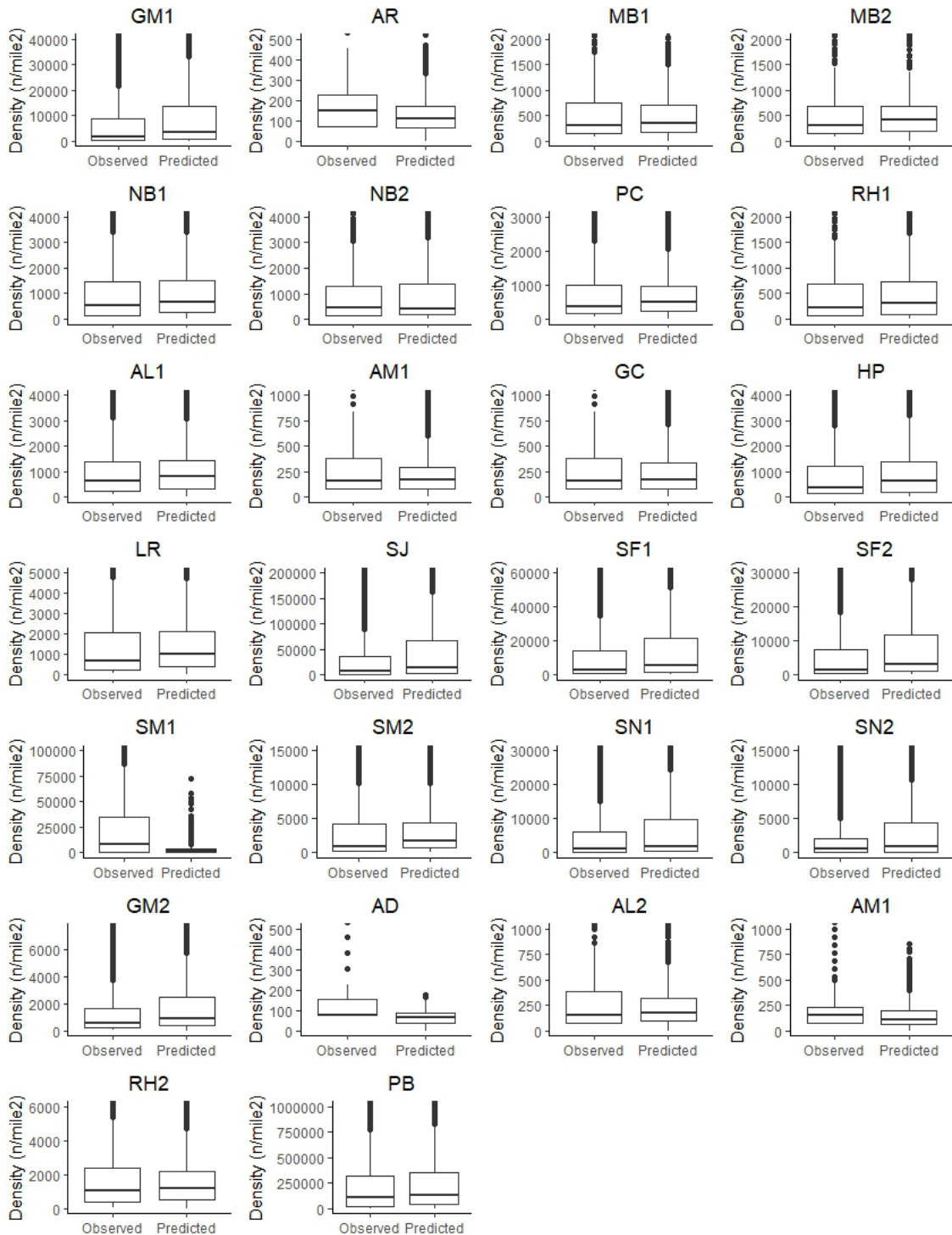


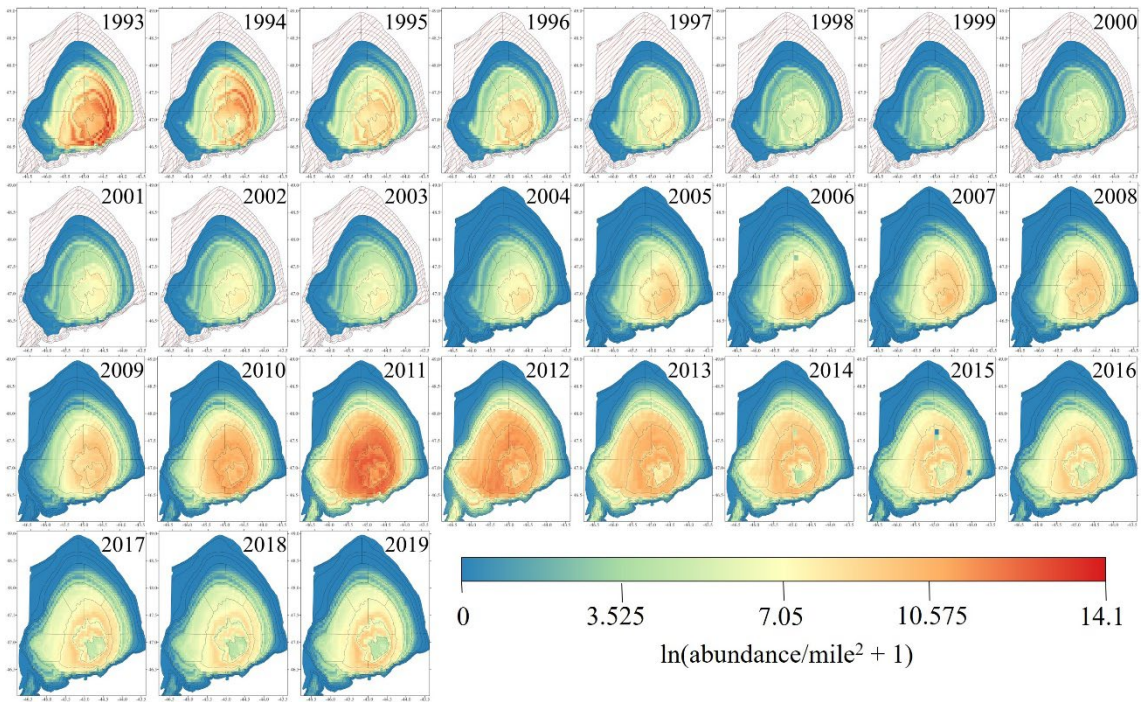
1 Supplementary Materials



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3 Fig. S1. Distribution of observed density (non-zero) and delta GAM predicted density of 26 trophic species
4 in Flemish Cap. The box plots represent interquartile and median with whisker representing minimum and
5 maximum. The points represent outliers.

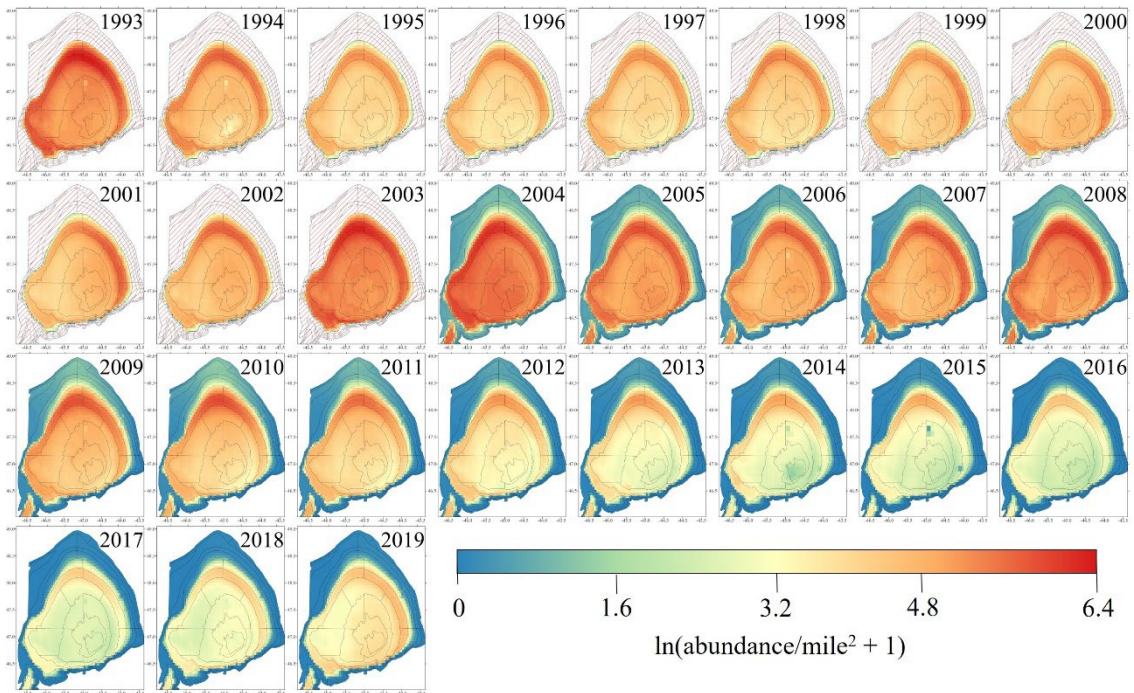
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8 Fig. S2. Delta GAM predicted *Gadus morhua* (≤ 46 cm) (GM1) density distribution over the Flemish Cap
 9 between 1993 to 2019.

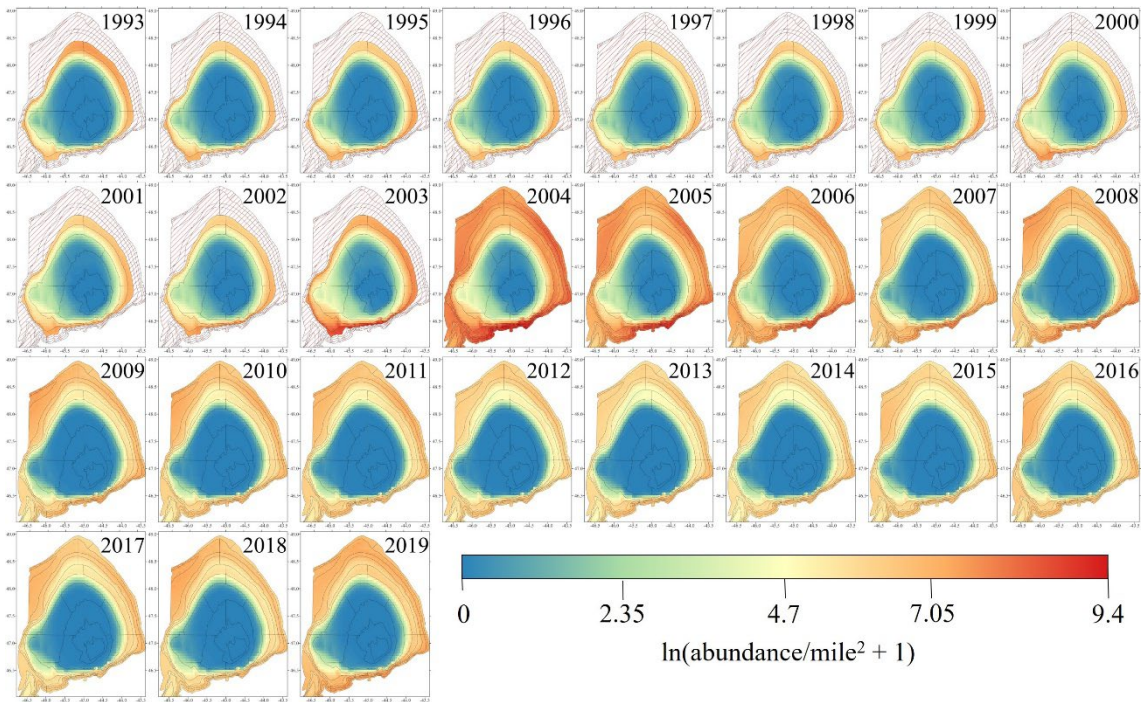
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11

12 Fig. S3. Delta GAM predicted *Amblyraja radiata* (AR) density distribution over the Flemish Cap
 13 between 1993 to 2019.

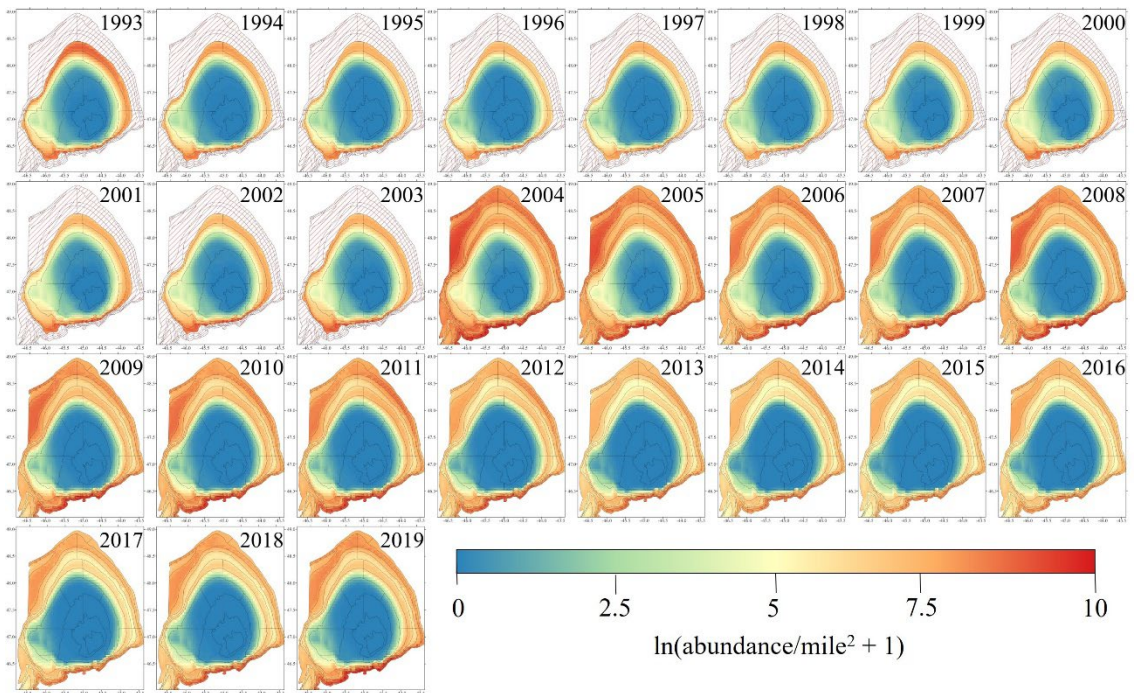
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15

16 Fig. S4. Delta GAM predicted small *Macrourus berglax* (≤ 15.5 cm) (MB1) density distribution over the
 17 Flemish Cap between 1993 to 2019.

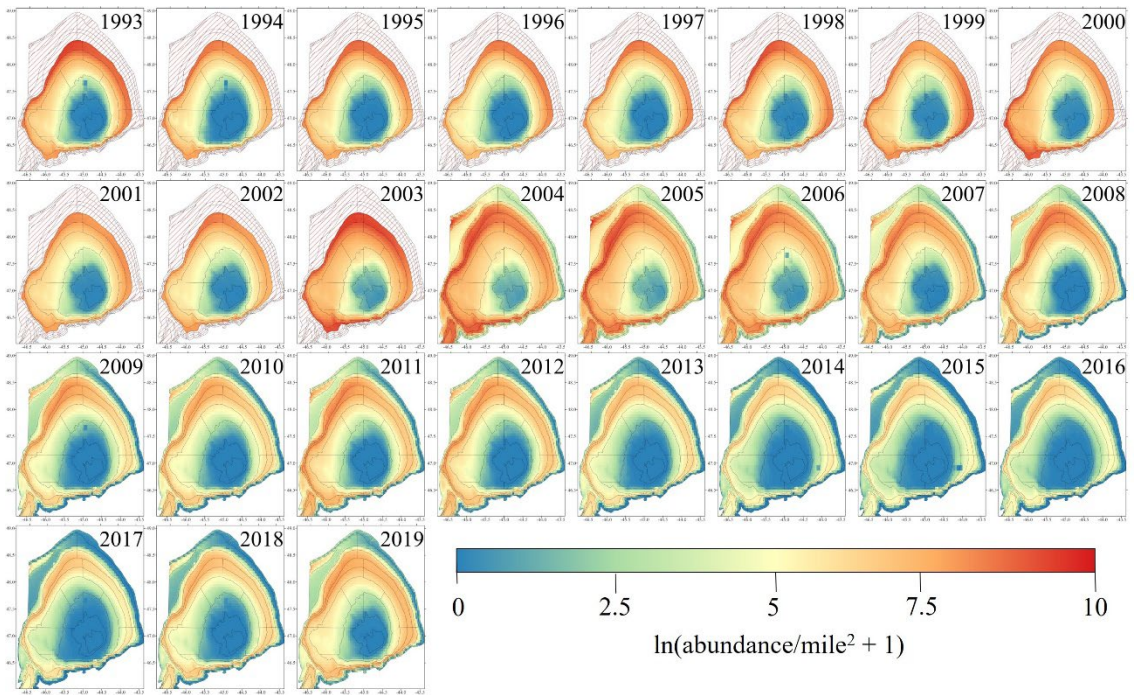
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20 Fig. S5. Delta GAM predicted large *Macrourus berglax* (> 15.5 cm) (MB2) density distribution over the
 21 Flemish Cap between 1993 to 2019.

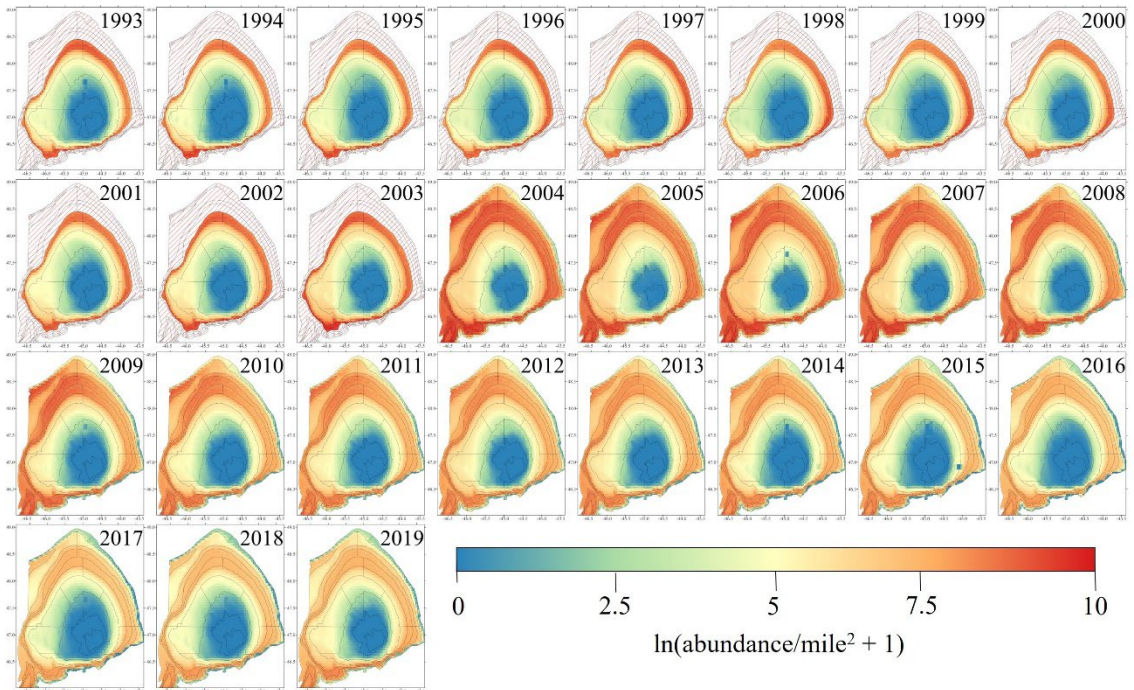
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24 Fig. S6. Delta GAM predicted small *Nezumia bairdii* (≤ 6 cm) (NB1) density distribution over the Flemish
 25 Cap between 1993 to 2019.

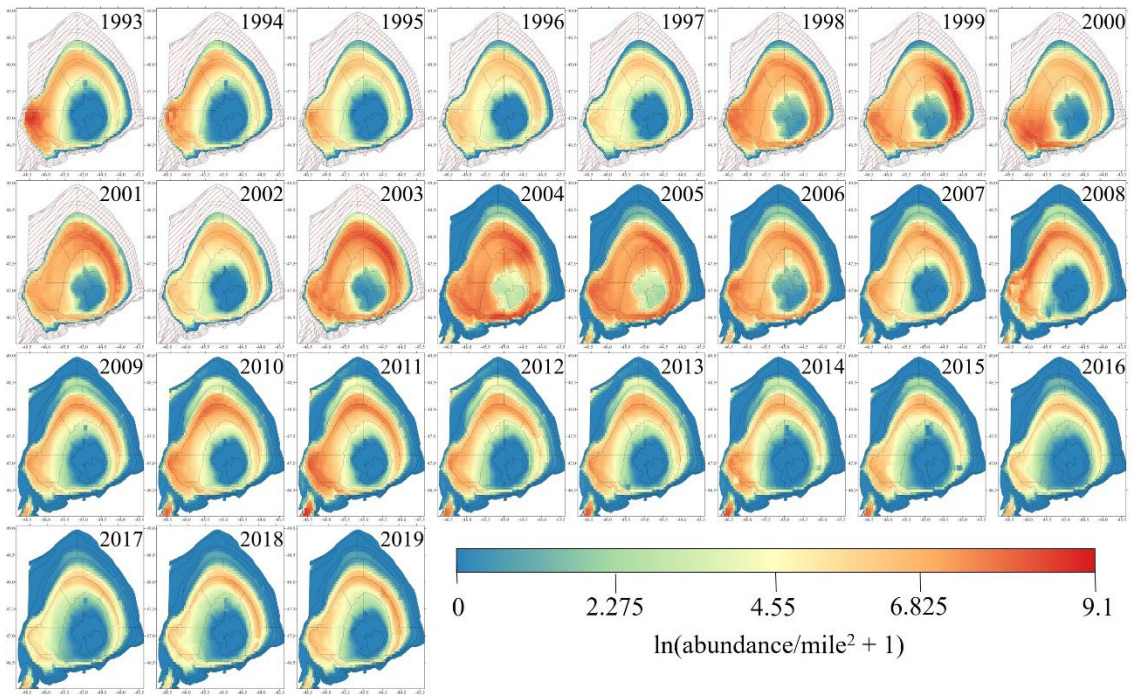
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28 Fig. S7. Delta GAM predicted large *Nezumia bairdii* (> 6 cm) (NB2) density distribution over the Flemish
 29 Cap between 1993 to 2019.

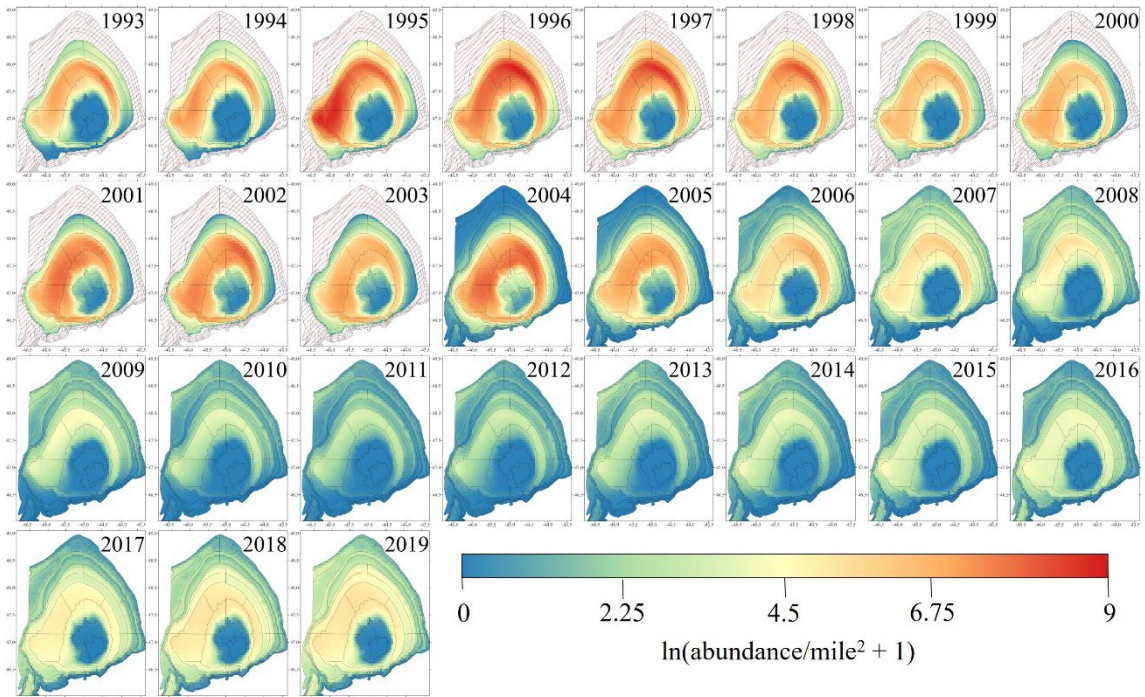
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31

32 Fig. S8. Delta GAM predicted *Phycis chesteri* density distribution over the Flemish Cap between 1993 to
 33 2019.

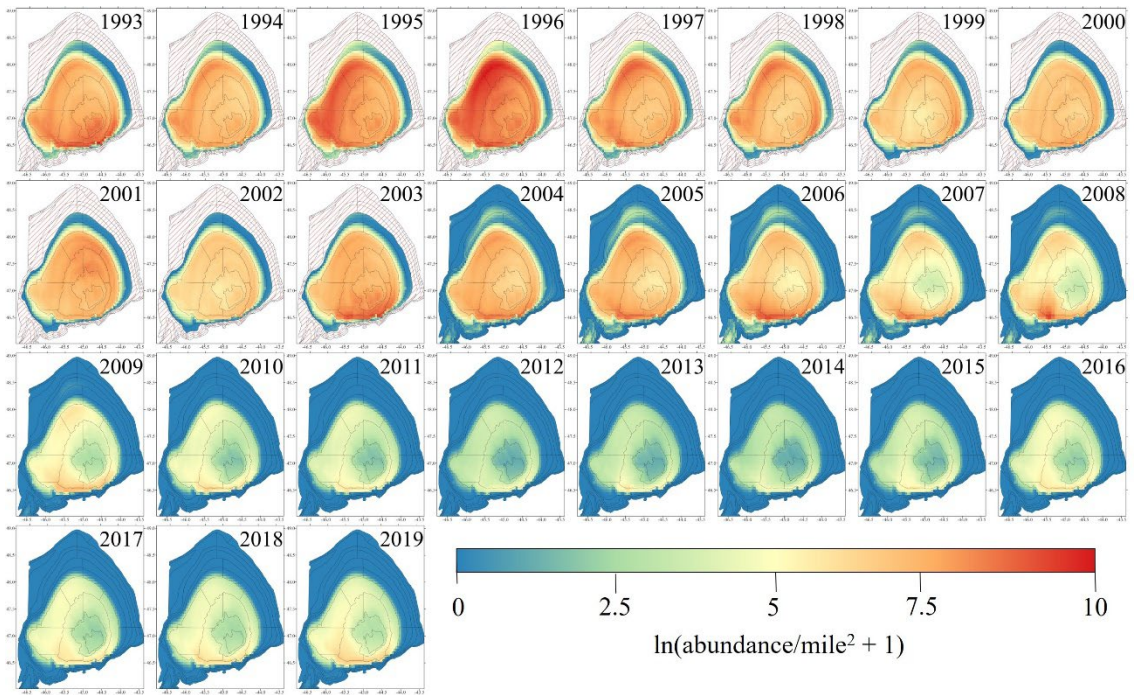
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36 Fig. S9. Delta GAM predicted small *Reinhardtius hippoglossoides* (≤ 31 cm) (RH1) density distribution
 37 over the Flemish Cap between 1993 to 2019.

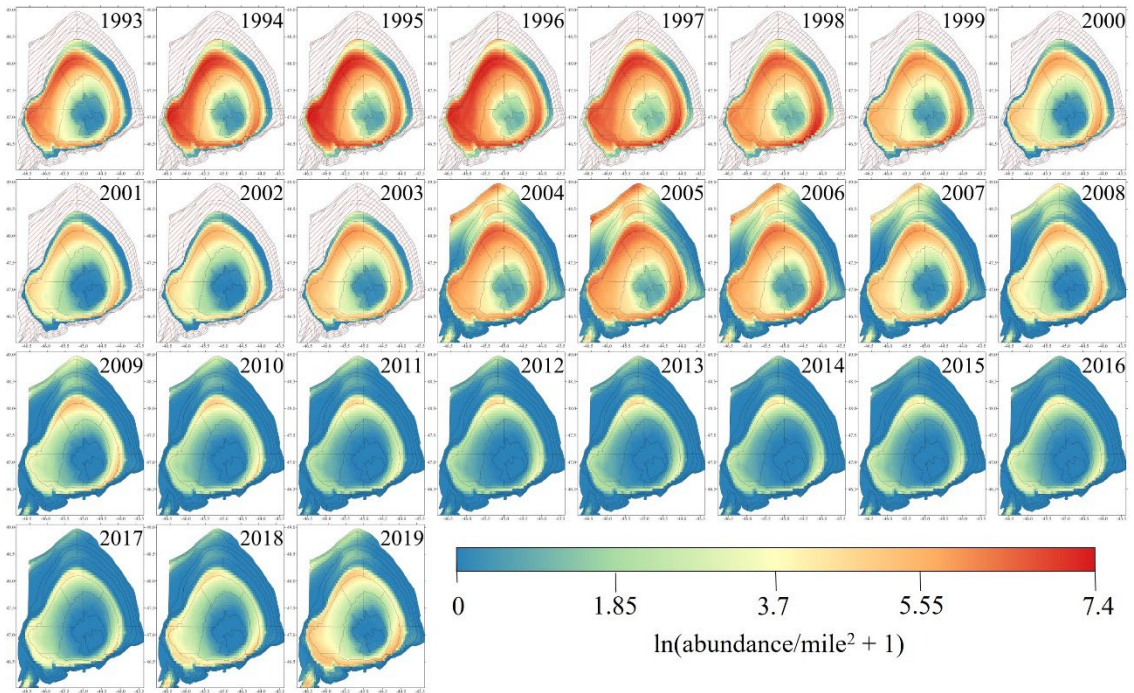
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39

40 Fig. S10. Delta GAM predicted small *Anarhichas lupus* (≤ 41 cm) (AL1) density distribution over the
 41 Flemish Cap between 1993 to 2019.

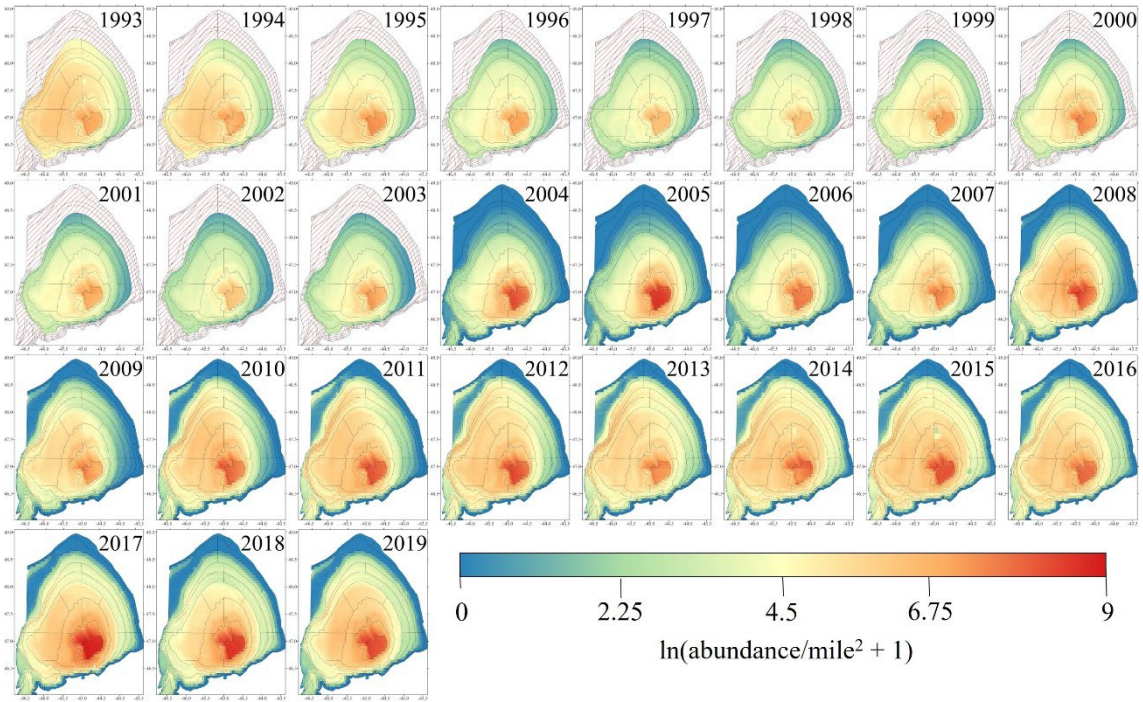
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44 Fig. S11. Delta GAM predicted small *Anarhichas minor* (≤ 46 cm) (AM1) density distribution over the
 45 Flemish Cap between 1993 to 2019.

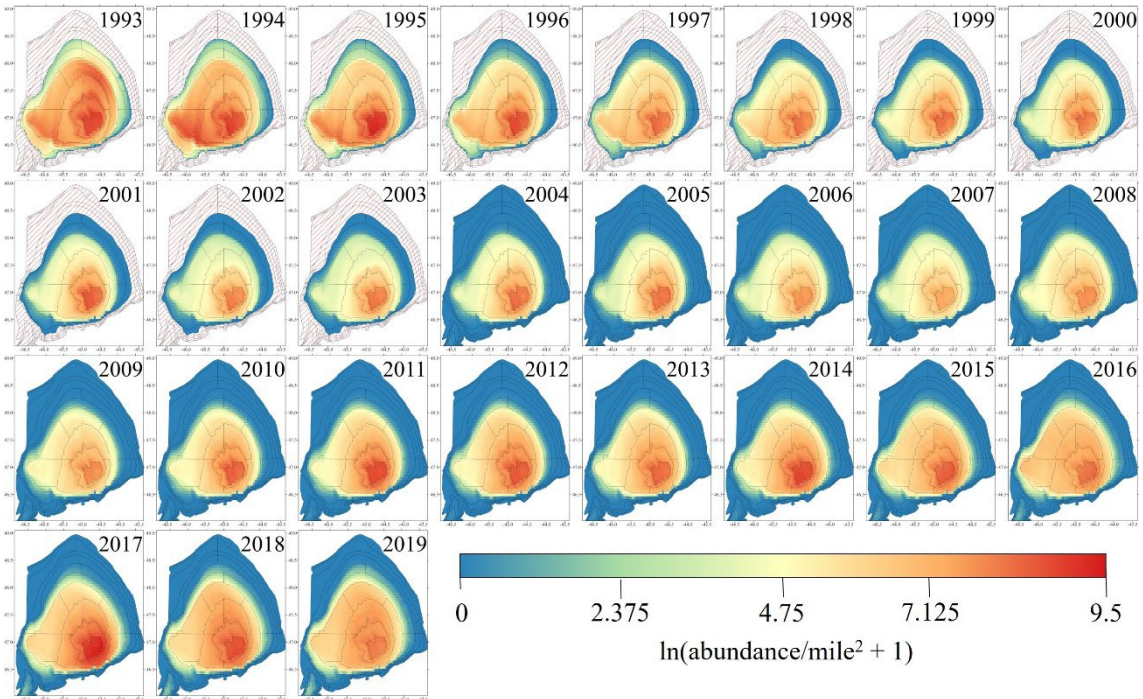
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48 Fig. S12. Delta GAM predicted *Glyptocephalus cynoglossus* (GC) density distribution over the Flemish
 49 Cap between 1993 to 2019.

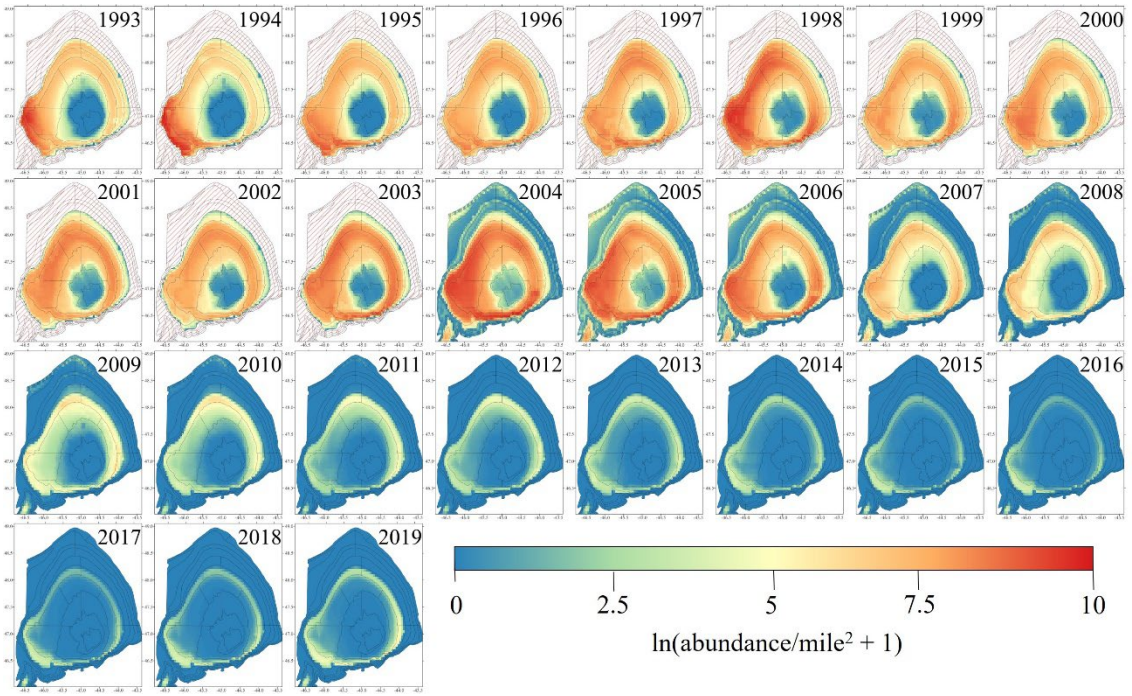
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52 Fig. S13. Delta GAM predicted *Hippoglossoides platessoides* (HP) density distribution over the Flemish
 53 Cap between 1993 to 2019.

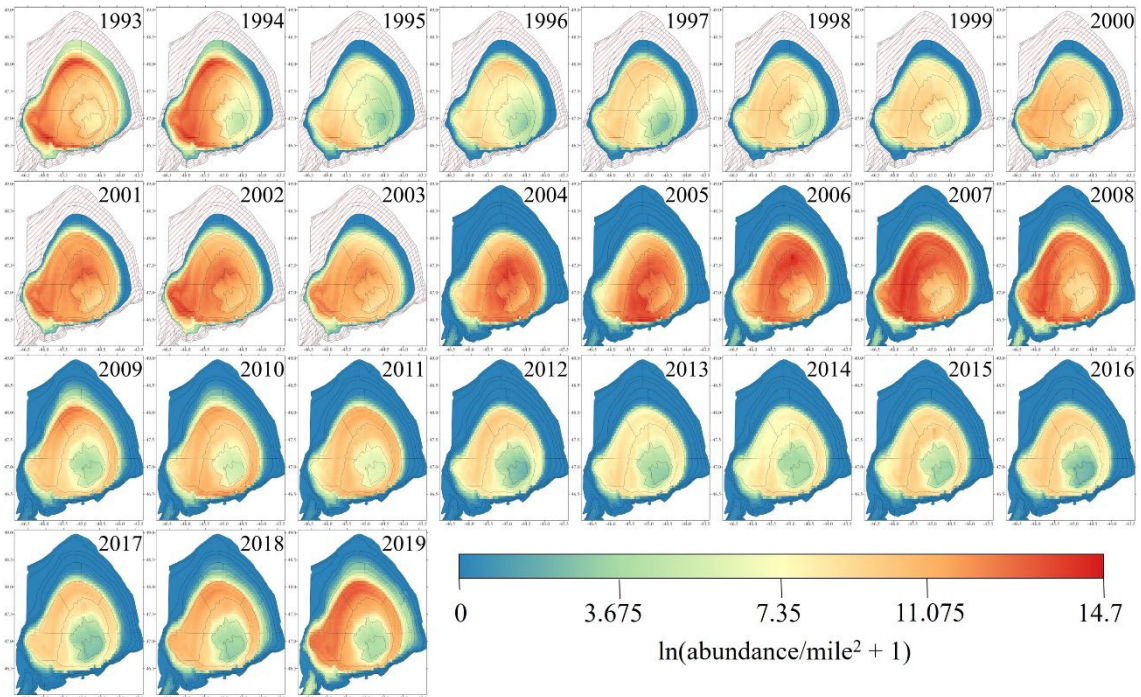
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56 Fig. S14. Delta GAM predicted *Lycodes reticulatus* (LR) density distribution over the Flemish Cap between
 57 1993 to 2019.

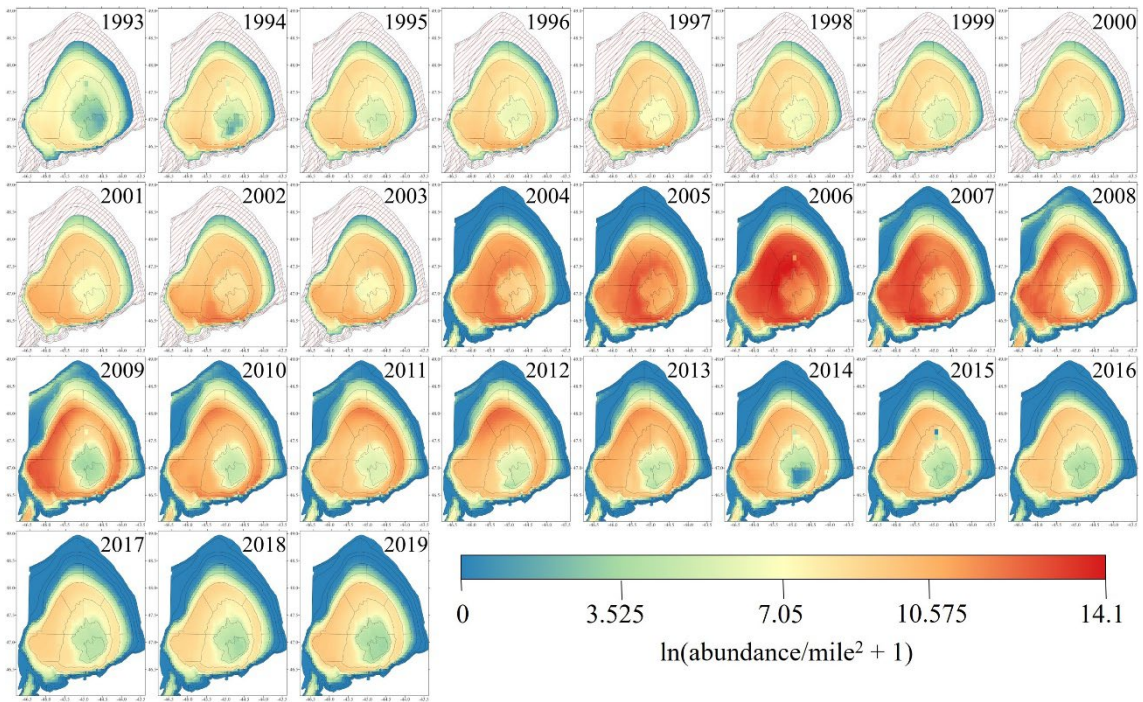
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60 Fig. S15. Delta GAM predicted juvenile *Sebastes* spp. (SJ) density distribution over the Flemish Cap
 61 between 1993 to 2019.

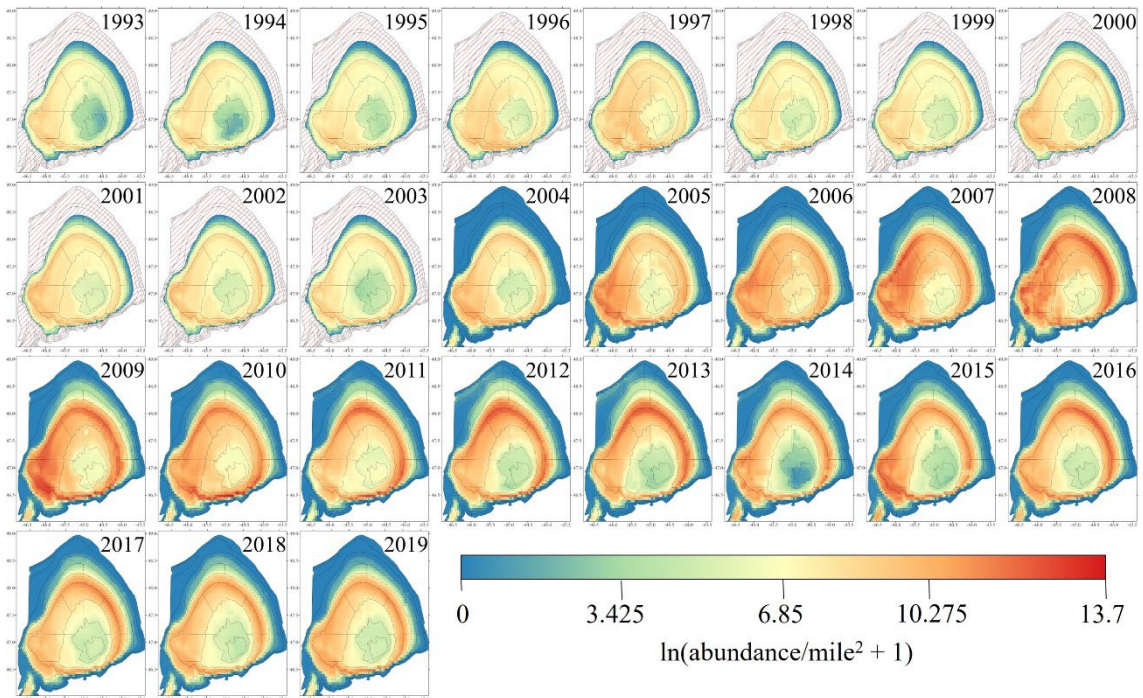
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64 Fig. S16. Delta GAM predicted small *Sebastes fasciatus* (≤ 21.5 cm) (SF1) density distribution over the
 65 Flemish Cap between 1993 to 2019.

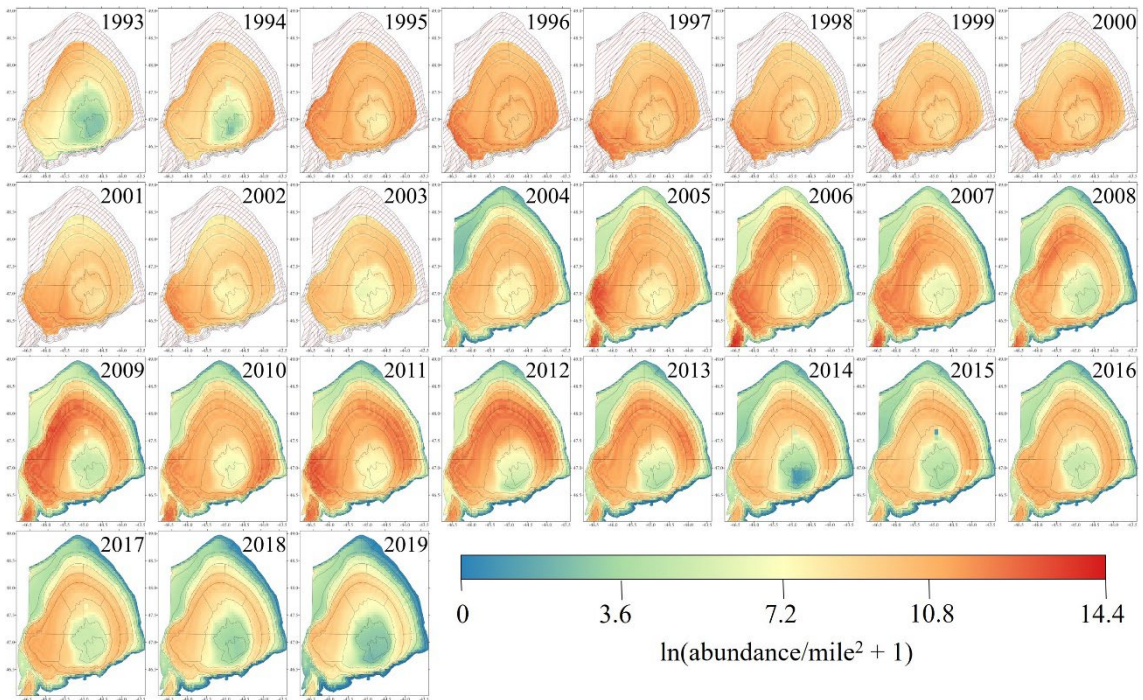
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68 Fig. S17. Delta GAM predicted large *Sebastes fasciatus* (> 21.5 cm) (SF2) density distribution over the
 69 Flemish Cap between 1993 to 2019.

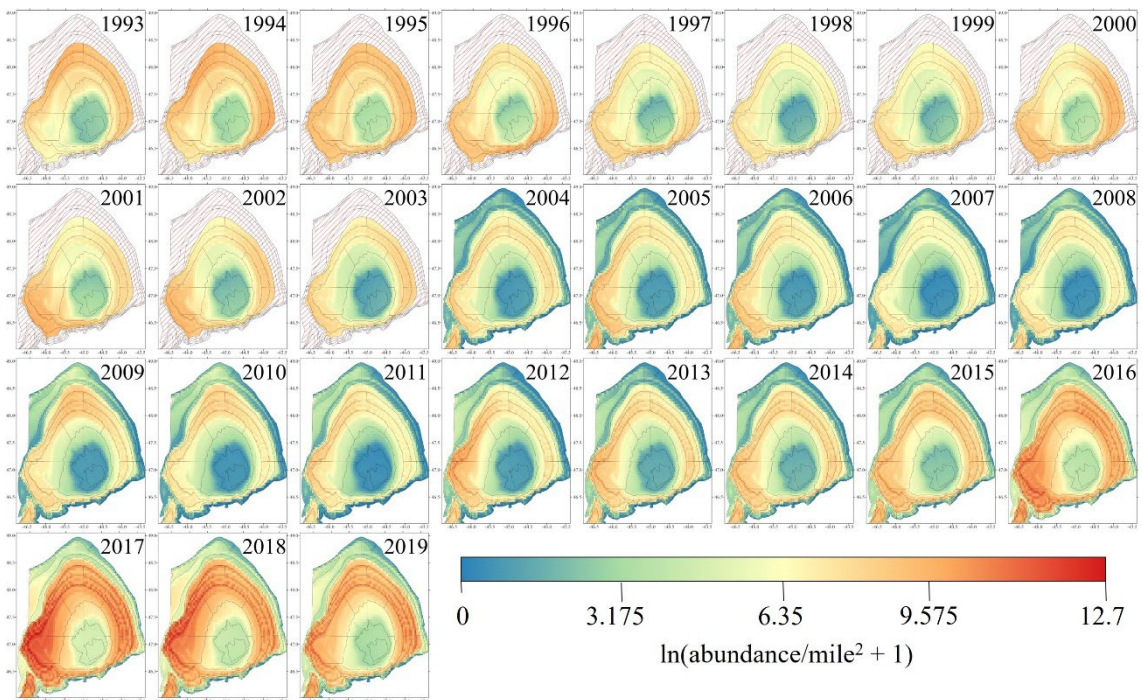
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71

72 Fig. S18. Delta GAM predicted small *Sebastes mentella* (≤ 27.5) (SM1) density distribution over the
 73 Flemish Cap between 1993 to 2019.

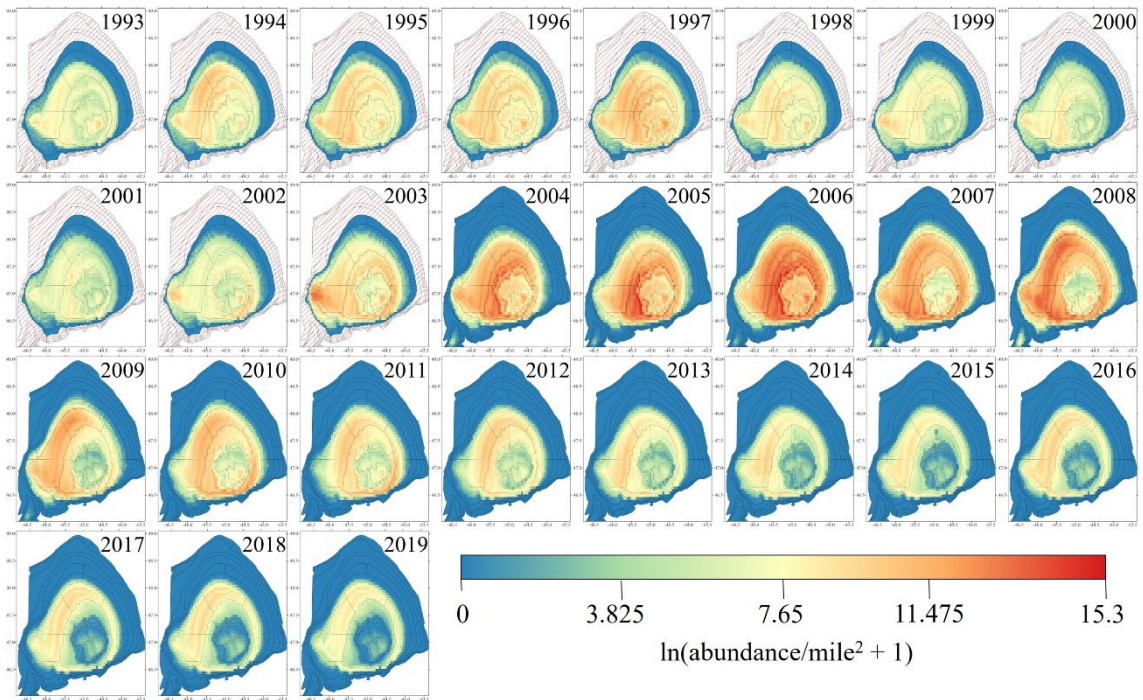
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76 Fig. S19. Delta GAM predicted large *Sebastes mentella* (≤ 27.5 cm) (SM2) density distribution over the
 77 Flemish Cap between 1993 to 2019.

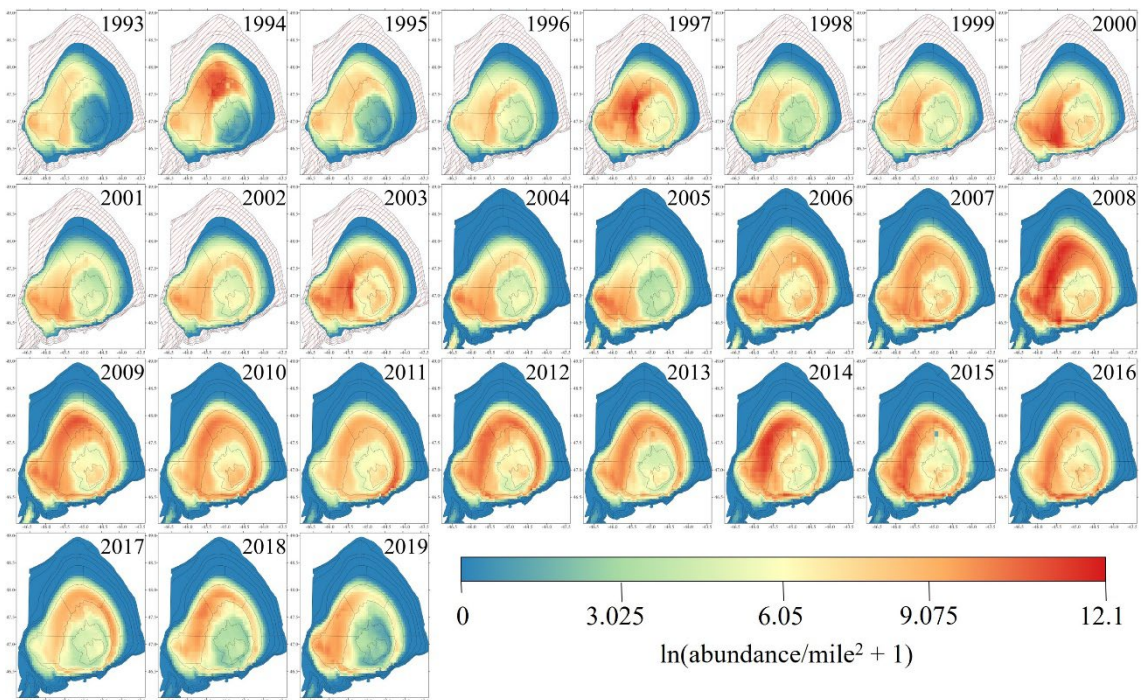
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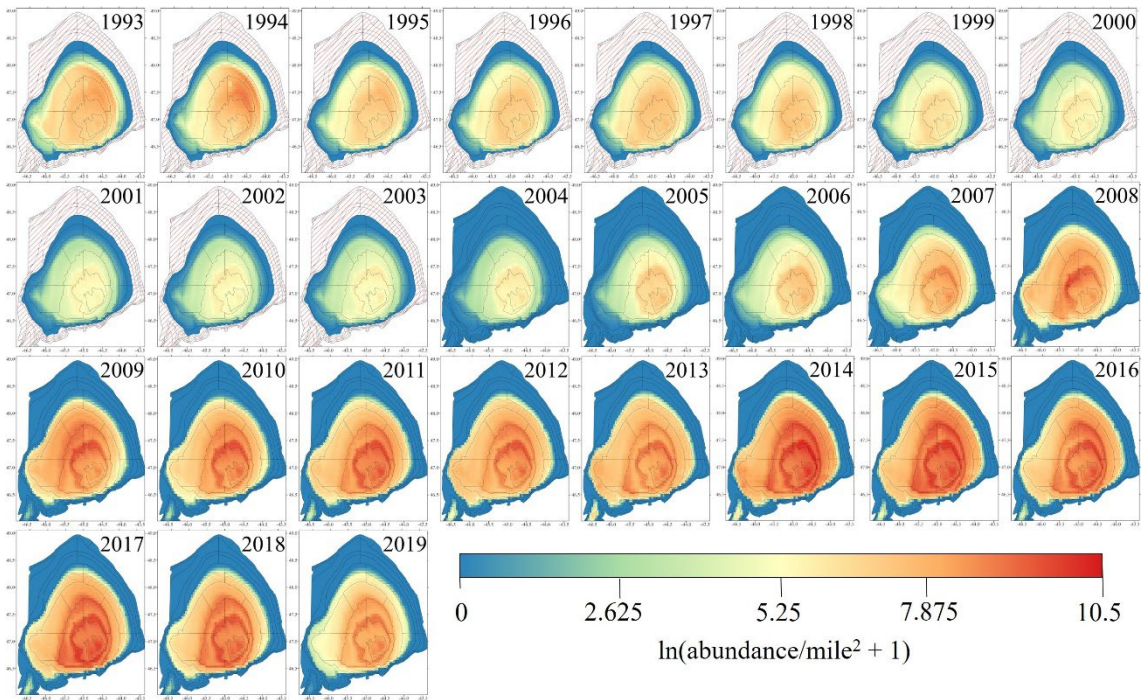
80 Fig. S20. Delta GAM predicted small *Sebastes norvegicus* (≤ 27.5 cm) (SN1) density distribution over the
 81 Flemish Cap between 1993 to 2019.

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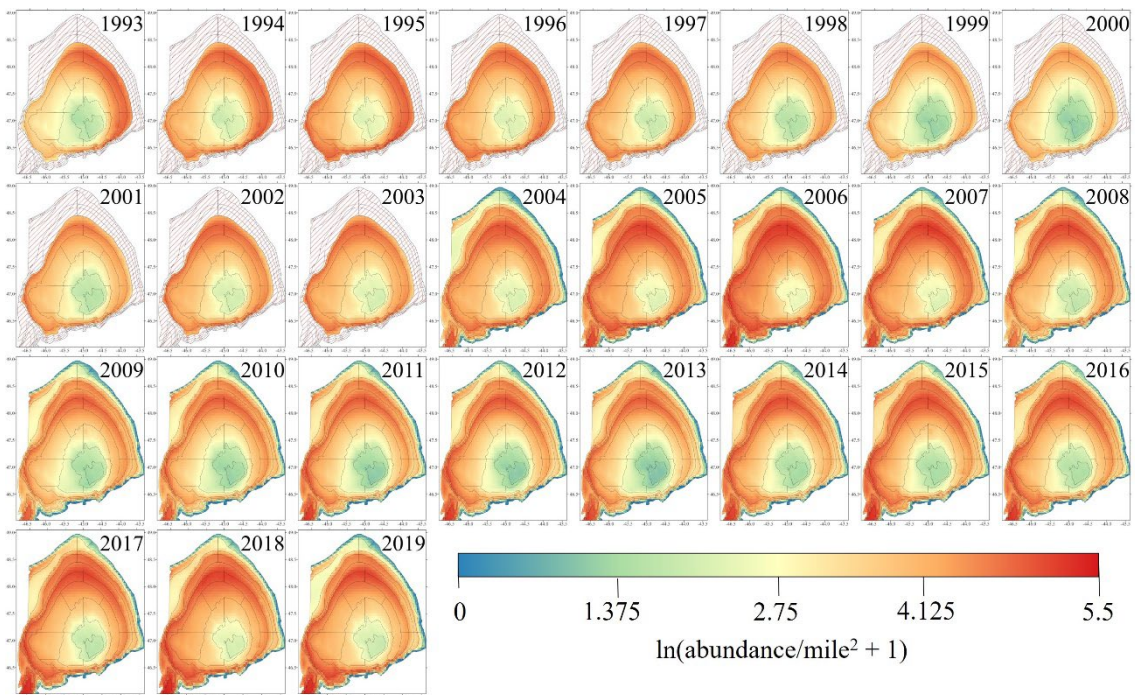
84 Fig. S21. Delta GAM predicted large *Sebastes norvegicus* (> 27.5 cm) (SN2) density distribution over the
 85 Flemish Cap between 1993 to 2019.



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87 Fig. S22. Delta GAM predicted large *Gadus morhua* (>46 cm) (GM2) density distribution over the Flemish
 88 Cap between 1993 to 2019.

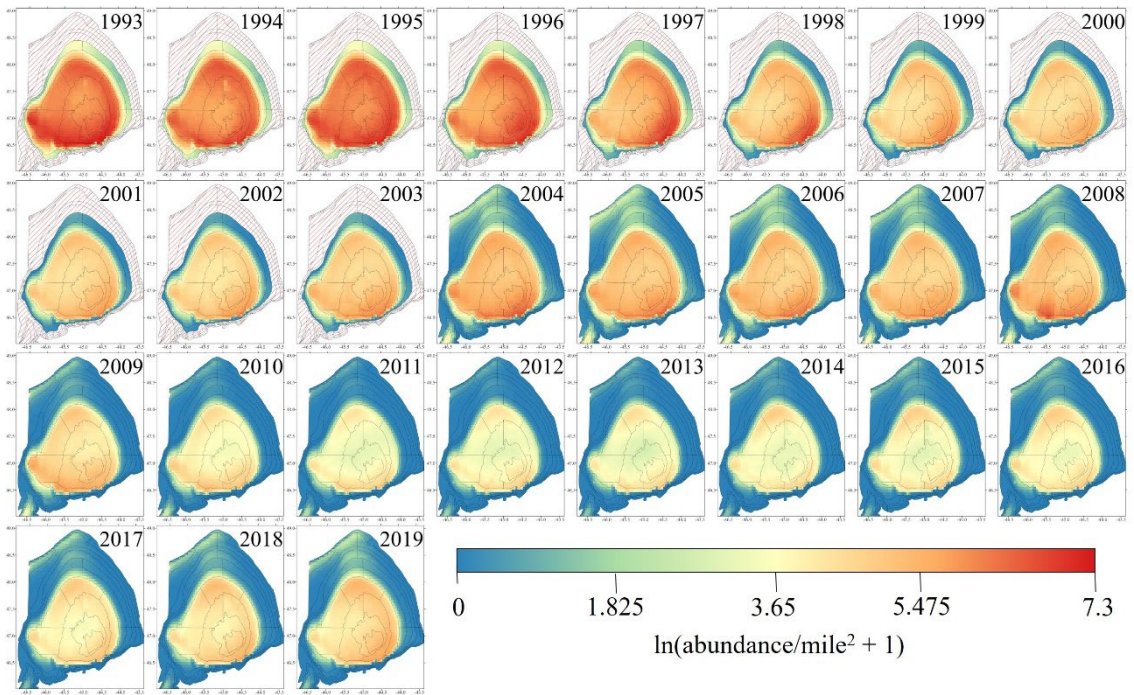
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91 Fig. S23. Delta GAM predicted *Anarhichas denticulatus* (AD) density distribution over the Flemish
 92 Cap between 1993 to 2019.

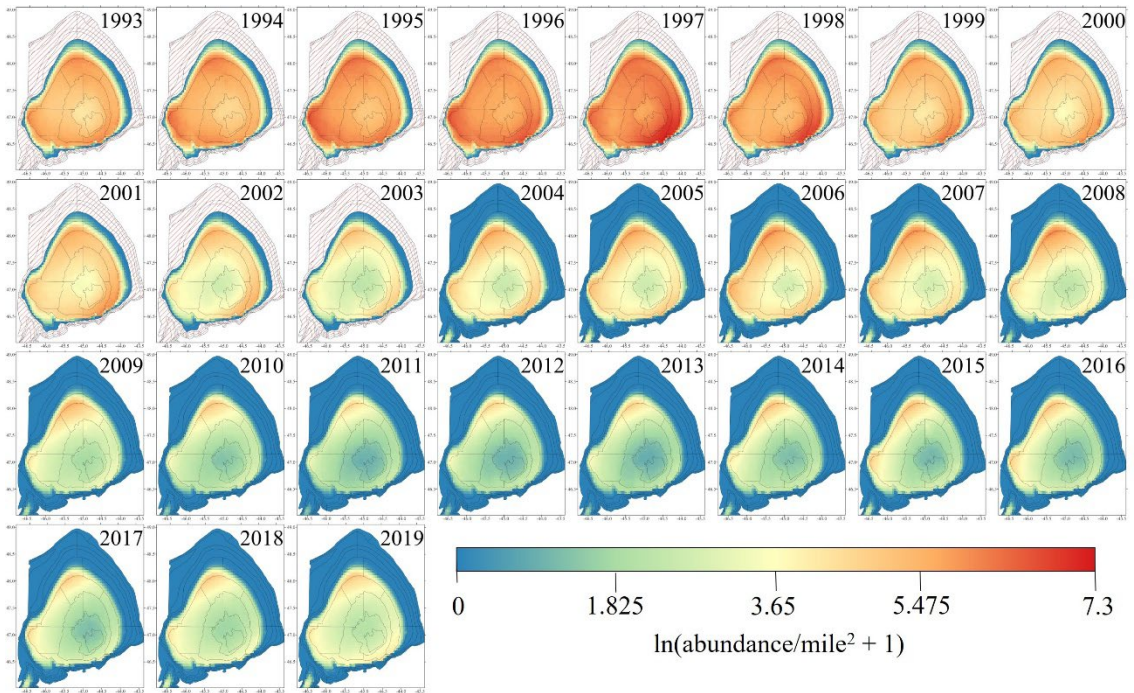
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95 Fig. S24. Delta GAM predicted large *Anarhichas lupus* (>41 cm) (AL2) density distribution over the
 96 Flemish Cap between 1993 to 2019.

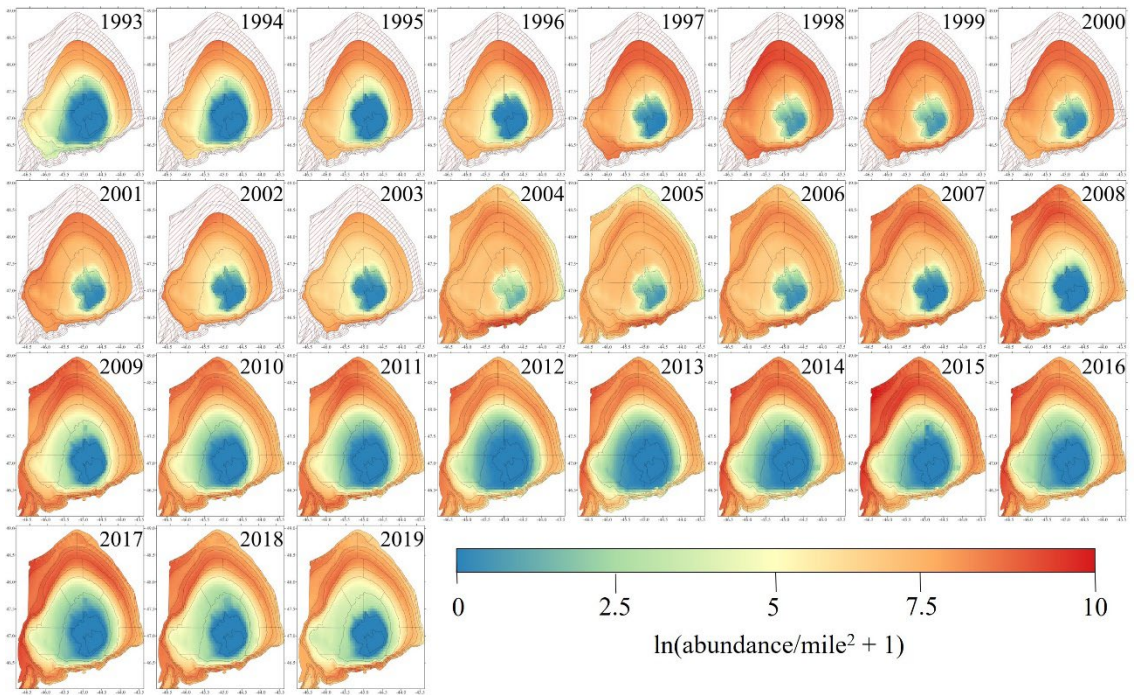
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98

99 Fig. S25. Delta GAM predicted large *Anarhichas minor* (>46 cm) (AM2) density distribution over the
 100 Flemish Cap between 1993 to 2019.

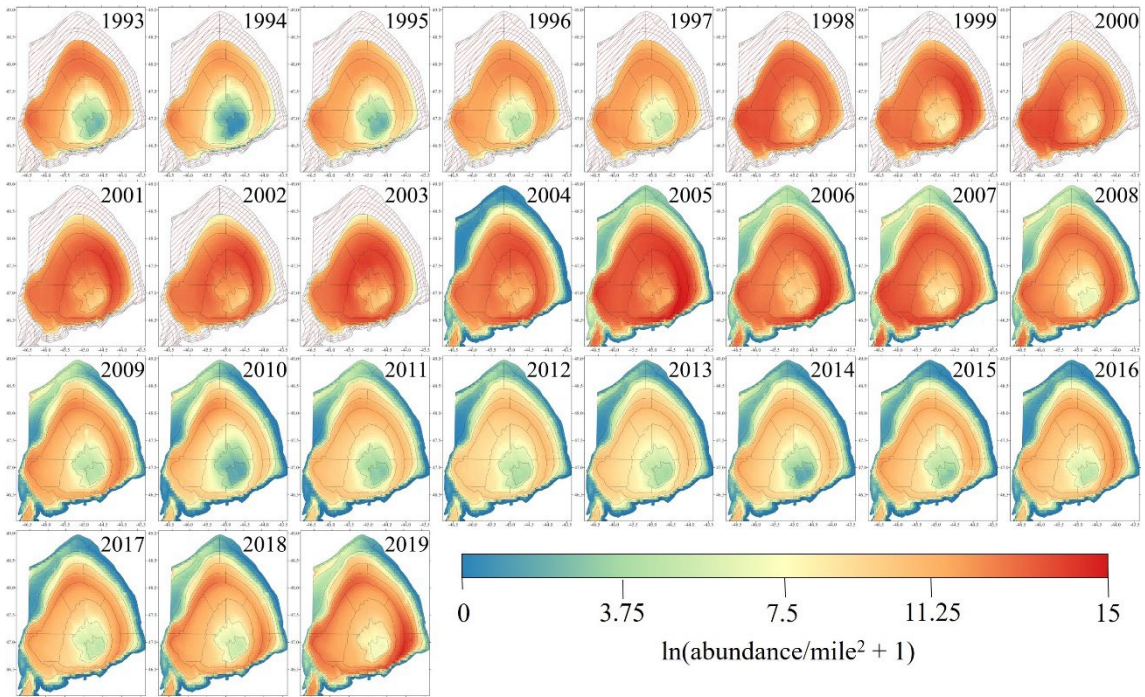
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103 Fig. S26. Delta GAM predicted large *Reinhardtius hippoglossoides* (>31 cm) (RH2) density distribution
 104 over the Flemish Cap between 1993 to 2019.

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106

107 Fig. S27. Delta GAM predicted *Pandalus borealis* (PB) density distribution over the Flemish Cap between
 108 1993 to 2019.

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