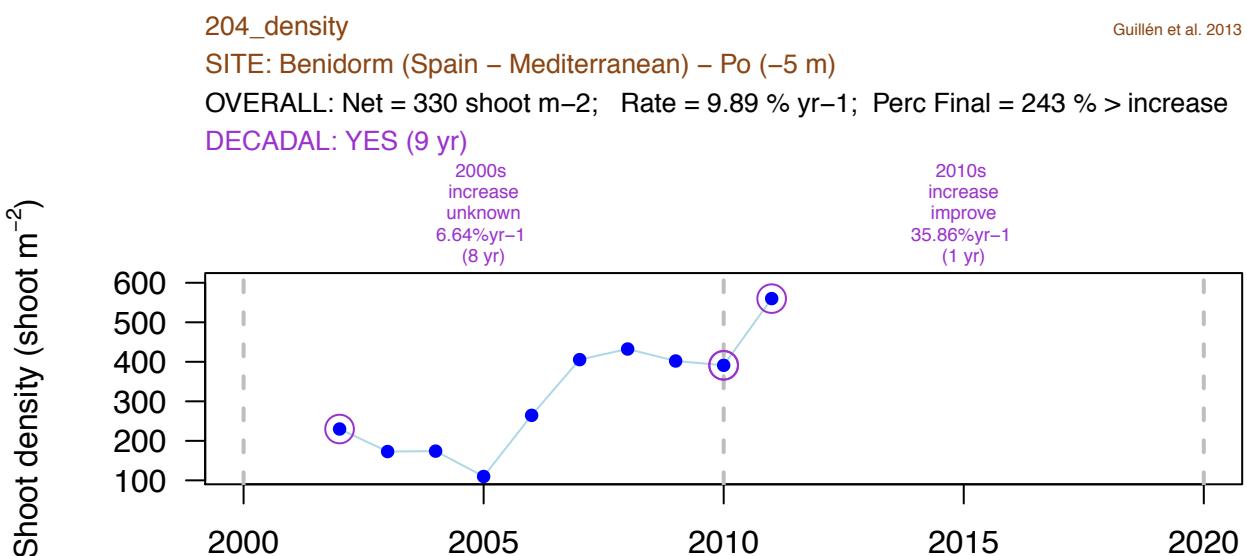


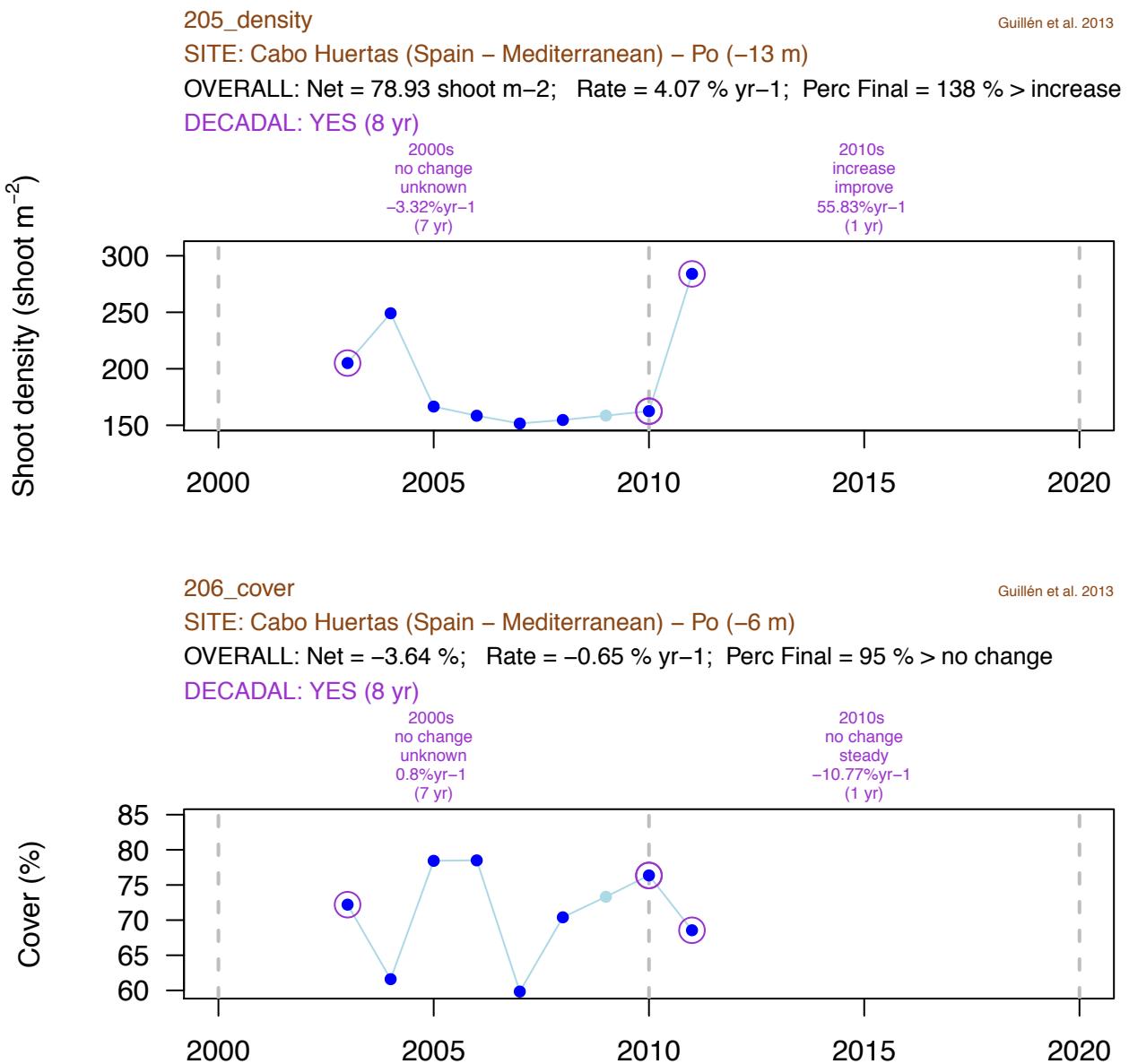


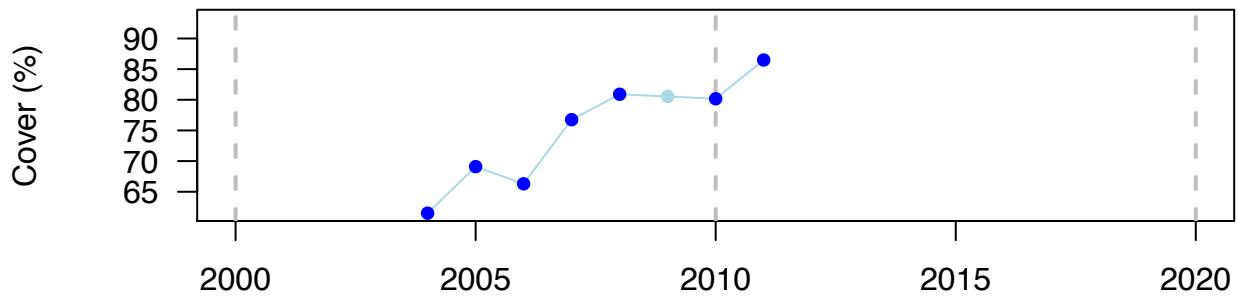
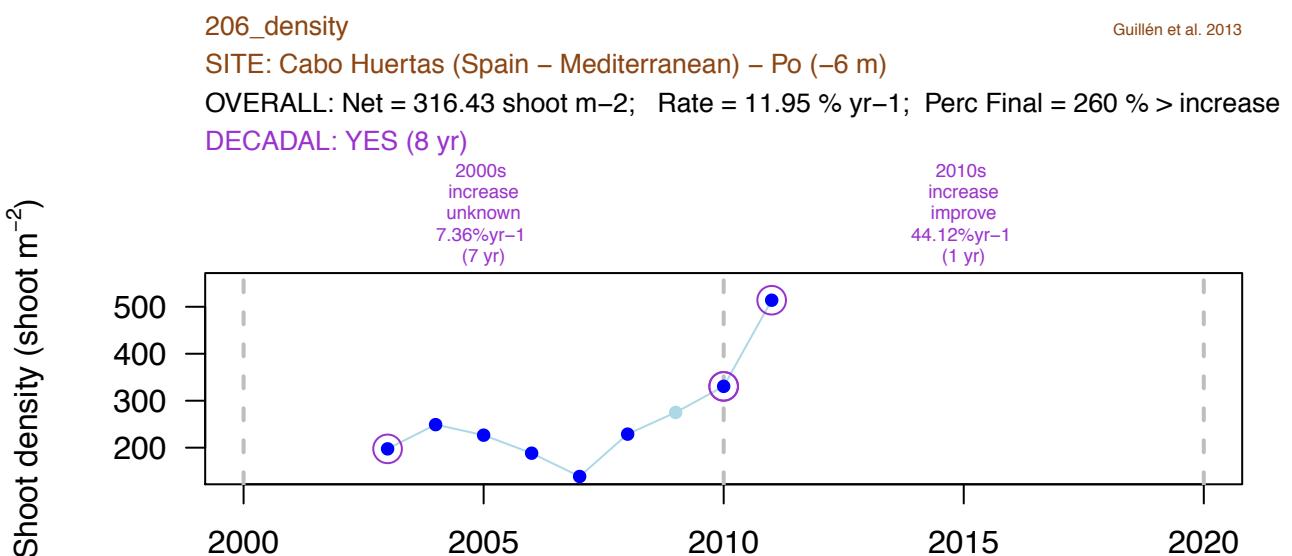












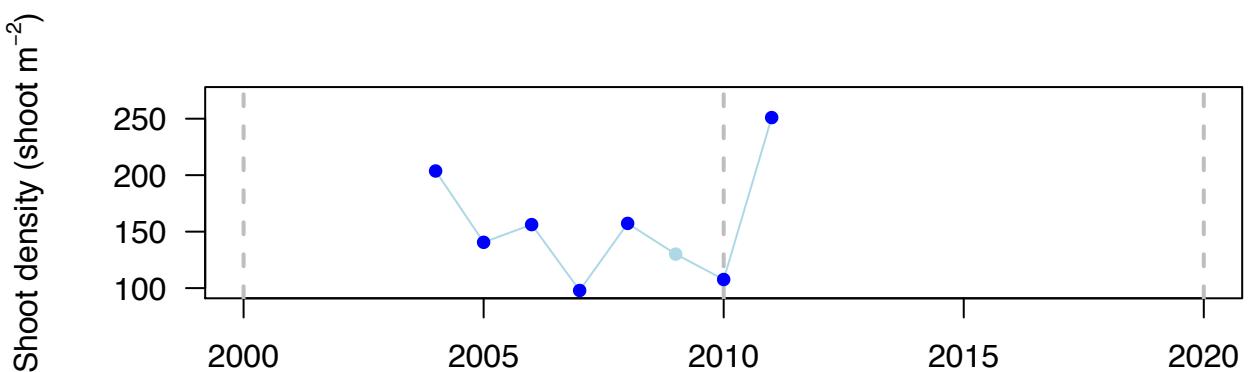
207_density

Guillén et al. 2013

SITE: Cala Mina (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = 47.29 shoot m⁻²; Rate = 2.98 % yr⁻¹; Perc Final = 123 % > no change

DECADAL: NO (7 yr)



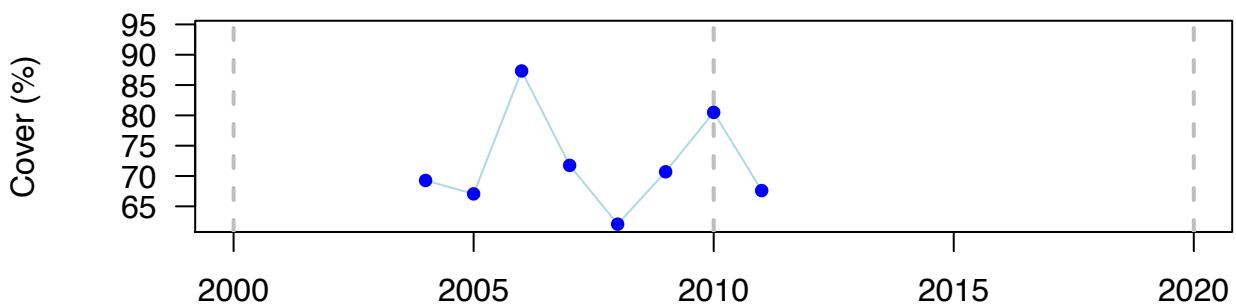
208_cover

Guillén et al. 2013

SITE: Cala Mina (Spain – Mediterranean) – Po (-5 m)

OVERALL: Net = -1.67 %; Rate = -0.35 % yr⁻¹; Perc Final = 98 % > no change

DECADAL: NO (7 yr)



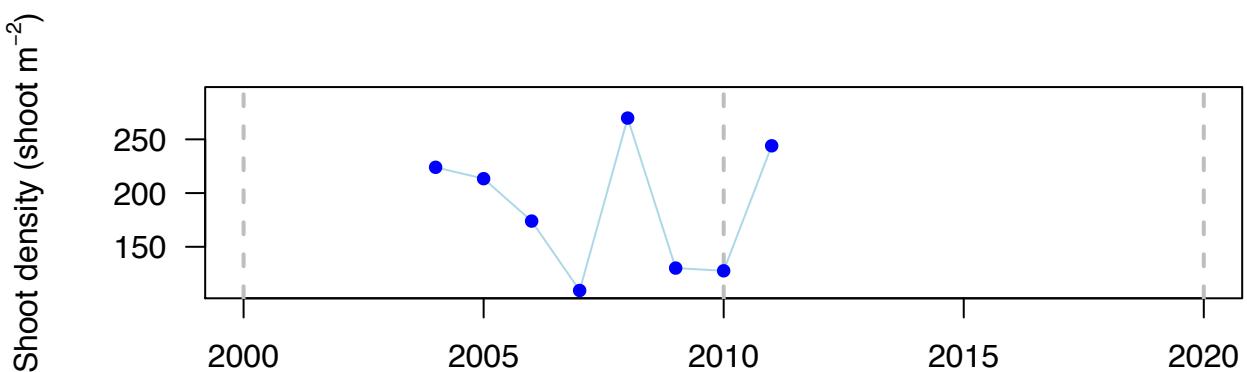
208_density

Guillén et al. 2013

SITE: Cala Mina (Spain – Mediterranean) – Po (-5 m)

OVERALL: Net = 20 shoot m⁻²; Rate = 1.22 % yr⁻¹; Perc Final = 109 % > no change

DECADAL: NO (7 yr)



209_cover

Guillén et al. 2013

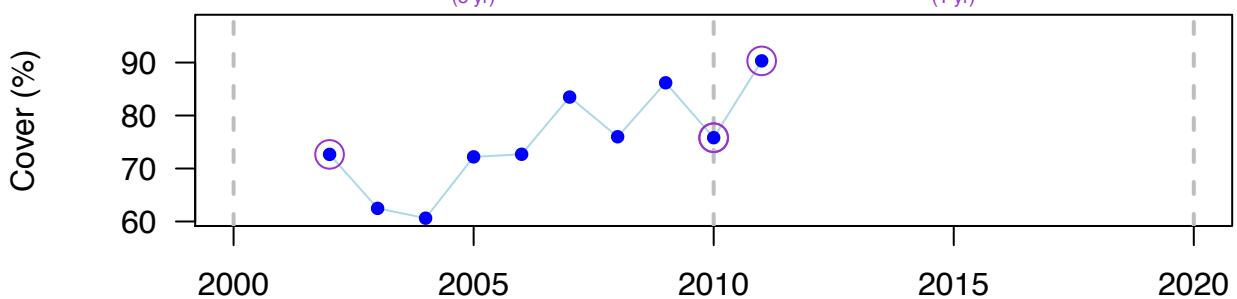
SITE: Calpe (Spain – Mediterranean) – Po (-12 m)

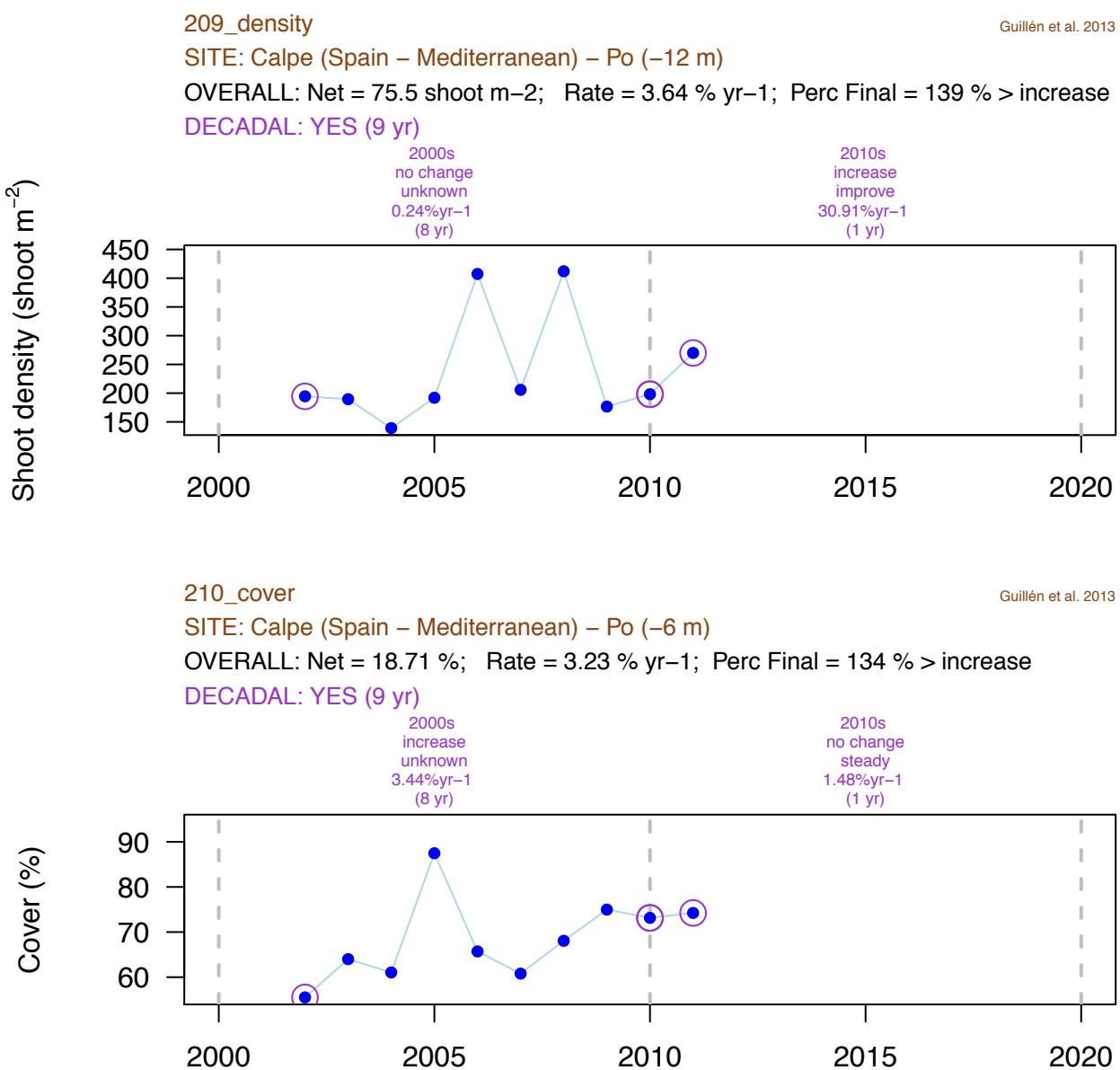
OVERALL: Net = 17.65 %; Rate = 2.42 % yr⁻¹; Perc Final = 124 % > no change

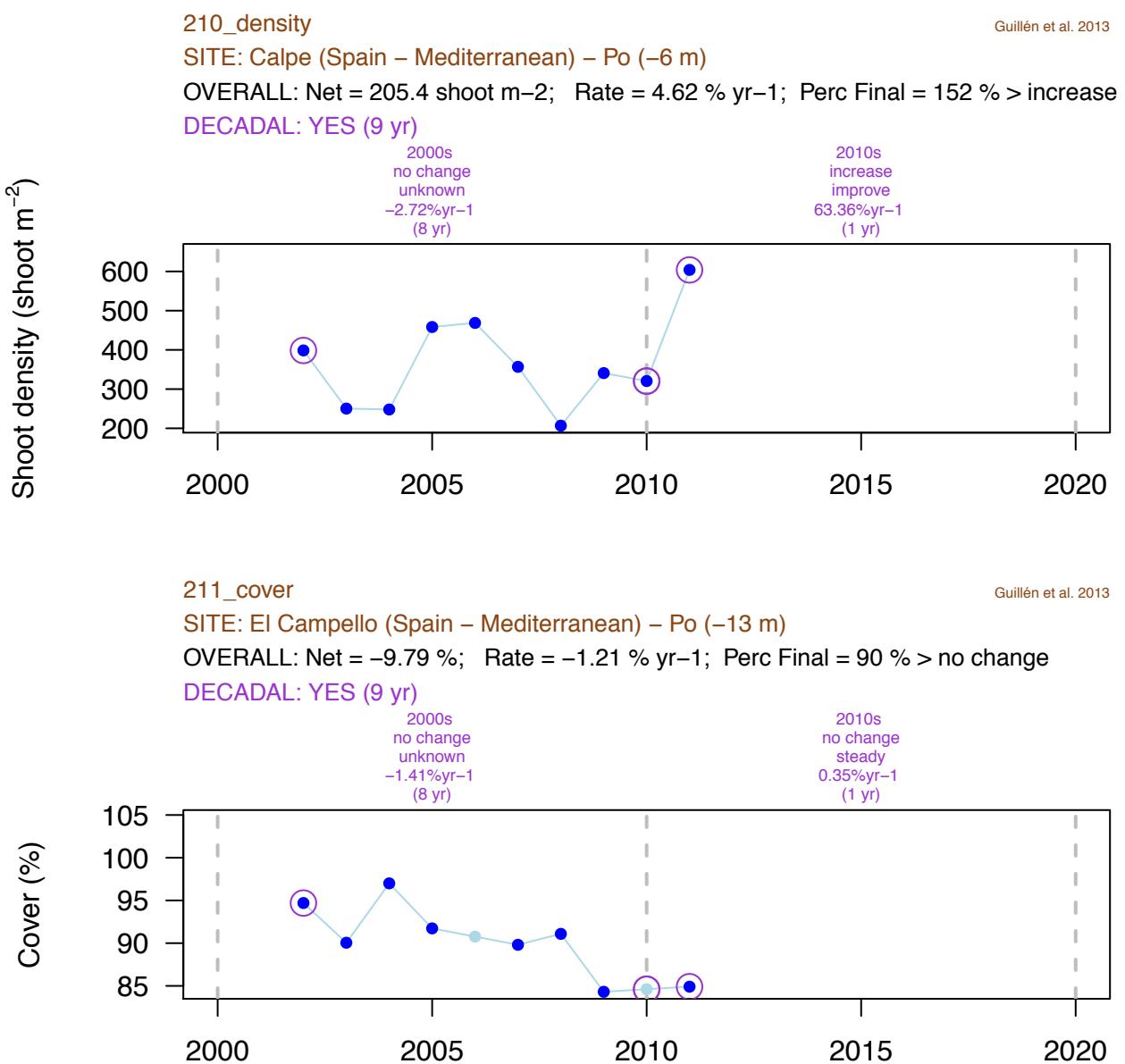
DECADAL: YES (9 yr)

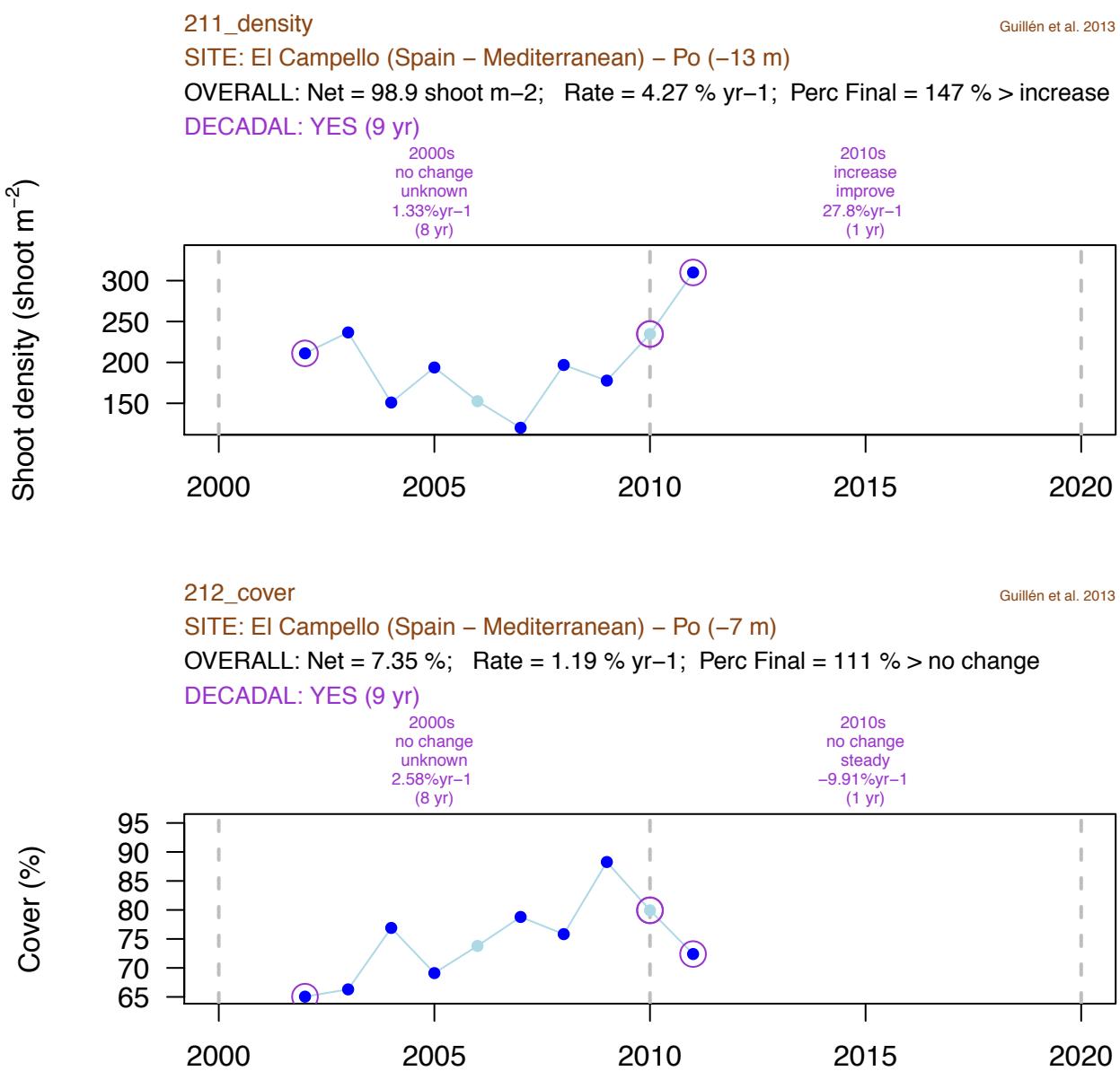
2000s
no change
unknown
0.53%yr⁻¹
(8 yr)

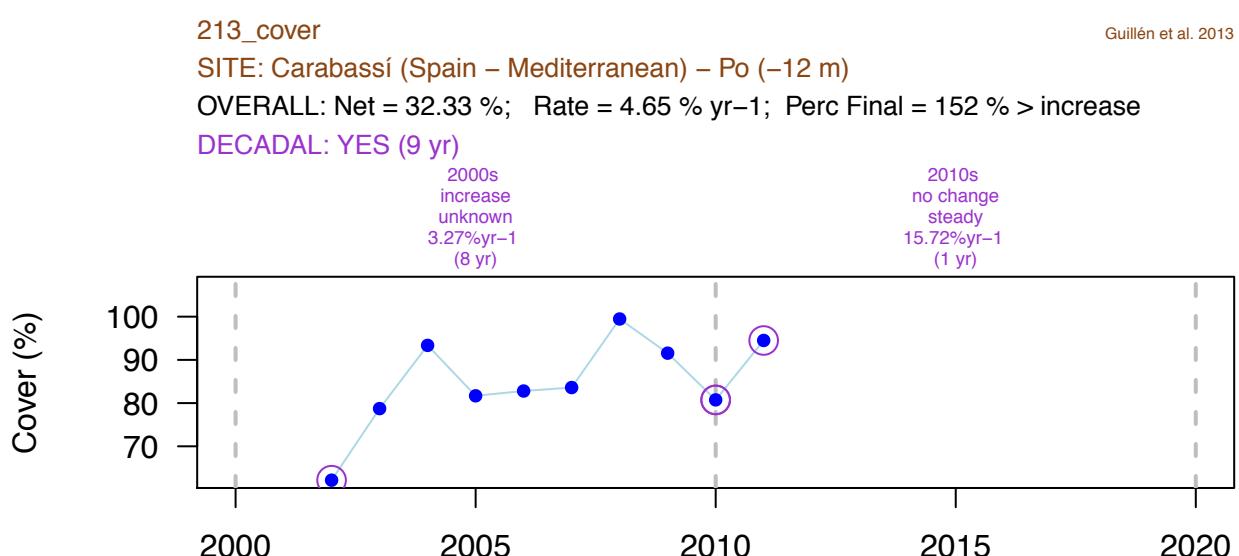
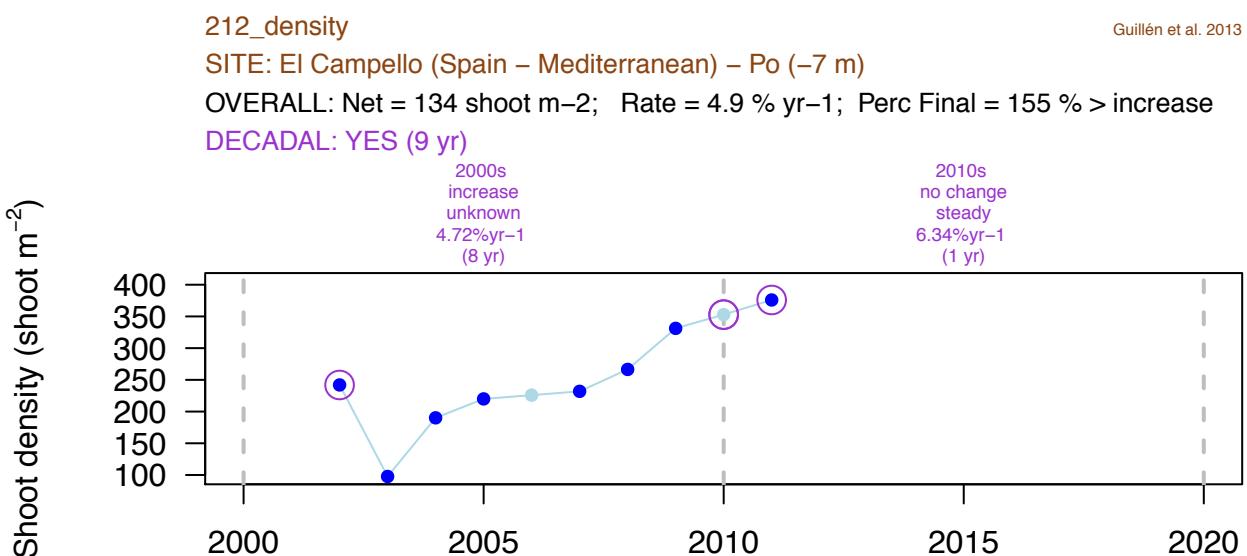
2010s
no change
steady
17.5%yr⁻¹
(1 yr)

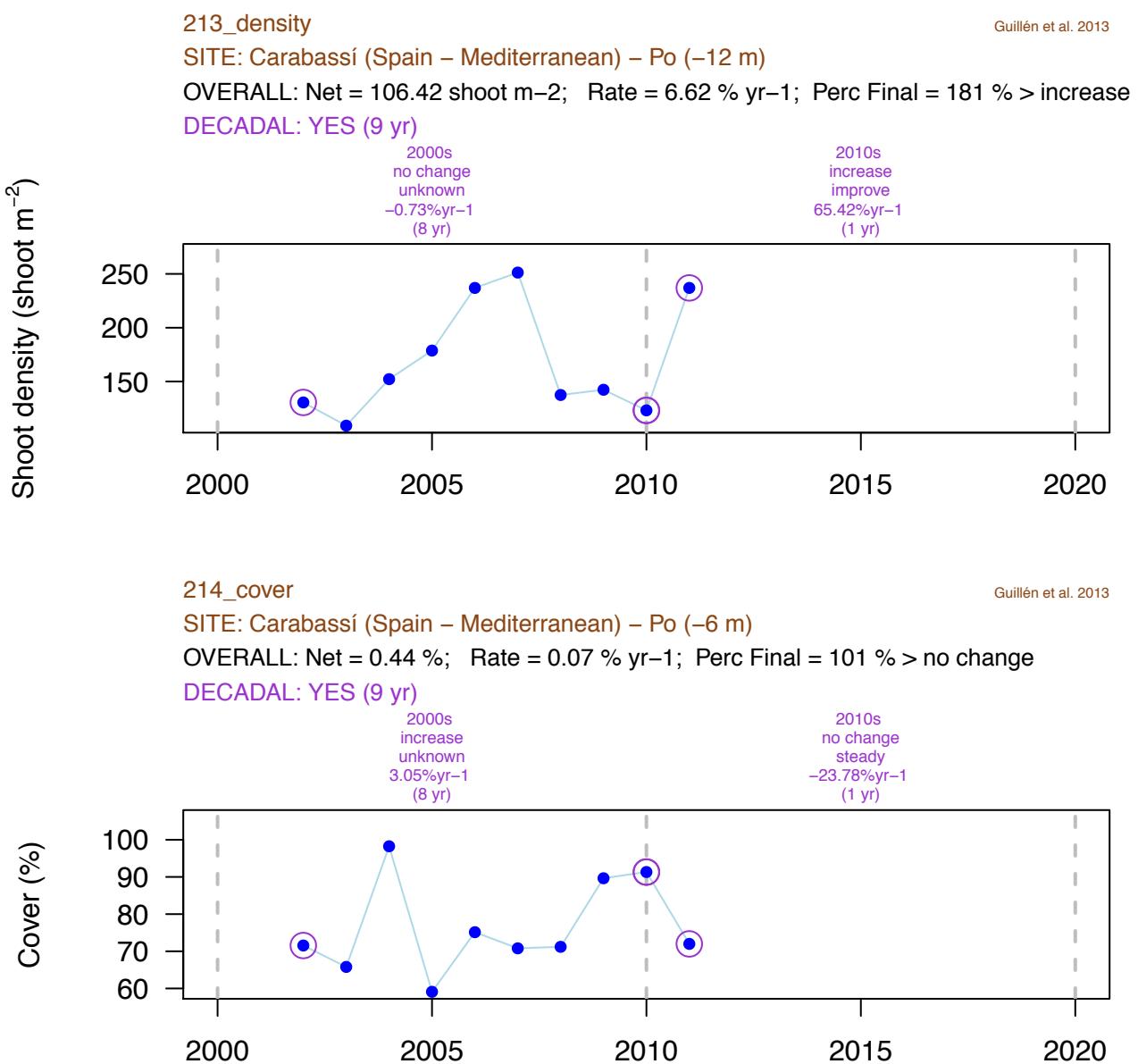


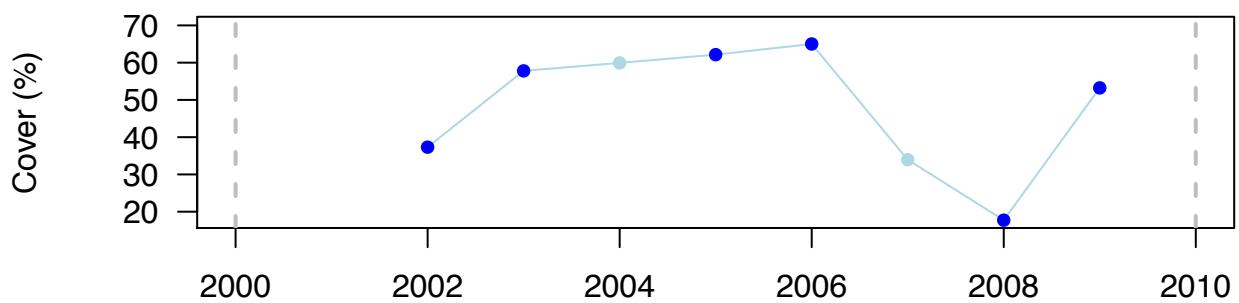
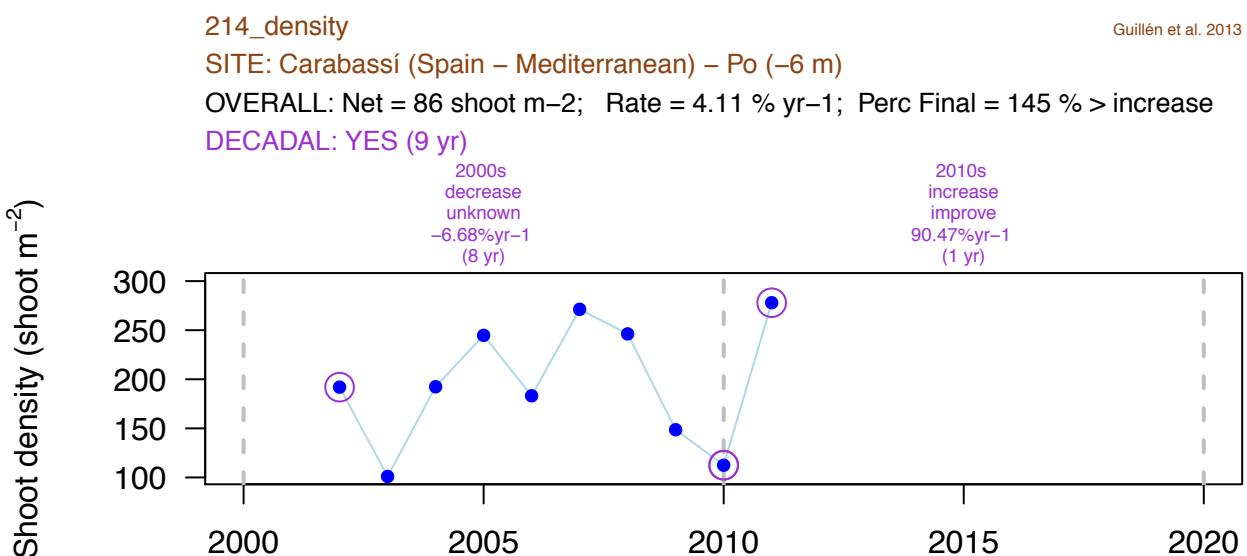












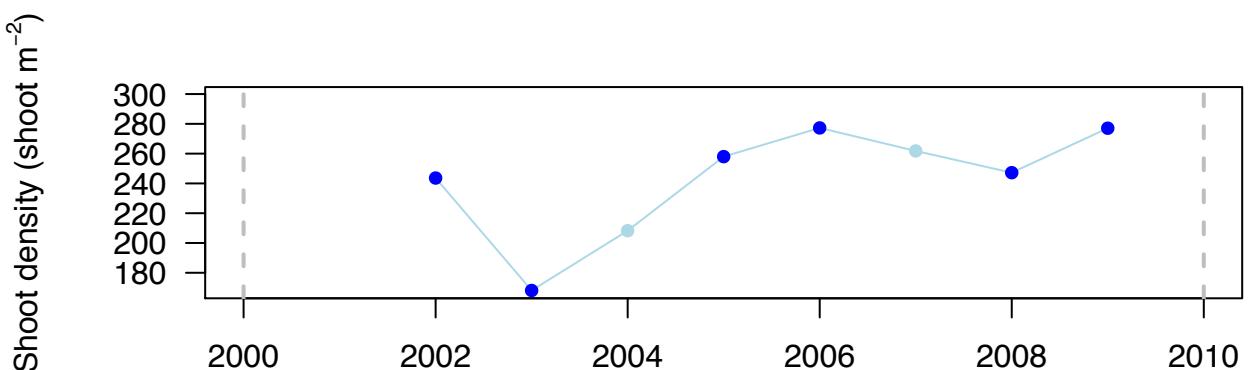
215_density

Guillén et al. 2013

SITE: Denia (Spain – Mediterranean) – Po (-13 m)

OVERALL: Net = 33.46 shoot m⁻²; Rate = 1.84 % yr⁻¹; Perc Final = 114 % > no change

DECADAL: NO (7 yr)



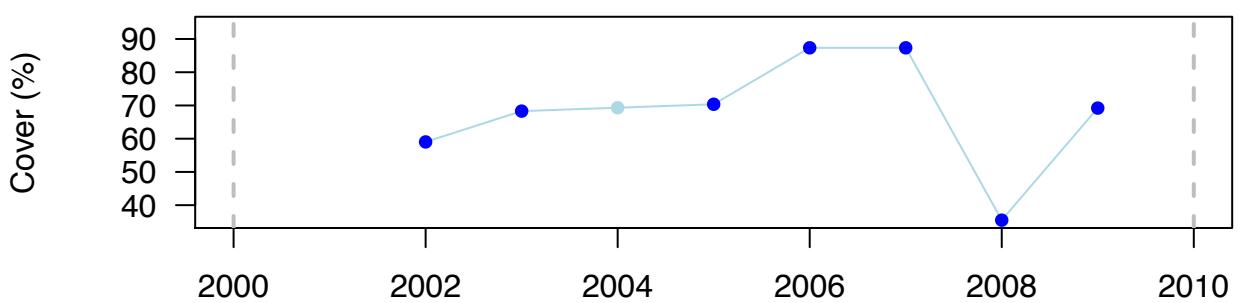
216_cover

Guillén et al. 2013

SITE: Denia (Spain – Mediterranean) – Po (-5 m)

OVERALL: Net = 10.19 %; Rate = 2.27 % yr⁻¹; Perc Final = 117 % > no change

DECADAL: NO (7 yr)



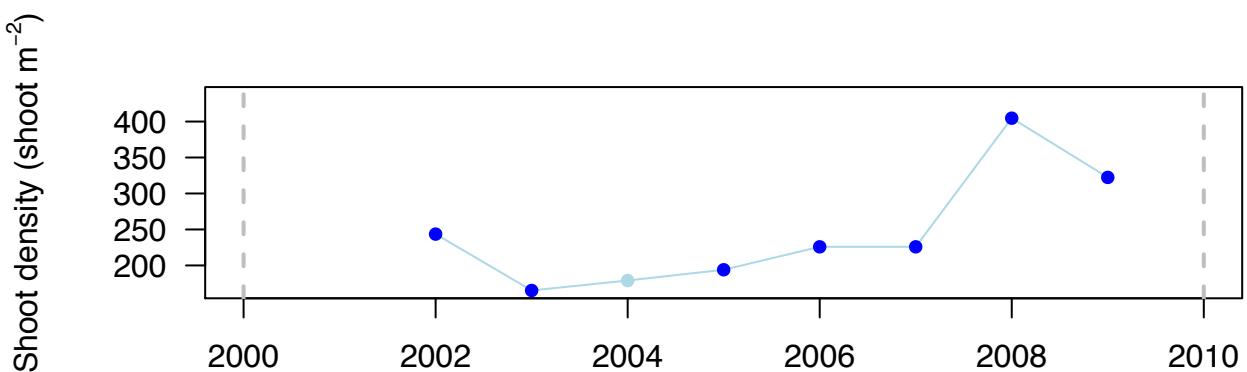
216_density

Guillén et al. 2013

SITE: Denia (Spain – Mediterranean) – Po (-5 m)

OVERALL: Net = 78.84 shoot m⁻²; Rate = 4.01 % yr⁻¹; Perc Final = 132 % > increase

DECadal: NO (7 yr)



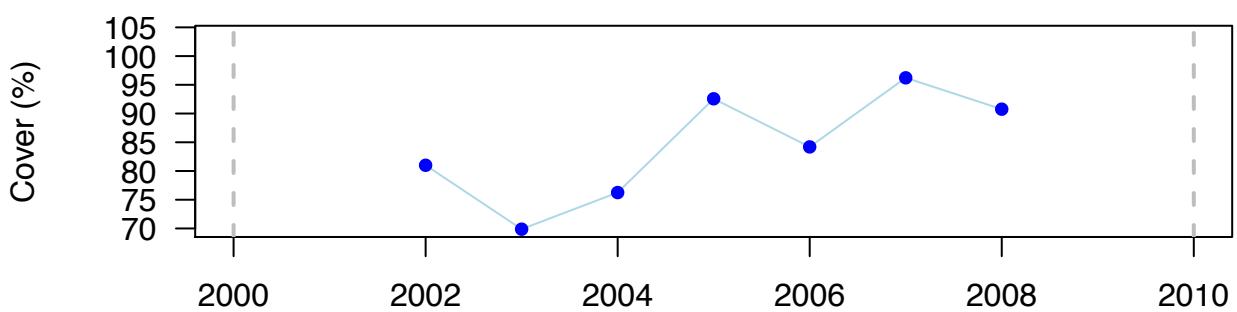
217_cover

Guillén et al. 2013

SITE: Moraira (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = 9.76 %; Rate = 1.9 % yr⁻¹; Perc Final = 112 % > no change

Decadal: NO (6 yr)



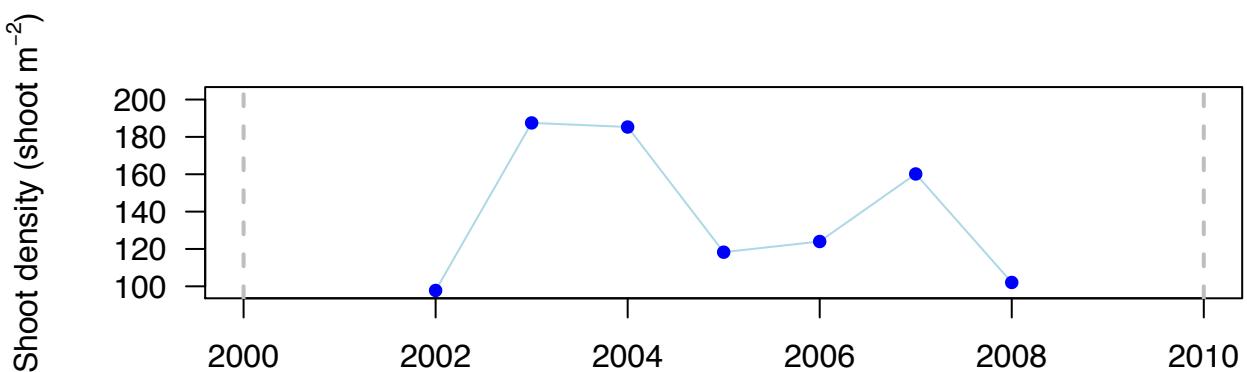
217_density

Guillén et al. 2013

SITE: Moraira (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = 4.3 shoot m⁻²; Rate = 0.72 % yr⁻¹; Perc Final = 104 % > no change

DECADAL: NO (6 yr)



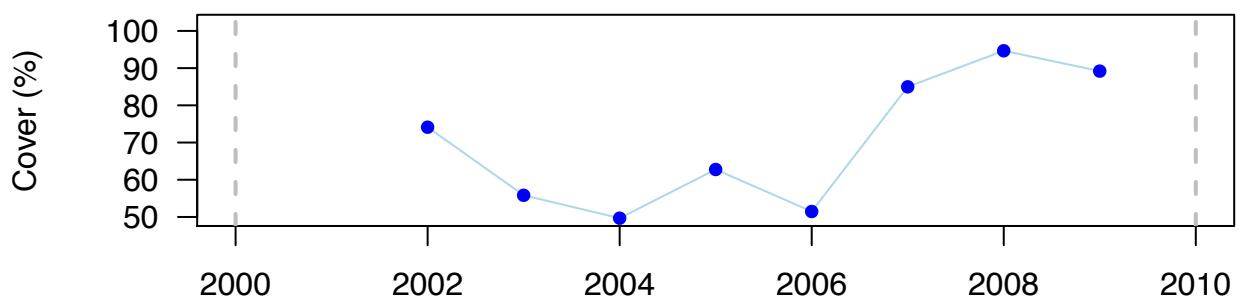
218_cover

Guillén et al. 2013

SITE: Moraira (Spain – Mediterranean) – Po (-7 m)

OVERALL: Net = 15.07 %; Rate = 2.64 % yr⁻¹; Perc Final = 120 % > no change

DECADAL: NO (7 yr)



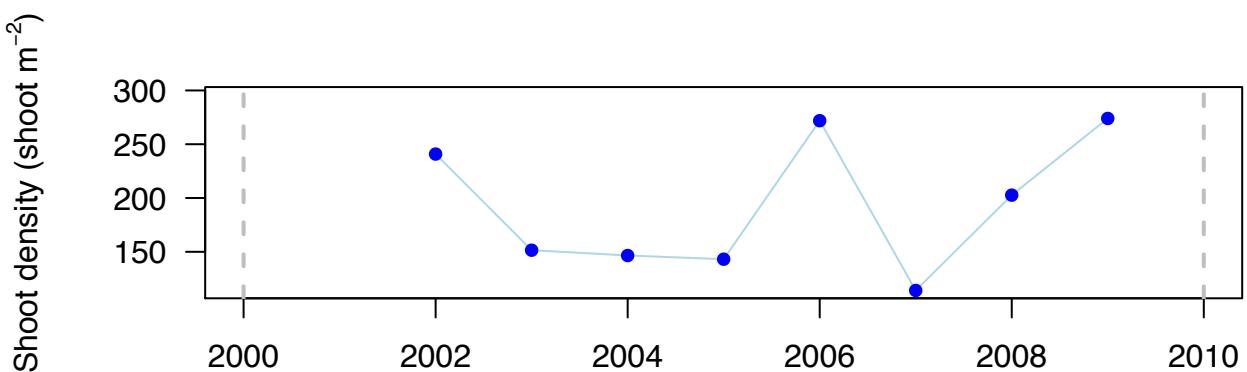
218_density

Guillén et al. 2013

SITE: Moraira (Spain – Mediterranean) – Po (-7 m)

OVERALL: Net = 33.1 shoot m⁻²; Rate = 1.84 % yr⁻¹; Perc Final = 114 % > no change

DECadal: NO (7 yr)



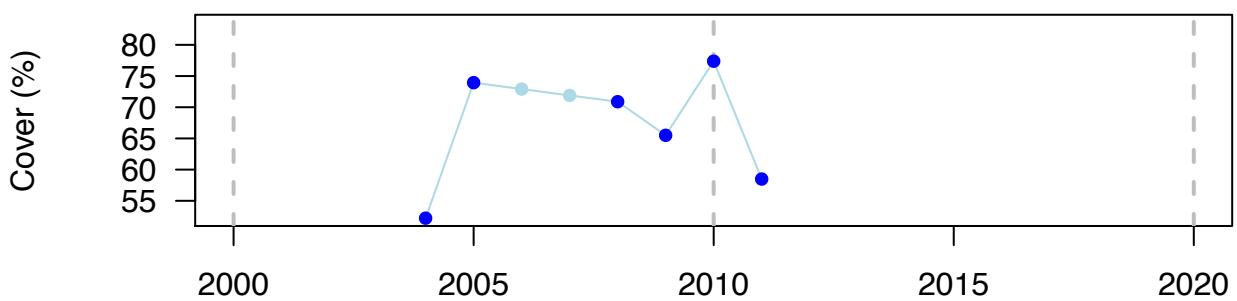
219_cover

Guillén et al. 2013

SITE: Racó Conill (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = 6.27 %; Rate = 1.62 % yr⁻¹; Perc Final = 112 % > no change

Decadal: NO (7 yr)



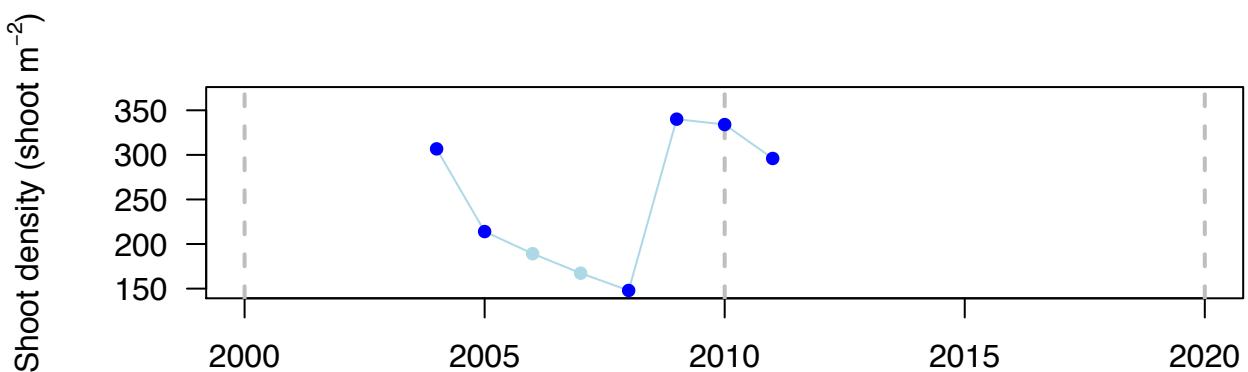
219_density

Guillén et al. 2013

SITE: Racó Conill (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = -10.78 shoot m⁻²; Rate = -0.51 % yr⁻¹; Perc Final = 96 % > no change

DECadal: NO (7 yr)



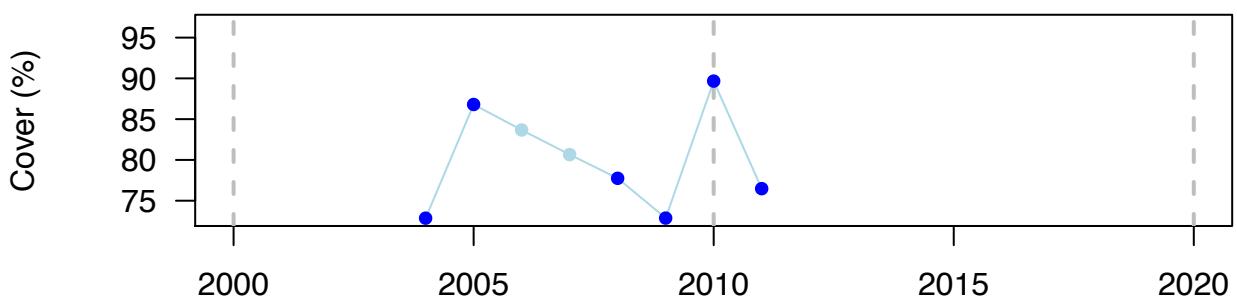
220_cover

Guillén et al. 2013

SITE: Racó Conill (Spain – Mediterranean) – Po (-5 m)

OVERALL: Net = 3.62 %; Rate = 0.69 % yr⁻¹; Perc Final = 105 % > no change

Decadal: NO (7 yr)



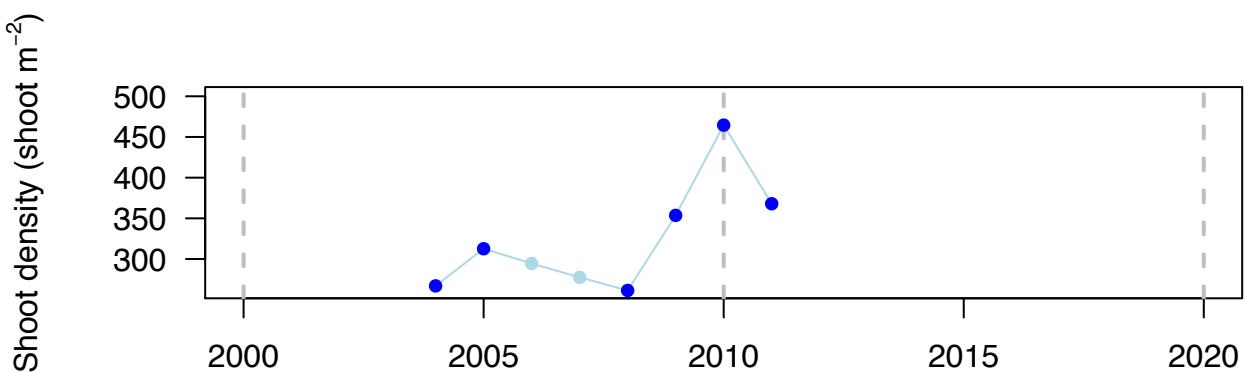
220_density

Guillén et al. 2013

SITE: Racó Conill (Spain – Mediterranean) – Po (-5 m)

OVERALL: Net = 101 shoot m⁻²; Rate = 4.58 % yr⁻¹; Perc Final = 138 % > increase

DECadal: NO (7 yr)



221_cover

Guillén et al. 2013

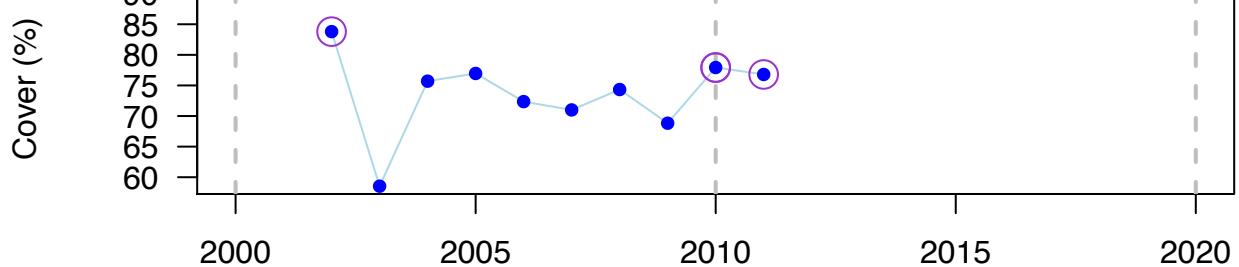
SITE: Tabarca Escull Negre (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -7 %; Rate = -0.97 % yr⁻¹; Perc Final = 92 % > no change

Decadal: YES (9 yr)

2000s
no change
unknown
-0.91% yr⁻¹
(8 yr)

2010s
no change
steady
-1.46% yr⁻¹
(1 yr)



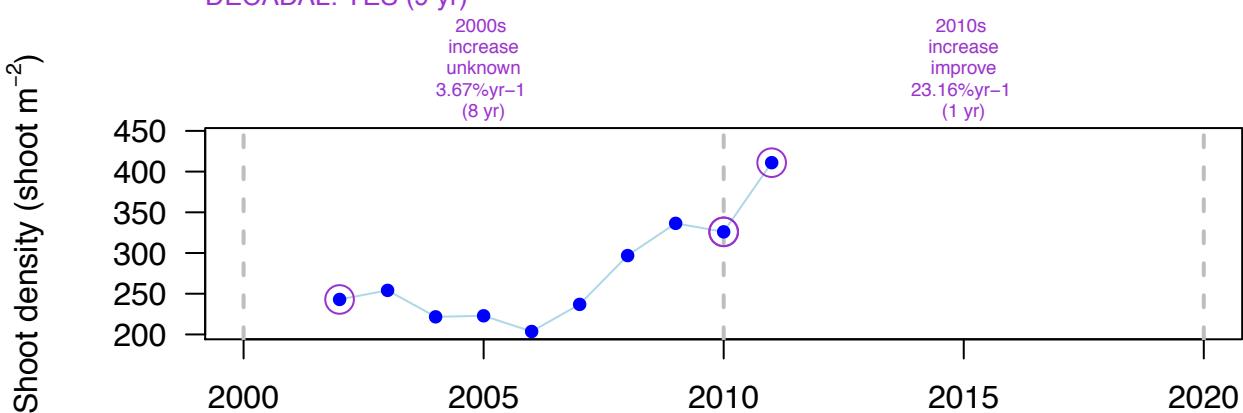
221_density

Guillén et al. 2013

SITE: Tabarca Escull Negre (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = 168 shoot m⁻²; Rate = 5.84 % yr⁻¹; Perc Final = 169 % > increase

DECADAL: YES (9 yr)



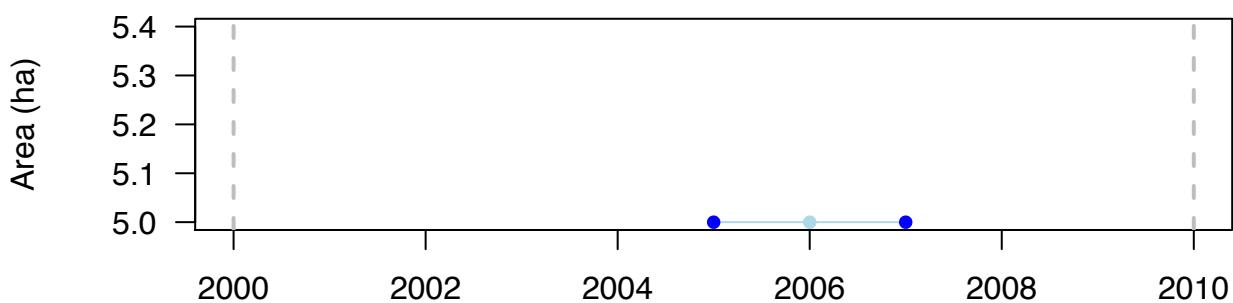
222_area

Plus et al. 2010

SITE: Arguin Bank (France – Atlantic) – Zn (0 m)

OVERALL: Net = 0 ha; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (2 yr)



223_cover

Guillén et al. 2013

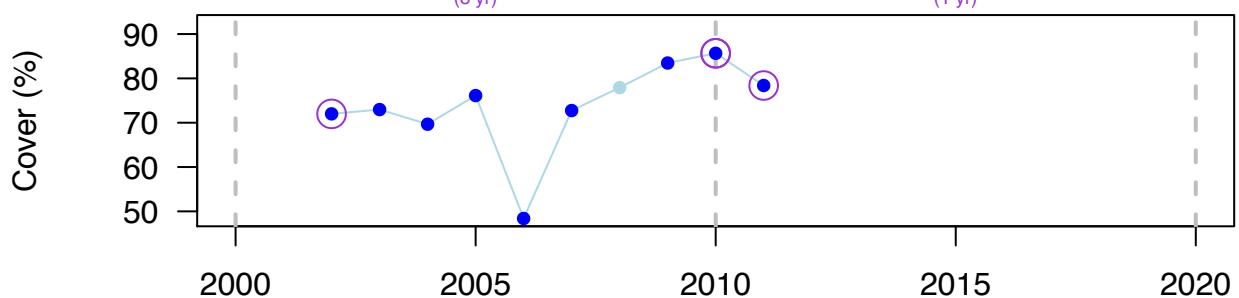
SITE: Tabarca Escull Negre (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 6.4 %; Rate = 0.95 % yr⁻¹; Perc Final = 109 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
2.17%yr⁻¹
(8 yr)

2010s
no change
steady
-8.87%yr⁻¹
(1 yr)



223_density

Guillén et al. 2013

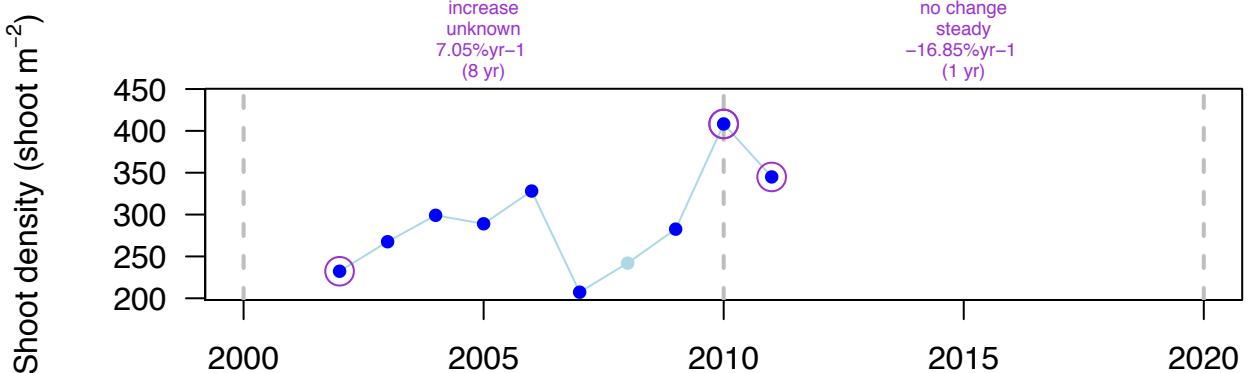
SITE: Tabarca Escull Negre (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 112.67 shoot m⁻²; Rate = 4.39 % yr⁻¹; Perc Final = 148 % > increase

DECADAL: YES (9 yr)

2000s
increase
unknown
7.05%yr⁻¹
(8 yr)

2010s
no change
steady
-16.85%yr⁻¹
(1 yr)



224_cover

Guillén et al. 2013

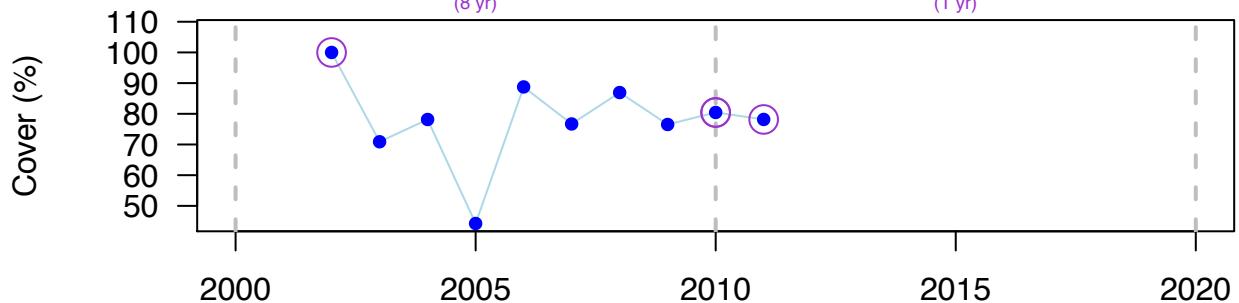
SITE: Tabarca La Nao (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = -21.83 %; Rate = -2.74 % yr⁻¹; Perc Final = 78 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
-2.72%yr⁻¹
(8 yr)

2010s
no change
steady
-2.86%yr⁻¹
(1 yr)



224_density

Guillén et al. 2013

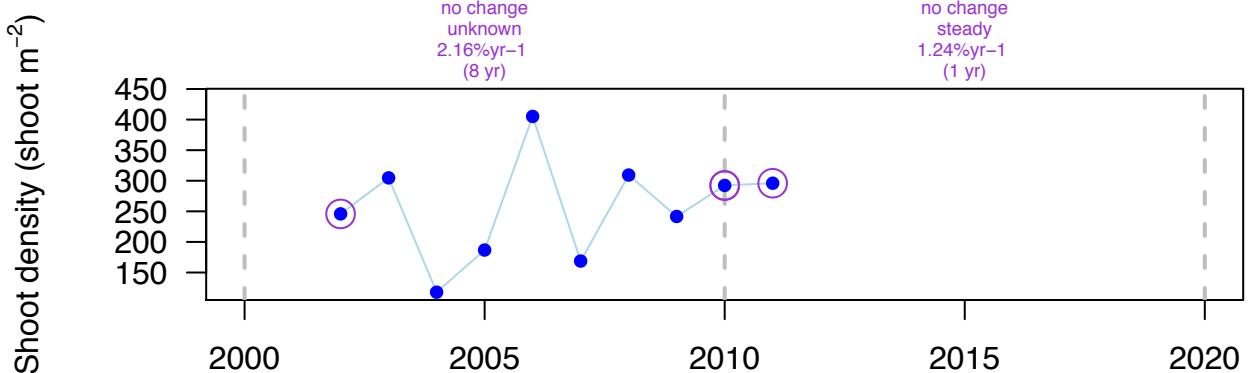
SITE: Tabarca La Nao (Spain – Mediterranean) – Po (-12 m)

OVERALL: Net = 50.12 shoot m⁻²; Rate = 2.06 % yr⁻¹; Perc Final = 120 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
2.16%yr⁻¹
(8 yr)

2010s
no change
steady
1.24%yr⁻¹
(1 yr)



225_cover

Guillén et al. 2013

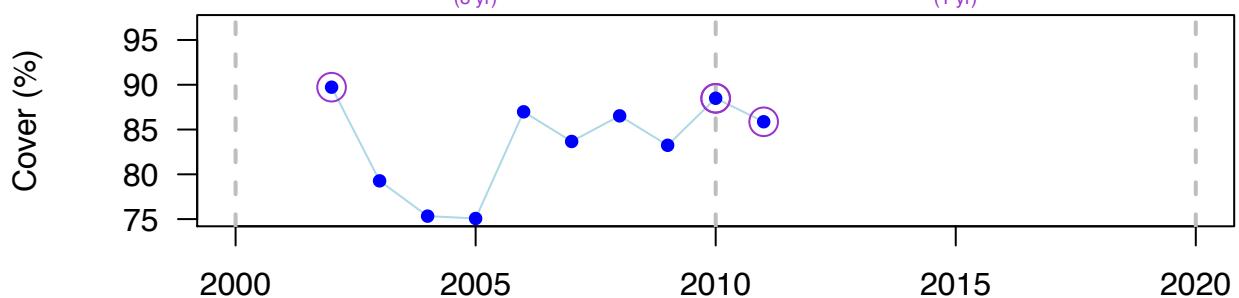
SITE: Tabarca La Nao (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = -3.86 %; Rate = -0.49 % yr⁻¹; Perc Final = 96 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
-0.17%yr⁻¹
(8 yr)

2010s
no change
steady
-3.01%yr⁻¹
(1 yr)



225_density

Guillén et al. 2013

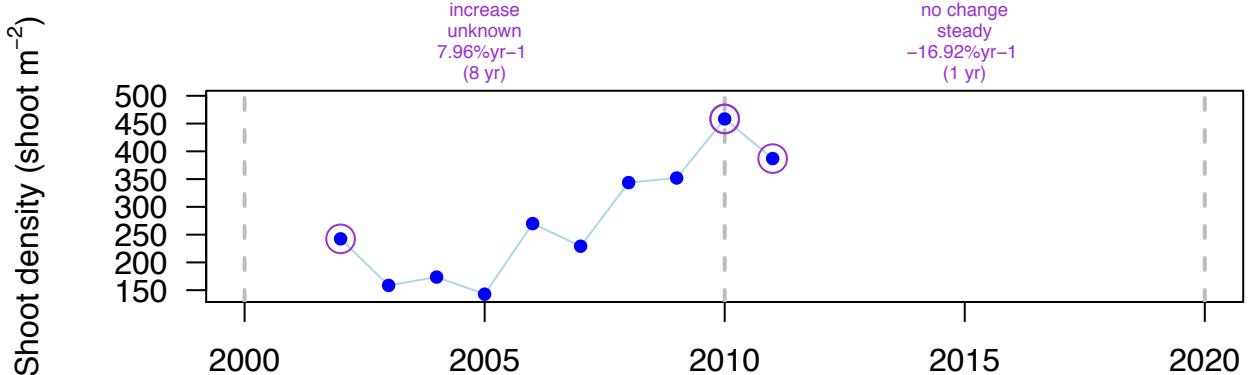
SITE: Tabarca La Nao (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 144.5 shoot m⁻²; Rate = 5.19 % yr⁻¹; Perc Final = 160 % > increase

DECADAL: YES (9 yr)

2000s
increase
unknown
7.96%yr⁻¹
(8 yr)

2010s
no change
steady
-16.92%yr⁻¹
(1 yr)



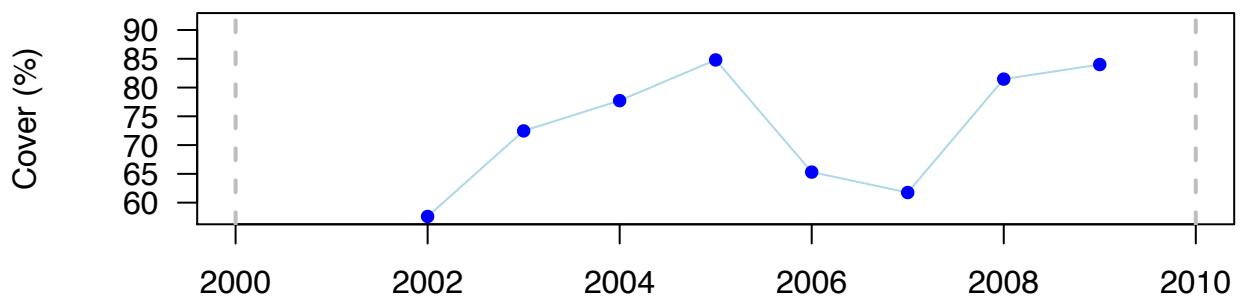
226_cover

Guillén et al. 2013

SITE: Torrevieja (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 26.4 %; Rate = 5.39 % yr⁻¹; Perc Final = 146 % > increase

DECADAL: NO (7 yr)



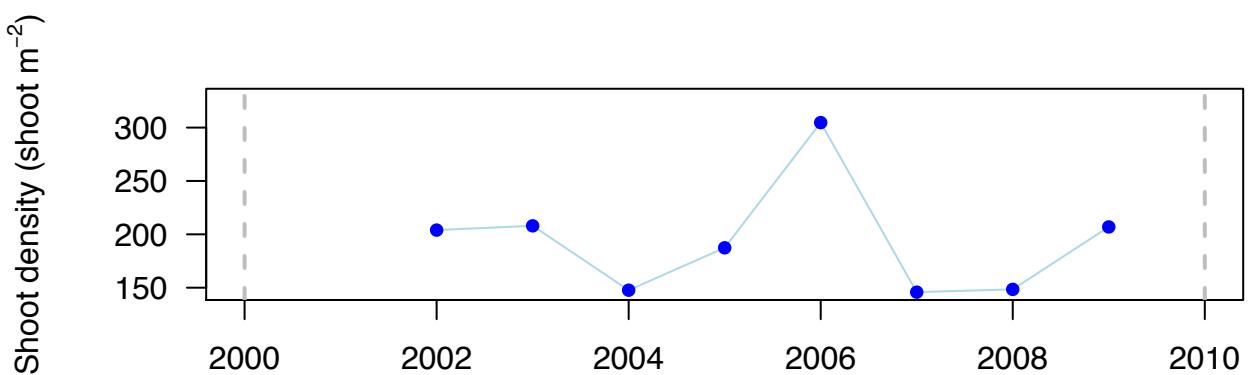
226_density

Guillén et al. 2013

SITE: Torrevieja (Spain – Mediterranean) – Po (-11 m)

OVERALL: Net = 2.94 shoot m⁻²; Rate = 0.2 % yr⁻¹; Perc Final = 101 % > no change

DECADAL: NO (7 yr)



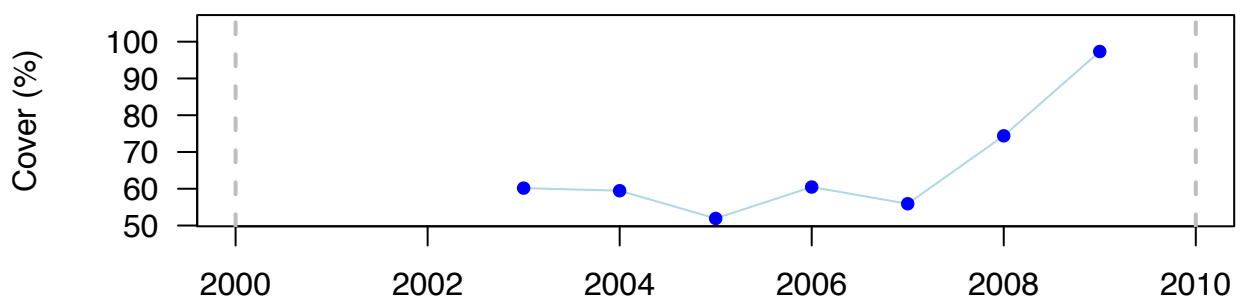
227_cover

Guillén et al. 2013

SITE: Torrevieja (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 37.15 %; Rate = 8.01 % yr⁻¹; Perc Final = 162 % > increase

DECADAL: NO (6 yr)



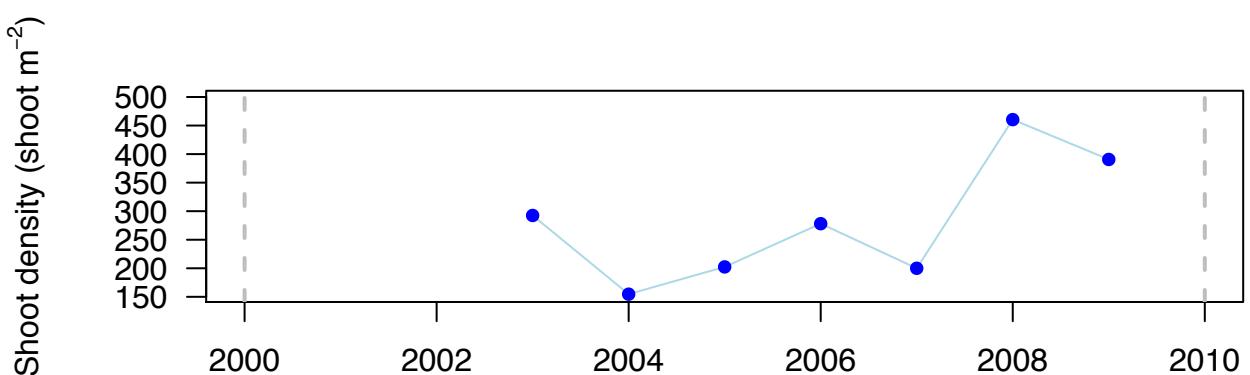
227_density

Guillén et al. 2013

SITE: Torrevieja (Spain – Mediterranean) – Po (-6 m)

OVERALL: Net = 98.13 shoot m⁻²; Rate = 4.82 % yr⁻¹; Perc Final = 134 % > increase

DECADAL: NO (6 yr)



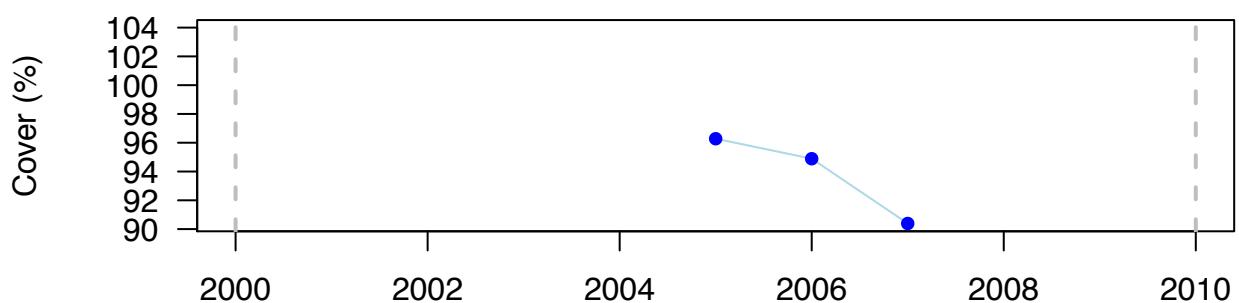
228_cover

Ramos-Esplá et al. 2006, 2007

SITE: Pilar de la Horadada (Spain – Mediterranean) – Po (-15.5 m)

OVERALL: Net = -5.89 %; Rate = -3.16 % yr⁻¹; Perc Final = 94 % > no change

DECADAL: NO (2 yr)



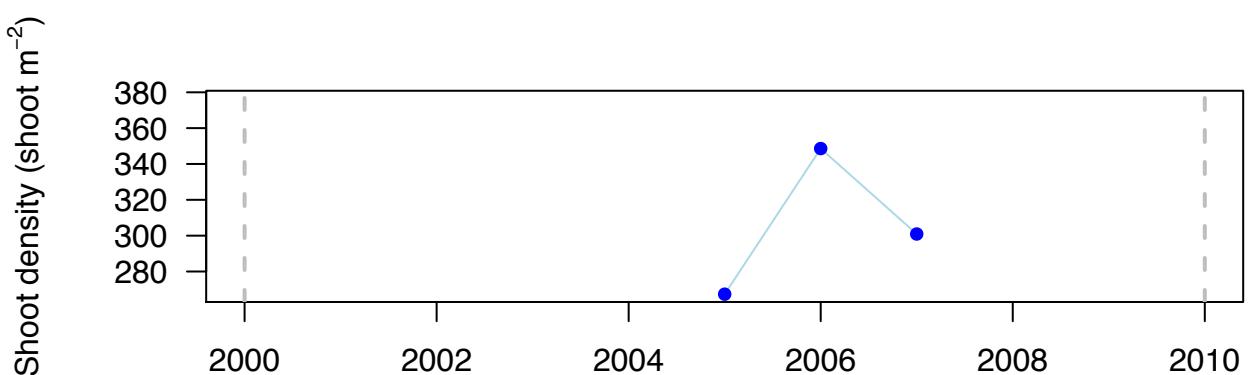
228_density

Ramos-Esplá et al. 2006, 2007

SITE: Pilar de la Horadada (Spain – Mediterranean) – Po (-15.5 m)

OVERALL: Net = 33.57 shoot m⁻²; Rate = 5.91 % yr⁻¹; Perc Final = 113 % > no change

DECADAL: NO (2 yr)



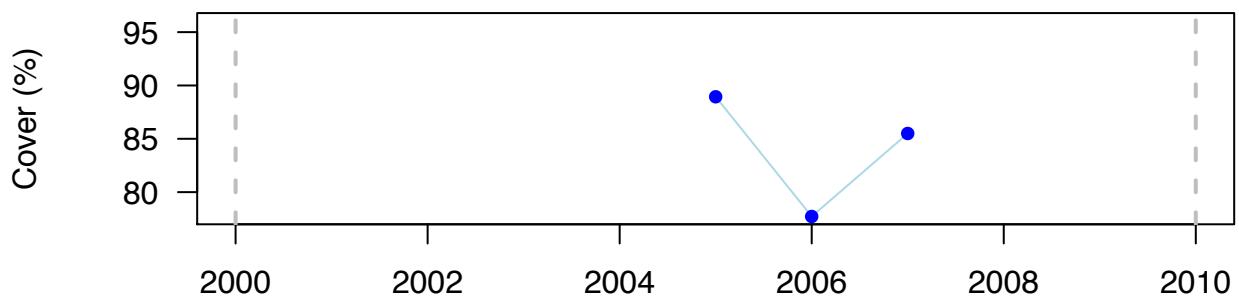
229_cover

Ramos—Esplá et al. 2006, 2007

SITE: Cabo Roig (Spain – Mediterranean) – Po (-13.8 m)

OVERALL: Net = -3.44 %; Rate = -1.97 % yr⁻¹; Perc Final = 96 % > no change

DECADAL: NO (2 yr)



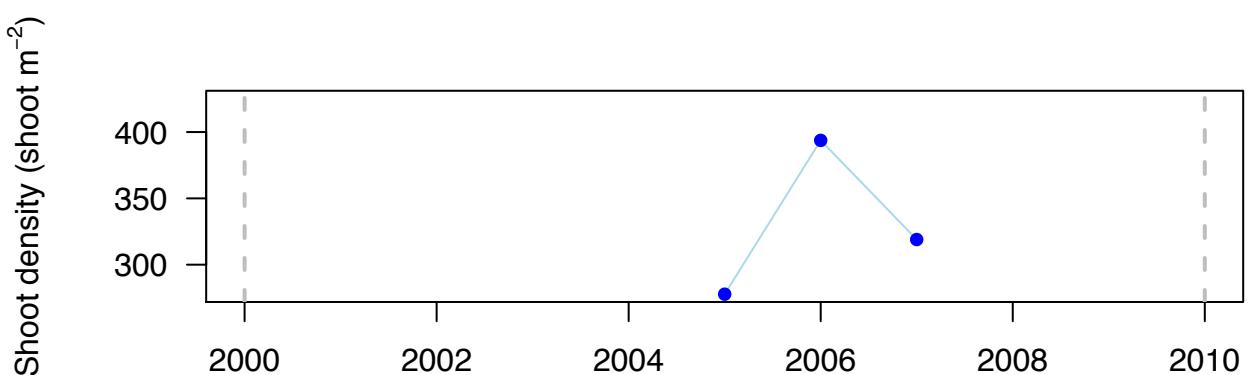
229_density

Ramos—Esplá et al. 2006, 2007

SITE: Cabo Roig (Spain – Mediterranean) – Po (-13.8 m)

OVERALL: Net = 41.2 shoot m⁻²; Rate = 6.91 % yr⁻¹; Perc Final = 115 % > no change

DECADAL: NO (2 yr)



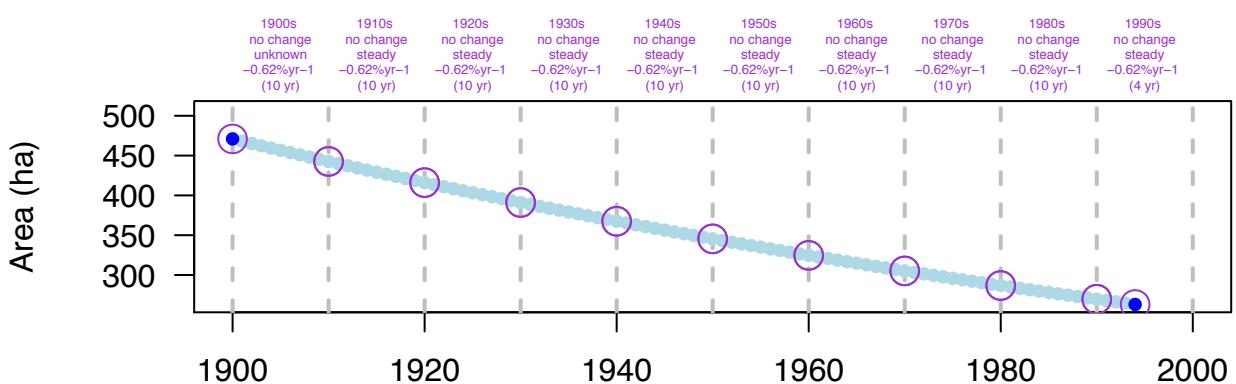
230_area

Boudouresque et al. 2006

SITE: Marseilles (entire) (France – Mediterranean) – Po (? m)

OVERALL: Net = -208 ha; Rate = -0.62 % yr⁻¹; Perc Final = 56 % > decrease

DECadal: YES (94 yr)



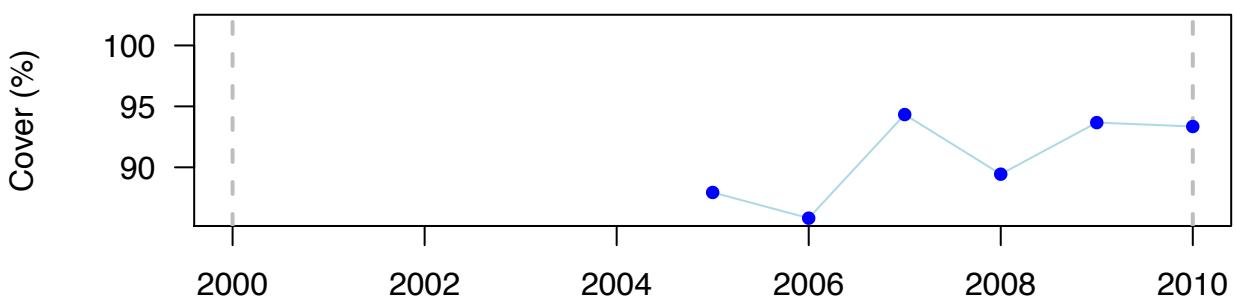
231_cover

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010

SITE: Cabo de Santa Pola (Spain – Mediterranean) – Po (-14.5 m)

OVERALL: Net = 5.41 %; Rate = 1.19 % yr⁻¹; Perc Final = 106 % > no change

DECadal: NO (5 yr)



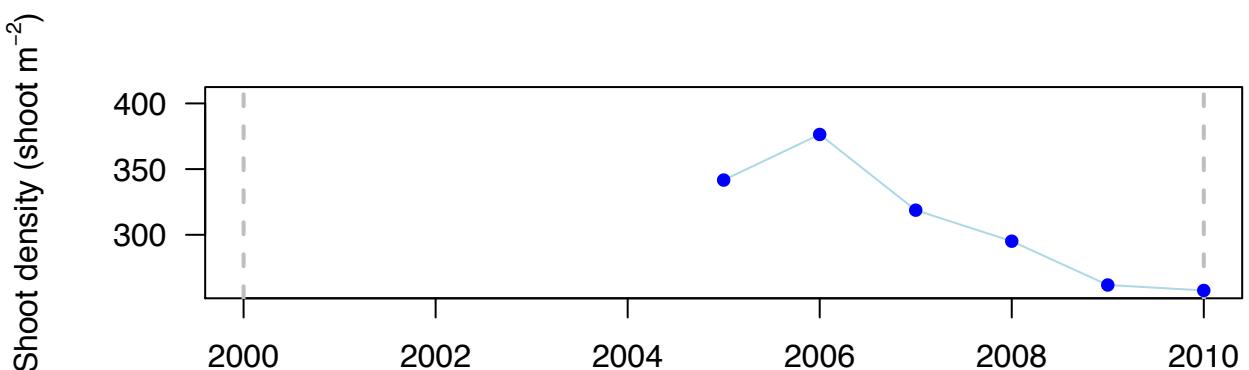
231_density

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010

SITE: Cabo de Santa Pola (Spain – Mediterranean) – Po (-14.5 m)

OVERALL: Net = -84.03 shoot m⁻²; Rate = -5.65 % yr⁻¹; Perc Final = 75 % > no change

DECadal: NO (5 yr)



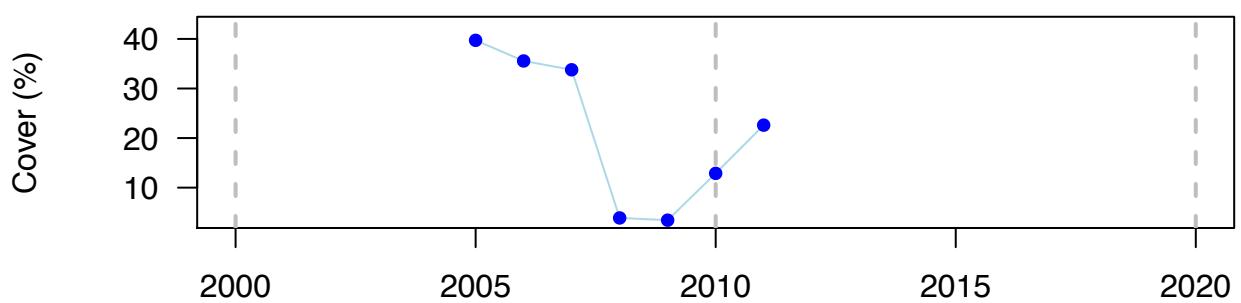
232_cover

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Alicante (Spain – Mediterranean) – Po (-16.8 m)

OVERALL: Net = -17.11 %; Rate = -9.39 % yr⁻¹; Perc Final = 57 % > decrease

DECadal: NO (6 yr)



232_density

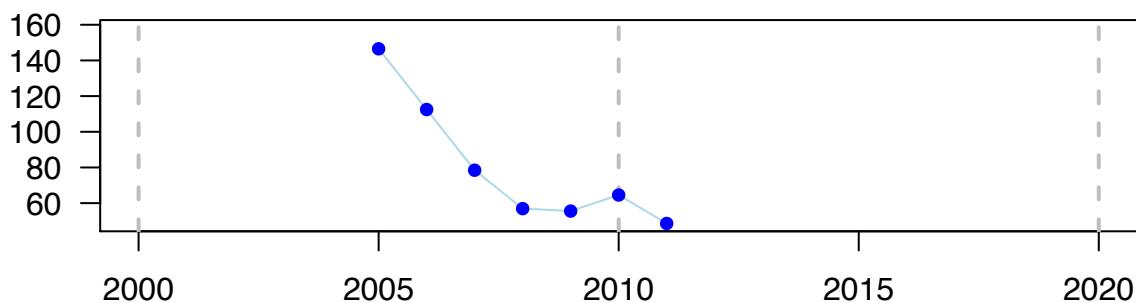
Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Alicante (Spain – Mediterranean) – Po (-16.8 m)

OVERALL: Net = -97.92 shoot m⁻²; Rate = -18.39 % yr⁻¹; Perc Final = 33 % > decrease

DECADAL: NO (6 yr)

Shoot density (shoot m⁻²)



233_cover

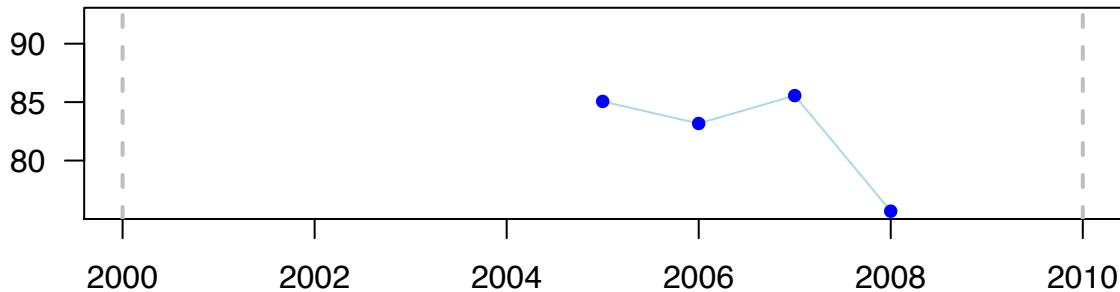
Ramos-Esplá et al. 2006, 2007, 2008

SITE: Cabo Huertas (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -9.39 %; Rate = -3.9 % yr⁻¹; Perc Final = 89 % > no change

DECADAL: NO (3 yr)

Cover (%)



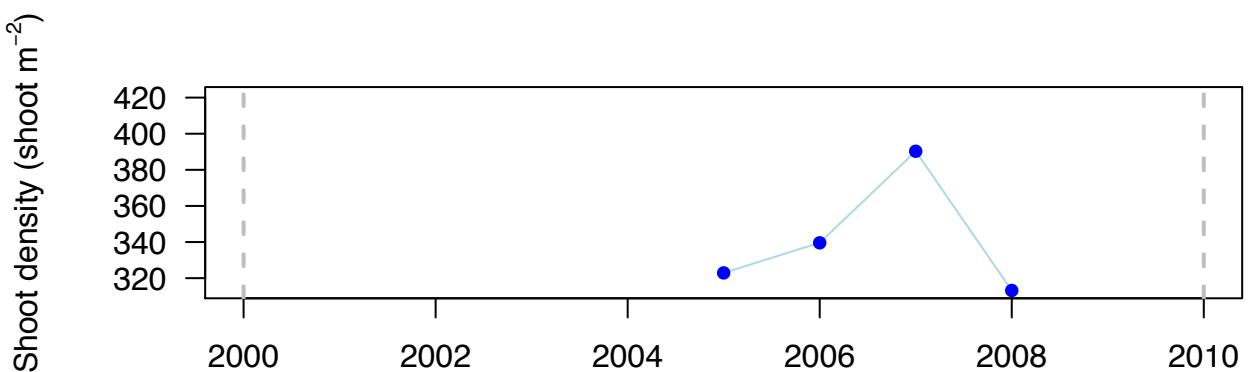
233_density

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Cabo Huertas (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -9.73 shoot m⁻²; Rate = -1.02 % yr⁻¹; Perc Final = 97 % > no change

DECADAL: NO (3 yr)



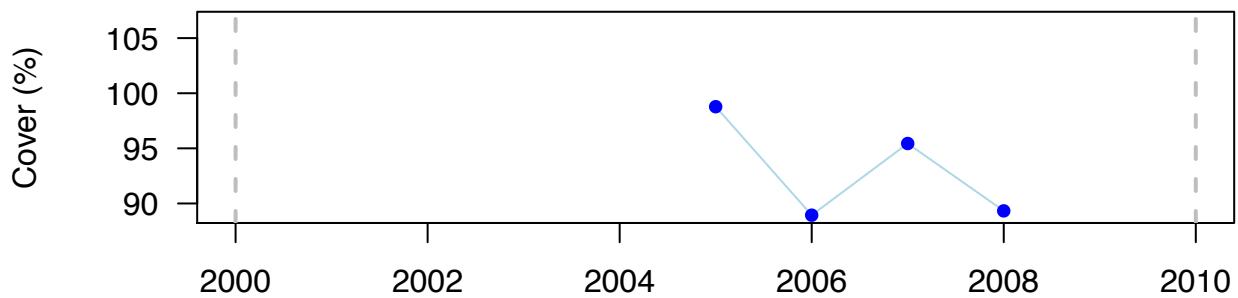
235_cover

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Benidorm (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -9.45 %; Rate = -3.35 % yr⁻¹; Perc Final = 90 % > no change

DECADAL: NO (3 yr)



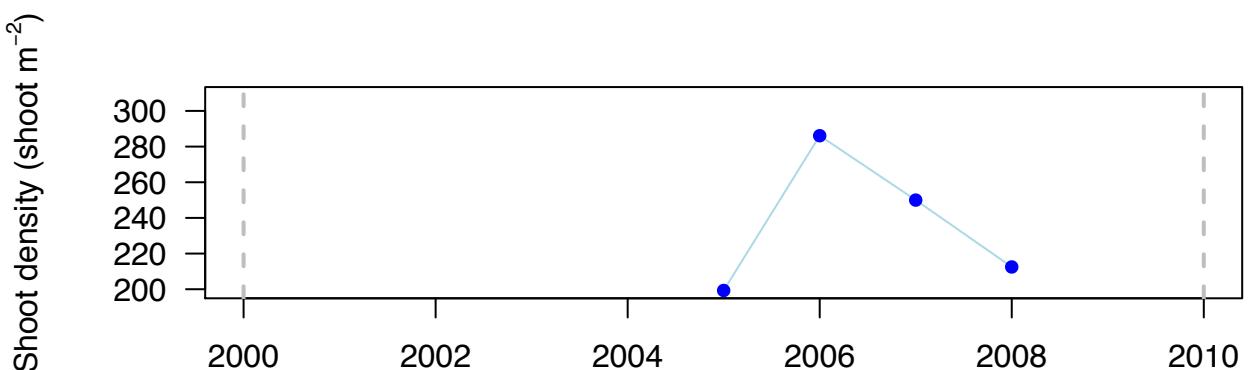
235_density

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Benidorm (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = 13.19 shoot m⁻²; Rate = 2.14 % yr⁻¹; Perc Final = 107 % > no change

DECADAL: NO (3 yr)



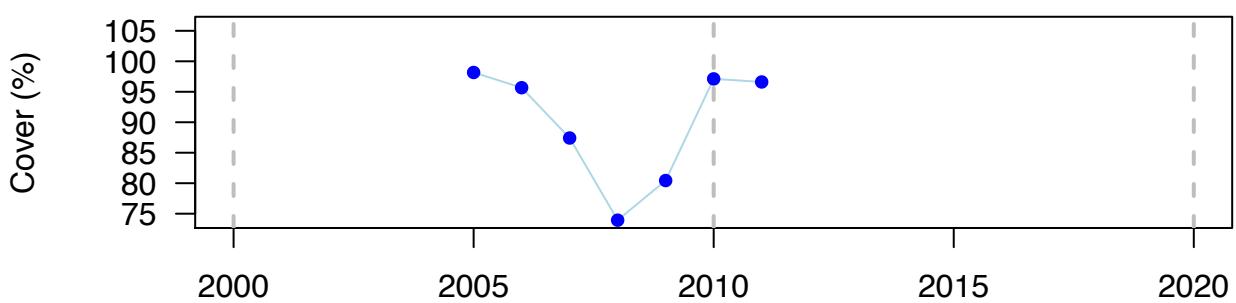
236_cover

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Altea (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -1.56 %; Rate = -0.27 % yr⁻¹; Perc Final = 98 % > no change

DECADAL: NO (6 yr)



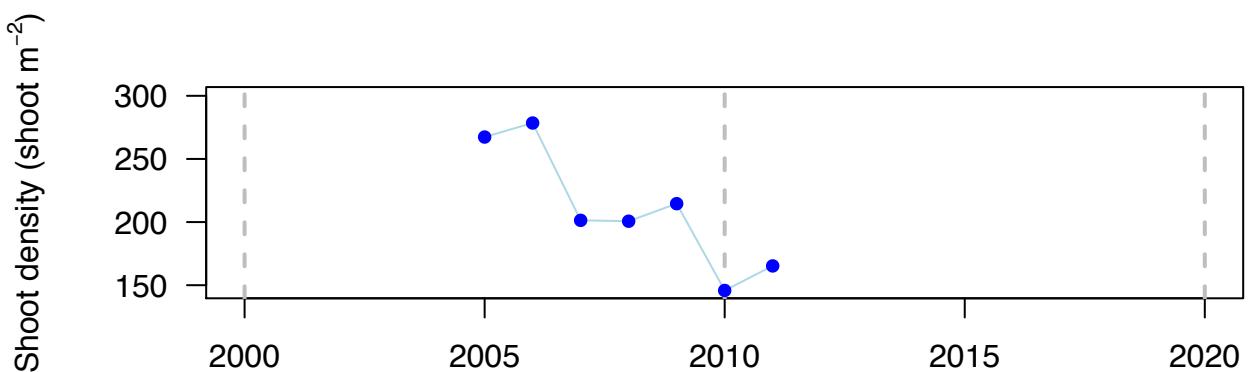
236_density

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Altea (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -102.08 shoot m⁻²; Rate = -8.02 % yr⁻¹; Perc Final = 62 % > decrease

DECADAL: NO (6 yr)



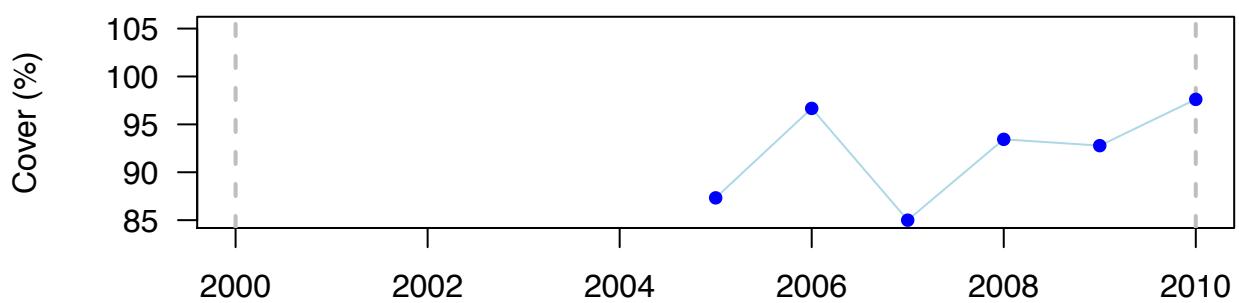
237_cover

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010

SITE: Calpe (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = 10.28 %; Rate = 2.23 % yr⁻¹; Perc Final = 112 % > no change

DECADAL: NO (5 yr)



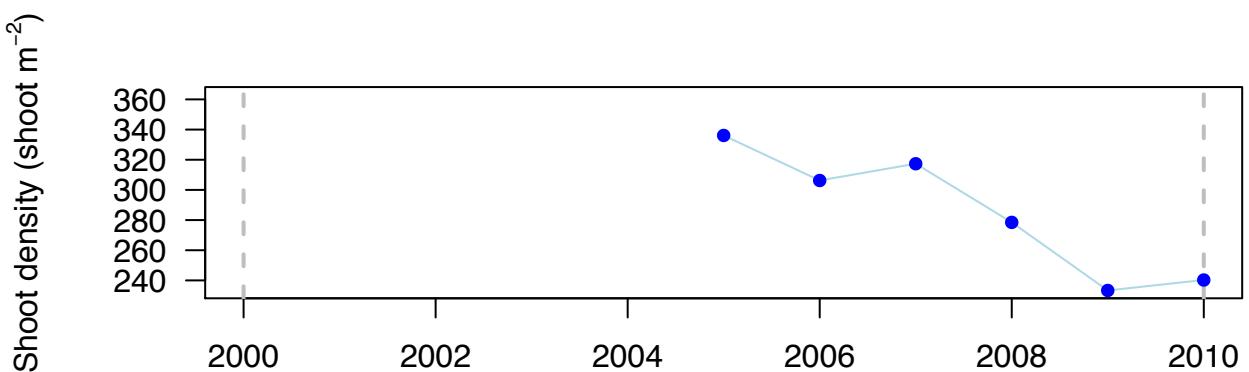
237_density

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010

SITE: Calpe (Spain – Mediterranean) – Po (-14 m)

OVERALL: Net = -95.83 shoot m⁻²; Rate = -6.71 % yr⁻¹; Perc Final = 71 % > decrease

DECADAL: NO (5 yr)



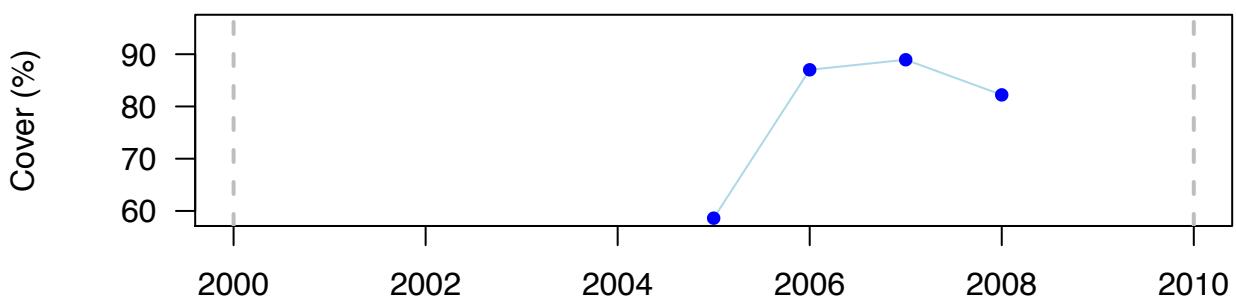
238_cover

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Jávea (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 23.6 %; Rate = 11.28 % yr⁻¹; Perc Final = 140 % > increase

DECADAL: NO (3 yr)



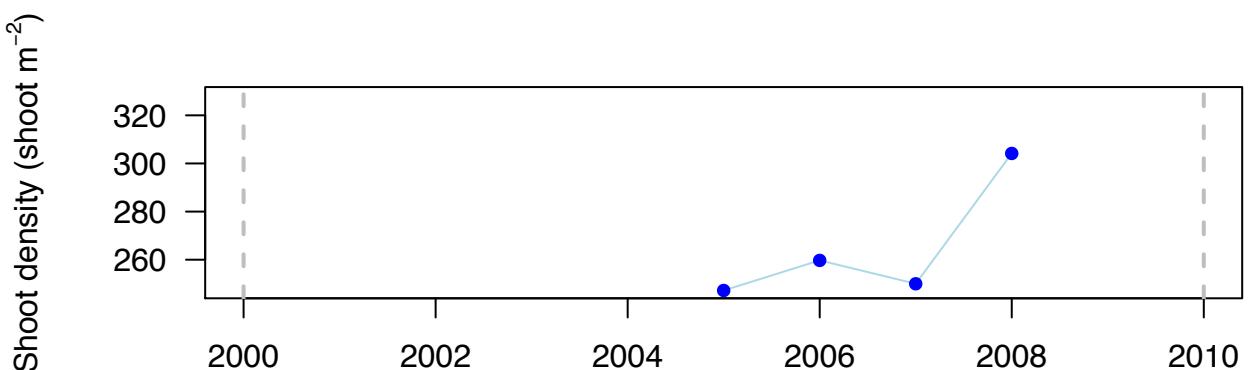
238_density

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Jávea (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 56.95 shoot m⁻²; Rate = 6.91 % yr⁻¹; Perc Final = 123 % > no change

DECADAL: NO (3 yr)



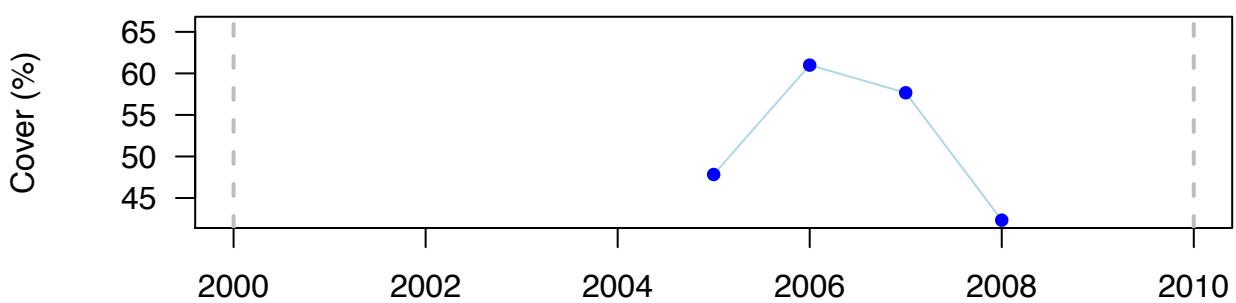
239_cover

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Denia (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -5.5 %; Rate = -4.07 % yr⁻¹; Perc Final = 89 % > no change

DECADAL: NO (3 yr)



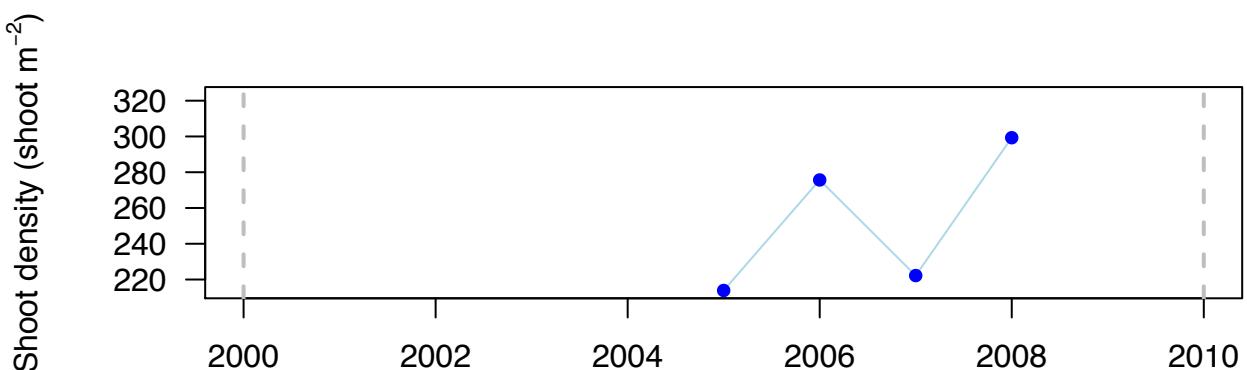
239_density

Ramos-Esplá et al. 2006, 2007, 2008

SITE: Denia (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 85.42 shoot m⁻²; Rate = 11.2 % yr⁻¹; Perc Final = 140 % > increase

DECadal: NO (3 yr)



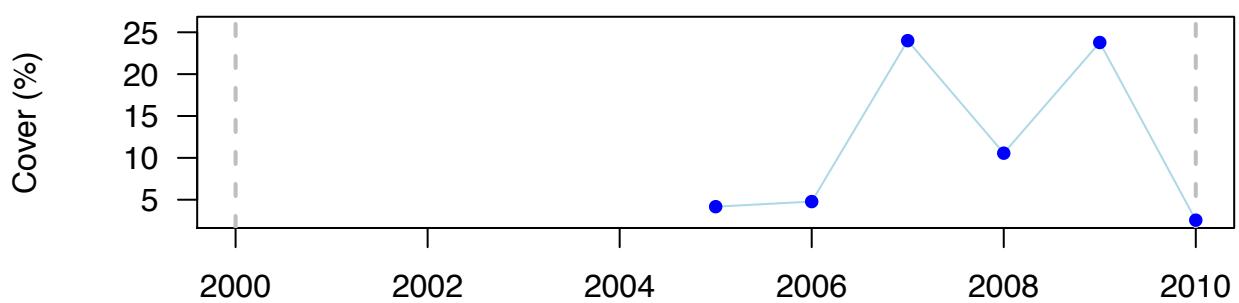
240_cover

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010

SITE: Castellón (Spain – Mediterranean) – Po (-15.5 m)

OVERALL: Net = -1.61 %; Rate = -9.76 % yr⁻¹; Perc Final = 61 % > decrease

DECadal: NO (5 yr)



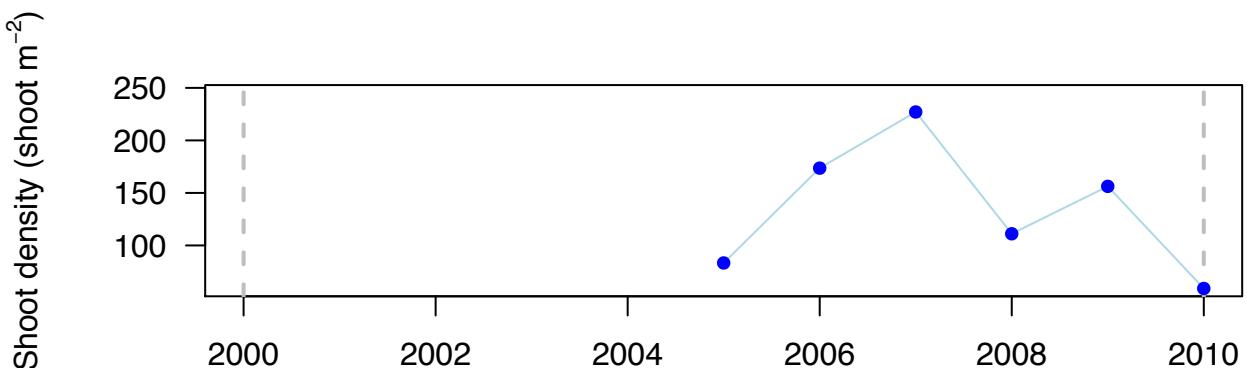
240_density

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010

SITE: Castellón (Spain – Mediterranean) – Po (-15.5 m)

OVERALL: Net = -24.3 shoot m⁻²; Rate = -6.9 % yr⁻¹; Perc Final = 71 % > decrease

DECADAL: NO (5 yr)



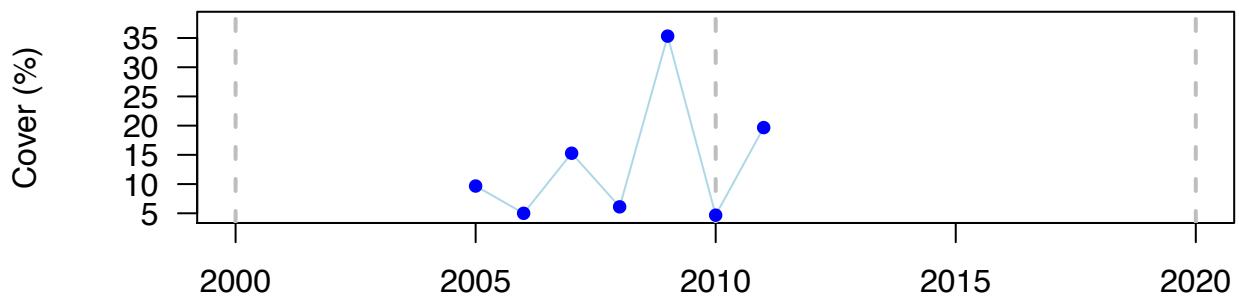
241_cover

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Benicassim (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = 10 %; Rate = 11.83 % yr⁻¹; Perc Final = 203 % > increase

DECADAL: NO (6 yr)



241_density

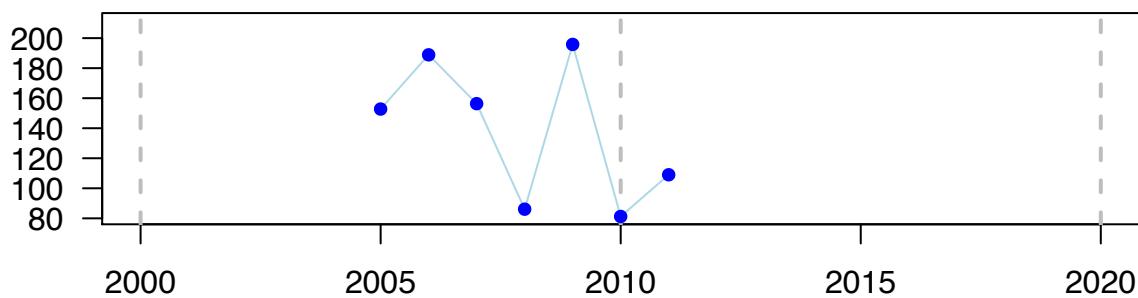
Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Benicassim (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -43.75 shoot m⁻²; Rate = -5.62 % yr⁻¹; Perc Final = 71 % > decrease

DECADAL: NO (6 yr)

Shoot density (shoot m⁻²)



242_cover

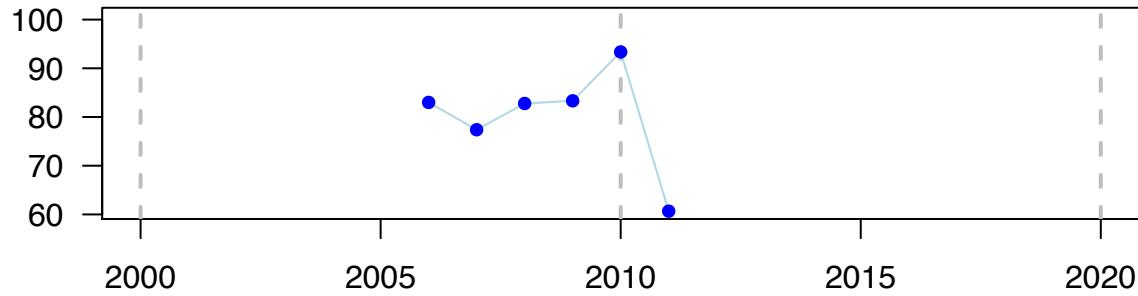
Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Oropesa (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -22.33 %; Rate = -6.27 % yr⁻¹; Perc Final = 73 % > decrease

DECADAL: NO (5 yr)

Cover (%)



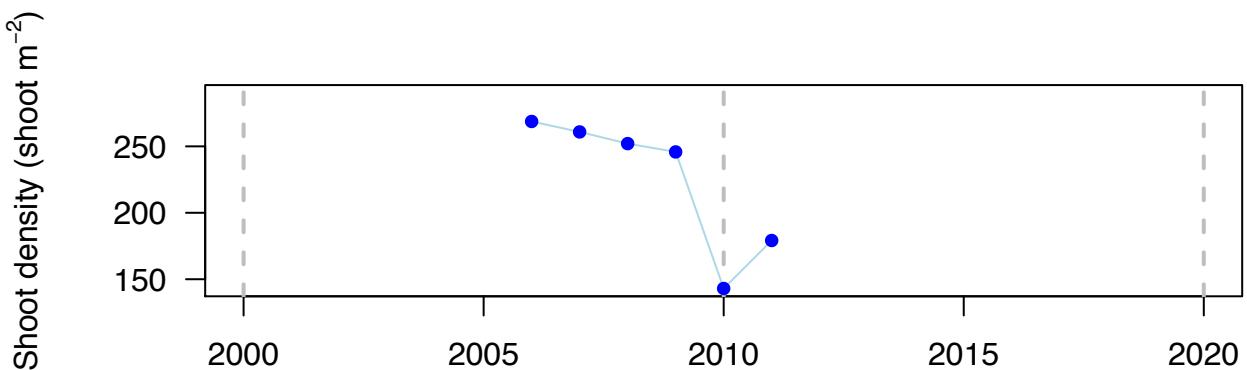
242_density

Ramos-Esplá et al. 2006, 2007, 2008, 2009, 2010, 2011

SITE: Oropesa (Spain – Mediterranean) – Po (-15 m)

OVERALL: Net = -89.58 shoot m⁻²; Rate = -8.11 % yr⁻¹; Perc Final = 67 % > decrease

DECADAL: NO (5 yr)



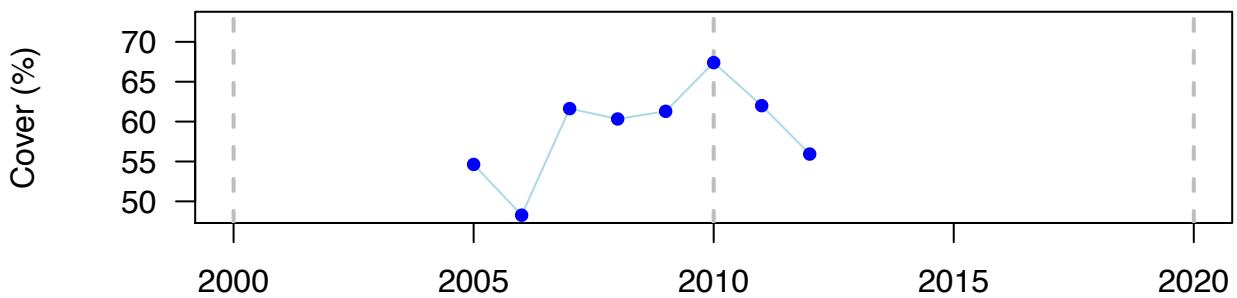
243_cover

Sánchez-Lizaso et al. 2013

SITE: San Pedro del Pinatar (Spain – Mediterranean) – Po (-28.5 m)

OVERALL: Net = 1.3 %; Rate = 0.34 % yr⁻¹; Perc Final = 102 % > no change

DECADAL: NO (7 yr)



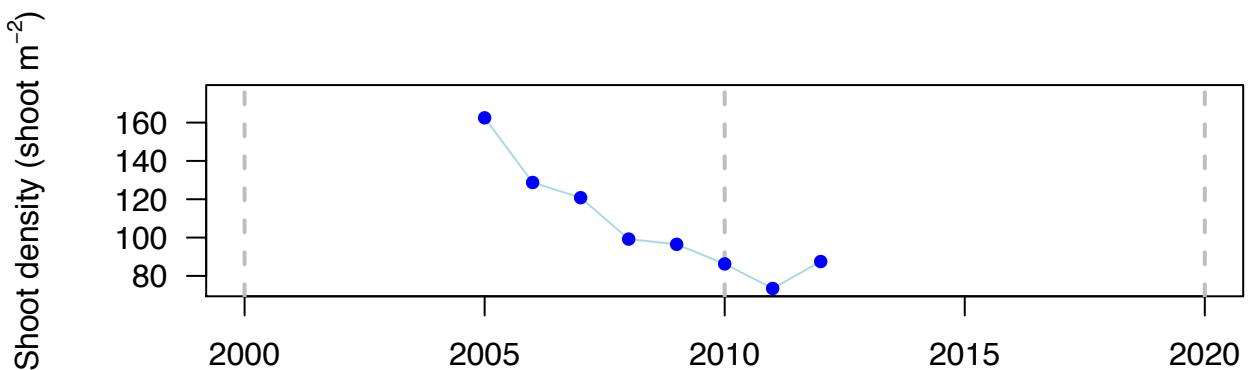
243_density

Sánchez-Lizaso et al. 2013

SITE: San Pedro del Pinatar (Spain – Mediterranean) – Po (-28.5 m)

OVERALL: Net = -75 shoot m⁻²; Rate = -8.84 % yr⁻¹; Perc Final = 54 % > decrease

DECadal: NO (7 yr)



246_area

Ferre-Vera 2012

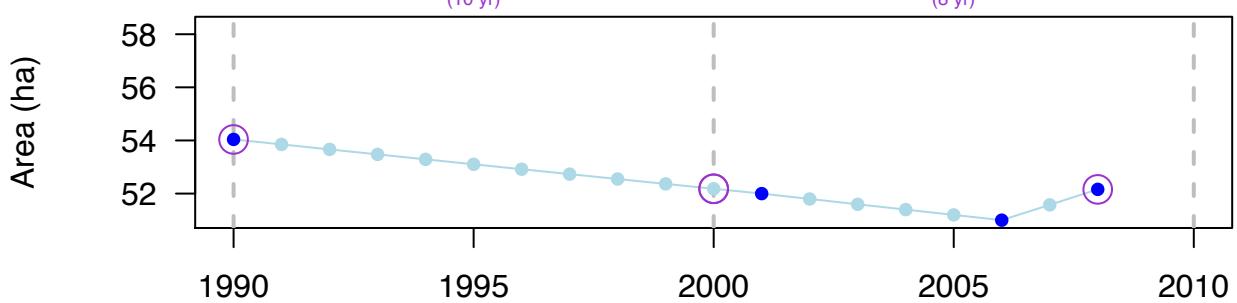
SITE: Cala Fornells – Caló de Ses Llises (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -1.88 ha; Rate = -0.2 % yr⁻¹; Perc Final = 97 % > no change

DECadal: YES (18 yr)

1990s
no change
unknown
-0.35% yr⁻¹
(10 yr)

2000s
no change
steady
-0.01% yr⁻¹
(8 yr)



247_area

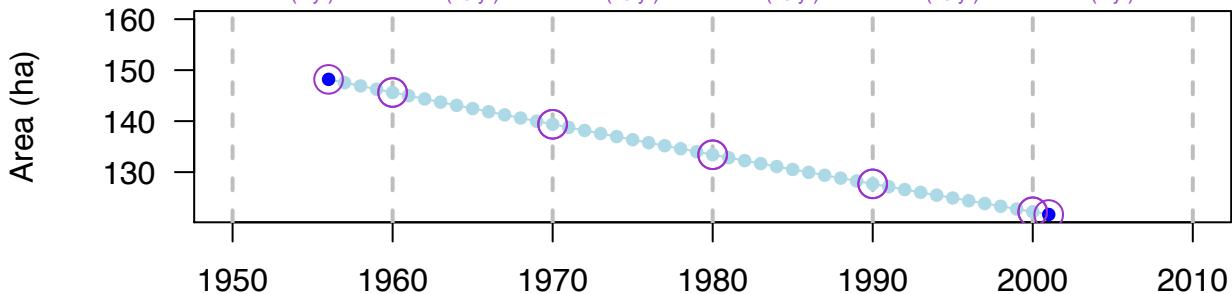
Sánchez-Camacho 2003

SITE: S'Illot – Cala Millor (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = -26.5 ha; Rate = -0.44 % yr⁻¹; Perc Final = 82 % > decrease

DECadal: YES (45 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| no change | no change | no change | no change | no change | no change |
| unknown | steady | steady | steady | steady | steady |
| -0.44%yr ⁻¹ (4 yr) | -0.44%yr ⁻¹ (10 yr) | -0.44%yr ⁻¹ (10 yr) | -0.44%yr ⁻¹ (10 yr) | -0.44%yr ⁻¹ (10 yr) | -0.44%yr ⁻¹ (1 yr) |



248_area

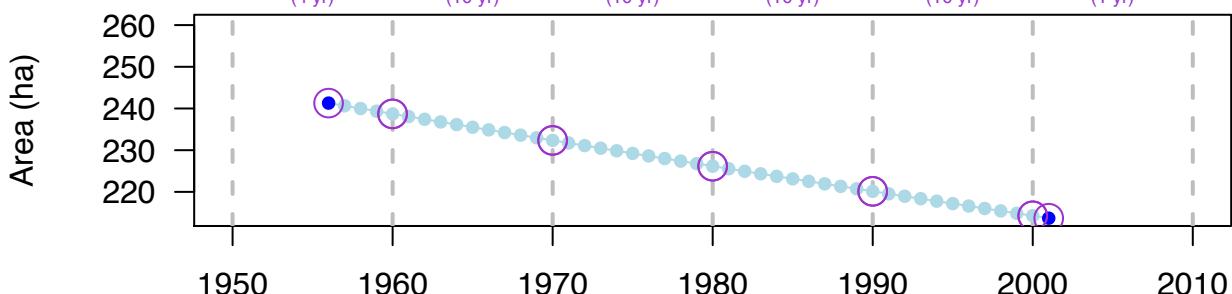
Sánchez-Camacho 2003

SITE: Magalluf – Portals Nous (Spain – Mediterranean) – Po (-10 m)

OVERALL: Net = -27.6 ha; Rate = -0.27 % yr⁻¹; Perc Final = 89 % > decrease

DECadal: YES (45 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| no change | no change | no change | no change | no change | no change |
| unknown | steady | steady | steady | steady | steady |
| -0.27%yr ⁻¹ (4 yr) | -0.27%yr ⁻¹ (10 yr) | -0.27%yr ⁻¹ (10 yr) | -0.27%yr ⁻¹ (10 yr) | -0.27%yr ⁻¹ (10 yr) | -0.27%yr ⁻¹ (1 yr) |



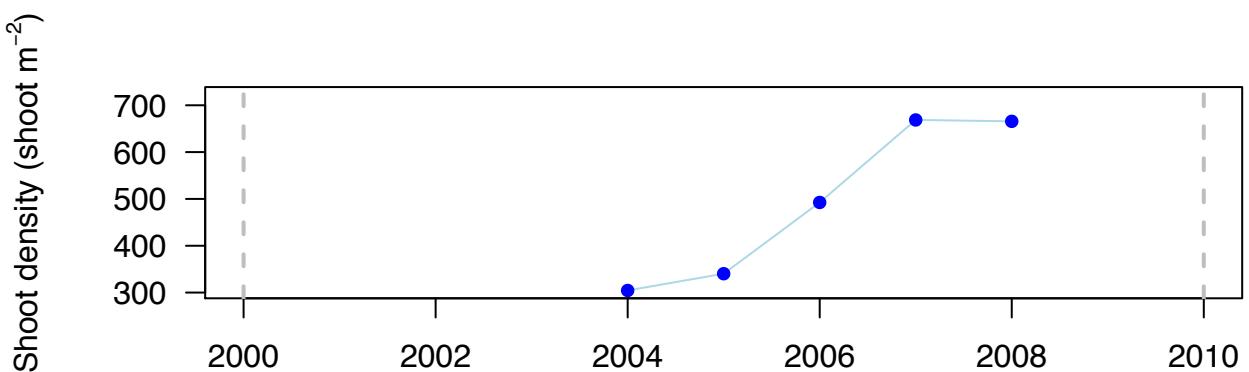
250_density

Terrados and Medina-Pons 2011

SITE: Magalluf Bay – Sa Porrassa (Spain – Mediterranean) – Po (-8 m)

OVERALL: Net = 361.2 shoot m⁻²; Rate = 19.55 % yr⁻¹; Perc Final = 219 % > increase

DECADAL: NO (4 yr)



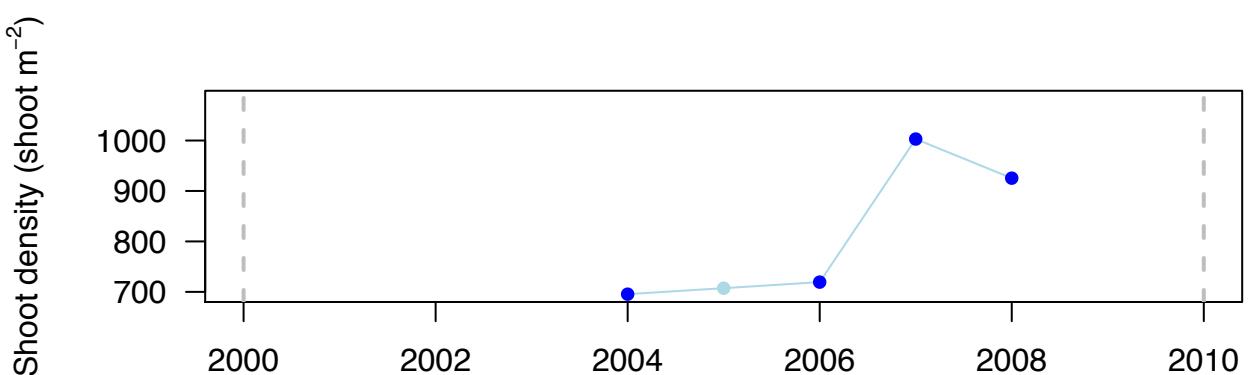
251_density

Terrados and Medina-Pons 2011

SITE: Ses Salines (Spain – Mediterranean) – Po (-8 m)

OVERALL: Net = 229.9 shoot m⁻²; Rate = 7.14 % yr⁻¹; Perc Final = 133 % > increase

DECADAL: NO (4 yr)



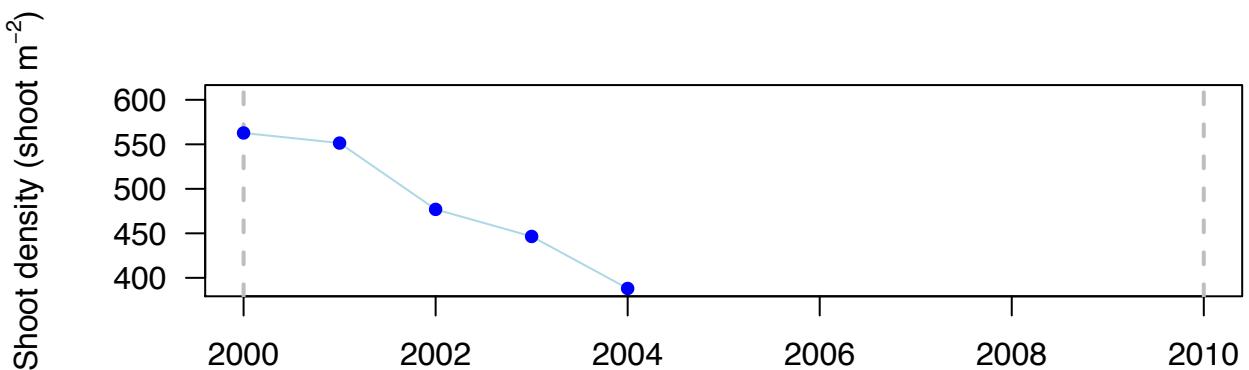
252_density

Díaz-Almela et al. 2009

SITE: Magalluf Bay – Sa Porrassa (Spain – Mediterranean) – Po (-7 m)

OVERALL: Net = -174.69 shoot m⁻²; Rate = -9.29 % yr⁻¹; Perc Final = 69 % > decrease

DECADAL: NO (4 yr)



254_area

Ruiz et al. 2001

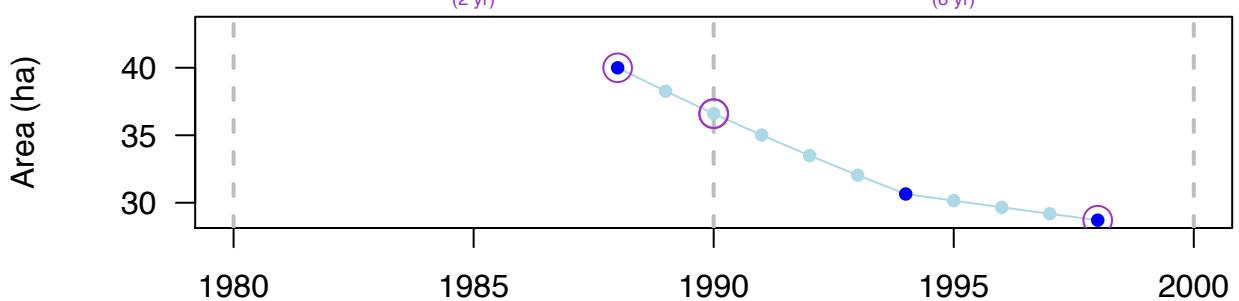
SITE: Hornillo Bay (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -11.29 ha; Rate = -3.32 % yr⁻¹; Perc Final = 72 % > decrease

DECADAL: YES (10 yr)

1980s
no change
unknown
-4.44%yr⁻¹
(2 yr)

1990s
decrease
worsen
-3.04%yr⁻¹
(8 yr)



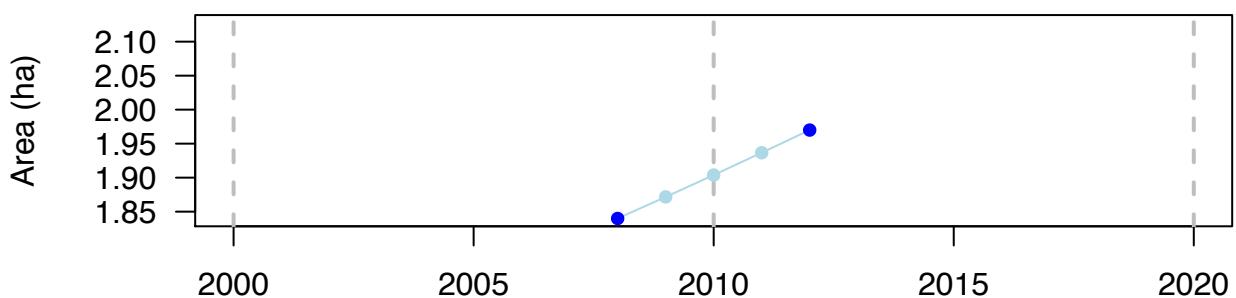
255_area

Garmendia et al. 2013

SITE: Bidasoa Estuary (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = 0.13 ha; Rate = 1.71 % yr⁻¹; Perc Final = 107 % > no change

DECADAL: NO (4 yr)



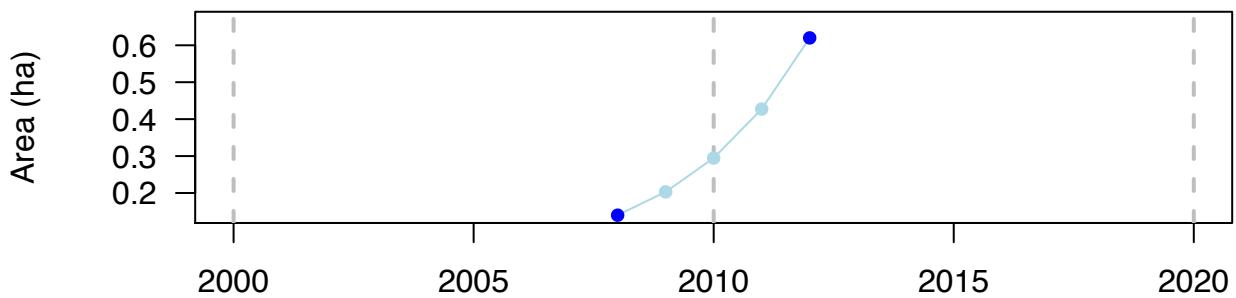
256_area

Garmendia et al. 2013

SITE: Lea Estuary (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = 0.48 ha; Rate = 37.2 % yr⁻¹; Perc Final = 443 % > increase

DECADAL: NO (4 yr)



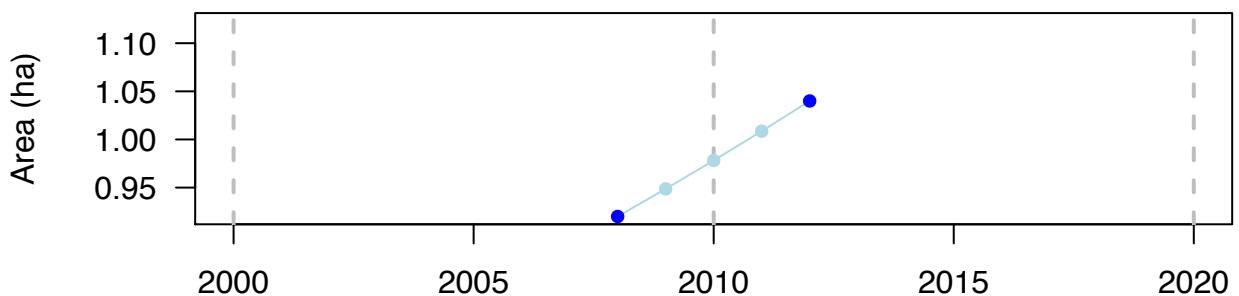
257_area

Garmendia et al. 2013

SITE: Oka Estuary (Kanala) (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = 0.12 ha; Rate = 3.07 % yr⁻¹; Perc Final = 113 % > increase

DECadal: NO (4 yr)



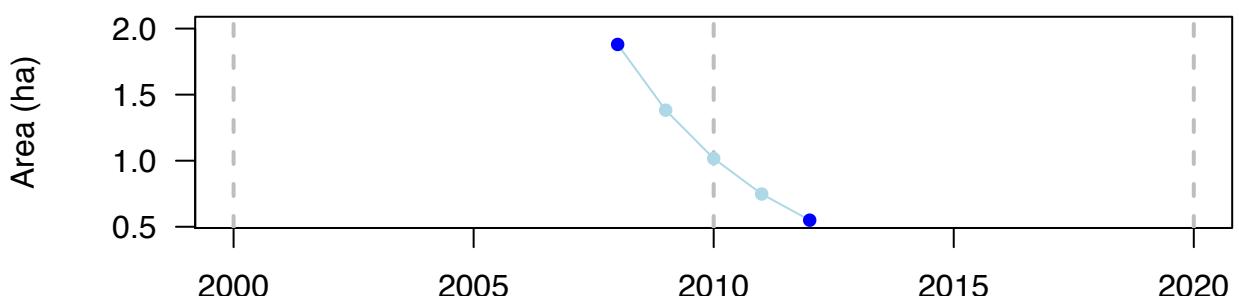
258_area

Garmendia et al. 2013

SITE: Oka Estuary (Arketas) (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = -1.33 ha; Rate = -30.73 % yr⁻¹; Perc Final = 29 % > decrease

DECadal: NO (4 yr)



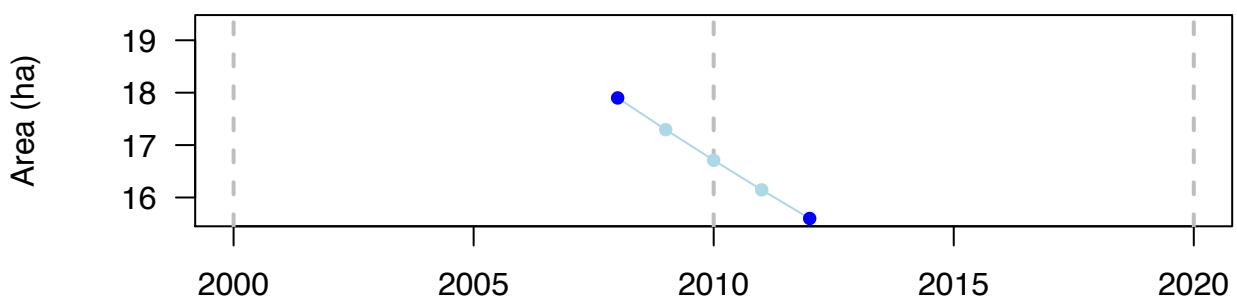
259_area

Garmendia et al. 2013

SITE: Oka Estuary (San Kristobal) (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = -2.3 ha; Rate = -3.44 % yr⁻¹; Perc Final = 87 % > decrease

DECadal: NO (4 yr)



260_biomass

Tuya et al. 2013

SITE: Risco Verde (Spain – Atlantic) – Cn (-10 m)

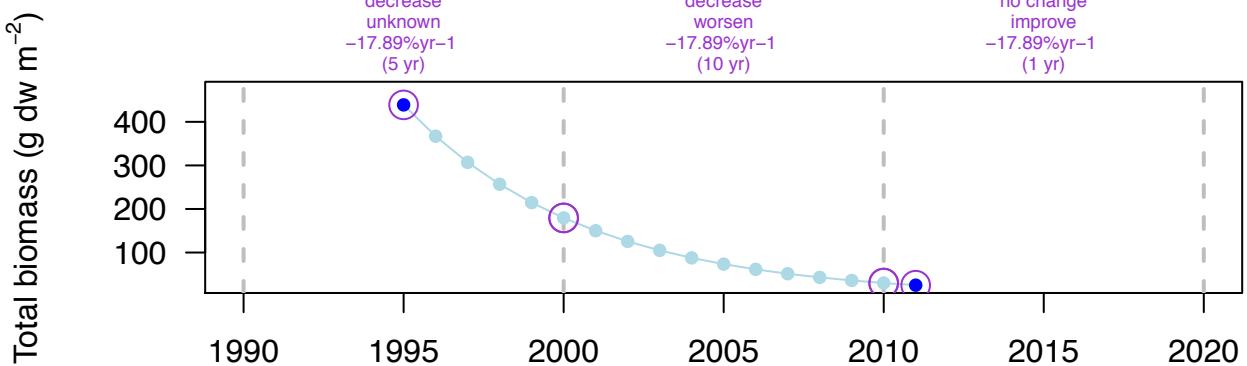
OVERALL: Net = -413.9 g dw m⁻²; Rate = -17.89 % yr⁻¹; Perc Final = 6 % > decrease

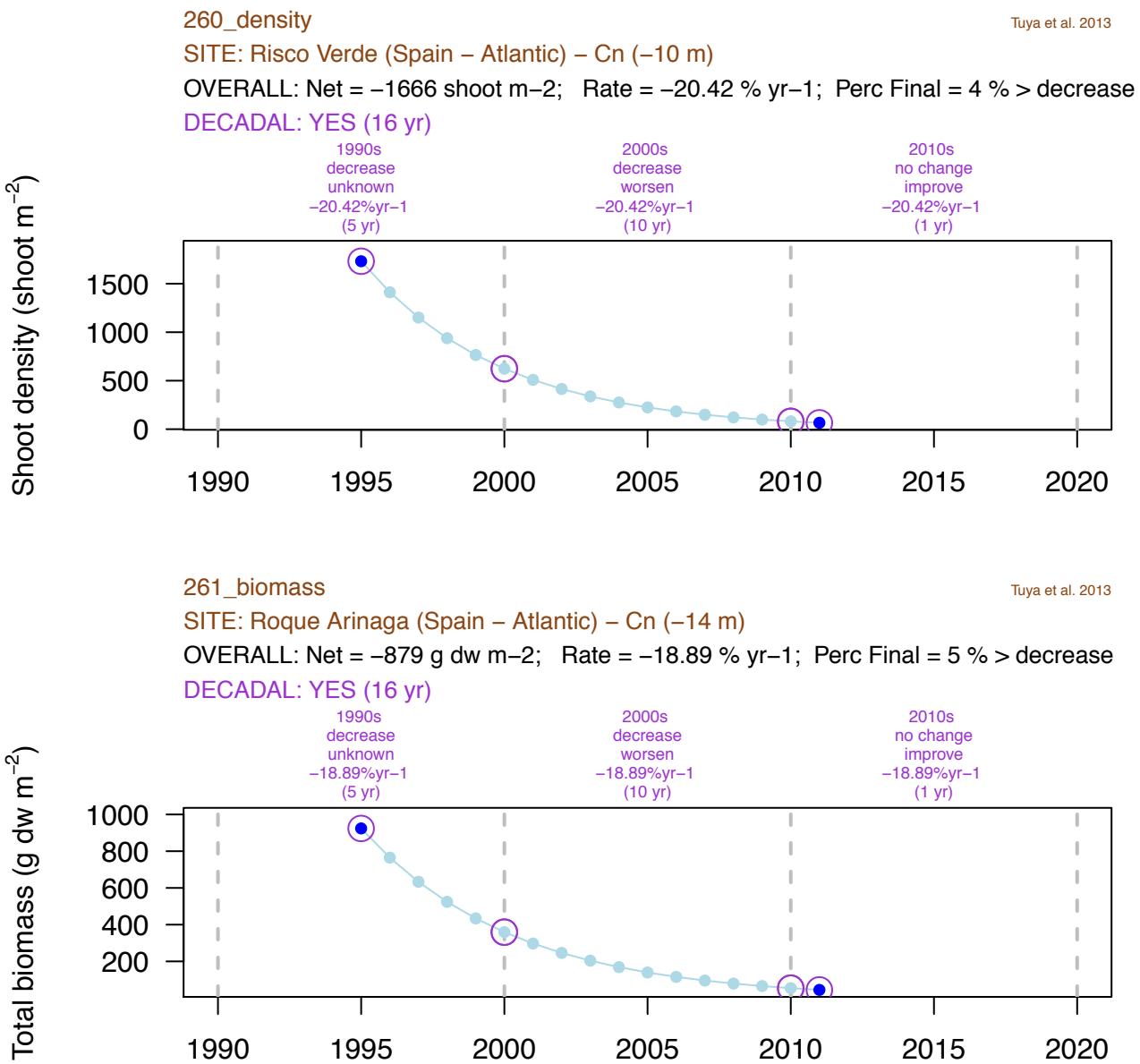
DECadal: YES (16 yr)

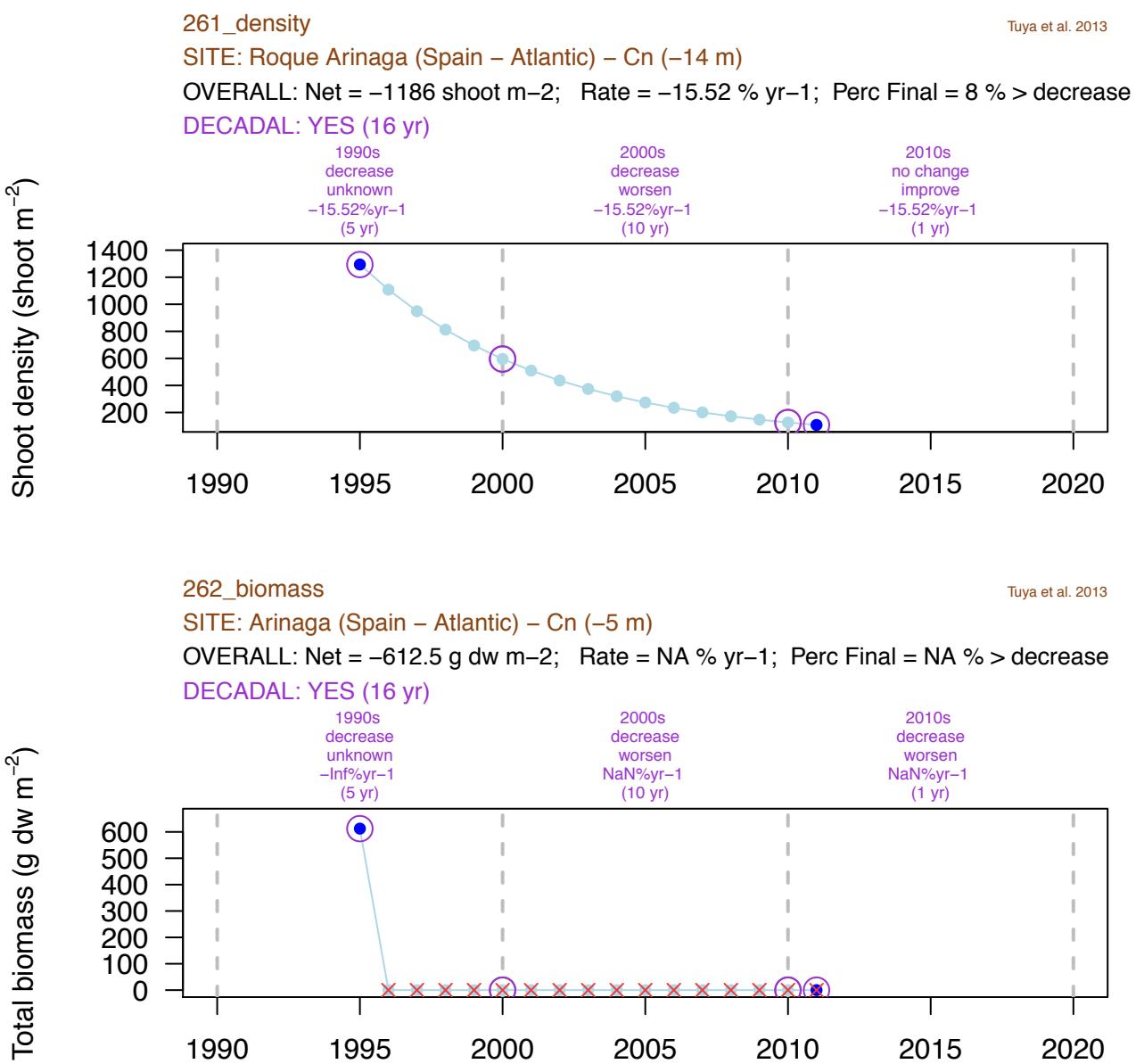
1990s
decrease
unknown
-17.89%yr⁻¹
(5 yr)

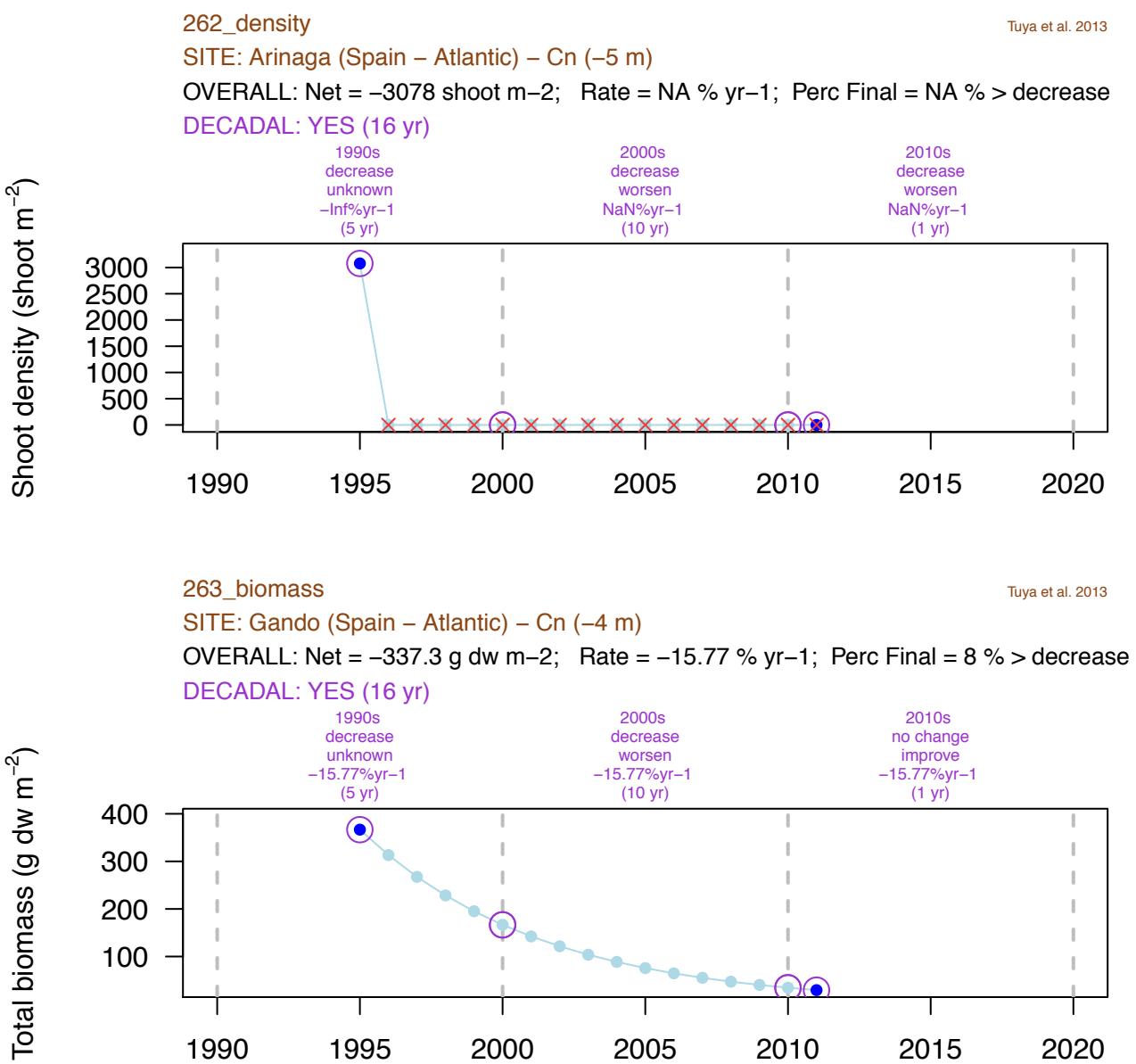
2000s
decrease
worsen
-17.89%yr⁻¹
(10 yr)

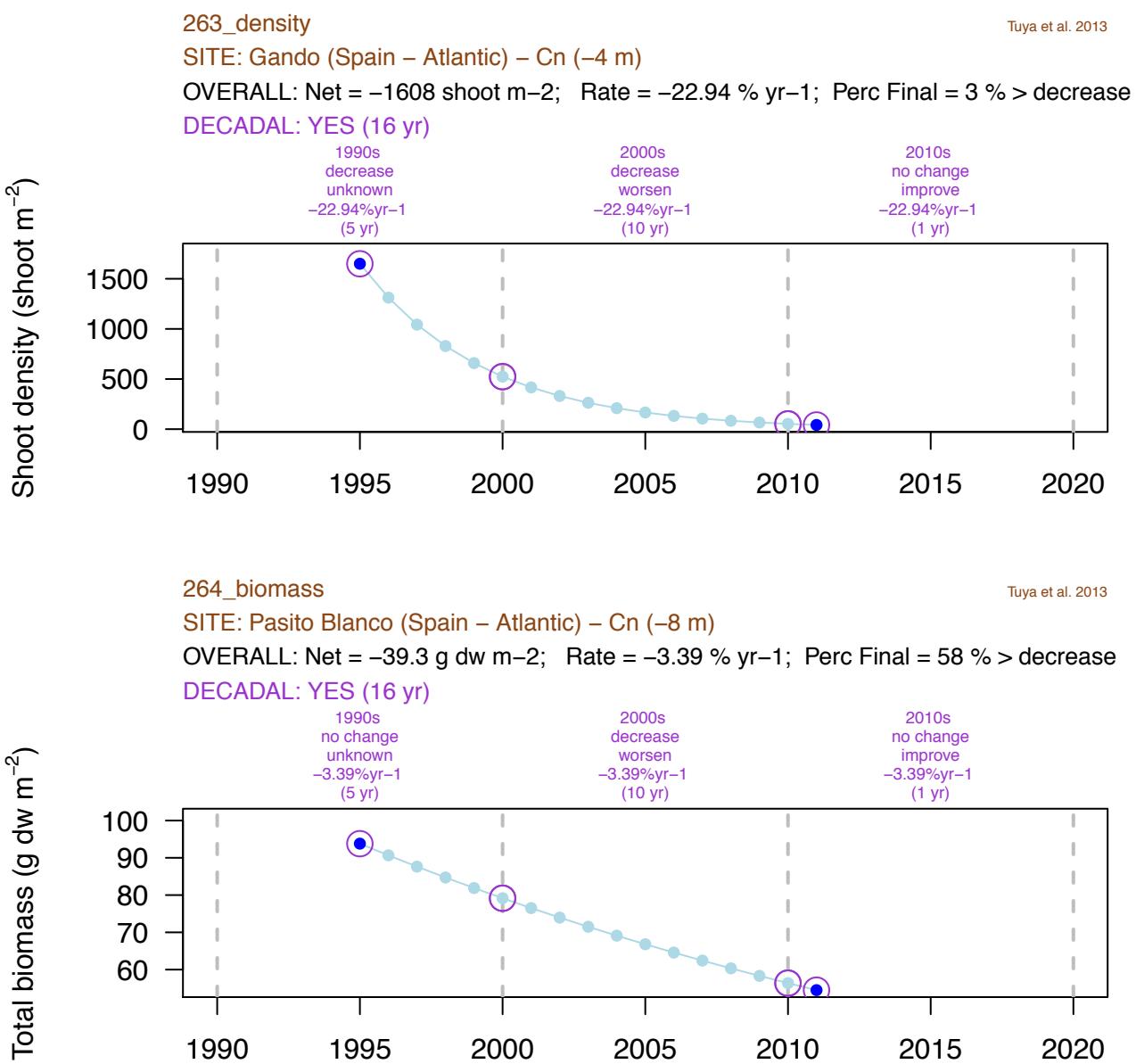
2010s
no change
improve
-17.89%yr⁻¹
(1 yr)

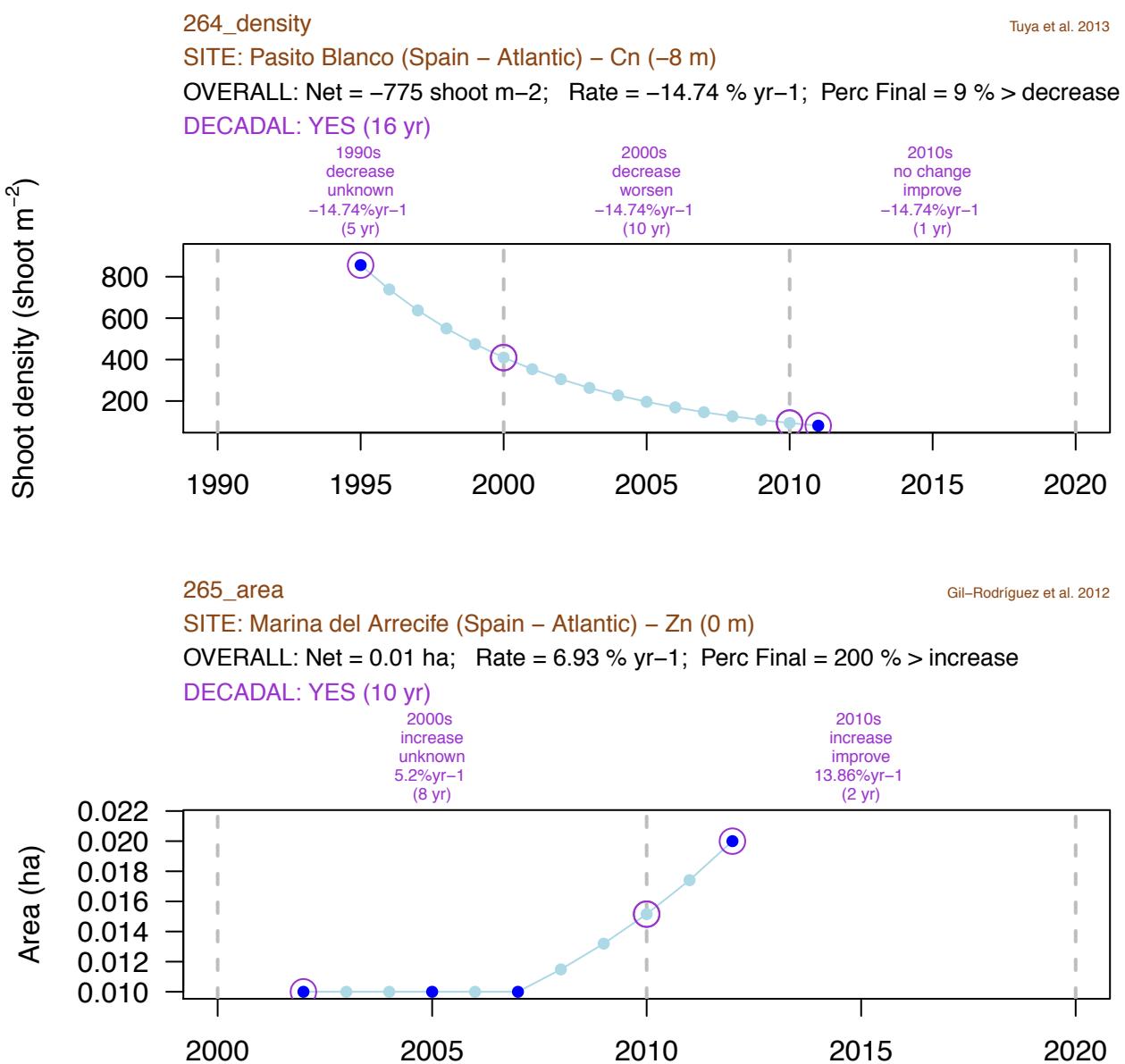












265_cover

Gil-Rodríguez et al. 2012

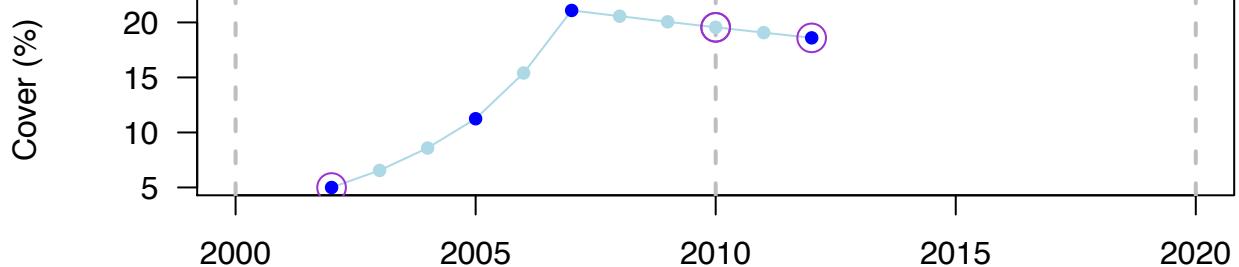
SITE: Marina del Arrecife (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = 13.6 %; Rate = 13.14 % yr⁻¹; Perc Final = 372 % > increase

DECADAL: YES (10 yr)

2000s
increase
unknown
17.05%yr⁻¹
(8 yr)

2010s
no change
steady
-2.51%yr⁻¹
(2 yr)



265_density

Gil-Rodríguez et al. 2012

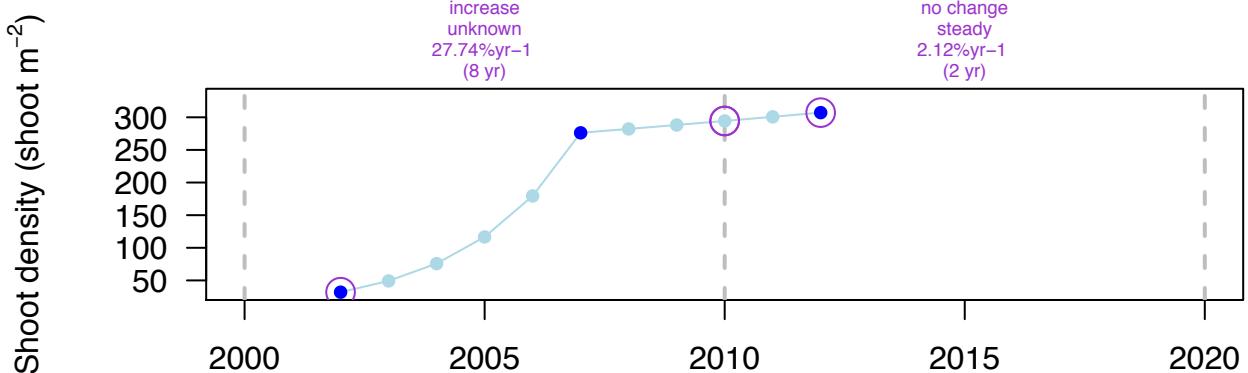
SITE: Marina del Arrecife (Spain – Atlantic) – Zn (0 m)

OVERALL: Net = 275.2 shoot m⁻²; Rate = 22.62 % yr⁻¹; Perc Final = 960 % > increase

DECADAL: YES (10 yr)

2000s
increase
unknown
27.74%yr⁻¹
(8 yr)

2010s
no change
steady
2.12%yr⁻¹
(2 yr)



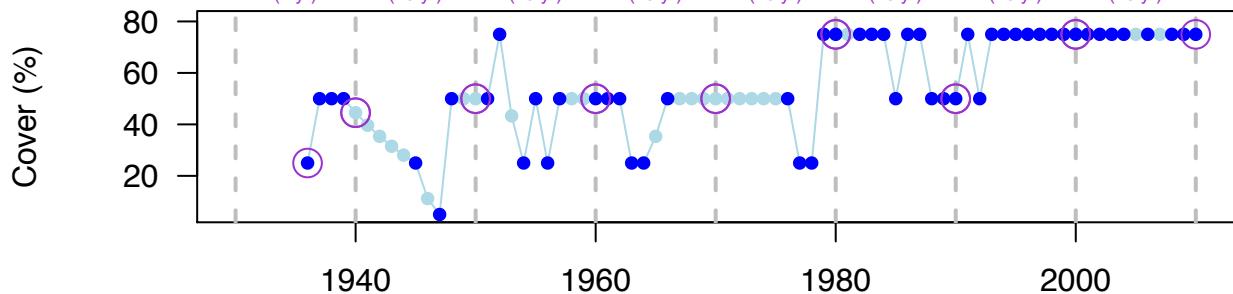
267_cover Moy (unpublished)

SITE: Amland (Norway – Atlantic) – Zm (–5 m)

OVERALL: Net = 50 %; Rate = 1.48 % yr⁻¹; Perc Final = 300 % > increase

DECadal: YES (74 yr)

| 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|---|---|--|--|---|---|---|--|
| increase unknown 14.44%yr ⁻¹ (4 yr) | no change steady 1.16%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (10 yr) | increase improve 4.05%yr ⁻¹ (10 yr) | decrease worsen -4.05%yr ⁻¹ (10 yr) | increase improve 4.05%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (10 yr) |



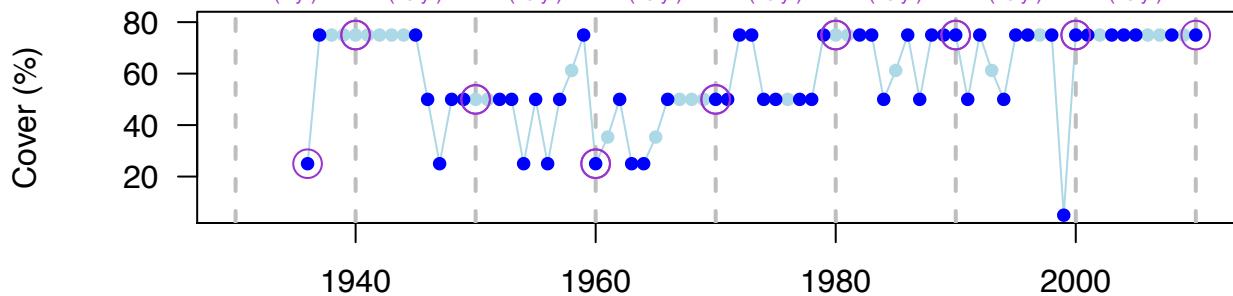
268_cover Moy (unpublished)

SITE: Hallangspollen (Norway – Atlantic) – Zm (–5 m)

OVERALL: Net = 50 %; Rate = 1.48 % yr⁻¹; Perc Final = 300 % > increase

DECadal: YES (74 yr)

| 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|---|---|---|---|---|--|--|--|
| increase unknown 27.47%yr ⁻¹ (4 yr) | decrease worsen -4.05%yr ⁻¹ (10 yr) | decrease worsen -6.93%yr ⁻¹ (10 yr) | increase improve 6.93%yr ⁻¹ (10 yr) | increase improve 4.05%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (10 yr) |



269_cover

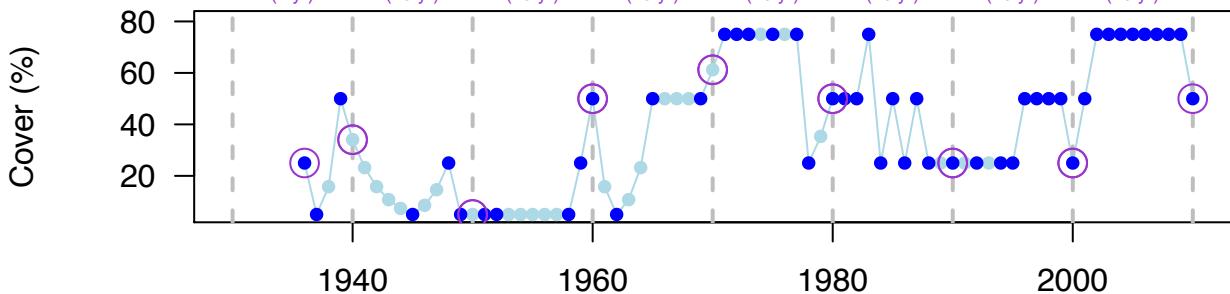
Moy (unpublished)

SITE: Lusekilen (Norway – Atlantic) – Zm (-5 m)

OVERALL: Net = 25 %; Rate = 0.94 % yr⁻¹; Perc Final = 200 % > increase

DECadal: YES (74 yr)

| 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|---------------------------------|------------------------------------|-----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-------------------------------|----------------------------------|
| increase unknown | decrease worsen | increase improve | no change steady | no change steady | decrease worsen | no change improve | increase improve |
| 7.73%yr ⁻¹ (4 yr) | -19.19%yr ⁻¹ (10 yr) | 23.03%yr ⁻¹ (10 yr) | 2.03%yr ⁻¹ (10 yr) | -2.03%yr ⁻¹ (10 yr) | -6.93%yr ⁻¹ (10 yr) | 0%yr ⁻¹ (10 yr) | 6.93%yr ⁻¹ (10 yr) |



270_cover

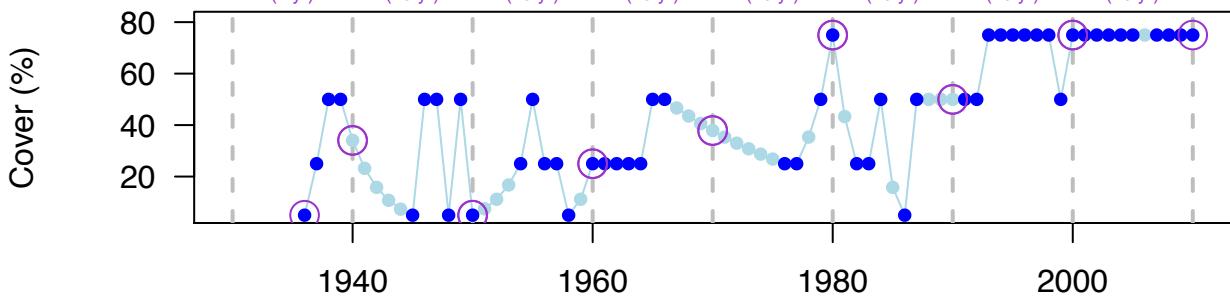
Moy (unpublished)

SITE: Soppekilen (Norway – Atlantic) – Zm (-5 m)

OVERALL: Net = 70 %; Rate = 3.66 % yr⁻¹; Perc Final = 1500 % > increase

DECadal: YES (74 yr)

| 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|----------------------------------|------------------------------------|-----------------------------------|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|-------------------------------|
| increase unknown | decrease worsen | increase improve | increase improve | increase improve | decrease worsen | increase improve | no change steady |
| 47.97%yr ⁻¹ (4 yr) | -19.19%yr ⁻¹ (10 yr) | 16.09%yr ⁻¹ (10 yr) | 4.16%yr ⁻¹ (10 yr) | 6.83%yr ⁻¹ (10 yr) | -4.05%yr ⁻¹ (10 yr) | 4.05%yr ⁻¹ (10 yr) | 0%yr ⁻¹ (10 yr) |



271_cover

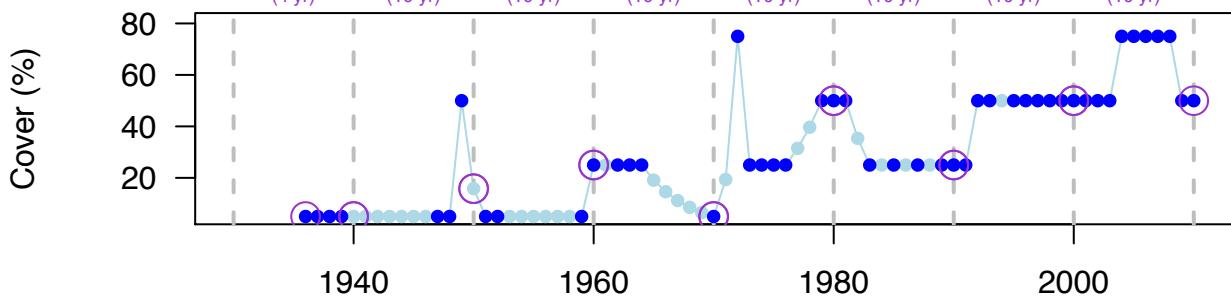
Moy (unpublished)

SITE: Sundet (Norway – Atlantic) – Zm (-5 m)

OVERALL: Net = 45 %; Rate = 3.11 % yr⁻¹; Perc Final = 1000 % > increase

DECADAL: YES (74 yr)

| 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|------------------------------|-----------------------------------|----------------------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|-------------------------------|
| no change unknown | increase improve | increase improve | decrease worsen | increase improve | decrease worsen | increase improve | no change steady |
| 0%yr ⁻¹ (4 yr) | 11.51%yr ⁻¹ (10 yr) | 4.58%yr ⁻¹ (10 yr) | -16.09%yr ⁻¹ (10 yr) | 23.03%yr ⁻¹ (10 yr) | -6.93%yr ⁻¹ (10 yr) | 6.93%yr ⁻¹ (10 yr) | 0%yr ⁻¹ (10 yr) |



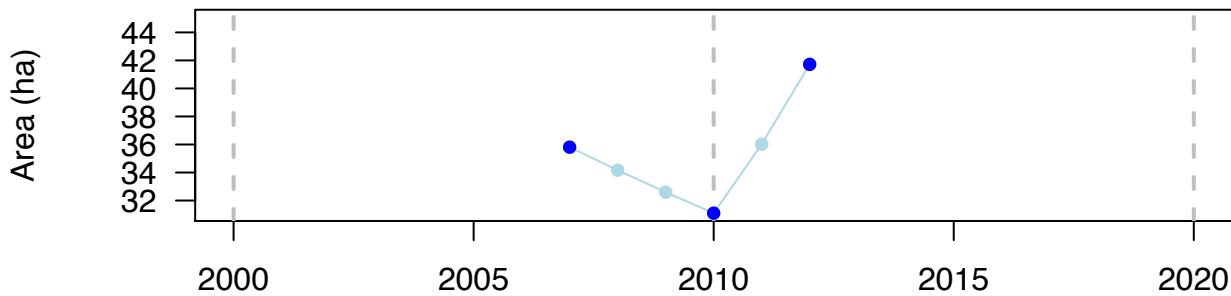
272_area

Wilkes et al. 2017

SITE: Ballysadare Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 5.91 ha; Rate = 3.06 % yr⁻¹; Perc Final = 117 % > increase

DECADAL: NO (5 yr)



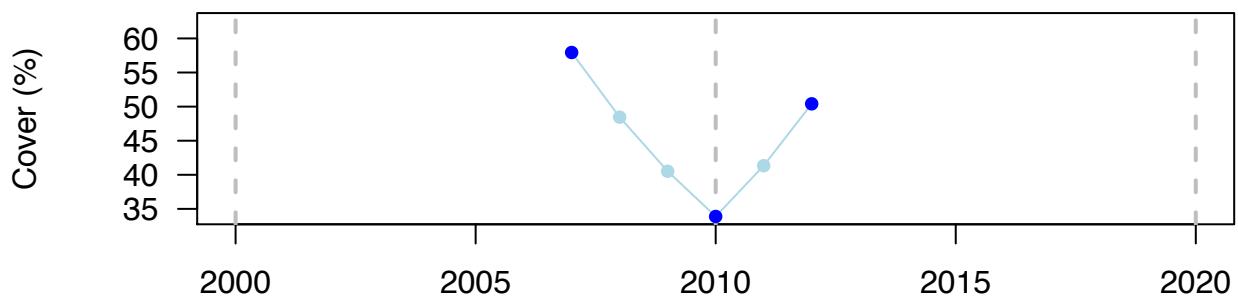
272_cover

Wilkes et al. 2017

SITE: Ballysadare Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = -7.53 %; Rate = -2.78 % yr⁻¹; Perc Final = 87 % > no change

DECADAL: NO (5 yr)



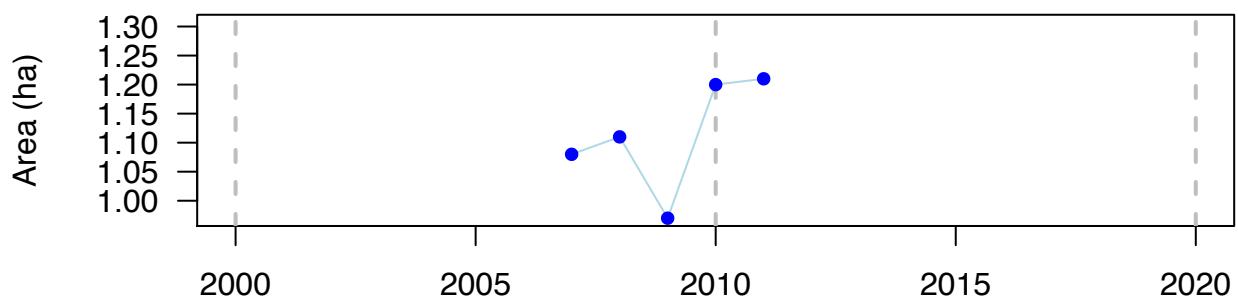
273_area

Wilkes et al. 2017

SITE: Colligan Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 0.13 ha; Rate = 2.84 % yr⁻¹; Perc Final = 112 % > increase

DECADAL: NO (4 yr)



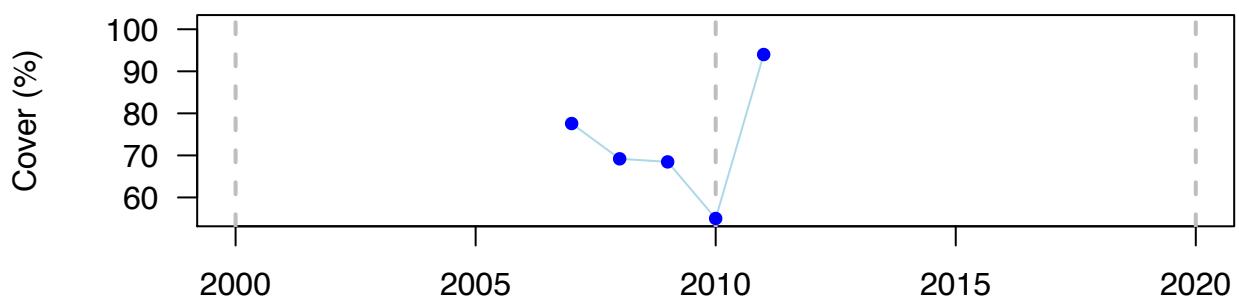
273_cover

Wilkes et al. 2017

SITE: Colligan Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 16.42 %; Rate = 4.8 % yr⁻¹; Perc Final = 121 % > no change

DECADAL: NO (4 yr)



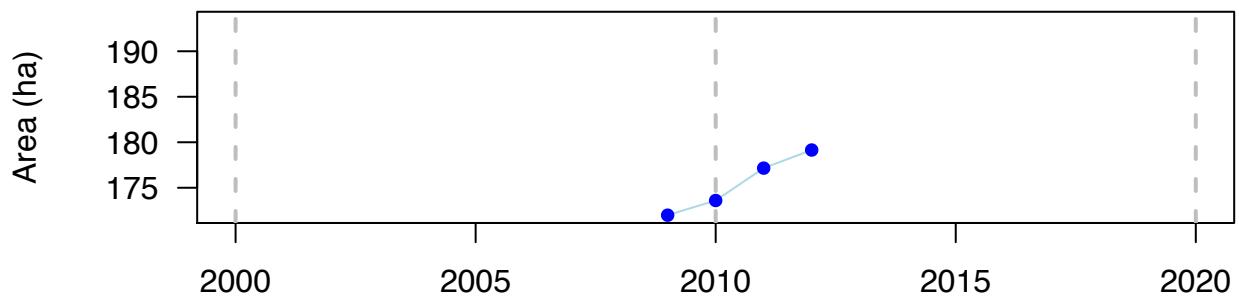
274_area

Wilkes et al. 2017

SITE: Cromane (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 7.16 ha; Rate = 1.36 % yr⁻¹; Perc Final = 104 % > no change

DECADAL: NO (3 yr)



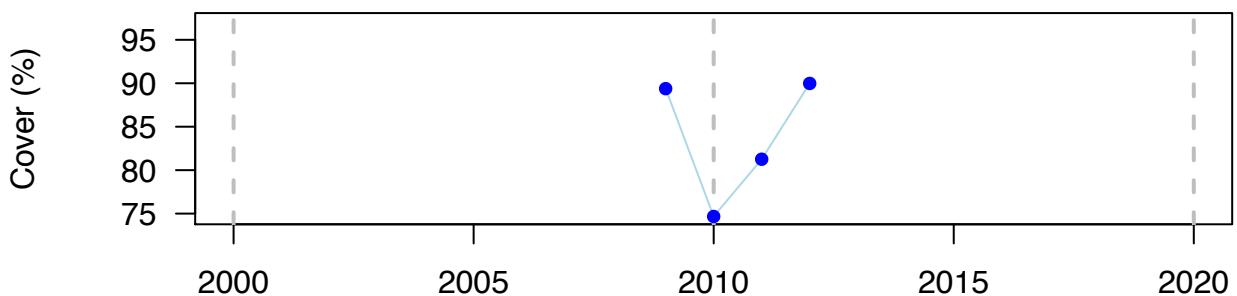
274_cover

Wilkes et al. 2017

SITE: Cromane (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 0.6 %; Rate = 0.22 % yr⁻¹; Perc Final = 101 % > no change

DECADAL: NO (3 yr)



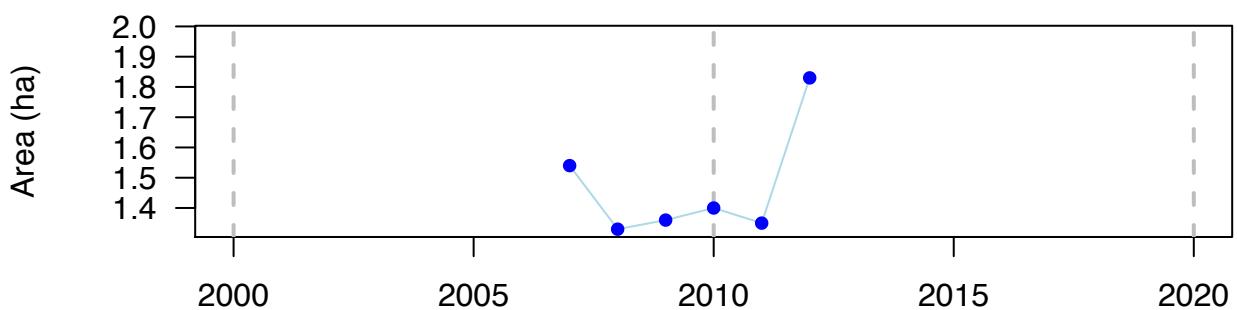
275_area

Wilkes et al. 2017

SITE: Dublin Bay (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 0.29 ha; Rate = 3.45 % yr⁻¹; Perc Final = 119 % > increase

DECADAL: NO (5 yr)



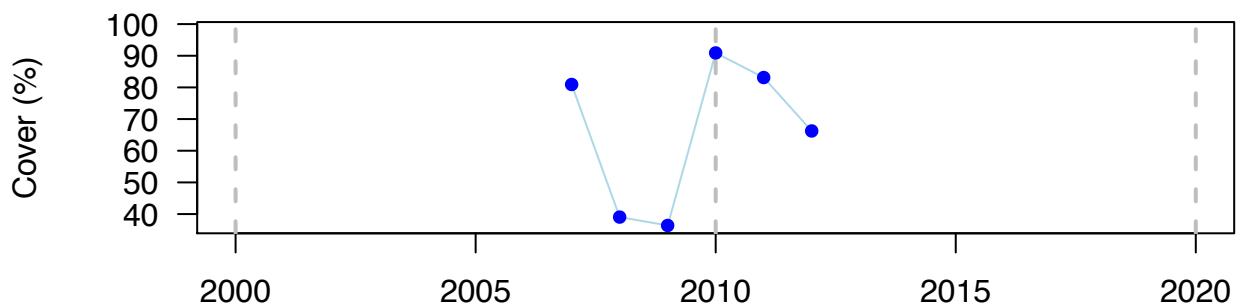
275_cover

Wilkes et al. 2017

SITE: Dublin Bay (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = -14.68 %; Rate = -4 % yr-1; Perc Final = 82 % > no change

DECADAL: NO (5 yr)



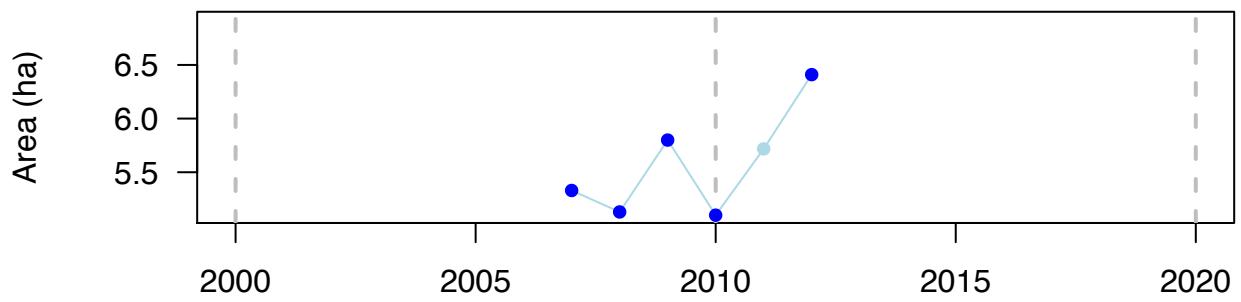
276_area

Wilkes et al. 2017

SITE: Garavoge Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 1.08 ha; Rate = 3.69 % yr-1; Perc Final = 120 % > increase

DECADAL: NO (5 yr)



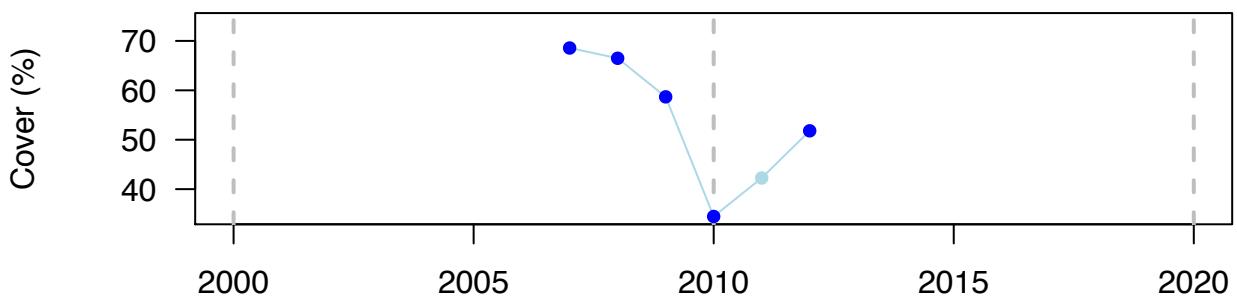
276_cover

Wilkes et al. 2017

SITE: Garavogue Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = -16.76 %; Rate = -5.61 % yr-1; Perc Final = 76 % > no change

DECADAL: NO (5 yr)



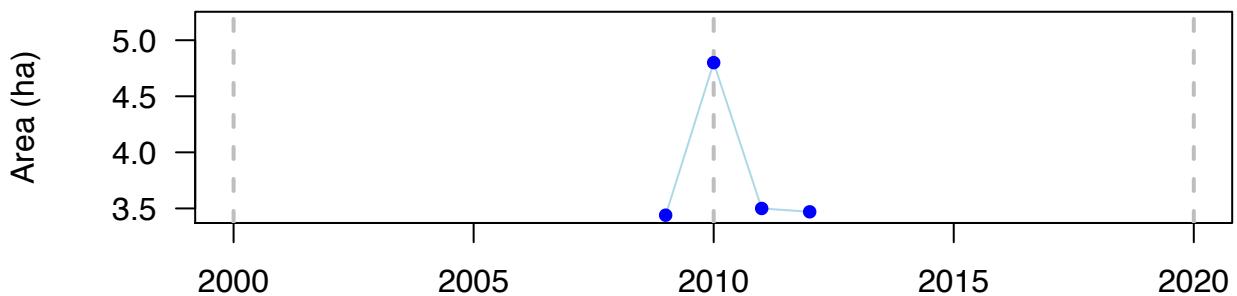
277_area

Wilkes et al. 2017

SITE: Malahide Bay (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 0.03 ha; Rate = 0.29 % yr-1; Perc Final = 101 % > no change

DECADAL: NO (3 yr)



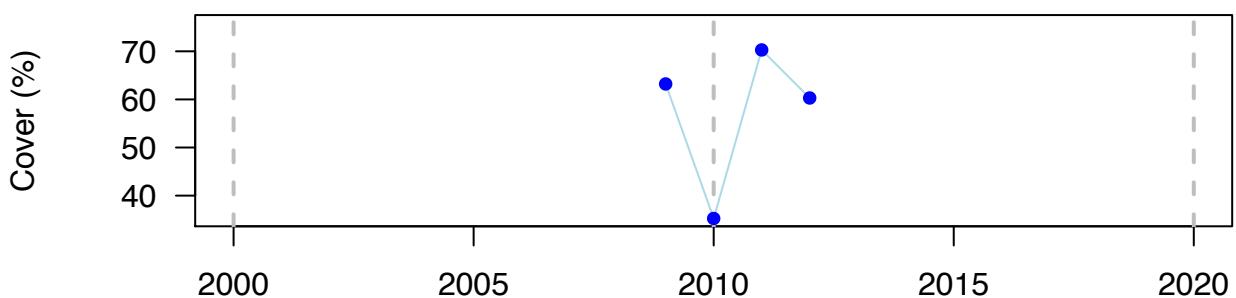
277_cover

Wilkes et al. 2017

SITE: Malahide Bay (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = -2.92 %; Rate = -1.58 % yr⁻¹; Perc Final = 95 % > no change

DECADAL: NO (3 yr)



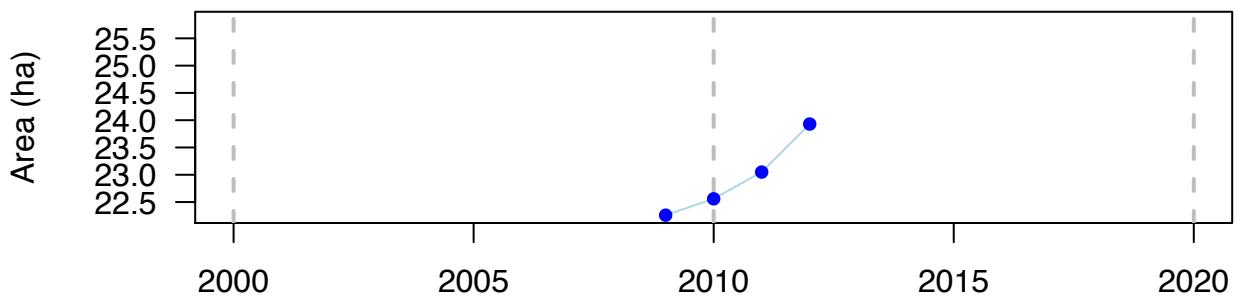
278_area

Wilkes et al. 2017

SITE: Moy Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 1.67 ha; Rate = 2.41 % yr⁻¹; Perc Final = 108 % > no change

DECADAL: NO (3 yr)



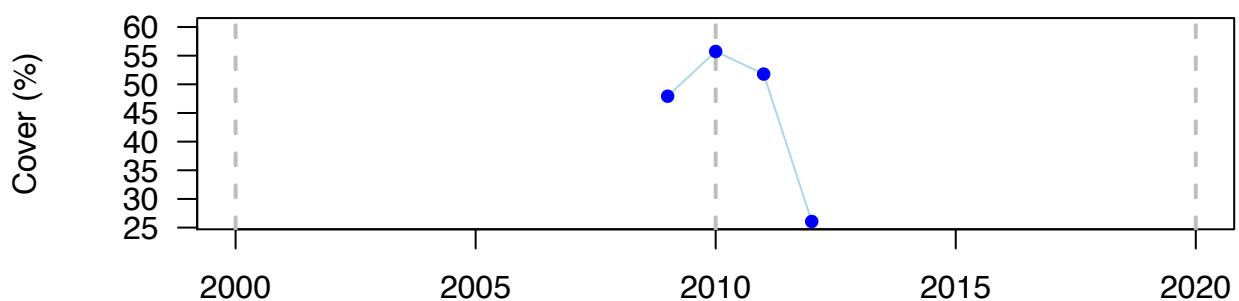
278_cover

Wilkes et al. 2017

SITE: Moy Estuary (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = -21.86 %; Rate = -20.3 % yr⁻¹; Perc Final = 54 % > decrease

DECADAL: NO (3 yr)



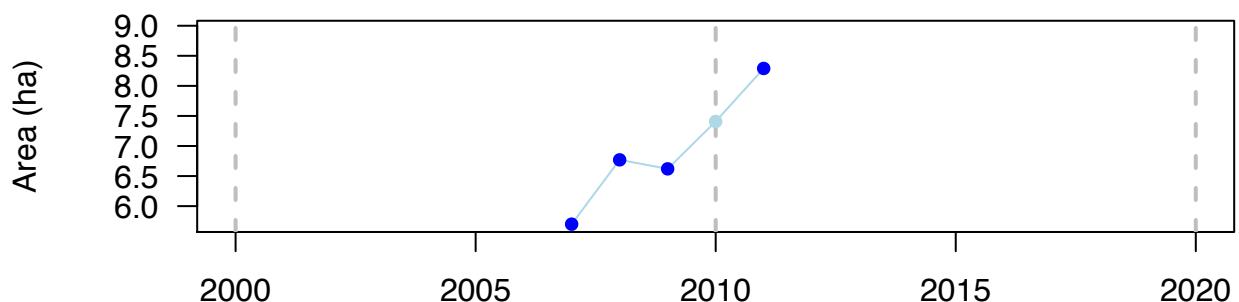
279_area

Wilkes et al. 2017

SITE: Tramore Back Strand (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 2.59 ha; Rate = 9.36 % yr⁻¹; Perc Final = 145 % > increase

DECADAL: NO (4 yr)



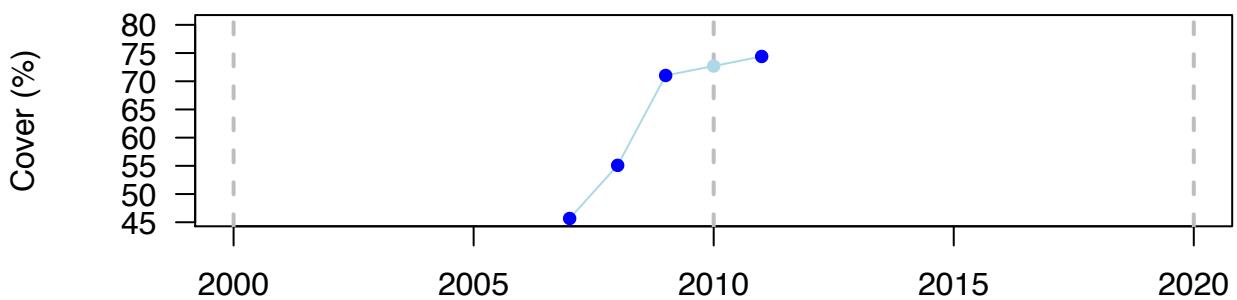
279_cover

Wilkes et al. 2017

SITE: Tramore Back Strand (Ireland – Atlantic) – Zn (? m)

OVERALL: Net = 28.73 %; Rate = 12.2 % yr⁻¹; Perc Final = 163 % > increase

DECadal: NO (4 yr)



280_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Aabenraa Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -0.71 m; Rate = -0.78 % yr⁻¹; Perc Final = 84 % > decrease

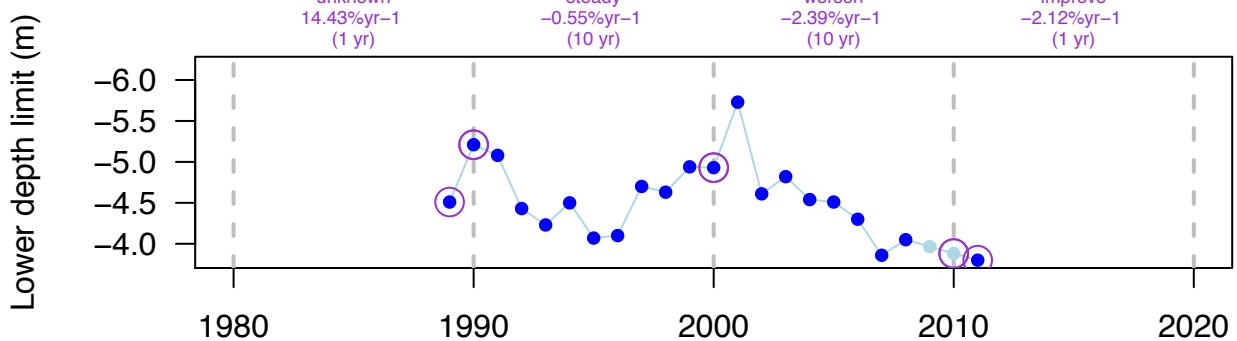
DECadal: YES (22 yr)

1980s
increase
unknown
14.43%yr⁻¹
(1 yr)

1990s
no change
steady
-0.55%yr⁻¹
(10 yr)

2000s
decrease
worsen
-2.39%yr⁻¹
(10 yr)

2010s
no change
improve
-2.12%yr⁻¹
(1 yr)



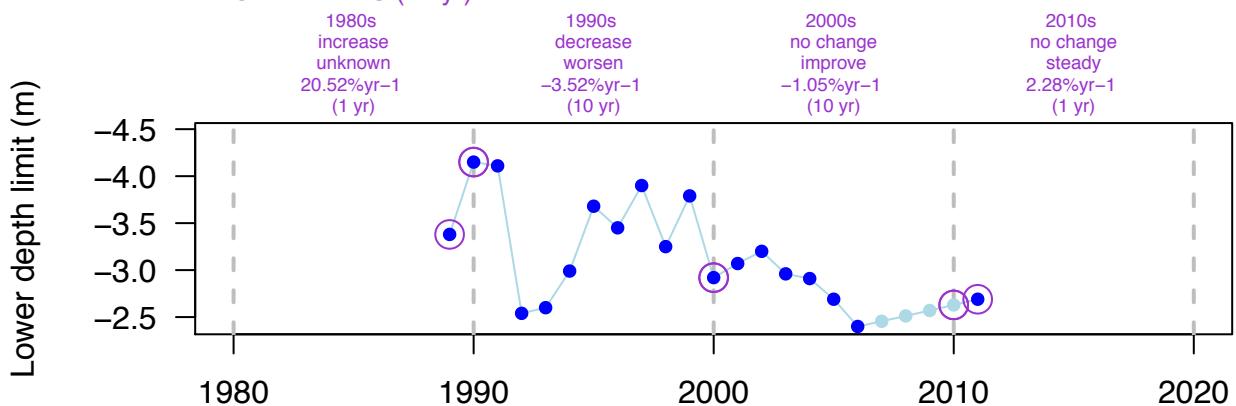
281_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Als Sund (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -0.69 m; Rate = $-1.04\% \text{ yr}^{-1}$; Perc Final = 80 % > decrease

DECadal: YES (22 yr)



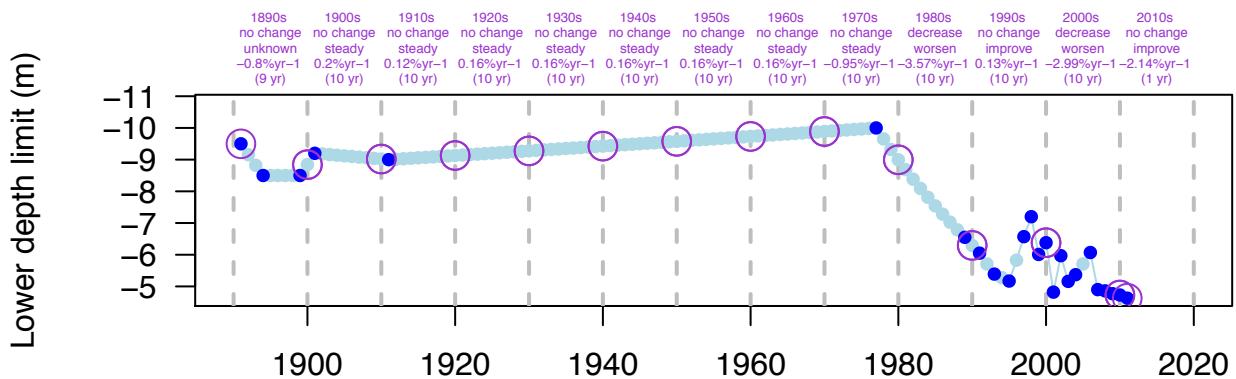
282_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Århus Bugt (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -4.87 m; Rate = $-0.6\% \text{ yr}^{-1}$; Perc Final = 49 % > decrease

DECadal: YES (120 yr)



283_area

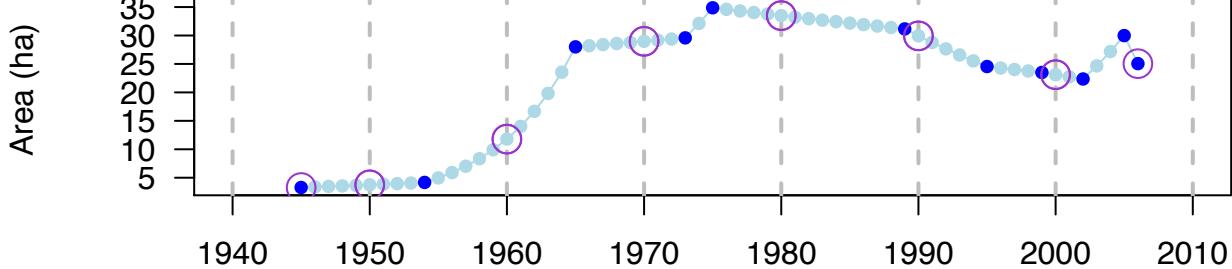
Vinther (unpublished)

SITE: Flensborg Fjord (Brunsnaes) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 21.77 ha; Rate = 3.33 % yr⁻¹; Perc Final = 762 % > increase

DECadal: YES (61 yr)

| 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|---------------------------------|-----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|
| increase unknown | increase improve | increase improve | increase improve | decrease worsen | decrease worsen | no change improve |
| 2.66%yr ⁻¹ (5 yr) | 11.44%yr ⁻¹ (10 yr) | 8.99%yr ⁻¹ (10 yr) | 1.45%yr ⁻¹ (10 yr) | -1.12%yr ⁻¹ (10 yr) | -2.59%yr ⁻¹ (10 yr) | 1.34%yr ⁻¹ (6 yr) |



284_lowerlimit

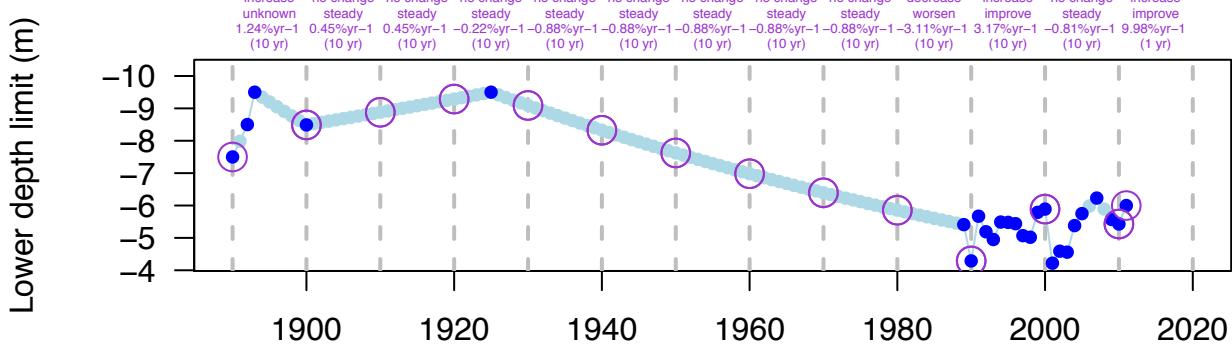
Carstensen and Krause-Jensen 2012

SITE: Det Sydfynske Øhav (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -1.5 m; Rate = -0.18 % yr⁻¹; Perc Final = 80 % > decrease

Decadal: YES (121 yr)

| 1890s | 1900s | 1910s | 1920s | 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s | 2010s |
|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|---------------------------------|
| increase unknown | no change steady | no change steady | no change steady | no change steady | no change steady | no change steady | no change steady | no change steady | decrease worsen | increase improve | no change steady | increase improve |
| 1.24%yr ⁻¹ (10 yr) | 0.45%yr ⁻¹ (10 yr) | 0.45%yr ⁻¹ (10 yr) | -0.22%yr ⁻¹ (10 yr) | -0.88%yr ⁻¹ (10 yr) | -3.11%yr ⁻¹ (10 yr) | 3.17%yr ⁻¹ (10 yr) | -0.81%yr ⁻¹ (10 yr) | 9.98%yr ⁻¹ (1 yr) |



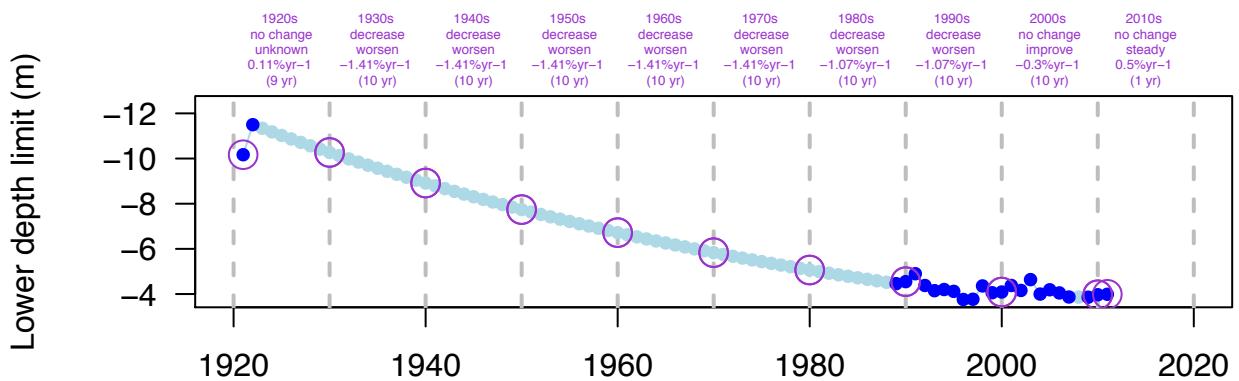
285_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Flensburg Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -6.18 m; Rate = -1.04 % yr⁻¹; Perc Final = 39 % > decrease

DECadal: YES (90 yr)



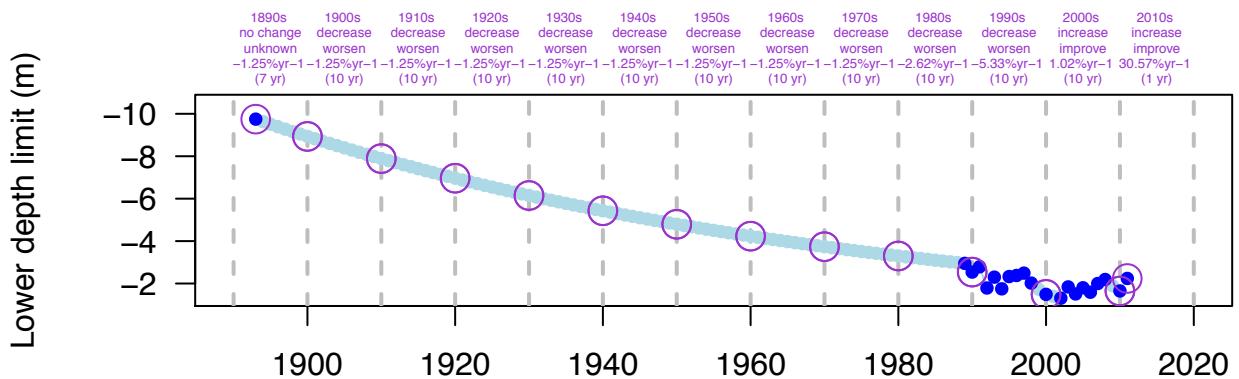
286_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Horsens Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -7.51 m; Rate = -1.25 % yr⁻¹; Perc Final = 23 % > decrease

DECadal: YES (118 yr)



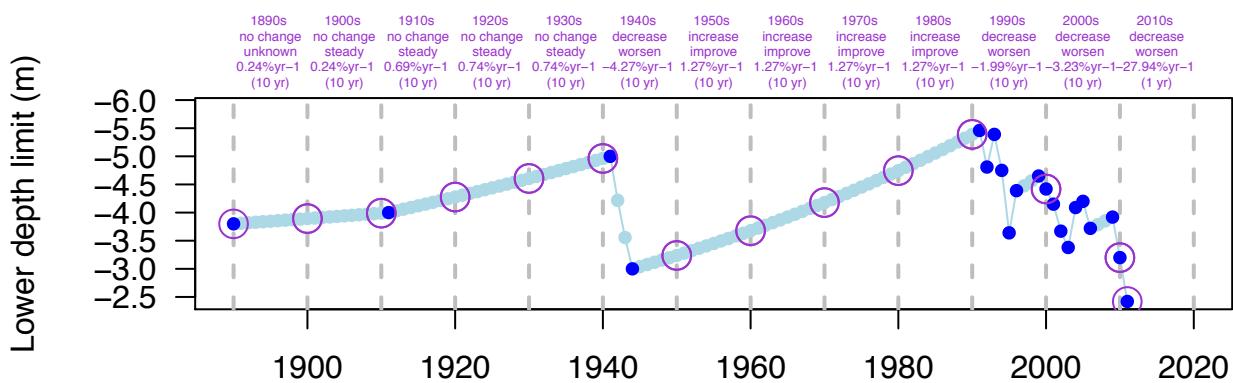
287_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Isefjord (Inderbredning) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -1.38 m; Rate = -0.37 % yr⁻¹; Perc Final = 64 % > decrease

DECadal: YES (121 yr)



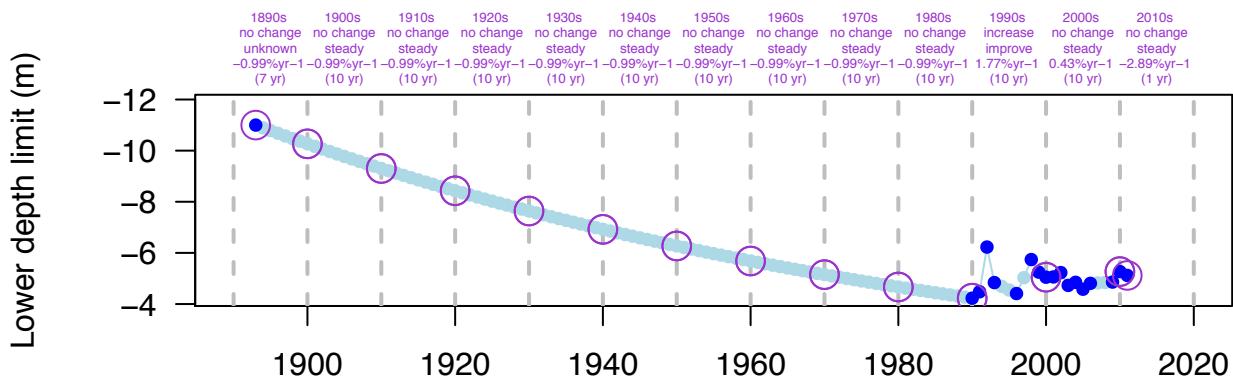
288_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Isefjord (Inderbredning) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -5.88 m; Rate = -0.65 % yr⁻¹; Perc Final = 47 % > decrease

DECadal: YES (118 yr)



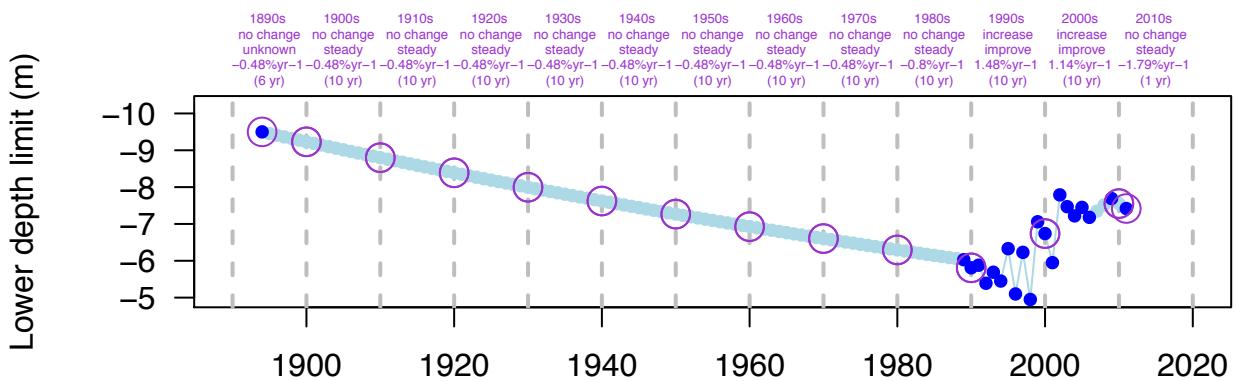
289_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Køge Bugt (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -2.08 m; Rate = -0.21 % yr⁻¹; Perc Final = 78 % > decrease

DECadal: YES (117 yr)



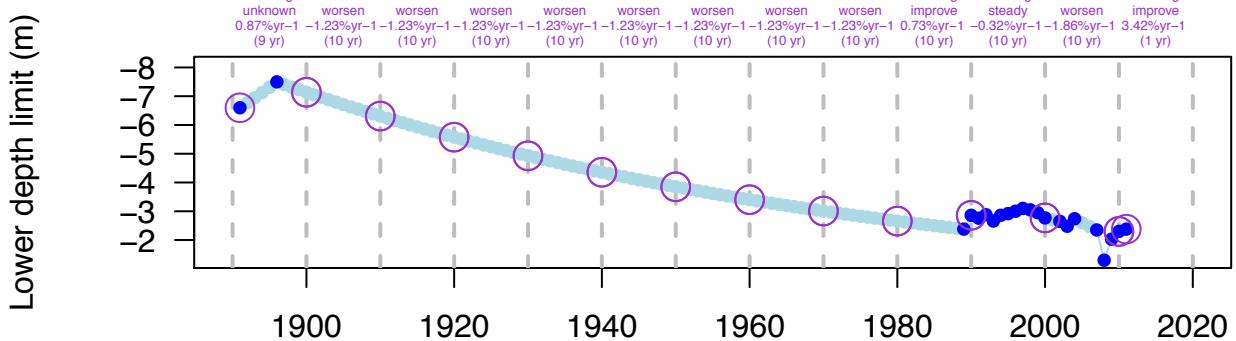
290_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Kolding Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -4.22 m; Rate = -0.85 % yr⁻¹; Perc Final = 36 % > decrease

DECadal: YES (120 yr)



291_area

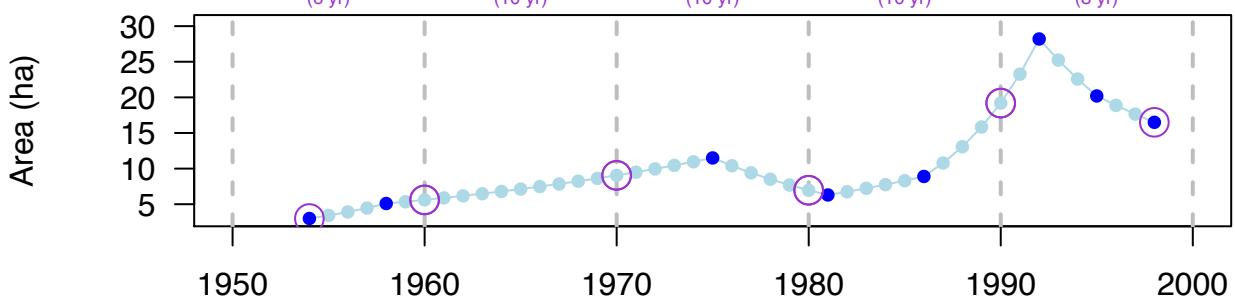
Frederiksen et al. 2004

SITE: Limfjorden (Boddum Vig) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 13.5 ha; Rate = 3.87 % yr⁻¹; Perc Final = 550 % > increase

DECadal: YES (44 yr)

| | | | | |
|--|--|--|---|---|
| 1950s increase unknown 10.44%yr ⁻¹ (6 yr) | 1960s increase improve 4.78%yr ⁻¹ (10 yr) | 1970s decrease worsen -2.62%yr ⁻¹ (10 yr) | 1980s increase improve 10.14%yr ⁻¹ (10 yr) | 1990s decrease worsen -1.89%yr ⁻¹ (8 yr) |
|--|--|--|---|---|



292_area

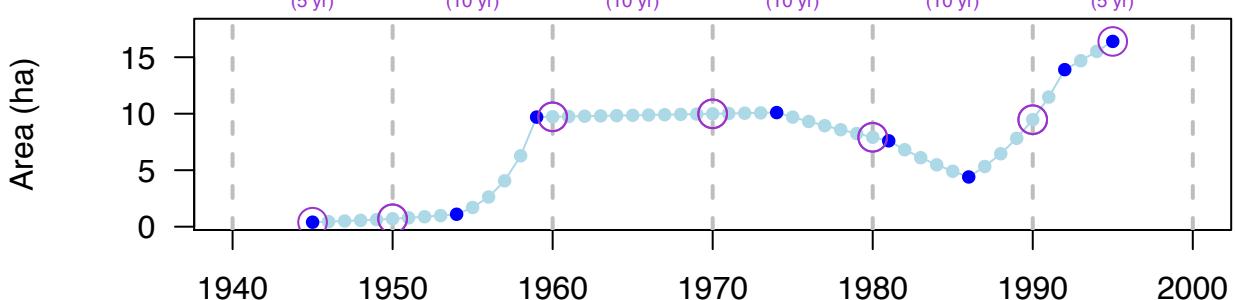
Frederiksen et al. 2004

SITE: Limfjorden (Holmstange) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 16 ha; Rate = 7.43 % yr⁻¹; Perc Final = 4100 % > increase

Decadal: YES (50 yr)

| | | | | | |
|--|---|--|--|---|--|
| 1940s increase unknown 11.24%yr ⁻¹ (5 yr) | 1950s increase improve 26.29%yr ⁻¹ (10 yr) | 1960s no change steady 0.27%yr ⁻¹ (10 yr) | 1970s decrease worsen -2.33%yr ⁻¹ (10 yr) | 1980s increase improve 1.8%yr ⁻¹ (10 yr) | 1990s increase improve 10.98%yr ⁻¹ (5 yr) |
|--|---|--|--|---|--|



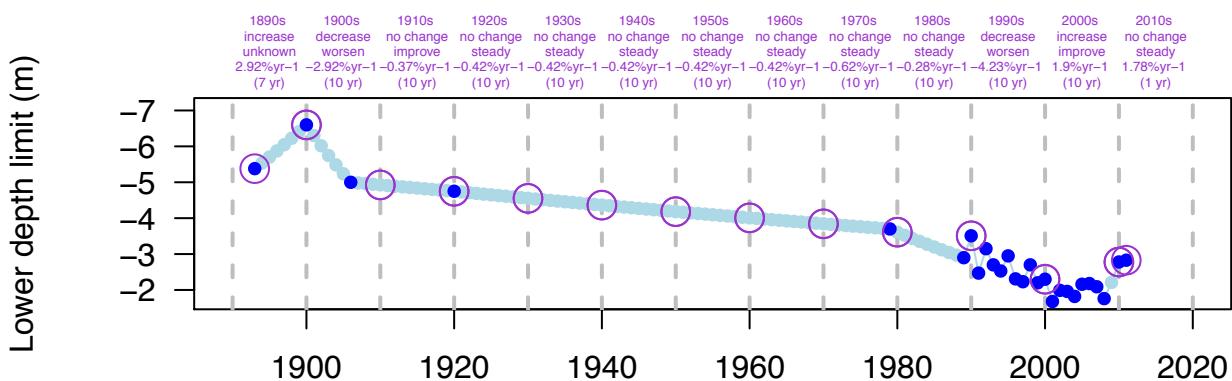
293_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Løgstør Bredning (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -2.55 m; Rate = -0.54 % yr⁻¹; Perc Final = 53 % > decrease

DECadal: YES (118 yr)



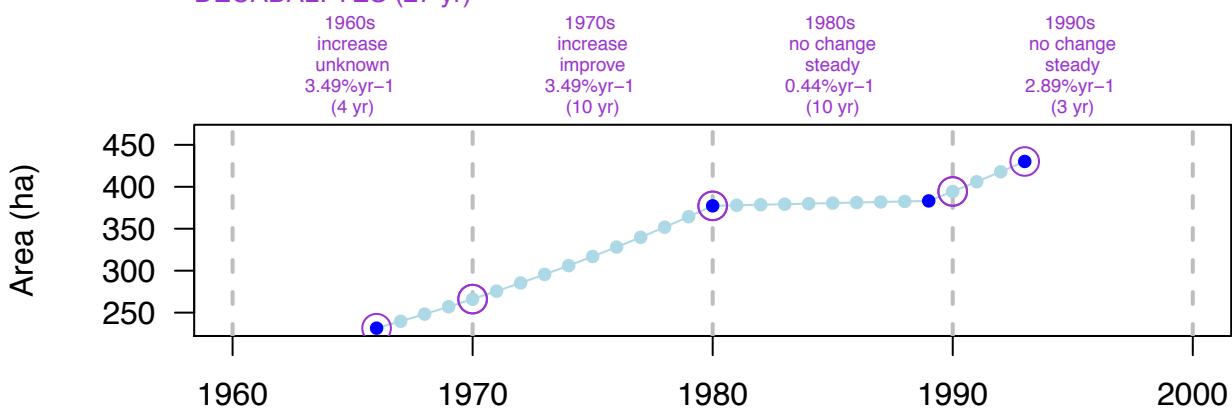
294_area

Laursen (unpublished)

SITE: Mariager Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 198.7 ha; Rate = 2.3 % yr⁻¹; Perc Final = 186 % > increase

DECadal: YES (27 yr)



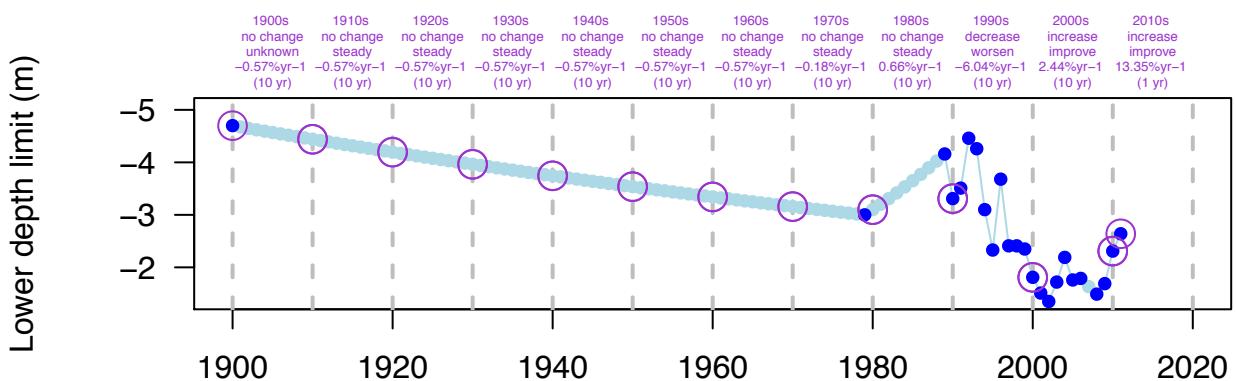
295_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Nibe Gjøl Bredning (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -2.06 m; Rate = -0.52 % yr⁻¹; Perc Final = 56 % > decrease

DECadal: YES (111 yr)



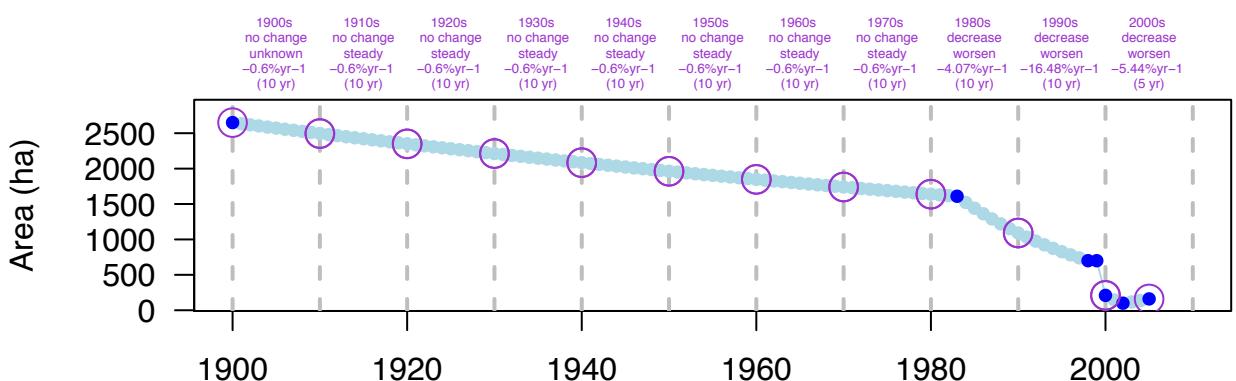
296_area

Josefson et al. 2009, Carstensen and Krause-Jensen 2012

SITE: Odense Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -2490 ha; Rate = -2.67 % yr⁻¹; Perc Final = 6 % > decrease

DECadal: YES (105 yr)



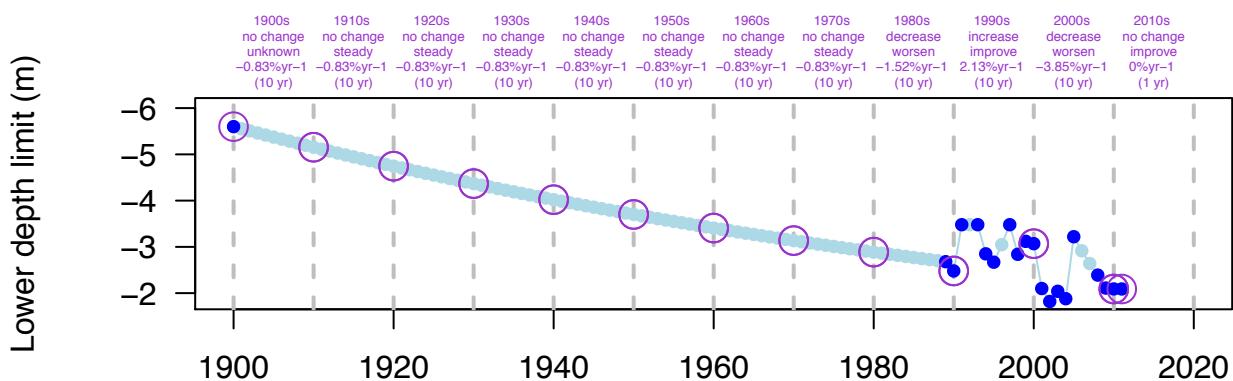
296_lowerlimit

Josefson et al. 2009, Carstensen and Krause-Jensen 2012

SITE: Odense Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -3.51 m; Rate = -0.89 % yr⁻¹; Perc Final = 37 % > decrease

DECadal: YES (111 yr)



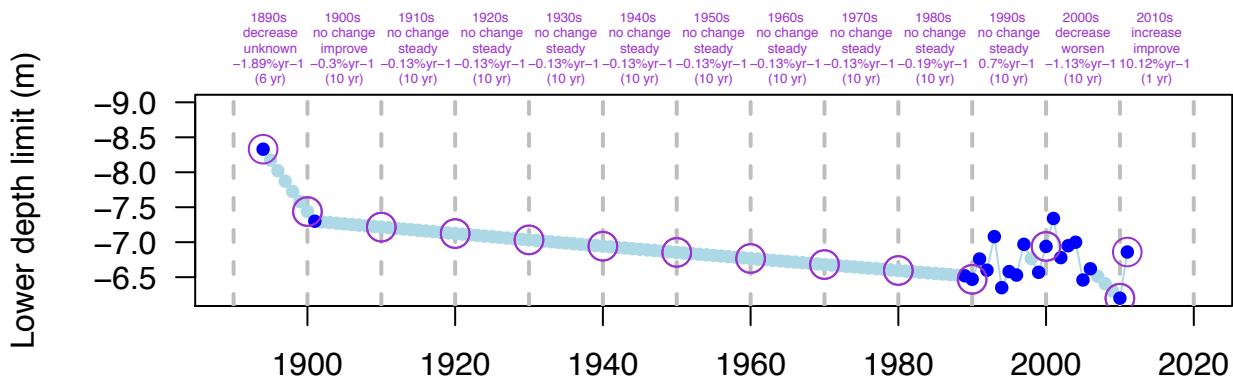
297_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Øresund (entire) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -1.47 m; Rate = -0.17 % yr⁻¹; Perc Final = 82 % > decrease

DECadal: YES (117 yr)



298_area

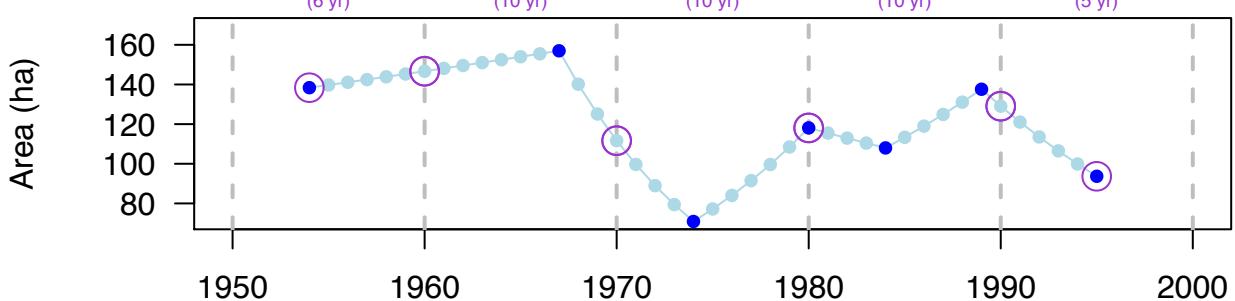
Frederiksen et al. 2004

SITE: Øresund (Amager) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -44.7 ha; Rate = -0.95 % yr⁻¹; Perc Final = 68 % > decrease

DECadal: YES (41 yr)

| | | | | |
|--|--|---|--|--|
| 1950s no change unknown 0.97%yr ⁻¹ (6 yr) | 1960s decrease worsen -2.73%yr ⁻¹ (10 yr) | 1970s no change improve 0.56%yr ⁻¹ (10 yr) | 1980s no change steady 0.89%yr ⁻¹ (10 yr) | 1990s decrease worsen -6.4%yr ⁻¹ (5 yr) |
|--|--|---|--|--|



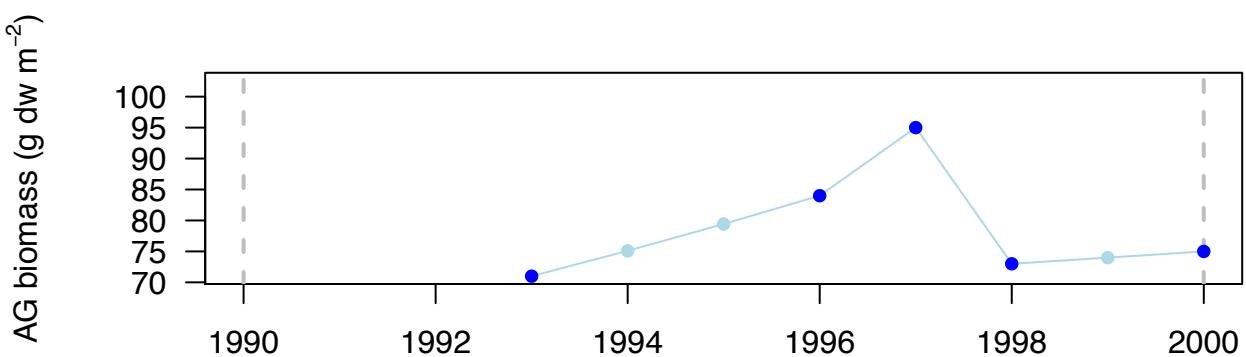
299_abiomass

Krause-Jensen et al. 2000

SITE: Saltholm (control) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 4 g dw m⁻²; Rate = 0.78 % yr⁻¹; Perc Final = 106 % > no change

DECadal: NO (7 yr)



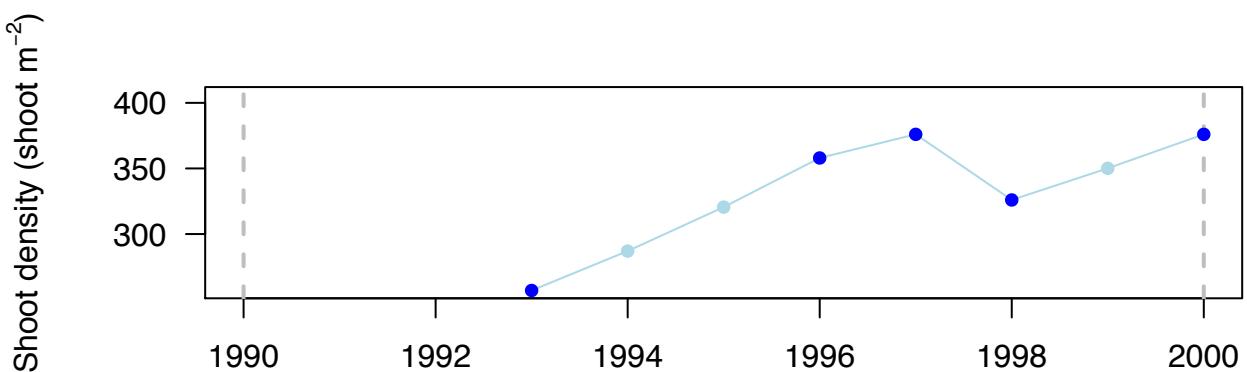
299_density

Krause-Jensen et al. 2000

SITE: Saltholm (control) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 119 shoot m⁻²; Rate = 5.44 % yr⁻¹; Perc Final = 146 % > increase

DECADAL: NO (7 yr)



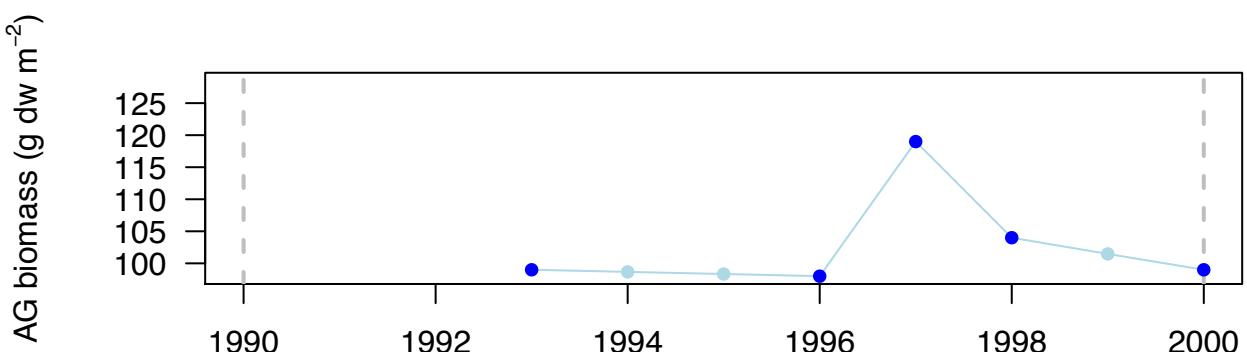
300_abiomass

Krause-Jensen et al. 2000

SITE: Saltholm (impacted) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 0 g dw m⁻²; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (7 yr)



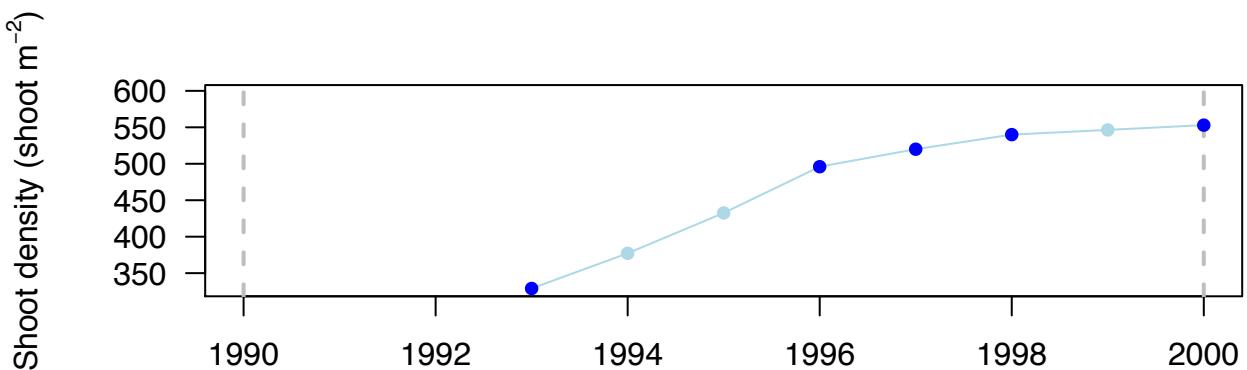
300_density

Krause-Jensen et al. 2000

SITE: Saltholm (impacted) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 224 shoot m⁻²; Rate = 7.42 % yr⁻¹; Perc Final = 168 % > increase

DECADAL: NO (7 yr)



301_lowerlimit

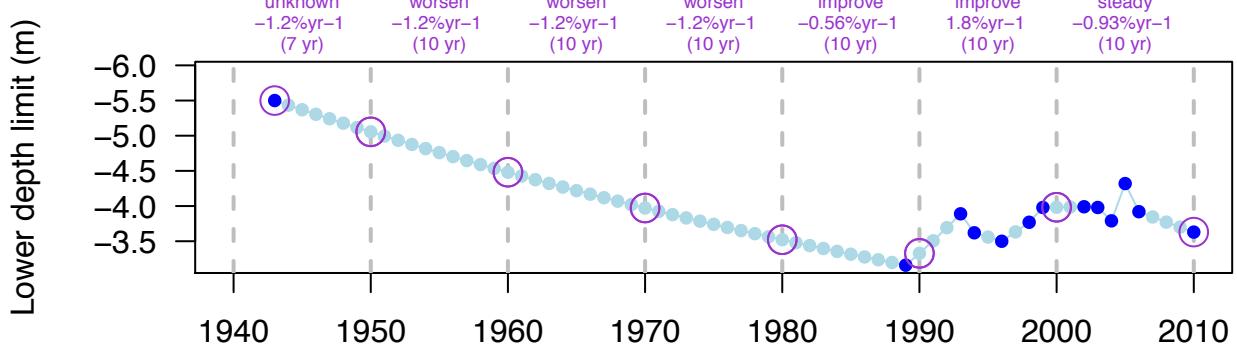
Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Præstø Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -1.87 m; Rate = -0.62 % yr⁻¹; Perc Final = 66 % > decrease

DECADAL: YES (67 yr)

| 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|----------------------|------------------------|
| no change | decrease | decrease | decrease | no change | increase | no change |
| unknown | worsen | worsen | worsen | improve | improve | steady |
| -1.2%yr ⁻¹ | -1.2%yr ⁻¹ | -1.2%yr ⁻¹ | -1.2%yr ⁻¹ | -0.56%yr ⁻¹ | 1.8%yr ⁻¹ | -0.93%yr ⁻¹ |
| (7 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) |



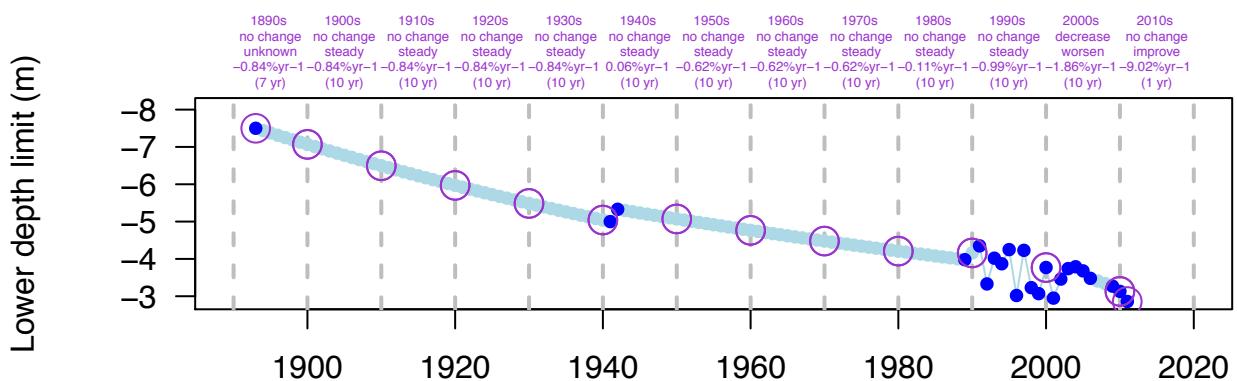
302_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Roskilde Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -4.64 m; Rate = -0.82 % yr⁻¹; Perc Final = 38 % > decrease

DECadal: YES (118 yr)



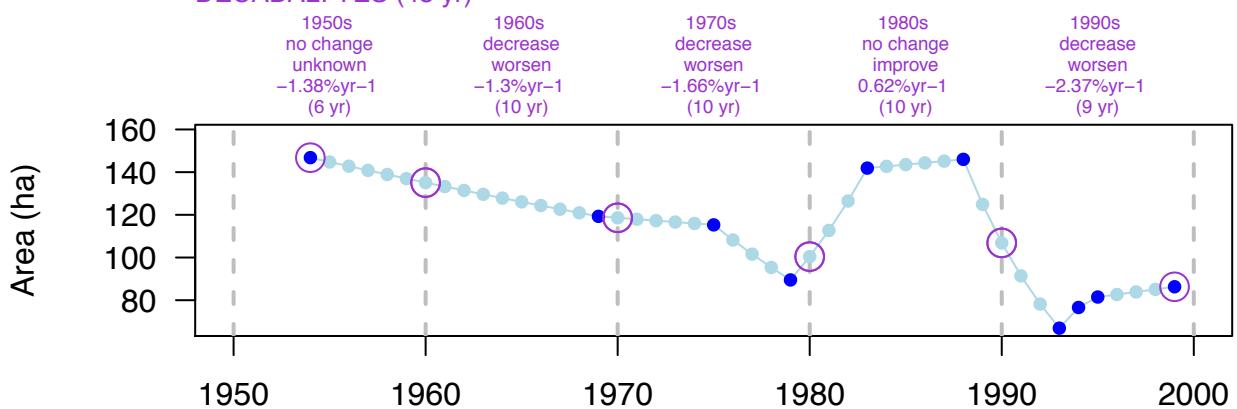
303_area

Frederiksen et al. 2004

SITE: Samsø (Stavns Fjord) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -60.5 ha; Rate = -1.18 % yr⁻¹; Perc Final = 59 % > decrease

DECadal: YES (45 yr)



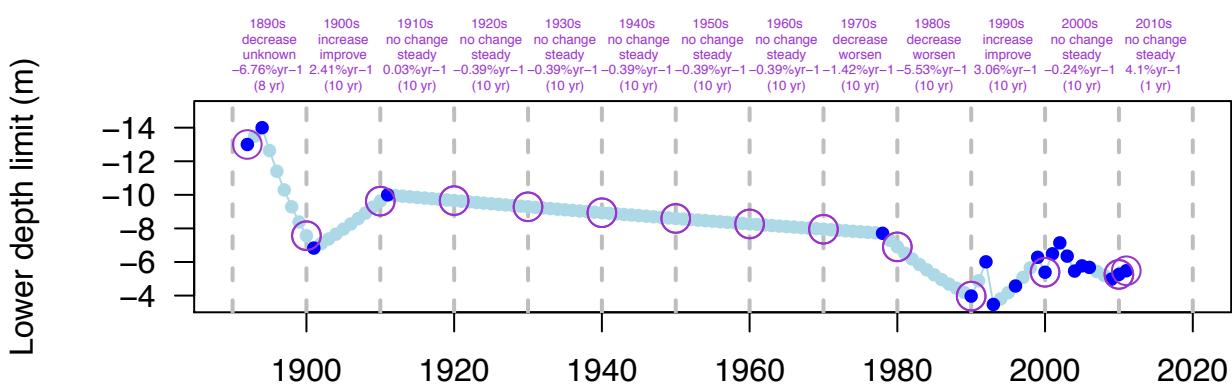
304_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012

SITE: Sejerø Bugt (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -7.52 m; Rate = -0.73 % yr⁻¹; Perc Final = 42 % > decrease

DECadal: YES (119 yr)



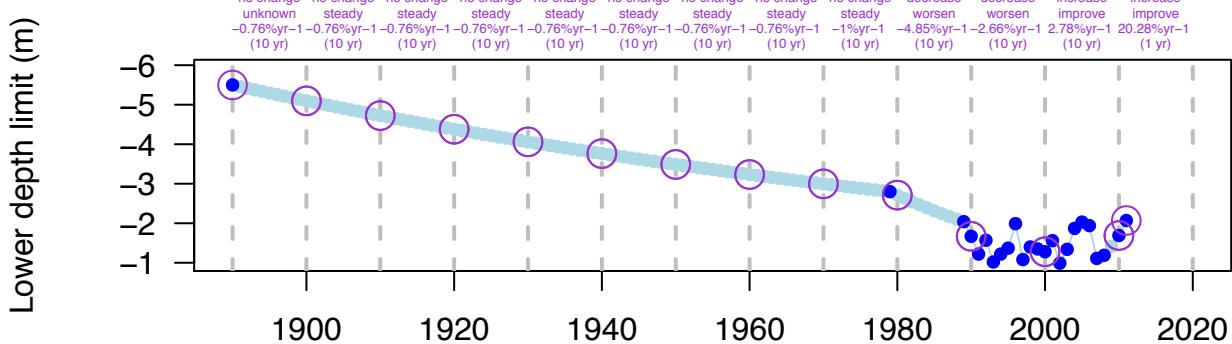
305_lowerlimit

Krause-Jensen and Rasmussen 2009, Carstensen and Krause-Jensen 2012, Carstensen et al. 2013

SITE: Skive Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -3.43 m; Rate = -0.81 % yr⁻¹; Perc Final = 38 % > decrease

DECadal: YES (121 yr)



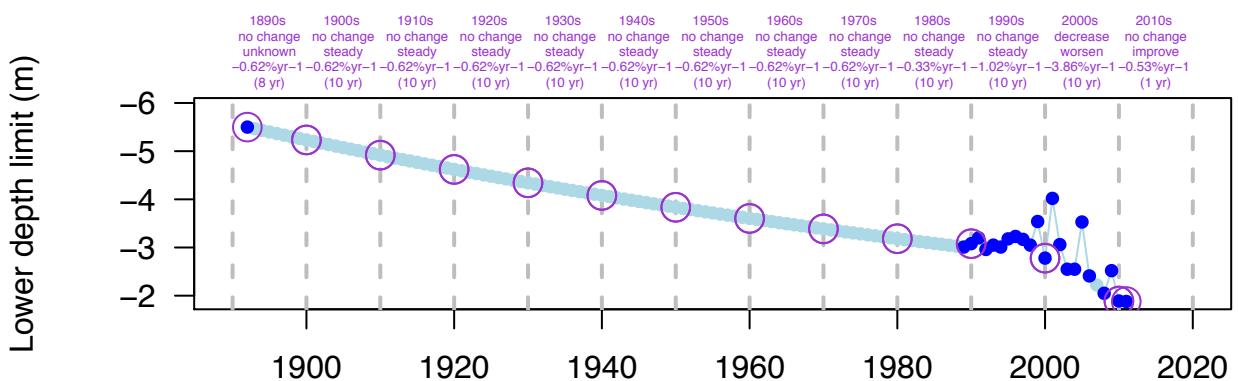
306_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Vejle Fjord (Denmark – Baltic) – Zm (? m)

OVERALL: Net = -3.62 m; Rate = -0.9 % yr⁻¹; Perc Final = 34 % > decrease

DECadal: YES (119 yr)



307_area

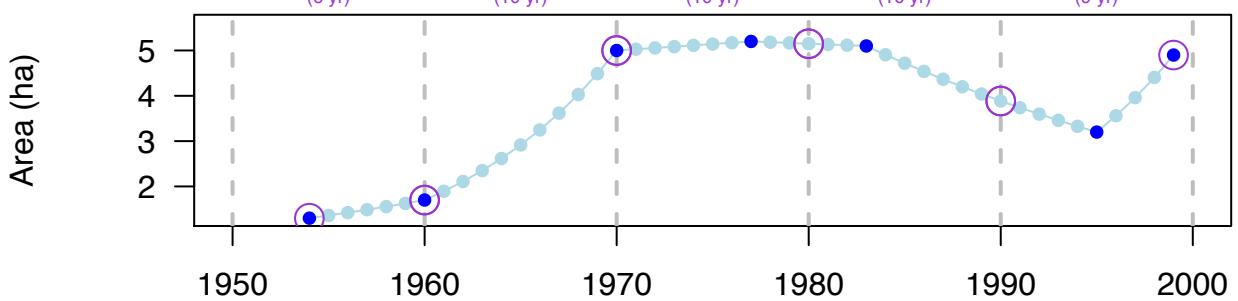
Frederiksen et al. 2004

SITE: Vejle Fjord (outer) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 3.6 ha; Rate = 2.95 % yr⁻¹; Perc Final = 377 % > increase

DECadal: YES (45 yr)

| Decade | Change Type | Rate | Period |
|--------|-------------|-------------------------|---------|
| 1950s | increase | 4.47% yr ⁻¹ | (6 yr) |
| 1960s | increase | 10.79% yr ⁻¹ | (10 yr) |
| 1970s | no change | 0.3% yr ⁻¹ | (10 yr) |
| 1980s | decrease | -2.82% yr ⁻¹ | (10 yr) |
| 1990s | increase | 2.58% yr ⁻¹ | (9 yr) |



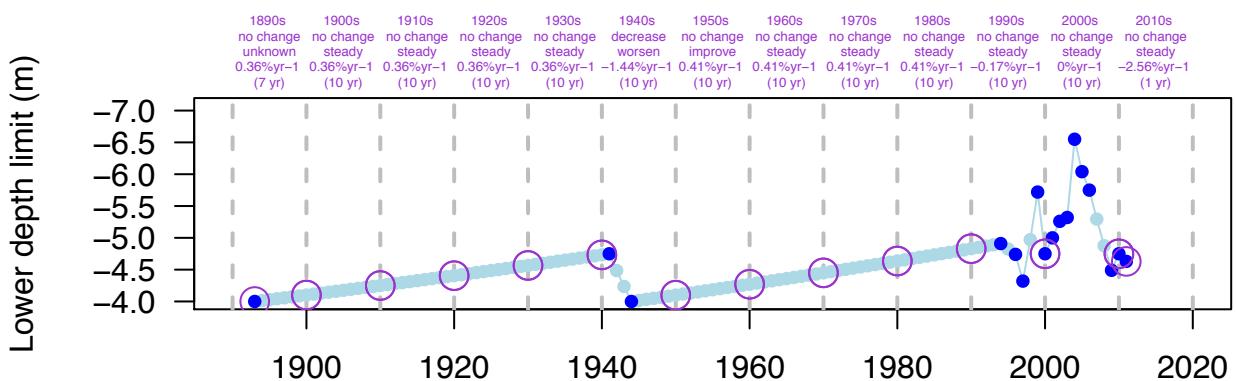
308_lowerlimit

Carstensen and Krause-Jensen 2012

SITE: Isefjord (Yderbredning) (Denmark – Baltic) – Zm (? m)

OVERALL: Net = 0.63 m; Rate = 0.12 % yr⁻¹; Perc Final = 116 % > increase

DECadal: YES (118 yr)



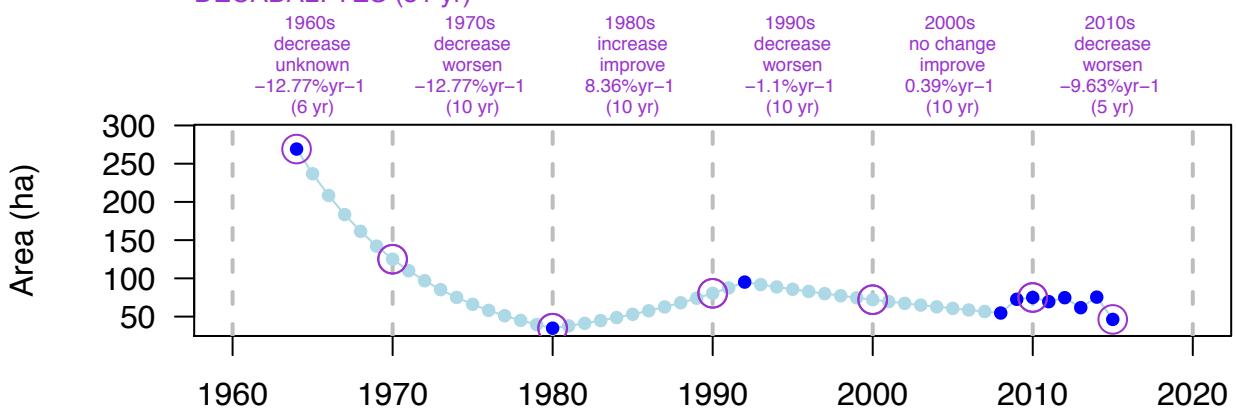
309_area

van der Graaf et al. 2009, Vinther (unpublished), Dolch et al. 2017

SITE: Grådyb (Denmark – Atlantic) – Zm (-0.2 m)

OVERALL: Net = -222.818 ha; Rate = -3.45 % yr⁻¹; Perc Final = 17 % > decrease

DECadal: YES (51 yr)



310_area

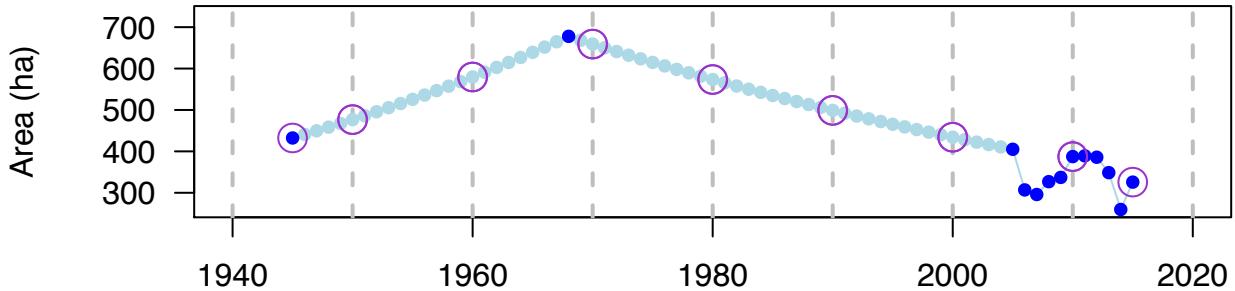
van der Graaf et al. 2009, Vinther (unpublished), Dolch et al. 2017

SITE: Juvre Dyb (Denmark – Atlantic) – Zm (0 m)

OVERALL: Net = -106.604 ha; Rate = -0.4 % yr⁻¹; Perc Final = 75 % > decrease

DECadal: YES (70 yr)

| 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s | 2010s |
|--|---|---|---|---|---|---|--|
| increase unknown 1.95%yr ⁻¹ (5 yr) | increase improve 1.95%yr ⁻¹ (10 yr) | increase improve 1.29%yr ⁻¹ (10 yr) | decrease worsen -1.39%yr ⁻¹ (10 yr) | decrease worsen -1.39%yr ⁻¹ (10 yr) | decrease worsen -1.39%yr ⁻¹ (10 yr) | decrease worsen -1.14%yr ⁻¹ (10 yr) | decrease worsen -3.47%yr ⁻¹ (5 yr) |



311_area

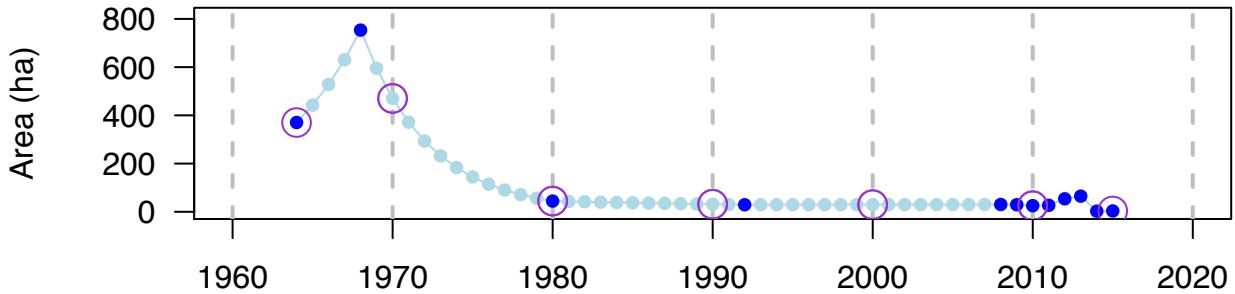
van der Graaf et al. 2009, Vinther (unpublished), Dolch et al. 2017

SITE: Knude Dyb (Denmark – Atlantic) – Zm (-0.2 m)

OVERALL: Net = -366.826 ha; Rate = -9.13 % yr⁻¹; Perc Final = 1 % > decrease

DECadal: YES (51 yr)

| 1960s | 1970s | 1980s | 1990s | 2000s | 2010s |
|--|--|--|---|---|---|
| increase unknown 3.98%yr ⁻¹ (6 yr) | decrease worsen -23.57%yr ⁻¹ (10 yr) | decrease worsen -3.5%yr ⁻¹ (10 yr) | no change improve -0.52%yr ⁻¹ (10 yr) | decrease worsen -1.59%yr ⁻¹ (10 yr) | decrease worsen -39.51%yr ⁻¹ (5 yr) |



312_area

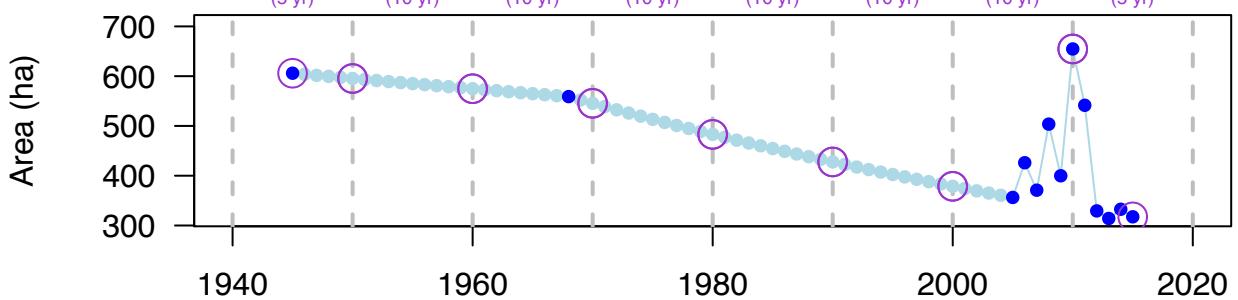
van der Graaf et al. 2009, Vinther (unpublished), Dolch et al. 2017

SITE: Lister Dyb (Denmark – Atlantic) – Zm (-0.2 m)

OVERALL: Net = -288.493 ha ; Rate = $-0.92\% \text{ yr}^{-1}$; Perc Final = 52 % > decrease

DECadal: YES (70 yr)

| 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | 2000s | 2010s |
|---|---|---|--|--|--|--|--|
| no change unknown $-0.35\%\text{yr}^{-1}$ (5 yr) | no change steady $-0.35\%\text{yr}^{-1}$ (10 yr) | no change steady $-0.52\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-1.22\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-1.22\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-1.22\%\text{yr}^{-1}$ (10 yr) | increase improve $5.47\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-14.48\%\text{yr}^{-1}$ (5 yr) |



314_lowerlimit

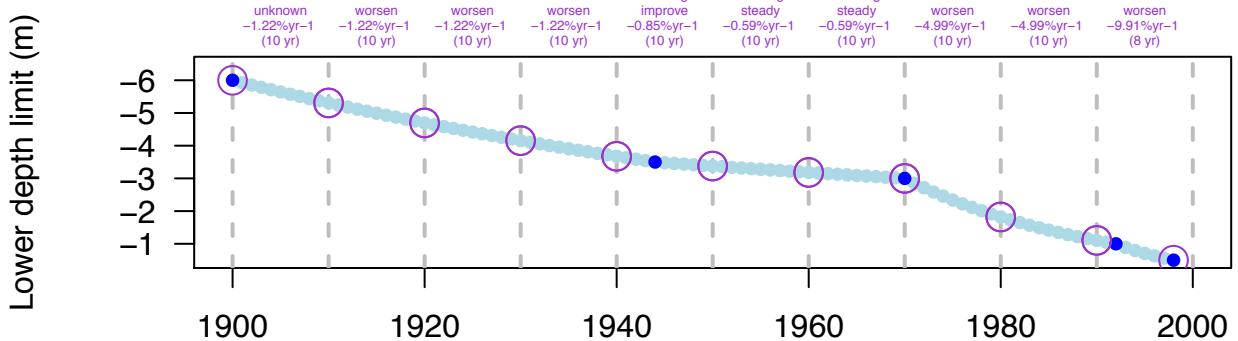
Bernard et al. 2007

SITE: Berre Lagoon (France – Mediterranean) – Zm (? m)

OVERALL: Net = -5.5 m ; Rate = $-2.54\% \text{ yr}^{-1}$; Perc Final = 8 % > decrease

DECadal: YES (98 yr)

| 1900s | 1910s | 1920s | 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s |
|---|--|--|--|--|---|---|--|--|---|
| decrease unknown $-1.22\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-1.22\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-1.22\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-1.22\%\text{yr}^{-1}$ (10 yr) | no change improve $-0.85\%\text{yr}^{-1}$ (10 yr) | no change steady $-0.59\%\text{yr}^{-1}$ (10 yr) | no change steady $-0.59\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-4.99\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-4.99\%\text{yr}^{-1}$ (10 yr) | decrease worsen $-9.91\%\text{yr}^{-1}$ (8 yr) |



315_area

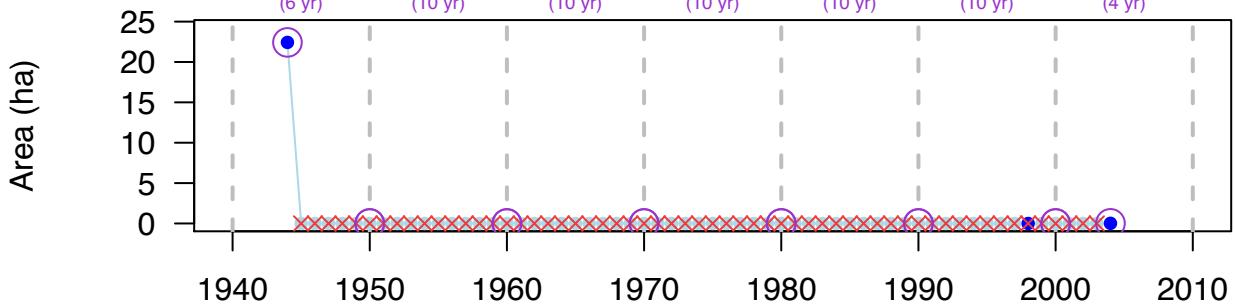
Bernard et al. 2007

SITE: Berre Lagoon (Figuerolles) (France – Mediterranean) – Zm (? m)

OVERALL: Net = -22.41 ha; Rate = -11.7 % yr⁻¹; Perc Final = 0 % > decrease

DECadal: YES (60 yr)

| | | | | | | |
|---|--|--|--|--|--|--|
| 1940s decrease unknown -Inf%yr ⁻¹ (6 yr) | 1950s decrease worsen NaN%yr ⁻¹ (10 yr) | 1960s decrease worsen NaN%yr ⁻¹ (10 yr) | 1970s decrease worsen NaN%yr ⁻¹ (10 yr) | 1980s decrease worsen NaN%yr ⁻¹ (10 yr) | 1990s decrease worsen NaN%yr ⁻¹ (10 yr) | 2000s increase improve Inf%yr ⁻¹ (4 yr) |
|---|--|--|--|--|--|--|



316_area

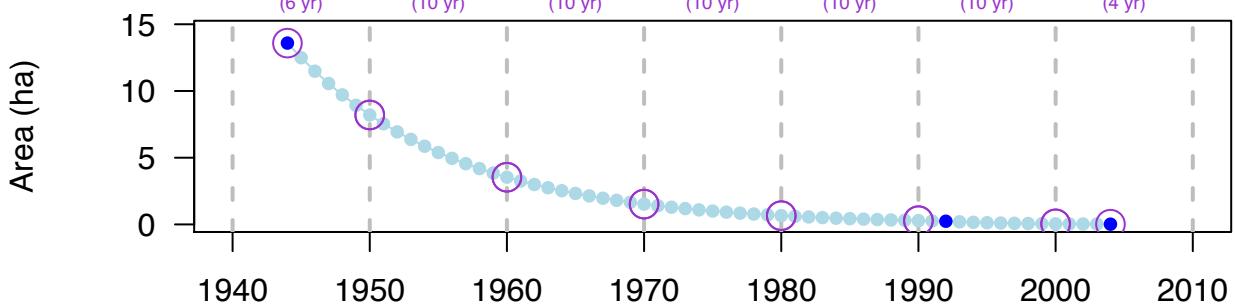
Bernard et al. 2007

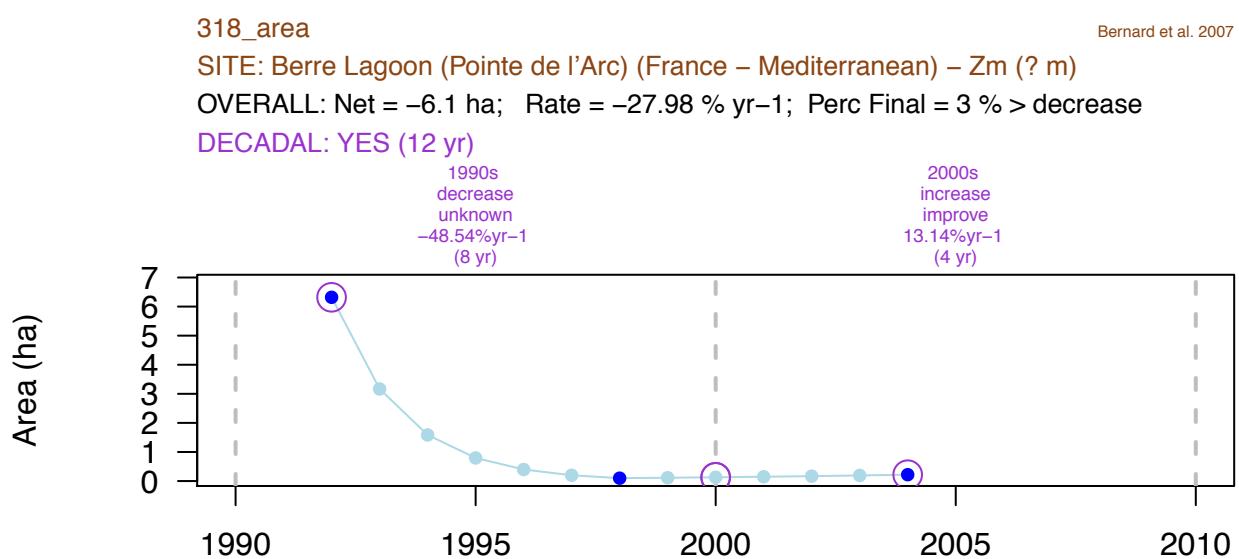
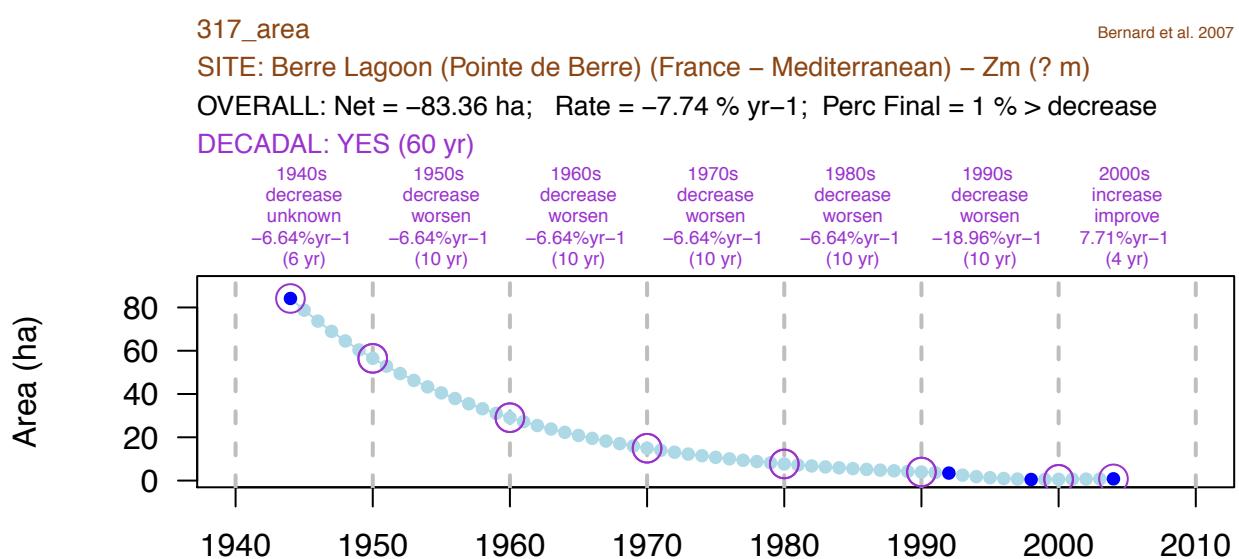
SITE: Berre Lagoon (Martigues) (France – Mediterranean) – Zm (? m)

OVERALL: Net = -13.57 ha; Rate = -10.87 % yr⁻¹; Perc Final = 0 % > decrease

DECadal: YES (60 yr)

| | | | | | | |
|--|--|--|--|--|---|--|
| 1940s decrease unknown -8.41%yr ⁻¹ (6 yr) | 1950s decrease worsen -8.41%yr ⁻¹ (10 yr) | 1960s decrease worsen -8.41%yr ⁻¹ (10 yr) | 1970s decrease worsen -8.41%yr ⁻¹ (10 yr) | 1980s decrease worsen -8.41%yr ⁻¹ (10 yr) | 1990s decrease worsen -18.25%yr ⁻¹ (10 yr) | 2000s decrease worsen -20.71%yr ⁻¹ (4 yr) |
|--|--|--|--|--|---|--|





319_area

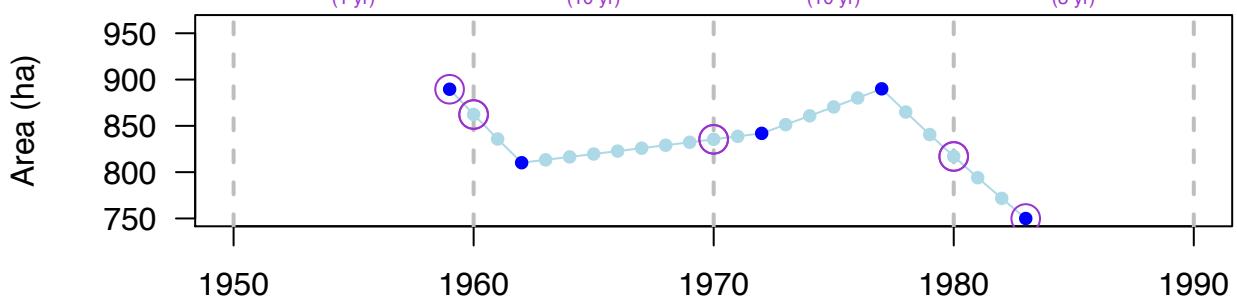
Astier 1984, Bourcier 1996, 1989, Picard and Bourcier 1976, Picard 1978

SITE: La Ciotat – Les Leques (France – Mediterranean) – Po (? m)

OVERALL: Net = -139.56 ha; Rate = -0.71 % yr⁻¹; Perc Final = 84 % > decrease

DECADAL: YES (24 yr)

| | | | |
|---|---|---|--|
| 1950s no change unknown -3.11%yr ⁻¹ (1 yr) | 1960s no change steady -0.32%yr ⁻¹ (10 yr) | 1970s no change steady -0.22%yr ⁻¹ (10 yr) | 1980s no change steady -2.85%yr ⁻¹ (3 yr) |
|---|---|---|--|



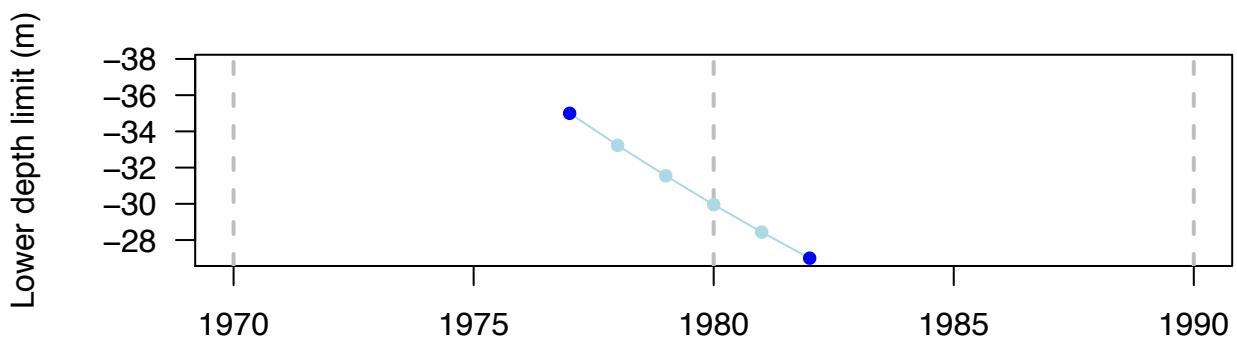
319_lowerlimit

Astier 1984, Bourcier 1996, 1989, Picard and Bourcier 1976, Picard 1978

SITE: La Ciotat – Les Leques (France – Mediterranean) – Po (? m)

OVERALL: Net = -8 m; Rate = -5.19 % yr⁻¹; Perc Final = 77 % > decrease

DECADAL: NO (5 yr)



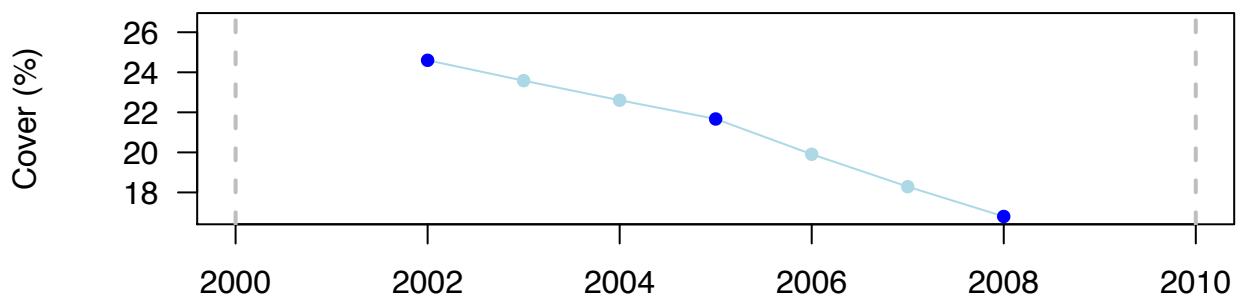
321_cover

Bonhomme et al. 2010

SITE: La Palud Cove (France – Mediterranean) – Po (-34 m)

OVERALL: Net = -7.8 %; Rate = -6.36 % yr⁻¹; Perc Final = 68 % > decrease

DECADAL: NO (6 yr)



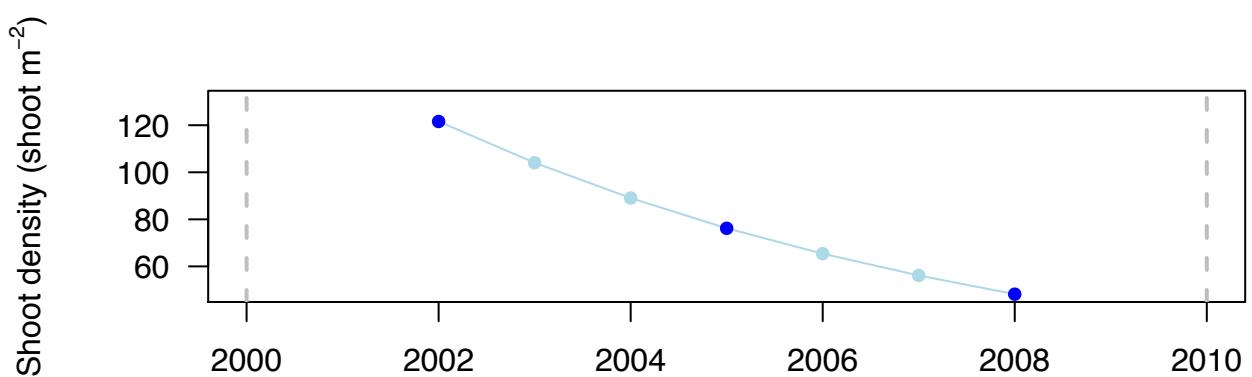
321_density

Bonhomme et al. 2010

SITE: La Palud Cove (France – Mediterranean) – Po (-34 m)

OVERALL: Net = -73.4 shoot m⁻²; Rate = -15.42 % yr⁻¹; Perc Final = 40 % > decrease

DECADAL: NO (6 yr)



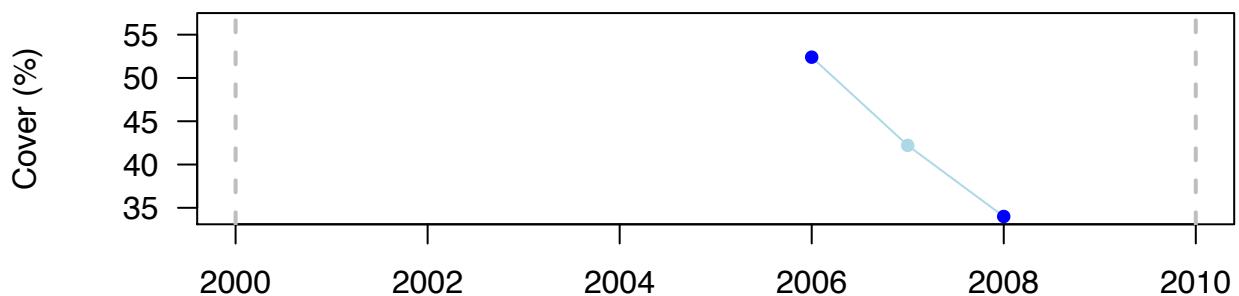
322_cover

Bonhomme et al. 2010

SITE: Vaisseau – Tuf (France – Mediterranean) – Po (-34 m)

OVERALL: Net = -18.4 %; Rate = -21.63 % yr⁻¹; Perc Final = 65 % > decrease

DECADAL: NO (2 yr)



322_density

Bonhomme et al. 2010

SITE: Vaisseau – Tuf (France – Mediterranean) – Po (-34 m)

OVERALL: Net = -3.2 shoot m⁻²; Rate = -1.54 % yr⁻¹; Perc Final = 97 % > no change

DECADAL: NO (2 yr)



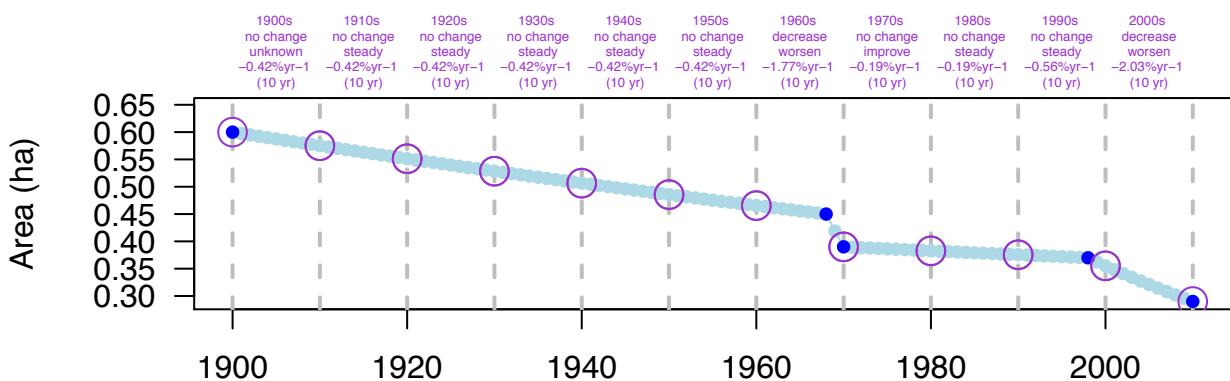
323_area

Astruch et al. 2012

SITE: Bay de Port-Cros (barrier reef) (France – Mediterranean) – Po (-20 m)

OVERALL: Net = -0.31 ha; Rate = -0.66 % yr⁻¹; Perc Final = 48 % > decrease

DECadal: YES (110 yr)



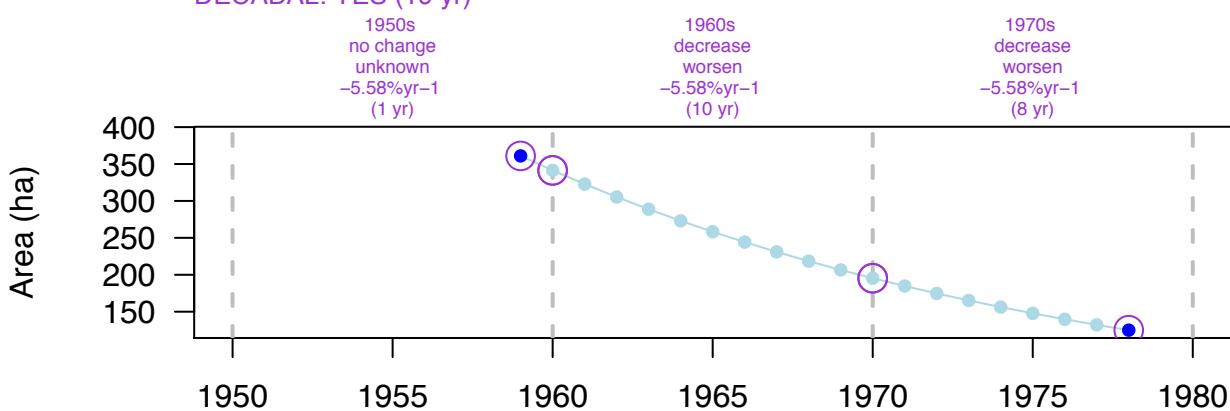
324_area

Astier 1972, 1975, 1984, Nodot et al. 1978

SITE: Plages du Mourillon (France – Mediterranean) – Po (? m)

OVERALL: Net = -236 ha; Rate = -5.58 % yr⁻¹; Perc Final = 35 % > decrease

DECadal: YES (19 yr)



325_area

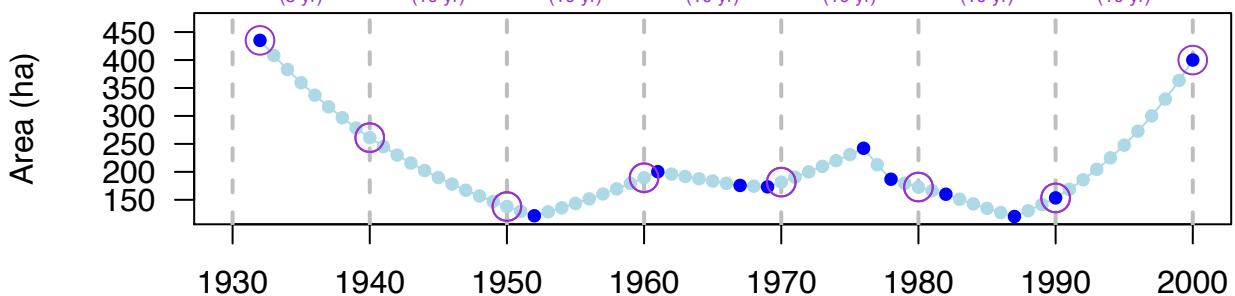
Glemarec et al. 1997, Hily et al. 2003

SITE: Glenan Archipelago (France – Atlantic) – Zm (-5 m)

OVERALL: Net = -35.2 ha; Rate = -0.12 % yr⁻¹; Perc Final = 92 % > no change

DECadal: YES (68 yr)

| 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s |
|------------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| decrease | decrease | increase | no change | no change | decrease | increase |
| unknown | worsen | improve | steady | steady | worsen | improve |
| -6.38%yr ⁻¹ | -6.38%yr ⁻¹ | 3.17%yr ⁻¹ | -0.42%yr ⁻¹ | -0.5%yr ⁻¹ | -1.19%yr ⁻¹ | 9.58%yr ⁻¹ |
| (8 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) |



326_area

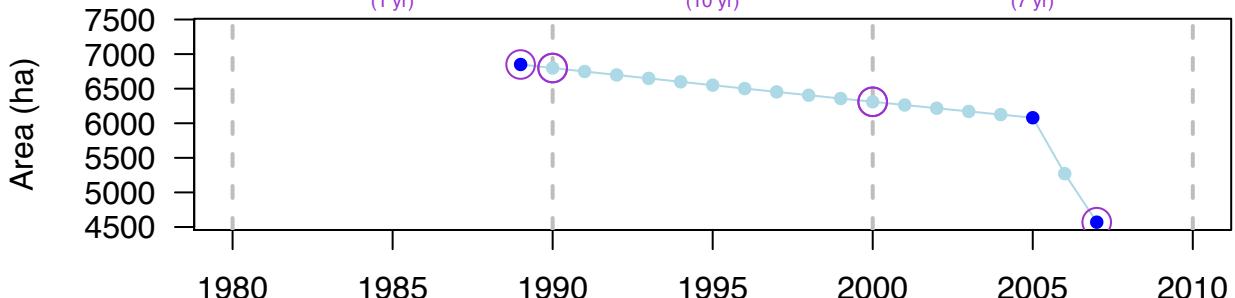
Plus et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zn (0 m)

OVERALL: Net = -2280 ha; Rate = -2.25 % yr⁻¹; Perc Final = 67 % > decrease

DECadal: YES (18 yr)

| 1980s | 1990s | 2000s |
|------------------------|------------------------|------------------------|
| no change | no change | decrease |
| unknown | steady | worsen |
| -0.75%yr ⁻¹ | -0.75%yr ⁻¹ | -4.61%yr ⁻¹ |
| (1 yr) | (10 yr) | (7 yr) |



327_area

Plus et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zm (-5 m)

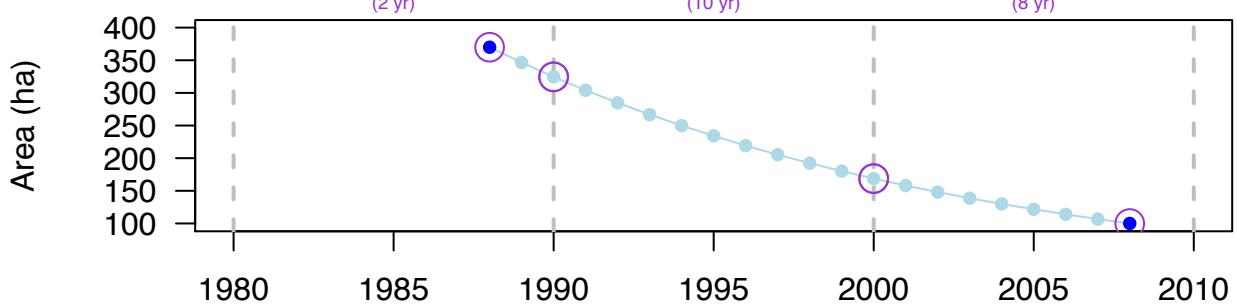
OVERALL: Net = -270 ha; Rate = -6.54 % yr⁻¹; Perc Final = 27 % > decrease

DECadal: YES (20 yr)

1980s
decrease
unknown
-6.54%yr⁻¹
(2 yr)

1990s
decrease
worsen
-6.54%yr⁻¹
(10 yr)

2000s
decrease
worsen
-6.54%yr⁻¹
(8 yr)



328_area

Plus et al. 2010

SITE: Arguin Bank (France – Atlantic) – Zm (-5 m)

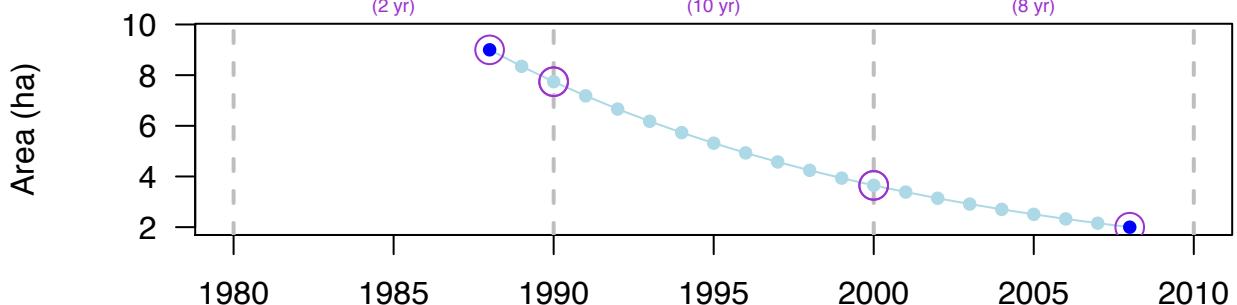
OVERALL: Net = -7 ha; Rate = -7.52 % yr⁻¹; Perc Final = 22 % > decrease

DECadal: YES (20 yr)

1980s
decrease
unknown
-7.52%yr⁻¹
(2 yr)

1990s
decrease
worsen
-7.52%yr⁻¹
(10 yr)

2000s
decrease
worsen
-7.52%yr⁻¹
(8 yr)



329_area

Leriche et al. 2006

SITE: Bay of Saint-Cyr (France – Mediterranean) – Po (? m)

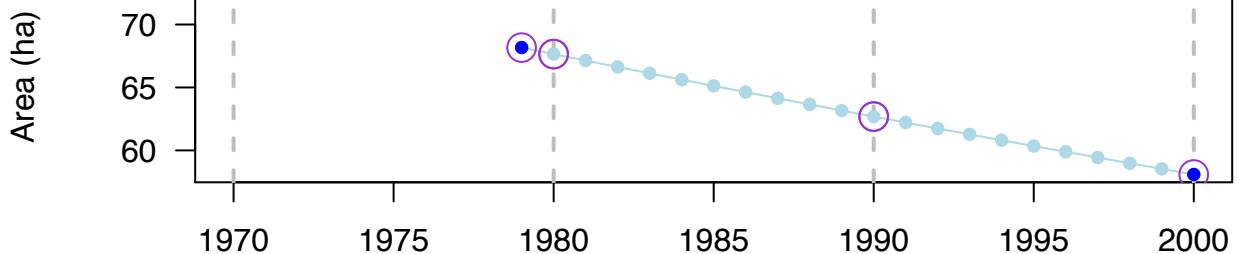
OVERALL: Net = -10.08 ha ; Rate = $-0.76 \% \text{ yr}^{-1}$; Perc Final = $85 \% >$ decrease

DECADAL: YES (21 yr)

1970s
no change
unknown
 $-0.76\% \text{yr}^{-1}$
(1 yr)

1980s
no change
steady
 $-0.76\% \text{yr}^{-1}$
(10 yr)

1990s
no change
steady
 $-0.76\% \text{yr}^{-1}$
(10 yr)



330_area

Pergent-Martini et al. 2002

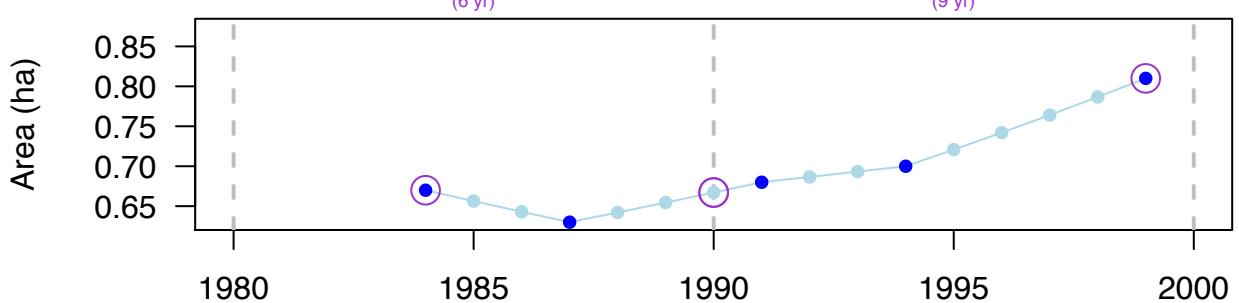
SITE: Marseilles (test area) (France – Mediterranean) – Po (-15 m)

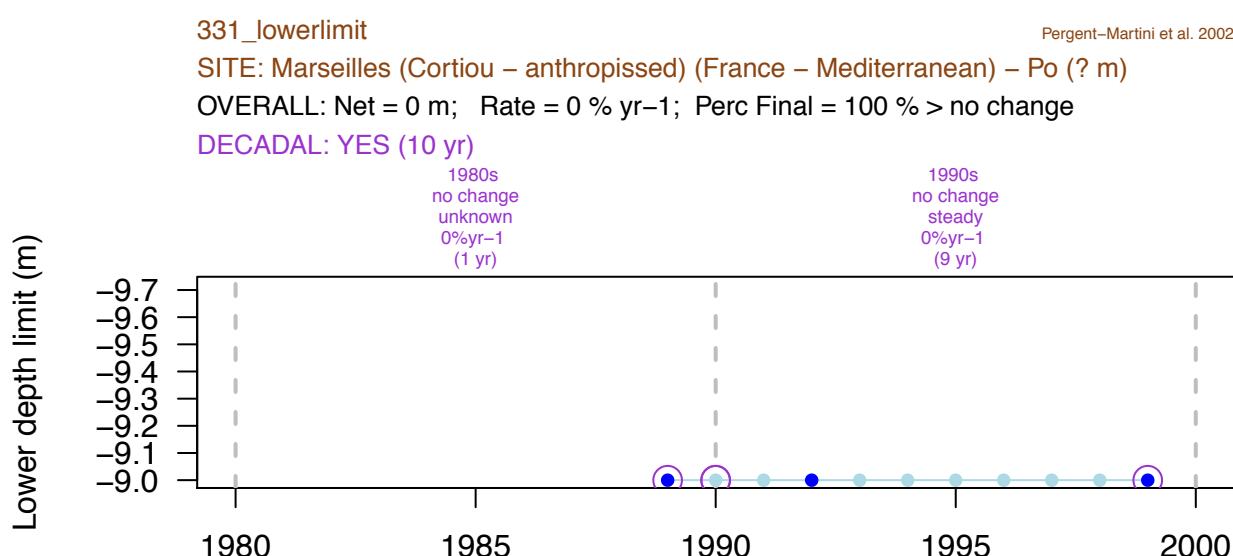
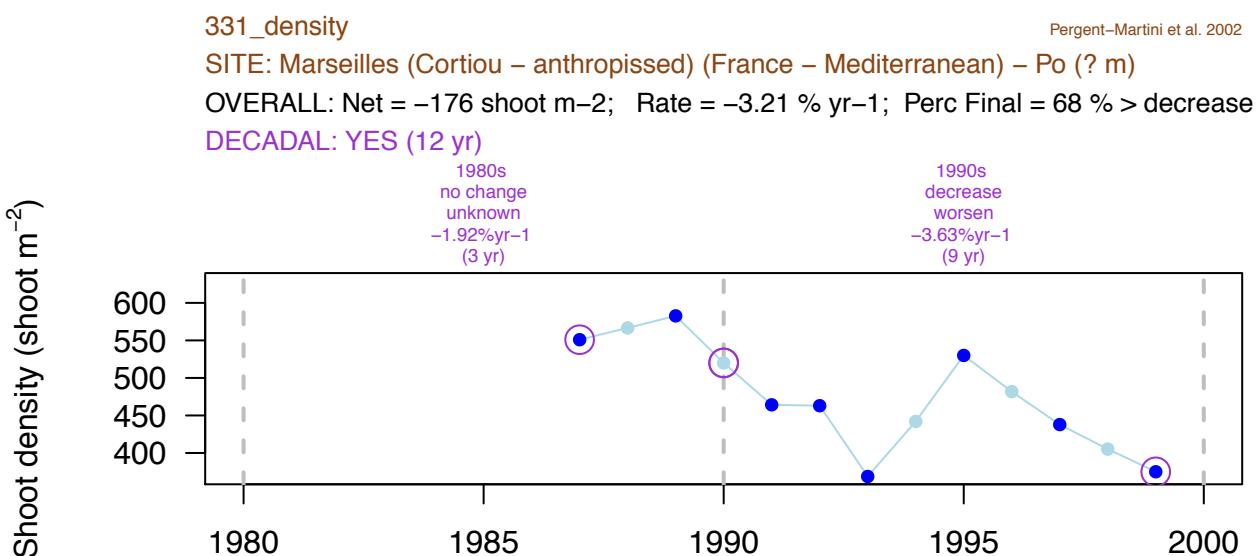
OVERALL: Net = 0.14 ha ; Rate = $1.27 \% \text{ yr}^{-1}$; Perc Final = $121 \% >$ increase

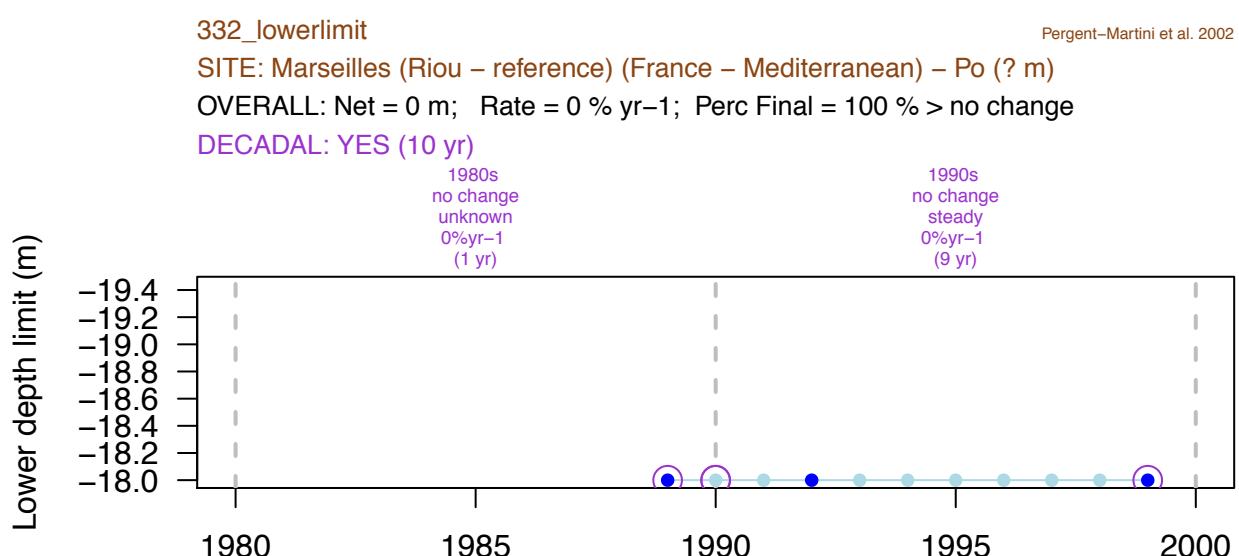
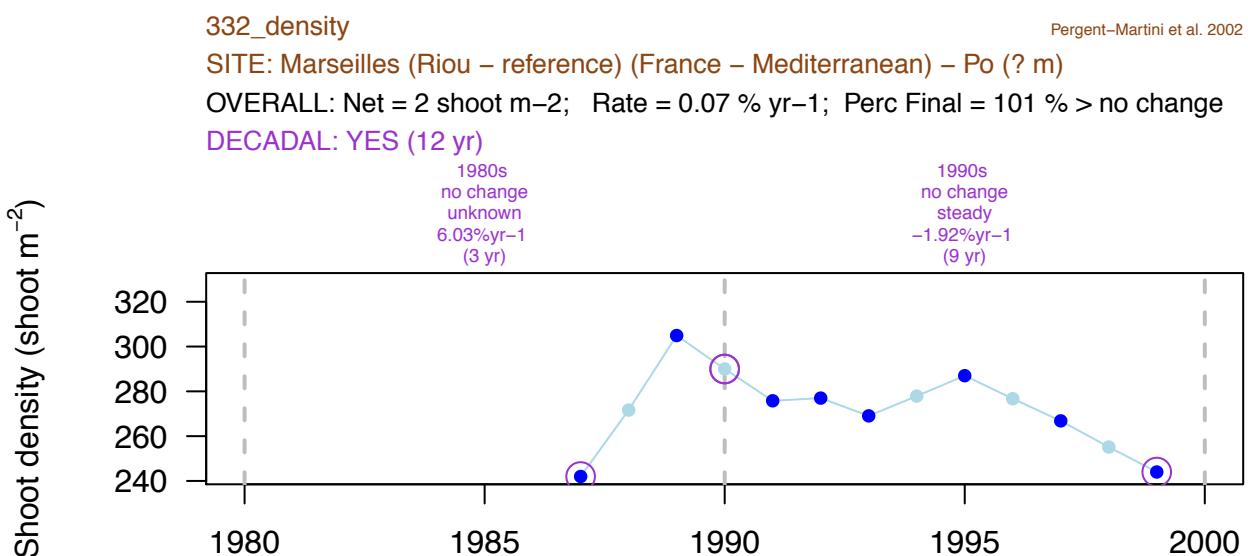
DECADAL: YES (15 yr)

1980s
no change
unknown
 $-0.07\% \text{yr}^{-1}$
(6 yr)

1990s
increase
improve
 $2.16\% \text{yr}^{-1}$
(9 yr)







333_area

Pergent-Martini and Pergent 1996

SITE: Plateau des Chèvres (France – Mediterranean) – Po (? m)

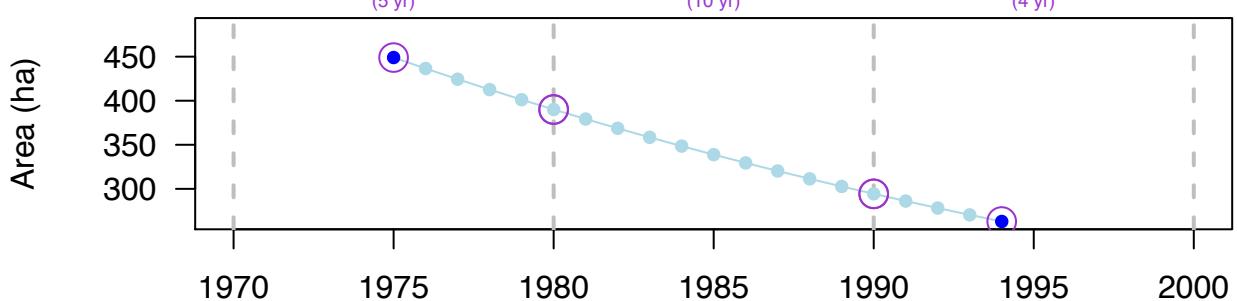
OVERALL: Net = -186 ha; Rate = -2.82 % yr⁻¹; Perc Final = 59 % > decrease

DECADAL: YES (19 yr)

1970s
decrease
unknown
-2.82%yr⁻¹
(5 yr)

1980s
decrease
worsen
-2.82%yr⁻¹
(10 yr)

1990s
decrease
worsen
-2.82%yr⁻¹
(4 yr)



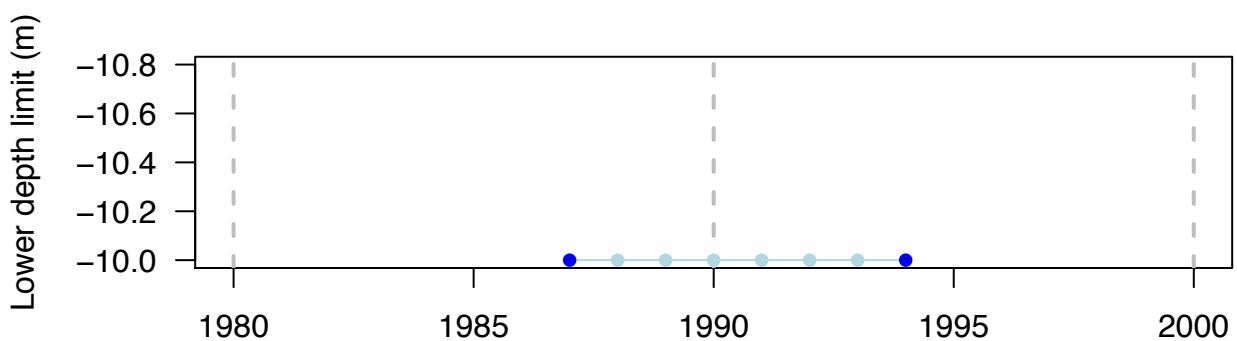
333_lowerlimit

Pergent-Martini and Pergent 1996

SITE: Plateau des Chèvres (France – Mediterranean) – Po (? m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (7 yr)



334_area

Bonacorsi et al. 2013

SITE: Cap Corse (entire) (France – Mediterranean) – Po (? m)

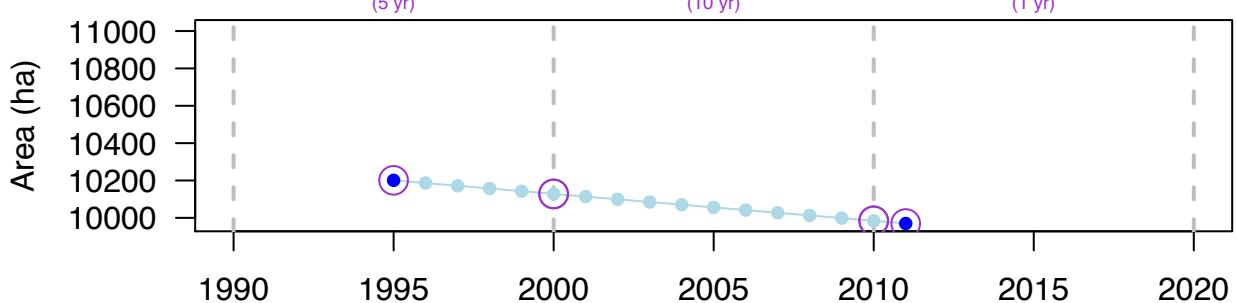
OVERALL: Net = -231 ha; Rate = -0.14 % yr⁻¹; Perc Final = 98 % > no change

DECADAL: YES (16 yr)

1990s
no change
unknown
-0.14%yr⁻¹
(5 yr)

2000s
no change
steady
-0.14%yr⁻¹
(10 yr)

2010s
no change
steady
-0.14%yr⁻¹
(1 yr)



335_area

Bonacorsi et al. 2013

SITE: Cap Corse (Macinaggio) (France – Mediterranean) – Po (? m)

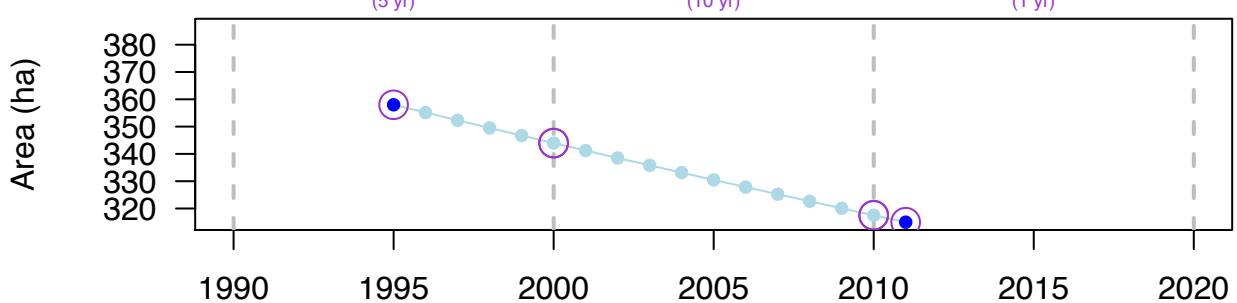
OVERALL: Net = -43 ha; Rate = -0.8 % yr⁻¹; Perc Final = 88 % > decrease

DECADAL: YES (16 yr)

1990s
no change
unknown
-0.8%yr⁻¹
(5 yr)

2000s
no change
steady
-0.8%yr⁻¹
(10 yr)

2010s
no change
steady
-0.8%yr⁻¹
(1 yr)



336_area

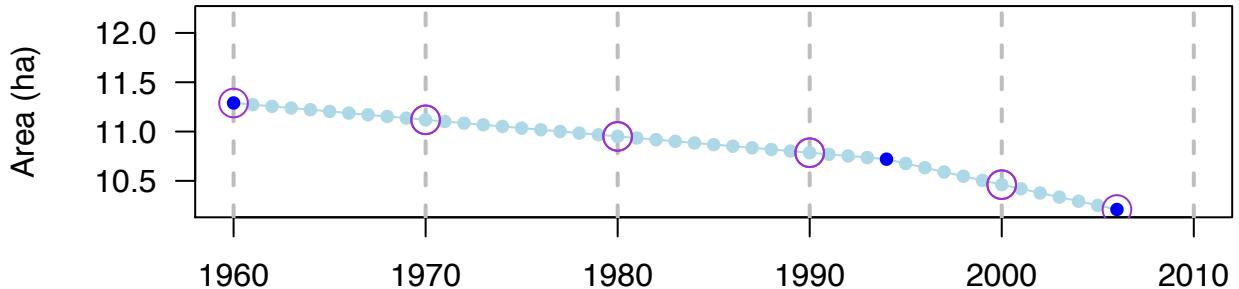
Bonacorsi et al. 2013

SITE: Cap Corse (Saint Florent) (France – Mediterranean) – Po (? m)

OVERALL: Net = -1.08 ha ; Rate = $-0.22 \% \text{ yr}^{-1}$; Perc Final = $90 \% >$ no change

DECadal: YES (46 yr)

| | | | | | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| 1960s | no change | 1970s | no change | 1980s | no change | 1990s | no change | 2000s |
| unknown | steady | steady | steady | steady | steady | steady | steady | steady |
| $-0.15\% \text{ yr}^{-1}$ | $-0.3\% \text{ yr}^{-1}$ | $-0.3\% \text{ yr}^{-1}$ | $-0.41\% \text{ yr}^{-1}$ | $-0.41\% \text{ yr}^{-1}$ |
| (10 yr) | (10 yr) | (10 yr) | (6 yr) | (6 yr) |



337_area

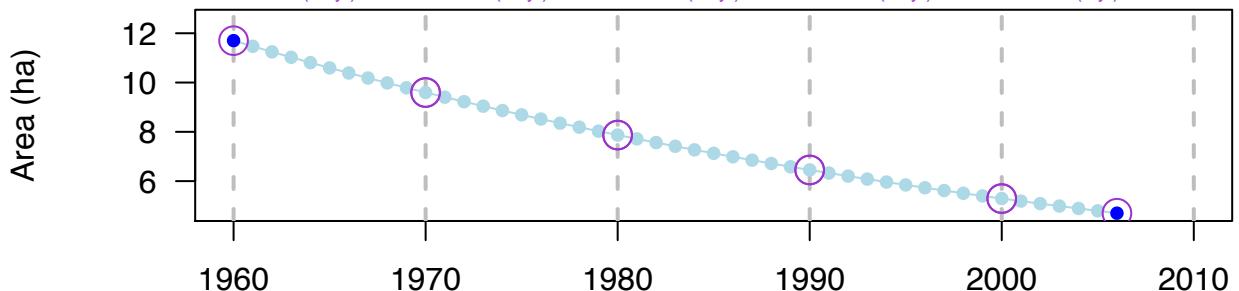
Bonacorsi et al. 2013

SITE: Cap Corse (Saint Florent) (France – Mediterranean) – Cn (? m)

OVERALL: Net = -7 ha ; Rate = $-1.98 \% \text{ yr}^{-1}$; Perc Final = $40 \% >$ decrease

DECadal: YES (46 yr)

| | | | | | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 1960s | decrease | 1970s | decrease | 1980s | decrease | 1990s | decrease | 2000s |
| unknown | worsen |
| $-1.98\% \text{ yr}^{-1}$ |
| (10 yr) | (6 yr) | (6 yr) |



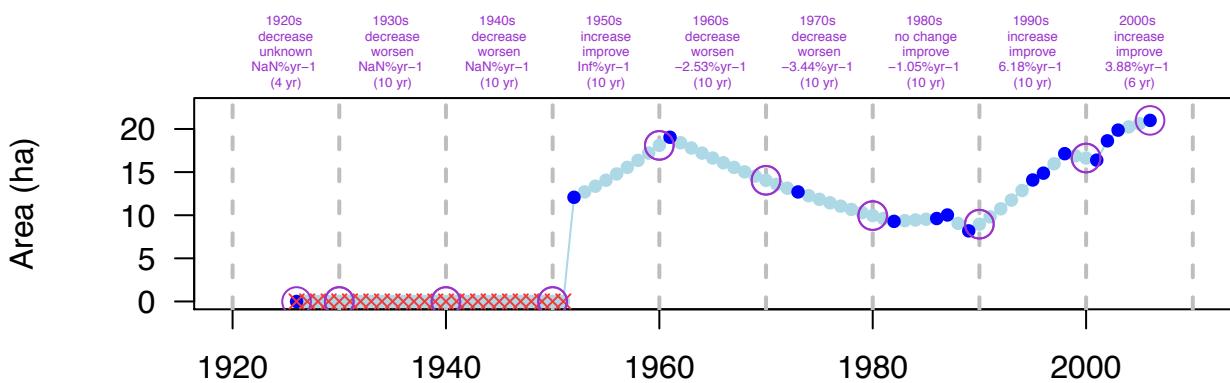
338_area

Fournier et al. 2006, Auby et al. 2010

SITE: Plage de les Haas (France – Atlantic) – Zn (0 m)

OVERALL: Net = 21 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECadal: YES (80 yr)



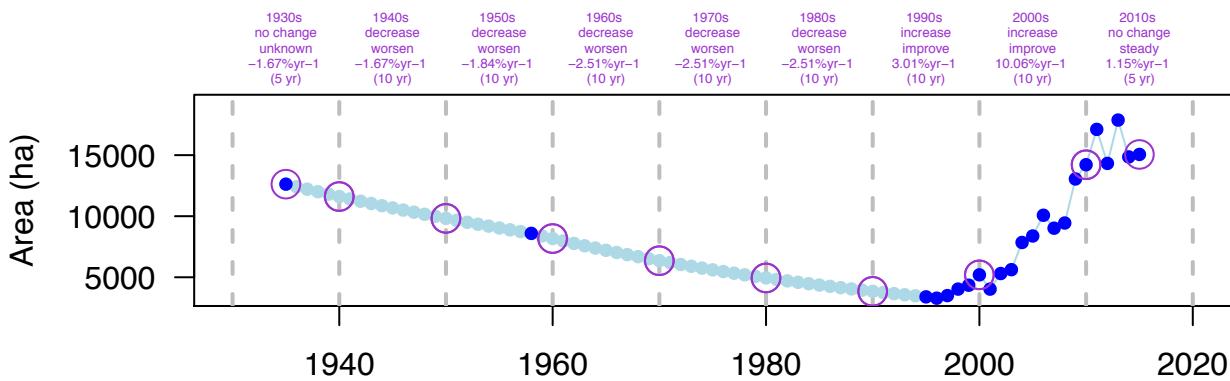
339_area

Dolch et al. 2013, Dolch et al. 2017

SITE: Northfrisian Wadden Sea (Germany – Atlantic) – Zn (0 m)

OVERALL: Net = 2434.56 ha; Rate = 0.22 % yr⁻¹; Perc Final = 119 % > increase

DECadal: YES (80 yr)



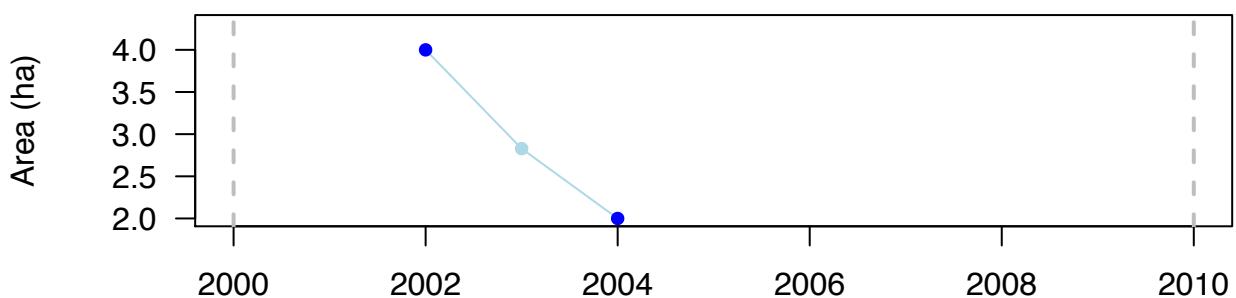
342_area

Gambi et al. 2005

SITE: Maronti Bay (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -2 ha; Rate = -34.66 % yr⁻¹; Perc Final = 50 % > decrease

DECADAL: NO (2 yr)



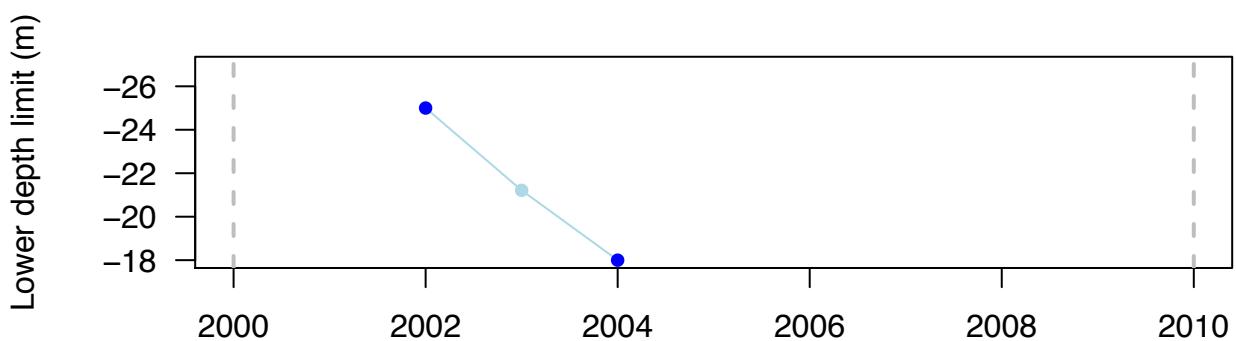
342_lowerlimit

Gambi et al. 2005

SITE: Maronti Bay (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -7 m; Rate = -16.43 % yr⁻¹; Perc Final = 72 % > decrease

DECADAL: NO (2 yr)



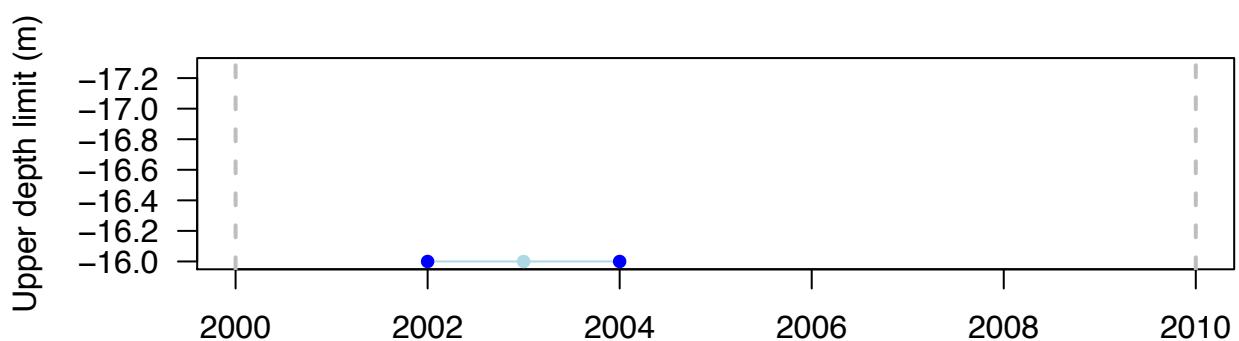
342_upperlimit

Gambi et al. 2005

SITE: Maronti Bay (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (2 yr)



343_area

Barsanti et al. 2007

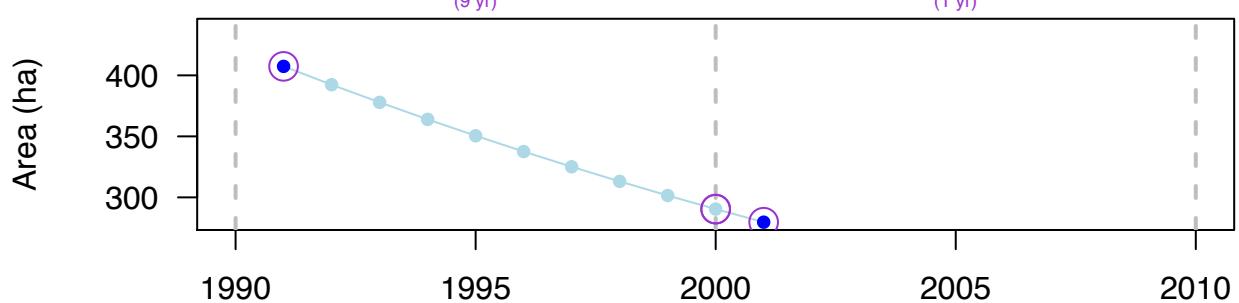
SITE: Tigullio Gulf (all sectors) (Italy – Mediterranean) – Cn (? m)

OVERALL: Net = -127.7 ha; Rate = -3.76 % yr⁻¹; Perc Final = 69 % > decrease

DECADAL: YES (10 yr)

1990s
decrease
unknown
-3.76%yr⁻¹
(9 yr)

2000s
no change
improve
-3.76%yr⁻¹
(1 yr)



344_area

Badalamenti et al. 2006, 2011

SITE: Cabo Feto (Italy – Mediterranean) – Po (? m)

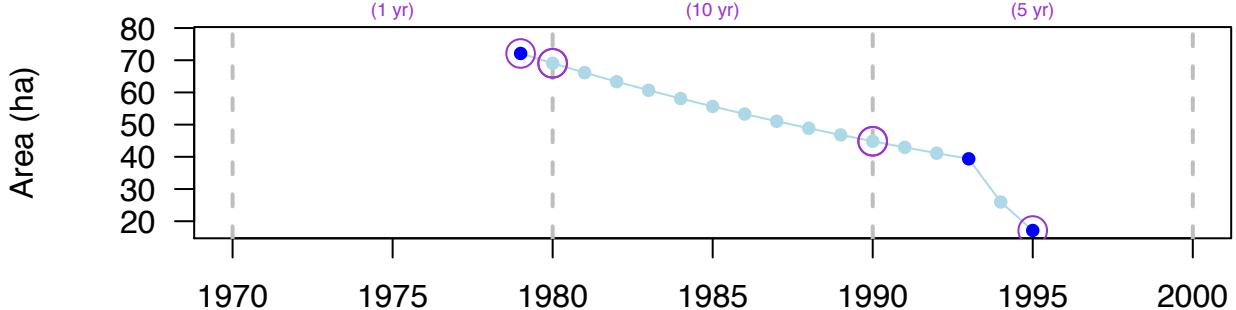
OVERALL: Net = -54.98 ha; Rate = -8.98 % yr⁻¹; Perc Final = 24 % > decrease

DECadal: YES (16 yr)

1970s
no change
unknown
-4.32%yr⁻¹
(1 yr)

1980s
decrease
worsen
-4.32%yr⁻¹
(10 yr)

1990s
decrease
worsen
-19.25%yr⁻¹
(5 yr)



345_area

Badalamenti et al. 2006, 2011

SITE: Cabo Feto (Italy – Mediterranean) – Cn (? m)

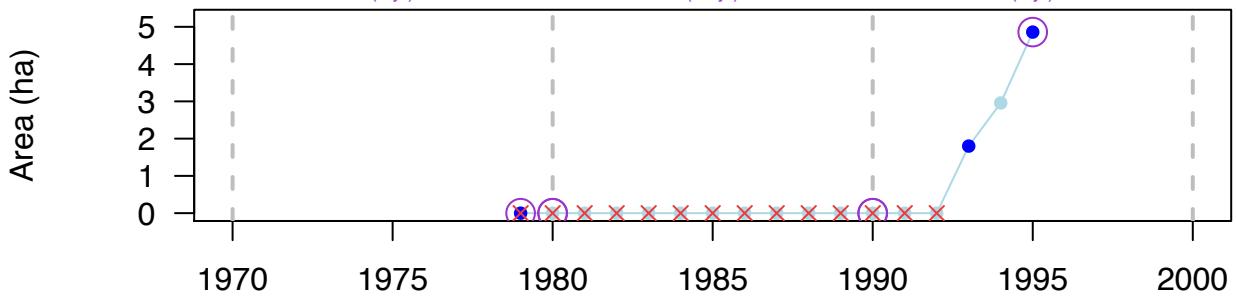
OVERALL: Net = 4.86 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECadal: YES (16 yr)

1970s
decrease
unknown
NaN%yr⁻¹
(1 yr)

1980s
decrease
worsen
NaN%yr⁻¹
(10 yr)

1990s
increase
improve
Inf%yr⁻¹
(5 yr)



346_area

Badalamenti et al. 2006, 2011

SITE: Cabo Feto (Italy – Mediterranean) – Po (? m)

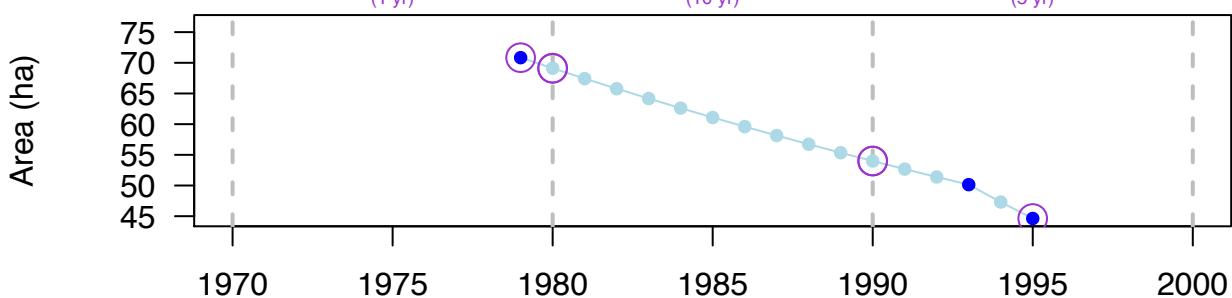
OVERALL: Net = -26.21 ha; Rate = -2.89 % yr⁻¹; Perc Final = 63 % > decrease

DECADAL: YES (16 yr)

1970s
no change
unknown
-2.47%yr⁻¹
(1 yr)

1980s
decrease
worsen
-2.47%yr⁻¹
(10 yr)

1990s
decrease
worsen
-3.81%yr⁻¹
(5 yr)



347_cover

Peirano et al. 2011

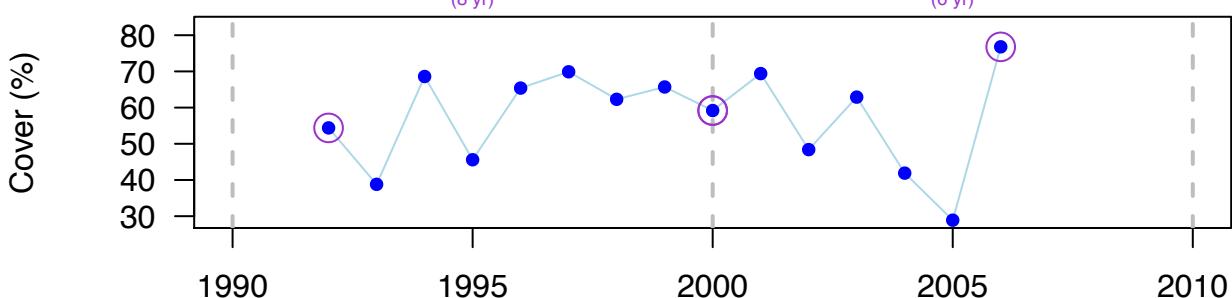
SITE: Monterosso al Mare (Italy – Mediterranean) – Po (-10 m)

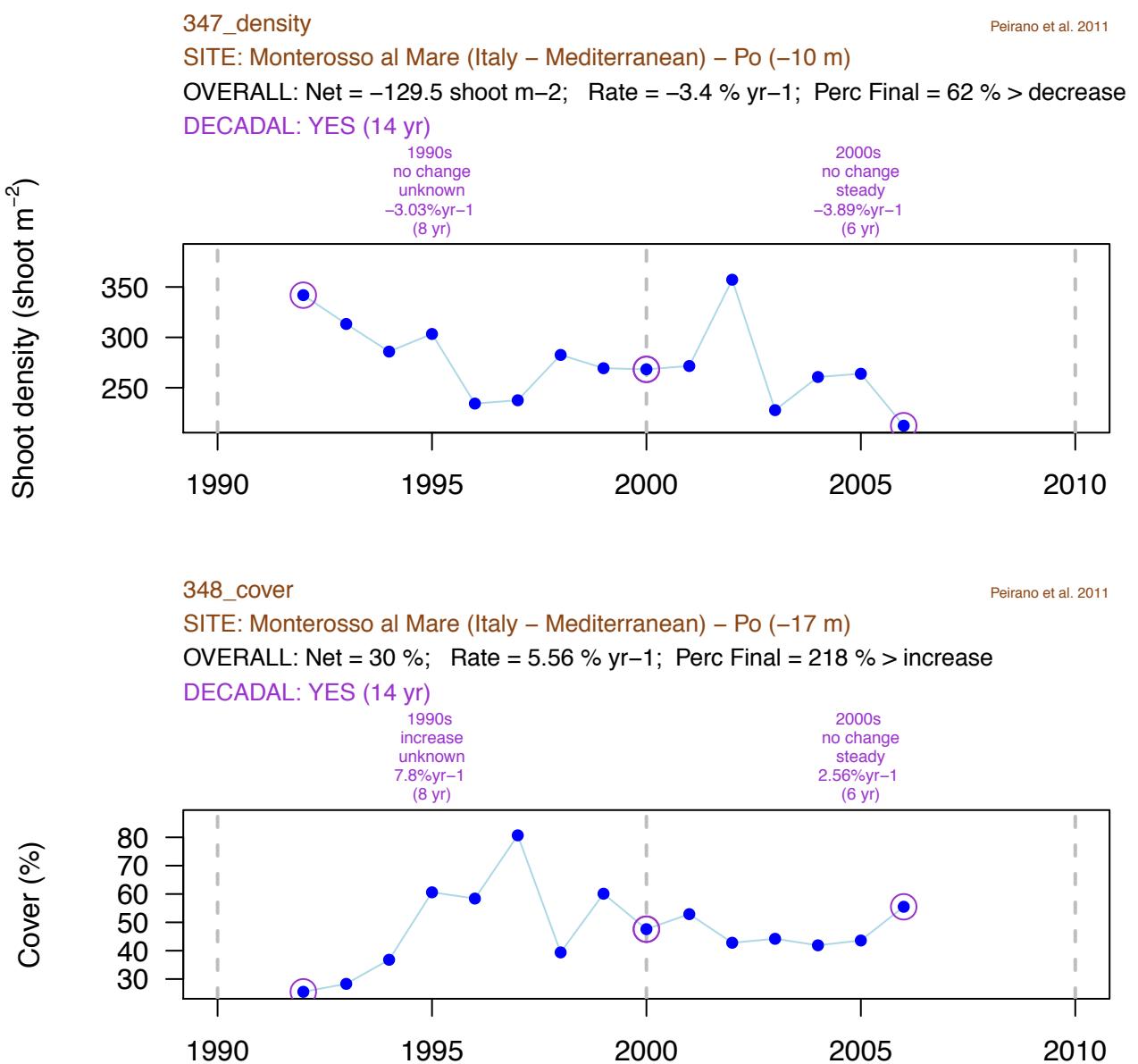
OVERALL: Net = 22.4 %; Rate = 2.46 % yr⁻¹; Perc Final = 141 % > increase

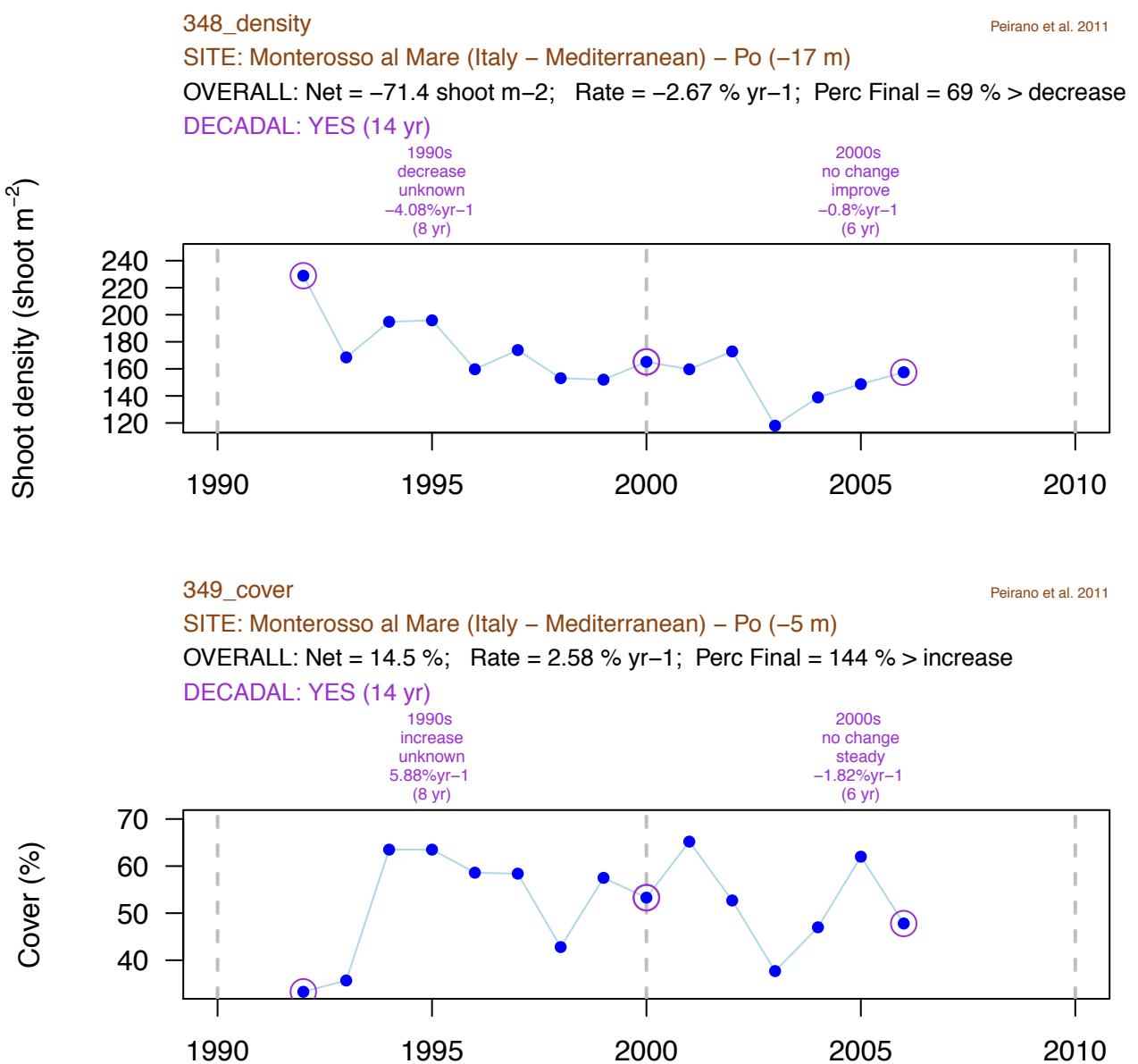
DECADAL: YES (14 yr)

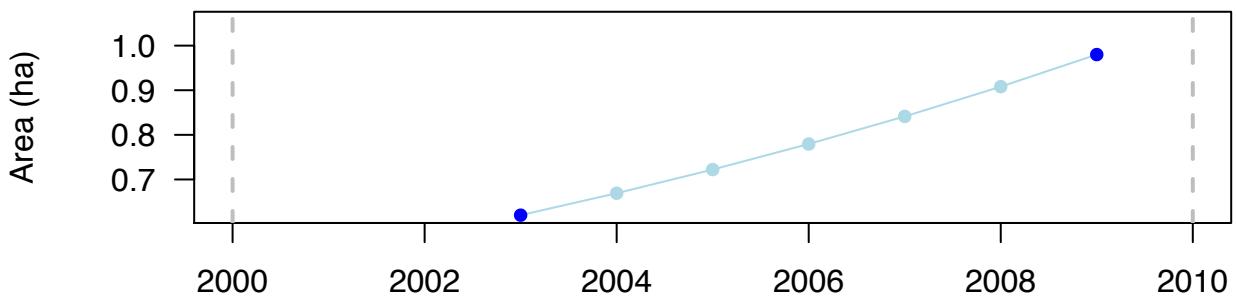
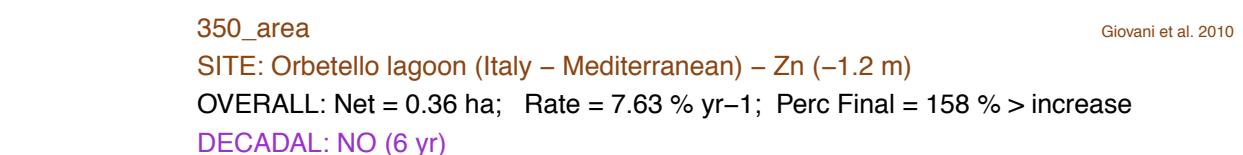
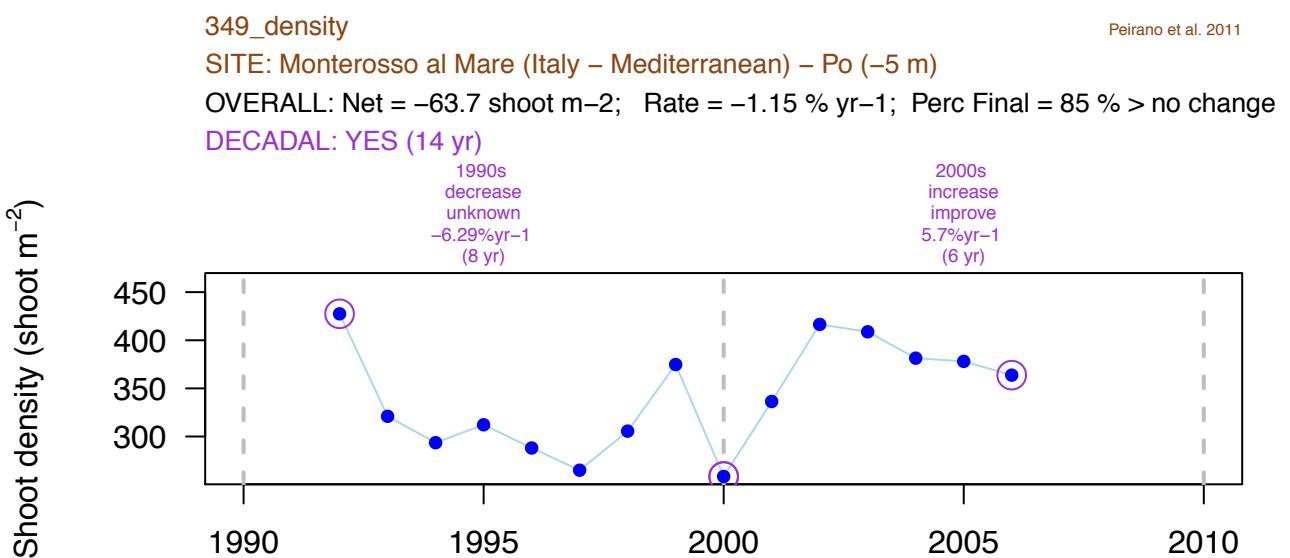
1990s
no change
unknown
1.06%yr⁻¹
(8 yr)

2000s
increase
improve
4.34%yr⁻¹
(6 yr)









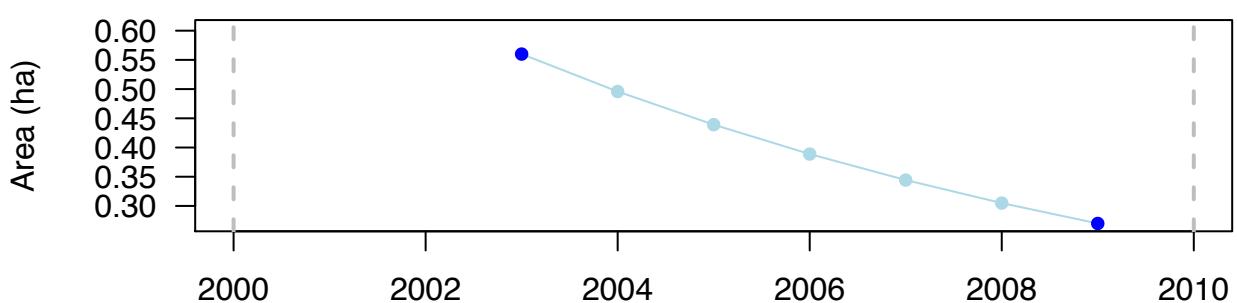
351_area

Giovani et al. 2010

SITE: Orbetello lagoon (Italy – Mediterranean) – Cn (-1.2 m)

OVERALL: Net = -0.29 ha; Rate = -12.16 % yr⁻¹; Perc Final = 48 % > decrease

DECadal: NO (6 yr)



352_lowerlimit

Falconetti and Meinesz 1989

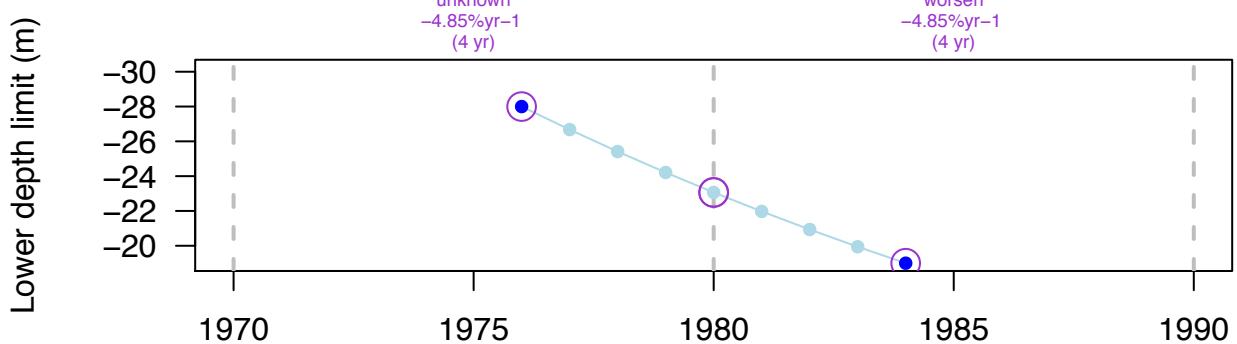
SITE: Larvotto Beach (Monaco – Mediterranean) – Po (? m)

OVERALL: Net = -9 m; Rate = -4.85 % yr⁻¹; Perc Final = 68 % > decrease

DECadal: YES (8 yr)

1970s
decrease
unknown
-4.85%yr⁻¹
(4 yr)

1980s
decrease
worsen
-4.85%yr⁻¹
(4 yr)



353_area

Dolbeth et al. 2011, Neto et al. 2013

SITE: Mondego estuary (Portugal – Atlantic) – Zn (0 m)

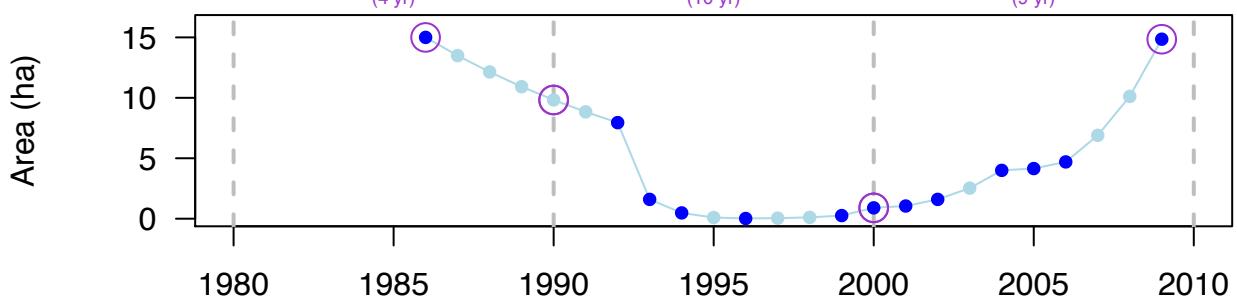
OVERALL: Net = -0.15 ha; Rate = -0.04% yr $^{-1}$; Perc Final = 99 % > no change

DECADAL: YES (23 yr)

1980s
decrease
unknown
 $-10.58\%\text{yr}^{-1}$
(4 yr)

1990s
decrease
worsen
 $-23.9\%\text{yr}^{-1}$
(10 yr)

2000s
increase
improve
 $31.15\%\text{yr}^{-1}$
(9 yr)



353_biomass

Dolbeth et al. 2011, Neto et al. 2013

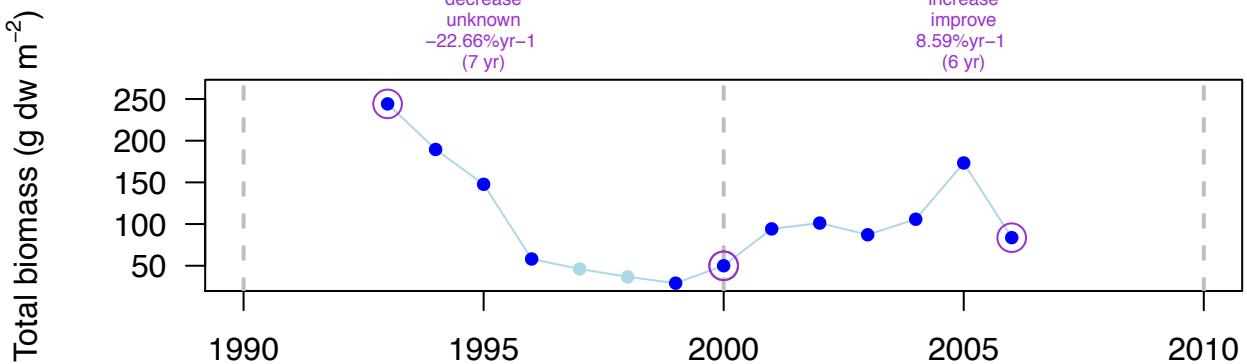
SITE: Mondego estuary (Portugal – Atlantic) – Zn (0 m)

OVERALL: Net = -160.5 g dw m $^{-2}$; Rate = -8.24% yr $^{-1}$; Perc Final = 34 % > decrease

DECADAL: YES (13 yr)

1990s
decrease
unknown
 $-22.66\%\text{yr}^{-1}$
(7 yr)

2000s
increase
improve
 $8.59\%\text{yr}^{-1}$
(6 yr)



354_cover Pergent et al. 2015

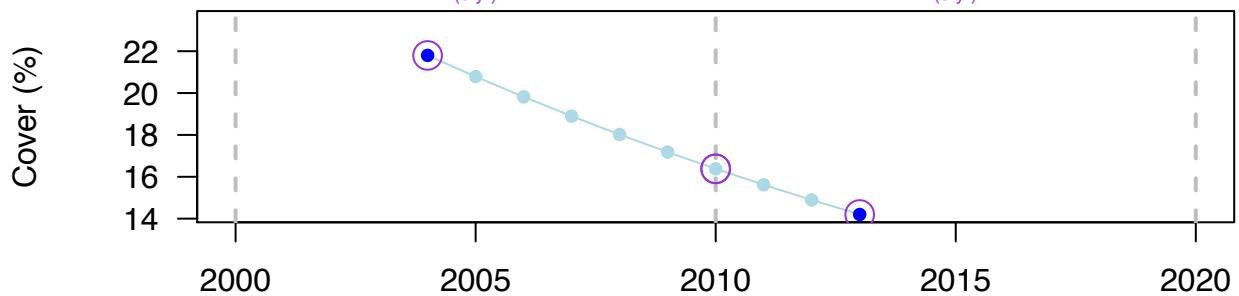
SITE: Macinaggio (Corsica) (France – Mediterranean) – Po (-38 m)

OVERALL: Net = -7.6 %; Rate = -4.76 % yr⁻¹; Perc Final = 65 % > decrease

DECADAL: YES (9 yr)

2000s
no change
unknown
-4.76%yr⁻¹
(6 yr)

2010s
no change
steady
-4.76%yr⁻¹
(3 yr)



354_density Pergent et al. 2015

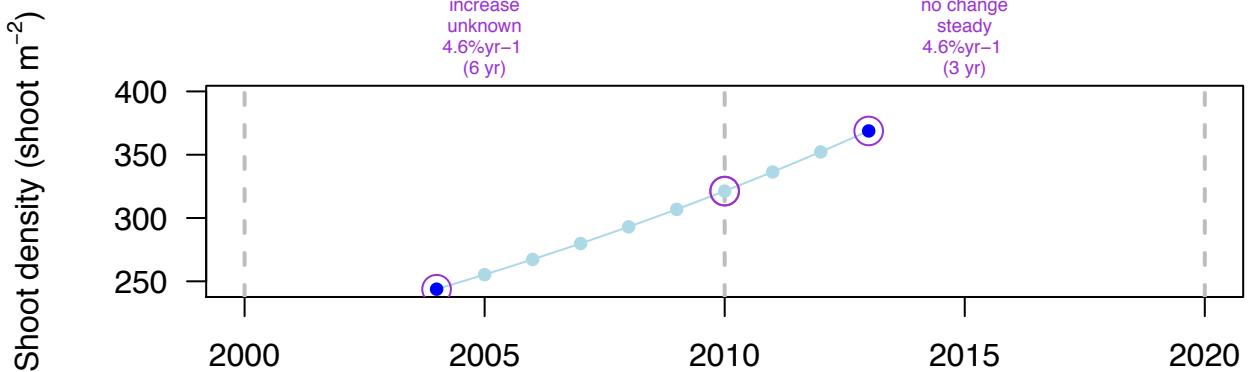
SITE: Macinaggio (Corsica) (France – Mediterranean) – Po (-38 m)

OVERALL: Net = 125 shoot m⁻²; Rate = 4.6 % yr⁻¹; Perc Final = 151 % > increase

DECADAL: YES (9 yr)

2000s
increase
unknown
4.6%yr⁻¹
(6 yr)

2010s
no change
steady
4.6%yr⁻¹
(3 yr)



354_lowerlimit

Pergent et al. 2015

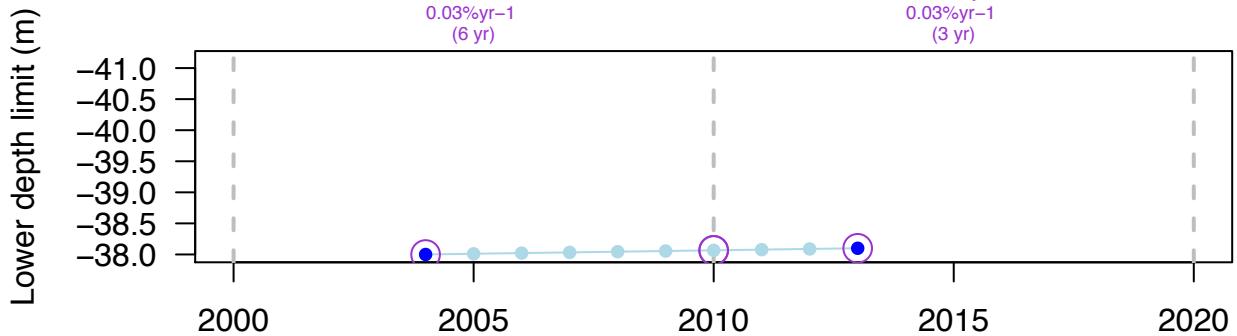
SITE: Macinaggio (Corsica) (France – Mediterranean) – Po (-38 m)

OVERALL: Net = 0.1 m; Rate = 0.03 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
0.03%yr⁻¹
(6 yr)

2010s
no change
steady
0.03%yr⁻¹
(3 yr)



355_cover

Pergent et al. 2015

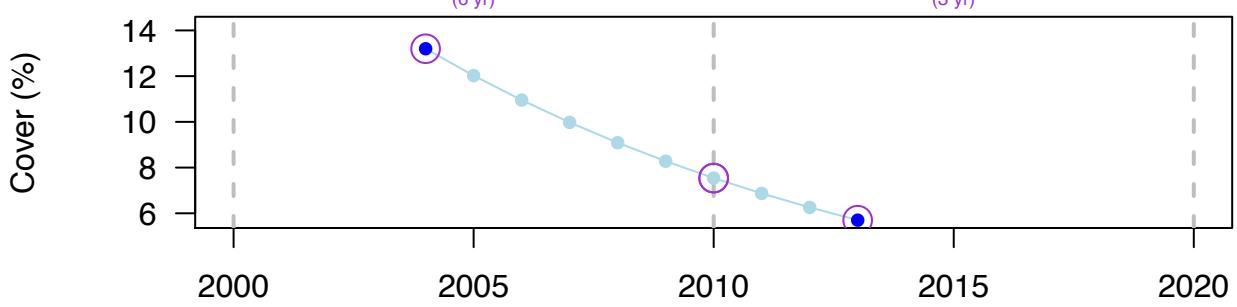
SITE: Cap Sagro (Corsica) (France – Mediterranean) – Po (-33 m)

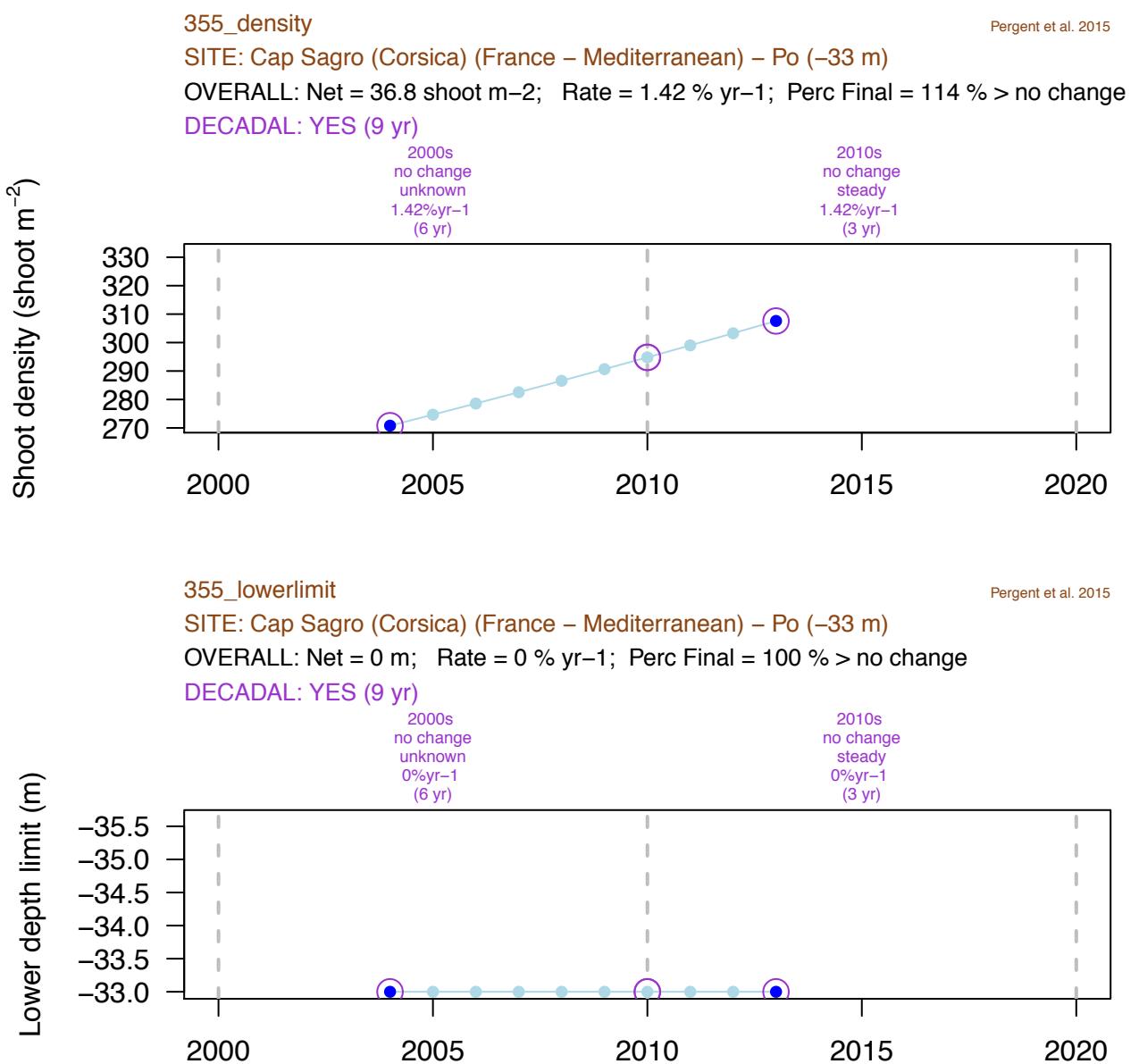
OVERALL: Net = -7.5 %; Rate = -9.33 % yr⁻¹; Perc Final = 43 % > decrease

DECADAL: YES (9 yr)

2000s
decrease
unknown
-9.33%yr⁻¹
(6 yr)

2010s
no change
improve
-9.33%yr⁻¹
(3 yr)





356_cover

Pergent et al. 2015

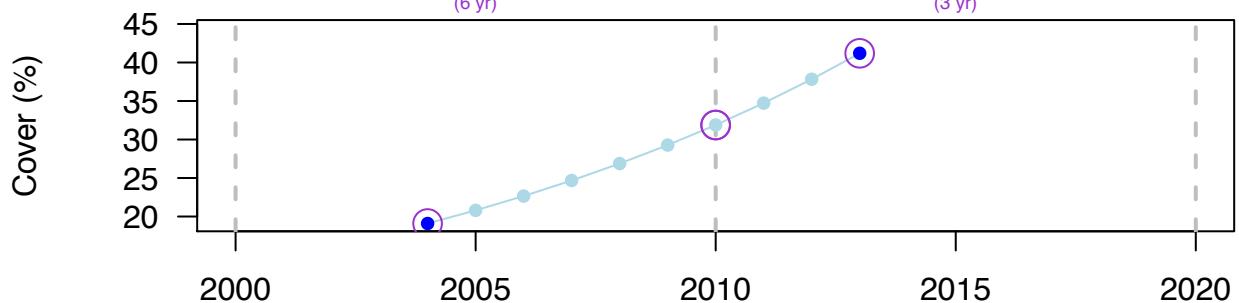
SITE: Toga (Corsica) (France – Mediterranean) – Po (-24 m)

OVERALL: Net = 22.1 %; Rate = 8.54 % yr⁻¹; Perc Final = 216 % > increase

DECADAL: YES (9 yr)

2000s
increase
unknown
8.54%yr⁻¹
(6 yr)

2010s
increase
improve
8.54%yr⁻¹
(3 yr)



356_density

Pergent et al. 2015

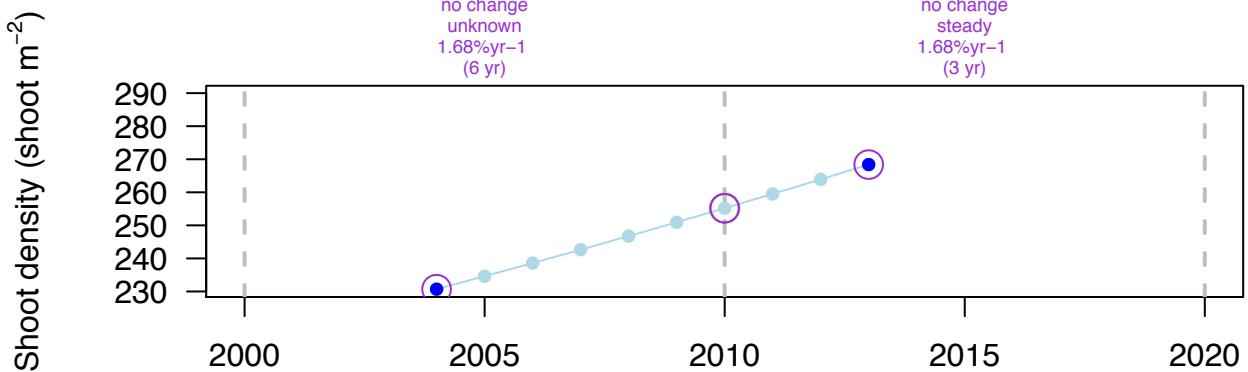
SITE: Toga (Corsica) (France – Mediterranean) – Po (-24 m)

OVERALL: Net = 37.7 shoot m⁻²; Rate = 1.68 % yr⁻¹; Perc Final = 116 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
1.68%yr⁻¹
(6 yr)

2010s
no change
steady
1.68%yr⁻¹
(3 yr)



356_lowerlimit

Pergent et al. 2015

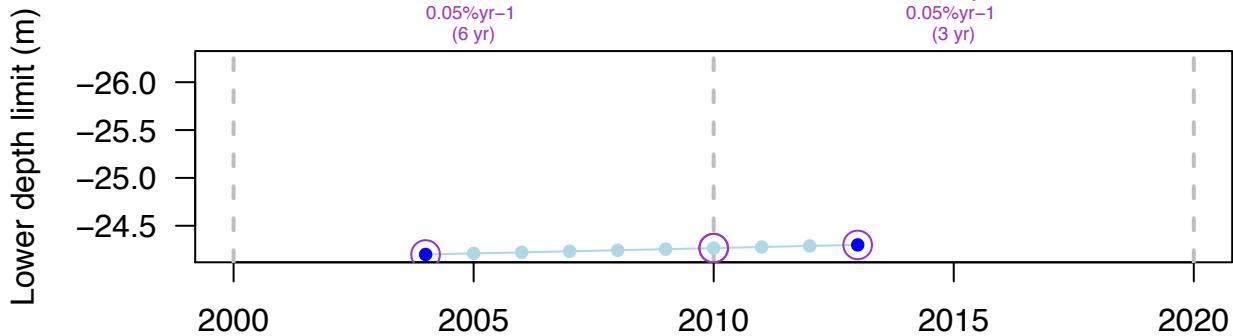
SITE: Toga (Corsica) (France – Mediterranean) – Po (-24 m)

OVERALL: Net = 0.1 m; Rate = 0.05 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
0.05%yr⁻¹
(6 yr)

2010s
no change
steady
0.05%yr⁻¹
(3 yr)



357_cover

Pergent et al. 2015

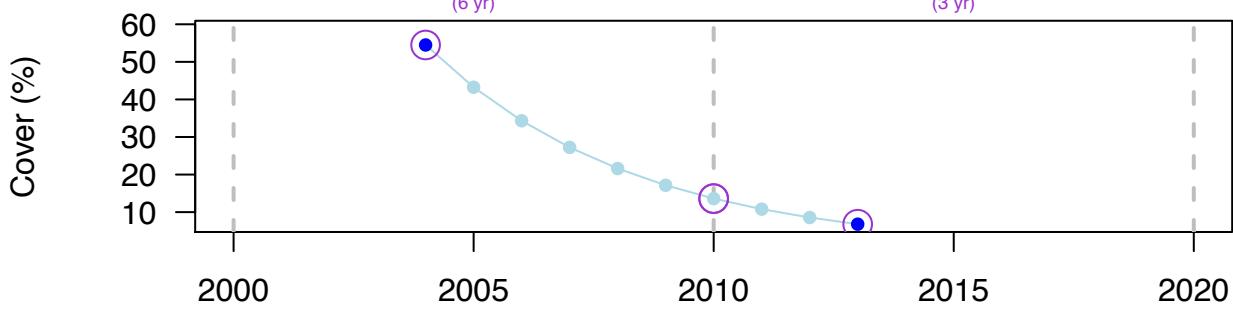
SITE: Arinella (Corsica) (France – Mediterranean) – Po (-26.9 m)

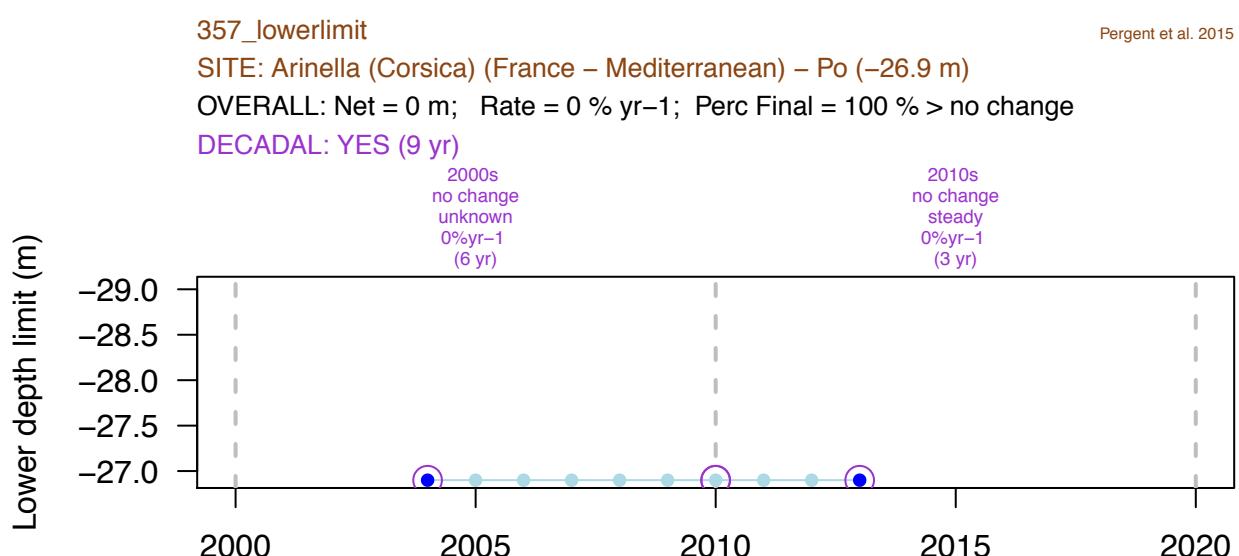
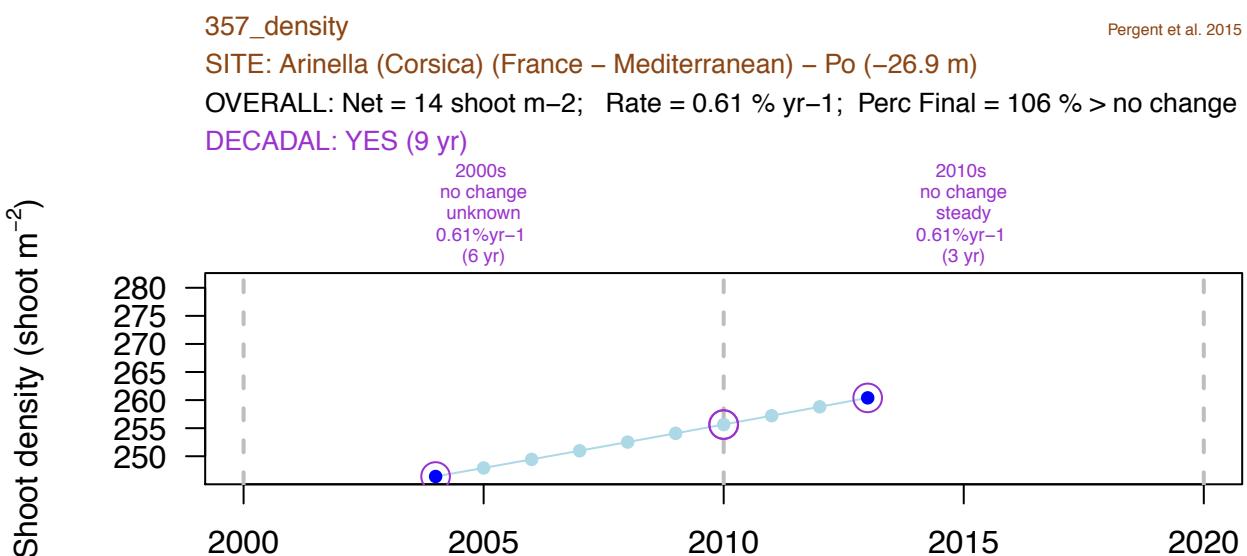
OVERALL: Net = -47.7 %; Rate = -23.13 % yr⁻¹; Perc Final = 12 % > decrease

DECADAL: YES (9 yr)

2000s
decrease
unknown
-23.13%yr⁻¹
(6 yr)

2010s
decrease
worsen
-23.13%yr⁻¹
(3 yr)





358_cover Pergent et al. 2015

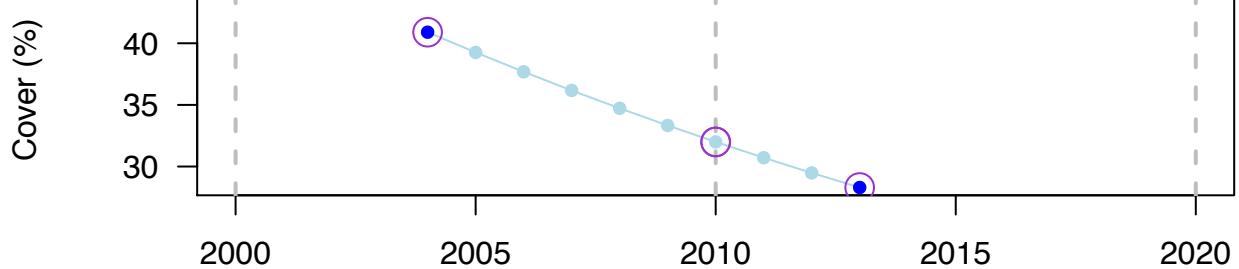
SITE: Bravone (Corsica) (France – Mediterranean) – Po (-36 m)

OVERALL: Net = -12.6 %; Rate = -4.09 % yr⁻¹; Perc Final = 69 % > decrease

DECADAL: YES (9 yr)

2000s
no change
unknown
-4.09%yr⁻¹
(6 yr)

2010s
no change
steady
-4.09%yr⁻¹
(3 yr)



358_density Pergent et al. 2015

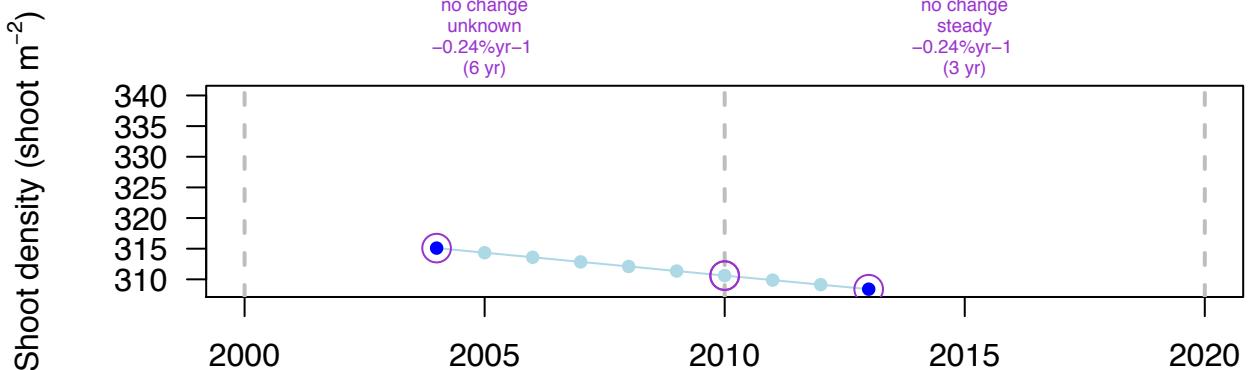
SITE: Bravone (Corsica) (France – Mediterranean) – Po (-36 m)

OVERALL: Net = -6.7 shoot m⁻²; Rate = -0.24 % yr⁻¹; Perc Final = 98 % > no change

DECADAL: YES (9 yr)

2000s
no change
unknown
-0.24%yr⁻¹
(6 yr)

2010s
no change
steady
-0.24%yr⁻¹
(3 yr)



358_lowerlimit

Pergent et al. 2015

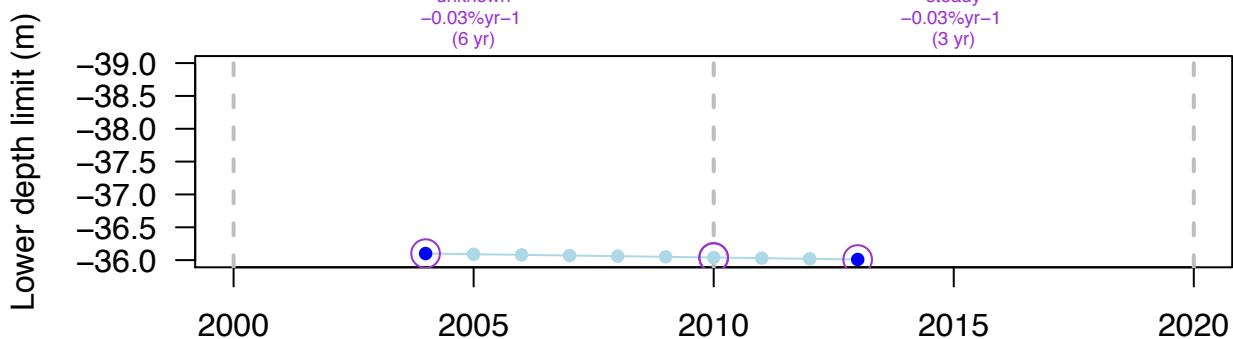
SITE: Bravone (Corsica) (France – Mediterranean) – Po (-36 m)

OVERALL: Net = -0.09 m; Rate = -0.03 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (9 yr)

2000s
no change
unknown
-0.03%yr⁻¹
(6 yr)

2010s
no change
steady
-0.03%yr⁻¹
(3 yr)



359_cover

Pergent et al. 2015

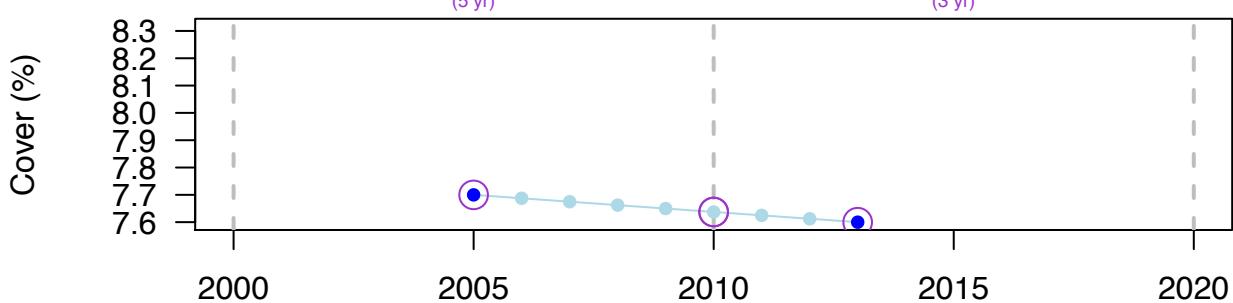
SITE: Favone (Corsica) (France – Mediterranean) – Po (-36.9 m)

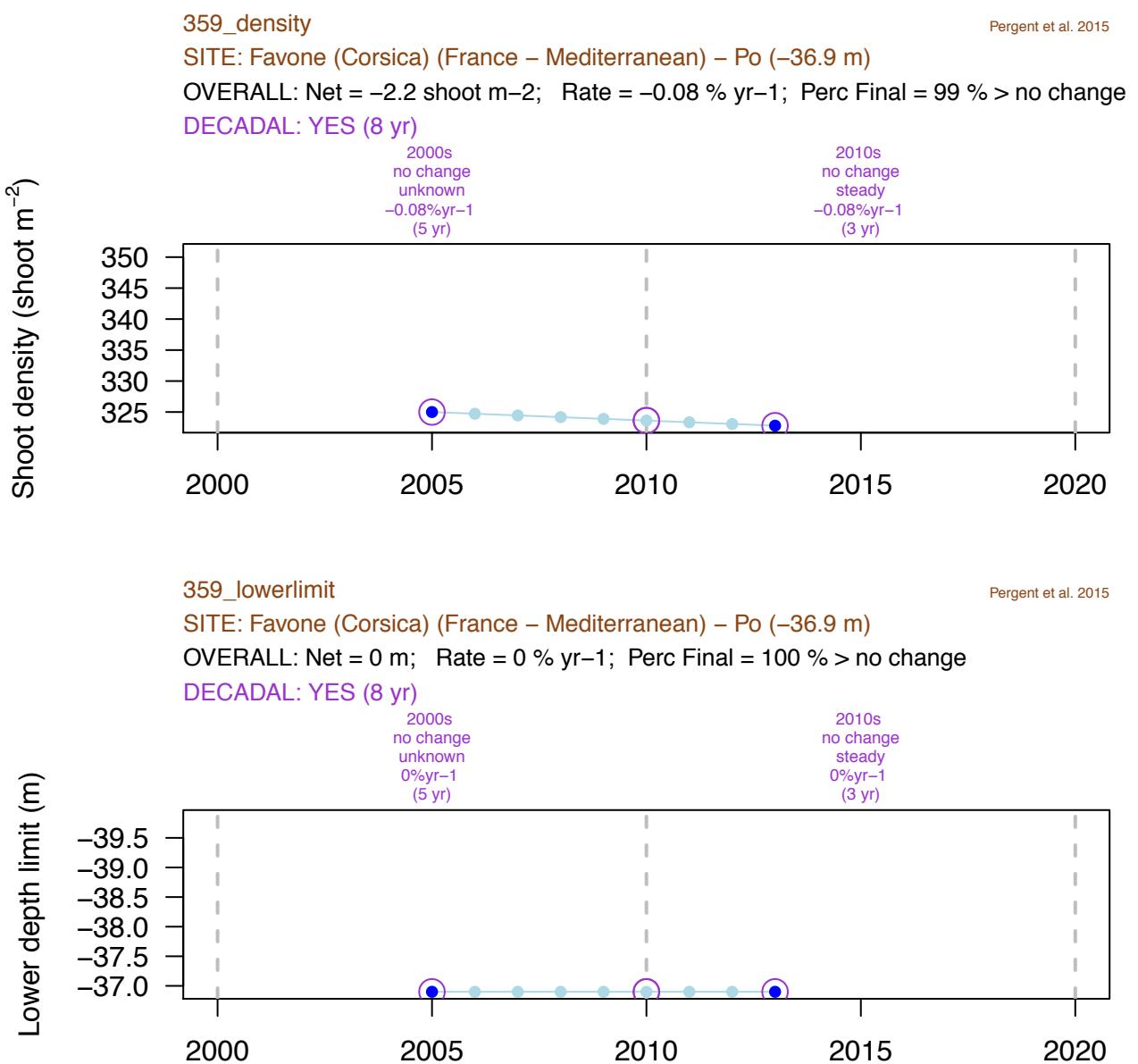
OVERALL: Net = -0.1 %; Rate = -0.16 % yr⁻¹; Perc Final = 99 % > no change

Decadal: YES (8 yr)

2000s
no change
unknown
-0.16%yr⁻¹
(5 yr)

2010s
no change
steady
-0.16%yr⁻¹
(3 yr)





360_cover Pergent et al. 2015

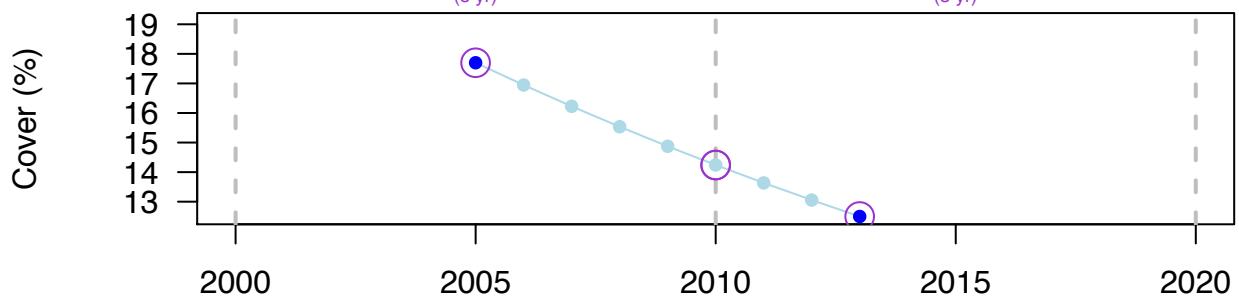
SITE: La Chiappa (Corsica) (France – Mediterranean) – Po (-35.3 m)

OVERALL: Net = -5.2 %; Rate = -4.35 % yr⁻¹; Perc Final = 71 % > decrease

DECADAL: YES (8 yr)

2000s
no change
unknown
-4.35%yr⁻¹
(5 yr)

2010s
no change
steady
-4.35%yr⁻¹
(3 yr)



360_density Pergent et al. 2015

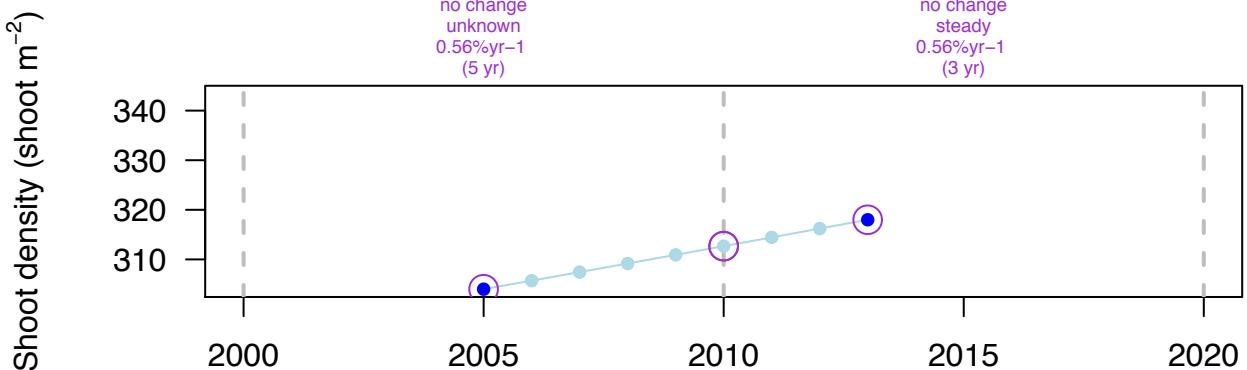
SITE: La Chiappa (Corsica) (France – Mediterranean) – Po (-35.3 m)

OVERALL: Net = 14 shoot m⁻²; Rate = 0.56 % yr⁻¹; Perc Final = 105 % > no change

DECADAL: YES (8 yr)

2000s
no change
unknown
0.56%yr⁻¹
(5 yr)

2010s
no change
steady
0.56%yr⁻¹
(3 yr)



360_lowerlimit

Pergent et al. 2015

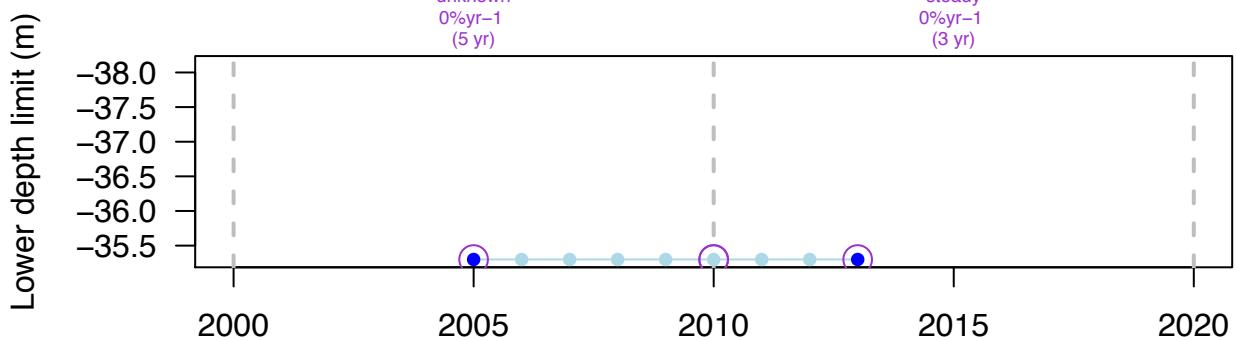
SITE: La Chiappa (Corsica) (France – Mediterranean) – Po (-35.3 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (8 yr)

2000s
no change
unknown
0%yr⁻¹
(5 yr)

2010s
no change
steady
0%yr⁻¹
(3 yr)



361_cover

Pergent et al. 2015

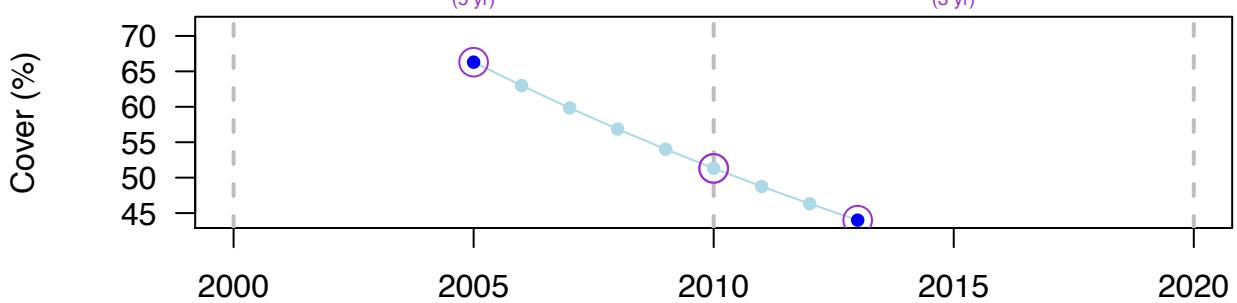
SITE: Lavezzi (Corsica) (France – Mediterranean) – Po (-30.3 m)

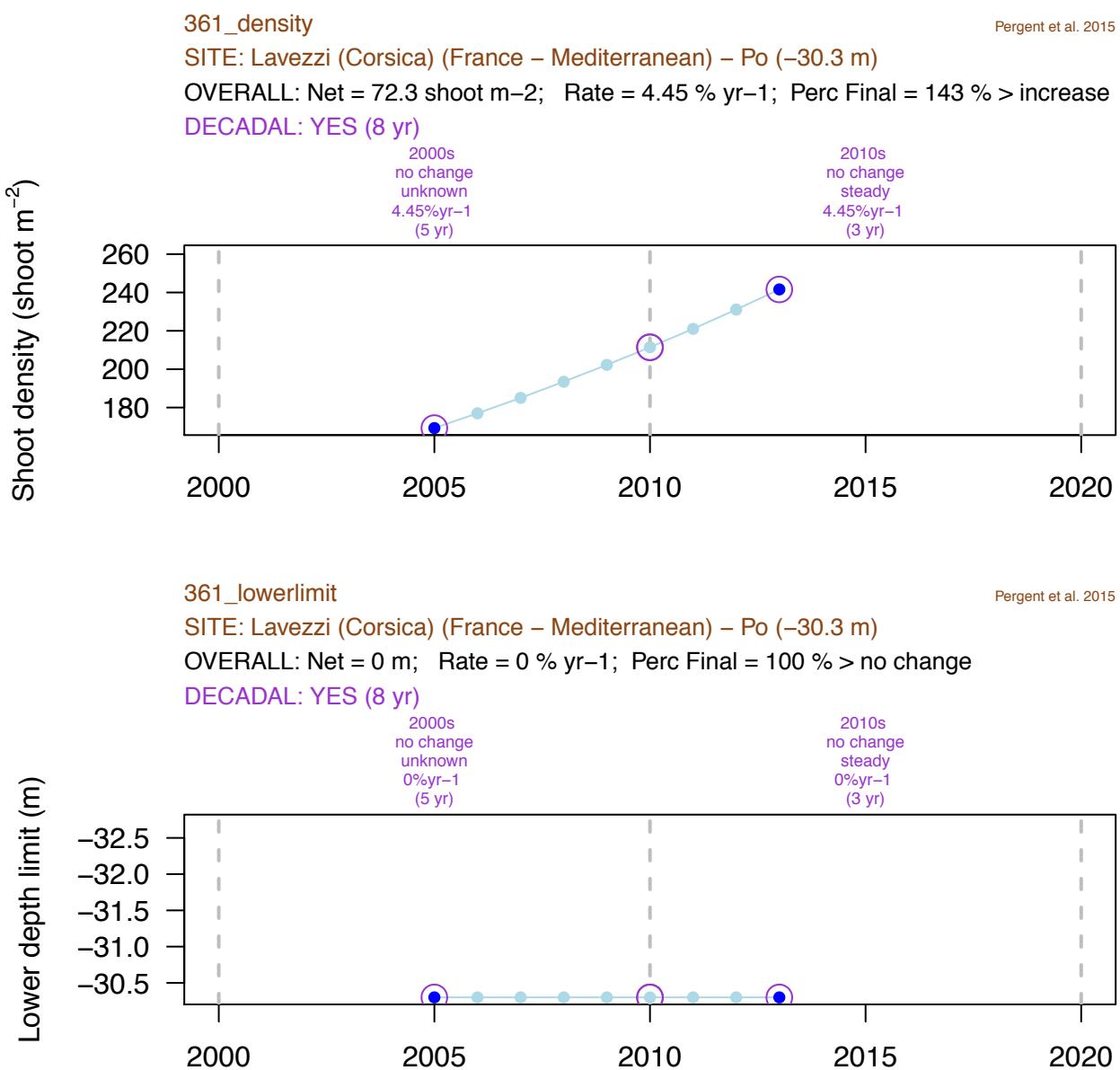
OVERALL: Net = -22.3 %; Rate = -5.13 % yr⁻¹; Perc Final = 66 % > decrease

DECADAL: YES (8 yr)

2000s
no change
unknown
-5.13%yr⁻¹
(5 yr)

2010s
no change
steady
-5.13%yr⁻¹
(3 yr)





362_cover Pergent et al. 2015

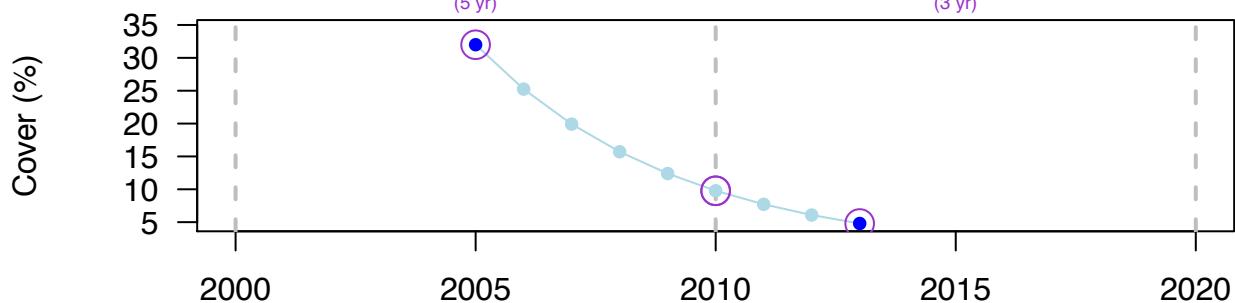
SITE: Porto Polo (Corsica) (France – Mediterranean) – Po (-36.5 m)

OVERALL: Net = -27.2 %; Rate = -23.71 % yr⁻¹; Perc Final = 15 % > decrease

DECADAL: YES (8 yr)

2000s
decrease
unknown
-23.71%yr⁻¹
(5 yr)

2010s
decrease
worsen
-23.71%yr⁻¹
(3 yr)



362_density Pergent et al. 2015

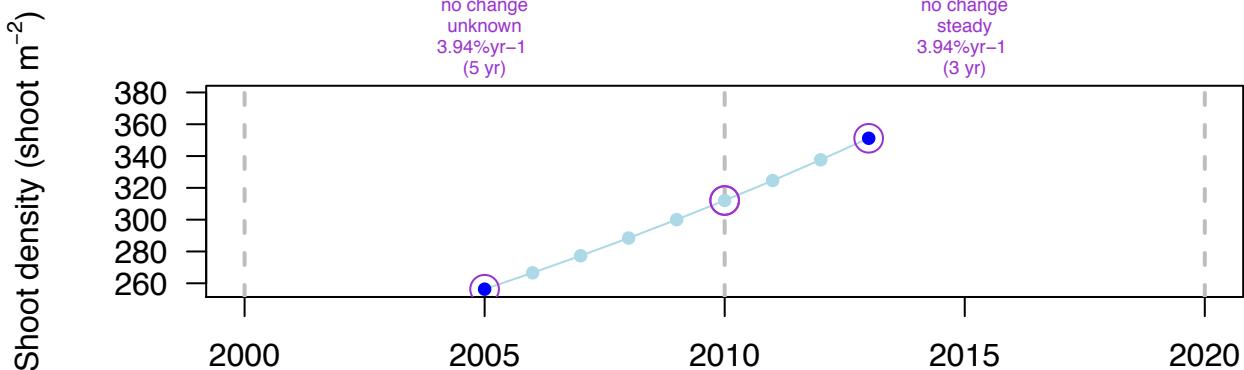
SITE: Porto Polo (Corsica) (France – Mediterranean) – Po (-36.5 m)

OVERALL: Net = 94.9 shoot m⁻²; Rate = 3.94 % yr⁻¹; Perc Final = 137 % > increase

DECADAL: YES (8 yr)

2000s
no change
unknown
3.94%yr⁻¹
(5 yr)

2010s
no change
steady
3.94%yr⁻¹
(3 yr)



362_lowerlimit

Pergent et al. 2015

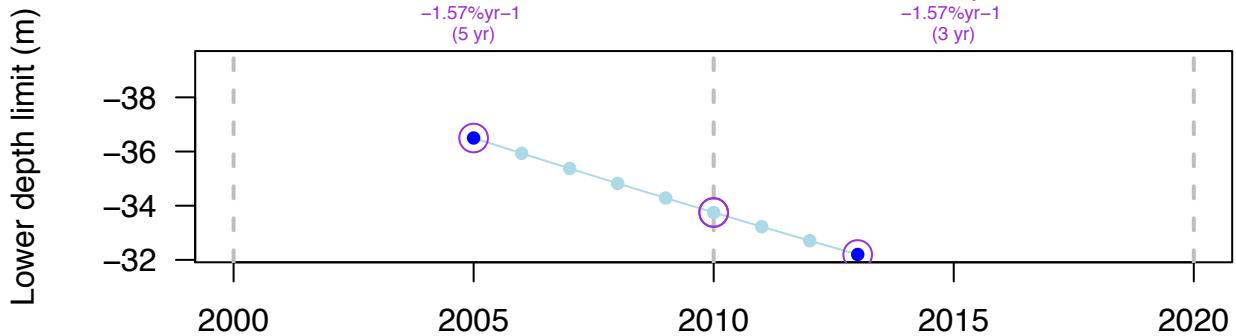
SITE: Porto Polo (Corsica) (France – Mediterranean) – Po (-36.5 m)

OVERALL: Net = -4.3 m; Rate = -1.57 % yr⁻¹; Perc Final = 88 % > decrease

DECADAL: YES (8 yr)

2000s
no change
unknown
-1.57%yr⁻¹
(5 yr)

2010s
no change
steady
-1.57%yr⁻¹
(3 yr)



363_cover

Pergent et al. 2015

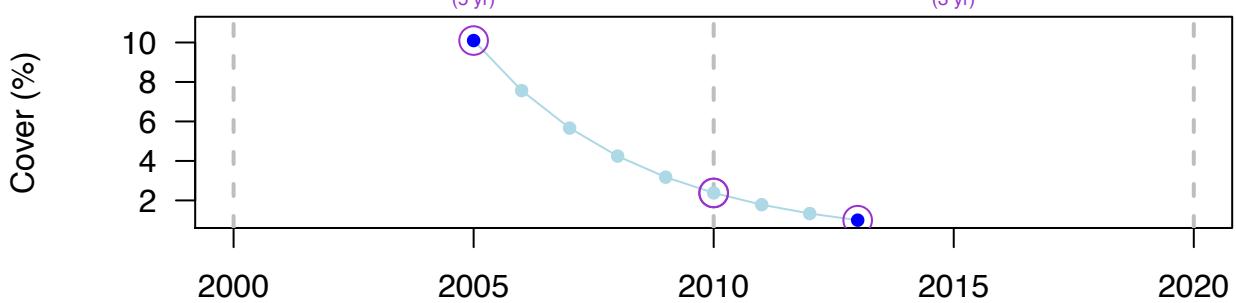
SITE: La Parata (Corsica) (France – Mediterranean) – Po (-35.3 m)

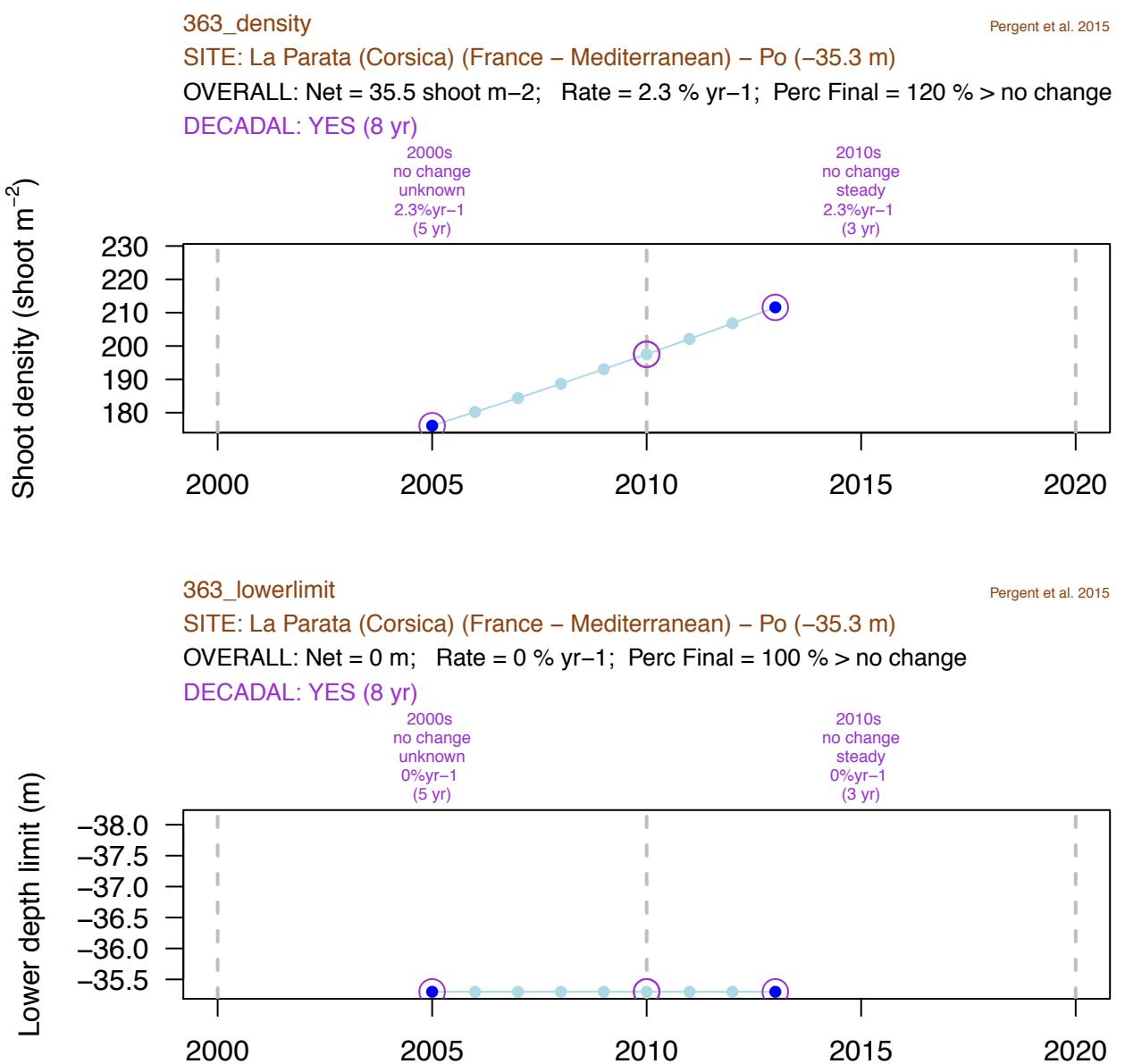
OVERALL: Net = -9.1 %; Rate = -28.91 % yr⁻¹; Perc Final = 10 % > decrease

DECADAL: YES (8 yr)

2000s
decrease
unknown
-28.91%yr⁻¹
(5 yr)

2010s
decrease
worsen
-28.91%yr⁻¹
(3 yr)





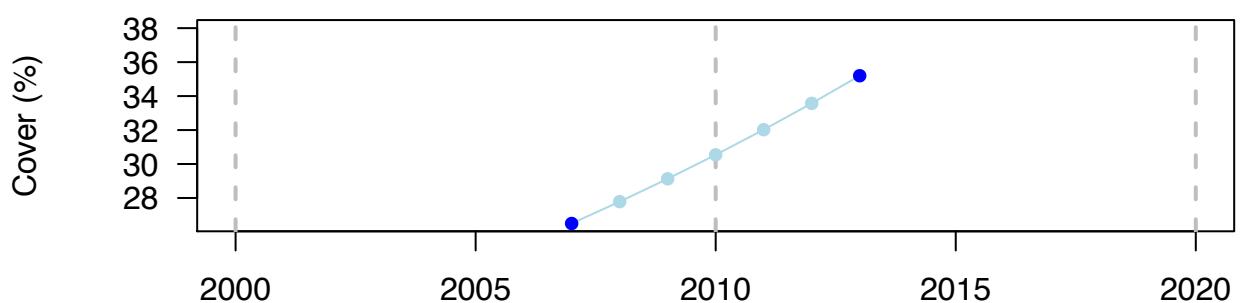
364_cover

Pergent et al. 2015

SITE: Sagone (Corsica) (France – Mediterranean) – Po (-33.2 m)

OVERALL: Net = 8.7 %; Rate = 4.73 % yr⁻¹; Perc Final = 133 % > increase

DECADAL: NO (6 yr)



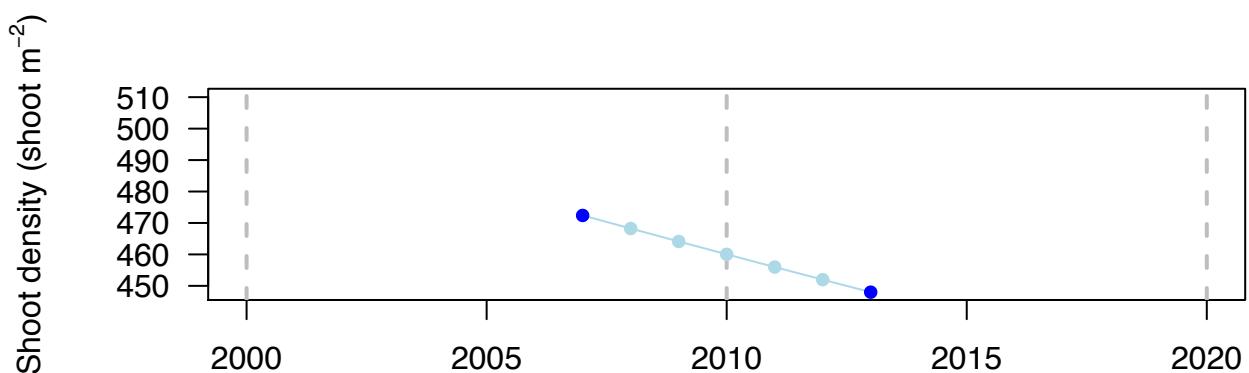
364_density

Pergent et al. 2015

SITE: Sagone (Corsica) (France – Mediterranean) – Po (-33.2 m)

OVERALL: Net = -24.4 shoot m⁻²; Rate = -0.88 % yr⁻¹; Perc Final = 95 % > no change

DECADAL: NO (6 yr)



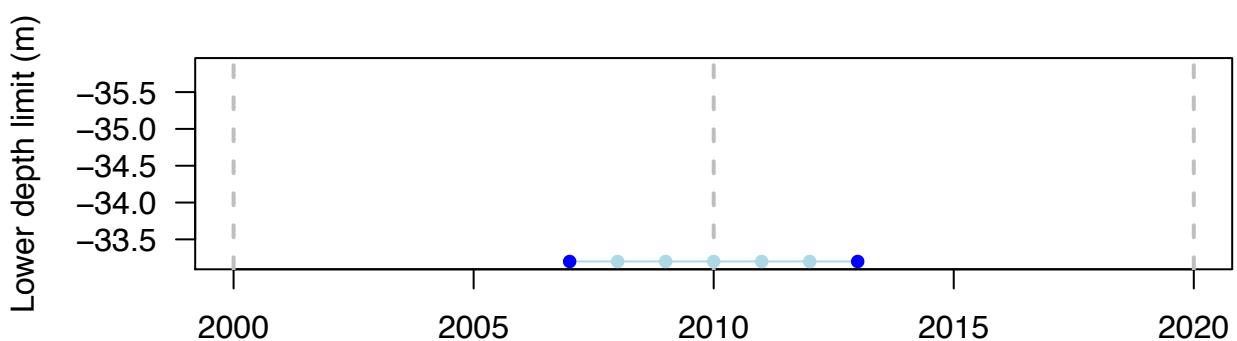
364_lowerlimit

Pergent et al. 2015

SITE: Sagone (Corsica) (France – Mediterranean) – Po (-33.2 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (6 yr)



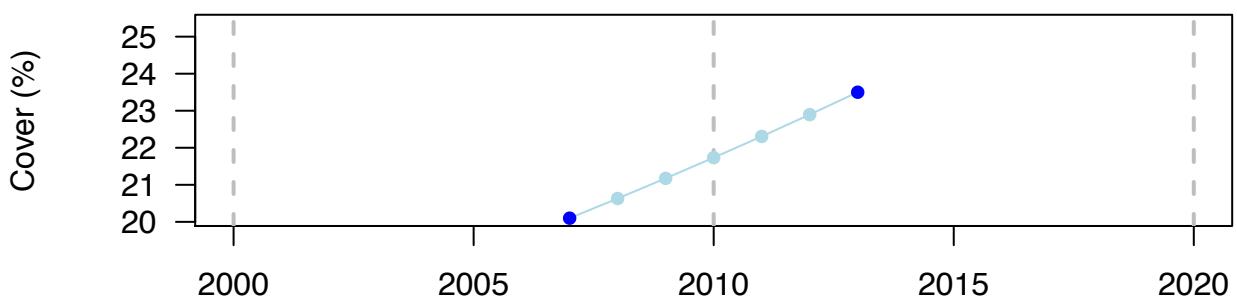
365_cover

Pergent et al. 2015

SITE: Porto (Corsica) (France – Mediterranean) – Po (-36.5 m)

OVERALL: Net = 3.4 %; Rate = 2.6 % yr⁻¹; Perc Final = 117 % > no change

DECADAL: NO (6 yr)



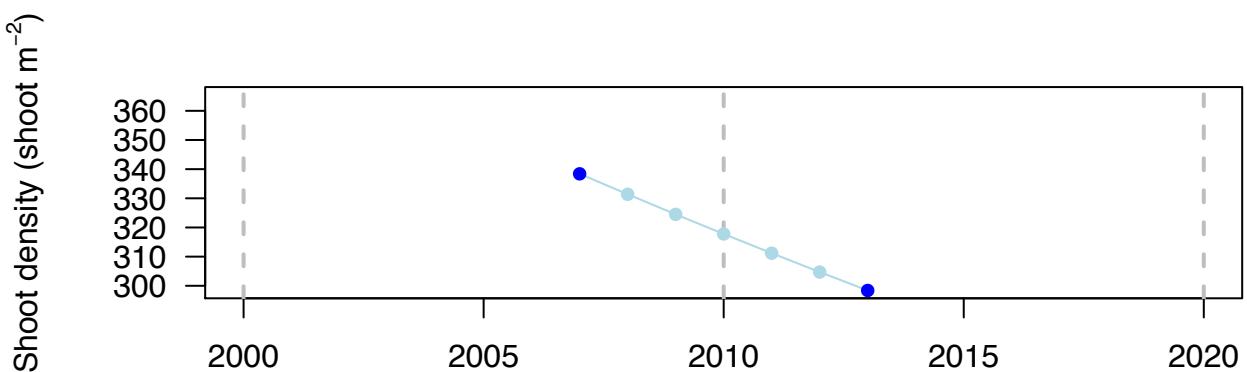
365_density

Pergent et al. 2015

SITE: Porto (Corsica) (France – Mediterranean) – Po (-36.5 m)

OVERALL: Net = -40 shoot m⁻²; Rate = -2.1 % yr⁻¹; Perc Final = 88 % > no change

DECADAL: NO (6 yr)



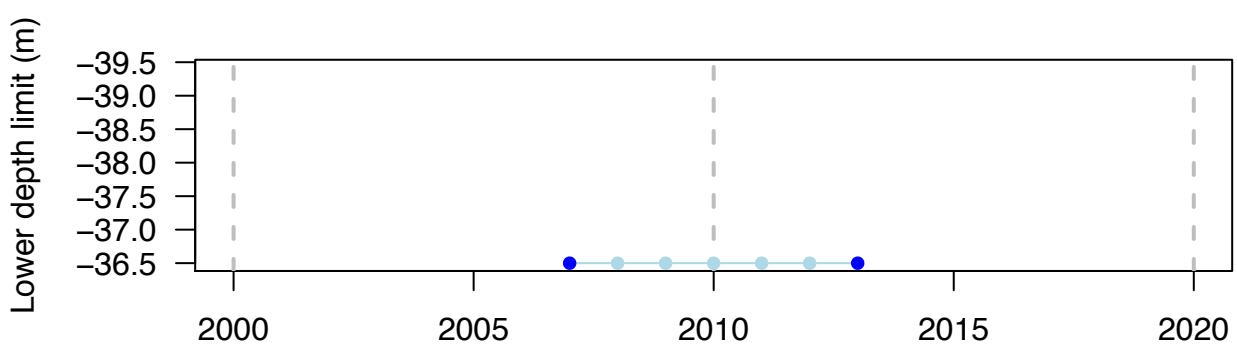
365_lowerlimit

Pergent et al. 2015

SITE: Porto (Corsica) (France – Mediterranean) – Po (-36.5 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (6 yr)



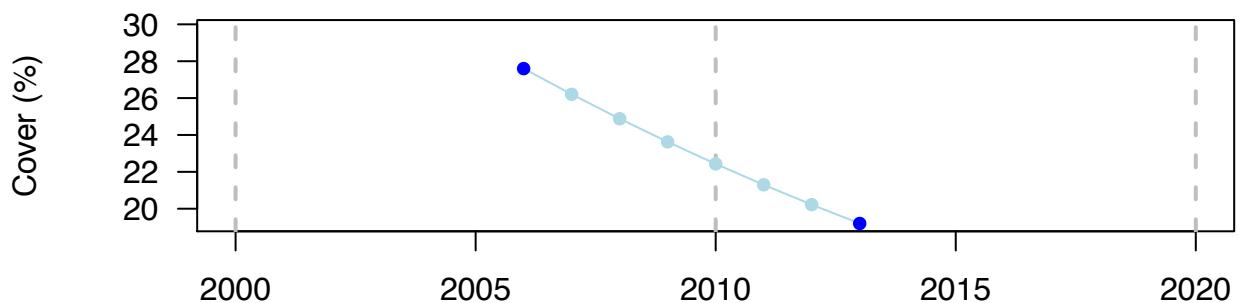
366_cover

Pergent et al. 2015

SITE: Stareso (Corsica) (France – Mediterranean) – Po (-38.6 m)

OVERALL: Net = -8.4 %; Rate = -5.18 % yr⁻¹; Perc Final = 70 % > decrease

DECADAL: NO (7 yr)



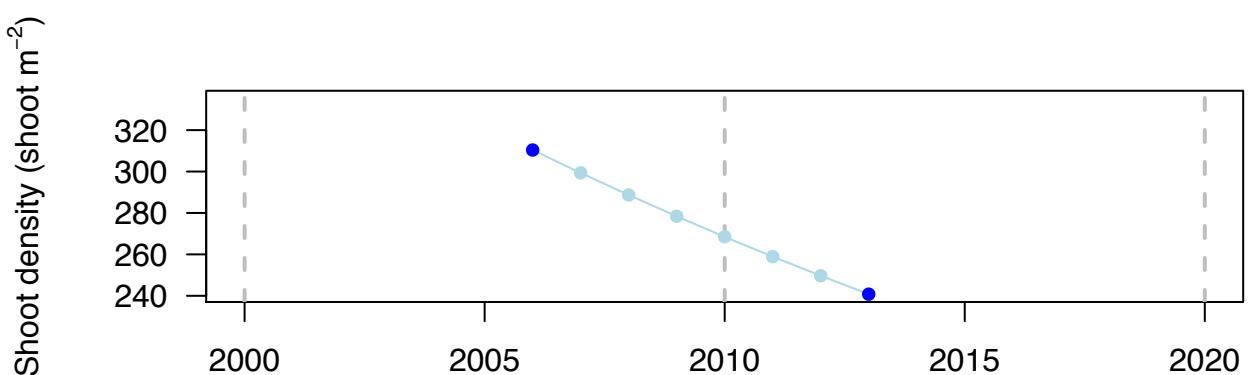
366_density

Pergent et al. 2015

SITE: Stareso (Corsica) (France – Mediterranean) – Po (-38.6 m)

OVERALL: Net = -69.6 shoot m⁻²; Rate = -3.63 % yr⁻¹; Perc Final = 78 % > no change

DECADAL: NO (7 yr)



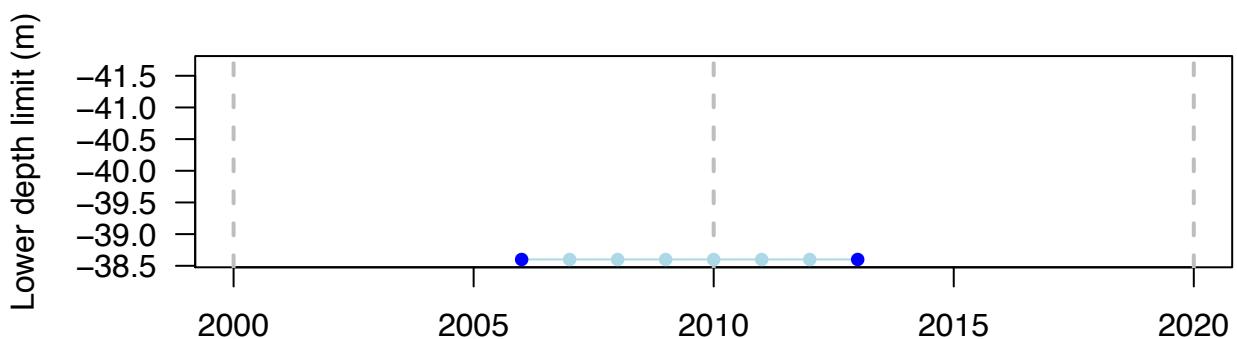
366_lowerlimit

Pergent et al. 2015

SITE: Stareso (Corsica) (France – Mediterranean) – Po (-38.6 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (7 yr)



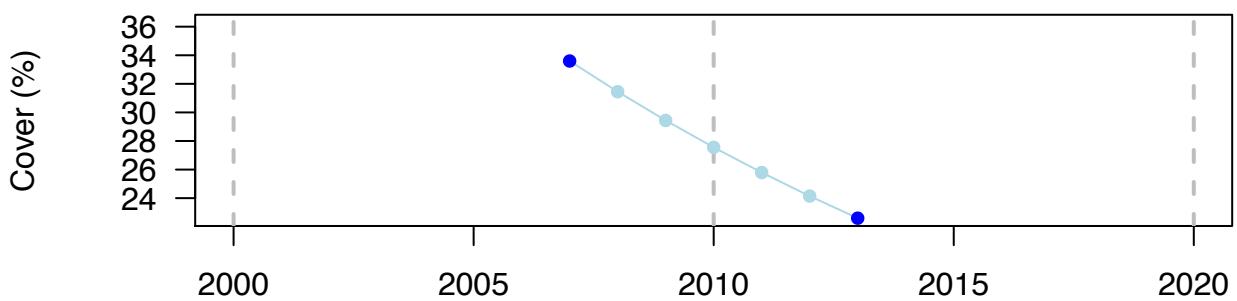
367_cover

Pergent et al. 2015

SITE: L'Île Rousse (Corsica) (France – Mediterranean) – Po (-35.8 m)

OVERALL: Net = -11 %; Rate = -6.61 % yr⁻¹; Perc Final = 67 % > decrease

DECADAL: NO (6 yr)



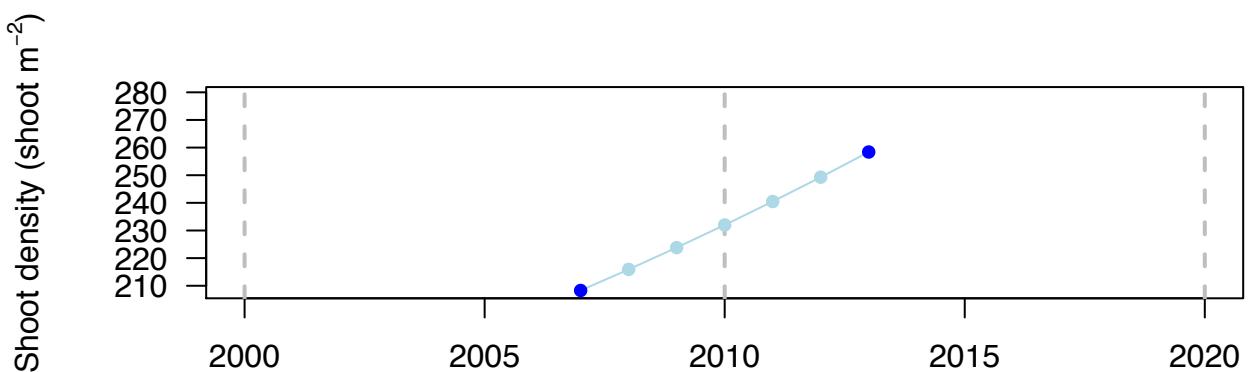
367_density

Pergent et al. 2015

SITE: L'Île Rousse (Corsica) (France – Mediterranean) – Po (-35.8 m)

OVERALL: Net = 50.1 shoot m⁻²; Rate = 3.59 % yr⁻¹; Perc Final = 124 % > no change

DECADAL: NO (6 yr)



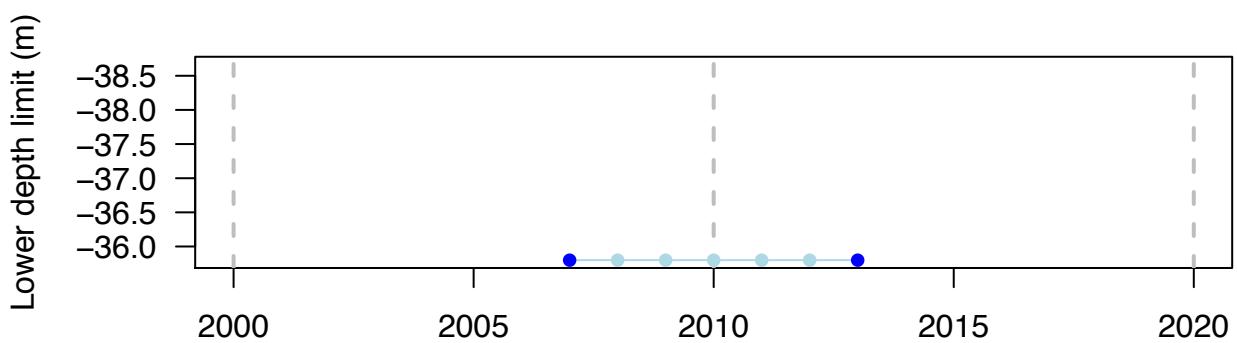
367_lowerlimit

Pergent et al. 2015

SITE: L'Île Rousse (Corsica) (France – Mediterranean) – Po (-35.8 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (6 yr)



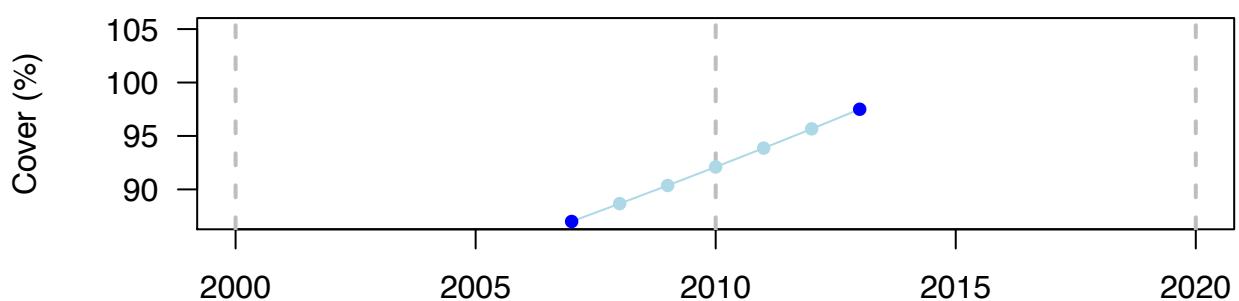
368_cover

Pergent et al. 2015

SITE: Canari (Corsica) (France – Mediterranean) – Po (-27.4 m)

OVERALL: Net = 10.5 %; Rate = 1.9 % yr⁻¹; Perc Final = 112 % > no change

DECADAL: NO (6 yr)



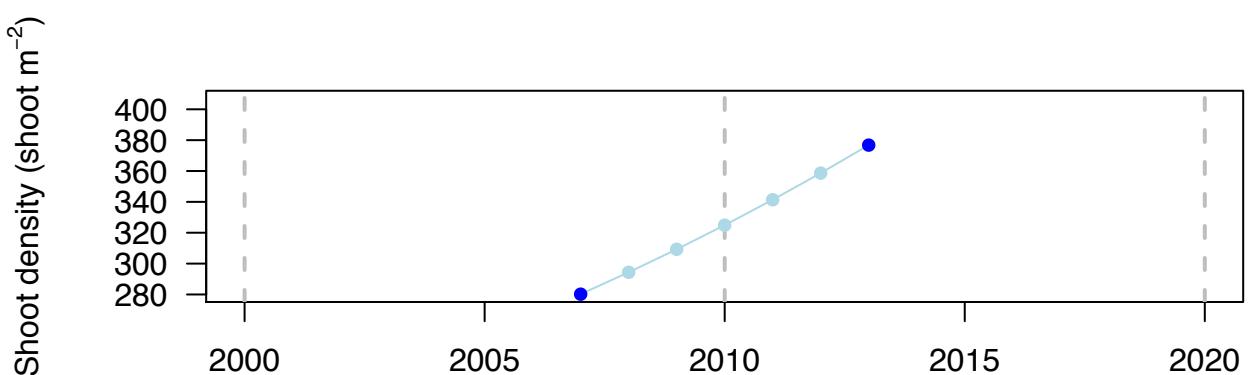
368_density

Pergent et al. 2015

SITE: Canari (Corsica) (France – Mediterranean) – Po (-27.4 m)

OVERALL: Net = 96.6 shoot m⁻²; Rate = 4.94 % yr⁻¹; Perc Final = 134 % > increase

DECADAL: NO (6 yr)



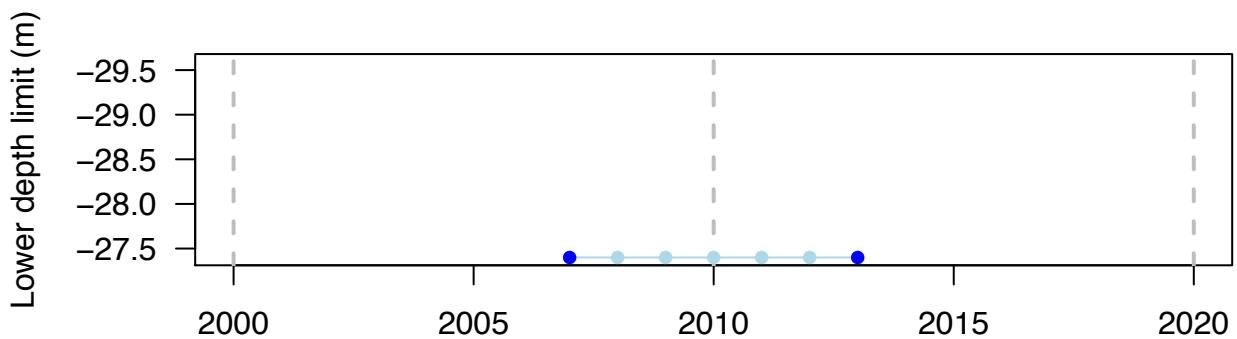
368_lowerlimit

Pergent et al. 2015

SITE: Canari (Corsica) (France – Mediterranean) – Po (-27.4 m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: NO (6 yr)



370_area

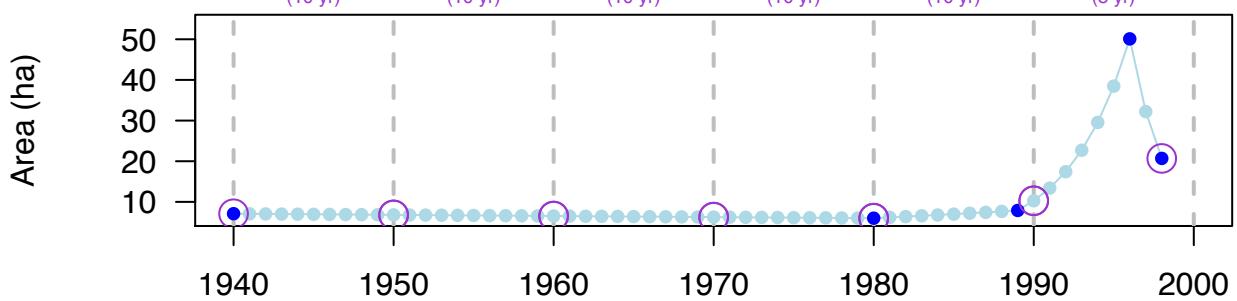
Cunha et al. 2005

SITE: Ancão Inlet (Portugal – Atlantic) – Zn (0 m)

OVERALL: Net = 13.6 ha; Rate = 1.84 % yr⁻¹; Perc Final = 292 % > increase

DECadal: YES (58 yr)

| 1940s | 1950s | 1960s | 1970s | 1980s | 1990s |
|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|
| no change | no change | no change | no change | increase | increase |
| unknown | steady | steady | steady | improve | improve |
| -0.42%yr ⁻¹ | -0.42%yr ⁻¹ | -0.42%yr ⁻¹ | -0.42%yr ⁻¹ | 5.39%yr ⁻¹ | 8.74%yr ⁻¹ |
| (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (8 yr) |



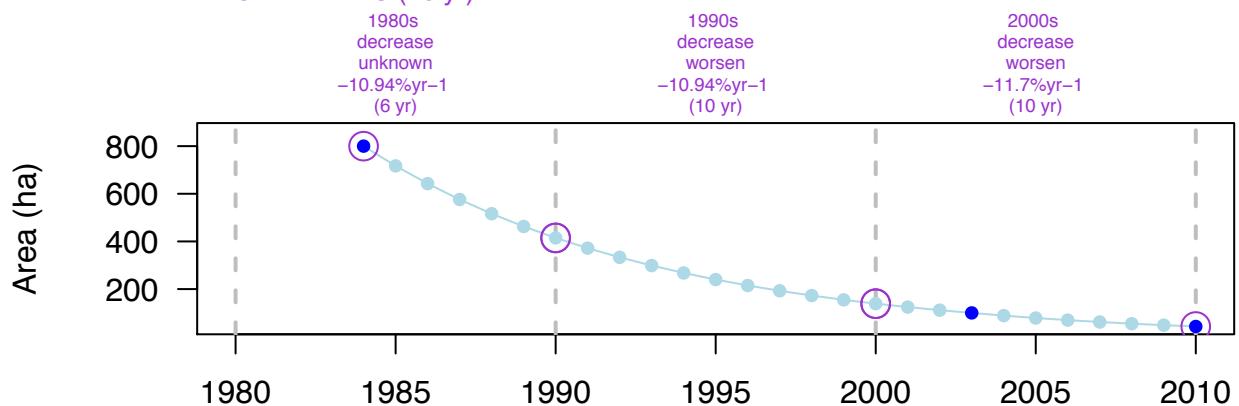
371_area

da Silva et al. 2004, Cunha et al. 2013, Azevedo et al. 2013

SITE: Canal de Ovar (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -756.9 ha; Rate = -11.23 % yr⁻¹; Perc Final = 5 % > decrease

DECADAL: YES (26 yr)



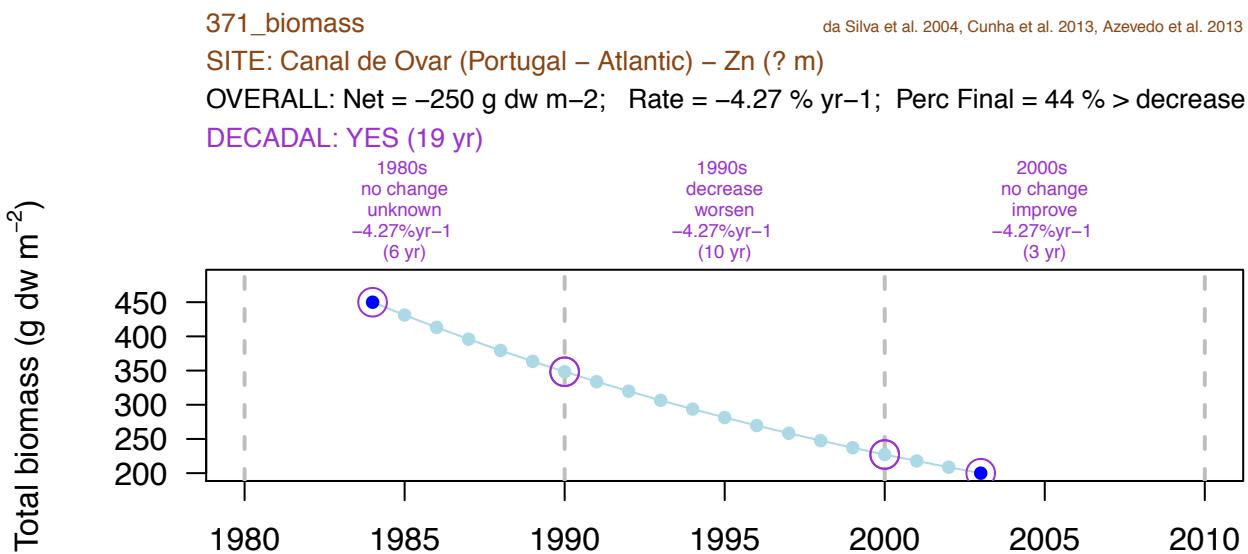
371_biomass

da Silva et al. 2004, Cunha et al. 2013, Azevedo et al. 2013

SITE: Canal de Ovar (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -250 g dw m⁻²; Rate = -4.27 % yr⁻¹; Perc Final = 44 % > decrease

DECADAL: YES (19 yr)



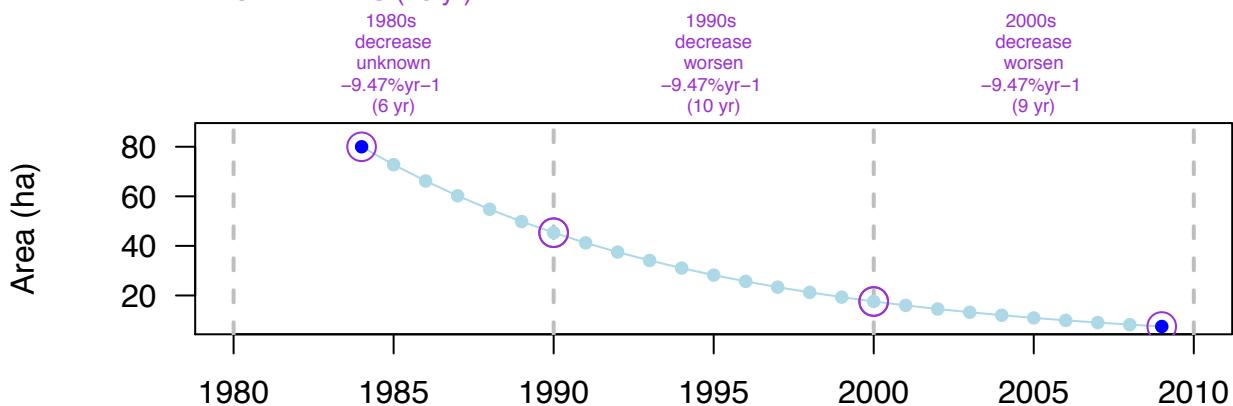
372_area

Cunha et al. 2013

SITE: Mira River (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -72.5 ha; Rate = -9.47 % yr⁻¹; Perc Final = 9 % > decrease

DECadal: YES (25 yr)



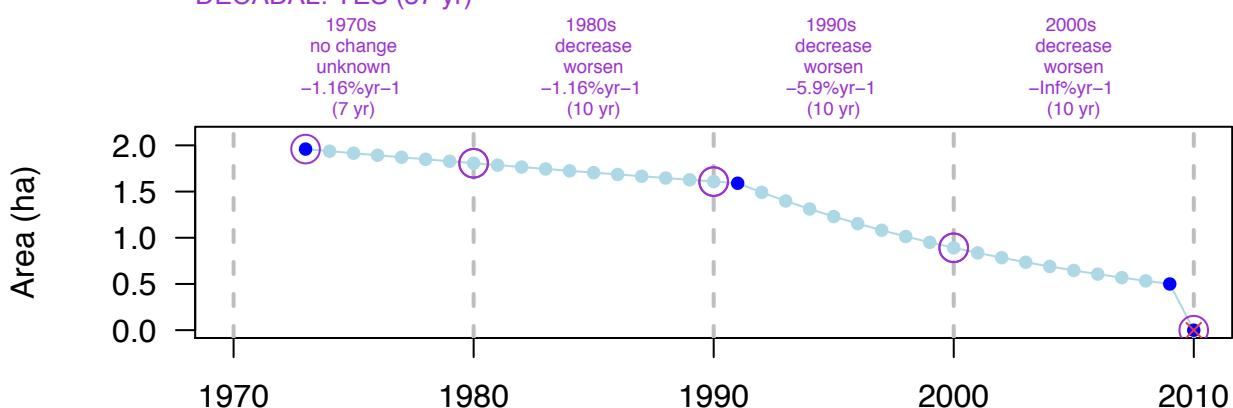
373_area

Cunha et al. 2013

SITE: Ria de Alvor (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -1.96 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (37 yr)



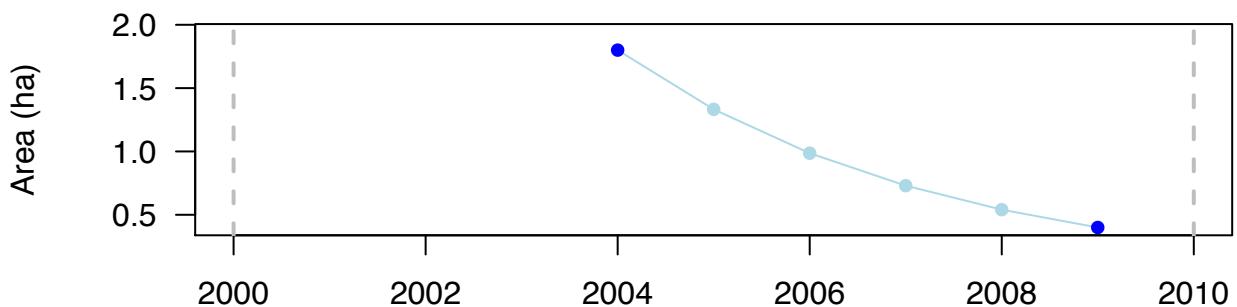
374_area

Cunha et al. 2013

SITE: Arade River (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -1.4 ha; Rate = -30.08 % yr⁻¹; Perc Final = 22 % > decrease

DECadal: NO (5 yr)



375_area

Cunha et al. 2013

SITE: Óbidos Lagoon (Portugal – Atlantic) – Zm (? m)

OVERALL: Net = -148.95 ha; Rate = -9.92 % yr⁻¹; Perc Final = 1 % > decrease

DECadal: YES (50 yr)

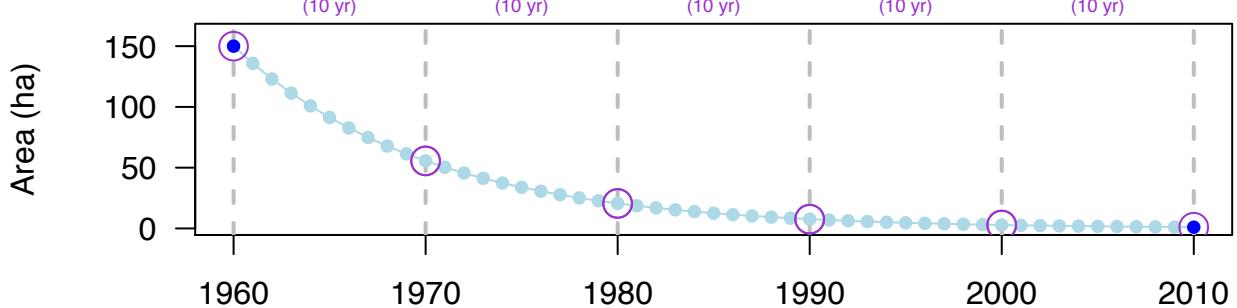
| | | | | |
|-------|----------|---------|-------------|---------|
| 1960s | decrease | unknown | -9.92%/yr-1 | (10 yr) |
|-------|----------|---------|-------------|---------|

| | | | | |
|-------|----------|--------|-------------|---------|
| 1970s | decrease | worsen | -9.92%/yr-1 | (10 yr) |
|-------|----------|--------|-------------|---------|

| | | | | |
|-------|----------|--------|-------------|---------|
| 1980s | decrease | worsen | -9.92%/yr-1 | (10 yr) |
|-------|----------|--------|-------------|---------|

| | | | | |
|-------|----------|--------|-------------|---------|
| 1990s | decrease | worsen | -9.92%/yr-1 | (10 yr) |
|-------|----------|--------|-------------|---------|

| | | | | |
|-------|----------|--------|-------------|---------|
| 2000s | decrease | worsen | -9.92%/yr-1 | (10 yr) |
|-------|----------|--------|-------------|---------|



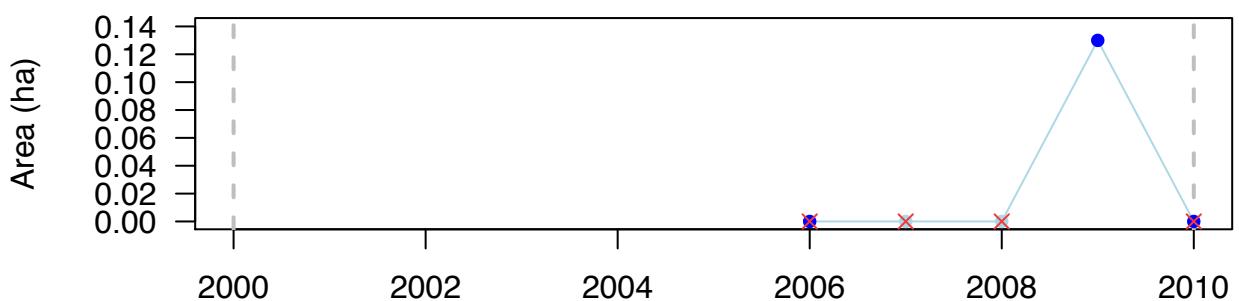
376_area

Cunha et al. 2013

SITE: Costa da Galé (Portugal – Atlantic) – Zm (? m)

OVERALL: Net = 0 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



377_area

Cunha et al. 2013

SITE: Mira River (Portugal – Atlantic) – Zm (? m)

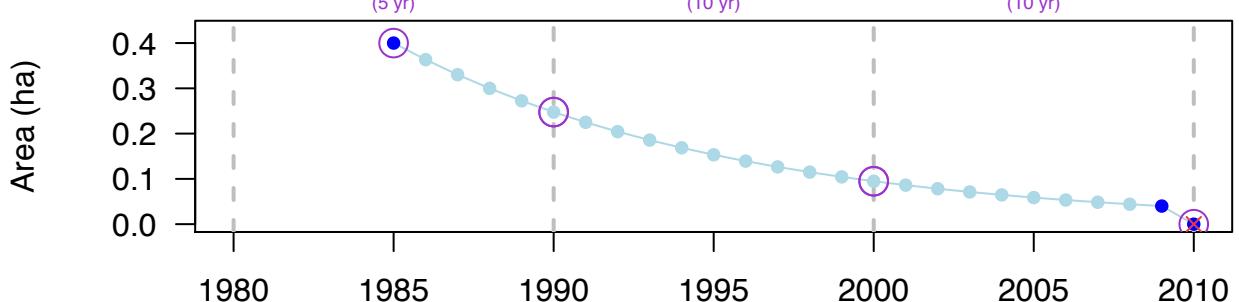
OVERALL: Net = -0.4 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (25 yr)

1980s
decrease
unknown
-9.59%yr⁻¹
(5 yr)

1990s
decrease
worsen
-9.59%yr⁻¹
(10 yr)

2000s
decrease
worsen
-Inf%yr⁻¹
(10 yr)



378_area

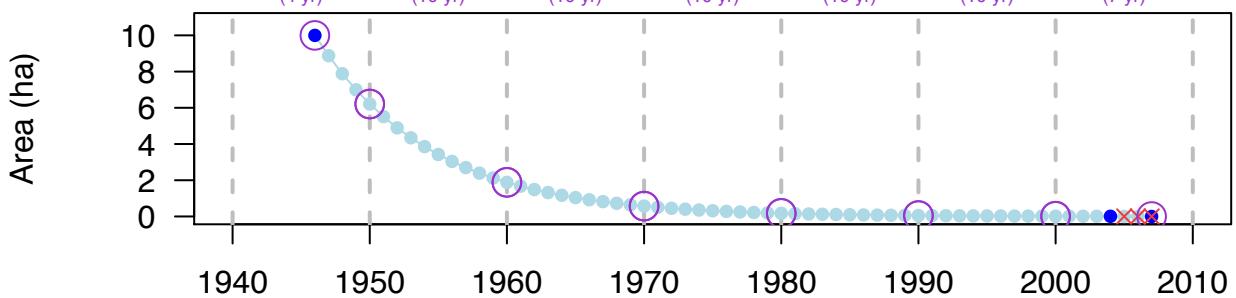
Cunha et al. 2013

SITE: Portinho da Arrábida (Portugal – Atlantic) – Zm (? m)

OVERALL: Net = -10 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (61 yr)

| Decade | Change | Rate |
|--------|----------|--------------------------|
| 1940s | decrease | -11.91% yr ⁻¹ |
| 1940s | unknown | (4 yr) |
| 1950s | decrease | -11.91% yr ⁻¹ |
| 1950s | worsen | (10 yr) |
| 1960s | decrease | -11.91% yr ⁻¹ |
| 1960s | worsen | (10 yr) |
| 1970s | decrease | -11.91% yr ⁻¹ |
| 1970s | worsen | (10 yr) |
| 1980s | decrease | -11.91% yr ⁻¹ |
| 1980s | worsen | (10 yr) |
| 1990s | decrease | -11.91% yr ⁻¹ |
| 1990s | worsen | (10 yr) |
| 2000s | decrease | -Inf% yr ⁻¹ |
| 2000s | worsen | (7 yr) |



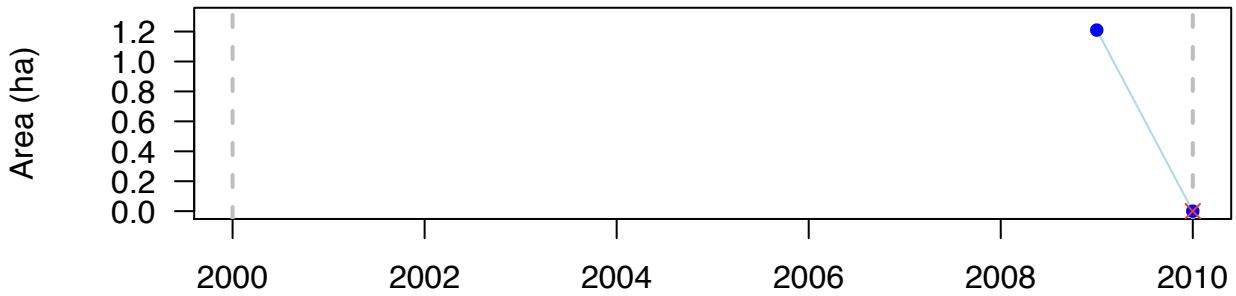
379_area

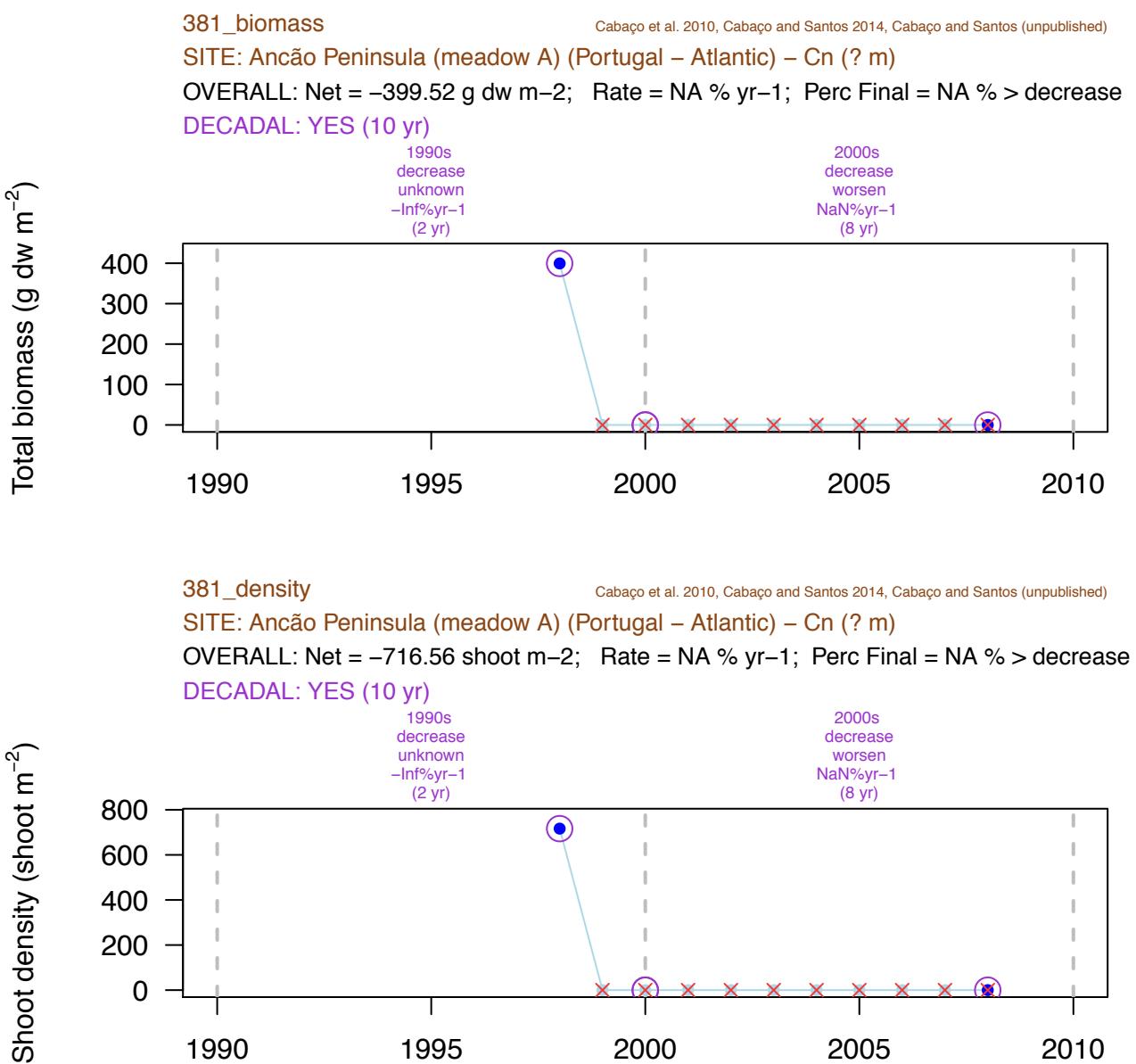
Cunha et al. 2013

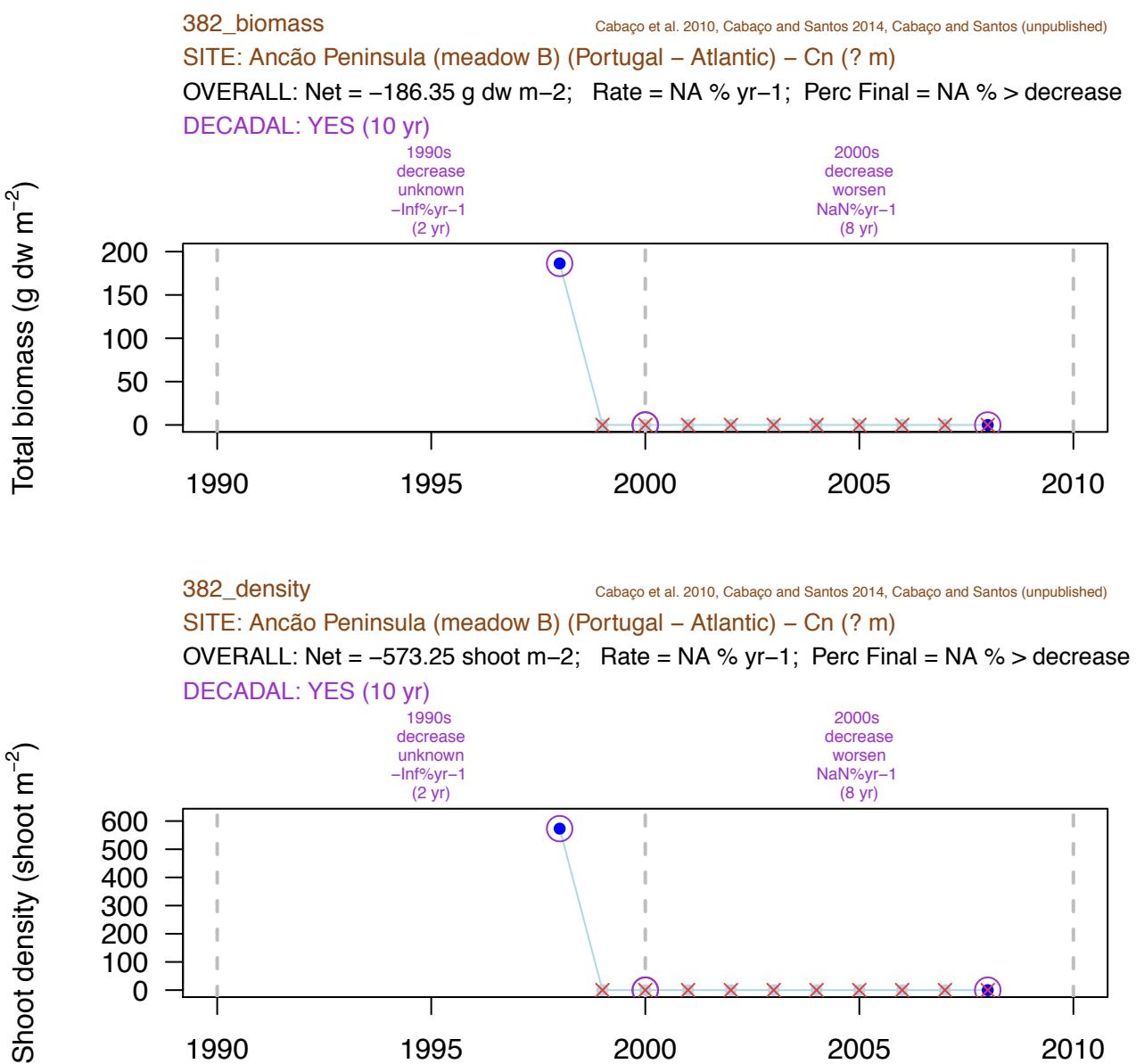
SITE: Ponta do Adoche (Portugal – Atlantic) – Zm (? m)

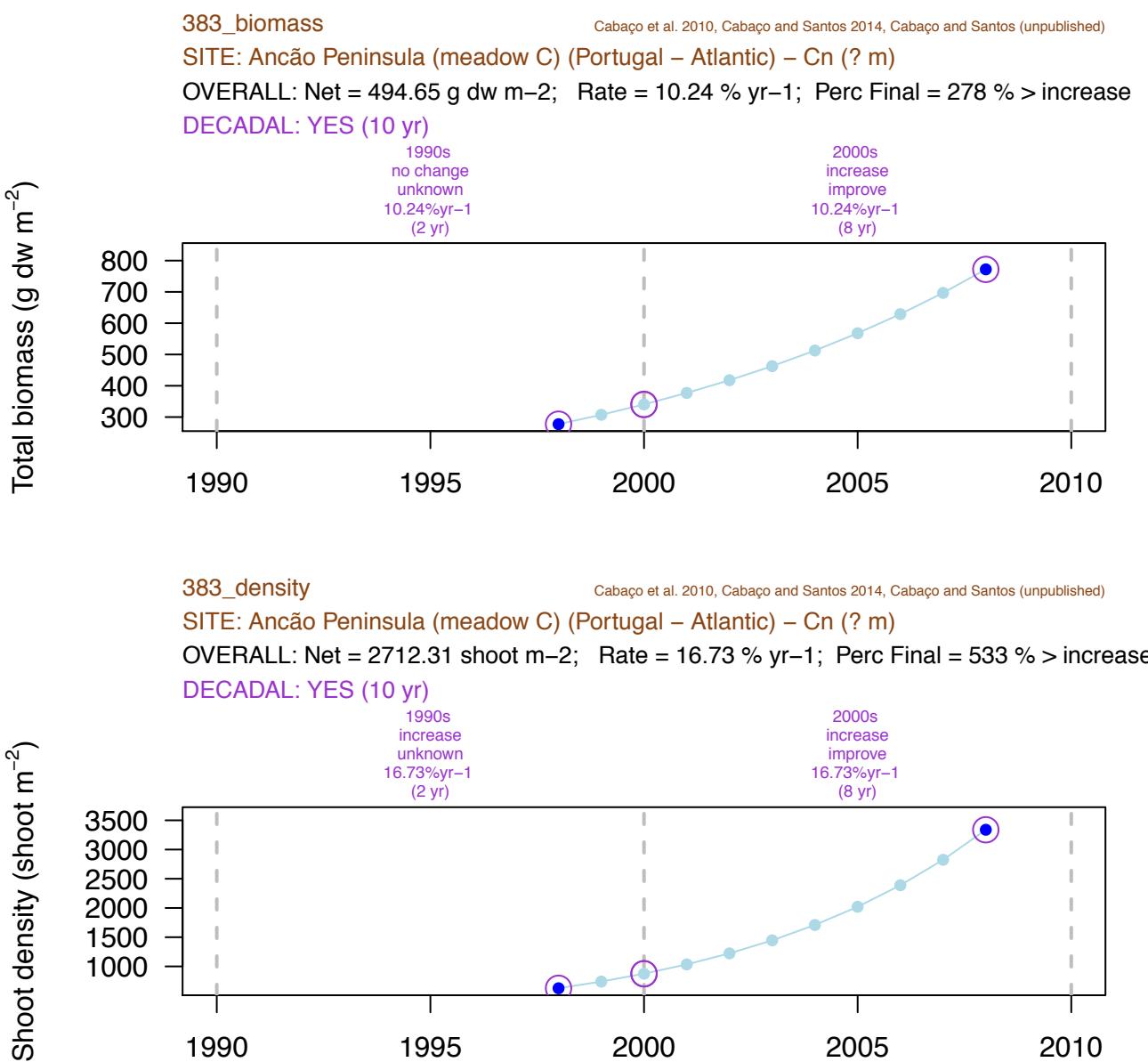
OVERALL: Net = -1.21 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

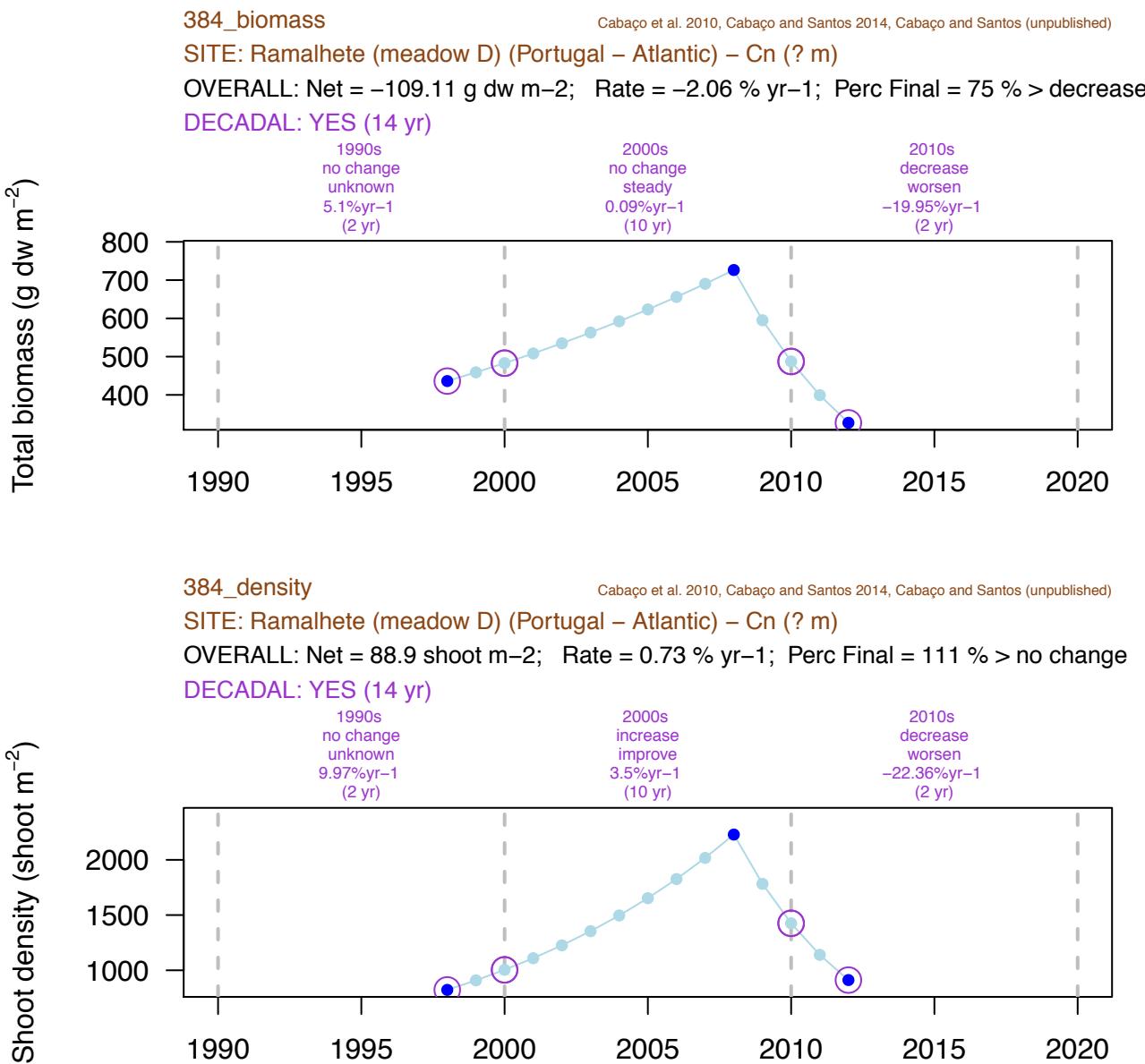
DECadal: NO (1 yr)











385_biomass

Cabaço and Santos (unpublished)

SITE: Ramalhete (pond outfall) (Portugal – Atlantic) – Cn (? m)

OVERALL: Net = 404.56 g dw m⁻²; Rate = 47.5 % yr⁻¹; Perc Final = 259 % > increase

DECADAL: NO (2 yr)



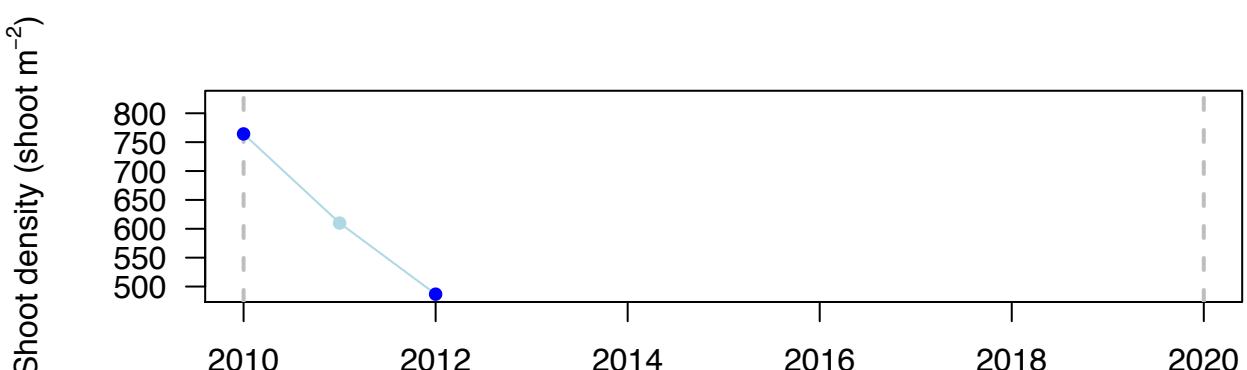
385_density

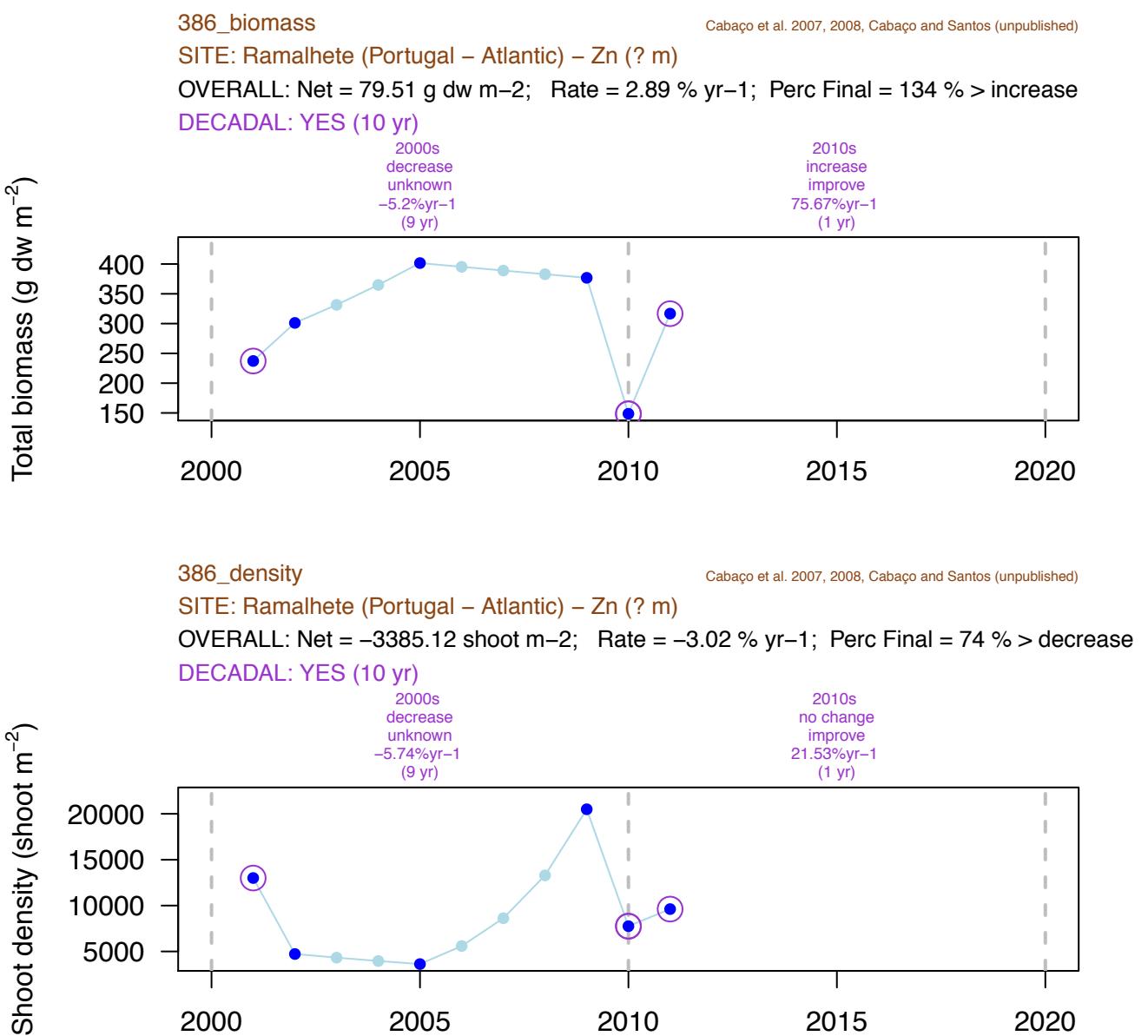
Cabaço and Santos (unpublished)

SITE: Ramalhete (pond outfall) (Portugal – Atlantic) – Cn (? m)

OVERALL: Net = -277.52 shoot m⁻²; Rate = -22.56 % yr⁻¹; Perc Final = 64 % > decrease

DECADAL: NO (2 yr)





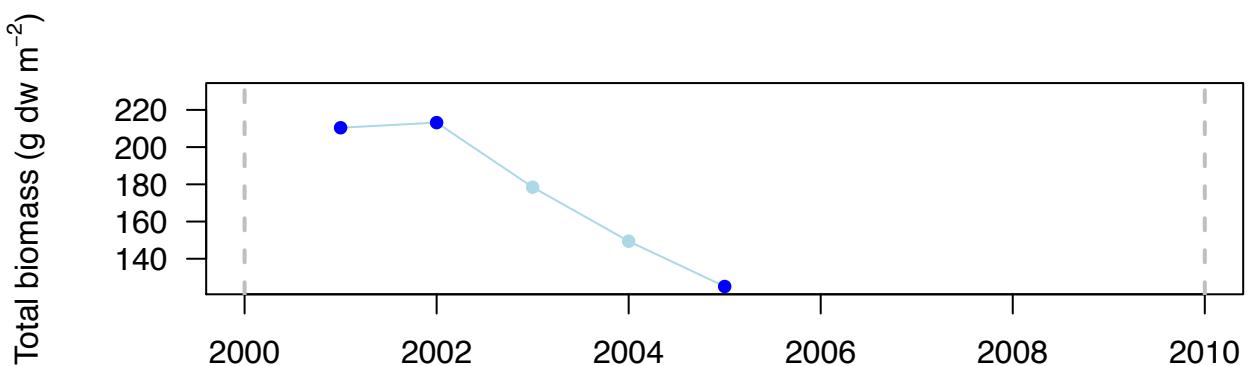
387_biomass

Cabaço et al. 2007, 2008

SITE: ETAR Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -85.31 g dw m⁻²; Rate = -13 % yr⁻¹; Perc Final = 59 % > decrease

DECADAL: NO (4 yr)



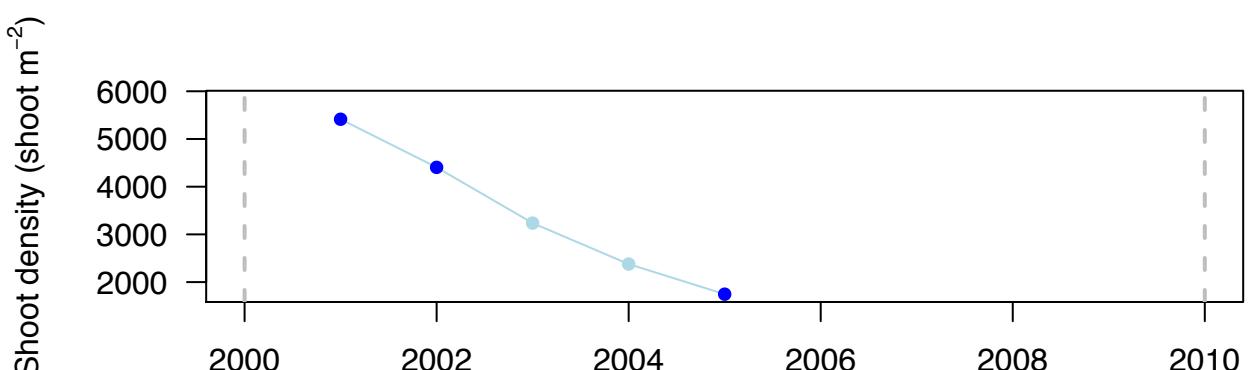
387_density

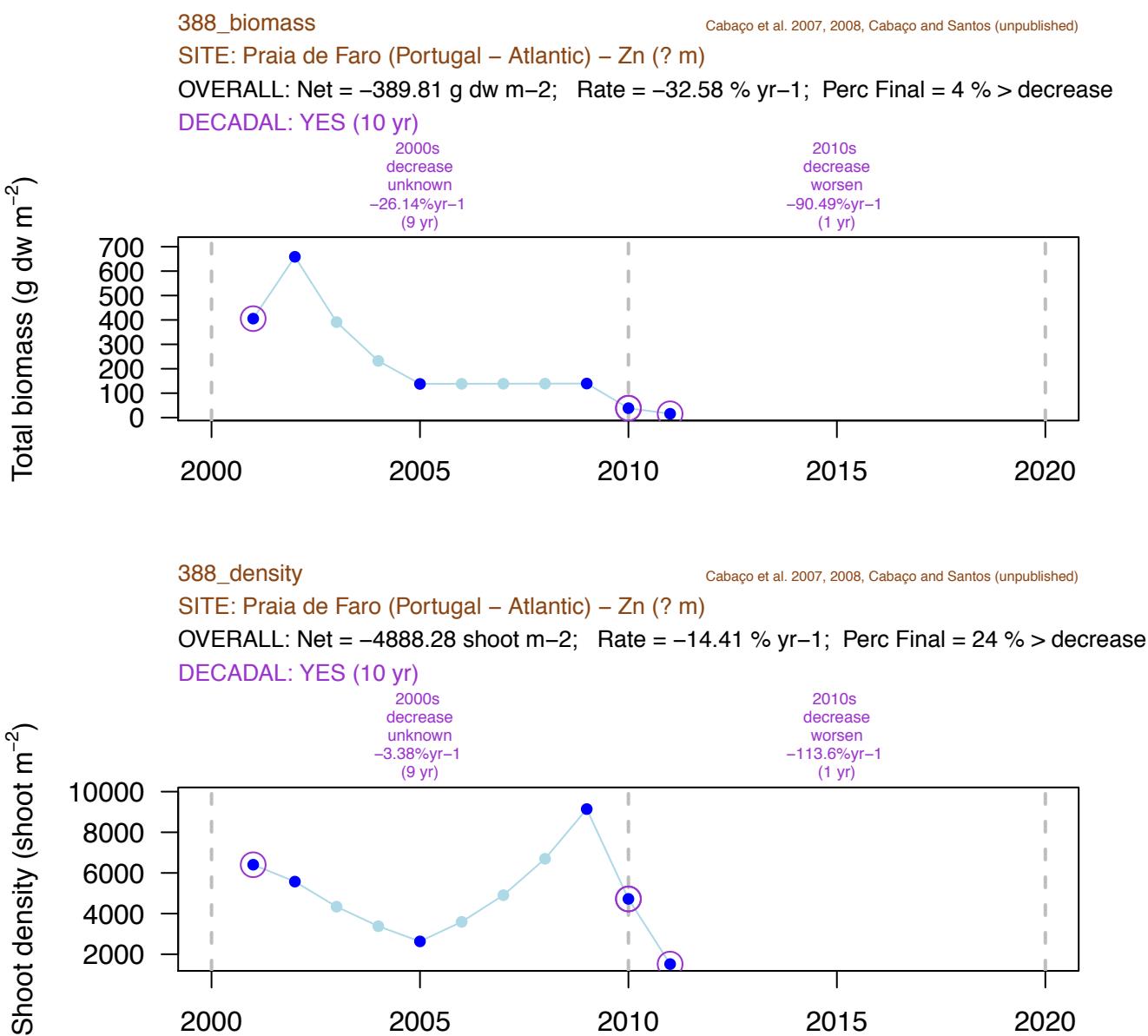
Cabaço et al. 2007, 2008

SITE: ETAR Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -3666.84 shoot m⁻²; Rate = -28.27 % yr⁻¹; Perc Final = 32 % > decrease

DECADAL: NO (4 yr)





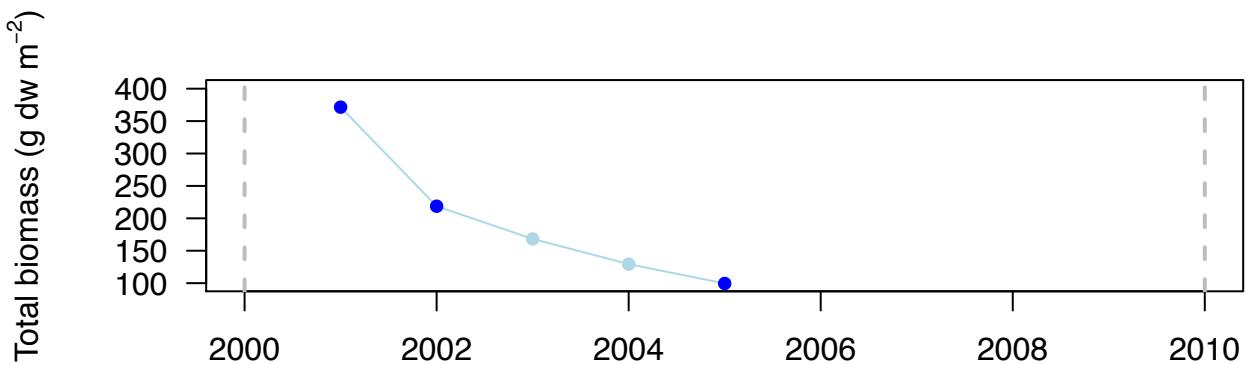
389_biomass

Cabaço et al. 2007, 2008

SITE: Quatro Águas Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -272.01 g dw m⁻²; Rate = -32.93 % yr⁻¹; Perc Final = 27 % > decrease

DECADAL: NO (4 yr)



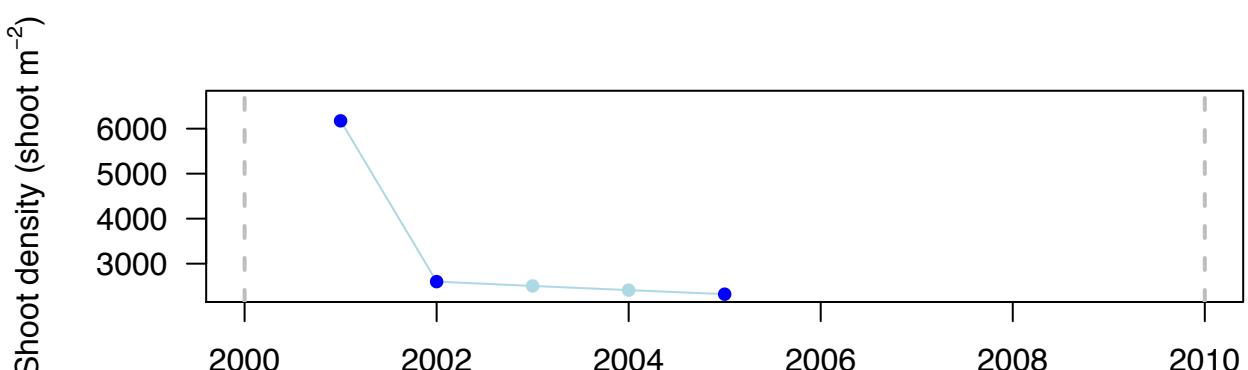
389_density

Cabaço et al. 2007, 2008

SITE: Quatro Águas Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -3852.62 shoot m⁻²; Rate = -24.45 % yr⁻¹; Perc Final = 38 % > decrease

DECADAL: NO (4 yr)



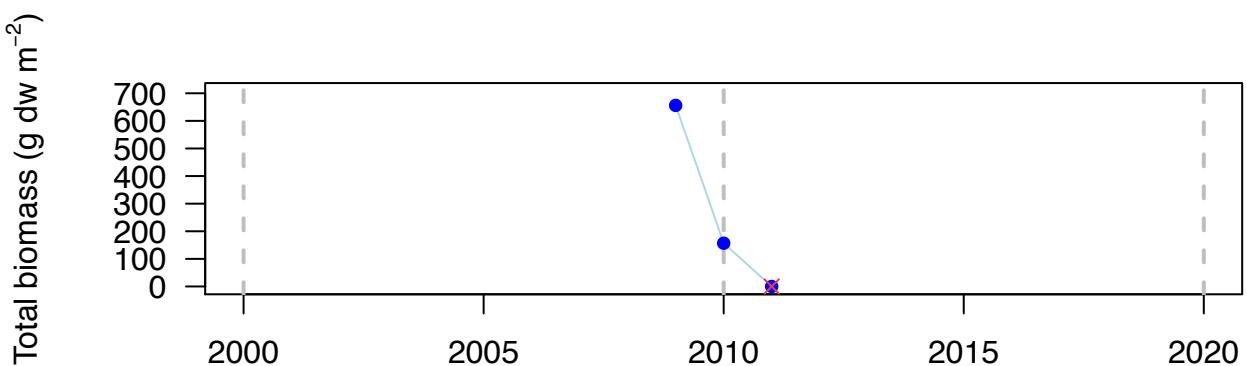
390_biomass

Cabaço and Santos (unpublished)

SITE: Barra Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -656.26 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (2 yr)



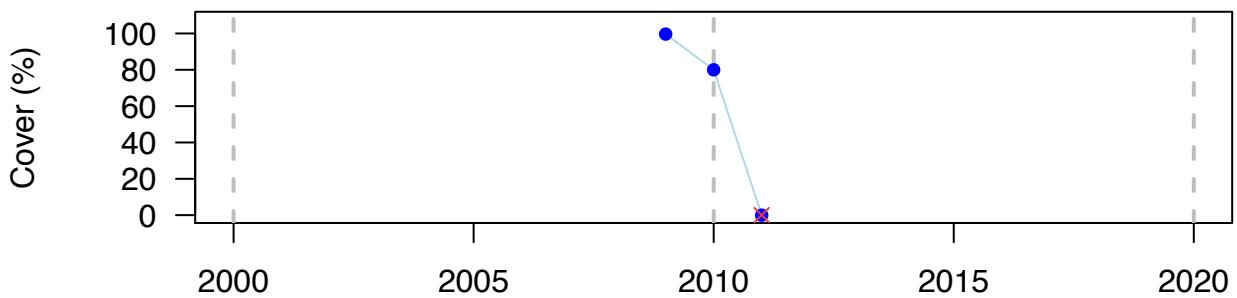
390_cover

Cabaço and Santos (unpublished)

SITE: Barra Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -99.67 %; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (2 yr)



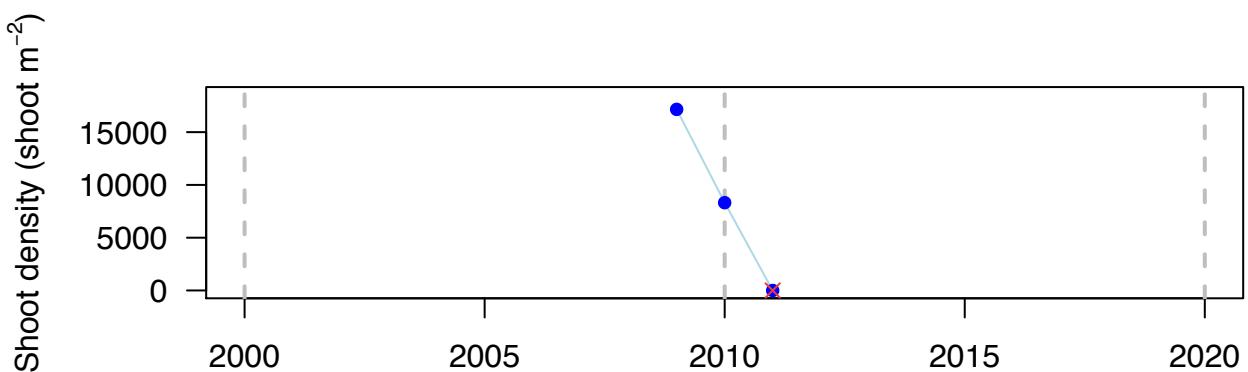
390_density

Cabaço and Santos (unpublished)

SITE: Barra Faro (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -17158.46 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (2 yr)



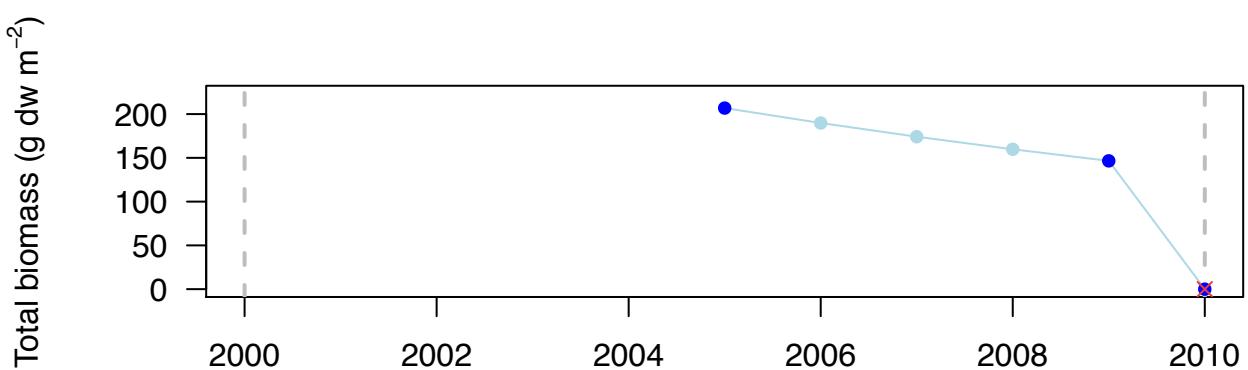
391_biomass

Cabaço and Santos (unpublished)

SITE: ETAR Tavira (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -206.87 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



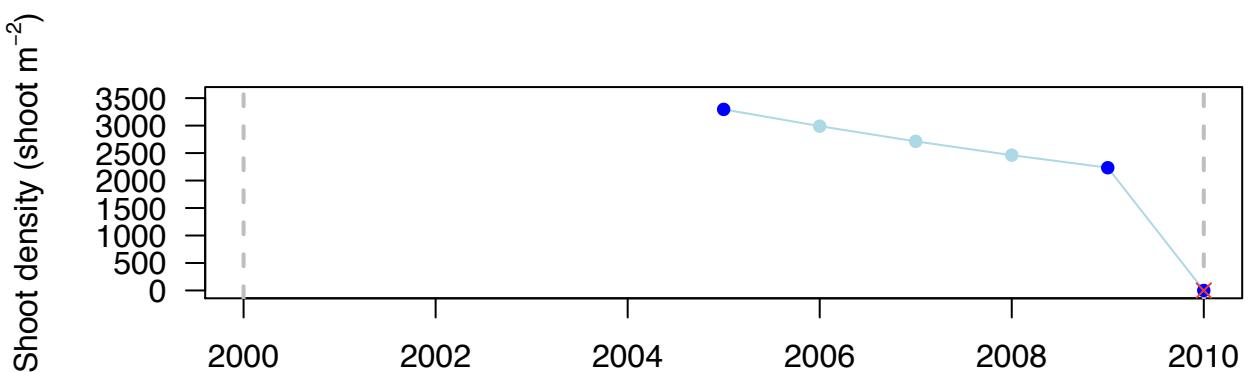
391_density

Cabaço and Santos (unpublished)

SITE: ETAR Tavira (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -3295.29 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



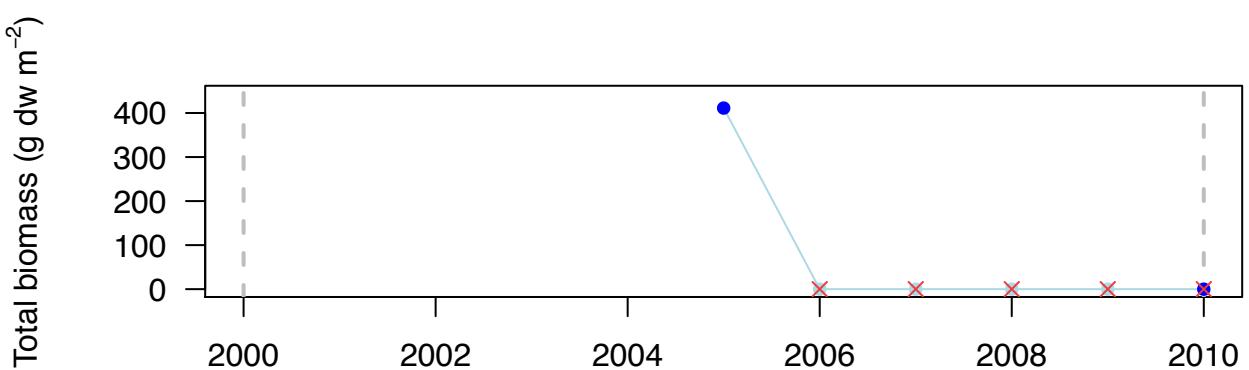
392_biomass

Cabaço and Santos (unpublished)

SITE: Albacora Tavira (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -411.23 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



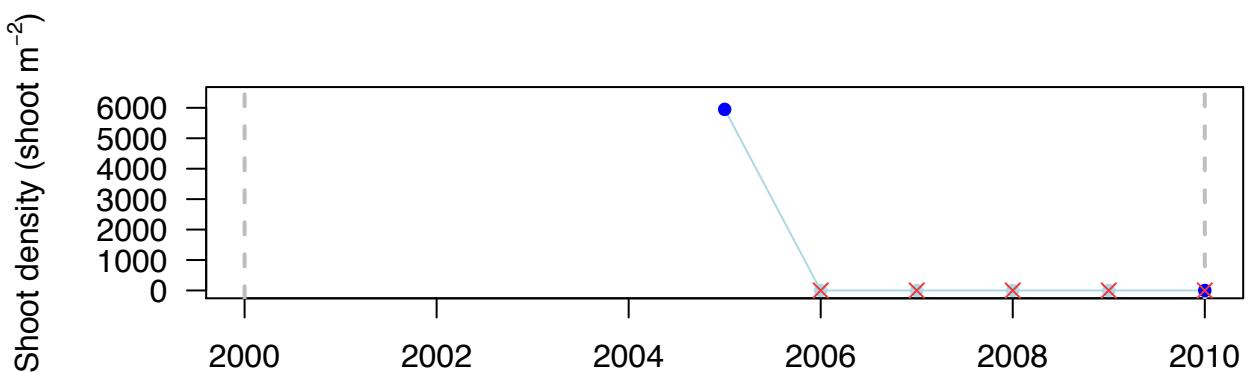
392_density

Cabaço and Santos (unpublished)

SITE: Albacora Tavira (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -5949.22 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (5 yr)



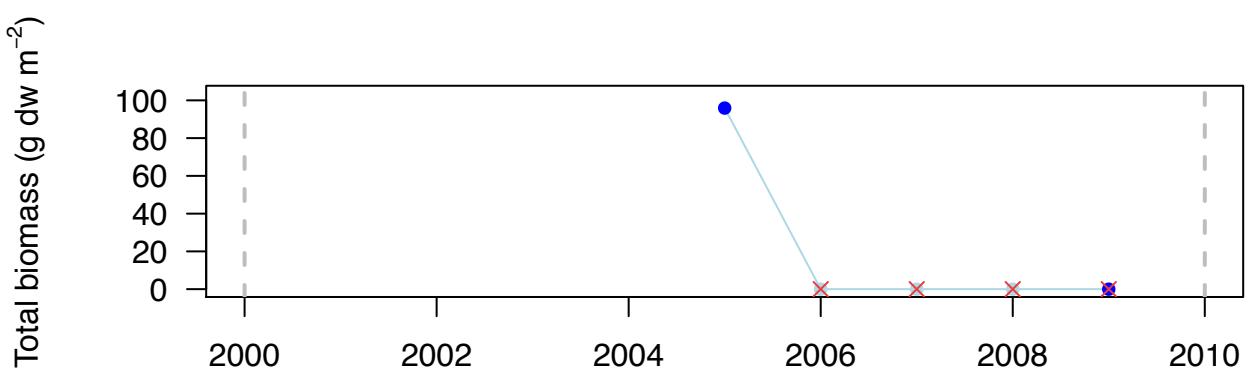
393_biomass

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: ETAR Arade Estuary (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -95.92 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



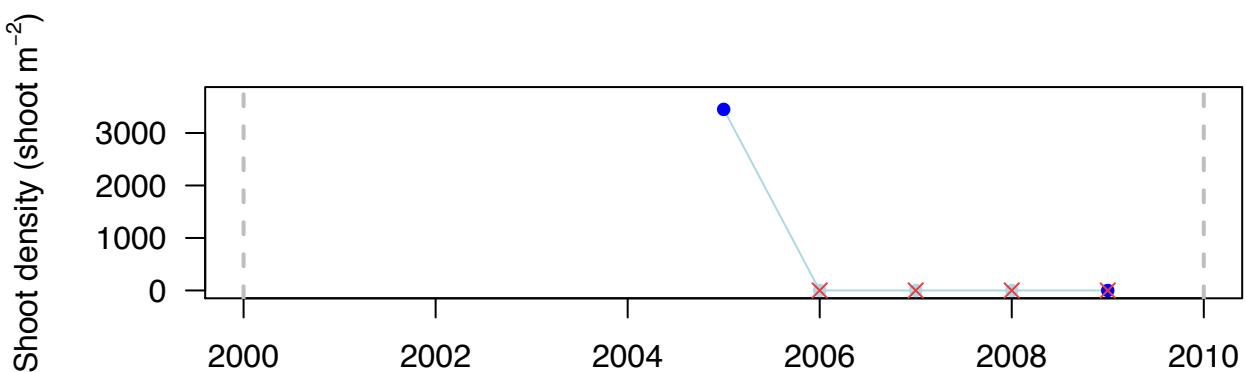
393_density

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: ETAR Arade Estuary (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -3450.11 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



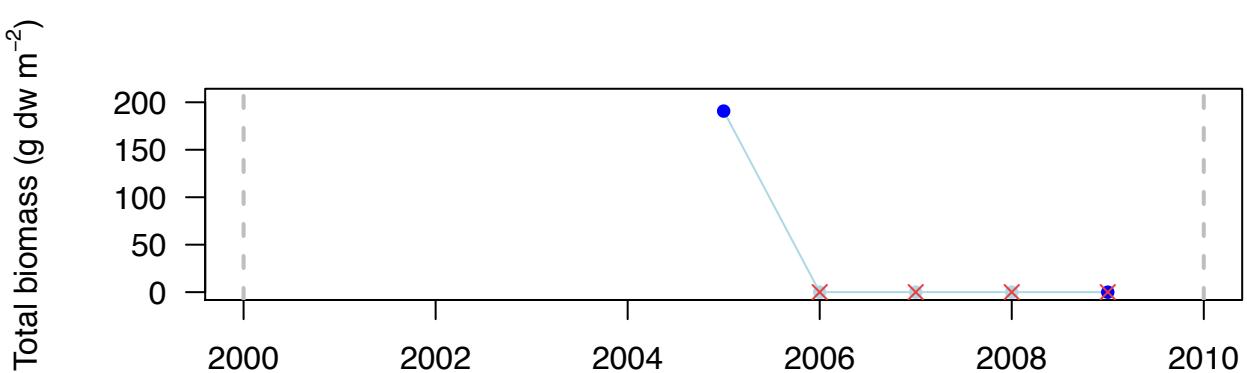
394_biomass

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Arade Estuary 2 (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -190.76 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



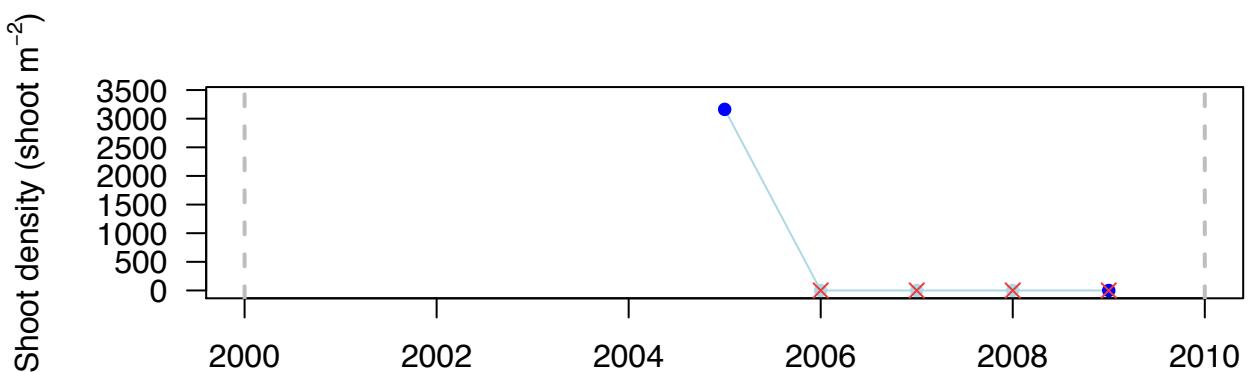
394_density

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Arade Estuary 2 (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -3162.6 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



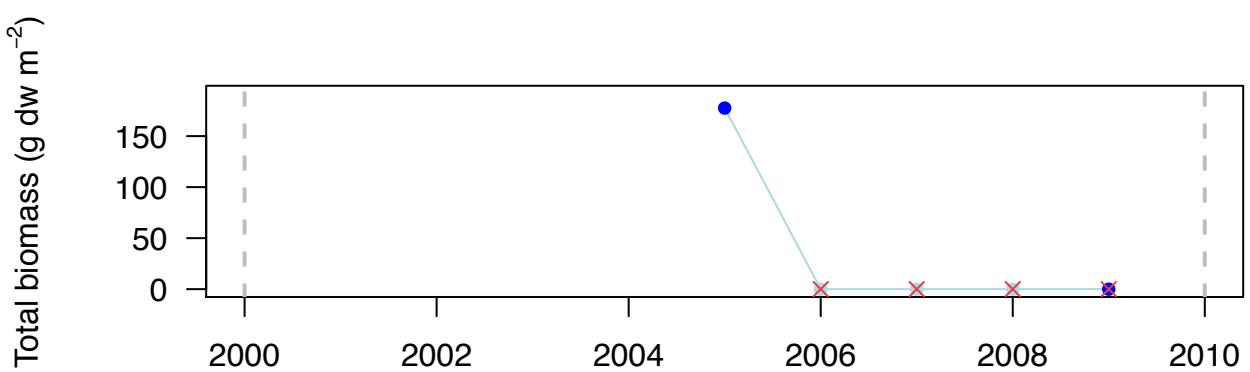
395_biomass

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Arade Estuary 3 (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -177.51 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



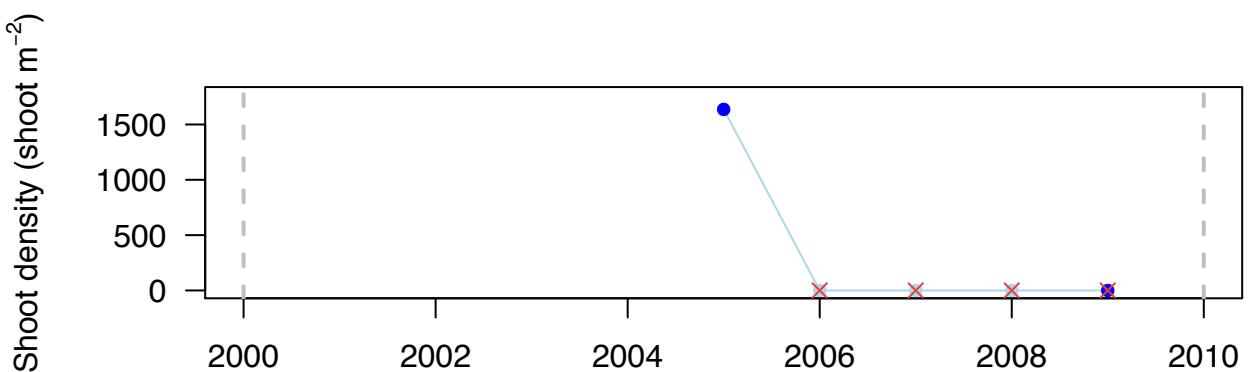
395_density

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Arade Estuary 3 (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -1636.59 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: NO (4 yr)



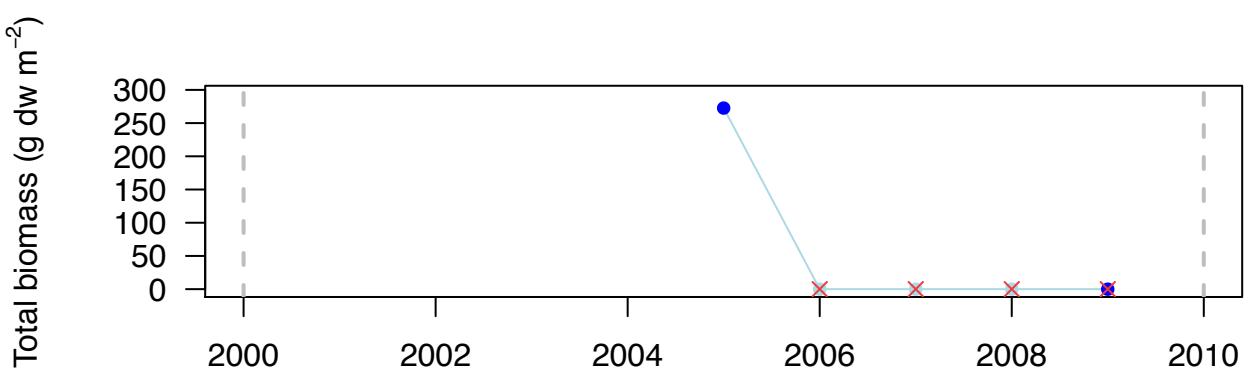
396_biomass

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Arade Moinhos (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -272.64 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: NO (4 yr)



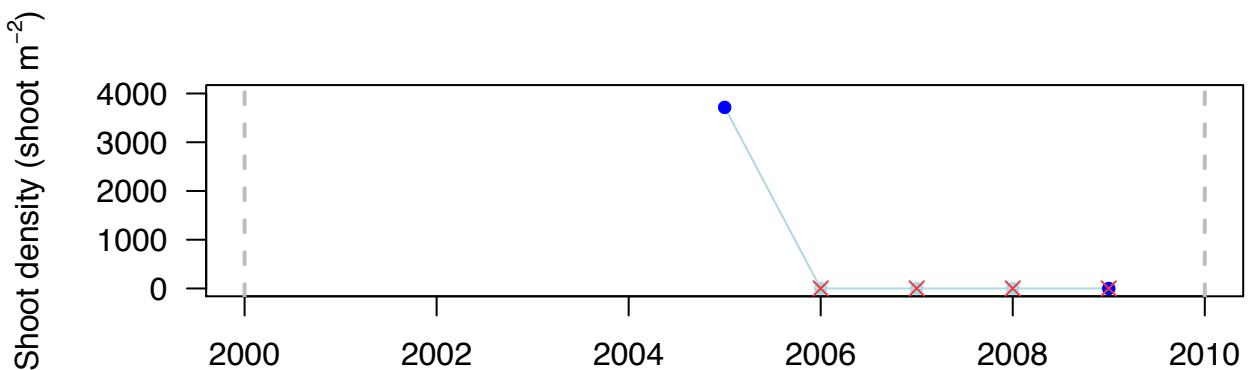
396_density

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Arade Moinhos (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -3715.5 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (4 yr)



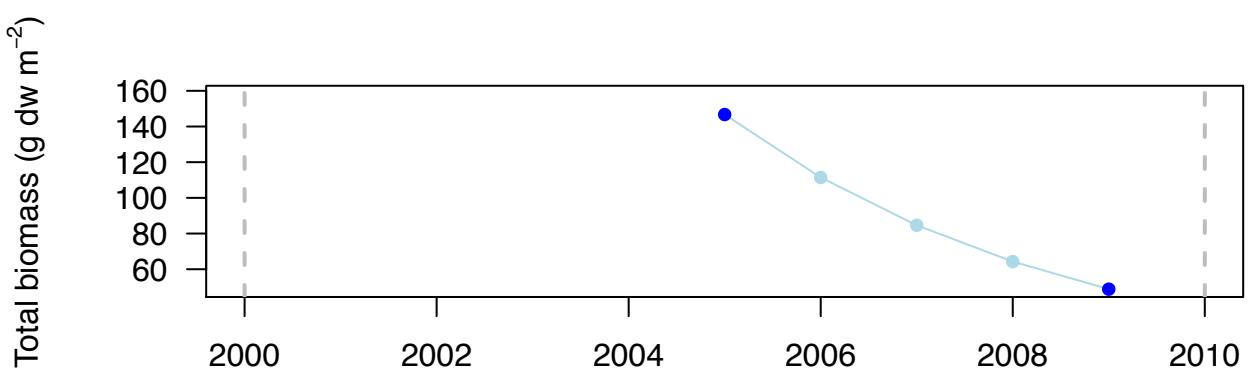
397_biomass

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Guadiana Estuary (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = -97.89 g dw m⁻²; Rate = -27.5 % yr⁻¹; Perc Final = 33 % > decrease

DECADAL: NO (4 yr)



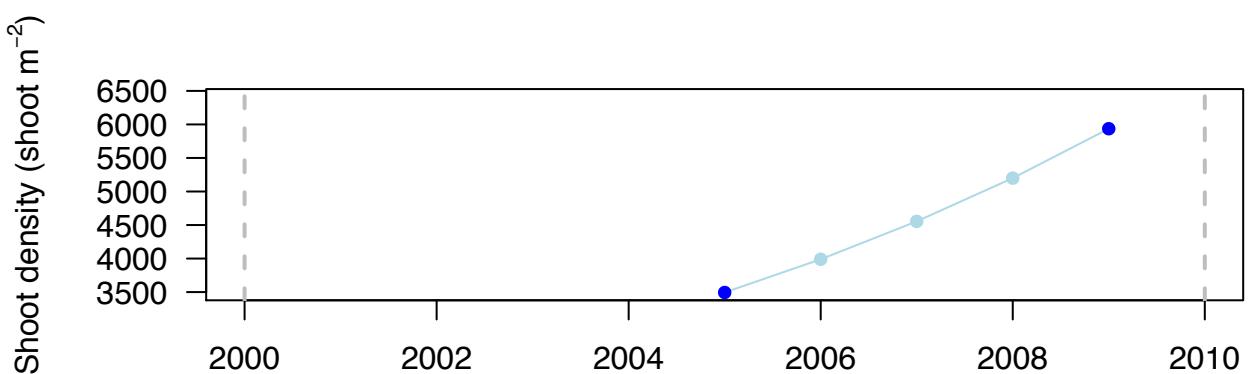
397_density

Cabaço et al. 2007, Cabaço and Santos (unpublished)

SITE: Guadiana Estuary (Portugal – Atlantic) – Zn (? m)

OVERALL: Net = 2441.79 shoot m⁻²; Rate = 13.25 % yr⁻¹; Perc Final = 170 % > increase

DECADAL: NO (4 yr)



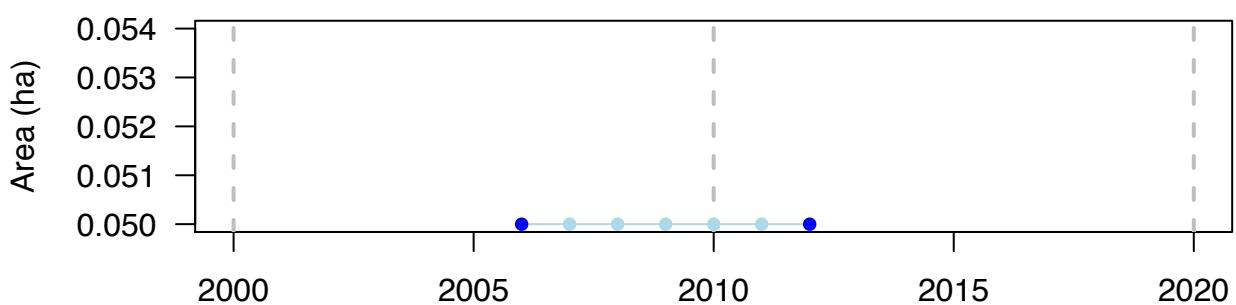
399_area

Pergent (unpublished)

SITE: Calvi (France – Mediterranean) – Po (-25 m)

OVERALL: Net = 0 ha; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (6 yr)



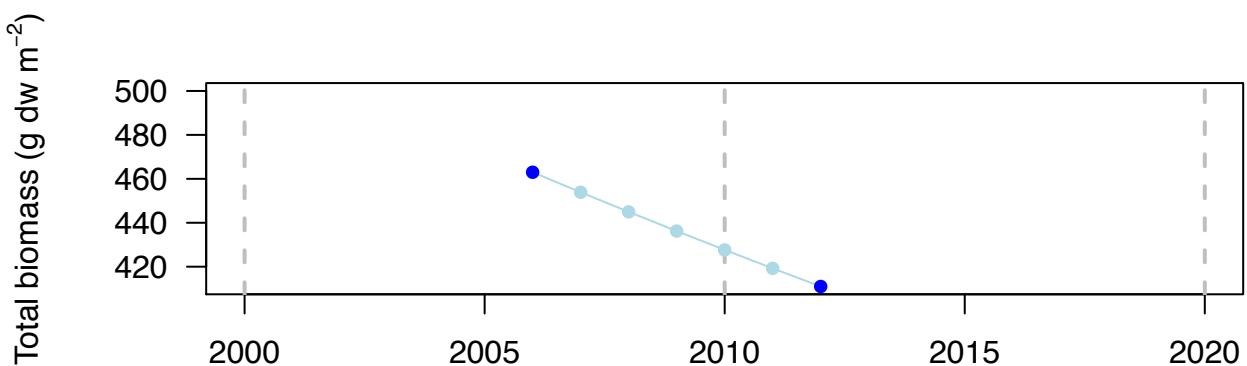
399_biomass

Pergent (unpublished)

SITE: Calvi (France – Mediterranean) – Po (-25 m)

OVERALL: Net = -52 g dw m⁻²; Rate = -1.99 % yr⁻¹; Perc Final = 89 % > no change

DECADAL: NO (6 yr)



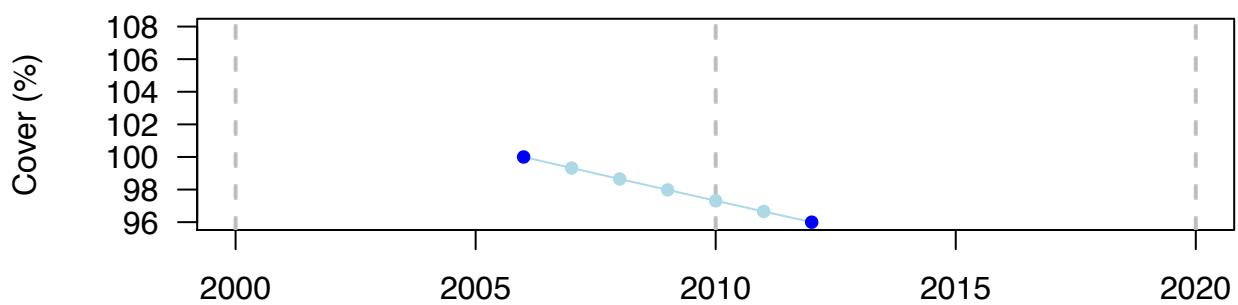
399_cover

Pergent (unpublished)

SITE: Calvi (France – Mediterranean) – Po (-25 m)

OVERALL: Net = -4 %; Rate = -0.68 % yr⁻¹; Perc Final = 96 % > no change

DECADAL: NO (6 yr)



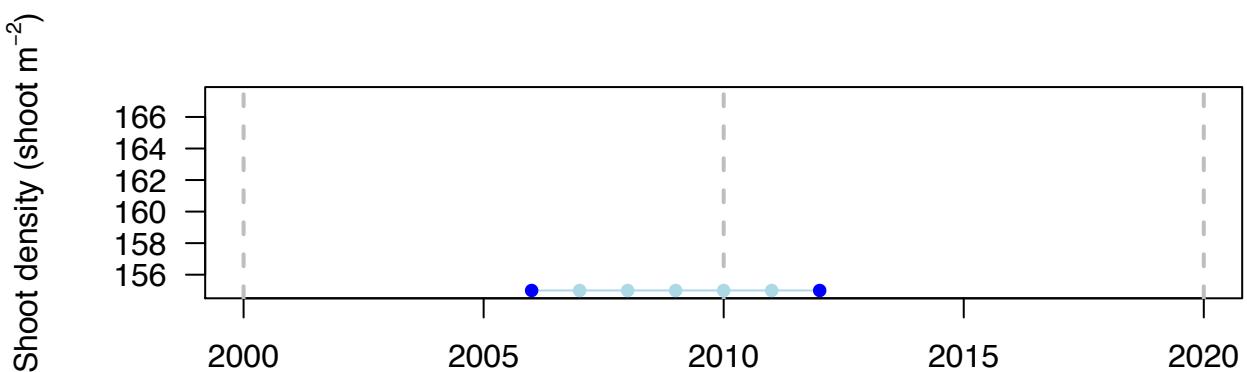
399_density

Pergent (unpublished)

SITE: Calvi (France – Mediterranean) – Po (-25 m)

OVERALL: Net = 0 shoot m⁻²; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (6 yr)



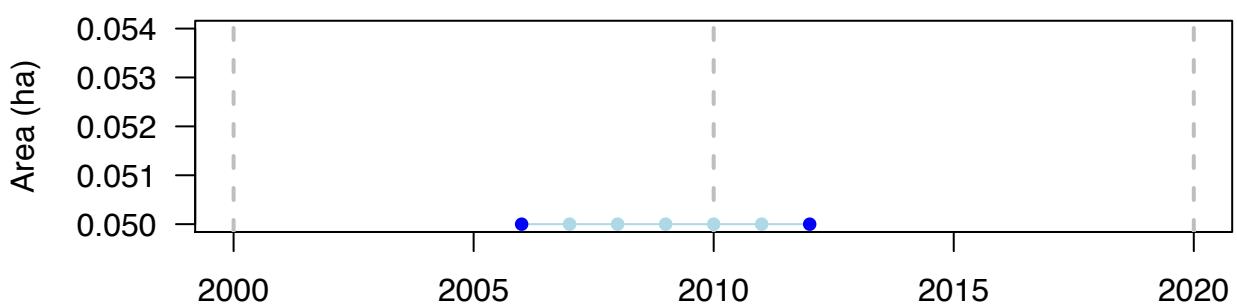
401_area

Pergent (unpublished)

SITE: Calvi (France – Mediterranean) – Po (-9 m)

OVERALL: Net = 0 ha; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (6 yr)



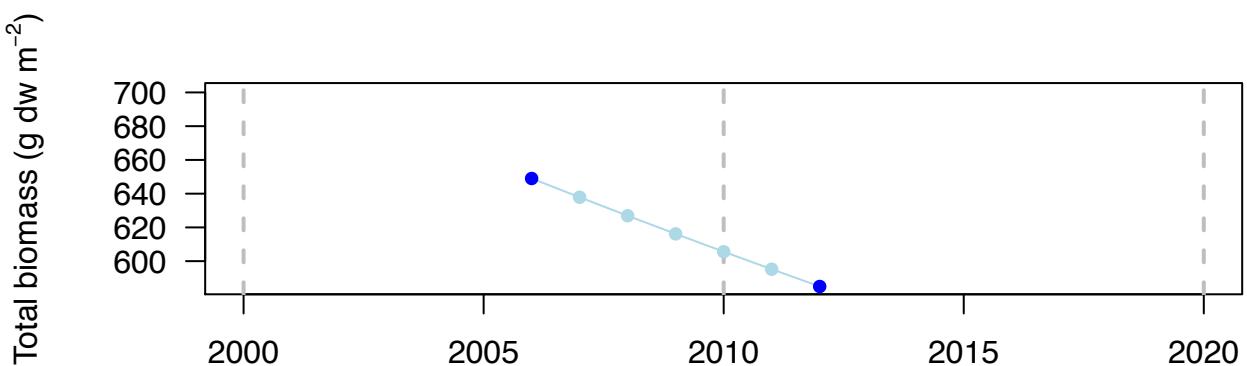
401_biomass

Pergent (unpublished)

SITE: Calvi (France – Mediterranean) – Po (-9 m)

OVERALL: Net = -64 g dw m⁻²; Rate = -1.73 % yr⁻¹; Perc Final = 90 % > no change

DECADAL: NO (6 yr)



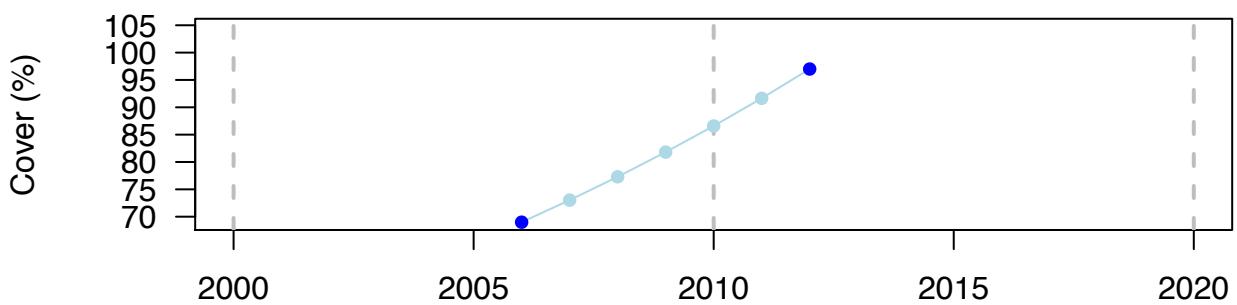
401_cover

Pergent (unpublished)

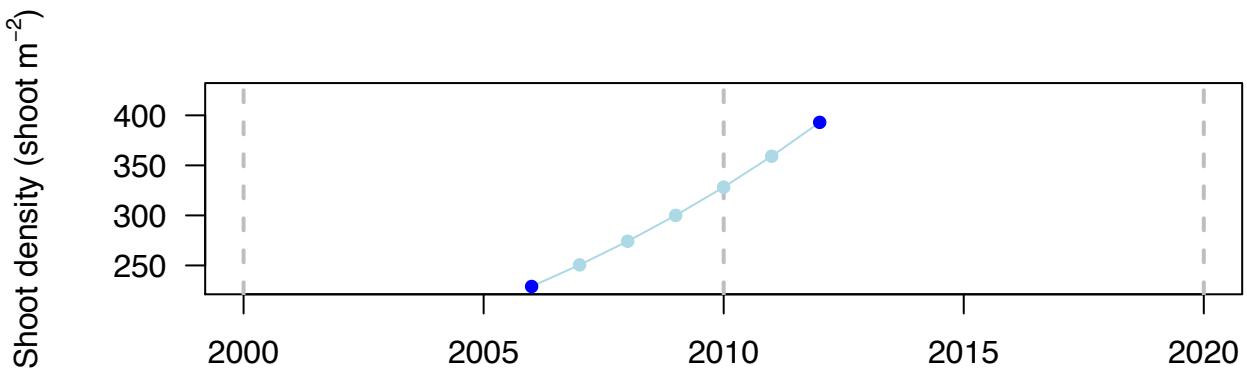
SITE: Calvi (France – Mediterranean) – Po (-9 m)

OVERALL: Net = 28 %; Rate = 5.68 % yr⁻¹; Perc Final = 141 % > increase

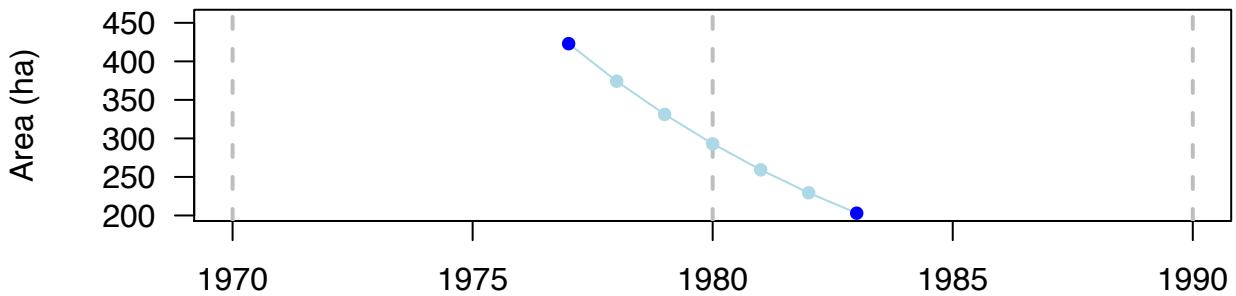
DECADAL: NO (6 yr)



401_density Pergent (unpublished)
SITE: Calvi (France – Mediterranean) – Po (-9 m)
OVERALL: Net = 164 shoot m⁻²; Rate = 9 % yr⁻¹; Perc Final = 172 % > increase
DECADAL: NO (6 yr)



402_area Bourcier 1989
SITE: Oest de Sanary (France – Mediterranean) – Po (? m)
OVERALL: Net = -220 ha; Rate = -12.24 % yr⁻¹; Perc Final = 48 % > decrease
DECADAL: NO (6 yr)



403_area

Augier and Boudouresque 1975

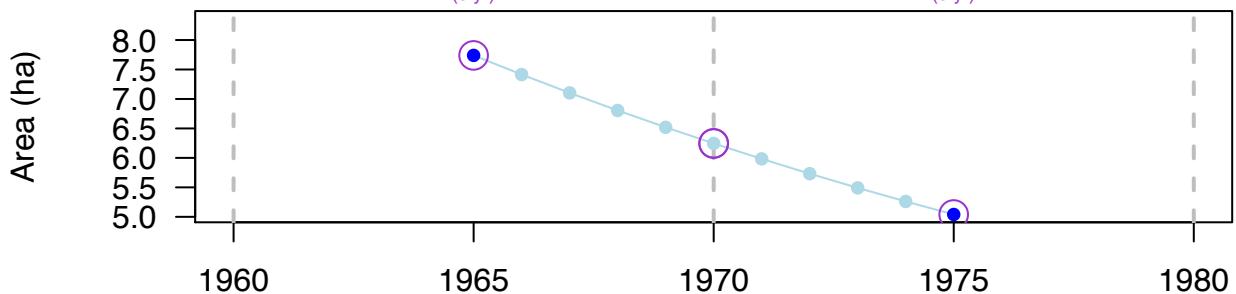
SITE: Baie de la Palud (France – Mediterranean) – Po (? m)

OVERALL: Net = -2.7 ha; Rate = -4.29 % yr⁻¹; Perc Final = 65 % > decrease

DECADAL: YES (10 yr)

1960s
decrease
unknown
-4.29%yr⁻¹
(5 yr)

1970s
decrease
worsen
-4.29%yr⁻¹
(5 yr)



404_area

Auby et al. 2010

SITE: Pertuis Charentais (France – Atlantic) – Zn (? m)

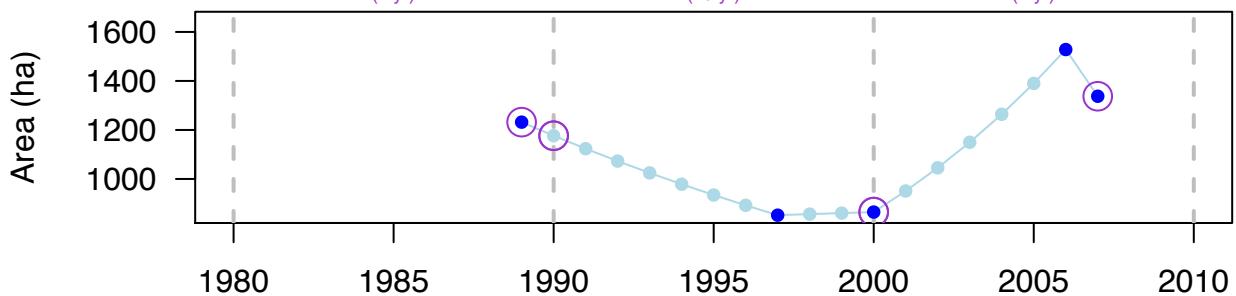
OVERALL: Net = 105.65 ha; Rate = 0.46 % yr⁻¹; Perc Final = 109 % > no change

DECADAL: YES (18 yr)

1980s
no change
unknown
-4.61%yr⁻¹
(1 yr)

1990s
decrease
worsen
-3.08%yr⁻¹
(10 yr)

2000s
increase
improve
6.23%yr⁻¹
(7 yr)



405_density

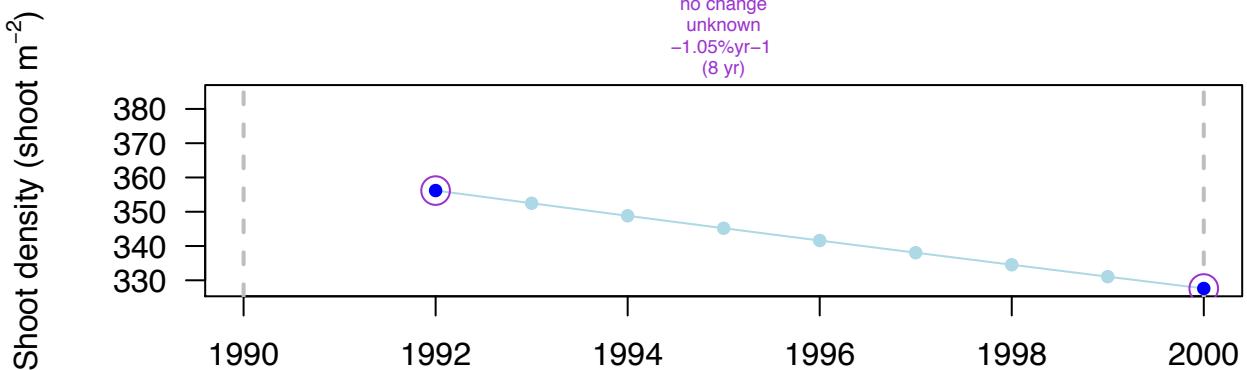
Zupo et al. 2006

SITE: Lacco Ameno (Ischia) (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -28.57 shoot m⁻²; Rate = -1.05 % yr⁻¹; Perc Final = 92 % > no change

DECADAL: YES (8 yr)

1990s
no change
unknown
-1.05%yr⁻¹
(8 yr)



406_cover

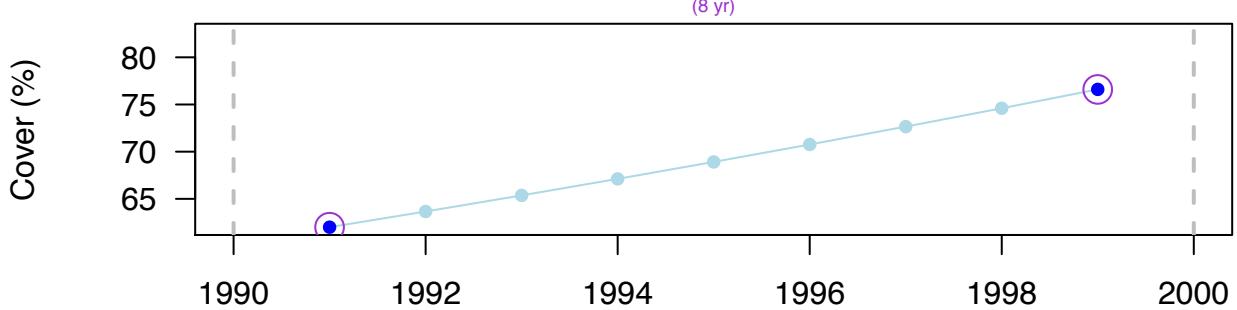
Coll et al. 1999

SITE: Port de Cabrera (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 14.6 %; Rate = 2.64 % yr⁻¹; Perc Final = 124 % > no change

DECADAL: YES (8 yr)

1990s
no change
unknown
2.64%yr⁻¹
(8 yr)



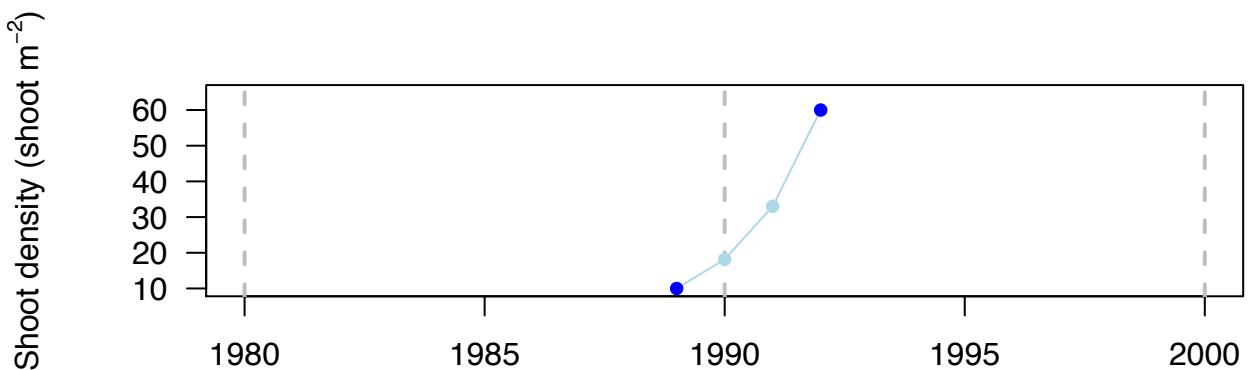
407_density

Guillén-Nieto and Ramos-Esplá 1994

SITE: Isla de Tabarca (Spain – Mediterranean) – Po (-19.3 m)

OVERALL: Net = 50 shoot m⁻²; Rate = 59.73 % yr⁻¹; Perc Final = 600 % > increase

DECADAL: NO (3 yr)



408_area

Ruiz et al. 1993, Ruiz and Romero 2003

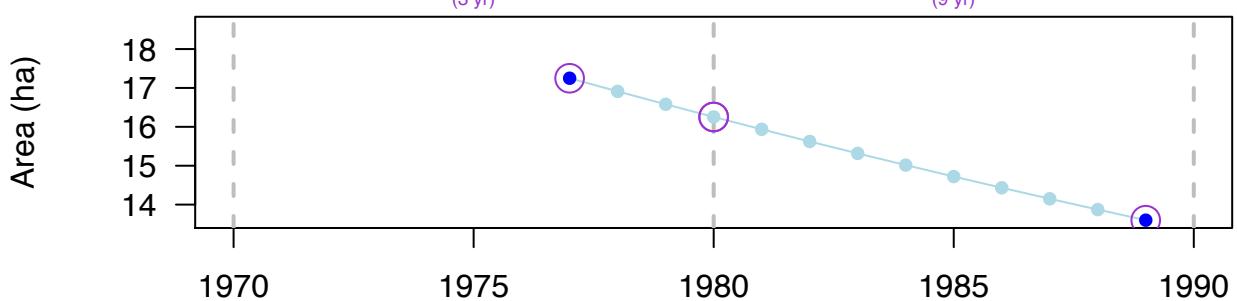
SITE: Levante Bay (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -3.65 ha; Rate = -1.98 % yr⁻¹; Perc Final = 79 % > decrease

DECADAL: YES (12 yr)

1970s
no change
unknown
-1.98%yr⁻¹
(3 yr)

1980s
decrease
worsen
-1.98%yr⁻¹
(9 yr)



410_area

Montefalcone et al. 2013

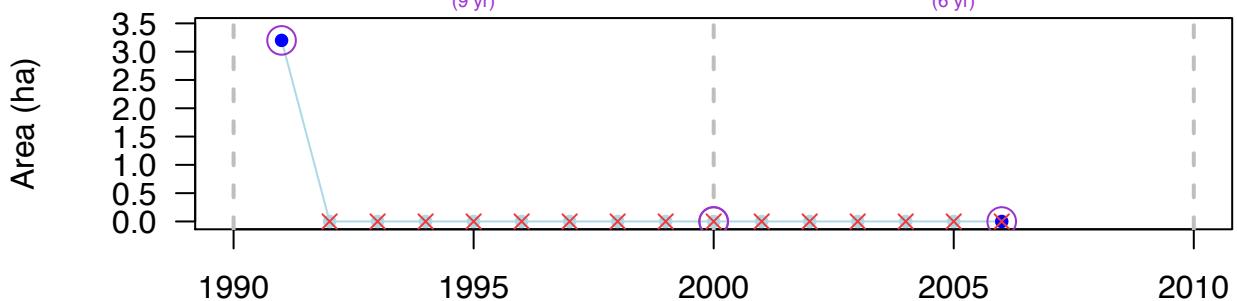
SITE: Genova Vesima (Italy – Mediterranean) – Po (-3.3 m)

OVERALL: Net = -3.2 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (15 yr)

1990s
decrease
unknown
-Inf%yr⁻¹
(9 yr)

2000s
decrease
worsen
NaN%yr⁻¹
(6 yr)



416_area

Montefalcone et al. 2013

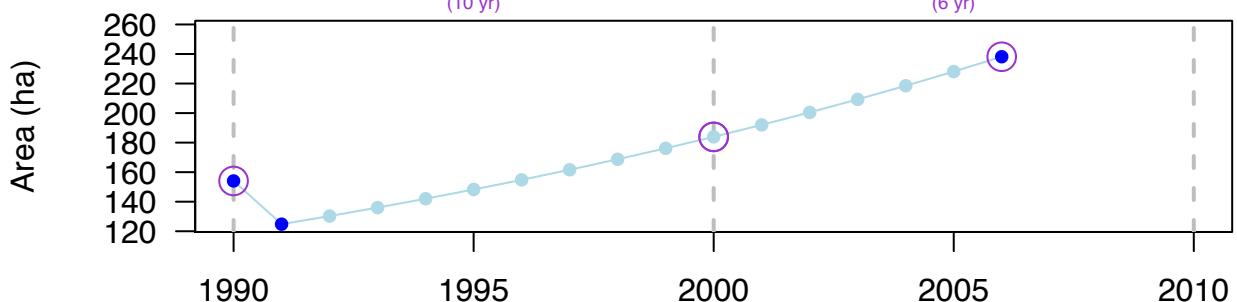
SITE: Ventimiglia (Italy – Mediterranean) – Po (-12.5 m)

OVERALL: Net = 84.098 ha; Rate = 2.72 % yr⁻¹; Perc Final = 155 % > increase

DECADAL: YES (16 yr)

1990s
increase
unknown
1.77%yr⁻¹
(10 yr)

2000s
increase
improve
4.31%yr⁻¹
(6 yr)



417_area

Montefalcone et al. 2013

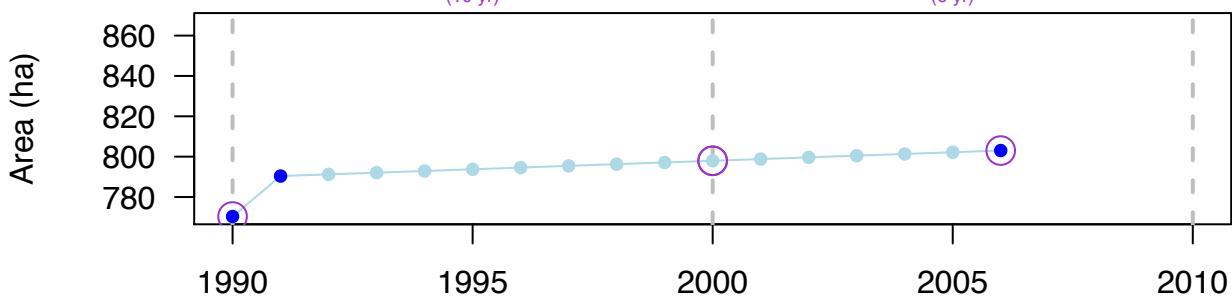
SITE: Sanremo (Italy – Mediterranean) – Po (-16.4 m)

OVERALL: Net = 32.683 ha; Rate = 0.26 % yr⁻¹; Perc Final = 104 % > no change

DECadal: YES (16 yr)

1990s
no change
unknown
0.35%yr⁻¹
(10 yr)

2000s
no change
steady
0.11%yr⁻¹
(6 yr)



418_area

Montefalcone et al. 2013

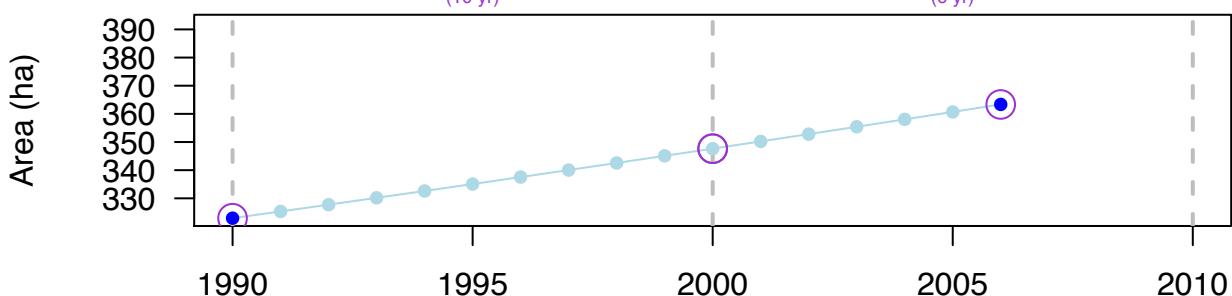
SITE: Santo Stefano al Mare (Italy – Mediterranean) – Po (-18.2 m)

OVERALL: Net = 40.399 ha; Rate = 0.74 % yr⁻¹; Perc Final = 113 % > increase

DECadal: YES (16 yr)

1990s
no change
unknown
0.74%yr⁻¹
(10 yr)

2000s
no change
steady
0.74%yr⁻¹
(6 yr)



419_area

Montefalcone et al. 2013

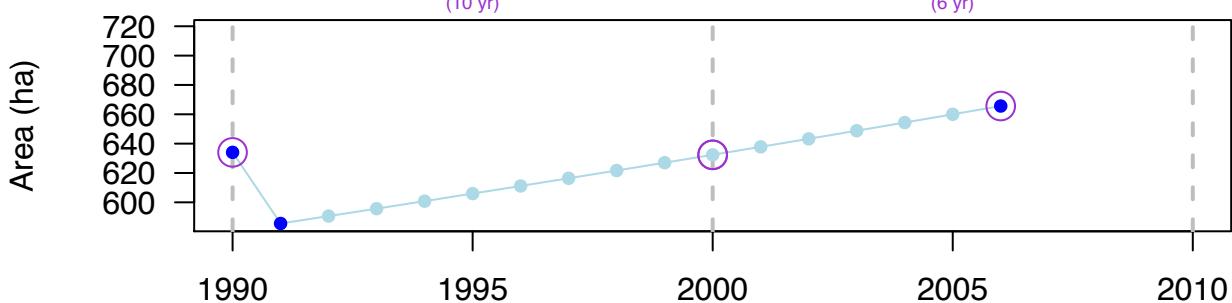
SITE: Porto Maurizio (Italy – Mediterranean) – Po (-17.5 m)

OVERALL: Net = 31.575 ha; Rate = 0.3 % yr⁻¹; Perc Final = 105 % > no change

DECadal: YES (16 yr)

1990s
no change
unknown
-0.03%yr⁻¹
(10 yr)

2000s
no change
steady
0.85%yr⁻¹
(6 yr)



420_area

Montefalcone et al. 2013

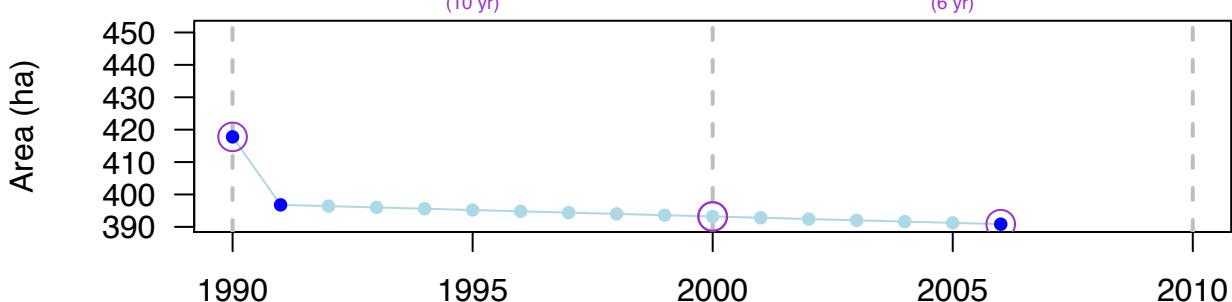
SITE: Diana Marina (Italy – Mediterranean) – Po (-16.4 m)

OVERALL: Net = -26.938 ha; Rate = -0.42 % yr⁻¹; Perc Final = 94 % > no change

DECadal: YES (16 yr)

1990s
no change
unknown
-0.61%yr⁻¹
(10 yr)

2000s
no change
steady
-0.1%yr⁻¹
(6 yr)



421_area

Montefalcone et al. 2013

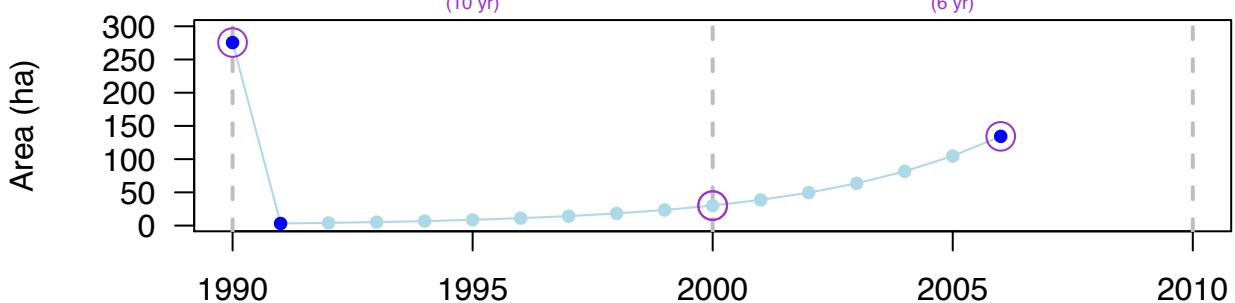
SITE: Laigueglia (Italy – Mediterranean) – Po (-15 m)

OVERALL: Net = -141.205 ha; Rate = -4.49 % yr⁻¹; Perc Final = 49 % > decrease

DECADAL: YES (16 yr)

1990s
decrease
unknown
-22.13%yr⁻¹
(10 yr)

2000s
increase
improve
24.92%yr⁻¹
(6 yr)



422_area

Montefalcone et al. 2013

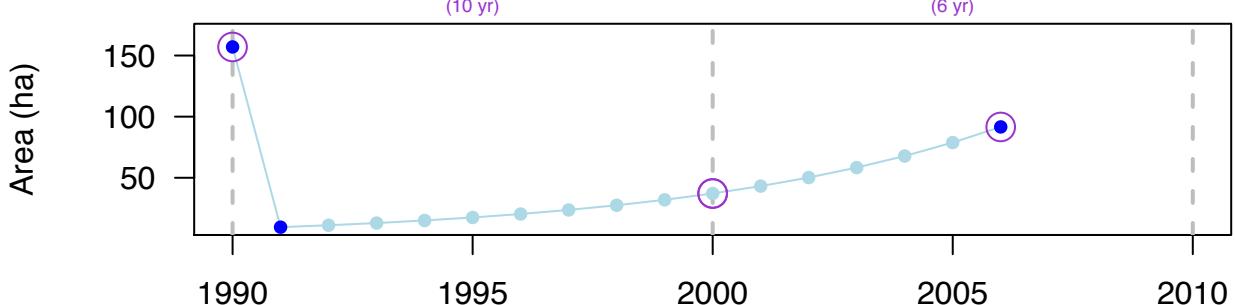
SITE: Isola Gallinara (Italy – Mediterranean) – Po (-10.6 m)

OVERALL: Net = -65.434 ha; Rate = -3.37 % yr⁻¹; Perc Final = 58 % > decrease

DECADAL: YES (16 yr)

1990s
decrease
unknown
-14.41%yr⁻¹
(10 yr)

2000s
increase
improve
15.04%yr⁻¹
(6 yr)



423_area

Montefalcone et al. 2013

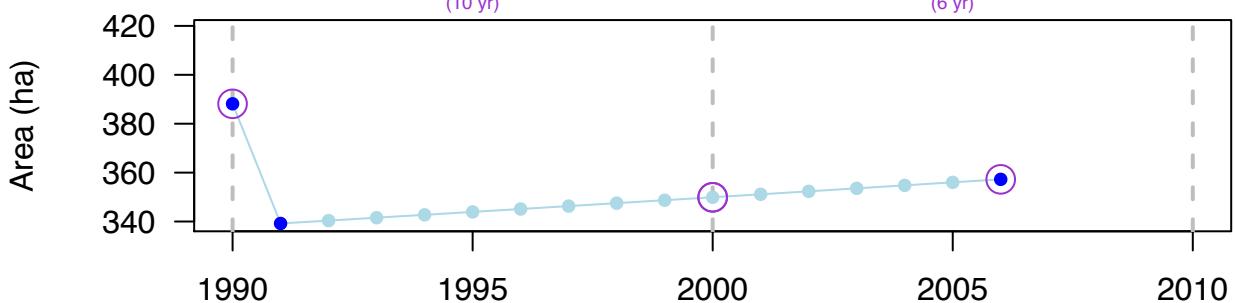
SITE: Albenga – Loano (Italy – Mediterranean) – Po (-14.3 m)

OVERALL: Net = -30.896 ha; Rate = -0.52 % yr⁻¹; Perc Final = 92 % > no change

DECADAL: YES (16 yr)

1990s
no change
unknown
-1.04%yr⁻¹
(10 yr)

2000s
no change
steady
0.35%yr⁻¹
(6 yr)



424_area

Montefalcone et al. 2013

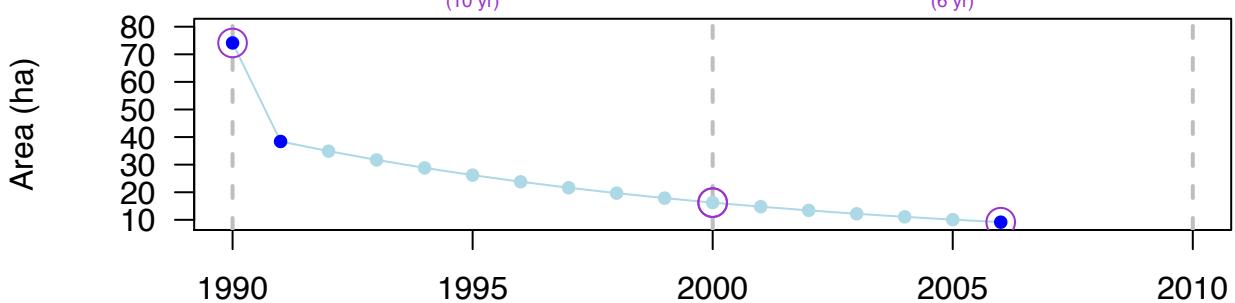
SITE: Pietra Ligure (Italy – Mediterranean) – Po (-9 m)

OVERALL: Net = -64.962 ha; Rate = -13.07 % yr⁻¹; Perc Final = 12 % > decrease

DECADAL: YES (16 yr)

1990s
decrease
unknown
-15.18%yr⁻¹
(10 yr)

2000s
decrease
worsen
-9.55%yr⁻¹
(6 yr)



425_area

Montefalcone et al. 2013

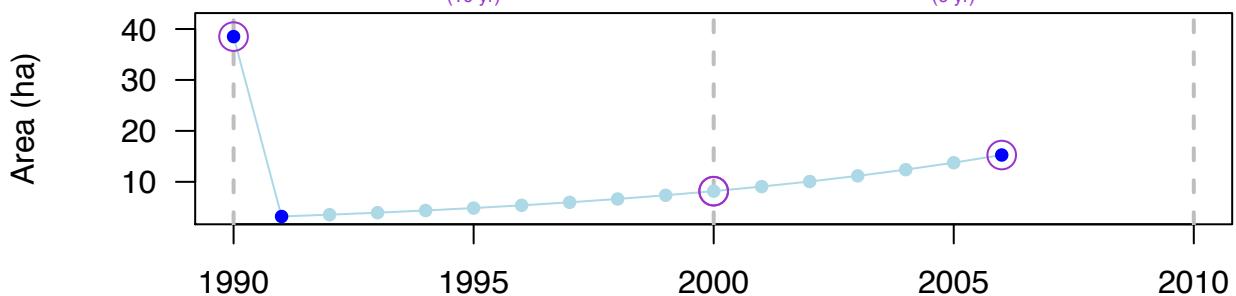
SITE: Noli – Spotorno (Italy – Mediterranean) – Po (-14.2 m)

OVERALL: Net = -23.252 ha; Rate = -5.78 % yr⁻¹; Perc Final = 40 % > decrease

DECADAL: YES (16 yr)

1990s
decrease
unknown
-15.5%yr⁻¹
(10 yr)

2000s
increase
improve
10.42%yr⁻¹
(6 yr)



426_area

Montefalcone et al. 2013

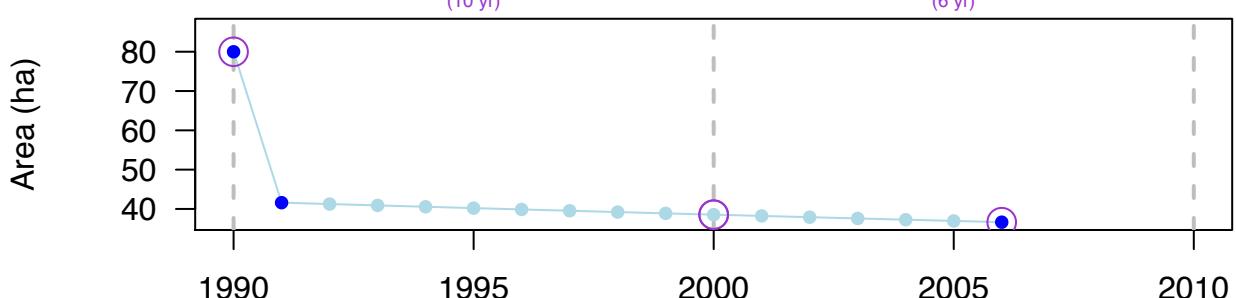
SITE: Isola di Bergeggi (Italy – Mediterranean) – Po (-15.7 m)

OVERALL: Net = -43.359 ha; Rate = -4.88 % yr⁻¹; Perc Final = 46 % > decrease

DECADAL: YES (16 yr)

1990s
decrease
unknown
-7.3%yr⁻¹
(10 yr)

2000s
no change
improve
-0.85%yr⁻¹
(6 yr)



427_area

Montefalcone et al. 2013

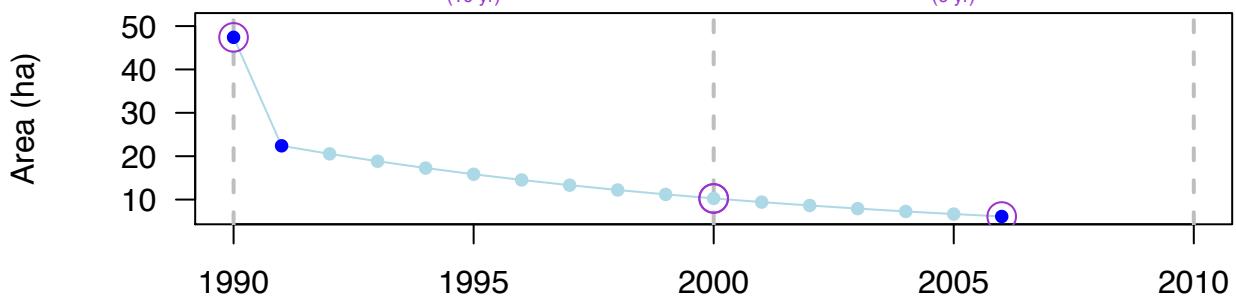
SITE: Vado Ligure (Italy – Mediterranean) – Po (-18.8 m)

OVERALL: Net = -41.3 ha; Rate = -12.81 % yr⁻¹; Perc Final = 13 % > decrease

DECADAL: YES (16 yr)

1990s
decrease
unknown
-15.29%yr⁻¹
(10 yr)

2000s
decrease
worsen
-8.66%yr⁻¹
(6 yr)



428_area

Montefalcone et al. 2013

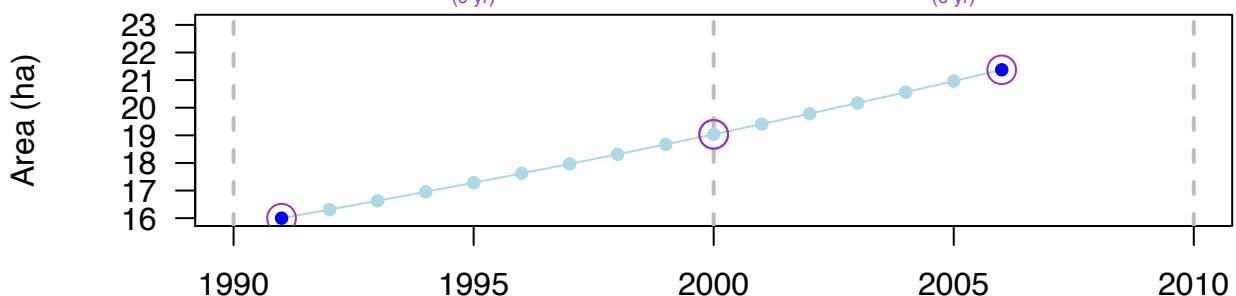
SITE: Savona (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 5.374 ha; Rate = 1.93 % yr⁻¹; Perc Final = 134 % > increase

DECADAL: YES (15 yr)

1990s
increase
unknown
1.93%yr⁻¹
(9 yr)

2000s
increase
improve
1.93%yr⁻¹
(6 yr)



429_area

Montefalcone et al. 2013

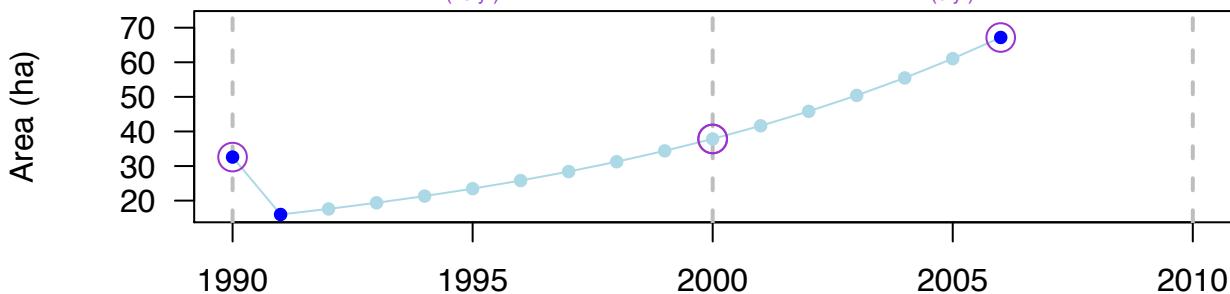
SITE: Albissola Marina – Celle Ligure (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 34.583 ha; Rate = 4.52 % yr⁻¹; Perc Final = 206 % > increase

DECADAL: YES (16 yr)

1990s
increase
unknown
1.49%yr⁻¹
(10 yr)

2000s
increase
improve
9.56%yr⁻¹
(6 yr)



430_area

Montefalcone et al. 2013

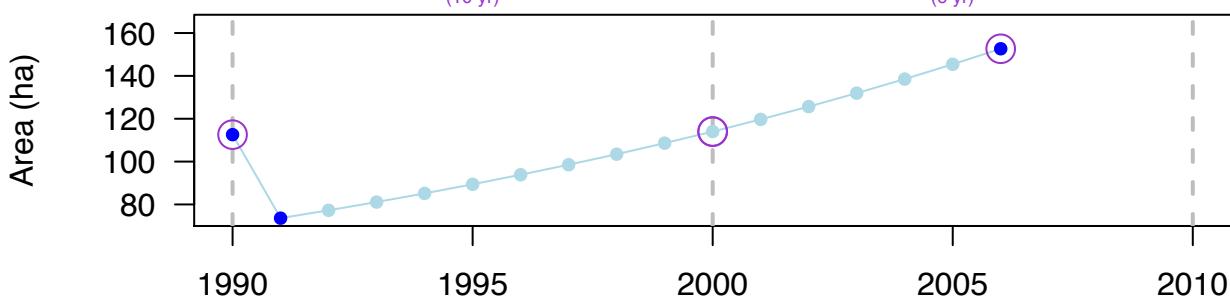
SITE: Arenzano (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 40.082 ha; Rate = 1.9 % yr⁻¹; Perc Final = 136 % > increase

DECADAL: YES (16 yr)

1990s
no change
unknown
0.13%yr⁻¹
(10 yr)

2000s
increase
improve
4.86%yr⁻¹
(6 yr)



431_cover

Sandulli et al. 1994, Bianchi et al. 2009, Montefalcone et al. 2007 (a)

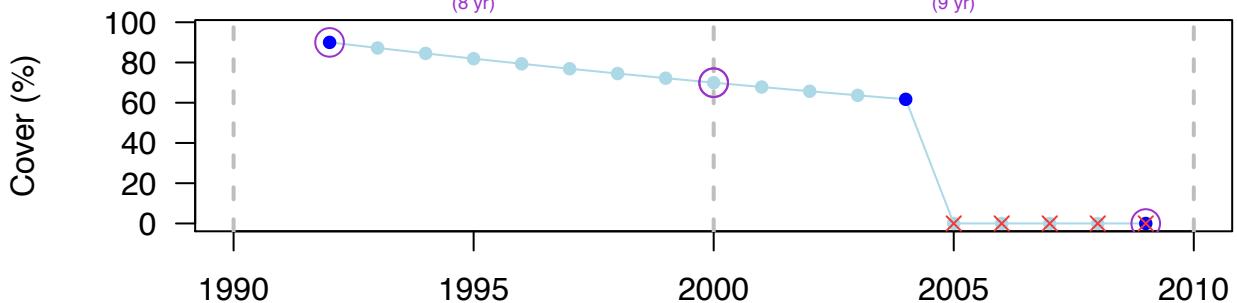
SITE: Bergeggi (Italy – Mediterranean) – Cn (–8 m)

OVERALL: Net = –90 %; Rate = NA % yr–1; Perc Final = NA % > decrease

DECADAL: YES (17 yr)

1990s
no change
unknown
–3.15%yr–1
(8 yr)

2000s
decrease
worsen
–Inf%yr–1
(9 yr)



432_cover

Vetere and Pessani 1989, Sandulli et al. 1994, Montefalcone et al 2007a, Bianchi et al. 2009, Oprandi et al. 2014

SITE: Bergeggi (Italy – Mediterranean) – Po (? m)

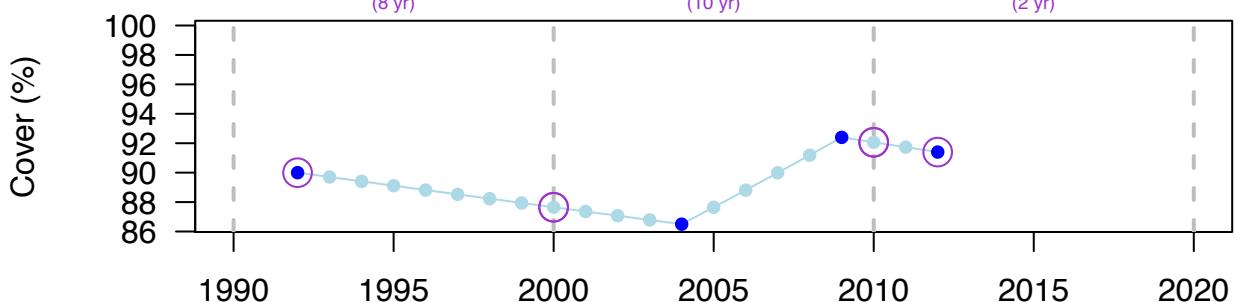
OVERALL: Net = 1.4 %; Rate = 0.08 % yr–1; Perc Final = 102 % > no change

DECADAL: YES (20 yr)

1990s
no change
unknown
–0.33%yr–1
(8 yr)

2000s
no change
steady
0.49%yr–1
(10 yr)

2010s
no change
steady
–0.36%yr–1
(2 yr)

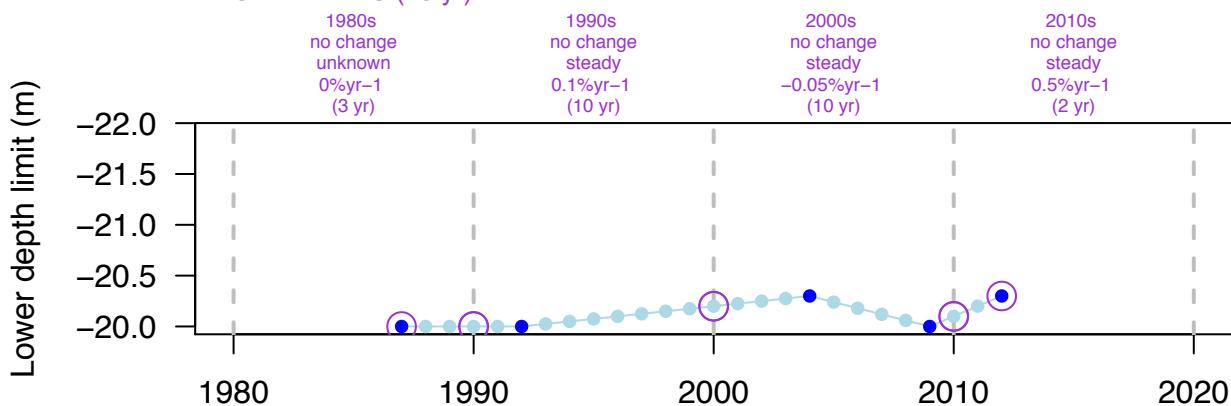


432_lowerlimit Vetere and Pessani 1989, Sandulli et al. 1994, Montefalcone et al 2007a, Bianchi et al. 2009, Oprandi et al. 2014

SITE: Bergeggi (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 0.3 m; Rate = 0.06 % yr⁻¹; Perc Final = 102 % > no change

DECADAL: YES (25 yr)

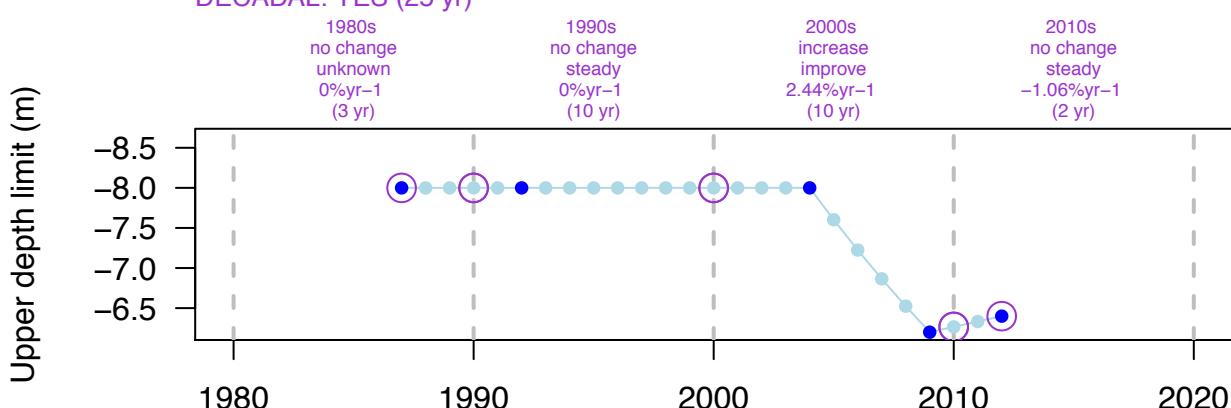


432_upperlimit Vetere and Pessani 1989, Sandulli et al. 1994, Montefalcone et al 2007a, Bianchi et al. 2009, Oprandi et al. 2014

SITE: Bergeggi (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 1.6 m; Rate = 0.89 % yr⁻¹; Perc Final = 125 % > increase

DECADAL: YES (25 yr)



433_cover

Bianchi and Sandulli 1992, Oprandi et al. 2014

SITE: Noli (Italy – Mediterranean) – Cn (–4 m)

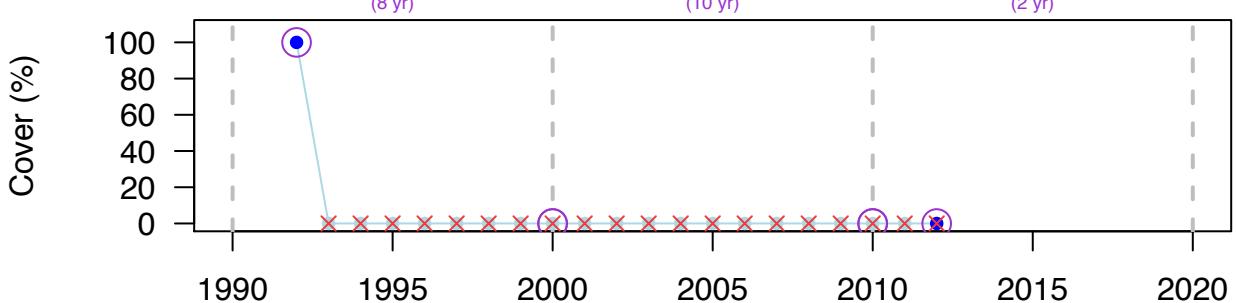
OVERALL: Net = –100 %; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (20 yr)

1990s
decrease
unknown
–Inf%yr⁻¹
(8 yr)

2000s
decrease
worsen
NaN%yr⁻¹
(10 yr)

2010s
decrease
worsen
NaN%yr⁻¹
(2 yr)



434_cover

Bianchi and Sandulli 1992, Oprandi et al. 2014

SITE: Noli (Italy – Mediterranean) – Po (? m)

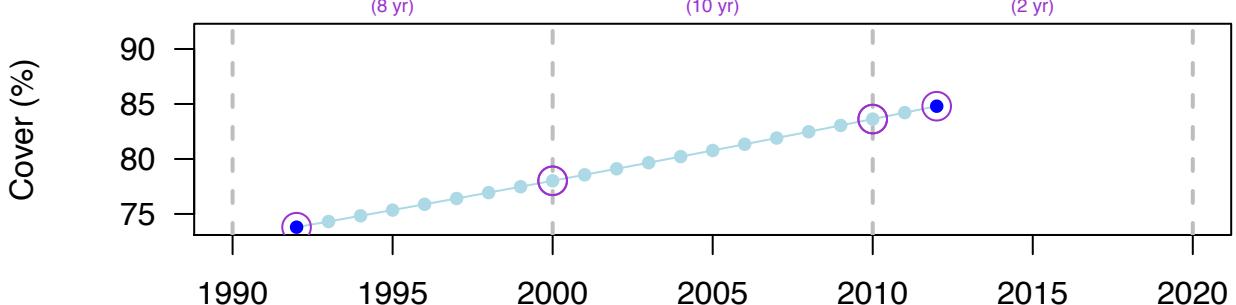
OVERALL: Net = 11 %; Rate = 0.69 % yr⁻¹; Perc Final = 115 % > no change

DECADAL: YES (20 yr)

1990s
no change
unknown
0.69%yr⁻¹
(8 yr)

2000s
no change
steady
0.69%yr⁻¹
(10 yr)

2010s
no change
steady
0.69%yr⁻¹
(2 yr)



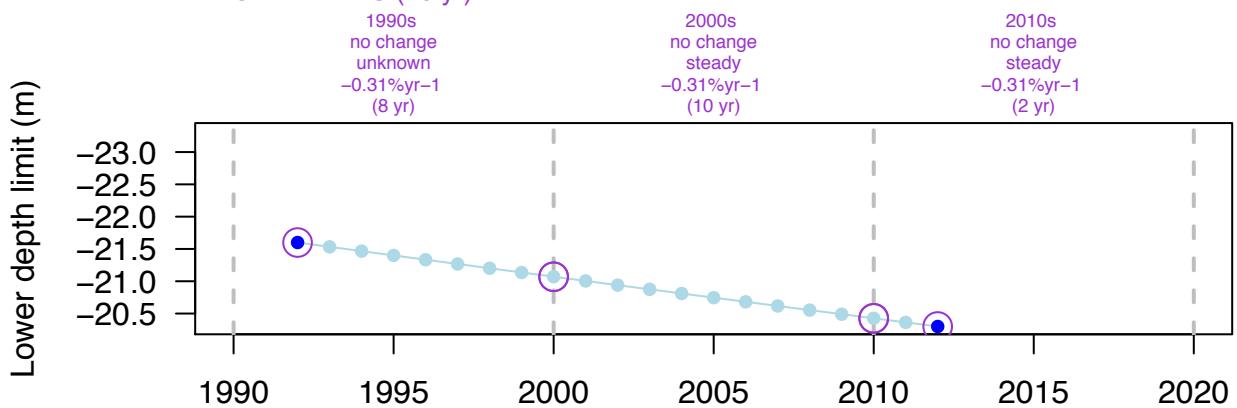
434_lowerlimit

Bianchi and Sandulli 1992, Oprandi et al. 2014

SITE: Noli (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -1.3 m; Rate = -0.31 % yr⁻¹; Perc Final = 94 % > no change

DECADAL: YES (20 yr)



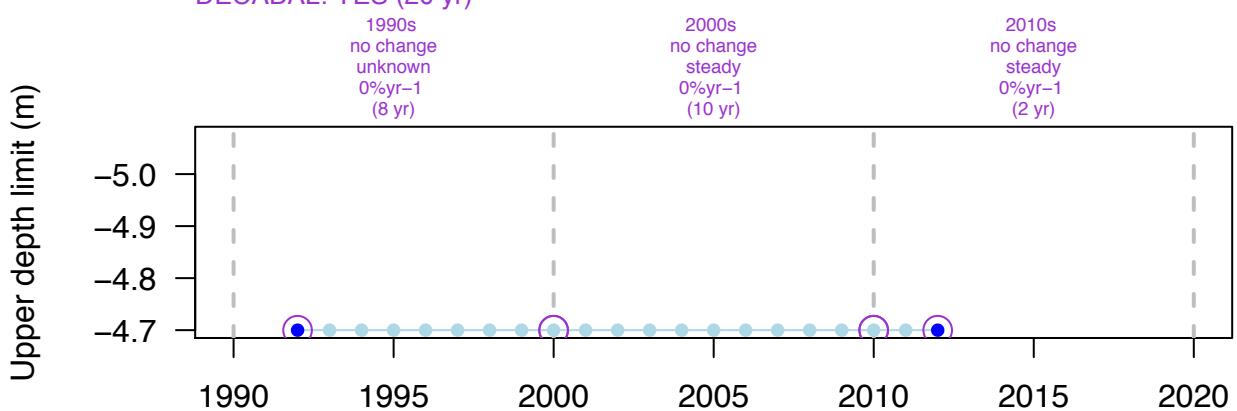
434_upperlimit

Bianchi and Sandulli 1992, Oprandi et al. 2014

SITE: Noli (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (20 yr)



435_cover

Diviacco 2000, Oprandi et al. 2014, Montefalcone (unpublished)

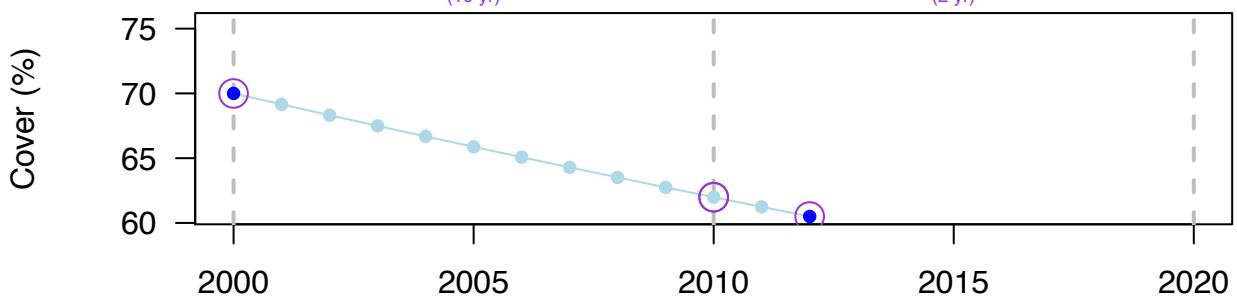
SITE: Spotorno (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -9.5 %; Rate = -1.22 % yr-1; Perc Final = 86 % > no change

DECADAL: YES (12 yr)

2000s
no change
unknown
-1.22%yr-1
(10 yr)

2010s
no change
steady
-1.22%yr-1
(2 yr)



435_upperlimit

Diviacco 2000, Oprandi et al. 2014, Montefalcone (unpublished)

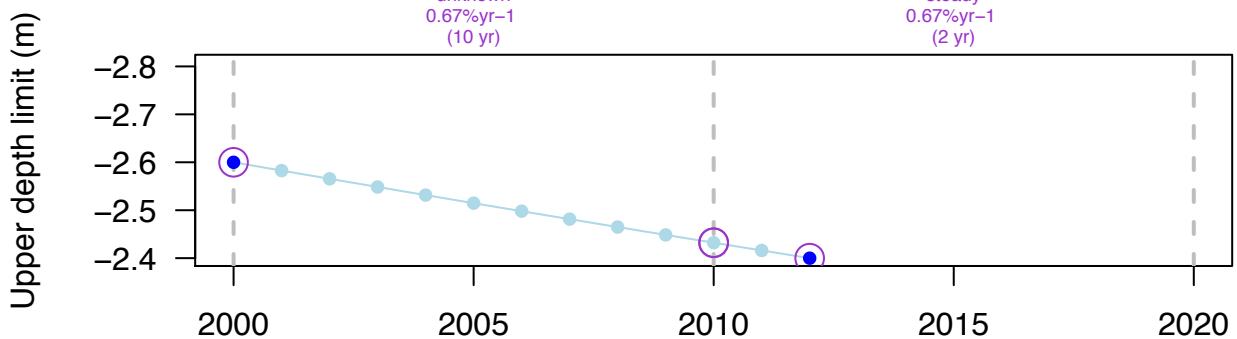
SITE: Spotorno (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 0.2 m; Rate = 0.67 % yr-1; Perc Final = 108 % > no change

DECADAL: YES (12 yr)

2000s
no change
unknown
0.67%yr-1
(10 yr)

2010s
no change
steady
0.67%yr-1
(2 yr)



437_cover

Montefalcone et al. 2007b, Montefalcone (unpublished)

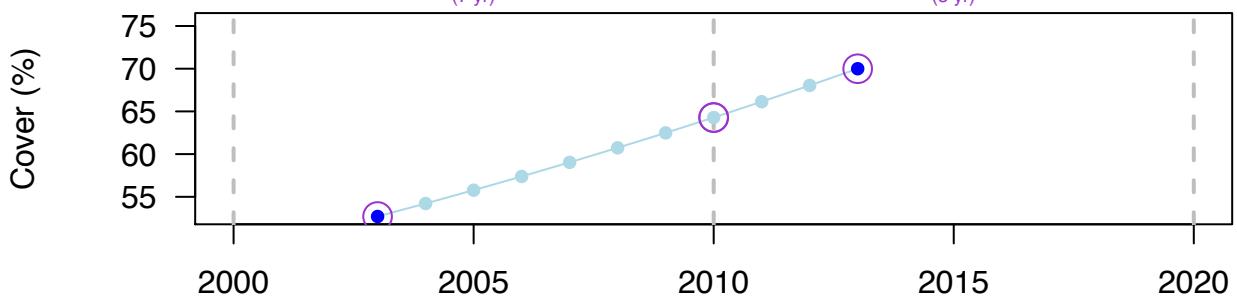
SITE: Prelo (Italy – Mediterranean) – Po (? m)

OVERALL: Net = 17.3 %; Rate = 2.84 % yr⁻¹; Perc Final = 133 % > increase

DECADAL: YES (10 yr)

2000s
no change
unknown
2.84%yr⁻¹
(7 yr)

2010s
no change
steady
2.84%yr⁻¹
(3 yr)



437_density

Montefalcone et al. 2007b, Montefalcone (unpublished)

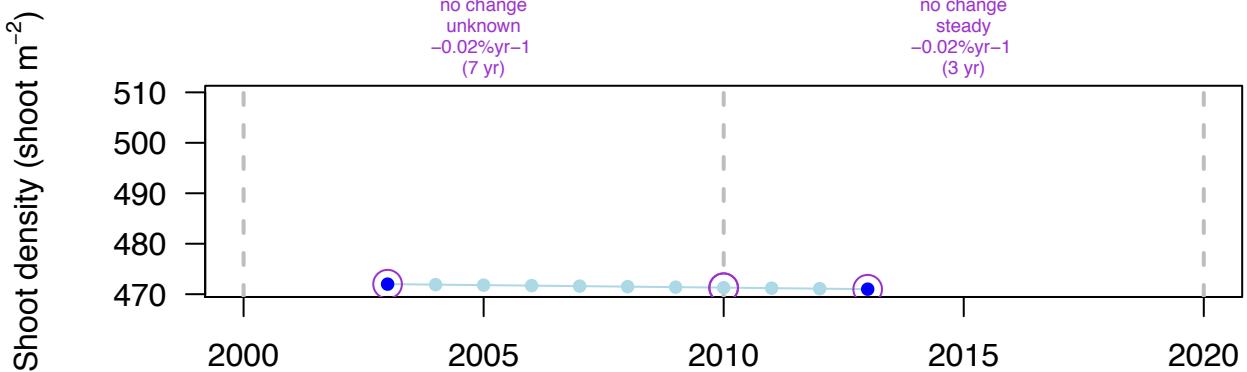
SITE: Prelo (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -1 shoot m⁻²; Rate = -0.02 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (10 yr)

2000s
no change
unknown
-0.02%yr⁻¹
(7 yr)

2010s
no change
steady
-0.02%yr⁻¹
(3 yr)



437_lowerlimit

Montefalcone et al. 2007b, Montefalcone (unpublished)

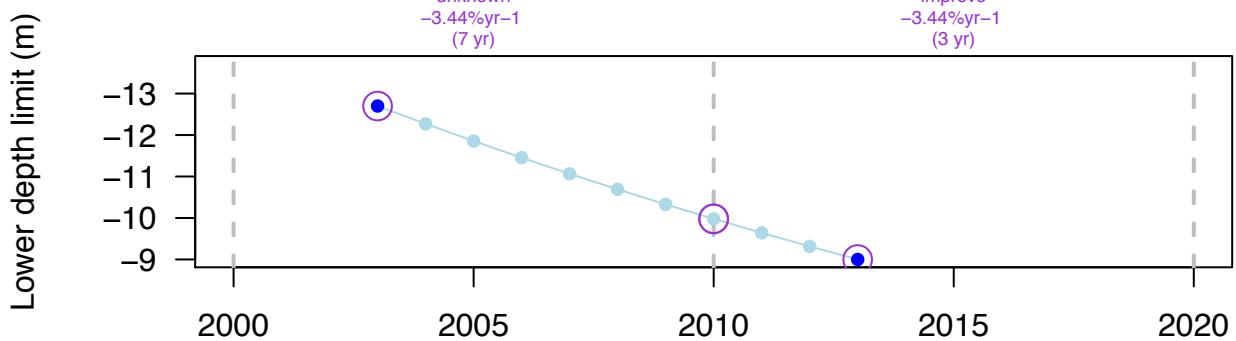
SITE: Prelo (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -3.7 m; Rate = -3.44 % yr⁻¹; Perc Final = 71 % > decrease

DECADAL: YES (10 yr)

2000s
decrease
unknown
-3.44%yr⁻¹
(7 yr)

2010s
no change
improve
-3.44%yr⁻¹
(3 yr)



437_upperlimit

Montefalcone et al. 2007b, Montefalcone (unpublished)

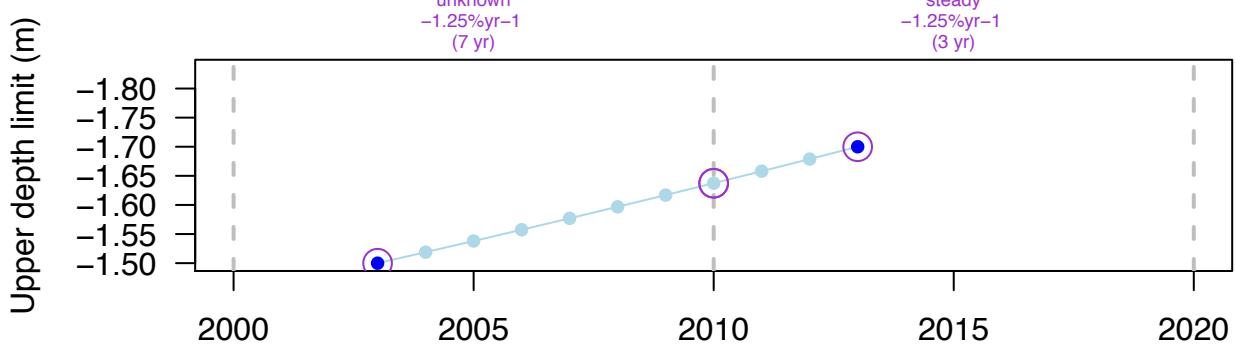
SITE: Prelo (Italy – Mediterranean) – Po (? m)

OVERALL: Net = -0.2 m; Rate = -1.25 % yr⁻¹; Perc Final = 88 % > decrease

DECADAL: YES (10 yr)

2000s
no change
unknown
-1.25%yr⁻¹
(7 yr)

2010s
no change
steady
-1.25%yr⁻¹
(3 yr)



441_area

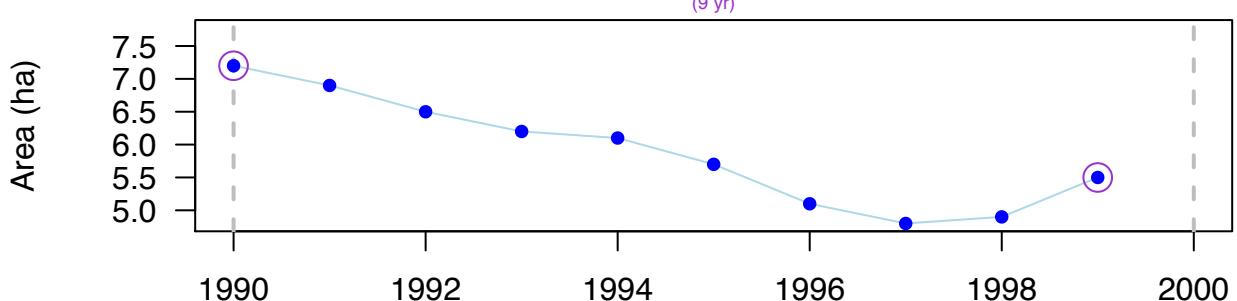
Fournier 2002

SITE: Baie de Locquirec (France – Atlantic) – Zm (-4 m)

OVERALL: Net = -1.7 ha; Rate = -2.99 % yr⁻¹; Perc Final = 76 % > decrease

DECadal: YES (9 yr)

1990s
decrease
unknown
-2.99%yr⁻¹
(9 yr)



442_area

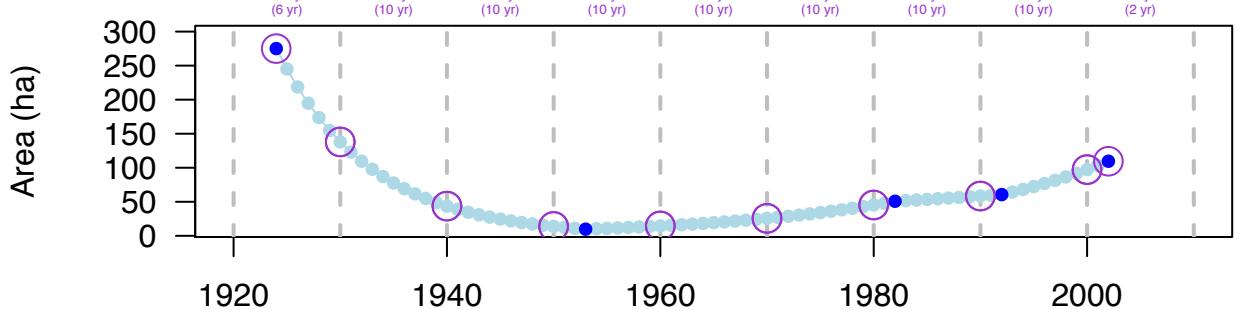
Godet et al. 2008, Aubry et al. 2010

SITE: Chausey Archipelago (intertidal) (France – Atlantic) – Zm (? m)

OVERALL: Net = -165.5 ha; Rate = -1.18 % yr⁻¹; Perc Final = 40 % > decrease

DECadal: YES (78 yr)

| Decade | Change Type | Rate | Period |
|--------|-------------|------------------------|---------|
| 1920s | decrease | -11.5%yr ⁻¹ | (6 yr) |
| 1930s | worsen | -11.5%yr ⁻¹ | (10 yr) |
| 1940s | worsen | -11.5%yr ⁻¹ | (10 yr) |
| 1950s | no change | 0.52%yr ⁻¹ | (10 yr) |
| 1960s | improve | 5.67%yr ⁻¹ | (10 yr) |
| 1970s | increase | 5.67%yr ⁻¹ | (10 yr) |
| 1980s | improve | 2.55%yr ⁻¹ | (10 yr) |
| 1990s | increase | 5.09%yr ⁻¹ | (10 yr) |
| 2000s | improve | 5.93%yr ⁻¹ | (2 yr) |



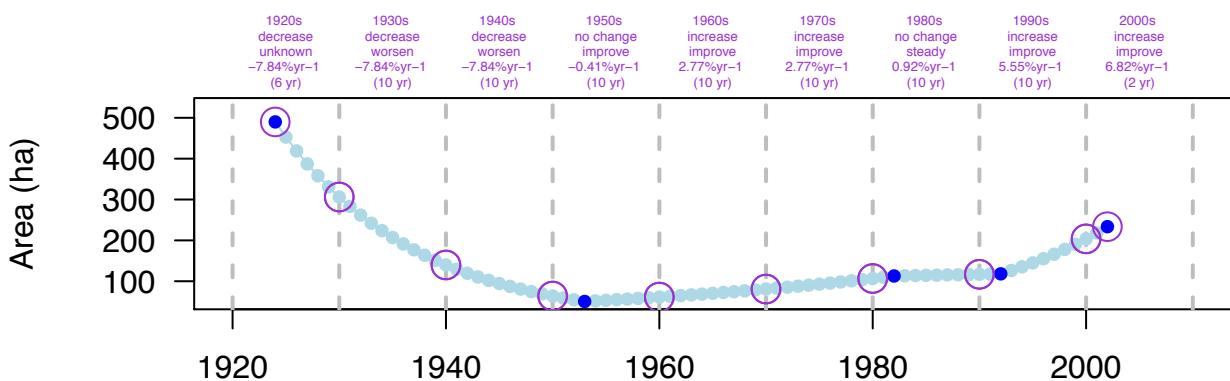
443_area

Godet et al. 2008, Aubry et al. 2010

SITE: Chausey Archipelago (subtidal) (France – Atlantic) – Zm (–4 m)

OVERALL: Net = –256.4 ha; Rate = –0.95 % yr^{–1}; Perc Final = 48 % > decrease

DECadal: YES (78 yr)



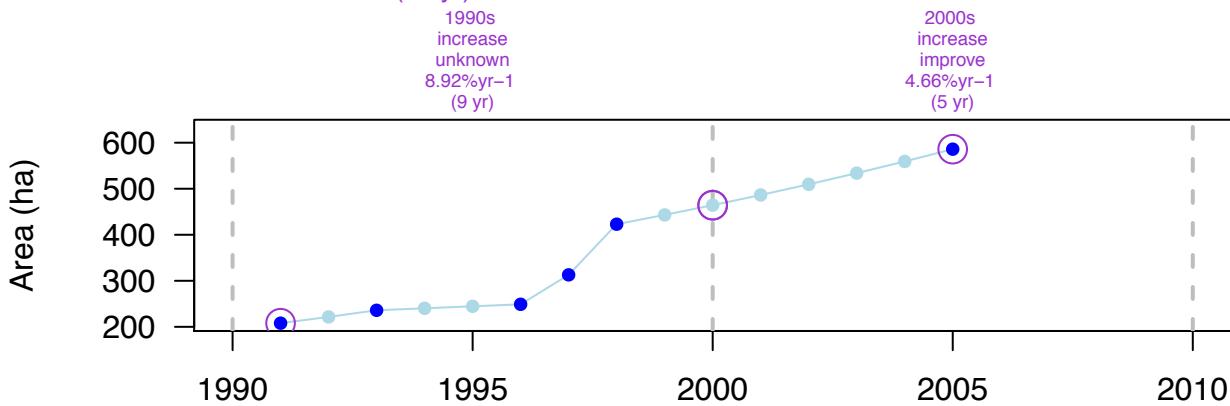
444_area

Barillé et al. 2010

SITE: Bourgneuf Bay (France – Atlantic) – Zn (? m)

OVERALL: Net = 378 ha; Rate = 7.4 % yr^{–1}; Perc Final = 282 % > increase

Decadal: YES (14 yr)



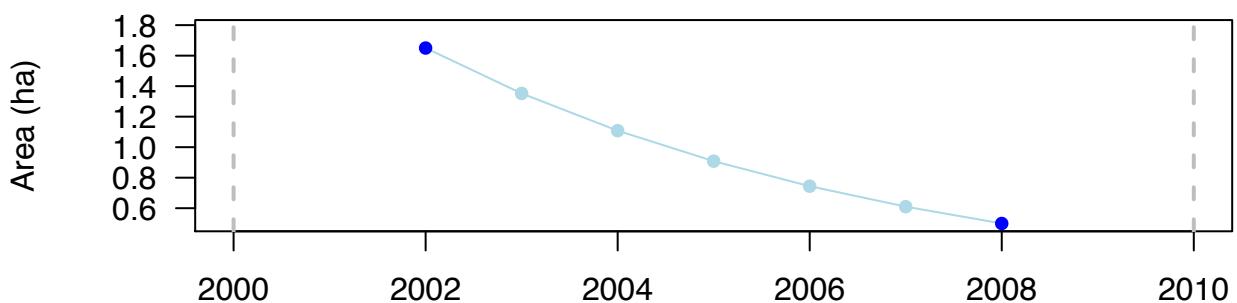
446_area

Fournier 2003, Nebout et al. 2008

SITE: La Canue (France – Atlantic) – Zn (? m)

OVERALL: Net = -1.15 ha; Rate = -19.9 % yr⁻¹; Perc Final = 30 % > decrease

DECADAL: NO (6 yr)



448_abiomass

Auby et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zn (0 m)

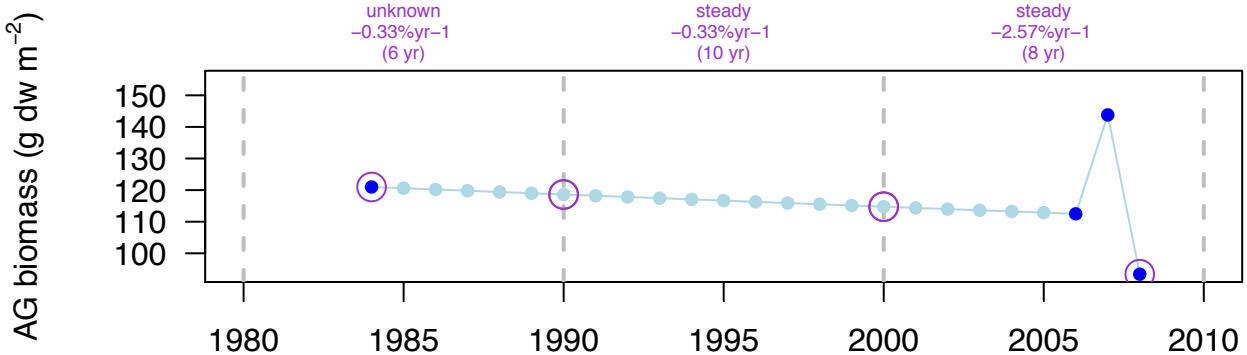
OVERALL: Net = -27.6 g dw m⁻²; Rate = -1.08 % yr⁻¹; Perc Final = 77 % > no change

DECADAL: YES (24 yr)

1980s
no change
unknown
-0.33%yr⁻¹
(6 yr)

1990s
no change
steady
-0.33%yr⁻¹
(10 yr)

2000s
no change
steady
-2.57%yr⁻¹
(8 yr)



448_cover

Auby et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zn (0 m)

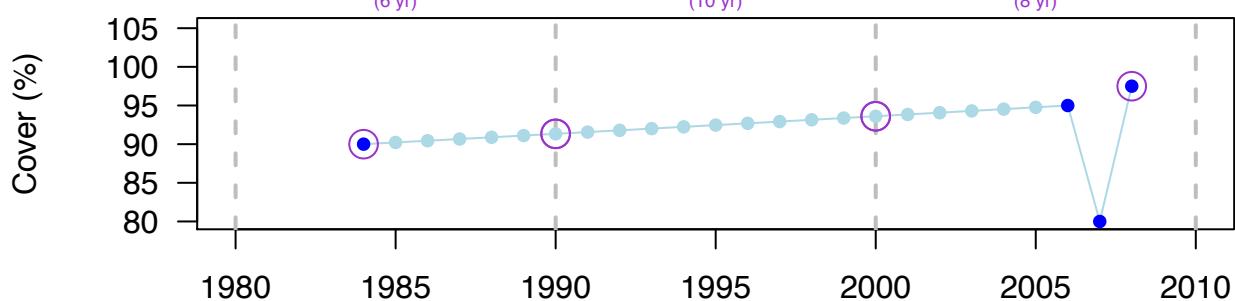
OVERALL: Net = 7.5 %; Rate = 0.33 % yr⁻¹; Perc Final = 108 % > no change

DECADAL: YES (24 yr)

1980s
no change
unknown
0.25%yr⁻¹
(6 yr)

1990s
no change
steady
0.25%yr⁻¹
(10 yr)

2000s
no change
steady
0.51%yr⁻¹
(8 yr)



448_density

Auby et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zn (0 m)

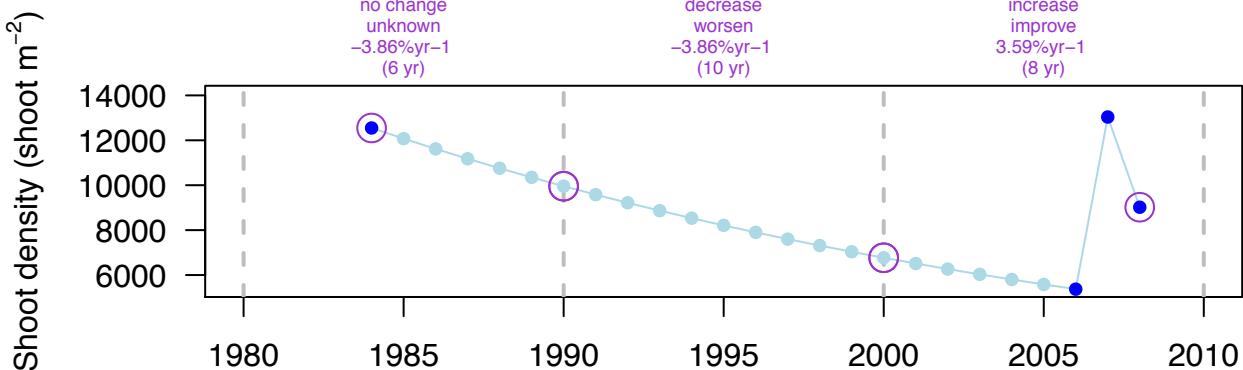
OVERALL: Net = -3529 shoot m⁻²; Rate = -1.38 % yr⁻¹; Perc Final = 72 % > decrease

DECADAL: YES (24 yr)

1980s
no change
unknown
-3.86%yr⁻¹
(6 yr)

1990s
decrease
worsen
-3.86%yr⁻¹
(10 yr)

2000s
increase
improve
3.59%yr⁻¹
(8 yr)



449_abiomass

Plus et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zm (-5 m)

OVERALL: Net = 60.3 g dw m⁻²; Rate = 37.2 % yr⁻¹; Perc Final = 210 % > increase

DECADAL: NO (2 yr)



449_density

Plus et al. 2010

SITE: Arcachon Bay (France – Atlantic) – Zm (-5 m)

OVERALL: Net = 48 shoot m⁻²; Rate = 18.39 % yr⁻¹; Perc Final = 144 % > increase

DECADAL: NO (2 yr)



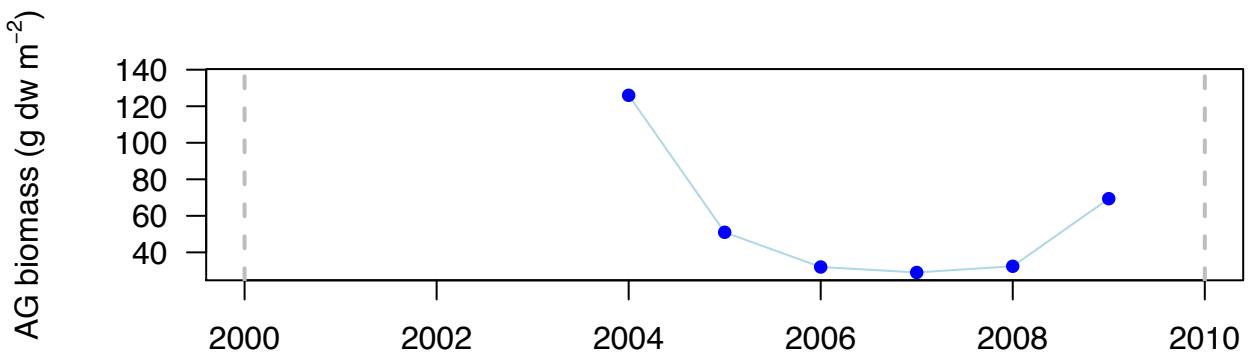
454_abiomass

Auby et al. 2010

SITE: Callot (Baie de Morlaix) (France – Atlantic) – Zm (? m)

OVERALL: Net = -56.6 g dw m⁻²; Rate = -11.93 % yr⁻¹; Perc Final = 55 % > decrease

DECADAL: NO (5 yr)



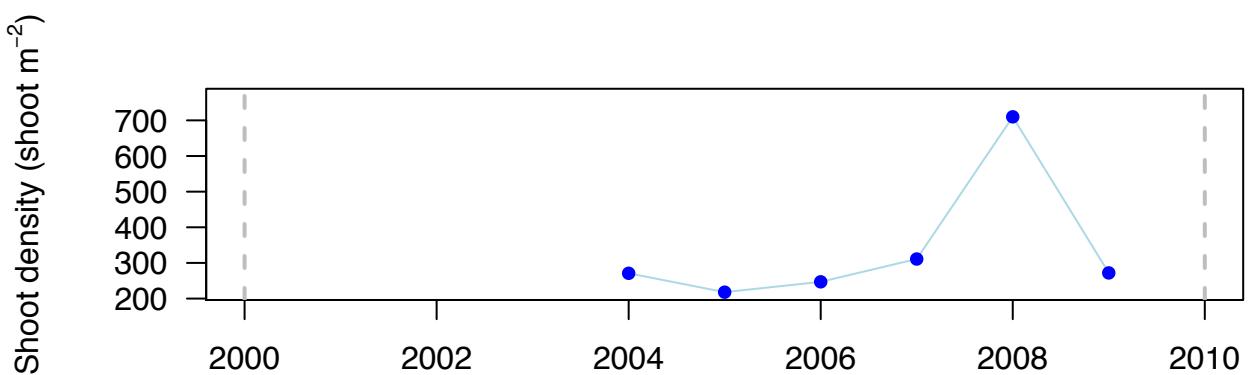
454_density

Auby et al. 2010

SITE: Callot (Baie de Morlaix) (France – Atlantic) – Zm (? m)

OVERALL: Net = 1 shoot m⁻²; Rate = 0.07 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (5 yr)



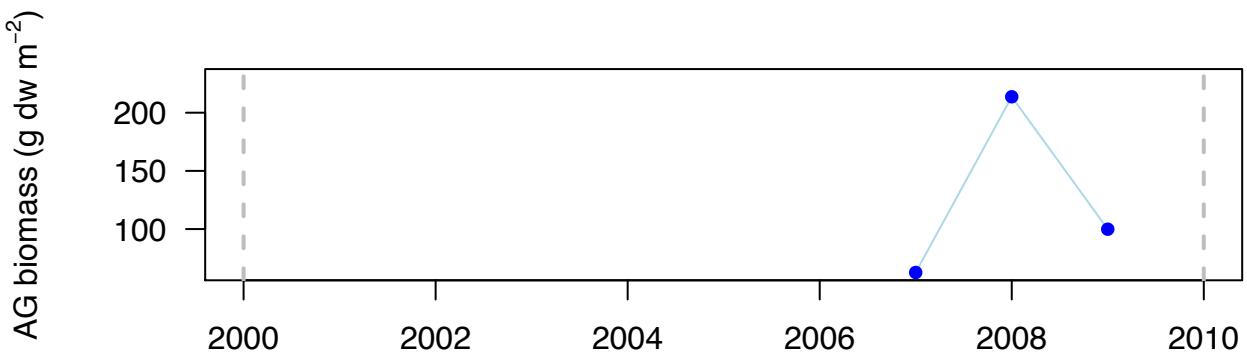
469_abiomass

Auby et al. 2010

SITE: Concarneau (Glenan Archipelago) (France – Atlantic) – Zm (? m)

OVERALL: Net = 37.2 g dw m⁻²; Rate = 23.29 % yr⁻¹; Perc Final = 159 % > increase

DECADAL: NO (2 yr)



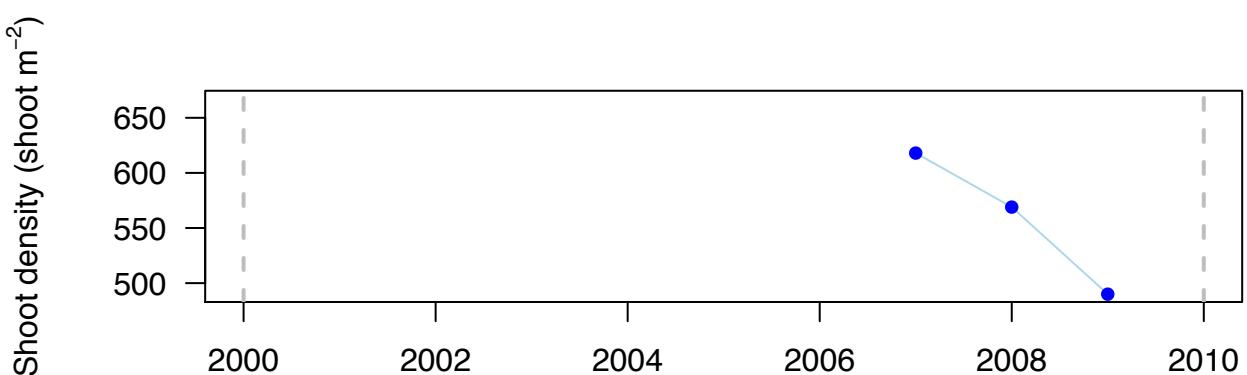
469_density

Auby et al. 2010

SITE: Concarneau (Glenan Archipelago) (France – Atlantic) – Zm (? m)

OVERALL: Net = -128 shoot m⁻²; Rate = -11.6 % yr⁻¹; Perc Final = 79 % > no change

DECADAL: NO (2 yr)



473_area

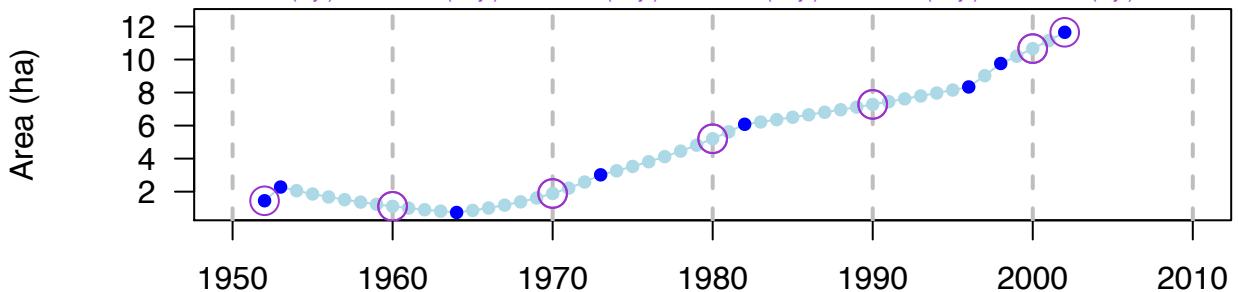
Nebout et al. 2008, Auby et al. 2010

SITE: Plage de L'Ecluse (France – Atlantic) – Zm (? m)

OVERALL: Net = 10.2 ha; Rate = 4.17 % yr⁻¹; Perc Final = 803 % > increase

DECADAL: YES (50 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|------------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|
| decrease | increase | increase | increase | increase | no change |
| unknown | improve | improve | improve | improve | steady |
| -3.29%yr ⁻¹ | 5.28%yr ⁻¹ | 10.13%yr ⁻¹ | 3.36%yr ⁻¹ | 3.81%yr ⁻¹ | 4.43%yr ⁻¹ |
| (8 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (2 yr) |



473_cover

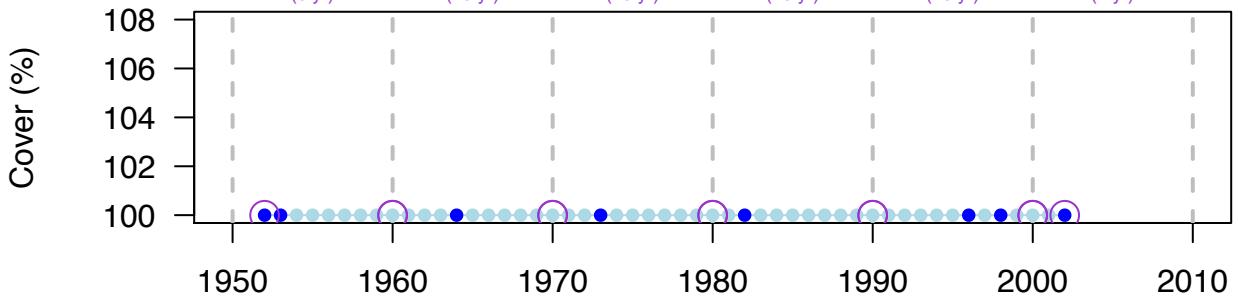
Nebout et al. 2008, Auby et al. 2010

SITE: Plage de L'Ecluse (France – Atlantic) – Zm (? m)

OVERALL: Net = 0 %; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (50 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| no change |
| unknown | steady | steady | steady | steady | steady |
| 0%yr ⁻¹ |
| (8 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (2 yr) |



474_area

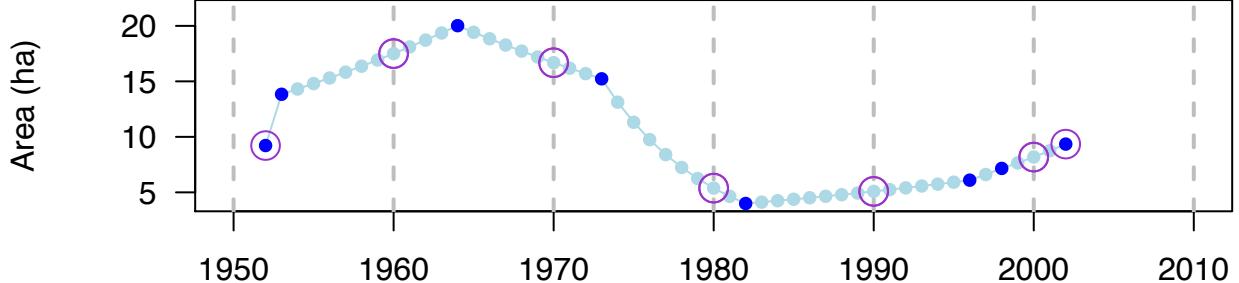
Nebout et al. 2008, Auby et al. 2010

SITE: Baie du Prieuré (France – Atlantic) – Zm (? m)

OVERALL: Net = 0.13 ha; Rate = 0.03 % yr⁻¹; Perc Final = 101 % > no change

DECADAL: YES (50 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|--|--|--|---|---|--|
| increase unknown 8.01%yr ⁻¹ (8 yr) | no change steady -0.48%yr ⁻¹ (10 yr) | decrease worsen -11.31%yr ⁻¹ (10 yr) | no change improve -0.56%yr ⁻¹ (10 yr) | increase improve 4.75%yr ⁻¹ (10 yr) | increase improve 6.67%yr ⁻¹ (2 yr) |



474_cover

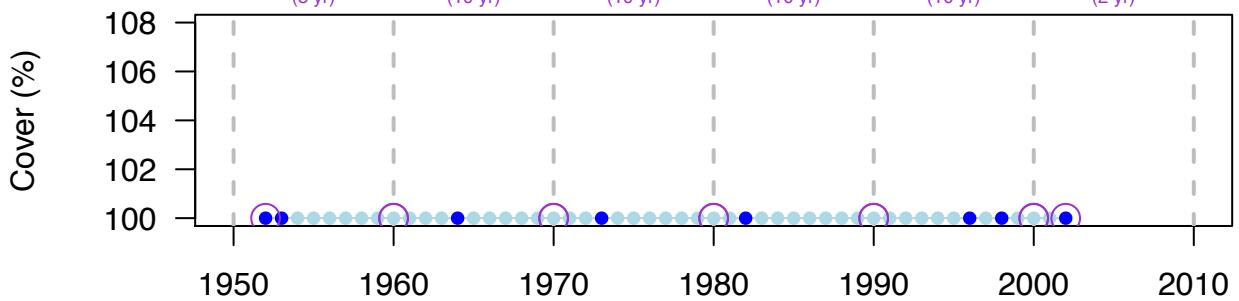
Nebout et al. 2008, Auby et al. 2010

SITE: Baie du Prieuré (France – Atlantic) – Zm (? m)

OVERALL: Net = 0 %; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: YES (50 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|--|--|--|--|--|---|
| no change unknown 0%yr ⁻¹ (8 yr) | no change steady 0%yr ⁻¹ (10 yr) | no change steady 0%yr ⁻¹ (2 yr) |



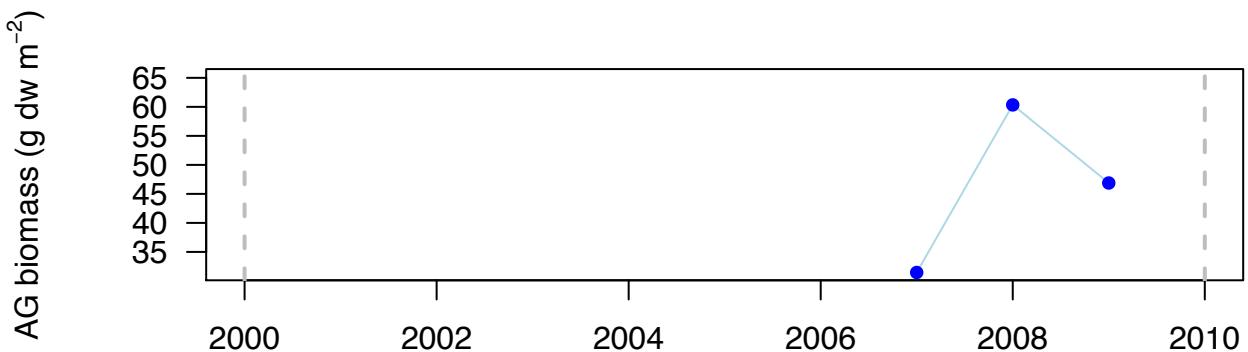
475_abiomass

Auby et al. 2010

SITE: Estuaire Bidassoa (France – Atlantic) – Zn (? m)

OVERALL: Net = 15.42 g dw m⁻²; Rate = 19.94 % yr⁻¹; Perc Final = 149 % > increase

DECADAL: NO (2 yr)



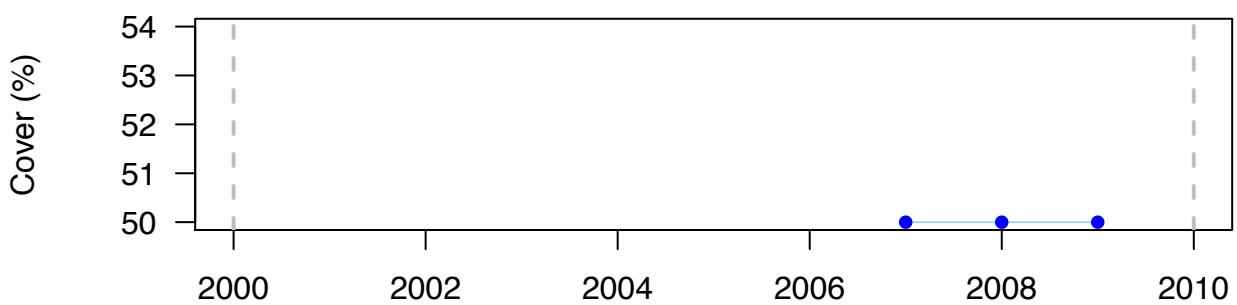
475_cover

Auby et al. 2010

SITE: Estuaire Bidassoa (France – Atlantic) – Zn (? m)

OVERALL: Net = 0 %; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECADAL: NO (2 yr)



475_density

Auby et al. 2010

SITE: Estuaire Bidassoa (France – Atlantic) – Zn (? m)

OVERALL: Net = 2375 shoot m⁻²; Rate = 23.14 % yr⁻¹; Perc Final = 159 % > increase

DECADAL: NO (2 yr)



476_area

Auby et al. 2010

SITE: Estuaire Bidassoa (France – Atlantic) – Zn (? m)

OVERALL: Net = -7.04 ha; Rate = -5.34 % yr⁻¹; Perc Final = 19 % > decrease

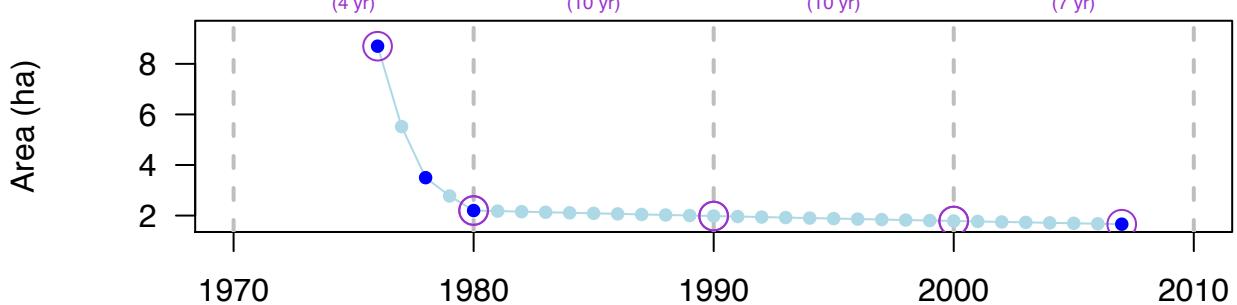
DECADAL: YES (31 yr)

1970s
decrease
unknown
-34.37%yr⁻¹
(4 yr)

1980s
no change
improve
-1.04%yr⁻¹
(10 yr)

1990s
no change
steady
-1.04%yr⁻¹
(10 yr)

2000s
no change
steady
-1.04%yr⁻¹
(7 yr)



480_area

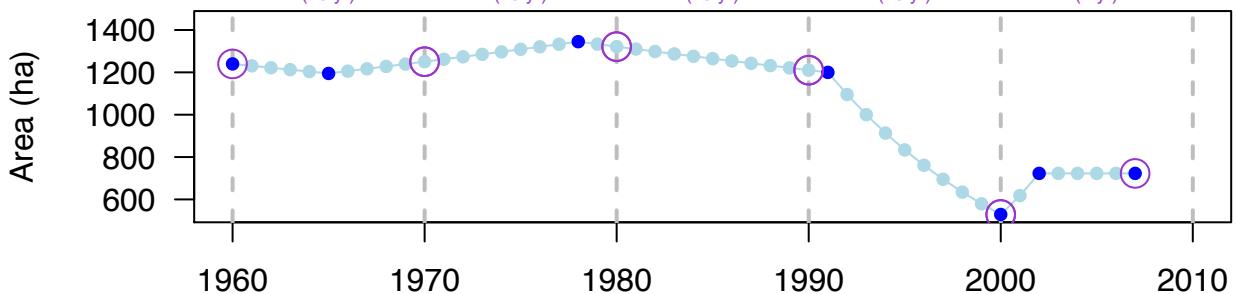
Auby et al. 2010

SITE: Golfe du Morbihan (France – Atlantic) – Zn (0 m)

OVERALL: Net = -517 ha; Rate = -1.15 % yr⁻¹; Perc Final = 58 % > decrease

DECadal: YES (47 yr)

| | | | | | | | | | |
|-----------------------|-----------------------|------------------------|------------------------|-----------------------|-----------|---------|----------|-------|----------|
| 1960s | no change | 1970s | no change | 1980s | no change | 1990s | decrease | 2000s | increase |
| unknown | steady | steady | steady | worsen | worsen | improve | improve | | |
| 0.09%yr ⁻¹ | 0.55%yr ⁻¹ | -0.88%yr ⁻¹ | -8.28%yr ⁻¹ | 4.46%yr ⁻¹ | | | | | |
| (10 yr) | (10 yr) | (10 yr) | (10 yr) | (7 yr) | | | | | |



481_area

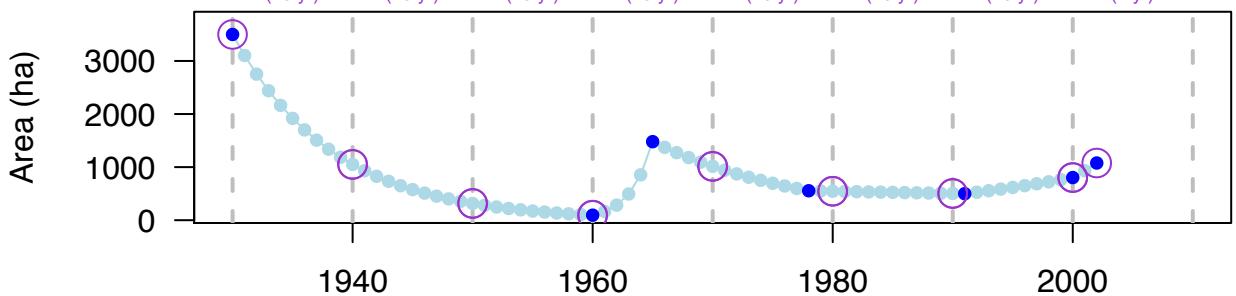
Auby et al. 2010

SITE: Golfe du Morbihan (France – Atlantic) – Zm (0 m)

OVERALL: Net = -2422 ha; Rate = -1.64 % yr⁻¹; Perc Final = 31 % > decrease

DECadal: YES (72 yr)

| | | | | | | | | | | | | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|----------|
| 1930s | decrease | 1940s | decrease | 1950s | decrease | 1960s | increase | 1970s | decrease | 1980s | no change | 1990s | increase | 2000s | increase |
| unknown | worsen | worsen | worsen | worsen | worsen | improve | improve | worsen | worsen | improve | improve | improve | improve | | improve |
| -12.02%yr ⁻¹ | 23.69%yr ⁻¹ | 23.69%yr ⁻¹ | -6.2%yr ⁻¹ | -6.2%yr ⁻¹ | -0.8%yr ⁻¹ | -0.8%yr ⁻¹ | 4.67%yr ⁻¹ | 4.67%yr ⁻¹ | 14.66%yr ⁻¹ | (10 yr) |
| (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (2 yr) | |



482_area

Auby et al. 2010

SITE: Ouest Cotentin (France – Atlantic) – Zm (? m)

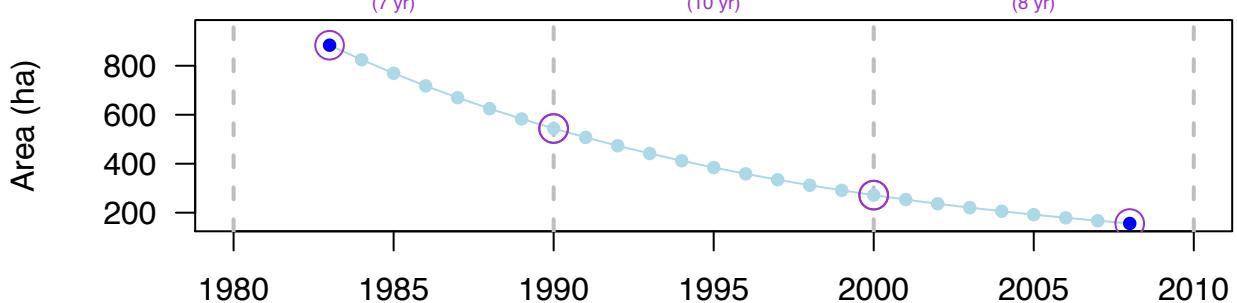
OVERALL: Net = -728 ha; Rate = -6.94 % yr⁻¹; Perc Final = 18 % > decrease

DECADAL: YES (25 yr)

1980s
decrease
unknown
-6.94%yr⁻¹
(7 yr)

1990s
decrease
worsen
-6.94%yr⁻¹
(10 yr)

2000s
decrease
worsen
-6.94%yr⁻¹
(8 yr)



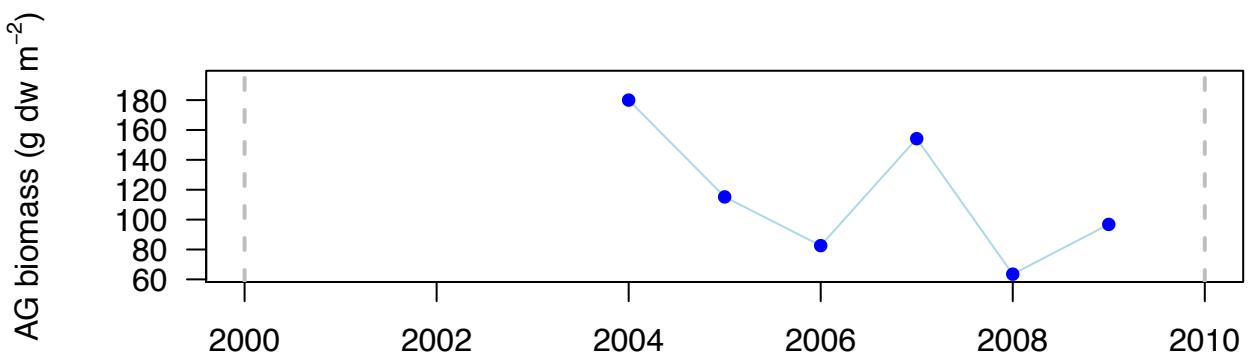
487_abiomass

Auby et al. 2010

SITE: Molène (France – Atlantic) – Zm (? m)

OVERALL: Net = -83.2 g dw m⁻²; Rate = -12.41 % yr⁻¹; Perc Final = 54 % > decrease

DECADAL: NO (5 yr)



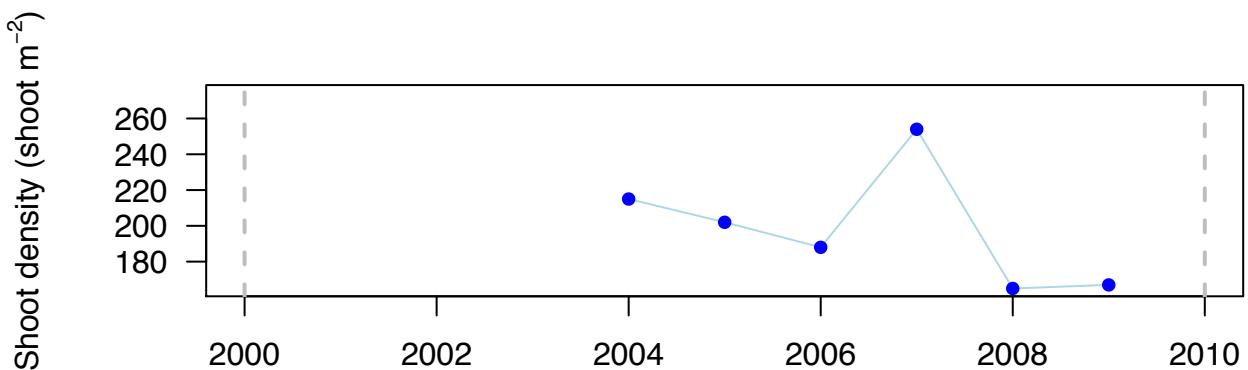
487_density

Auby et al. 2010

SITE: Molène (France – Atlantic) – Zm (? m)

OVERALL: Net = -48 shoot m⁻²; Rate = -5.05 % yr⁻¹; Perc Final = 78 % > no change

DECadal: NO (5 yr)



496_area

Auby et al. 2010

SITE: Lac d'Hossegor (France – Atlantic) – Zn (? m)

OVERALL: Net = 0.46 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECadal: YES (41 yr)

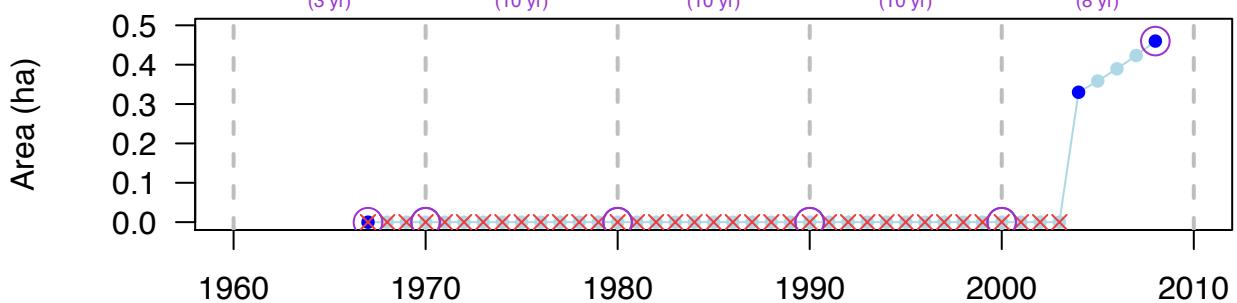
1960s
decrease
unknown
NaN%yr⁻¹
(3 yr)

1970s
decrease
worsen
NaN%yr⁻¹
(10 yr)

1980s
decrease
worsen
NaN%yr⁻¹
(10 yr)

1990s
decrease
worsen
NaN%yr⁻¹
(10 yr)

2000s
increase
improve
Inf%yr⁻¹
(8 yr)



497_area

Auby et al. 2010

SITE: Lac d'Hossegor (France – Atlantic) – Zm (? m)

OVERALL: Net = 0.47 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECADAL: YES (41 yr)

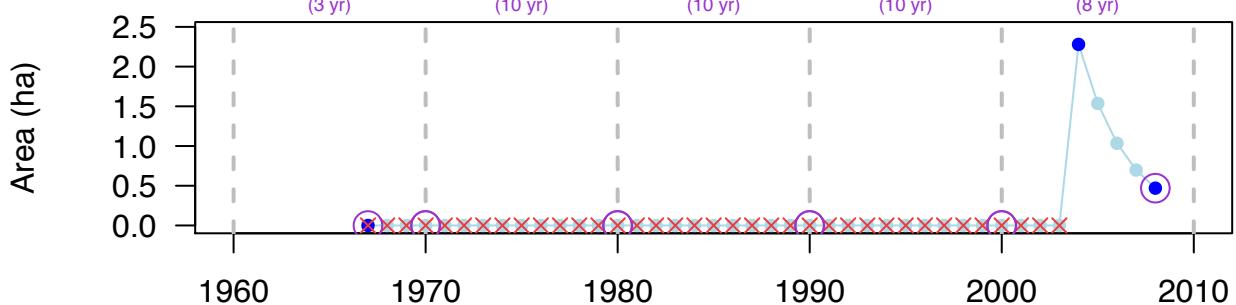
1960s
decrease
unknown
NaN%yr⁻¹
(3 yr)

1970s
decrease
worsen
NaN%yr⁻¹
(10 yr)

1980s
decrease
worsen
NaN%yr⁻¹
(10 yr)

1990s
decrease
worsen
NaN%yr⁻¹
(10 yr)

2000s
increase
improve
Inf%yr⁻¹
(8 yr)



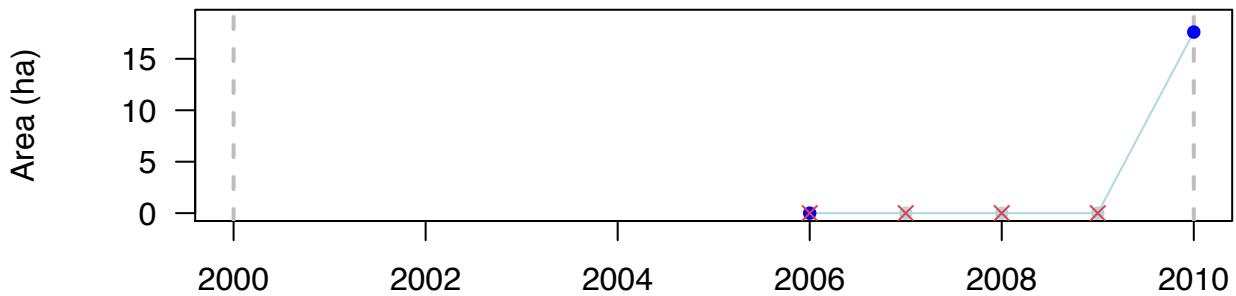
506_area

Auby et al. 2010

SITE: L'estuaire du Lay (France – Atlantic) – Zn (? m)

OVERALL: Net = 17.6 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

DECADAL: NO (4 yr)



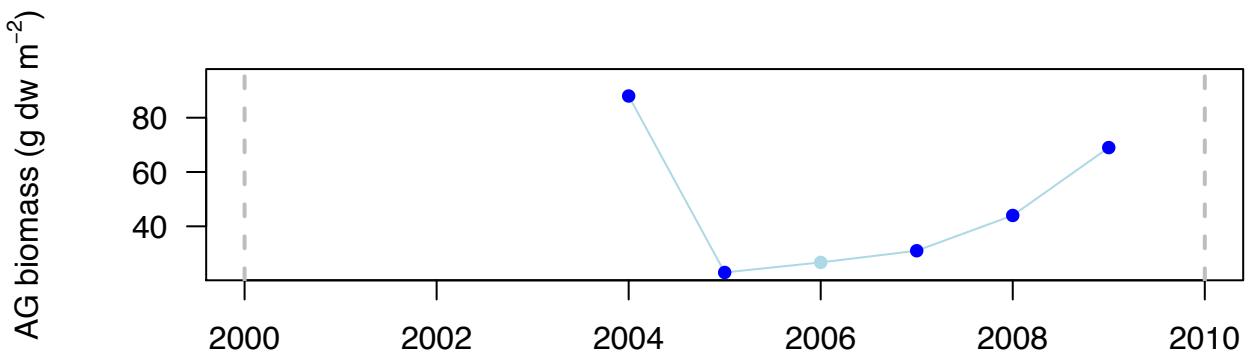
507_abiomass

Auby et al. 2010

SITE: Sainte-Marquerite (France – Atlantic) – Zm (? m)

OVERALL: Net = -19 g dw m⁻²; Rate = -4.86 % yr⁻¹; Perc Final = 78 % > no change

DECADAL: NO (5 yr)



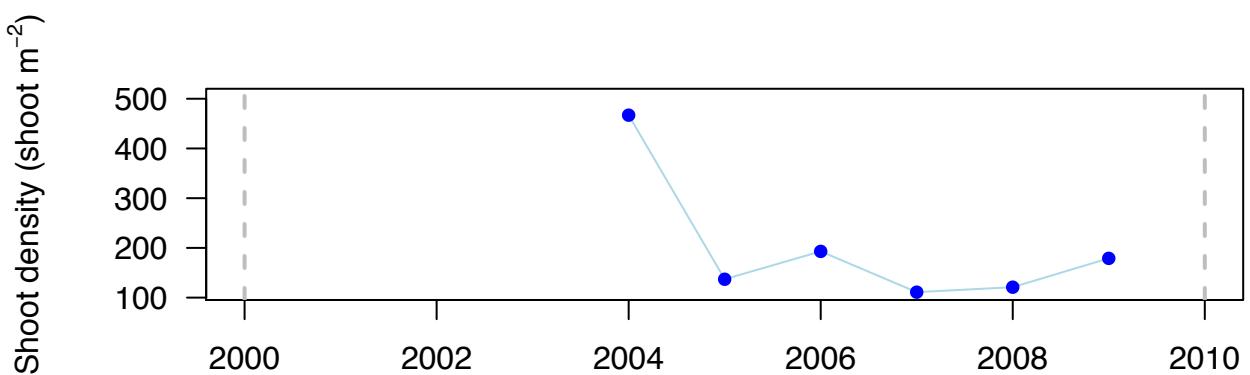
507_density

Auby et al. 2010

SITE: Sainte-Marquerite (France – Atlantic) – Zm (? m)

OVERALL: Net = -288 shoot m⁻²; Rate = -19.18 % yr⁻¹; Perc Final = 38 % > decrease

DECADAL: NO (5 yr)



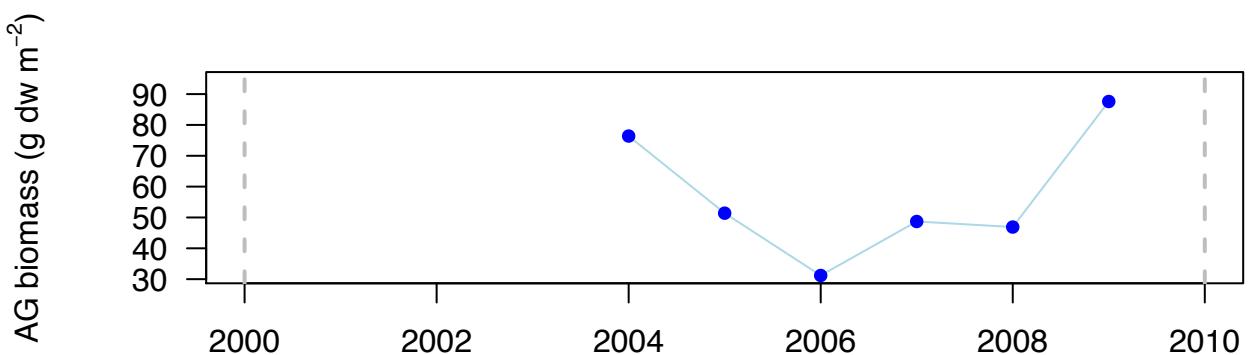
519_abiomass

Auby et al. 2010

SITE: Paimpol (France – Atlantic) – Zm (? m)

OVERALL: Net = 11.2 g dw m⁻²; Rate = 2.74 % yr⁻¹; Perc Final = 115 % > no change

DECADAL: NO (5 yr)



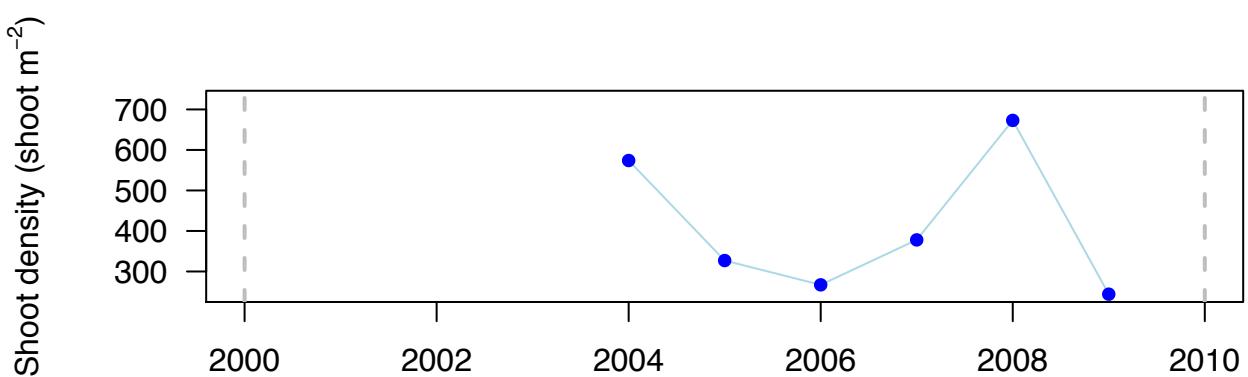
519_density

Auby et al. 2010

SITE: Paimpol (France – Atlantic) – Zm (? m)

OVERALL: Net = -330 shoot m⁻²; Rate = -17.11 % yr⁻¹; Perc Final = 43 % > decrease

DECADAL: NO (5 yr)



520_abiomass

Auby et al. 2010

SITE: Les Sept îles (France – Atlantic) – Zm (? m)

OVERALL: Net = -36.9 g dw m⁻²; Rate = -15.54 % yr⁻¹; Perc Final = 73 % > decrease

DECADAL: NO (2 yr)



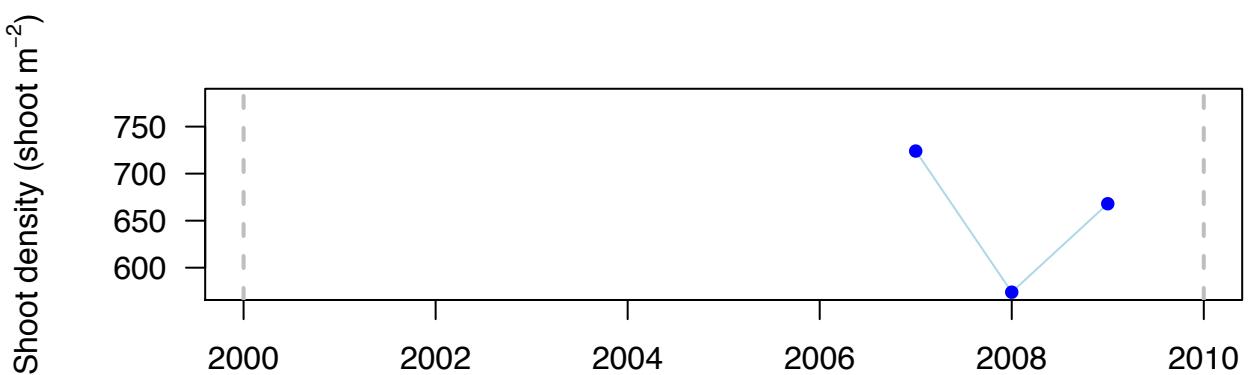
520_density

Auby et al. 2010

SITE: Les Sept îles (France – Atlantic) – Zm (? m)

OVERALL: Net = -56 shoot m⁻²; Rate = -4.03 % yr⁻¹; Perc Final = 92 % > no change

DECADAL: NO (2 yr)



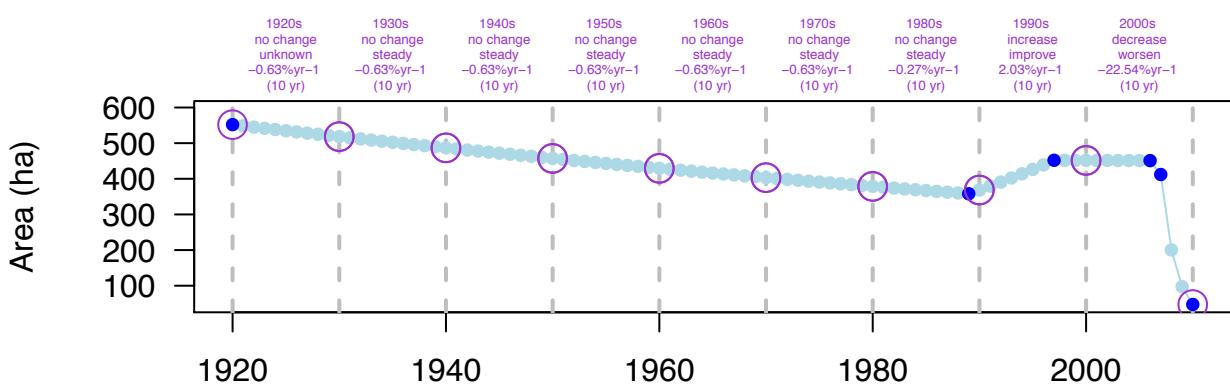
521_area

Auby et al. 2010

SITE: Pertuis Breton (France – Atlantic) – Zn (? m)

OVERALL: Net = -504.6 ha; Rate = -2.73 % yr⁻¹; Perc Final = 9 % > decrease

DECadal: YES (90 yr)



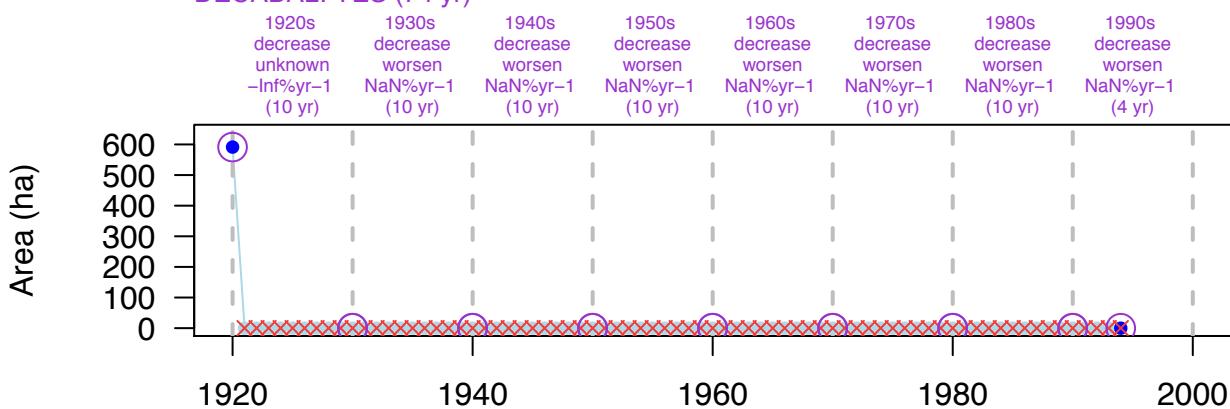
522_area

Auby et al. 2010

SITE: Pertuis Breton (France – Atlantic) – Zm (? m)

OVERALL: Net = -591.45 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (74 yr)



523_abiomass

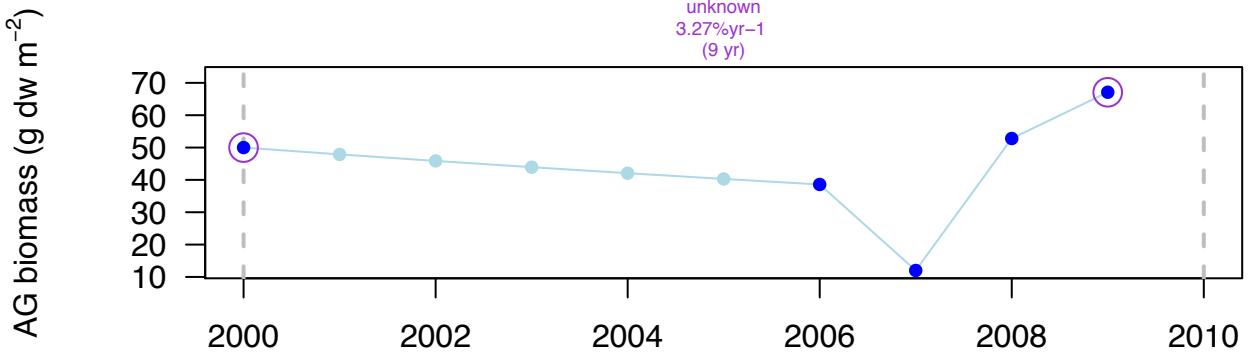
Auby et al. 2010

SITE: Les Doux (Pertuis Charentais) (France – Atlantic) – Zn (? m)

OVERALL: Net = 17.1 g dw m⁻²; Rate = 3.27 % yr⁻¹; Perc Final = 134 % > increase

DECadal: YES (9 yr)

2000s
increase
unknown
3.27%yr⁻¹
(9 yr)



523_density

Auby et al. 2010

SITE: Les Doux (Pertuis Charentais) (France – Atlantic) – Zn (? m)

OVERALL: Net = 2934 shoot m⁻²; Rate = 24.48 % yr⁻¹; Perc Final = 163 % > increase

DECadal: NO (2 yr)



531_area

Auby et al. 2010

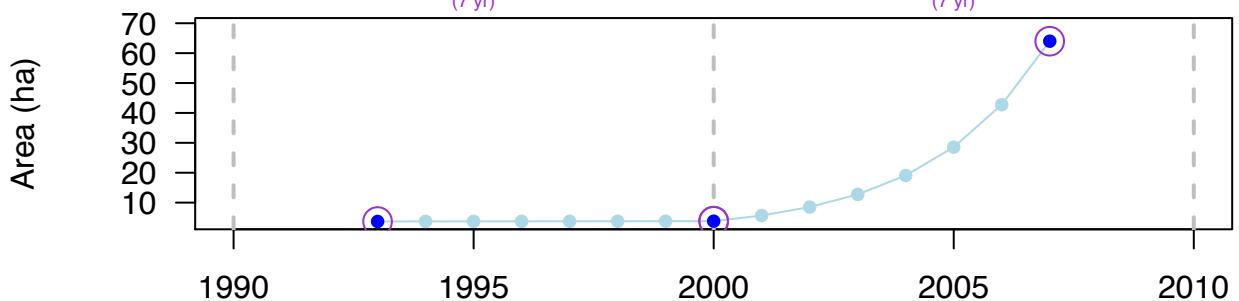
SITE: Rade de Brest (France – Atlantic) – Zm (? m)

OVERALL: Net = 60.3 ha; Rate = 20.36 % yr⁻¹; Perc Final = 1730 % > increase

DECADAL: YES (14 yr)

1990s
no change
unknown
0.38%yr⁻¹
(7 yr)

2000s
increase
improve
40.34%yr⁻¹
(7 yr)



556_density

Marbà and Duarte 2010, Duarte and Marbà (unpublished)

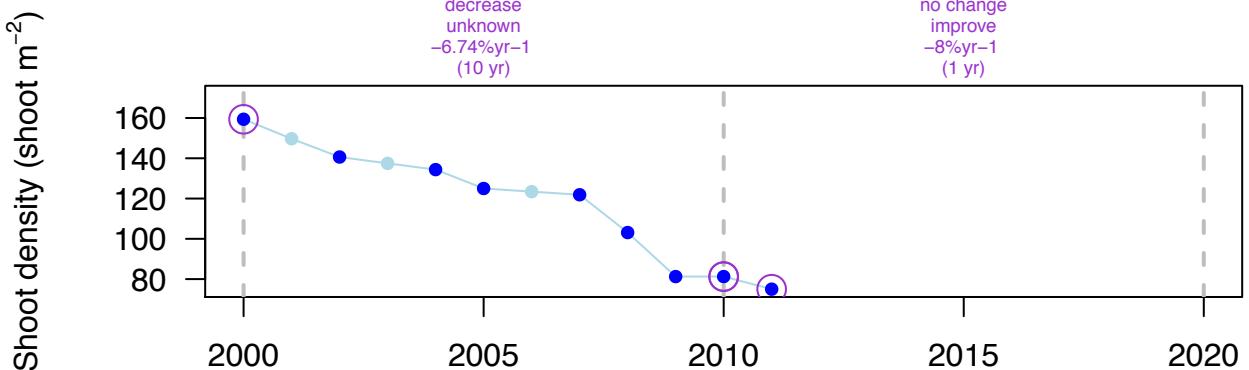
SITE: El Castell (Spain – Mediterranean) – Po (-25 m)

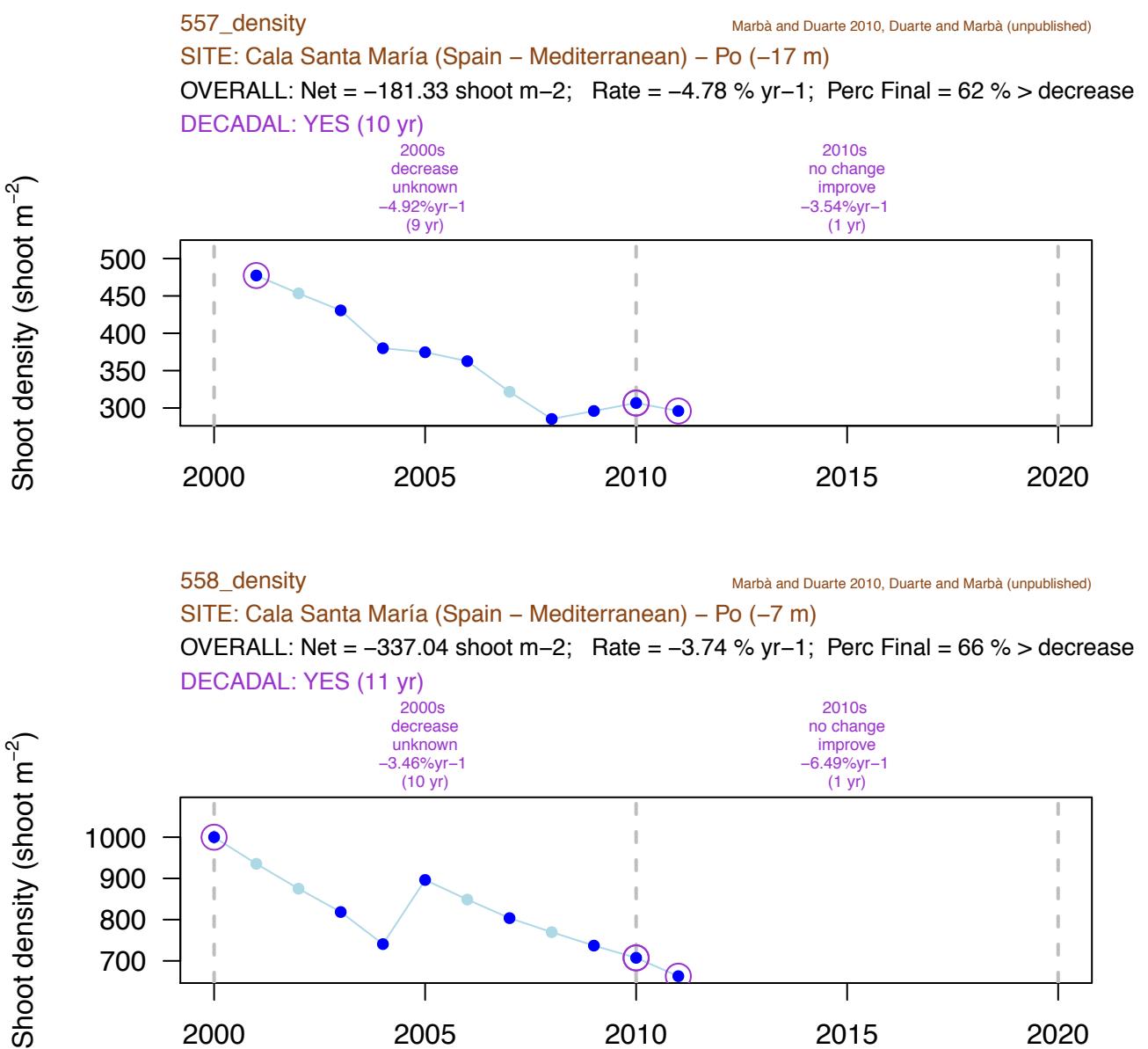
OVERALL: Net = -84.38 shoot m⁻²; Rate = -6.85 % yr⁻¹; Perc Final = 47 % > decrease

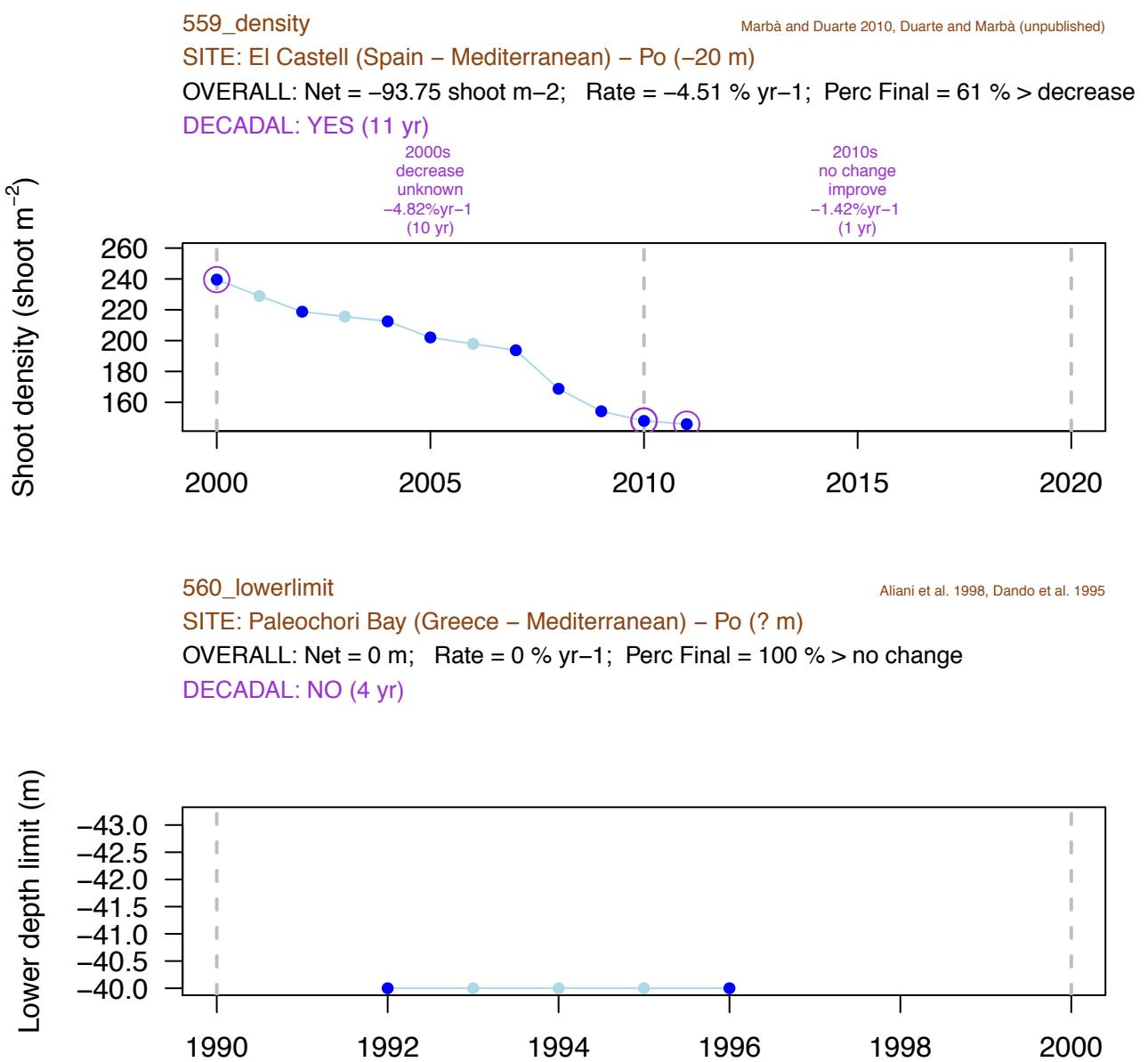
DECADAL: YES (11 yr)

2000s
decrease
unknown
-6.74%yr⁻¹
(10 yr)

2010s
no change
improve
-8%yr⁻¹
(1 yr)







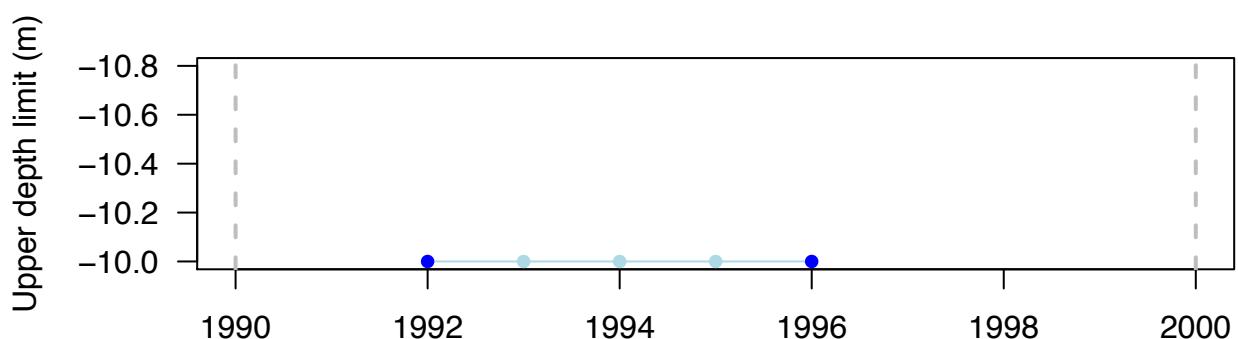
560_upperlimit

Aliani et al. 1998, Dando et al. 1995

SITE: Paleochori Bay (Greece – Mediterranean) – Po (? m)

OVERALL: Net = 0 m; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: NO (4 yr)



561_area

Auby et al. 2010

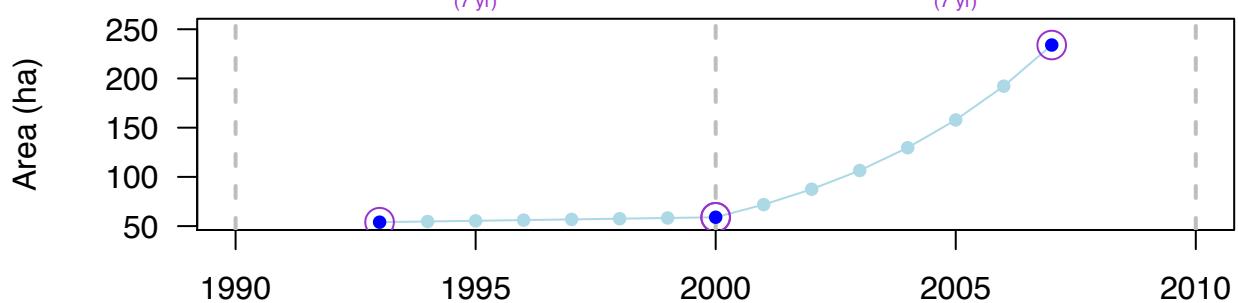
SITE: Baie de Morlaix (France – Atlantic) – Zm (? m)

OVERALL: Net = 180 ha; Rate = 10.47 % yr⁻¹; Perc Final = 433 % > increase

DECadal: YES (14 yr)

1990s
no change
unknown
1.27%yr⁻¹
(7 yr)

2000s
increase
improve
19.68%yr⁻¹
(7 yr)



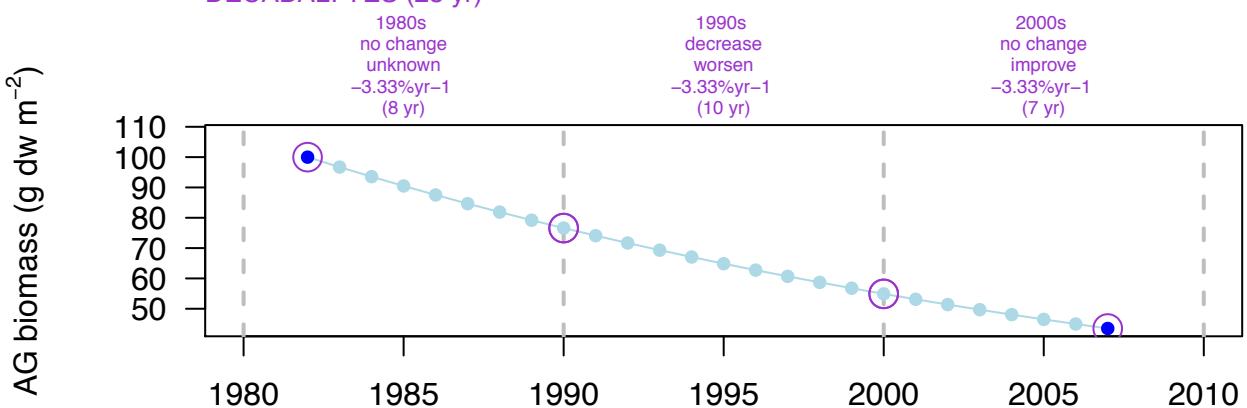
563_abiomass

Auby et al. 2010

SITE: Golfe du Morbihan (France – Atlantic) – Zn (0 m)

OVERALL: Net = -56.5 g dw m⁻²; Rate = -3.33 % yr⁻¹; Perc Final = 44 % > decrease

DECadal: YES (25 yr)



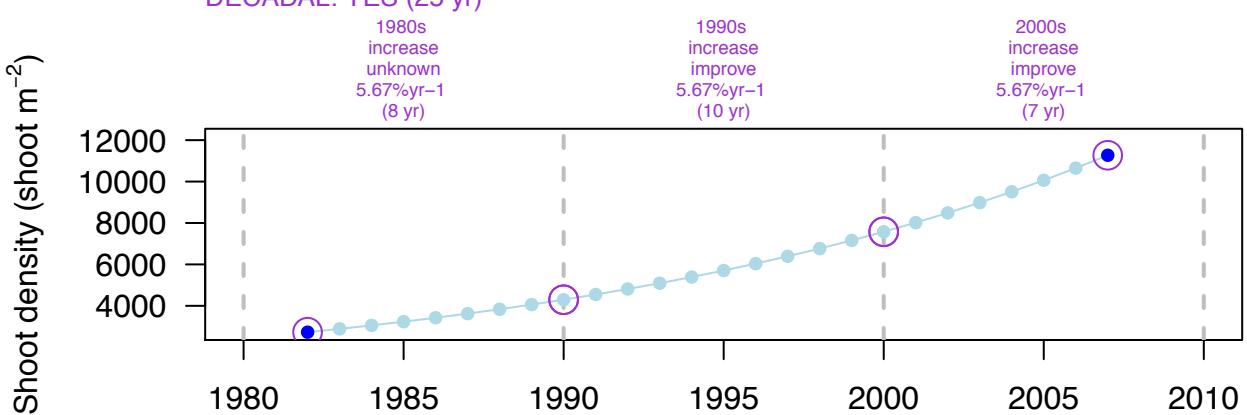
563_density

Auby et al. 2010

SITE: Golfe du Morbihan (France – Atlantic) – Zn (0 m)

OVERALL: Net = 8543 shoot m⁻²; Rate = 5.67 % yr⁻¹; Perc Final = 413 % > increase

DECadal: YES (25 yr)



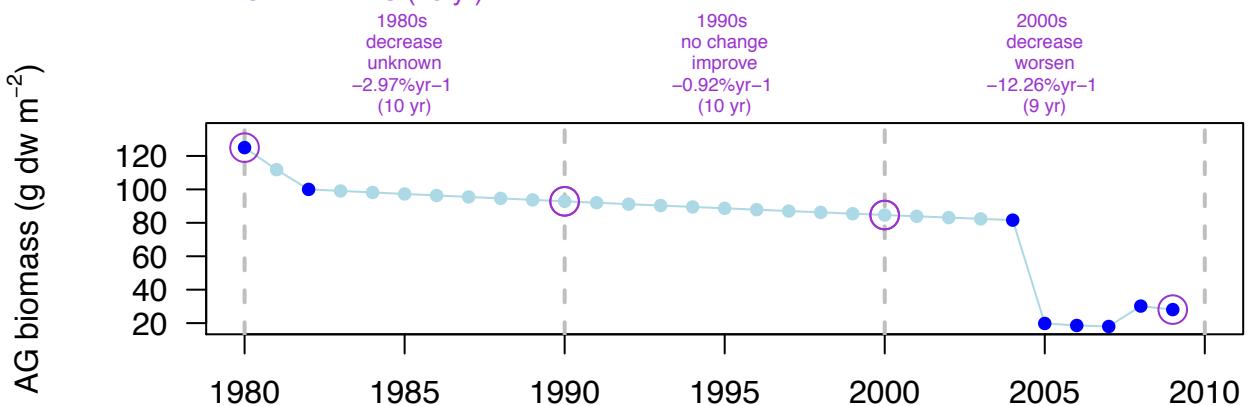
564_abiomass

Auby et al. 2010

SITE: Golfe du Morbihan (France – Atlantic) – Zm (0 m)

OVERALL: Net = -96.9 g dw m⁻²; Rate = -5.15 % yr⁻¹; Perc Final = 22 % > decrease

DECADAL: YES (29 yr)



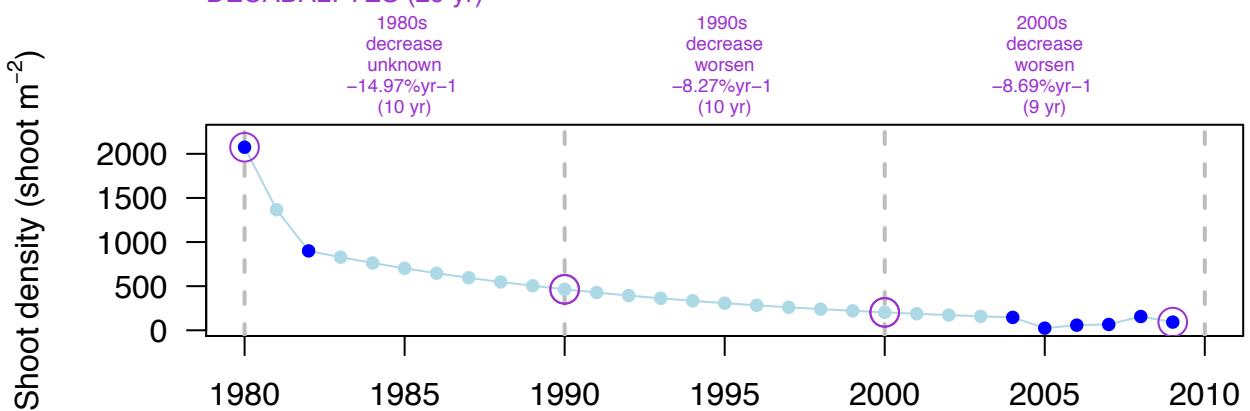
564_density

Auby et al. 2010

SITE: Golfe du Morbihan (France – Atlantic) – Zm (0 m)

OVERALL: Net = -1982 shoot m⁻²; Rate = -10.71 % yr⁻¹; Perc Final = 4 % > decrease

DECADAL: YES (29 yr)



567_area

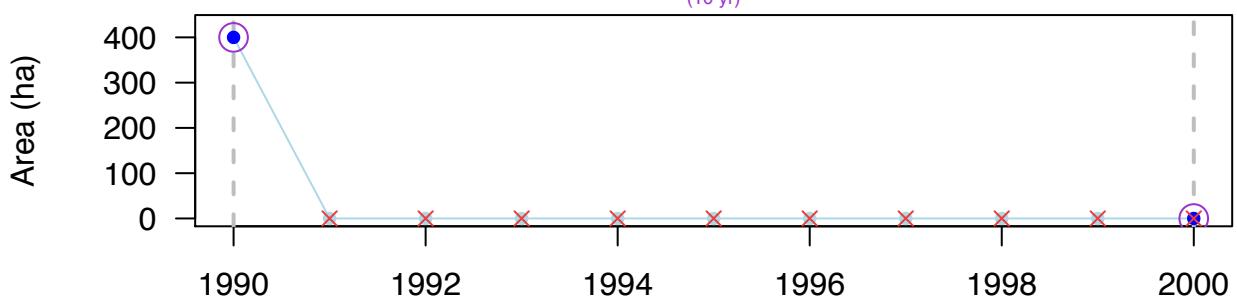
Arroyo et al. 2015

SITE: Bahía de Algeciras (Spain – Mediterranean) – Cn (? m)

OVERALL: Net = -400 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (10 yr)

1990s
decrease
unknown
-Inf%yr⁻¹
(10 yr)



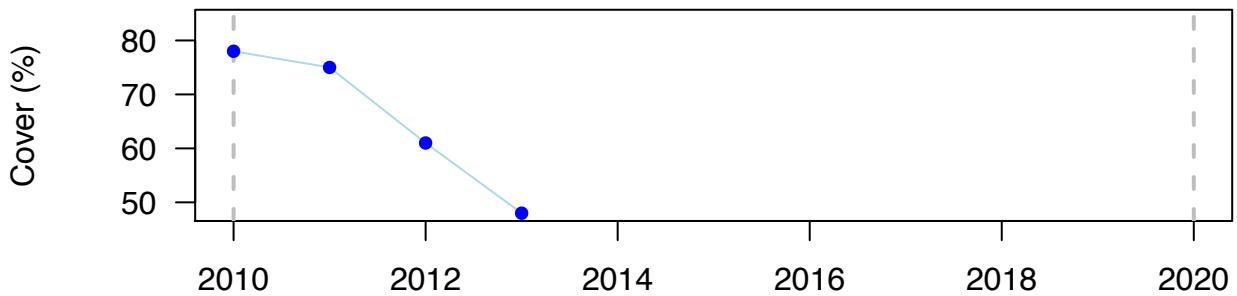
568_cover

Arroyo et al. 2015

SITE: Cala Chinches (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -30 %; Rate = -16.18 % yr⁻¹; Perc Final = 62 % > decrease

DECADAL: NO (3 yr)



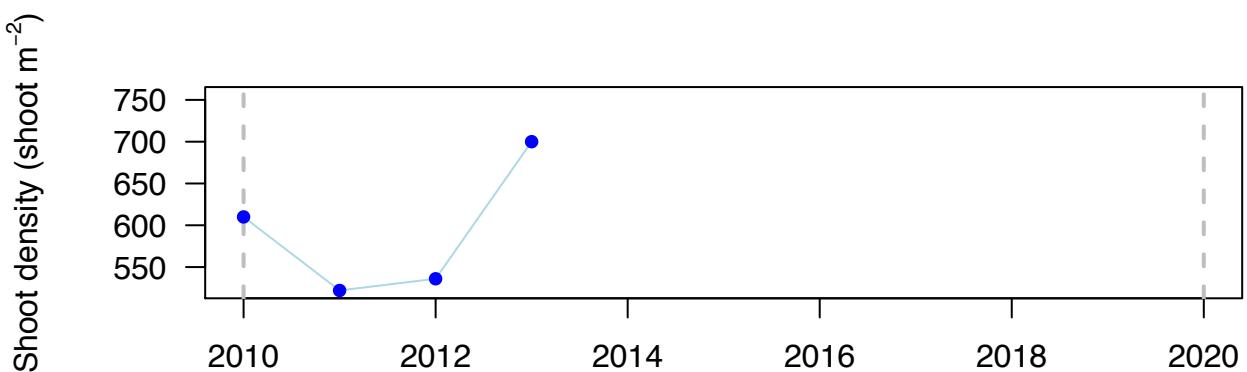
568_density

Arroyo et al. 2015

SITE: Cala Chinches (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 90 shoot m⁻²; Rate = 4.59 % yr⁻¹; Perc Final = 115 % > no change

DECadal: NO (3 yr)



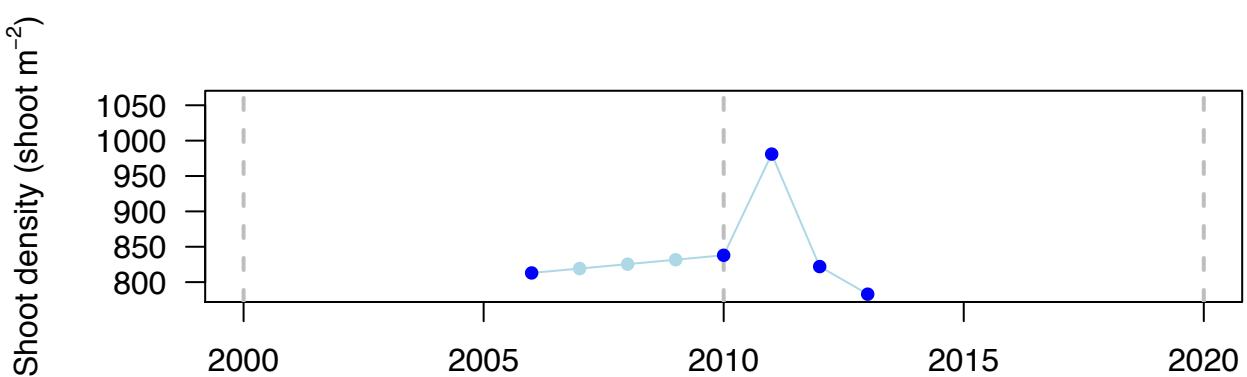
569_density

Arroyo et al. 2015

SITE: Calaburras (Peñón del Fraile) (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -30 shoot m⁻²; Rate = -0.54 % yr⁻¹; Perc Final = 96 % > no change

Decadal: NO (7 yr)



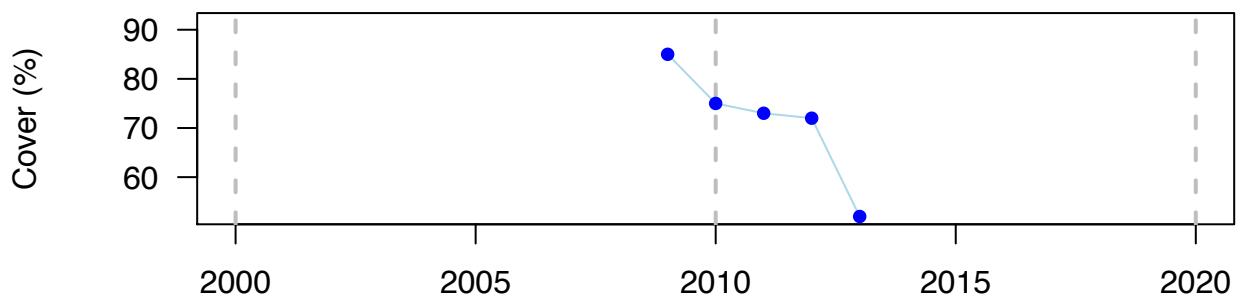
570_cover

Arroyo et al. 2015

SITE: Cambriles (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -33 %; Rate = -12.29 % yr⁻¹; Perc Final = 61 % > decrease

DECADAL: NO (4 yr)



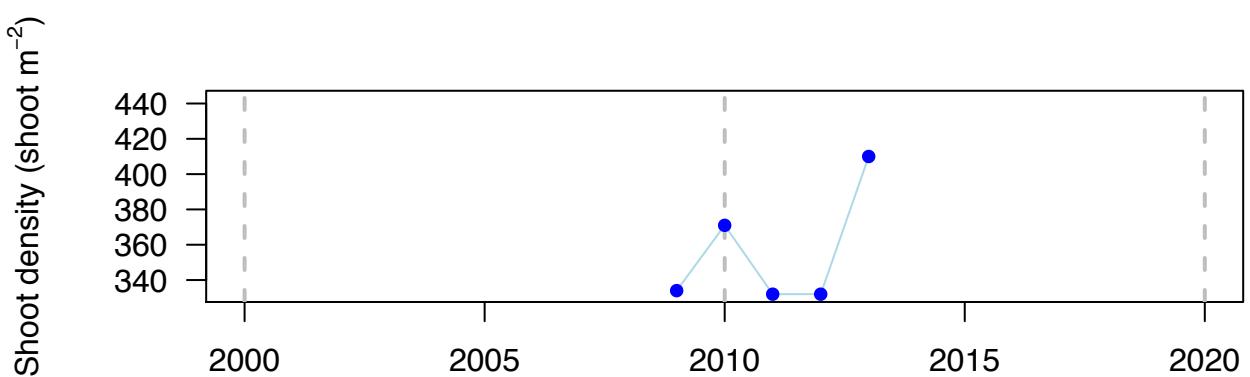
570_density

Arroyo et al. 2015

SITE: Cambriles (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 76 shoot m⁻²; Rate = 5.13 % yr⁻¹; Perc Final = 123 % > no change

DECADAL: NO (4 yr)



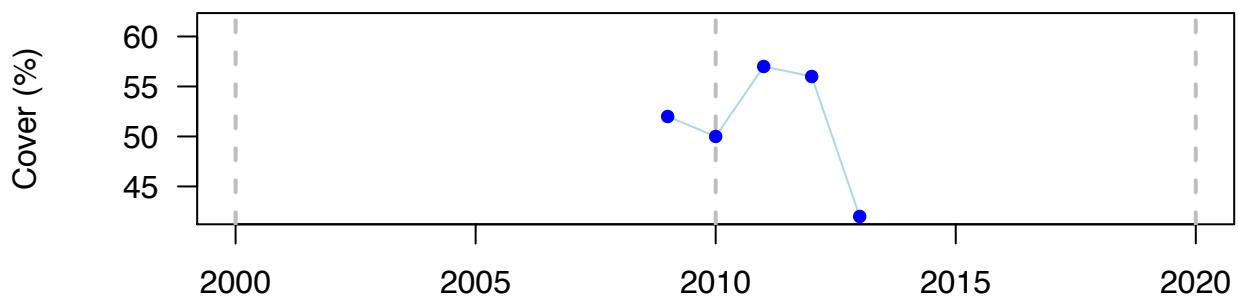
571_cover

Arroyo et al. 2015

SITE: El Lance (Spain – Mediterranean) – Po (? m)

OVERALL: Net = -10 %; Rate = -5.34 % yr-1; Perc Final = 81 % > no change

DECADAL: NO (4 yr)



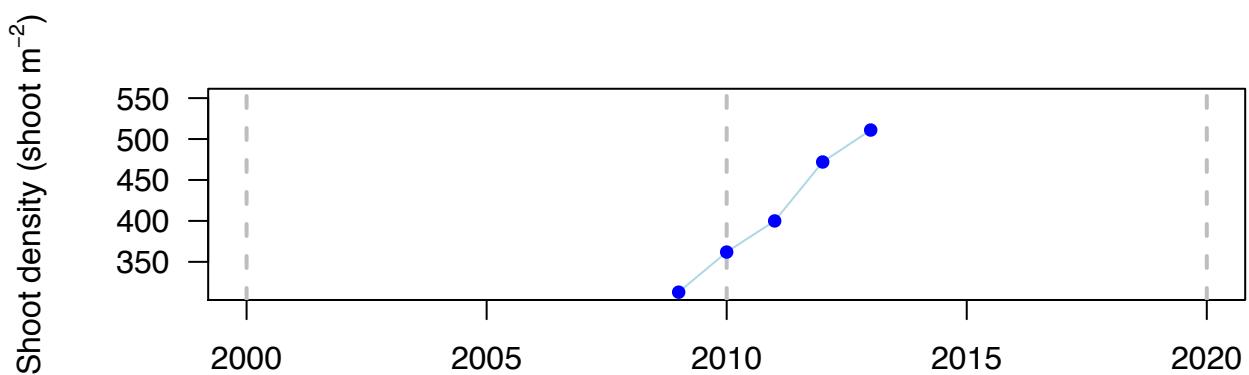
571_density

Arroyo et al. 2015

SITE: El Lance (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 198 shoot m⁻²; Rate = 12.25 % yr-1; Perc Final = 163 % > increase

DECADAL: NO (4 yr)



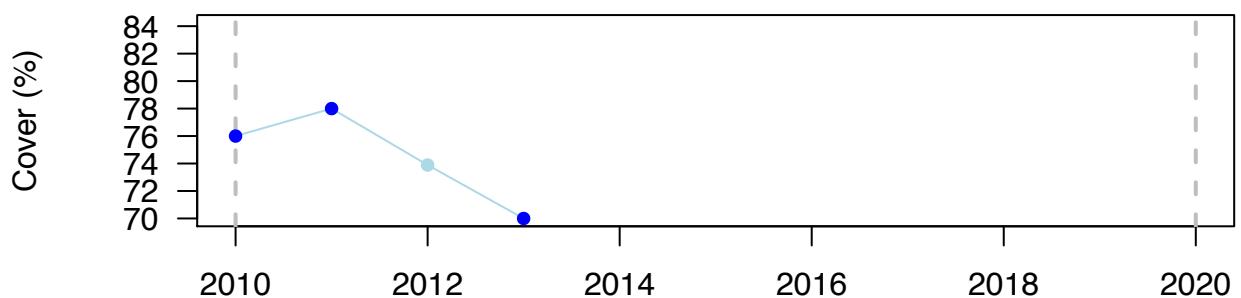
572_cover

Arroyo et al. 2015

SITE: Melicena (Spain – Mediterranean) – Po (-7 m)

OVERALL: Net = -6 %; Rate = -2.74 % yr-1; Perc Final = 92 % > no change

DECADAL: NO (3 yr)



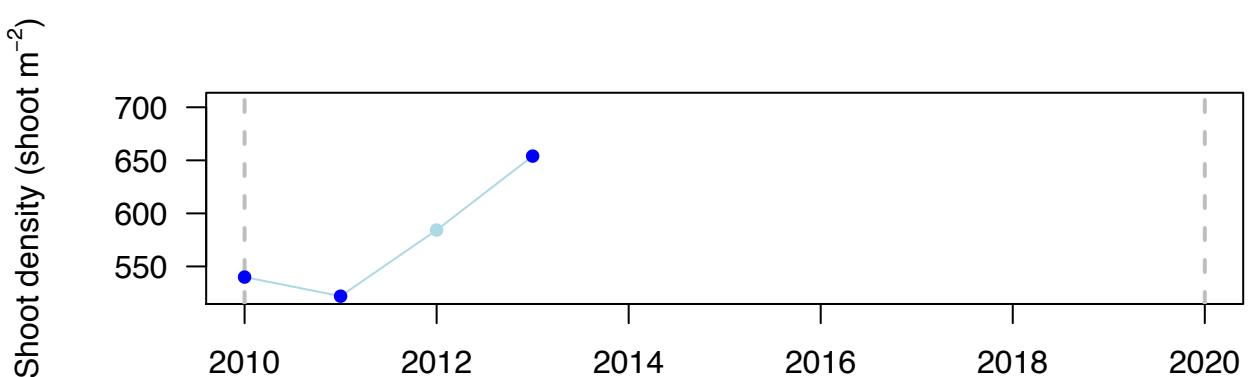
572_density

Arroyo et al. 2015

SITE: Melicena (Spain – Mediterranean) – Po (-7 m)

OVERALL: Net = 114 shoot m⁻²; Rate = 6.38 % yr-1; Perc Final = 121 % > no change

DECADAL: NO (3 yr)



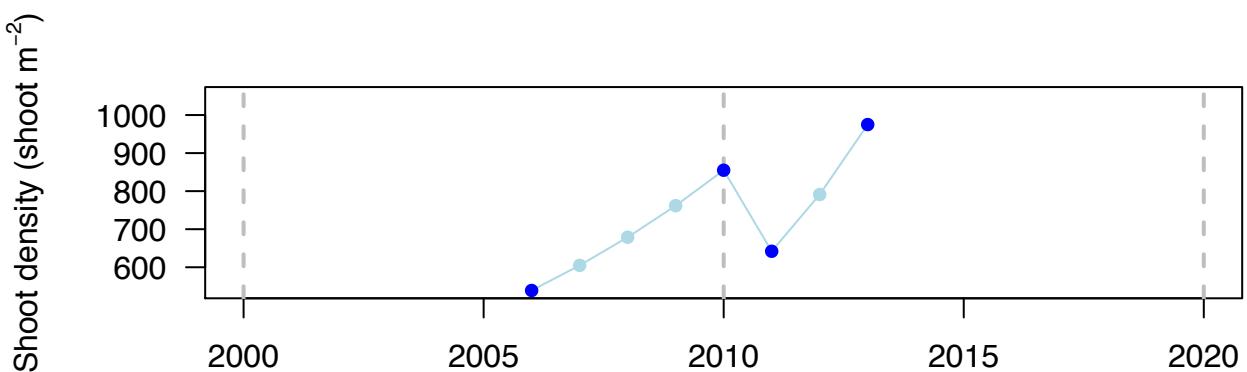
573_density

Arroyo et al. 2015

SITE: Nerja (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 436 shoot m⁻²; Rate = 8.47 % yr⁻¹; Perc Final = 181 % > increase

DECadal: NO (7 yr)



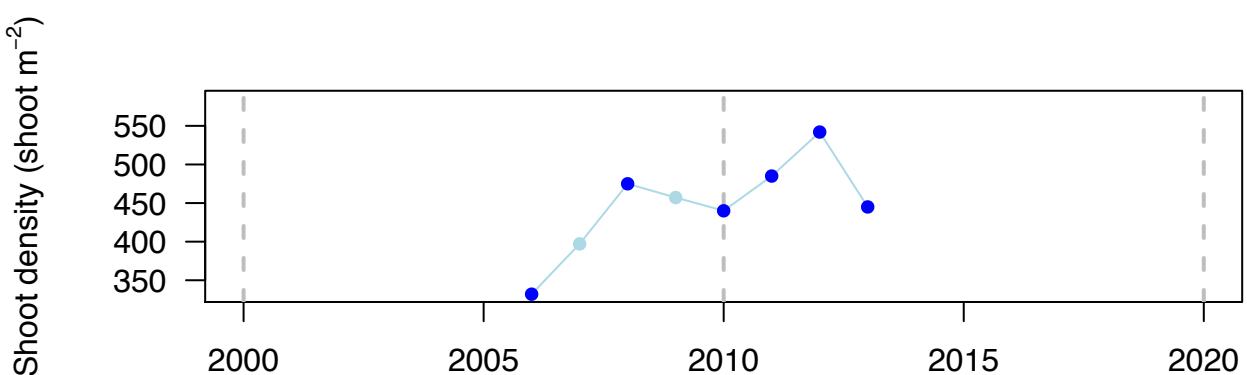
574_density

Arroyo et al. 2015

SITE: Molino de Papel (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 113 shoot m⁻²; Rate = 4.18 % yr⁻¹; Perc Final = 134 % > increase

DECadal: NO (7 yr)



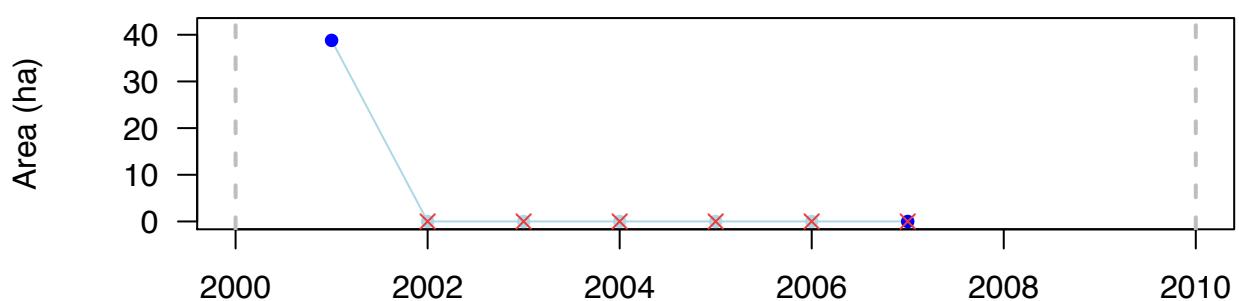
578_area

Rueda et al. 2009

SITE: Playa del Cañuelo (Spain – Mediterranean) – Zm (? m)

OVERALL: Net = -38.8 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: NO (6 yr)



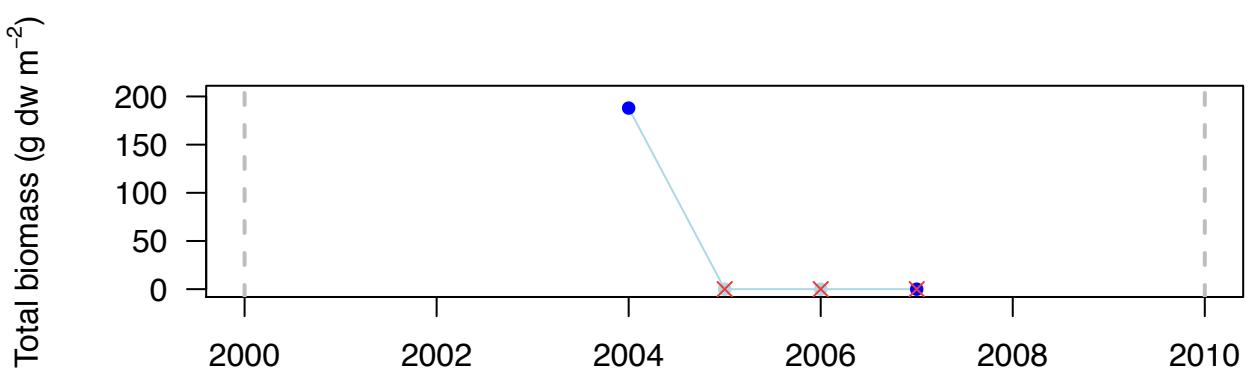
578_biomass

Rueda et al. 2009

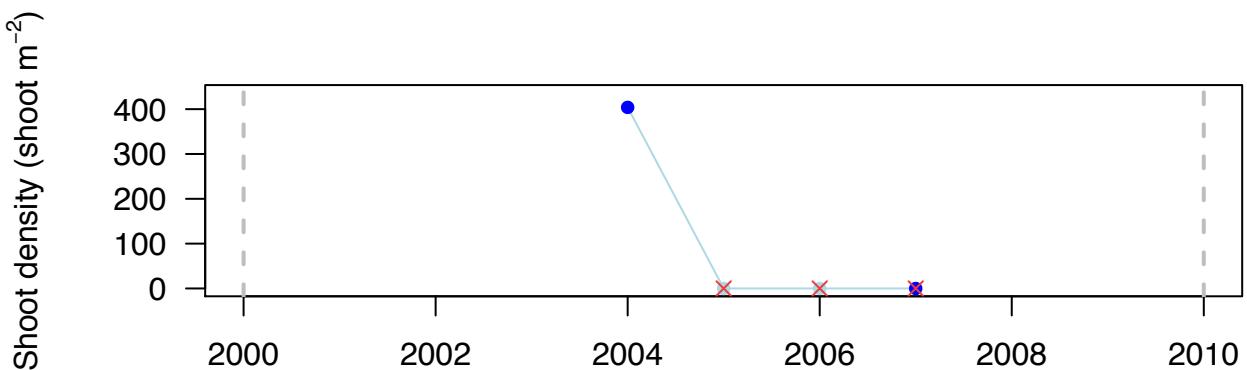
SITE: Playa del Cañuelo (Spain – Mediterranean) – Zm (? m)

OVERALL: Net = -187.97 g dw m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

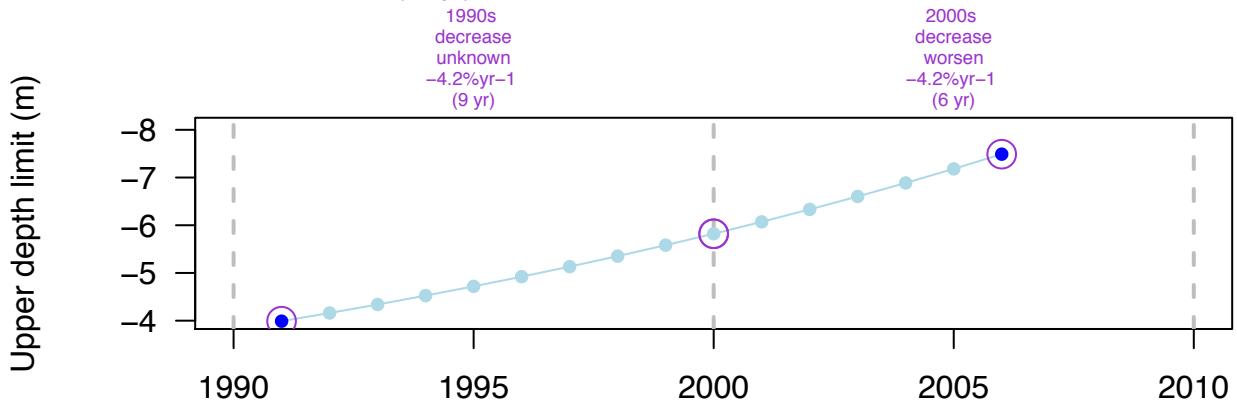
DECADAL: NO (3 yr)



578_density Rueda et al. 2009
 SITE: Playa del Cañuelo (Spain – Mediterranean) – Zm (? m)
 OVERALL: Net = -404 shoot m⁻²; Rate = NA % yr⁻¹; Perc Final = NA % > decrease
 DECADAL: NO (3 yr)



586_upperlimit Aragonés et al. 2015
 SITE: Poniente Beach Benidorm (Spain – Mediterranean) – Po (? m)
 OVERALL: Net = -3.5 m; Rate = -4.2 % yr⁻¹; Perc Final = 53 % > decrease
 DECADAL: YES (15 yr)



596_area

Auby et al. 2010

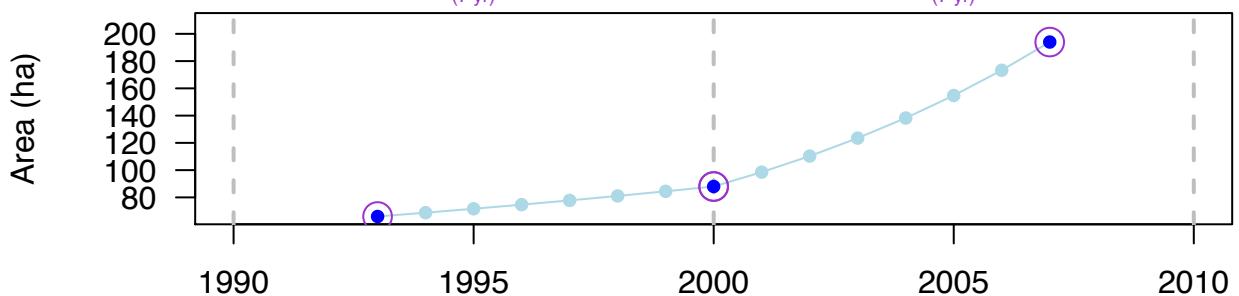
SITE: Les Abers Large (France – Atlantic) – Zm (? m)

OVERALL: Net = 128 ha; Rate = 7.7 % yr⁻¹; Perc Final = 294 % > increase

DECADAL: YES (14 yr)

1990s
increase
unknown
4.11%yr⁻¹
(7 yr)

2000s
increase
improve
11.29%yr⁻¹
(7 yr)



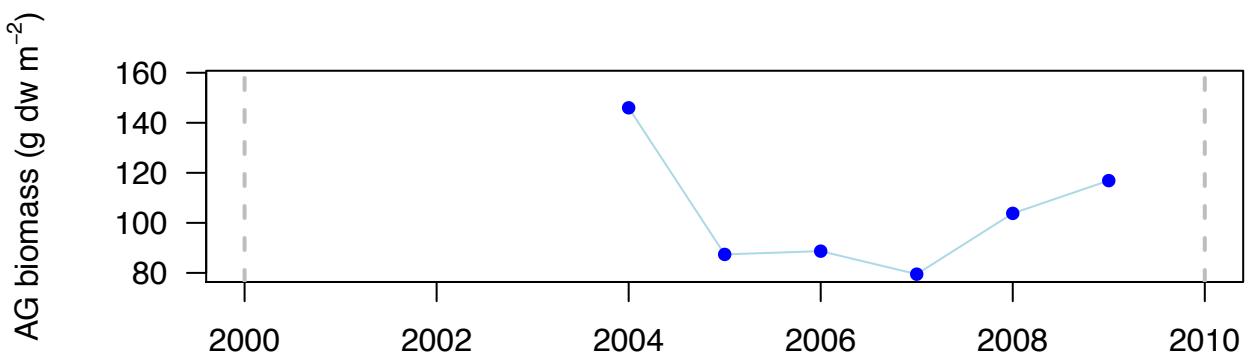
597_abiomass

Auby et al. 2010

SITE: Roscanavel (France – Atlantic) – Zm (? m)

OVERALL: Net = -29.1 g dw m⁻²; Rate = -4.45 % yr⁻¹; Perc Final = 80 % > no change

DECADAL: NO (5 yr)



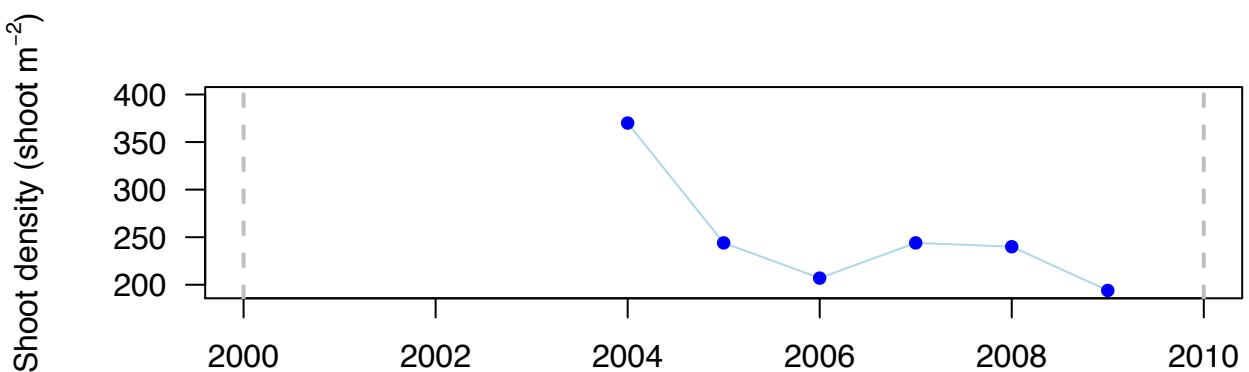
597_density

Auby et al. 2010

SITE: Roscanavel (France – Atlantic) – Zm (? m)

OVERALL: Net = -176 shoot m⁻²; Rate = -12.91 % yr⁻¹; Perc Final = 52 % > decrease

DECadal: NO (5 yr)



598_abiomass

Auby et al. 2010

SITE: Plage de la Charge Neuve (France – Atlantic) – Zn (? m)

OVERALL: Net = 6.4 g dw m⁻²; Rate = 4.55 % yr⁻¹; Perc Final = 120 % > no change

Decadal: NO (4 yr)



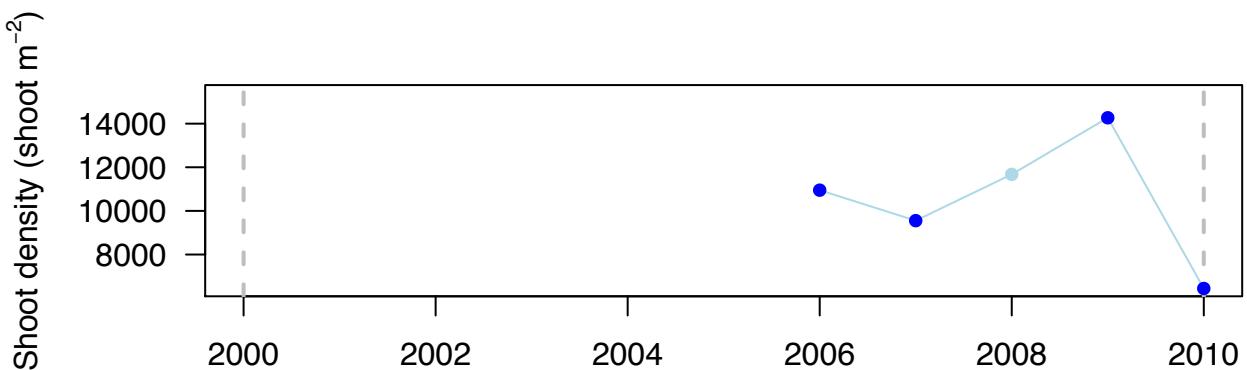
598_density

Auby et al. 2010

SITE: Plage de la Charge Neuve (France – Atlantic) – Zn (? m)

OVERALL: Net = -4506 shoot m⁻²; Rate = -13.25 % yr⁻¹; Perc Final = 59 % > decrease

DECadal: NO (4 yr)



620_area

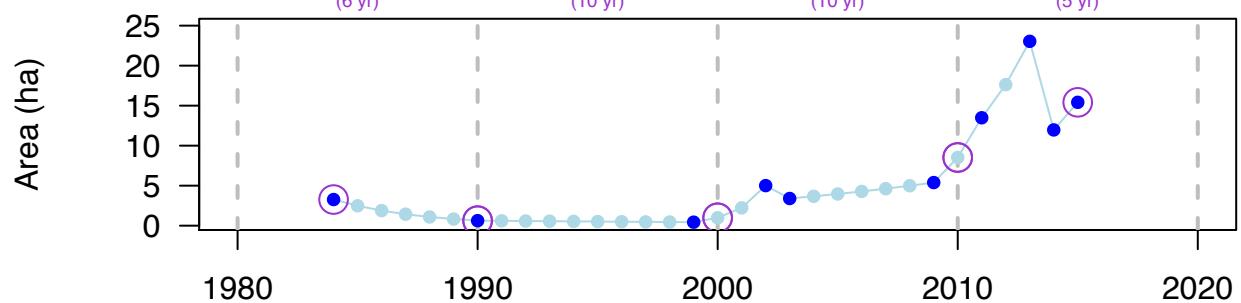
Calleja et al. 2017

SITE: Santander Bay (Spain – Atlantic) – Zn (0.9 m)

OVERALL: Net = 12.15 ha; Rate = 5 % yr⁻¹; Perc Final = 472 % > increase

DECadal: YES (31 yr)

| Decade | Trend | Rate | Period |
|--------|-------------------------|---------|--------|
| 1980s | decrease | | |
| 1980s | unknown | | |
| 1980s | -27.45%yr ⁻¹ | (6 yr) | |
| 1990s | increase | | |
| 1990s | improve | | |
| 1990s | 4.52%yr ⁻¹ | (10 yr) | |
| 2000s | increase | | |
| 2000s | improve | | |
| 2000s | 21.53%yr ⁻¹ | (10 yr) | |
| 2010s | increase | | |
| 2010s | improve | | |
| 2010s | 11.85%yr ⁻¹ | (5 yr) | |



621_area

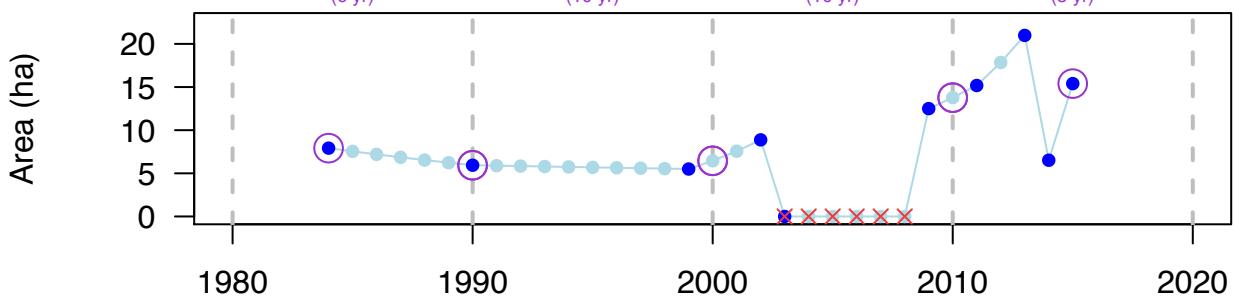
Calleja et al. 2017

SITE: Santander Bay (Spain – Atlantic) – Zn (0.3 m)

OVERALL: Net = 7.48 ha; Rate = 2.15 % yr⁻¹; Perc Final = 194 % > increase

DECadal: YES (31 yr)

| Decade | Trend | Rate | Period |
|--------|----------------------|----------------------------------|--------|
| 1980s | decrease unknown | -4.79%yr ⁻¹ (6 yr) | |
| 1990s | no change improve | 0.83%yr ⁻¹ (10 yr) | |
| 2000s | increase improve | 7.58%yr ⁻¹ (10 yr) | |
| 2010s | increase improve | 2.23%yr ⁻¹ (5 yr) | |



622_area

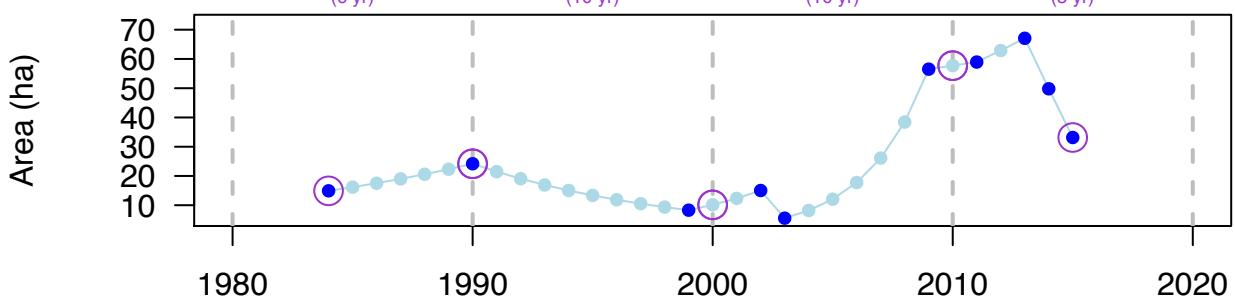
Calleja et al. 2017

SITE: Santander Bay (Spain – Atlantic) – Zn (0.4 m)

OVERALL: Net = 18.23 ha; Rate = 2.57 % yr⁻¹; Perc Final = 222 % > increase

DECadal: YES (31 yr)

| Decade | Trend | Rate | Period |
|--------|---------------------|-----------------------------------|--------|
| 1980s | increase unknown | 8.04%yr ⁻¹ (6 yr) | |
| 1990s | decrease worsen | -8.7%yr ⁻¹ (10 yr) | |
| 2000s | increase improve | 17.4%yr ⁻¹ (10 yr) | |
| 2010s | decrease worsen | -11.09%yr ⁻¹ (5 yr) | |



623_area

Calleja et al. 2017

SITE: Santander Bay (Spain – Atlantic) – Zn (-0.7 m)

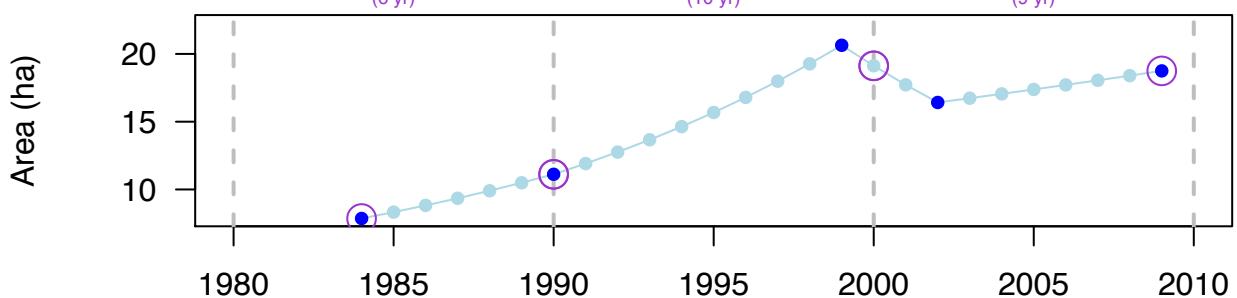
OVERALL: Net = 10.89 ha; Rate = 3.48 % yr $^{-1}$; Perc Final = 239 % > increase

DECADAL: YES (25 yr)

1980s
increase
unknown
5.78%yr $^{-1}$
(6 yr)

1990s
increase
improve
5.42%yr $^{-1}$
(10 yr)

2000s
no change
steady
-0.22%yr $^{-1}$
(9 yr)



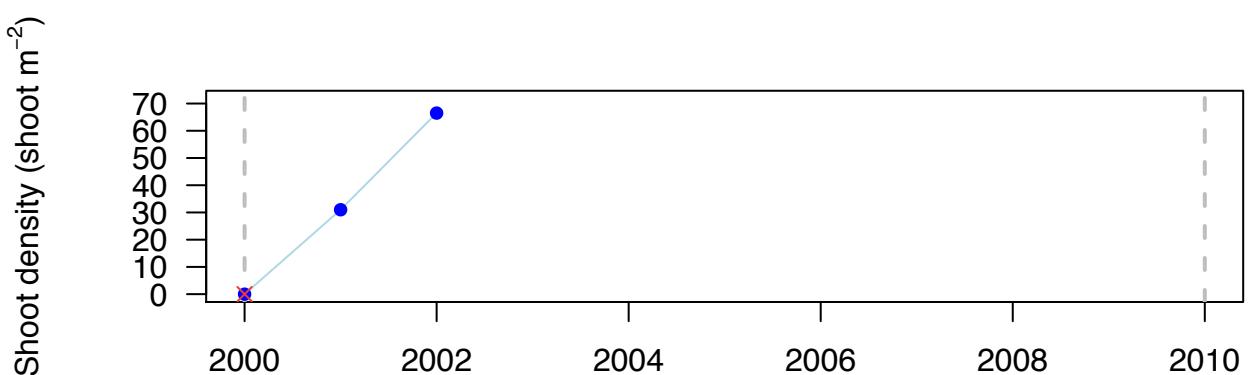
624_density

Bernard et al. 2005

SITE: Berre Lagoon (La Mède oil terminal) (France – Mediterranean) – Zm (-2 m)

OVERALL: Net = 66.5 shoot m $^{-2}$; Rate = NA % yr $^{-1}$; Perc Final = NA % > increase

DECADAL: NO (2 yr)



641_area

de Paz et al. 2008

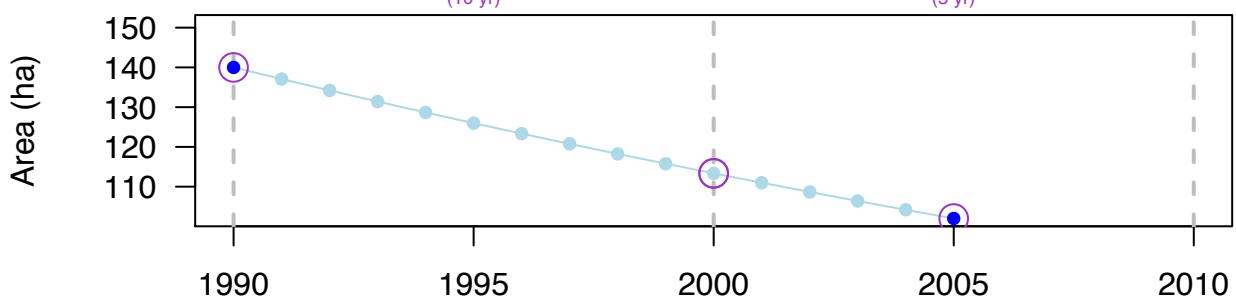
SITE: Linera inlet (Spain – Atlantic) – Zn (? m)

OVERALL: Net = -38 ha; Rate = -2.11 % yr⁻¹; Perc Final = 73 % > decrease

DECADAL: YES (15 yr)

1990s
decrease
unknown
-2.11%yr⁻¹
(10 yr)

2000s
decrease
worsen
-2.11%yr⁻¹
(5 yr)



658_biomass

Kruk–Dowgiallo 1991, Gic–Grusza et al. 2009, Kruk–Dowgiallo and Szaniawska 2008

SITE: Puck Bay (Poland – Baltic) – Zm (-3.1 m)

OVERALL: Net = -16.2 g dw m⁻²; Rate = -1.44 % yr⁻¹; Perc Final = 56 % > decrease

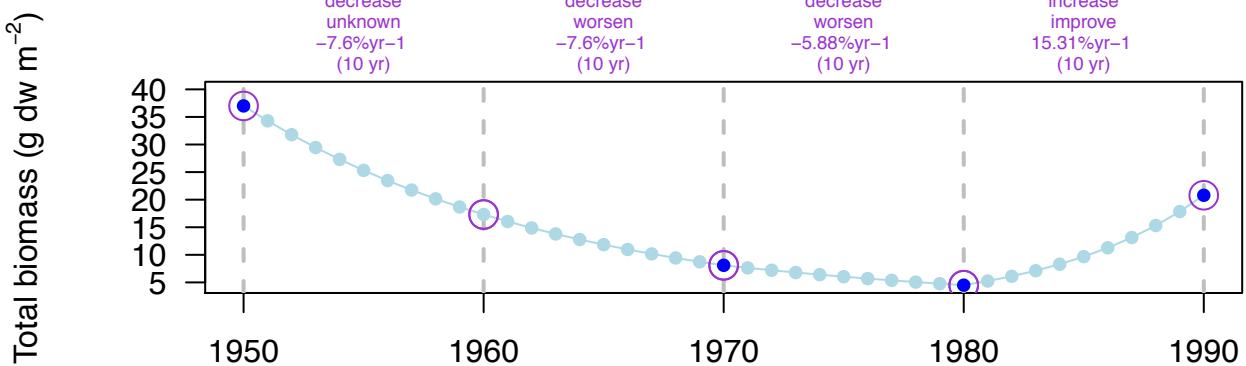
DECADAL: YES (40 yr)

1950s
decrease
unknown
-7.6%yr⁻¹
(10 yr)

1960s
decrease
worsen
-7.6%yr⁻¹
(10 yr)

1970s
decrease
worsen
-5.88%yr⁻¹
(10 yr)

1980s
increase
improve
15.31%yr⁻¹
(10 yr)



658_area

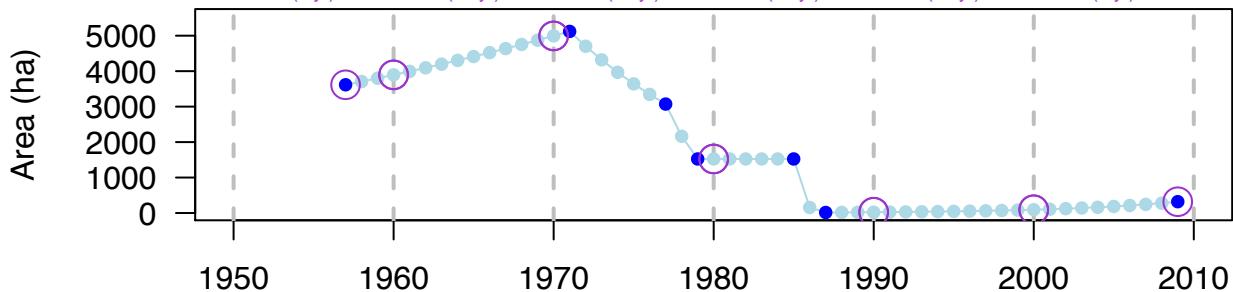
Kruk-Dowgiallo 1991, Gic-Grusza et al. 2009, Kruk-Dowgiallo and Szaniawska 2008

SITE: Puck Bay (Poland – Baltic) – Zm (-3.1 m)

OVERALL: Net = -3296.08 ha ; Rate = $-4.66\% \text{ yr}^{-1}$; Perc Final = 9 % > decrease

DECadal: YES (52 yr)

| 1950s | 1960s | 1970s | 1980s | 1990s | 2000s |
|------------------------|------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| no change | increase | decrease | decrease | increase | increase |
| unknown | improve | worsen | worsen | improve | improve |
| $2.48\%\text{yr}^{-1}$ | $2.48\%\text{yr}^{-1}$ | $-11.86\%\text{yr}^{-1}$ | $-41.49\%\text{yr}^{-1}$ | $13.62\%\text{yr}^{-1}$ | $13.62\%\text{yr}^{-1}$ |
| (3 yr) | (10 yr) | (10 yr) | (10 yr) | (10 yr) | (9 yr) |



670_biomass

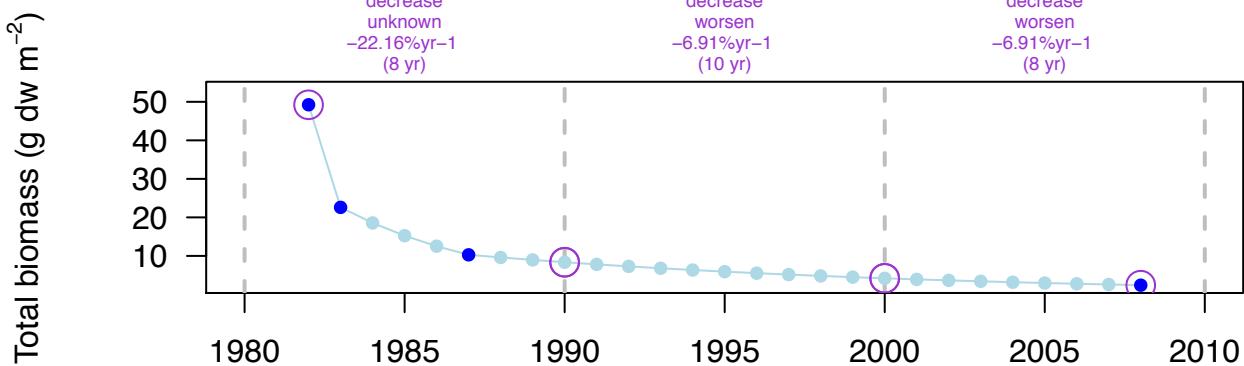
Pérez-Ruizafa et al. 2012

SITE: Mar Menor (Spain – Mediterranean) – Cn (? m)

OVERALL: Net = $-46.83\text{ g dw m}^{-2}$; Rate = $-11.6\% \text{ yr}^{-1}$; Perc Final = 5 % > decrease

DECadal: YES (26 yr)

| 1980s | 1990s | 2000s |
|--------------------------|-------------------------|-------------------------|
| decrease | decrease | decrease |
| unknown | worsen | worsen |
| $-22.16\%\text{yr}^{-1}$ | $-6.91\%\text{yr}^{-1}$ | $-6.91\%\text{yr}^{-1}$ |
| (8 yr) | (10 yr) | (8 yr) |



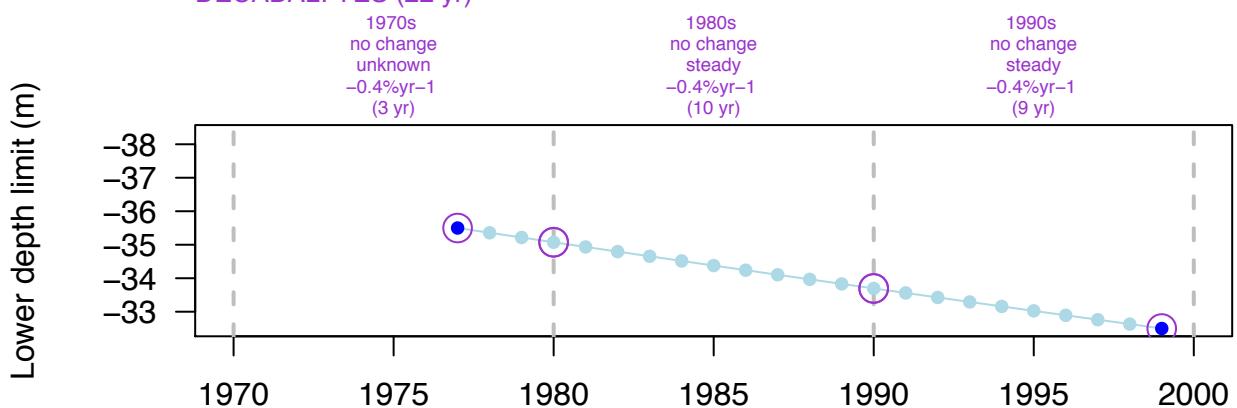
684_lowerlimit

Meinesz et al. 2002

SITE: Elbu Bay (France – Mediterranean) – Po (-35.5 m)

OVERALL: Net = -3 m; Rate = -0.4 % yr⁻¹; Perc Final = 92 % > no change

DECadal: YES (22 yr)



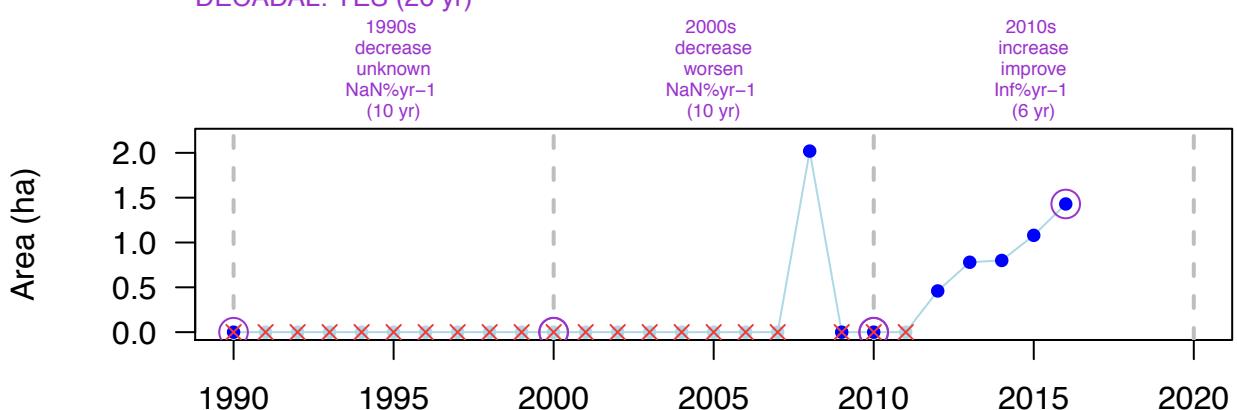
691_area

Arroyo et al. 2015, Consejería de Medio Ambiente 2016

SITE: Palmones (Spain – Mediterranean) – Zn (? m)

OVERALL: Net = 1.43 ha; Rate = NA % yr⁻¹; Perc Final = NA % > increase

Decadal: YES (26 yr)



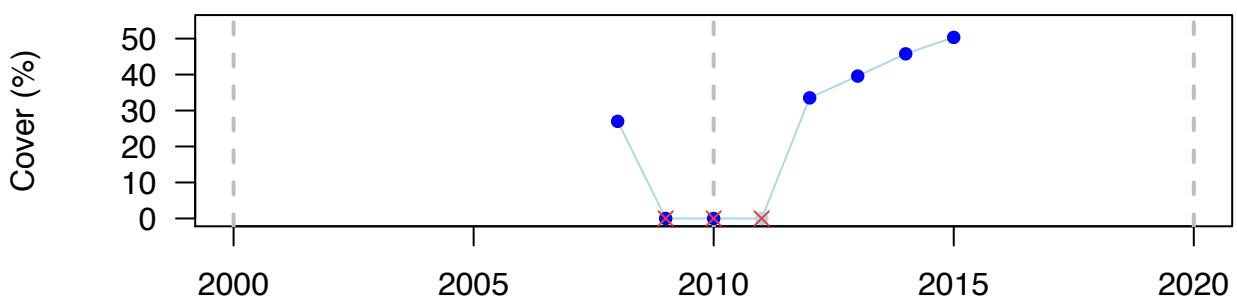
691_cover

Arroyo et al. 2015, Consejería de Medio Ambiente 2016

SITE: Palmones (Spain – Mediterranean) – Zn (? m)

OVERALL: Net = 23.34 %; Rate = 8.9 % yr⁻¹; Perc Final = 186 % > increase

DECADAL: NO (7 yr)



730_area

Mancusi et al. 2011

SITE: Piombino (Italy – Mediterranean) – Po (? m)

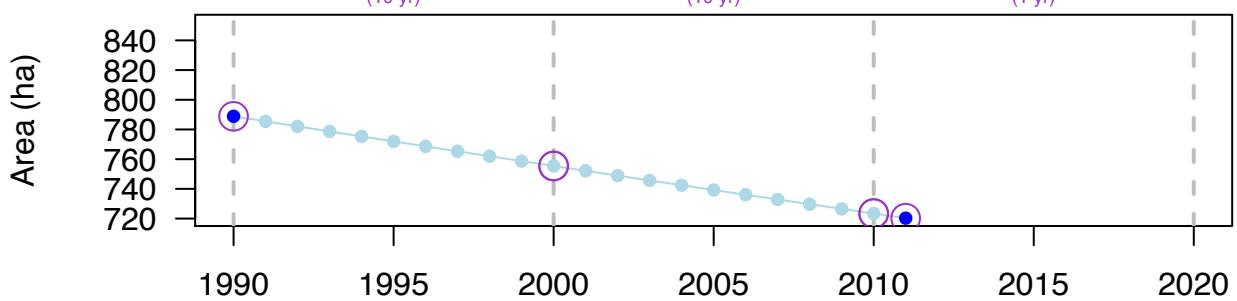
OVERALL: Net = -68.6 ha; Rate = -0.43 % yr⁻¹; Perc Final = 91 % > no change

DECADAL: YES (21 yr)

1990s
no change
unknown
-0.43%yr⁻¹
(10 yr)

2000s
no change
steady
-0.43%yr⁻¹
(10 yr)

2010s
no change
steady
-0.43%yr⁻¹
(1 yr)



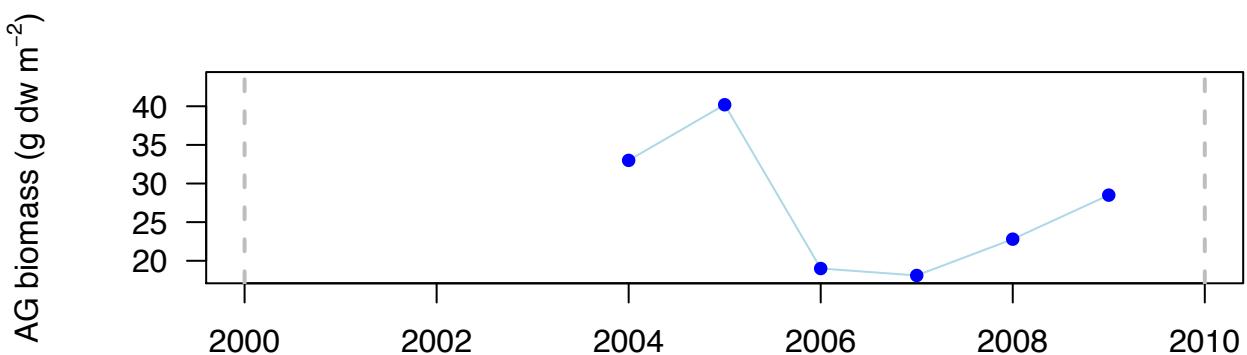
773_abiomass

Auby et al. 2010

SITE: Saint Malo (Rance – Fresnaye) (France – Atlantic) – Zm (? m)

OVERALL: Net = -4.5 g dw m⁻²; Rate = -2.93 % yr⁻¹; Perc Final = 86 % > no change

DECADAL: NO (5 yr)



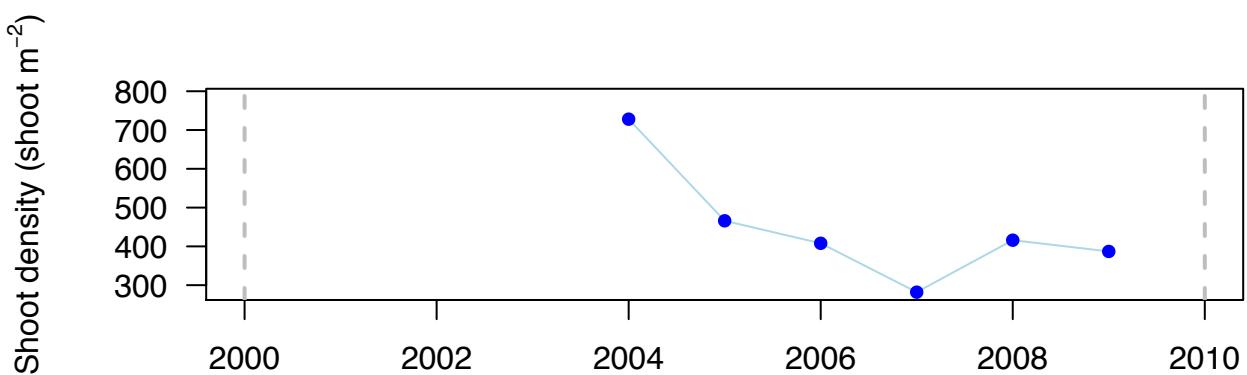
773_density

Auby et al. 2010

SITE: Saint Malo (Rance – Fresnaye) (France – Atlantic) – Zm (? m)

OVERALL: Net = -341 shoot m⁻²; Rate = -12.64 % yr⁻¹; Perc Final = 53 % > decrease

DECADAL: NO (5 yr)



774_area

Auby et al. 2010

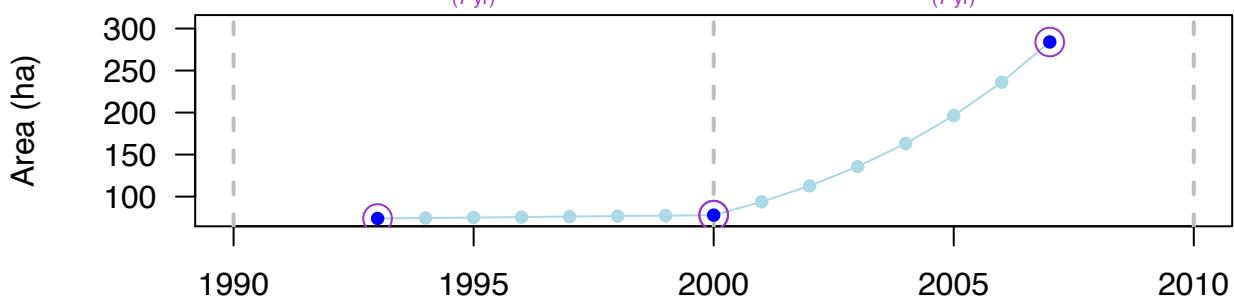
SITE: Rance – Fresnaye (France – Atlantic) – Zm (? m)

OVERALL: Net = 210 ha; Rate = 9.61 % yr⁻¹; Perc Final = 384 % > increase

DECadal: YES (14 yr)

1990s
no change
unknown
0.75%yr⁻¹
(7 yr)

2000s
increase
improve
18.46%yr⁻¹
(7 yr)



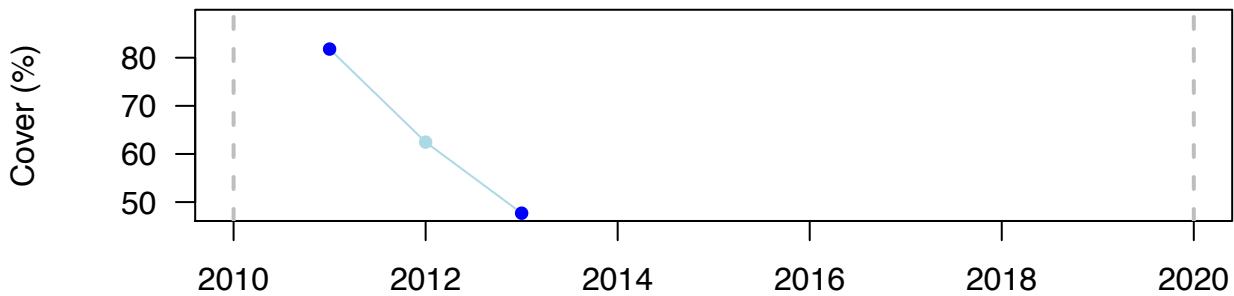
789_cover

Consejería de Medio Ambiente 2016

SITE: Río Piedras (Spain – Atlantic) – Zn (? m)

OVERALL: Net = -34.1 %; Rate = -26.97 % yr⁻¹; Perc Final = 58 % > decrease

Decadal: NO (2 yr)



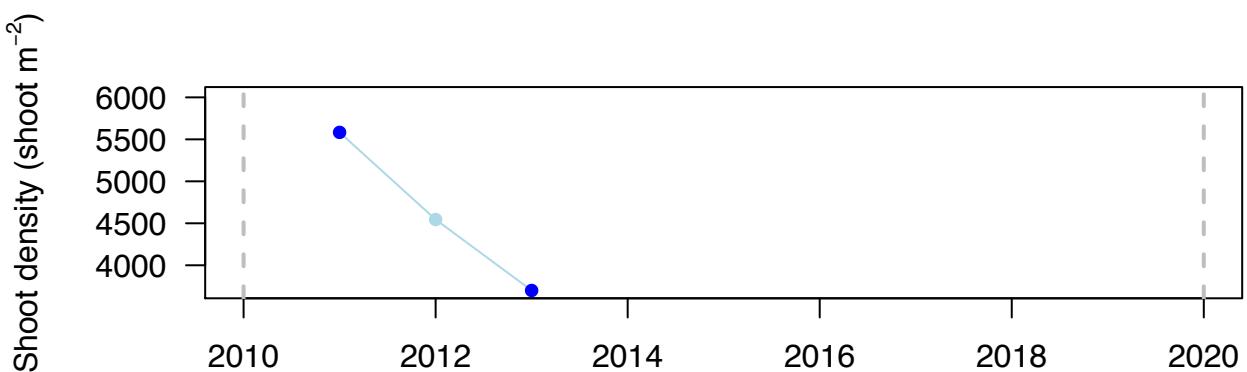
789_density

Consejería de Medio Ambiente 2016

SITE: Río Piedras (Spain – Atlantic) – Zn (? m)

OVERALL: Net = -1883 shoot m⁻²; Rate = -20.57 % yr⁻¹; Perc Final = 66 % > decrease

DECadal: NO (2 yr)



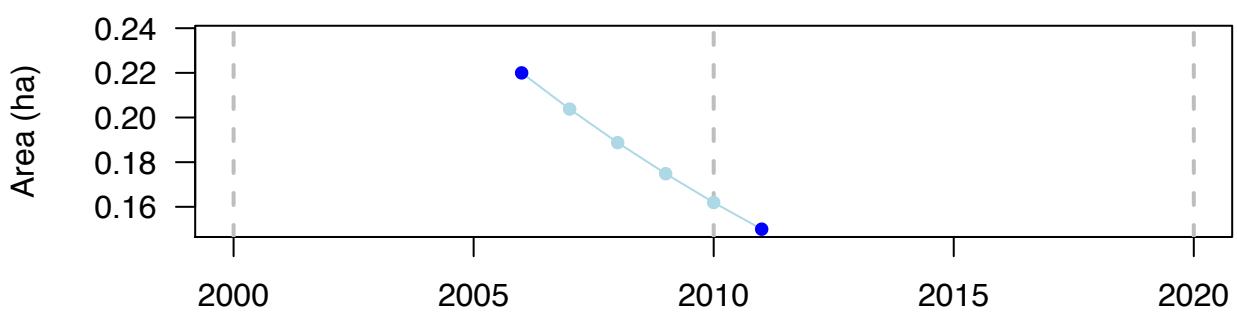
798_area

Cole 2016

SITE: Fishcombe Cove (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = -0.07 ha; Rate = -7.66 % yr⁻¹; Perc Final = 68 % > decrease

DECadal: NO (5 yr)



799_area

Wirtz 1995, Kaufmann and Maranhão 2017

SITE: Machico Bay (Portugal – Atlantic) – Cn (? m)

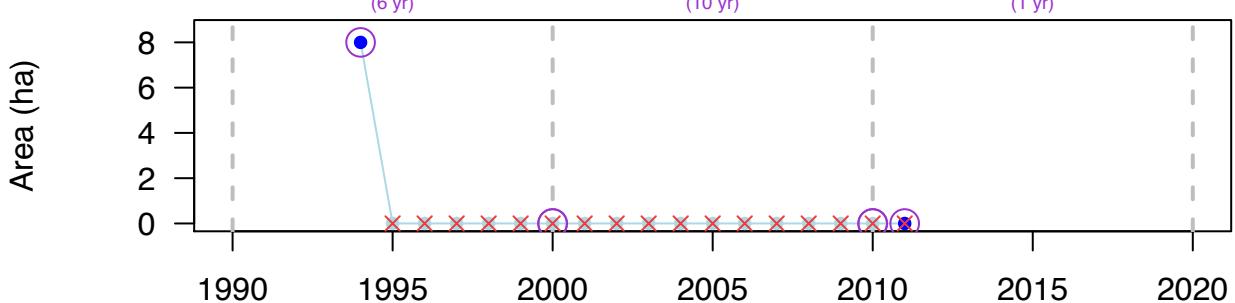
OVERALL: Net = -8 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (17 yr)

1990s
decrease
unknown
-Inf%yr⁻¹
(6 yr)

2000s
decrease
worsen
NaN%yr⁻¹
(10 yr)

2010s
decrease
worsen
NaN%yr⁻¹
(1 yr)



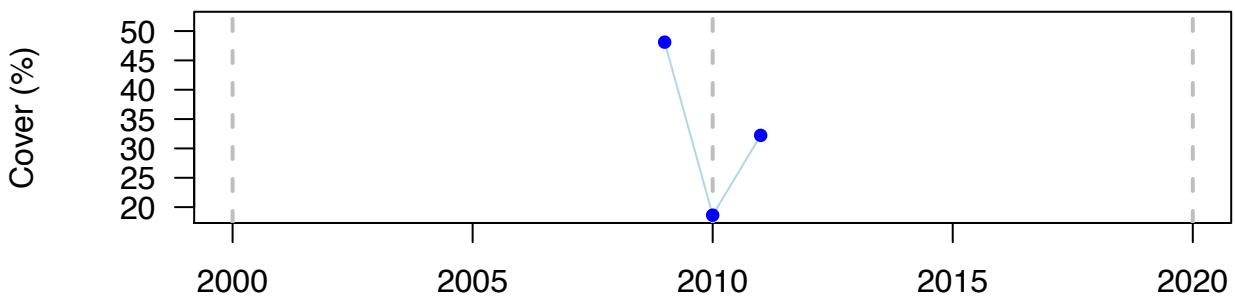
800_cover

Cook (unpublished)

SITE: Portsmouth Harbour (coastal) (United Kingdom – Atlantic) – Zm (? m)

OVERALL: Net = -15.88 %; Rate = -20.03 % yr⁻¹; Perc Final = 67 % > decrease

DECADAL: NO (2 yr)



803_area

Polderman and Den Hartog 1975, de Jong (unpublished)

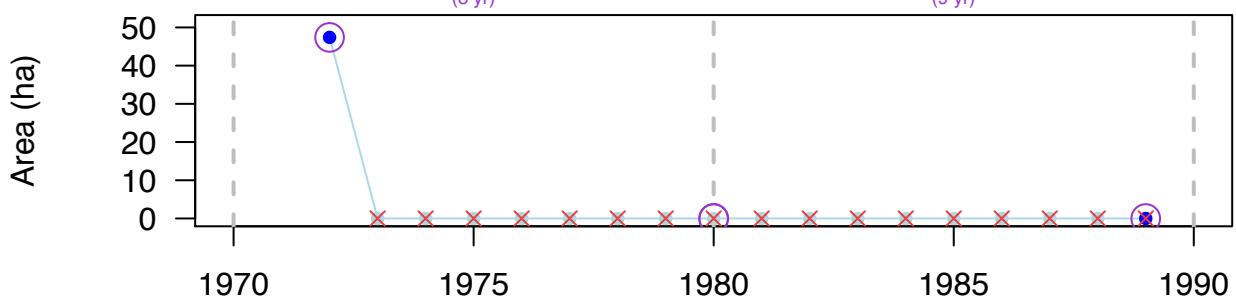
SITE: Balgzand (The Netherlands – Atlantic) – Zn (-0.6 m)

OVERALL: Net = -47.4 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (17 yr)

1970s
decrease
unknown
-Inf%yr⁻¹
(8 yr)

1980s
decrease
worsen
NaN%yr⁻¹
(9 yr)



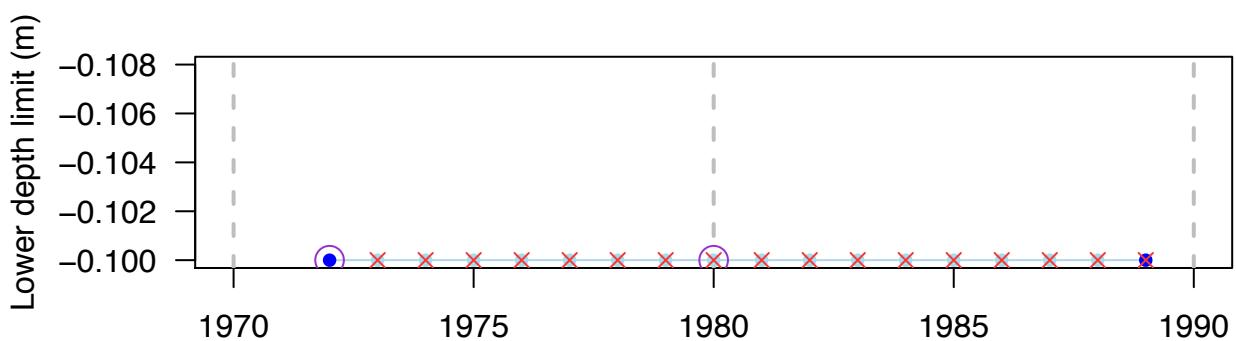
803_lowerlimit

Polderman and Den Hartog 1975, de Jong (unpublished)

SITE: Balgzand (The Netherlands – Atlantic) – Zn (-0.6 m)

OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (17 yr)



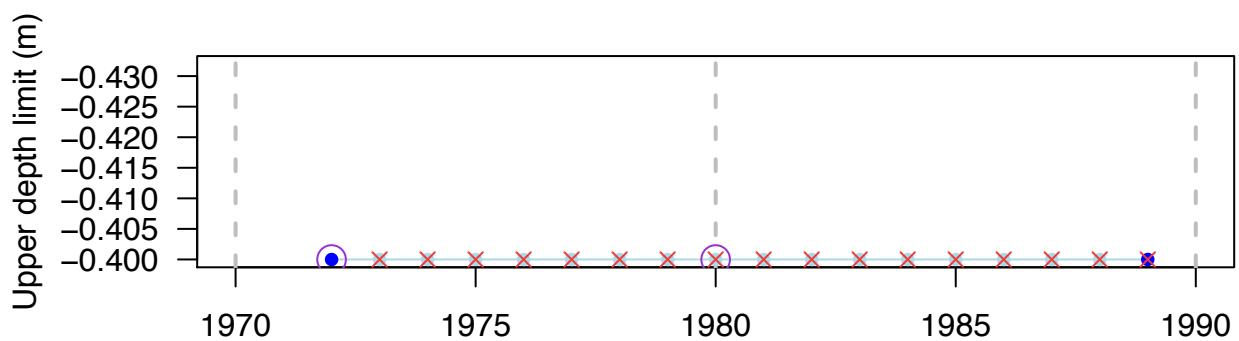
803_upperlimit

Polderman and Den Hartog 1975, de Jong (unpublished)

SITE: Balgzand (The Netherlands – Atlantic) – Zn (-0.6 m)

OVERALL: Net = NA m; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (17 yr)



806_area

Kastler and Michaelis 1999

SITE: Borkum (Germany – Atlantic) – Zn (? m)

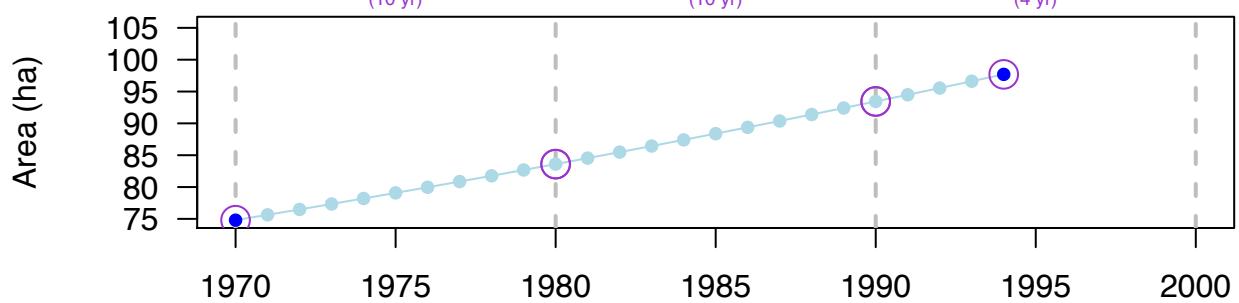
OVERALL: Net = 22.9 ha; Rate = 1.11 % yr⁻¹; Perc Final = 131 % > increase

DECADAL: YES (24 yr)

1970s
increase
unknown
1.11%yr⁻¹
(10 yr)

1980s
increase
improve
1.11%yr⁻¹
(10 yr)

1990s
no change
steady
1.11%yr⁻¹
(4 yr)



807_area

Kastler and Michaelis 1999

SITE: Juist (Germany – Atlantic) – Zn (? m)

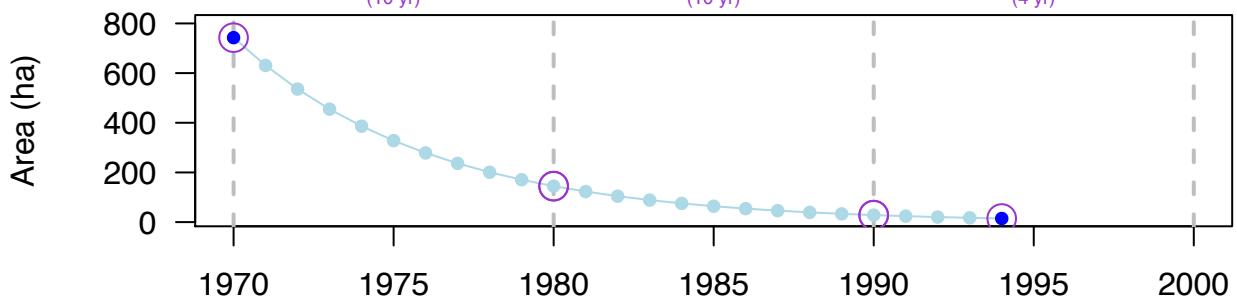
OVERALL: Net = -728.1 ha; Rate = -16.34 % yr-1; Perc Final = 2 % > decrease

DECadal: YES (24 yr)

1970s
decrease
unknown
-16.34%yr-1
(10 yr)

1980s
decrease
worsen
-16.34%yr-1
(10 yr)

1990s
decrease
worsen
-16.34%yr-1
(4 yr)



808_area

Kastler and Michaelis 1999

SITE: Norderney (Germany – Atlantic) – Zn (? m)

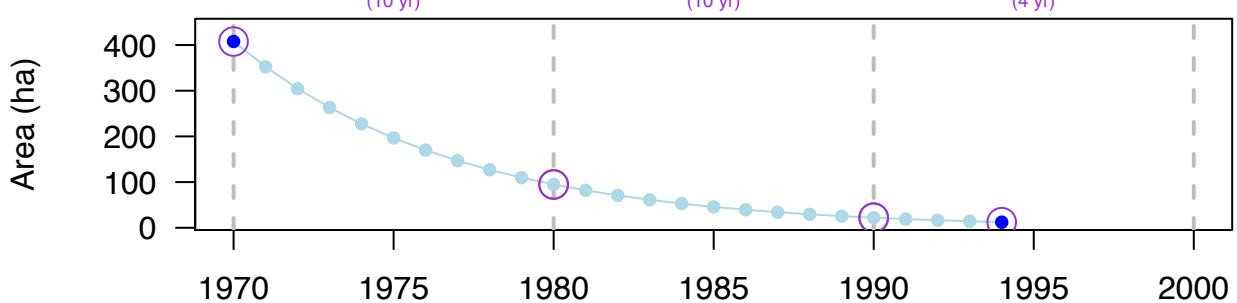
OVERALL: Net = -395.5 ha; Rate = -14.59 % yr-1; Perc Final = 3 % > decrease

DECadal: YES (24 yr)

1970s
decrease
unknown
-14.59%yr-1
(10 yr)

1980s
decrease
worsen
-14.59%yr-1
(10 yr)

1990s
decrease
worsen
-14.59%yr-1
(4 yr)



809_area

Kastler and Michaelis 1999

SITE: Baltrum (Germany – Atlantic) – Zn (? m)

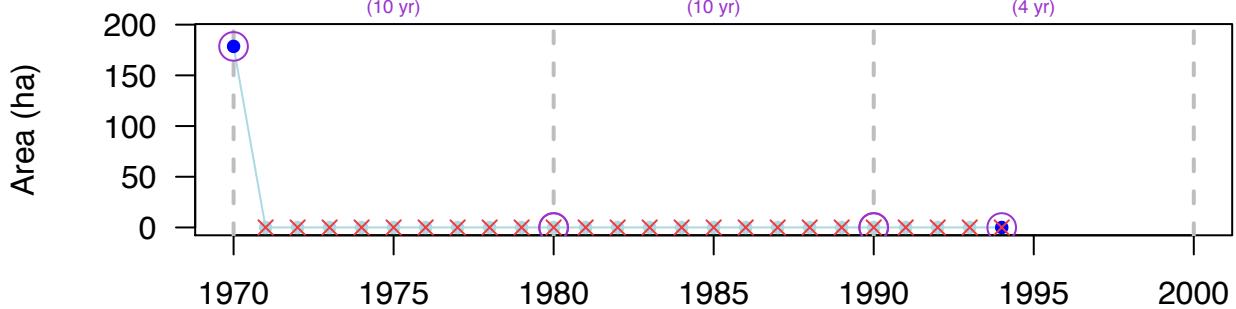
OVERALL: Net = -178.6 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECADAL: YES (24 yr)

1970s
decrease
unknown
-Inf%yr⁻¹
(10 yr)

1980s
decrease
worsen
NaN%yr⁻¹
(10 yr)

1990s
decrease
worsen
NaN%yr⁻¹
(4 yr)



810_area

Kastler and Michaelis 1999

SITE: Langeoog (Germany – Atlantic) – Zn (? m)

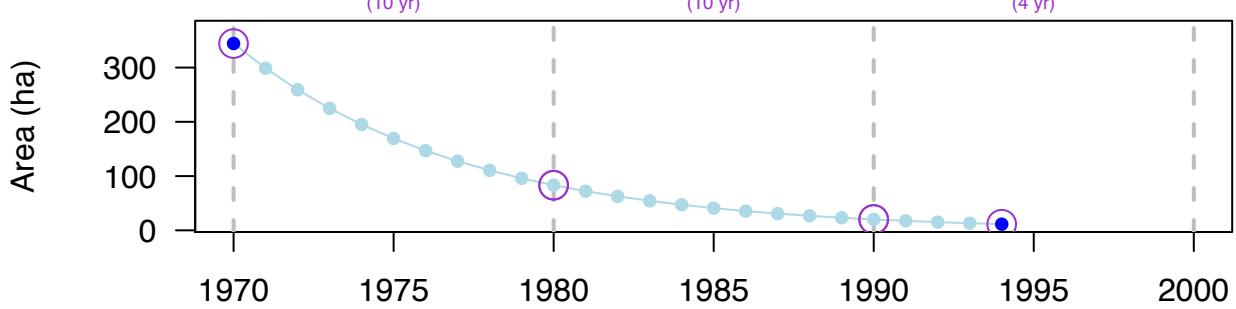
OVERALL: Net = -332.9 ha; Rate = -14.2 % yr⁻¹; Perc Final = 3 % > decrease

DECADAL: YES (24 yr)

1970s
decrease
unknown
-14.2%yr⁻¹
(10 yr)

1980s
decrease
worsen
-14.2%yr⁻¹
(10 yr)

1990s
decrease
worsen
-14.2%yr⁻¹
(4 yr)



811_area

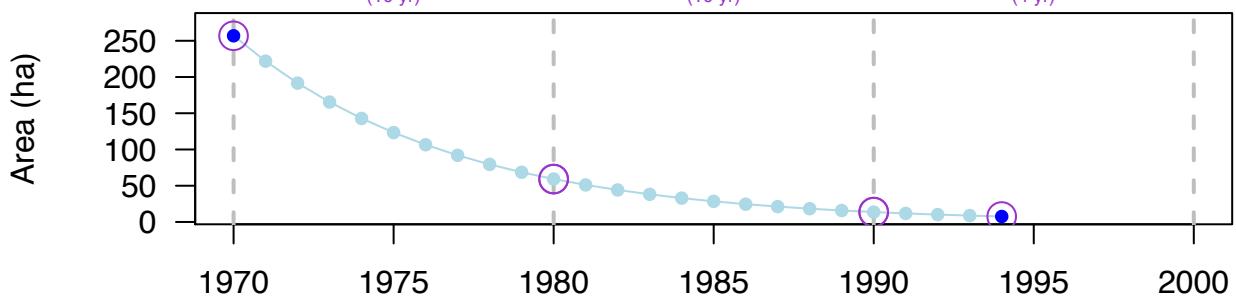
Kastler and Michaelis 1999

SITE: Spiekeroog (Germany – Atlantic) – Zn (? m)

OVERALL: Net = -249.3 ha; Rate = -14.67 % yr⁻¹; Perc Final = 3 % > decrease

DECADAL: YES (24 yr)

| | | |
|--|---|--|
| 1970s decrease unknown -14.67%yr ⁻¹ (10 yr) | 1980s decrease worsen -14.67%yr ⁻¹ (10 yr) | 1990s decrease worsen -14.67%yr ⁻¹ (4 yr) |
|--|---|--|



812_area

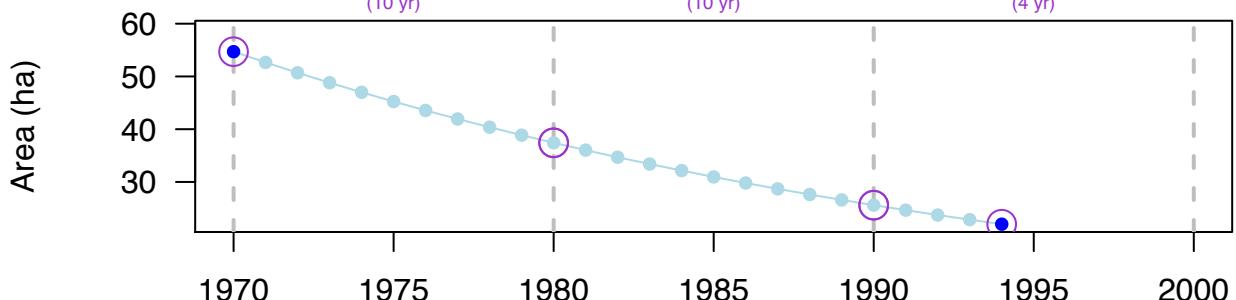
Kastler and Michaelis 1999

SITE: Wangerooge (Germany – Atlantic) – Zn (? m)

OVERALL: Net = -32.7 ha; Rate = -3.8 % yr⁻¹; Perc Final = 40 % > decrease

DECADAL: YES (24 yr)

| | | |
|--|---|--|
| 1970s decrease unknown -3.8%yr ⁻¹ (10 yr) | 1980s decrease worsen -3.8%yr ⁻¹ (10 yr) | 1990s decrease worsen -3.8%yr ⁻¹ (4 yr) |
|--|---|--|



813_area

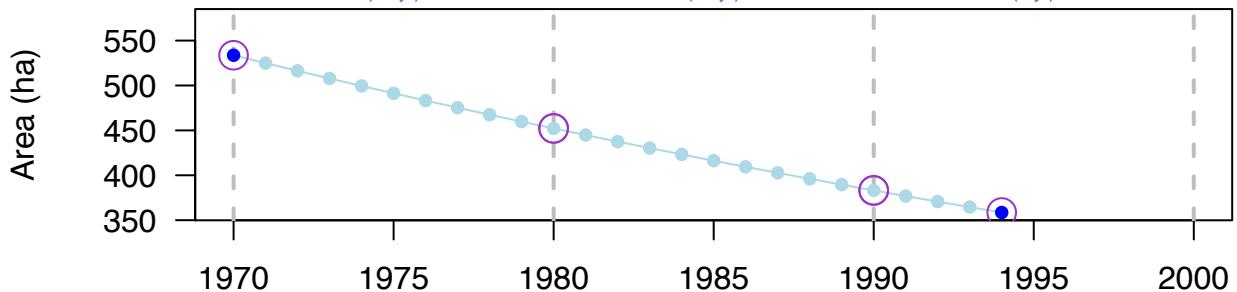
Kastler and Michaelis 1999

SITE: Wilhelmshaven (Germany – Atlantic) – Zn (? m)

OVERALL: Net = -175.1 ha; Rate = -1.66 % yr⁻¹; Perc Final = 67 % > decrease

DECadal: YES (24 yr)

| | | |
|---|--|---|
| 1970s decrease unknown -1.66%yr ⁻¹ (10 yr) | 1980s decrease worsen -1.66%yr ⁻¹ (10 yr) | 1990s no change improve -1.66%yr ⁻¹ (4 yr) |
|---|--|---|



814_area

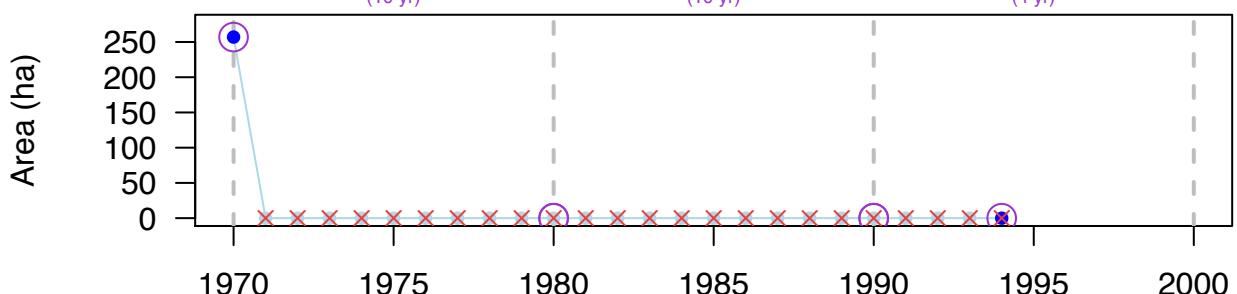
Kastler and Michaelis 1999

SITE: Jade Bright (Germany – Atlantic) – Zn (? m)

OVERALL: Net = -257 ha; Rate = NA % yr⁻¹; Perc Final = NA % > decrease

DECadal: YES (24 yr)

| | | |
|--|--|---|
| 1970s decrease unknown -Inf%yr ⁻¹ (10 yr) | 1980s decrease worsen NaN%yr ⁻¹ (10 yr) | 1990s decrease worsen NaN%yr ⁻¹ (4 yr) |
|--|--|---|



815_area

Kastler and Michaelis 1999

SITE: Weser Estuary (Germany – Atlantic) – Zn (? m)

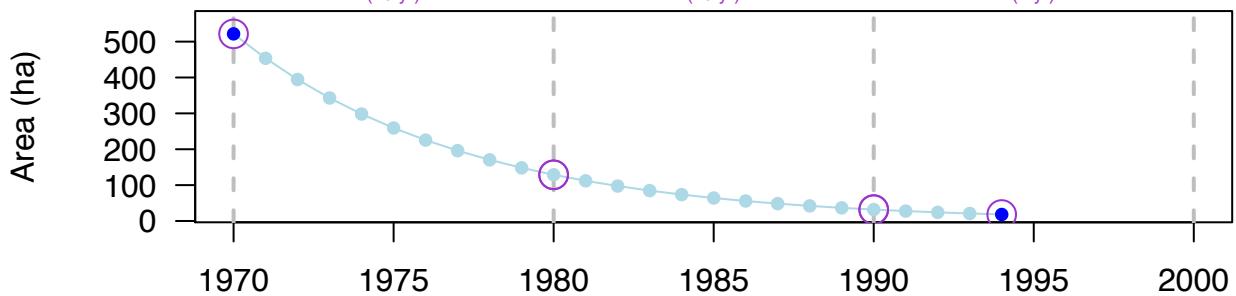
OVERALL: Net = -503.5 ha; Rate = -13.98 % yr⁻¹; Perc Final = 3 % > decrease

DECADAL: YES (24 yr)

1970s
decrease
unknown
-13.98%yr⁻¹
(10 yr)

1980s
decrease
worsen
-13.98%yr⁻¹
(10 yr)

1990s
decrease
worsen
-13.98%yr⁻¹
(4 yr)



816_area

Kastler and Michaelis 1999

SITE: Bremerhaven (Germany – Atlantic) – Zn (? m)

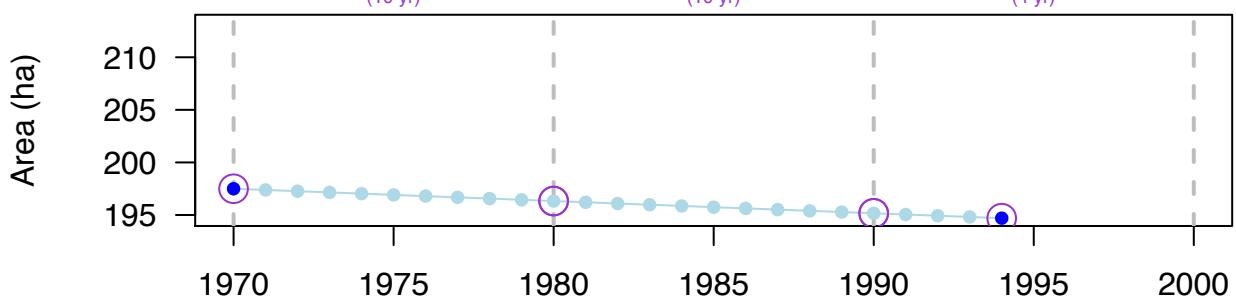
OVERALL: Net = -2.8 ha; Rate = -0.06 % yr⁻¹; Perc Final = 99 % > no change

DECADAL: YES (24 yr)

1970s
no change
unknown
-0.06%yr⁻¹
(10 yr)

1980s
no change
steady
-0.06%yr⁻¹
(10 yr)

1990s
no change
steady
-0.06%yr⁻¹
(4 yr)



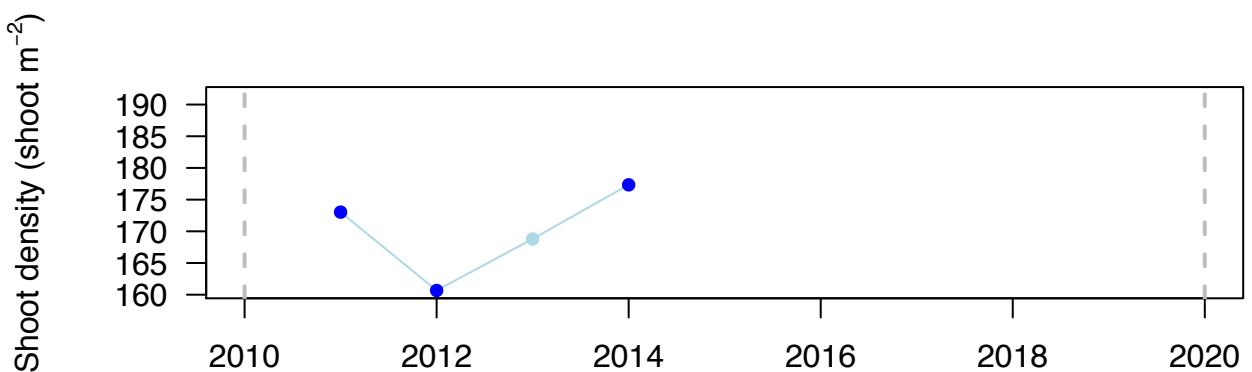
817_density

Jakl et al. 2015

SITE: Cuska Dumboka (Croatia – Mediterranean) – Po (? m)

OVERALL: Net = 4.31 shoot m⁻²; Rate = 0.82 % yr⁻¹; Perc Final = 102 % > no change

DECadal: NO (3 yr)



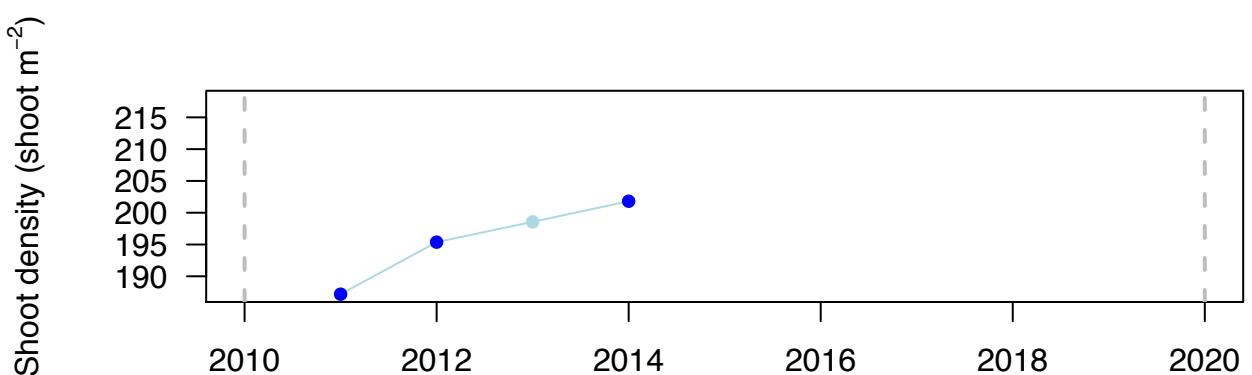
818_density

Jakl et al. 2015

SITE: Kobiljak (Croatia – Mediterranean) – Po (? m)

OVERALL: Net = 14.62 shoot m⁻²; Rate = 2.51 % yr⁻¹; Perc Final = 108 % > no change

DECadal: NO (3 yr)



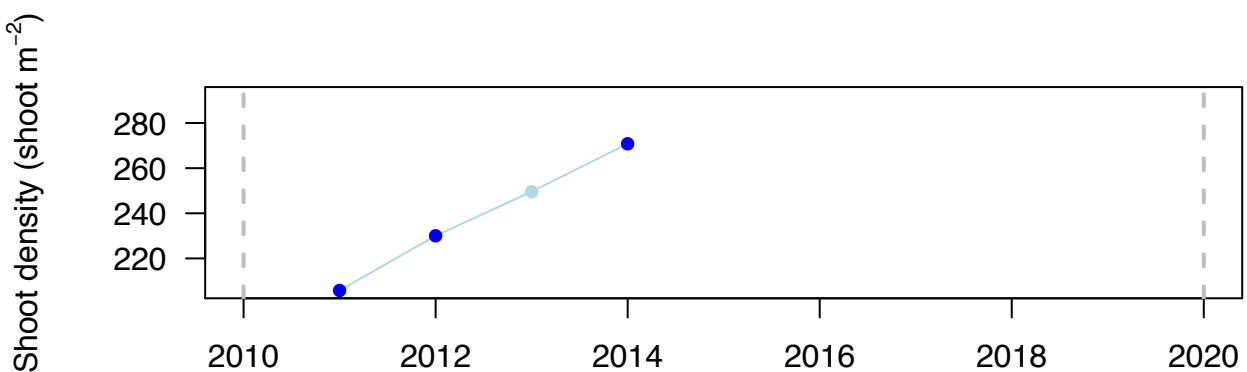
819_density

Jakl et al. 2015

SITE: Lucica (Croatia – Mediterranean) – Po (? m)

OVERALL: Net = 65 shoot m⁻²; Rate = 9.15 % yr⁻¹; Perc Final = 132 % > increase

DECADAL: NO (3 yr)



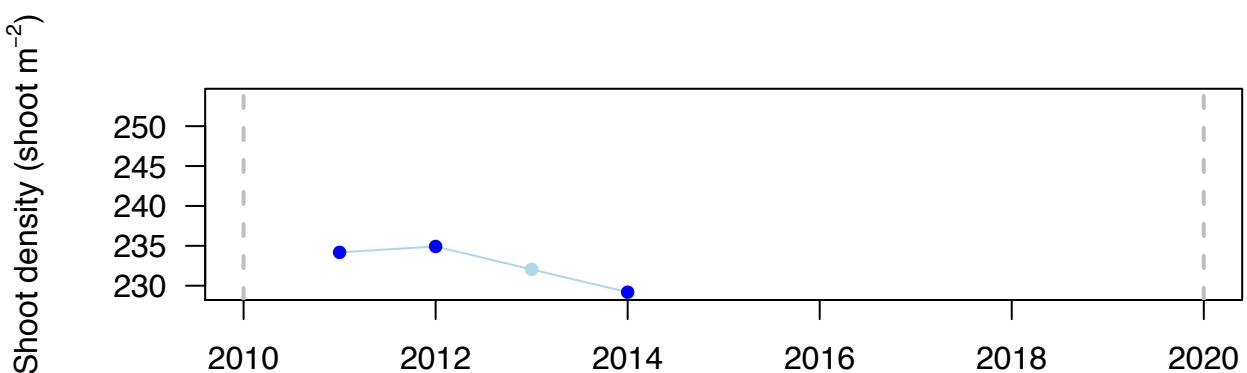
820_density

Jakl et al. 2015

SITE: Sestrica (Croatia – Mediterranean) – Po (? m)

OVERALL: Net = -4.99 shoot m⁻²; Rate = -0.72 % yr⁻¹; Perc Final = 98 % > no change

DECADAL: NO (3 yr)



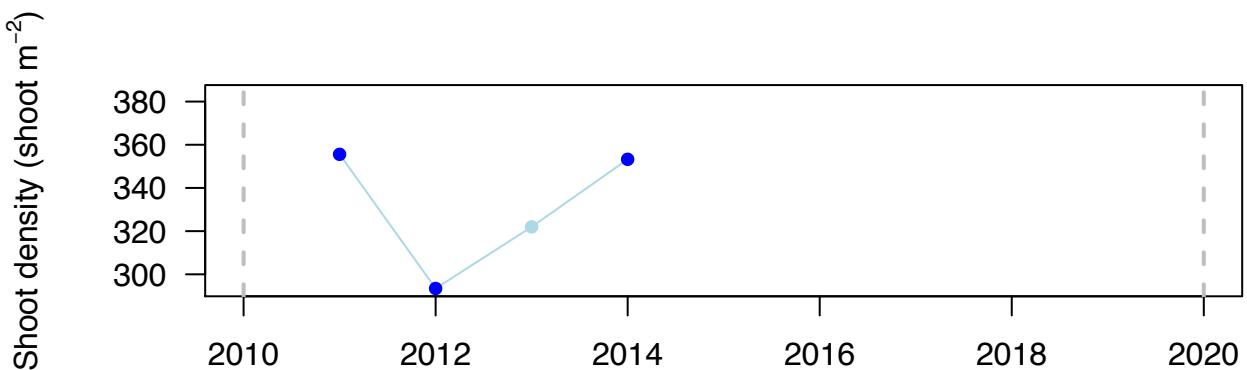
821_density

Jakl et al. 2015

SITE: Garmenjak (Croatia – Mediterranean) – Po (? m)

OVERALL: Net = -2.32 shoot m⁻²; Rate = -0.22 % yr⁻¹; Perc Final = 99 % > no change

DECADAL: NO (3 yr)



830_area

Bertelli et al. 2017

SITE: Angle Bay (United Kingdom – Atlantic) – Zn (? m)

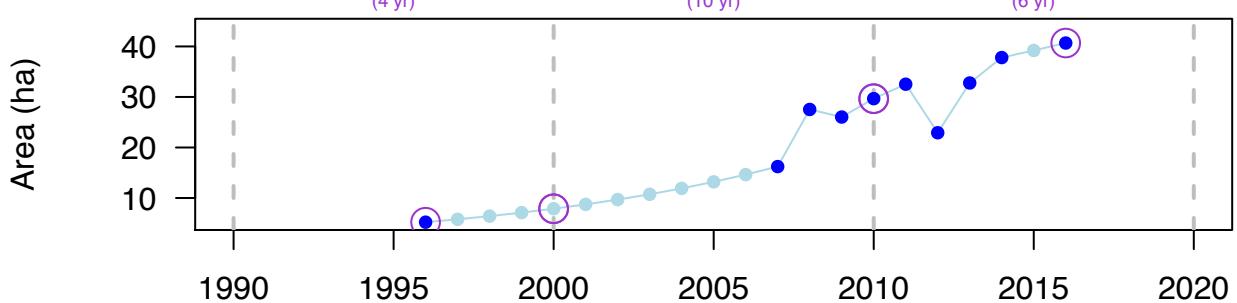
OVERALL: Net = 35.46 ha; Rate = 10.27 % yr⁻¹; Perc Final = 779 % > increase

DECADAL: YES (20 yr)

1990s
increase
unknown
10.31%yr⁻¹
(4 yr)

2000s
increase
improve
13.25%yr⁻¹
(10 yr)

2010s
increase
improve
5.26%yr⁻¹
(6 yr)



830_cover

Bertelli et al. 2017

SITE: Angle Bay (United Kingdom – Atlantic) – Zn (? m)

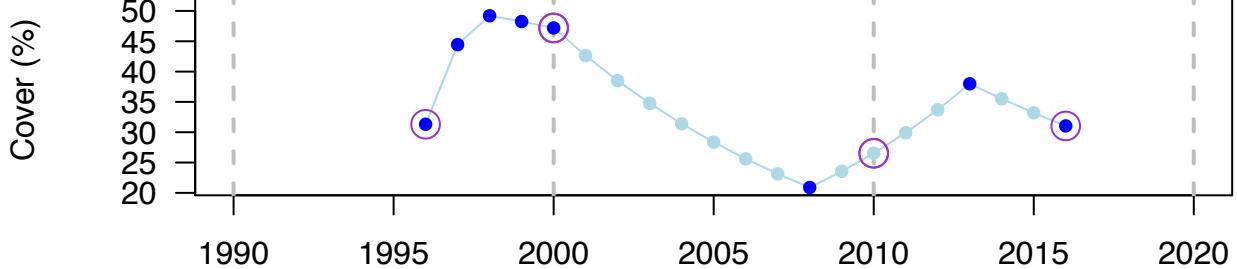
OVERALL: Net = -0.28 %; Rate = -0.04 % yr⁻¹; Perc Final = 99 % > no change

DECADAL: YES (20 yr)

1990s
increase
unknown
 $10.25\% \text{yr}^{-1}$
(4 yr)

2000s
decrease
worsen
 $-5.76\% \text{yr}^{-1}$
(10 yr)

2010s
no change
improve
 $2.61\% \text{yr}^{-1}$
(6 yr)



831_area

Bertelli et al. 2017

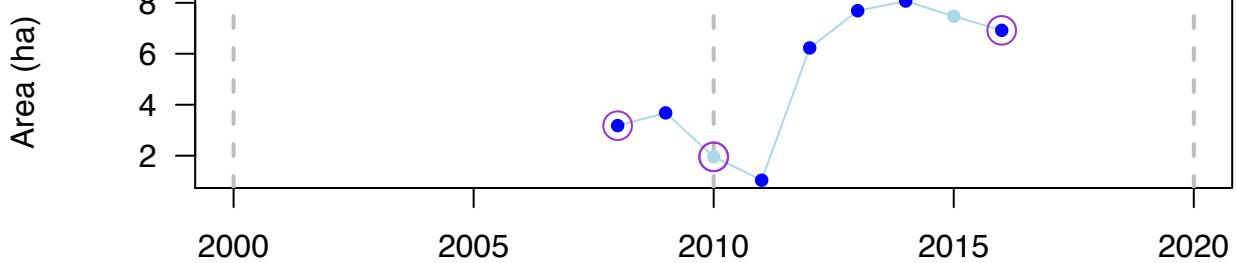
SITE: Carew (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 3.74 ha; Rate = 9.72 % yr⁻¹; Perc Final = 218 % > increase

DECADAL: YES (8 yr)

2000s
decrease
unknown
 $-24.29\% \text{yr}^{-1}$
(2 yr)

2010s
increase
improve
 $21.06\% \text{yr}^{-1}$
(6 yr)



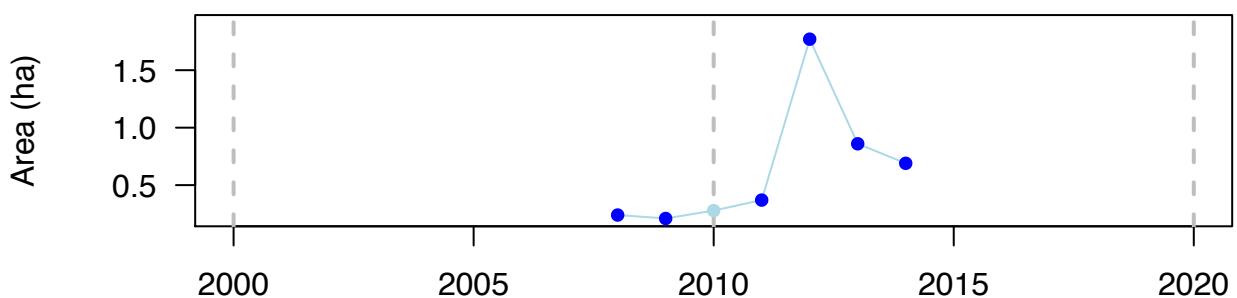
832_area

Bertelli et al. 2017

SITE: Cosheston (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 0.45 ha; Rate = 17.6 % yr⁻¹; Perc Final = 288 % > increase

DECadal: NO (6 yr)



833_area

Bertelli et al. 2017

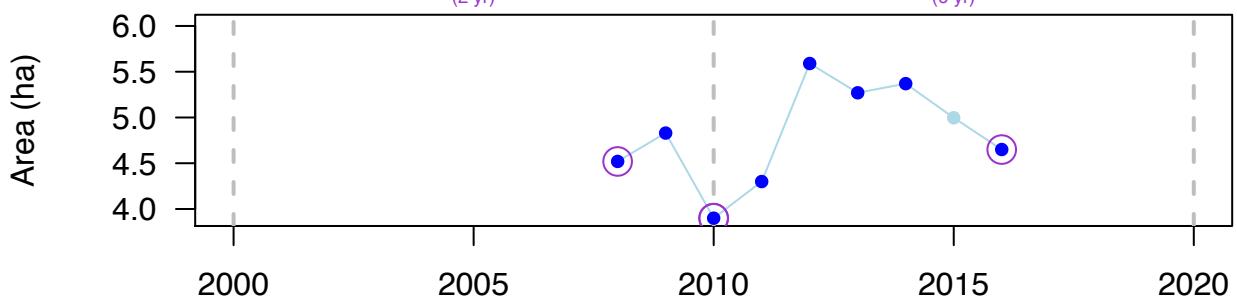
SITE: Garron pill (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 0.13 ha; Rate = 0.35 % yr⁻¹; Perc Final = 103 % > no change

DECadal: YES (8 yr)

2000s
decrease
unknown
-7.38%yr⁻¹
(2 yr)

2010s
increase
improve
2.93%yr⁻¹
(6 yr)



834_area

Bertelli et al. 2017

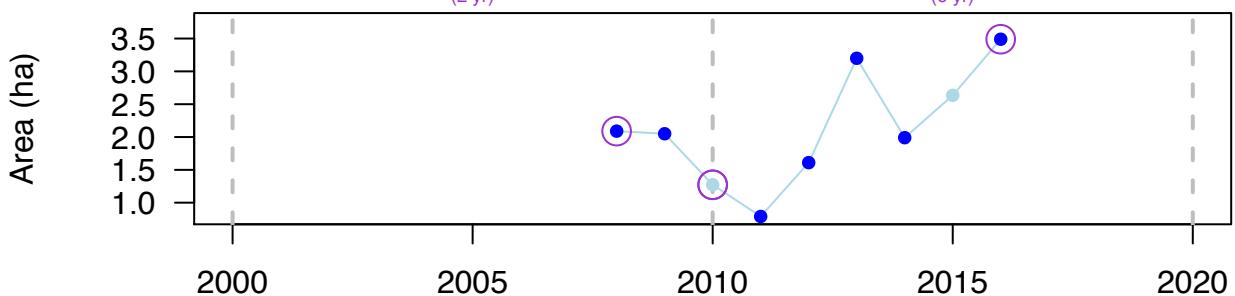
SITE: Hobbs point (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 1.4 ha; Rate = 6.41 % yr⁻¹; Perc Final = 167 % > increase

DECADAL: YES (8 yr)

2000s
decrease
unknown
-24.81%yr⁻¹
(2 yr)

2010s
increase
improve
16.81%yr⁻¹
(6 yr)



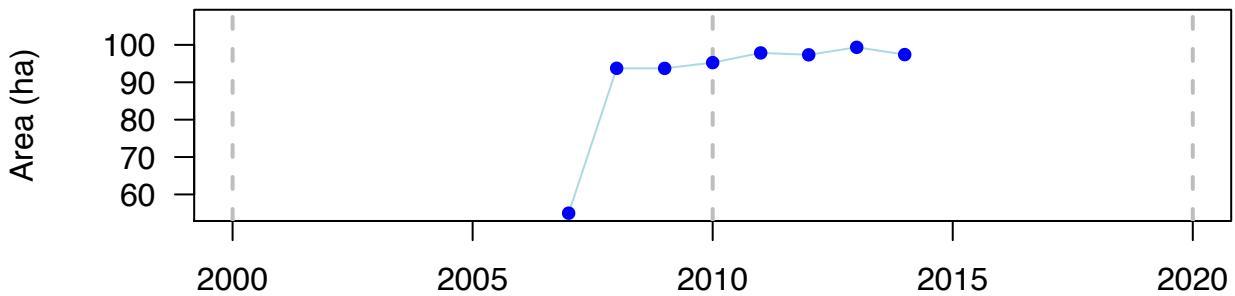
835_area

Bertelli et al. 2017

SITE: Pembroke river (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 42.42 ha; Rate = 8.17 % yr⁻¹; Perc Final = 177 % > increase

DECADAL: NO (7 yr)



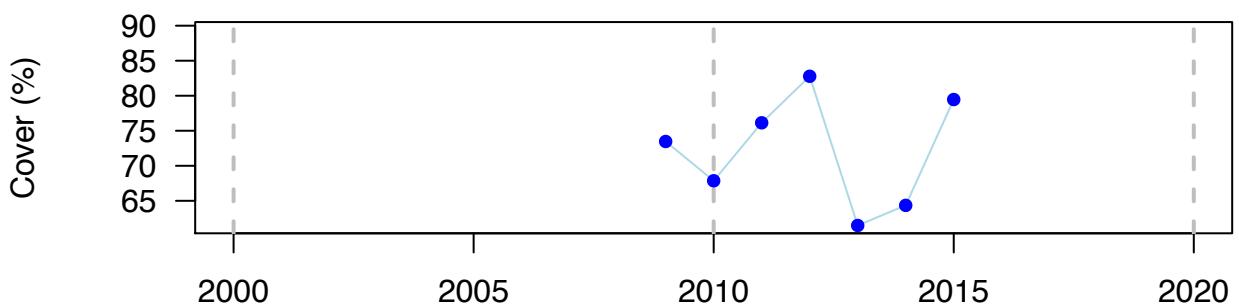
835_cover

Bertelli et al. 2017

SITE: Pembroke river (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 5.99 %; Rate = 1.31 % yr⁻¹; Perc Final = 108 % > no change

DECADAL: NO (6 yr)



836_area

Bertelli et al. 2017

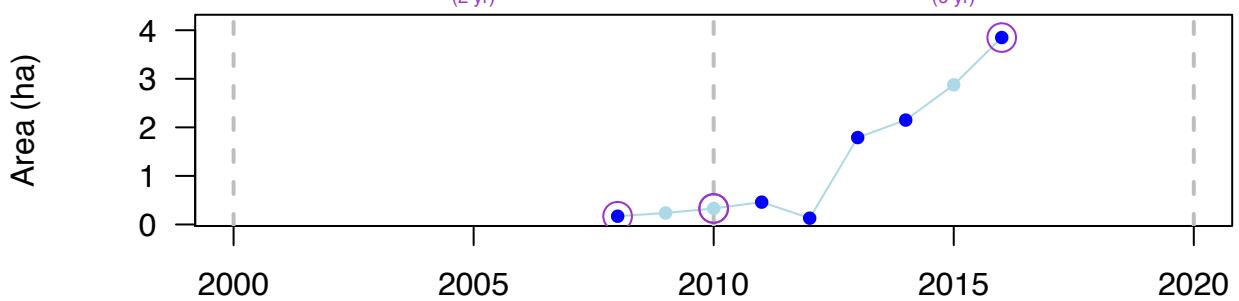
SITE: Pwllcrochan flats (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 3.68 ha; Rate = 39 % yr⁻¹; Perc Final = 2265 % > increase

DECADAL: YES (8 yr)

2000s
increase
unknown
33.18%yr⁻¹
(2 yr)

2010s
increase
improve
40.94%yr⁻¹
(6 yr)



837_area

Bertelli et al. 2017

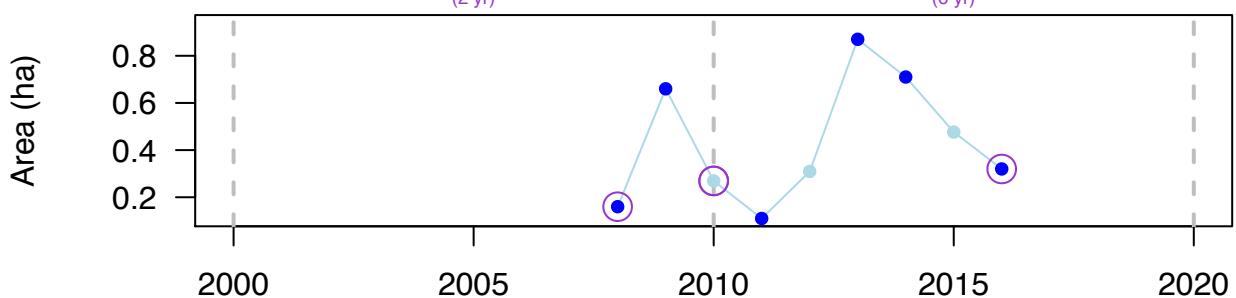
SITE: Sprinkle pill (United Kingdom – Atlantic) – Zn (? m)

OVERALL: Net = 0.16 ha; Rate = 8.66 % yr⁻¹; Perc Final = 200 % > increase

DECADAL: YES (8 yr)

2000s
increase
unknown
26.06%yr⁻¹
(2 yr)

2010s
increase
improve
2.87%yr⁻¹
(6 yr)



856_density

Lorenti et al. 2005

SITE: Lacco Ameno (Italy – Mediterranean) – Po (-5 m)

OVERALL: Net = -106.06 shoot m⁻²; Rate = -13.98 % yr⁻¹; Perc Final = 76 % > no change

DECADAL: NO (2 yr)



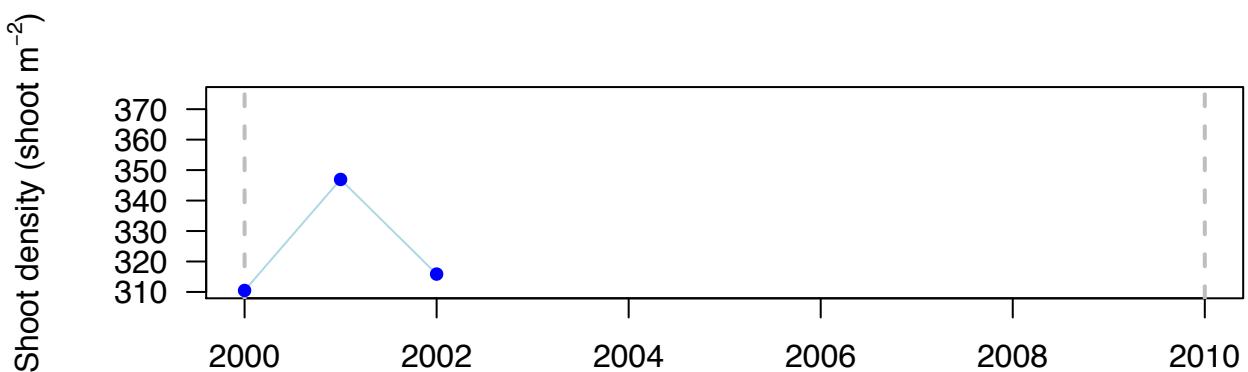
857_density

Lorenti et al. 2005

SITE: Lacco Ameno (Italy – Mediterranean) – Po (-10 m)

OVERALL: Net = 5.38 shoot m⁻²; Rate = 0.86 % yr⁻¹; Perc Final = 102 % > no change

DECADAL: NO (2 yr)



858_density

Lorenti et al. 2005

SITE: Lacco Ameno (Italy – Mediterranean) – Po (-30 m)

OVERALL: Net = 14.24 shoot m^{-2} ; Rate = 7.41 % yr⁻¹; Perc Final = 116 % > no change

DECADAL: NO (2 yr)



859_density

Lorenti et al. 2005

SITE: Off Scarrupata (Italy – Mediterranean) – Po (-10 m)

OVERALL: Net = 28.79 shoot m⁻²; Rate = 2.88 % yr⁻¹; Perc Final = 106 % > no change

DECADAL: NO (2 yr)



860_density

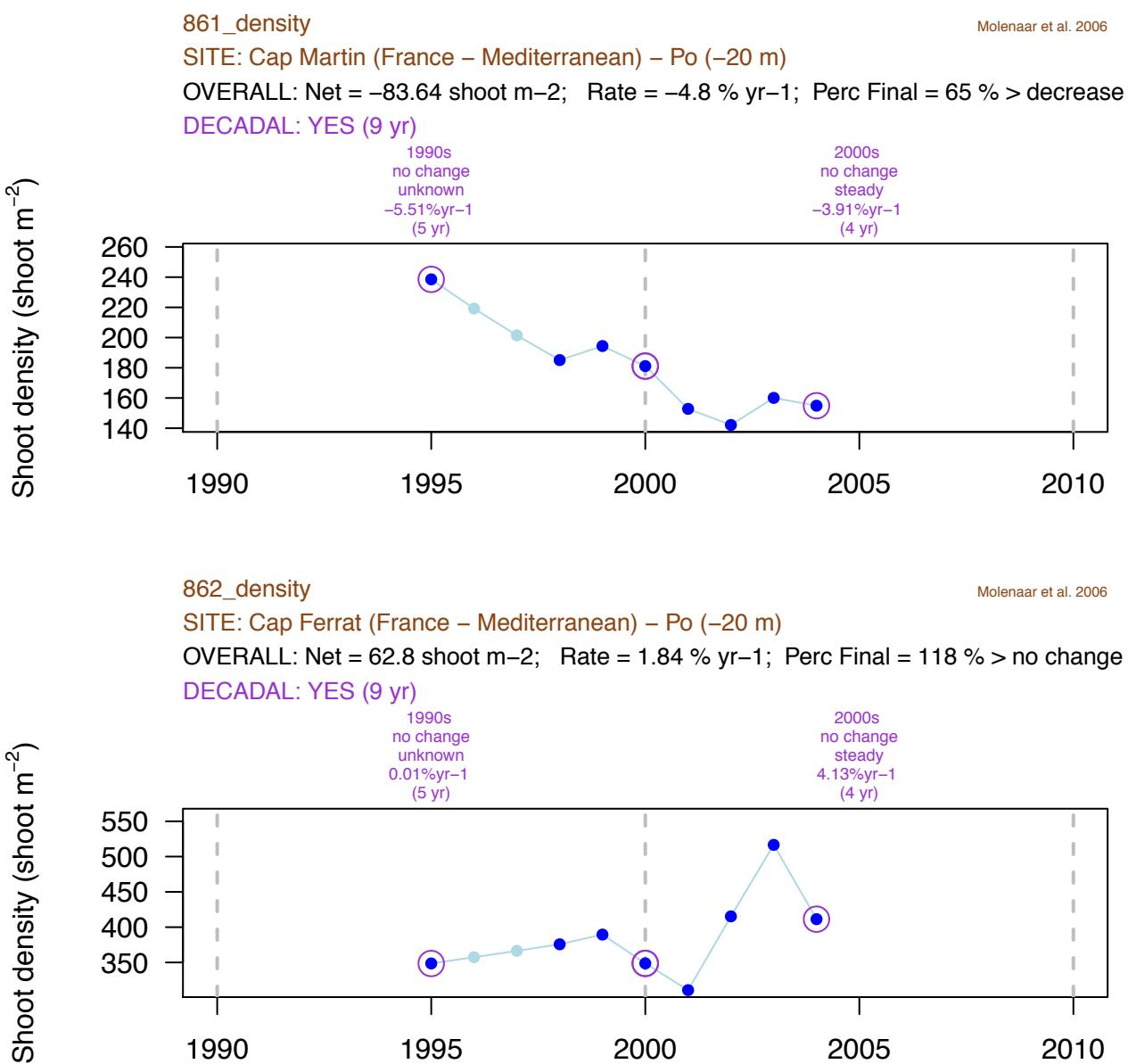
Lorenti et al. 2005

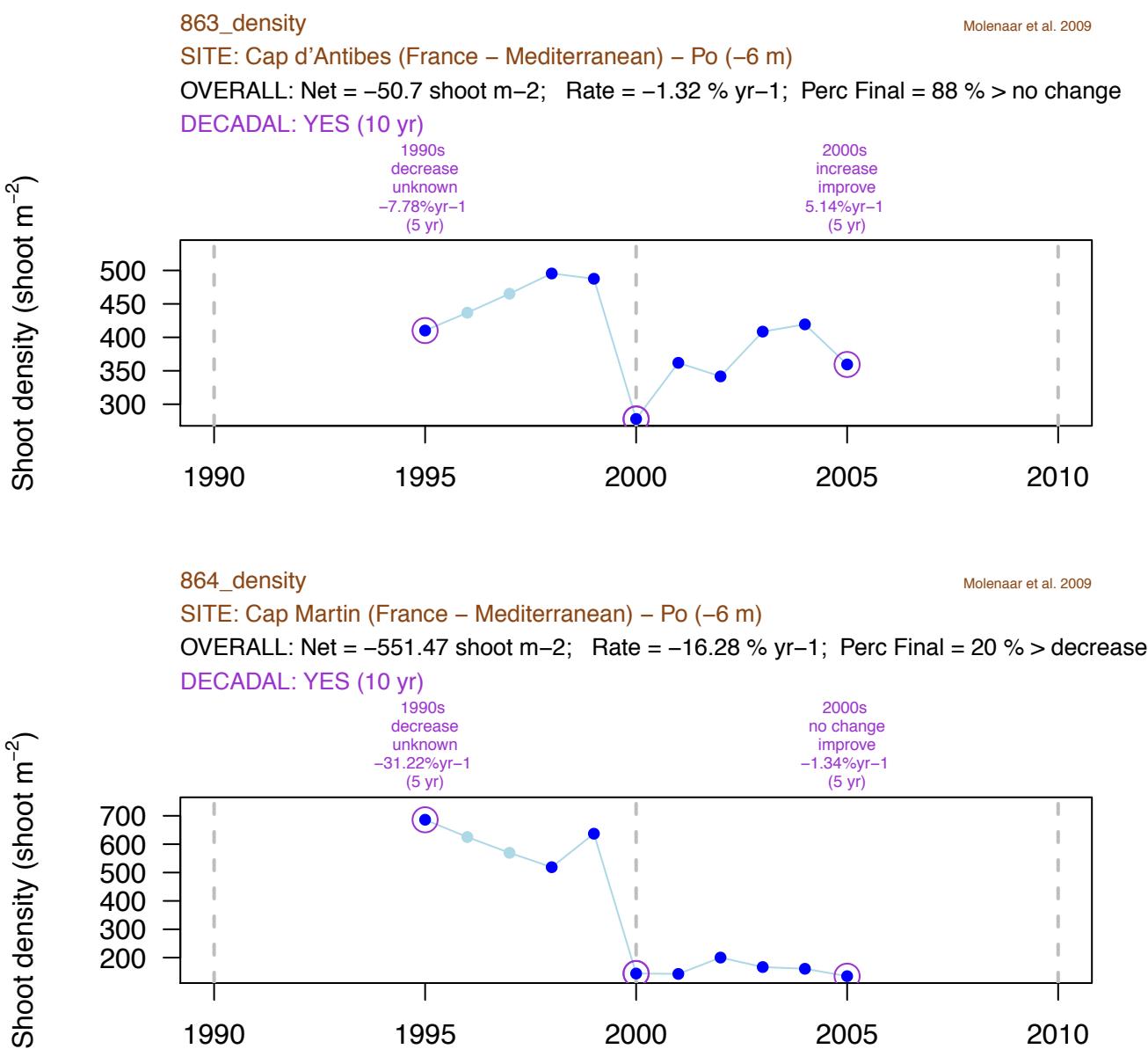
SITE: Off Scarrupata (Italy – Mediterranean) – Po (-30 m)

OVERALL: Net = 4.89 shoot m⁻²; Rate = 1.49 % yr⁻¹; Perc Final = 103 % > no change

DECADAL: NO (2 yr)







875_area

Procaccini et al. 2003

SITE: Islas Medes (entire) (Spain – Mediterranean) – Po (? m)

OVERALL: Net = 0 ha; Rate = 0 % yr⁻¹; Perc Final = 100 % > no change

DECadal: YES (17 yr)

1980s
no change
unknown
0%yr⁻¹
(6 yr)

1990s
no change
steady
0%yr⁻¹
(10 yr)

2000s
no change
steady
0%yr⁻¹
(1 yr)

