Firesummary

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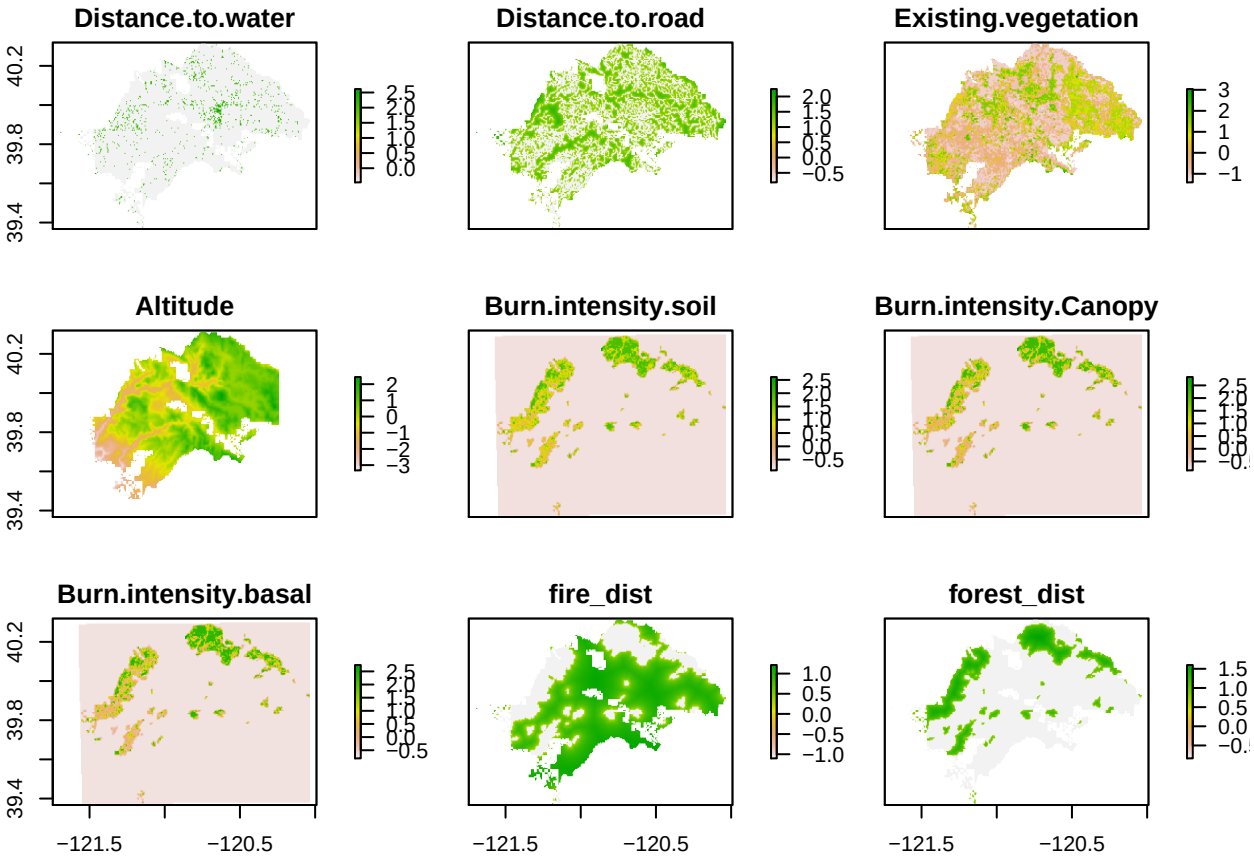
Abstract

This webpage will show the results of a bat survey study done in the Plumas National Forest in North California. The objective of this study is to determine the distribution of the different species of bats within the park. In order to do that we have performed occupancy models for the species present in the park. The results of this models will be shown as maps showing the probability of occurence of bats in each point, that is, if you see a value of 1, there is a 100% chance of finding a bat in that point, if there is a value of 0 there is 0% chance of finding that specie in that point, if there is a value of 0.5 there is a 50% chance of finding that specie in that point.

Another result



Results collected in the field

Maps showing the sampled Points

Results of species prescence

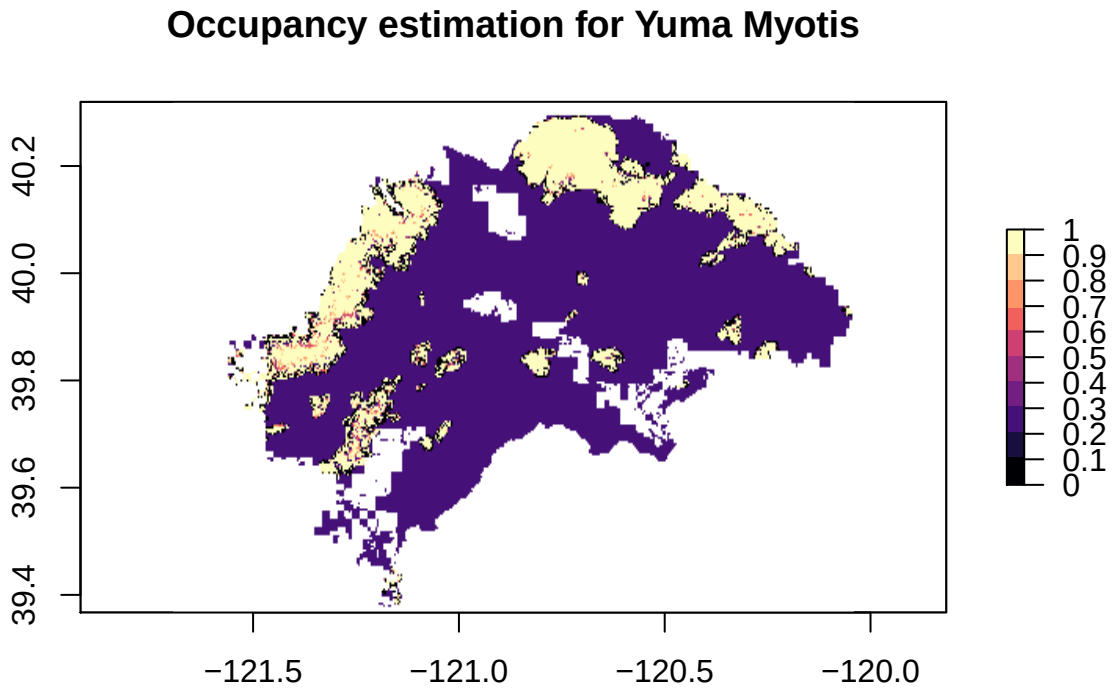
In this area 0 means absence, and 1 means prescence. This table has for each site (ID), every specie and day, so for example if Mylu1=0, that means that for *Myotis lucifugus* (common name Little Brown bat, was detected on day one for that particular site).

Here is a key for bat species

- *Myotis yumanensis* (Myyu)
- *Myotis californicus* (Myca)
- *Myotis ciliolabrum* (Myci)
- *Myotis volans* (Myvo)
- *Myotis lucifugus* (Mylu)
- *Parastrellus hesperus* (Pahe)
- *Lasiurus blossevillii* (Labo)
- *Myotis evotis* (Myev)
- *Antrozous pallidus* **(Anpa)**
- *Eptesicus fuscus* (Epfu)
- *Lasionycteris noctivagans* (Lano)
- *Myotis thysanodes* **(Myth)**
- *Tadarida brasiliensis* (Tabr)
- *Lasiurus cinereus* (Laci)
- *Corynorhinus townsendii* **(Coto)**
- *Euderma maculatum* (Euma)
- *Eumops perotis* (Eupe)

Maps predicting the distribution of bats

Yuma myotis (*Myotis yumanensis*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

psi(Int)

-25.02

-38.73

121.97

-55.81

-29.91

0.20

(22.07)

(33.95)

(166.37)

(44.89)

(24.24)

(1.05)

psi(Burn.intensity.basal)

-19.12

-24.25

(19.21)

(21.56)

psi(I(Burn.intensity.basal^2))

59.42

131.46

189.86

70.01

(52.91)

(116.41)

(153.64)

(57.36)

psi(forest_dist)

20.46

28.75

39.74

23.71

1.69

(18.28)

(24.63)

(31.89)

(19.84)

(0.98)

p(Int)

-1.78***

-1.82***

-1.86***

-1.80***

-1.75***

-1.82***

(0.28)

(0.28)

(0.28)

(0.28)

(0.28)

(0.38)

p(Meanhum)

-0.27

-0.27

-0.09

-0.27

-0.28

-0.21

(0.46)

(0.46)

(0.44)

(0.46)

(0.46)

(0.46)

p(Meantemp)

0.92***

0.91***

0.84**

0.89***

0.89***

0.88**

(0.27)

(0.27)

(0.27)

(0.27)

(0.27)

(0.27)

p(Minhum)

0.47

0.54

0.32

0.53

0.47

0.49

(0.41)

(0.41)

(0.40)

(0.41)

(0.41)

(0.42)

psi(Burn.intensity.Canopy)

116.77

(156.73)

psi(I(Burn.intensity.Canopy^2))

-82.51

(113.78)

psi(fire_dist)

-1.42

-1.16

(1.12)

(1.03)

Log Likelihood

-78.44

-79.75

-80.00

-78.84

-77.71

-81.56

AICc

174.29

174.58

175.08

175.09

175.21

175.92

Delta

0.00

0.28

0.79

0.80

0.92

1.63

Weight

0.23

0.20

0.16

0.16

0.15

0.10

Num. obs.

111

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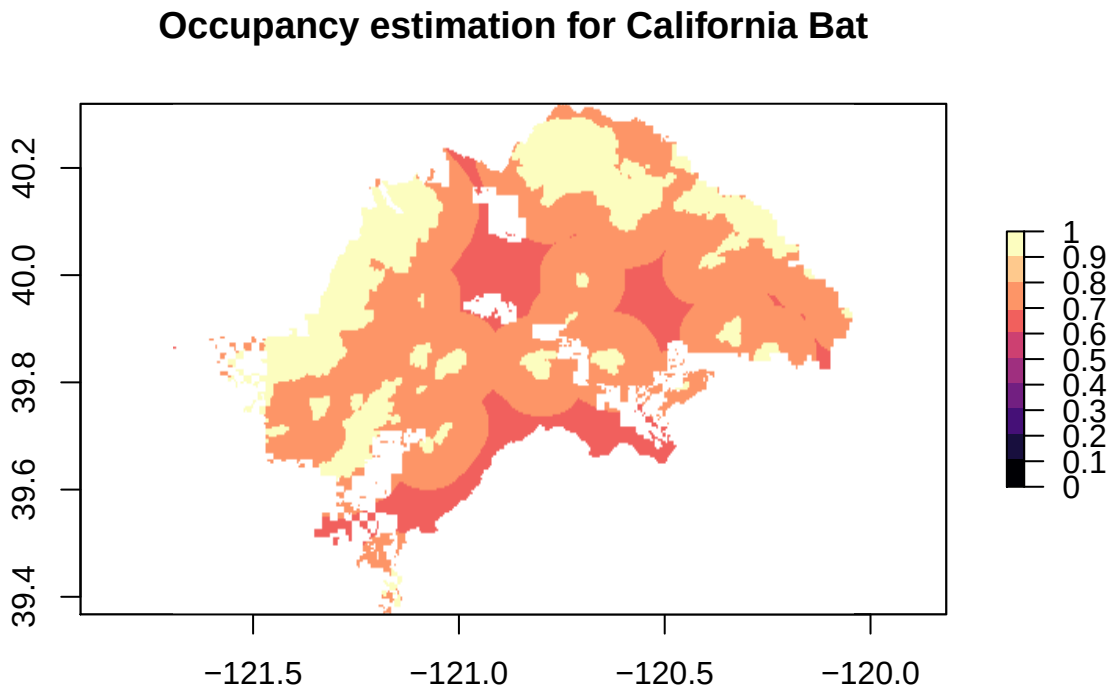
p < 0.001, *p < 0.01,* p < 0.05

California bat (*Myotis californicus*)



Statistical models

Model 1

Model 2

psi(Int)

1.50***

1.50***

(0.30)

(0.30)

psi(fire_dist)

-0.64*

(0.30)

p(Int)

1.04***

1.04***

(0.16)

(0.16)

p(Maxhum)

-1.35*

-1.36*

(0.55)

(0.54)

p(Meanhum)

1.07*

1.08*

(0.51)

(0.51)

p(Meantemp)

2.56***

2.59***

(0.71)

(0.71)

p(Mintemp)

-2.41***

-2.43***

(0.71)

(0.71)

psi(forest_dist)

0.64*

(0.32)

Log Likelihood

-193.39

-193.59

AICc

401.86

402.27

Delta

0.00

0.41

Weight

0.55

0.45

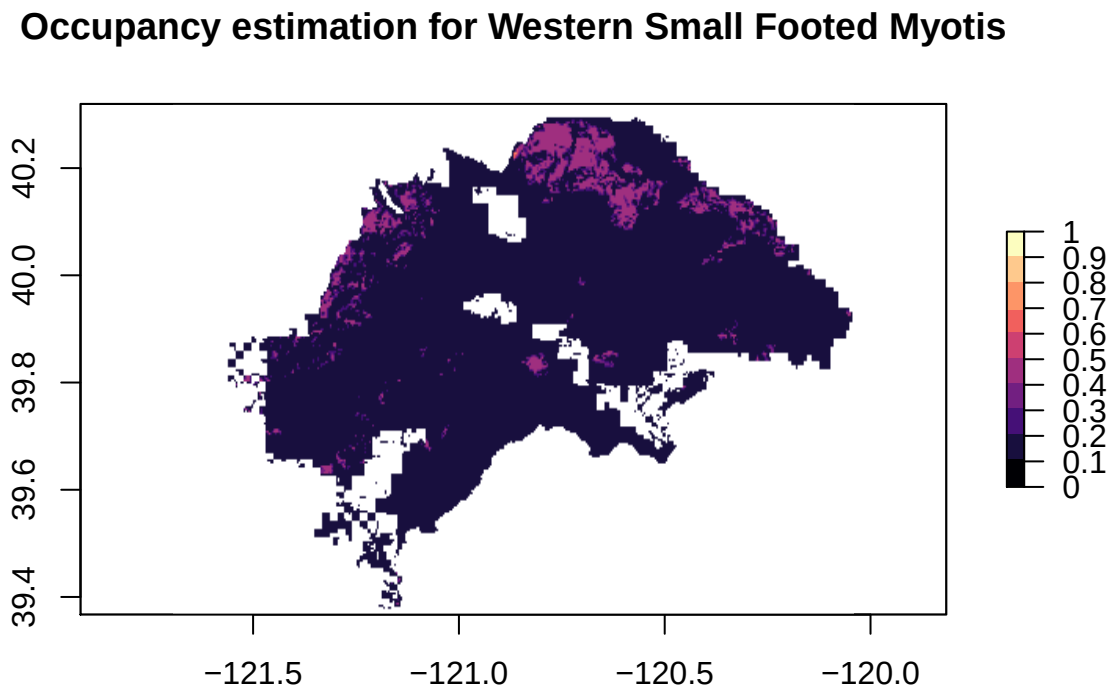
Num. obs.

111

111

***p* < 0.001,** *p* < 0.01, p < 0.05

Western Small Footed Myotis (*Myotis ciliolabrum*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

Model 8

Model 9

Model 10

Model 11

Model 12

Model 13

Model 14

Model 15

Model 16

Model 17

Model 18

psi(Int)

-2.17***

-1.76***

-2.28***

-1.79***

-2.13***

-1.78***

-2.09***

-2.23***

-1.88***

-2.05***

-1.87***

-1.77***

-2.68***

-1.79***

-2.59***

-1.79***

-1.79***

-2.12***

(0.44)

(0.37)

(0.47)

(0.36)

(0.43)

(0.36)

(0.45)

(0.47)

(0.37)

(0.44)

(0.37)

(0.37)

(0.67)

(0.37)

(0.66)

(0.36)

(0.37)

(0.45)

psi(I(Burn.intensity.Canopy^2))

0.40*

0.42

0.27

0.87

0.36

(0.19)

(0.23)

(0.21)

(0.54)

(0.23)

p(Int)

-0.44

-0.50

-0.41

-0.44

-0.43

-0.44

-0.44

-0.41

-0.40

-0.43

-0.41

-0.49

-0.45

-0.46

-0.44

-0.43

-0.47

-0.44

(0.43)

(0.44)

(0.42)

(0.44)

(0.43)

(0.43)

(0.43)

(0.42)

(0.42)

(0.43)

(0.42)

(0.44)

(0.43)

(0.44)

(0.43)

(0.43)

(0.44)

(0.43)

p(Maxhum)

-5.85*

-6.20**

-6.03**

-5.92*

-5.84*

-5.92*

-5.92*

-6.04**

-6.03**

-5.93*

-6.06**

-6.32**

-6.04**

-6.04*

-6.02*

-5.86*

-6.06**

-5.88*

(2.33)

(2.34)

(2.31)

(2.33)

(2.33)

(2.33)

(2.34)

(2.32)

(2.32)

(2.34)

(2.32)

(2.33)

(2.34)

(2.35)

(2.34)

(2.33)

(2.35)

(2.33)

p(Meanhum)

5.71*

6.04**

5.90**

5.78*

5.71*

5.77*

5.76*

5.90**

5.91**

5.77*

5.92**

6.17**

5.87**

5.88**

5.85**

5.73*

5.90**

5.74*

(2.25)

(2.26)

(2.23)

(2.26)

(2.25)

(2.26)

(2.26)

(2.24)

(2.24)

(2.27)

(2.24)

(2.24)

(2.26)

(2.27)

(2.26)

(2.25)

(2.27)

(2.26)

p(sdhum)

1.77*

1.92*

1.81*

1.80*

1.77*

1.81*

1.80*

1.82*

1.81*

1.81*

1.83*

1.95*

1.85*

1.85*

1.85*

1.77*

1.86*

1.78*

(0.82)

(0.83)

(0.82)

(0.82)

(0.82)

(0.82)

(0.83)

(0.82)

(0.82)

(0.83)

(0.82)

(0.82)

(0.83)

(0.83)

(0.83)

(0.82)

(0.83)

(0.82)

psi(fire_dist)

-0.63

-1.46*

-0.43

-1.45*

-1.32

-0.45

-1.35

-1.28

-1.12

-0.37

-1.03

-0.41

(0.32)

(0.73)

(0.36)

(0.73)

(0.72)

(0.36)

(0.72)

(0.70)

(0.65)

(0.49)

(0.60)

(0.47)

psi(forest_dist)

-1.24

-1.21

-1.62

-1.52

-0.72

-0.44

0.11

(0.77)

(0.77)

(0.91)

(0.89)

(0.68)

(0.66)

(0.38)

psi(Burn.intensity.Canopy)

0.56*

0.90

-1.30

0.30

0.89

(0.27)

(0.57)

(1.06)

(0.43)

(0.58)
psi(I(Burn.intensity.basalˆ2))
0.37*
0.37
0.24
0.79
(0.18)
(0.22)
(0.20)
(0.52)
psi(Burn.intensity.basal)
0.53*
0.79
-1.18
0.26
(0.27)
(0.53)
(1.02)
(0.40)
Log Likelihood
-61.96
-61.98
-59.73
-62.09
-62.18
-62.24
-61.11
-59.95
-60.01
-61.26
-60.21
-61.41
-60.35
-61.72
-60.58
-61.76

-61.77

-61.80

AICc

136.72

136.76

136.88

136.97

137.16

137.28

137.31

137.31

137.43

137.61

137.84

137.91

138.10

138.52

138.57

138.60

138.63

138.69

Delta

0.00

0.04

0.16

0.25

0.43

0.56

0.59

0.59

0.70

0.89

1.11

1.18

1.38

1.80

1.84

1.87

1.91

1.96

Weight

0.08

0.08

0.08

0.07

0.07

0.06

0.06

0.06

0.06

0.05

0.05

0.05

0.04

0.03

0.03

0.03

0.03

0.03

Num. obs.

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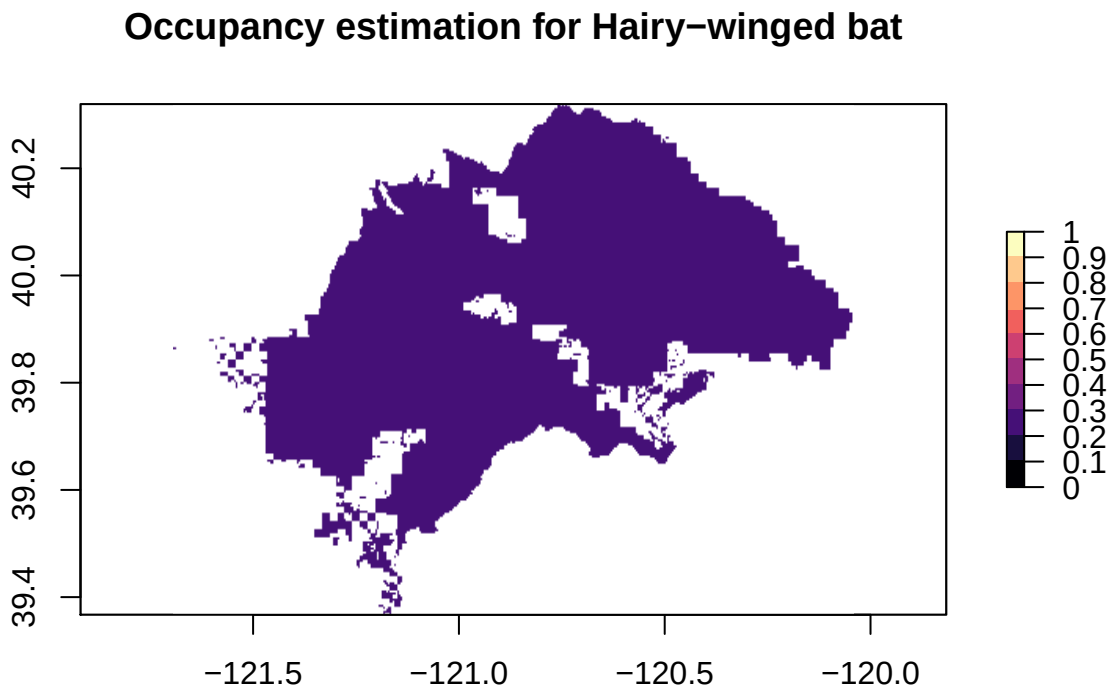
***p* < 0.001,** *p* < 0.01, p < 0.05

Hairy-winged bat (*Myotis volans*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

psi(Int)

-1.36***

-1.35***

-1.42***

-1.41***

-1.34**

-1.35***

-1.27**

(0.39)

(0.40)

(0.40)

(0.40)

(0.41)

(0.40)

(0.44)

p(Int)

-0.83

-0.85

-0.82

-0.82

-0.88*

-0.83

-0.81

(0.45)

(0.46)

(0.45)

(0.45)

(0.45)

(0.45)

(0.45)

p(Maxhum)

-0.38

-0.40

-0.37

-0.38

-0.43

-0.38

-0.36

(0.27)

(0.27)

(0.27)

(0.27)

(0.27)

(0.27)

(0.27)

psi(fire_dist)

-0.29

-0.75

-0.75

-1.46

(0.31)

(0.45)

(0.47)

(1.33)

psi(Burn.intensity.basal)

-0.69

(0.52)

psi(Burn.intensity.Canopy)

-0.66

(0.52)

psi(forest_dist)

-1.26

0.12

(1.33)

(0.31)

psi(I(Burn.intensity.basal^2))

-0.12

(0.27)

Log Likelihood

-70.51

-69.93

-68.95

-69.06

-69.07

-70.31

-70.40

AICc

147.24

148.23

148.48

148.68

148.70

149.00

149.18

Delta

0.00

0.99

1.24

1.44

1.46

1.76

1.94

Weight

0.26

0.16

0.14

0.12

0.12

0.11

0.10

Num. obs.

111

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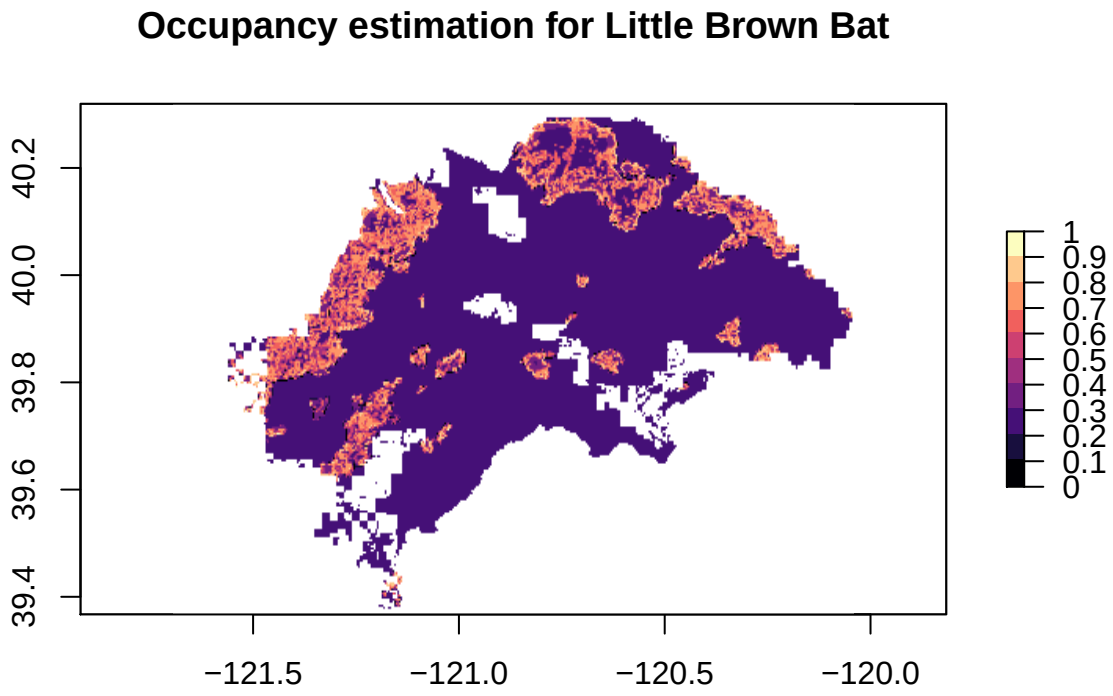
p < 0.001, *p < 0.01,* p < 0.05

Little Brown bat (*Myotis lucifugus*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

psi(Int)

0.99

0.84

0.28

-0.49*

0.32

0.82

0.70

(0.60)

(0.61)

(0.37)

(0.22)

(0.38)

(0.59)

(0.59)

psi(Burn.intensity.Canopy)

3.30*

2.98*

1.39***

(1.34)

(1.31)

(0.40)

psi(I(Burn.intensity.Canopy^2))

-1.52**

-1.37*

-0.80**

(0.57)

(0.57)

(0.29)

psi(forest_dist)

-1.30

-1.78

-0.83

-1.46

(0.84)

(0.92)

(0.72)

(0.85)

p(Int)

1.01***

1.01***

1.00***

1.00***

1.00***

1.00***

1.01***

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

p(sdtemp)

1.03**

1.04**

1.05**

1.05**

1.05**

1.05**

1.05**

(0.36)

(0.36)

(0.36)

(0.36)

(0.36)

(0.36)

(0.36)

psi(fire_dist)

-0.73

-0.68**

-0.81

(0.59)

(0.21)

(0.58)

psi(Burn.intensity.basal)

1.47***

2.74*

2.52*

(0.42)

(1.22)

(1.20)

psi(I(Burn.intensity.basal^2))

-0.84**

-1.34*

-1.22*

(0.30)

(0.55)

(0.55)

Log Likelihood

-130.16

-129.34

-131.80

-132.99

-131.90

-130.89

-129.84

AICc

273.14

273.77

274.17

274.35

274.37

274.59

274.77

Delta

0.00

0.64

1.03

1.22

1.23

1.46

1.64

Weight

0.23

0.17

0.14

0.13

0.12

0.11

0.10

Num. obs.

111

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111

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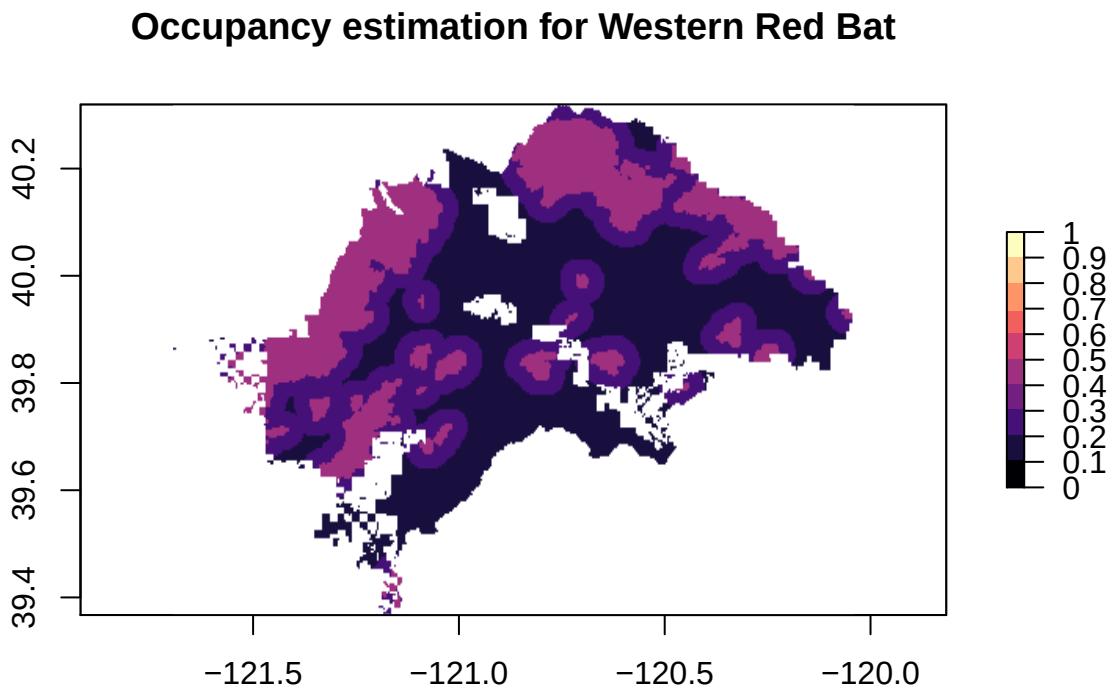
111

111

***p* < 0.001,** *p* < *0.01*, p < 0.05

Western Red Bat (*Lasiurus blossevillii*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

psi(Int)

-0.94

-0.92

-1.05*

-2.69*

-0.92

-0.97

-0.97

(0.55)

(0.53)

(0.49)

(1.22)

(0.54)

(0.54)

(0.54)

psi(fire_dist)

-0.54

-1.27

-2.03

-0.74

-0.73

(0.34)

(0.78)

(1.09)

(0.49)

(0.50)

p(Int)

-1.38**

-1.36**

-1.28**

-1.61***

-1.37**

-1.36**

-1.35**

(0.50)

(0.51)

(0.47)

(0.39)

(0.51)

(0.50)

(0.50)

p(sdtemp)

-0.48

-0.43

-0.52

-0.53

-0.45

-0.45

-0.46

(0.42)

(0.42)

(0.43)

(0.36)

(0.42)

(0.42)

(0.42)

psi(forest_dist)

-0.83

0.30

(0.77)

(0.33)

psi(Burn.intensity.Canopy)

-3.05

-0.27

(1.89)

(0.50)

psi(I(Burn.intensity.Canopy^2))

2.25

(1.56)

psi(Burn.intensity.basal)

-0.29

(0.49)

Log Likelihood

-70.68

-72.18

-70.02

-69.16

-71.60

-70.51

-70.54

AICc

149.74

150.59

150.62

151.13

151.58

151.59

151.65

Delta

0.00

0.85

0.88

1.39

1.85

1.86

1.91

Weight

0.25

0.16

0.16

0.13

0.10

0.10

0.10

Num. obs.

111

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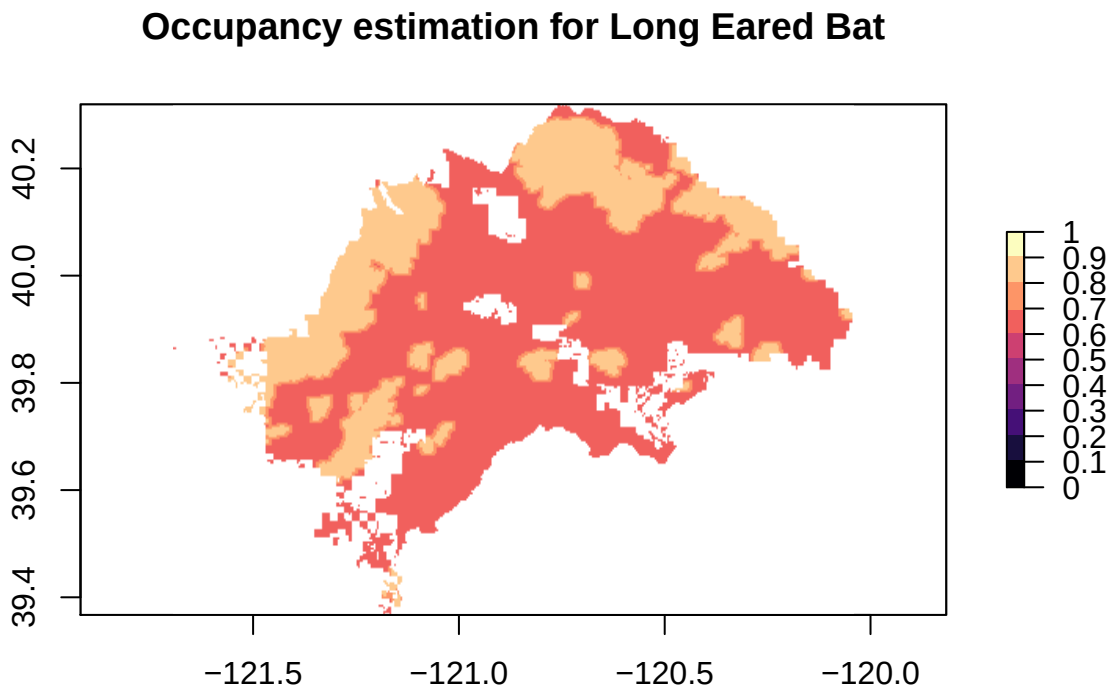
111

***p* < 0.001,** *p* < 0.01, p < 0.05

Long-eared Bat (*Myotis evotis*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

Model 8

psi(Int)

1.15***

0.83

0.83

1.15***

1.11***

1.20***

0.99*

1.21**

(0.31)

(0.61)

(0.56)

(0.33)

(0.29)

(0.36)

(0.50)

(0.39)

psi(fire_dist)

-0.61*

-0.56

-0.52

-1.09

-0.36

-0.56

(0.31)

(0.33)

(0.32)

(0.90)

(0.51)

(0.32)

p(Int)

0.59***

0.57***

0.58***

0.59***

0.61***

0.58***

0.58***

0.57***

(0.16)

(0.16)

(0.16)

(0.17)

(0.16)

(0.16)

(0.17)

(0.17)

p(Maxhum)

-0.43**

-0.47**

-0.46**

-0.44**

-0.41*

-0.45**

-0.46**

-0.46**

(0.16)

(0.16)

(0.16)

(0.16)

(0.16)

(0.16)

(0.18)

(0.16)

psi(I(Burn.intensity.Canopy^2))

0.56

(1.18)

psi(I(Burn.intensity.soil^2))

0.42

(0.74)

psi(forest_dist)

0.55

-0.58

(0.36)

(0.97)

psi(Burn.intensity.soil)

0.37

0.77

(0.66)

(0.47)

psi(I(Burn.intensity.basal^2))

0.26

(0.81)

Log Likelihood

-201.63

-201.35

-201.37

-202.48

-201.43

-201.46

-201.50

-202.61

AICc

411.63

413.27

413.31

413.34

413.43

413.49

413.58

413.60

Delta

0.00

1.64

1.68

1.71

1.80

1.86

1.95

1.97

Weight

0.26

0.11

0.11

0.11

0.11

0.10

0.10

0.10

Num. obs.

111

111

111

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111

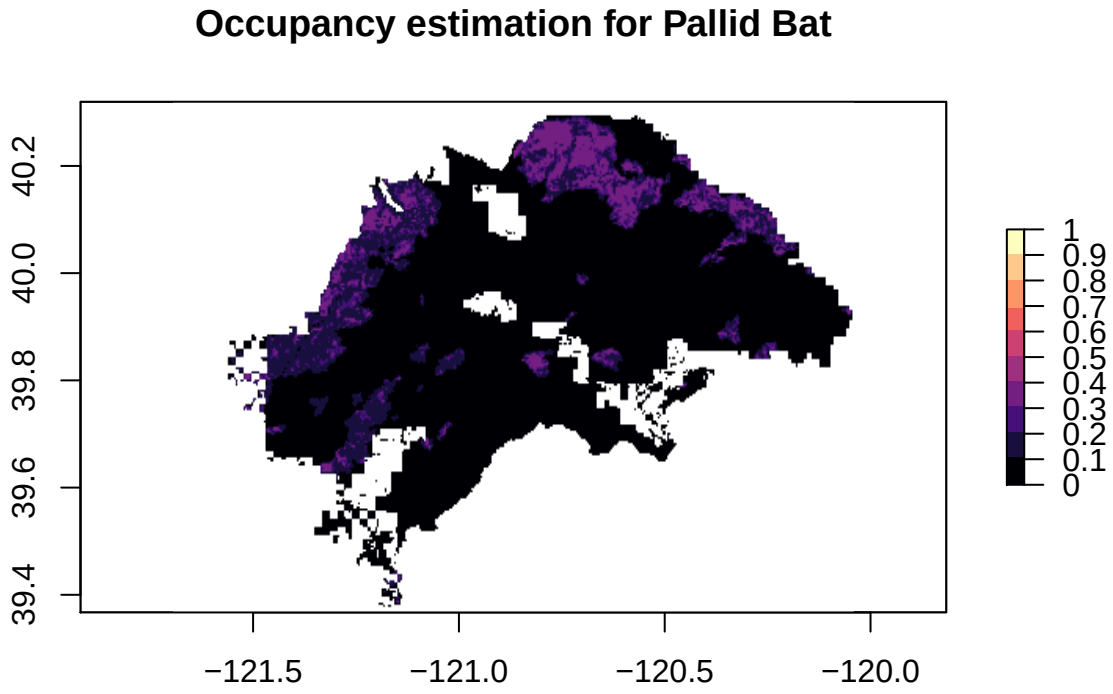
111

111

111

***p* < 0.001,** *p* < 0.01, p < 0.05

Pallid Bat (*Antrozous pallidus*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

Model 8

Model 9

Model 10

Model 11

Model 12

psi(Int)

-2.11***

-2.51***

-2.11***

-2.09***

-2.44***

-2.40***

-2.00***

-2.07***

-2.33***

-2.17***

-2.43***

-2.12***

(0.49)

(0.56)

(0.50)

(0.49)

(0.55)

(0.57)

(0.45)

(0.48)

(0.56)

(0.52)

(0.56)

(0.50)

psi(Burn.intensity.Canopy)

0.64

0.45

(0.34)

(0.64)

p(Int)

-0.80

-0.81

-0.79

-0.80

-0.80

-0.81

-0.75

-0.77

-0.81

-0.79

-0.82

-0.80

(0.57)

(0.58)

(0.57)

(0.57)

(0.58)

(0.58)

(0.56)

(0.57)

(0.57)

(0.57)

(0.58)

(0.57)

p(Julian)

-0.51

-0.51

-0.51

-0.52

-0.51

-0.52

-0.47

-0.49

-0.52

-0.51

-0.52

-0.52

(0.38)

(0.39)

(0.38)

(0.38)

(0.38)

(0.39)

(0.38)

(0.38)

(0.39)

(0.39)

(0.39)

(0.38)

psi(I(Burn.intensity.Canopy^2))

0.44

0.29

0.36

(0.25)

(0.28)

(0.27)

psi(forest_dist)

0.64

0.42

0.46

1.88

0.23

(0.38)

(0.45)

(0.44)

(1.71)

(0.71)

psi(Burn.intensity.basal)

0.60

(0.34)

psi(I(Burn.intensity.basal^2))

0.39

0.23

(0.24)

(0.27)

psi(fire_dist)

-0.51

1.30

-0.27

(0.38)

(1.73)

(0.44)

Log Likelihood

-45.48

-45.57

-45.62

-45.69

-45.87

-45.06

-47.26

-46.21

-45.25

-45.26

-45.29

-45.36

AICc

99.33

99.51

99.62

99.76

100.12

100.69

100.75

100.79

101.07

101.09

101.15

101.30

Delta

0.00

0.17

0.29

0.42

0.79

1.35

1.42

1.46

1.73

1.76

1.82

1.97

Weight

0.14

0.12

0.12

0.11

0.09

0.07

0.07

0.07

0.06

0.06

0.05

0.05

Num. obs.

111

111

111

111

111

111

111

111

111

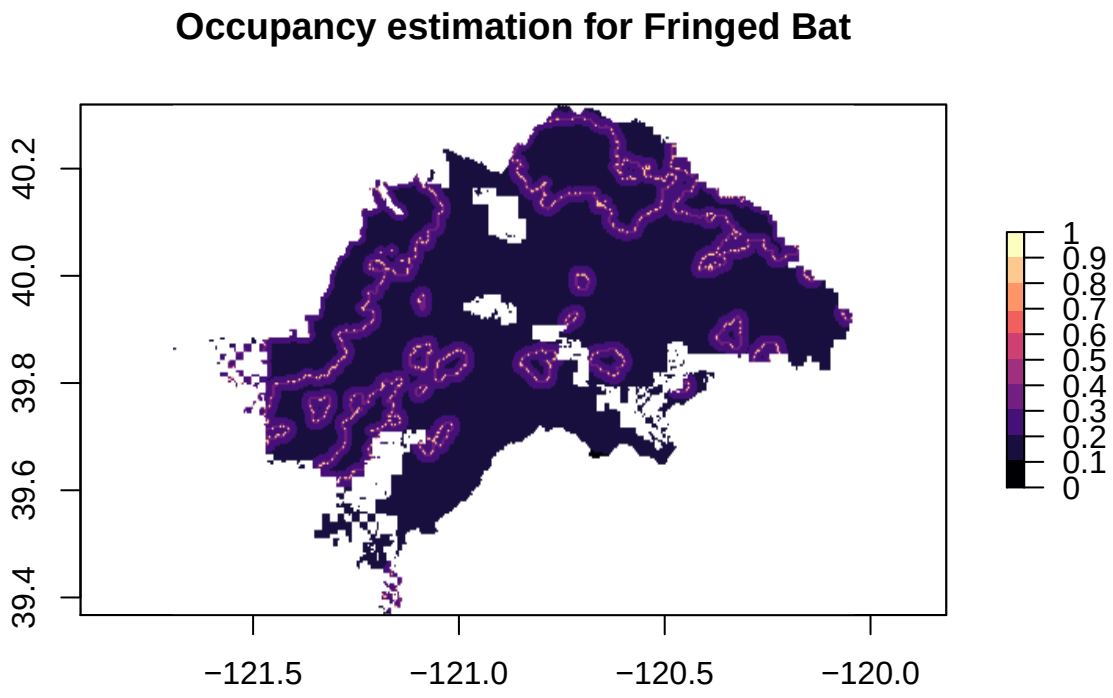
111

111

111

***p* < 0.001,** *p* < 0.01, p < 0.05

Fringed Bat (*Myotis thysanoides*)



Statistical models

Model 1

Model 2

Model 3

psi(Int)

-1.51***

-1.40***

-1.40**

(0.42)

(0.42)

(0.43)

psi(fire_dist)

-1.56

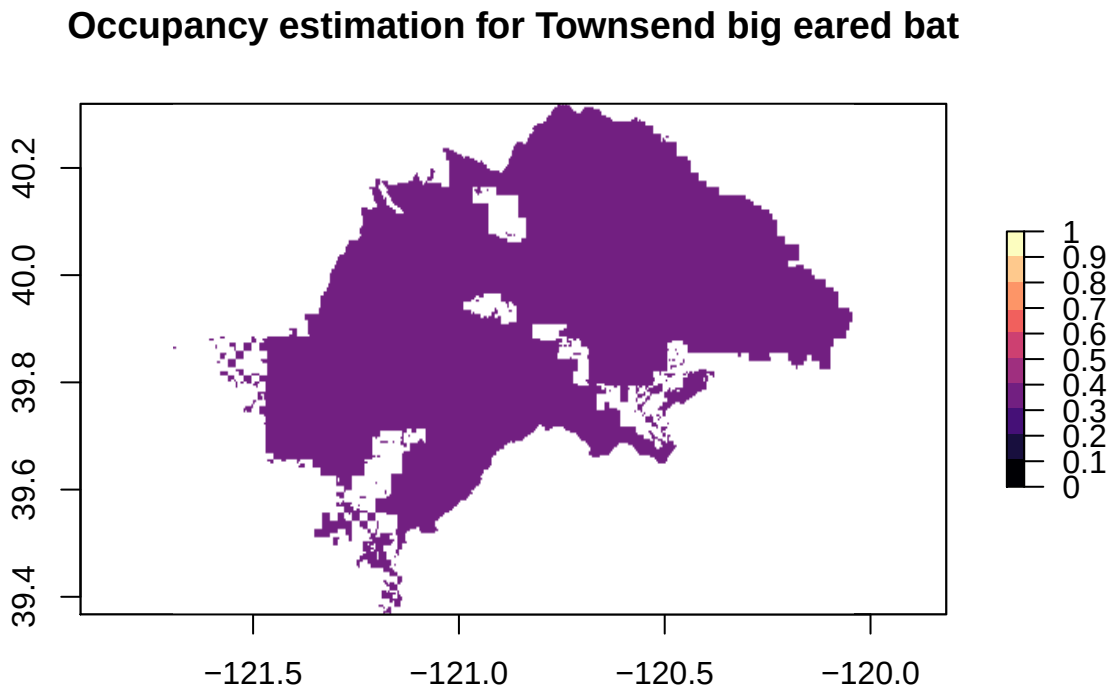
-0.33

(0.93)

(0.32)

psi(forest_dist)
-1.42
(0.94)
p(Int)
-0.85
-0.92
-0.93
(0.46)
(0.48)
(0.48)
p(Meanhum)
-0.20
-0.25
-0.28
(0.30)
(0.29)
(0.29)
Log Likelihood
-64.42
-66.92
-66.24
AICc
139.41
140.06
140.86
Delta
0.00
0.65
1.45
Weight
0.45
0.33
0.22
Num. obs.
111
111
111
p < 0.001, *p < 0.01,* p < 0.05

Townsend's Long-eared Bat (*Corynorhinus townsendii*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

psi(Int)

-0.63

-0.80

-0.70

-0.66

-0.66

-0.77

(0.75)

(0.76)

(0.75)

(0.76)

(0.76)

(0.78)

p(Int)

-2.44***

-2.33***

-2.38***

-2.41***

-2.41***

-2.44***

(0.68)

(0.69)

(0.69)

(0.69)

(0.69)

(0.70)

p(Meanhum)

1.37**

1.28**

1.32**

1.34**

1.34**

1.36**

(0.46)

(0.46)

(0.46)

(0.46)

(0.46)

(0.46)

p(Mintemp)

0.76*

0.72

0.74*

0.79*

0.79*

0.80*

(0.38)

(0.37)

(0.38)

(0.38)

(0.38)

(0.38)

p(sdhum)

0.81*

0.76

0.78

0.76

0.77

0.77

(0.40)

(0.41)

(0.41)

(0.41)

(0.41)

(0.40)

psi(fire_dist)

-0.46

(0.44)

psi(forest_dist)

0.25

(0.40)

psi(Burn.intensity.Canopy)

0.26

(0.45)

psi(Burn.intensity.basal)

0.23

(0.43)

psi(I(Burn.intensity.basal^2))

0.16

(0.33)

Log Likelihood

-52.02

-51.28

-51.67

-51.83

-51.87

-51.88

AICc

114.61

115.36

116.14

116.46

116.55

116.57

Delta

0.00

0.75

1.53

1.85

1.93

1.96

Weight

0.30

0.21

0.14

0.12

0.12

0.11

Num. obs.

111

111

111

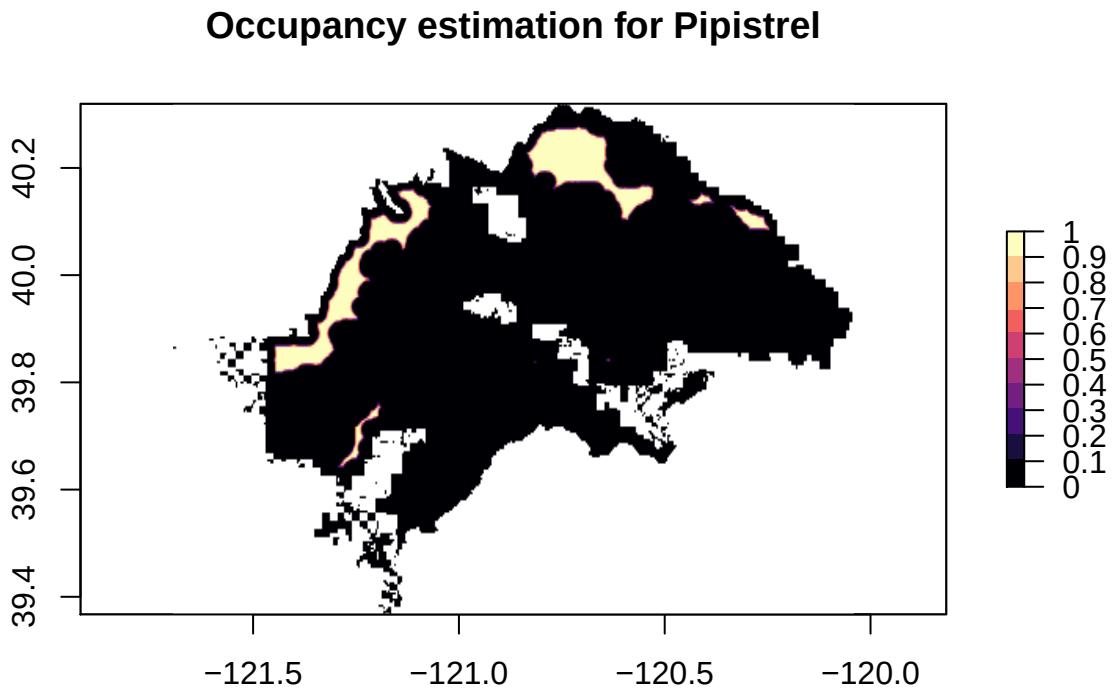
111

111

111

***p* < 0.001,** *p* < *0.01,* p < 0.05

The western pipistrelle (*Parastrellus hesperus*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

psi(Int)

-93.62

-3.09***

-28.58

-42.89

-189.26

-250.89

(136.68)

(0.70)

(74.25)

(355.75)

(422.99)

psi(forest_dist)

74.45

80.48

(107.08)

(206.51)

p(Int)

-3.54**

-33.28

-4.43***

-4.26***

-1.30

-3.57**

(1.32)

(321.59)

(1.11)

(0.99)

(0.66)

(1.14)

p(Julian)

-1.03

-275.99

-0.98

-0.72

0.26

-0.66

(0.99)

(632.21)

(1.11)

(0.84)

(0.65)

(1.03)

p(Maxhum)

-0.09

-67.51

0.50

0.55

-0.94

0.48

(1.31)

(123.49)

(0.83)

(0.83)

(1.33)

(1.06)

p(Mintemp)

1.01

-38.16

1.28

1.21

0.36

1.04

(0.75)

(89.49)

(0.70)

(0.68)

(0.69)

(0.72)

psi(Burn.intensity.basal)

77.87

(194.72)

psi(Burn.intensity.Canopy)

68.68

190.92

546.62

(157.08)

(866.61)

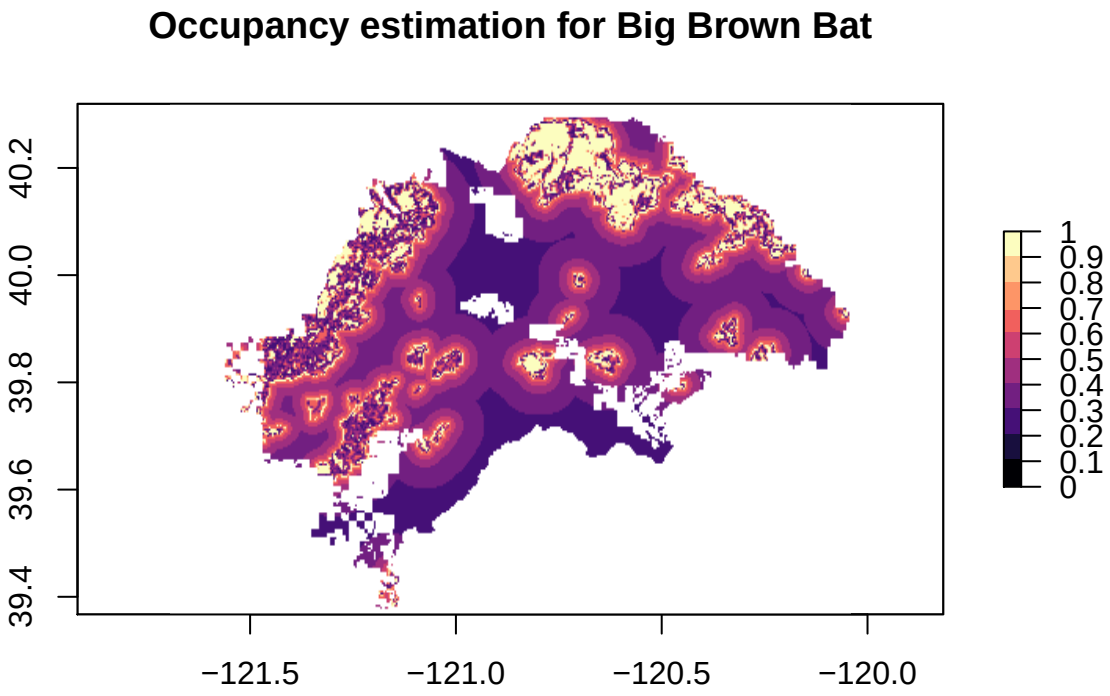
psi(I(Burn.intensity.Canopy^2))

-91.04

-244.01

(64.46)
(267.06)
Log Likelihood
-6.86
-8.53
-7.63
-7.66
-5.39
-6.66
AICc
26.52
27.62
28.06
28.13
28.20
28.40
Delta
0.00
1.10
1.54
1.61
1.68
1.88
Weight
0.30
0.17
0.14
0.14
0.13
0.12
Num. obs.
111
111
111
111
111
111
p < 0.001, *p < 0.01,* p < 0.05

big brown bat (*Eptesicus fuscus*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

psi(Int)

-2.27

-0.74

-2.06*

-0.70

-1.57

-1.41

(1.21)

(0.40)

(0.85)

(0.39)

(1.07)

(0.97)

psi(Burn.intensity.Canopy)

-3.12

-1.56

(1.87)

(1.83)

psi(I(Burn.intensity.Canopy^2))

2.66

0.60

1.40

(1.94)

(0.32)

(1.23)

psi(fire_dist)

-2.08

-2.04

-1.69*

-2.03

-2.21

-2.12*

(1.15)

(1.05)

(0.79)

(1.04)

(1.16)

(1.06)

p(Int)

-0.37

-0.26

-0.34

-0.28

-0.31

-0.29

(0.28)

(0.28)

(0.27)

(0.28)

(0.29)

(0.29)

p(Julian)

0.41

0.37

0.40

0.38

0.40

0.39

(0.23)

(0.25)

(0.23)

(0.25)

(0.24)

(0.25)

p(Meanhum)

-0.64**

-0.66**

-0.65**

-0.67**

-0.64**

-0.66**

(0.22)

(0.23)

(0.22)

(0.23)

(0.23)

(0.23)

p(Meantemp)

-0.61*

-0.65*

-0.59*

-0.69*

-0.58*

-0.64*

(0.28)

(0.31)

(0.28)

(0.31)

(0.29)

(0.31)

psi(I(Burn.intensity.basal^2))

0.63

2.35

1.71

(0.37)

(1.24)

(1.52)

psi(forest_dist)

-1.92

-1.88

-1.21

-1.03

(1.10)

(1.09)

(1.34)

(1.39)

psi(Burn.intensity.basal)

-2.68

-1.59

(1.37)

(1.82)

Log Likelihood

-134.07

-134.19

-134.22

-134.32

-133.78

-133.83

AICc

285.54

285.80

285.86

286.06

287.33

287.44

Delta

0.00

0.25

0.32

0.51

1.79

1.89

Weight

0.23

0.20

0.20

0.18

0.09

0.09

Num. obs.

111

111

111

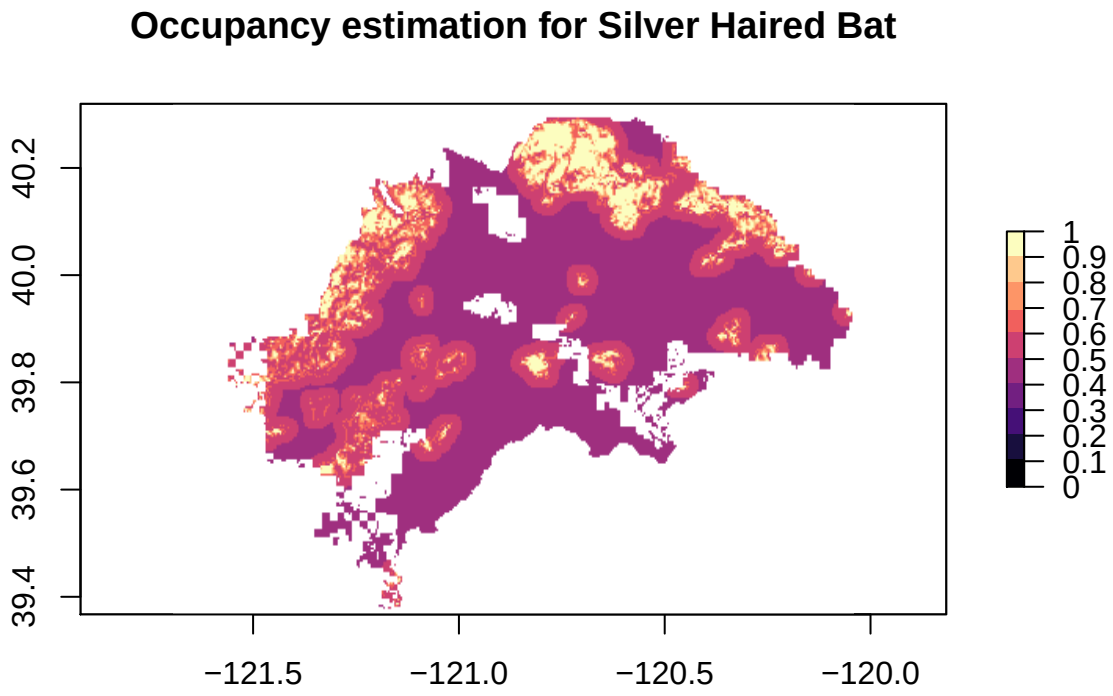
111

111

111

***p* < 0.001,** *p < 0.01,* p < 0.05

silver-haired bat (*Lasionycteris noctivagans*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

Model 8

Model 9

Model 10

Model 11

Model 12

Model 13

Model 14

Model 15

Model 16

Model 17

Model 18

psi(Int)

-0.05

0.39

0.43

0.01

0.38

0.40

0.44

-0.07

-0.20

0.42

0.41

-0.02

-0.15

0.42

-0.12

0.41

-0.06

0.14

(0.36)

(0.26)

(0.27)

(0.32)

(0.25)

(0.26)

(0.27)

(0.35)

(0.33)

(0.26)

(0.25)

(0.32)

(0.29)

(0.26)

(0.38)

(0.26)

(0.33)

(0.43)

psi(I(Burn.intensity.Canopy^2))

0.55

0.56

0.65

0.64

0.30

(0.47)

(0.44)

(0.42)

(0.53)

(0.46)

psi(fire_dist)

-0.32

-0.32

-0.69

-0.04

-0.08

-0.51*

-0.79

-0.71

-0.77

(0.24)

(0.24)

(0.62)

(0.36)

(0.34)

(0.23)

(0.63)

(0.62)

(0.62)

p(Int)

0.63**

0.65**

0.65**

0.66**

0.66**

0.67**

0.65**

0.64**

0.65**

0.64**

0.65**

0.66**

0.68**

0.62**

0.64**

0.67**

0.66**

0.65**

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

(0.22)

p(Maxhum)

-0.41

-0.40

-0.40

-0.40

-0.40

-0.39

-0.39

-0.41

-0.39

-0.41

-0.40

-0.39

-0.37

-0.41

-0.41

-0.39

-0.39

-0.40

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.23)

(0.24)

(0.23)

(0.23)

(0.23)

(0.24)

(0.23)

p(Meantemp)

-0.75**

-0.75**

-0.74*

-0.72*

-0.72*

-0.71*

-0.73*

-0.74**

-0.71*

-0.76**

-0.74*

-0.72*

-0.68*

-0.79**

-0.74**

-0.70*

-0.71*

-0.74*

(0.28)

(0.29)

(0.29)

(0.29)

(0.29)

(0.30)

(0.29)

(0.29)

(0.29)

(0.29)

(0.29)

(0.30)

(0.30)

(0.29)

(0.28)

(0.30)

(0.30)

(0.29)

psi(Burn.intensity.Canopy)

0.69*

1.14

1.17

0.64

0.47

(0.28)

(0.61)

(0.60)

(0.42)

(0.41)

psi(forest_dist)

-0.45

-0.31

-1.14

0.22

0.22

-0.55

-1.02

-0.53

(0.48)

(0.43)

(0.79)

(0.25)

(0.25)

(0.66)

(0.76)

(0.66)

psi(I(Burn.intensity.basal^2))

0.45

0.46

0.55

0.51

(0.32)

(0.32)

(0.30)

(0.34)

psi(Burn.intensity.basal)

0.68*

0.97

0.59

1.00

(0.27)

(0.53)

(0.40)

(0.52)

Log Likelihood

-170.67

-171.91

-170.80

-170.84

-172.02

-171.10

-170.08

-171.22

-172.36

-171.25

-171.34

-171.38

-172.51

-172.53

-170.28

-170.33

-170.48

-171.65

AICc

354.14

354.38

354.42

354.49

354.60

355.01

355.24

355.25

355.29

355.31

355.48

355.58

355.59

355.63

355.66

355.75

356.04

356.10

Delta

0.00

0.24

0.28

0.35

0.47

0.88

1.10

1.11

1.15

1.17

1.34

1.44

1.46

1.49

1.52

1.61

1.91

1.97

Weight

0.09

0.08

0.08

0.08

0.07

0.06

0.05

0.05

0.05

0.05

0.05

0.04

0.04

0.04

0.04

0.04

0.04

0.03

Num. obs.

111

111

111

111

111

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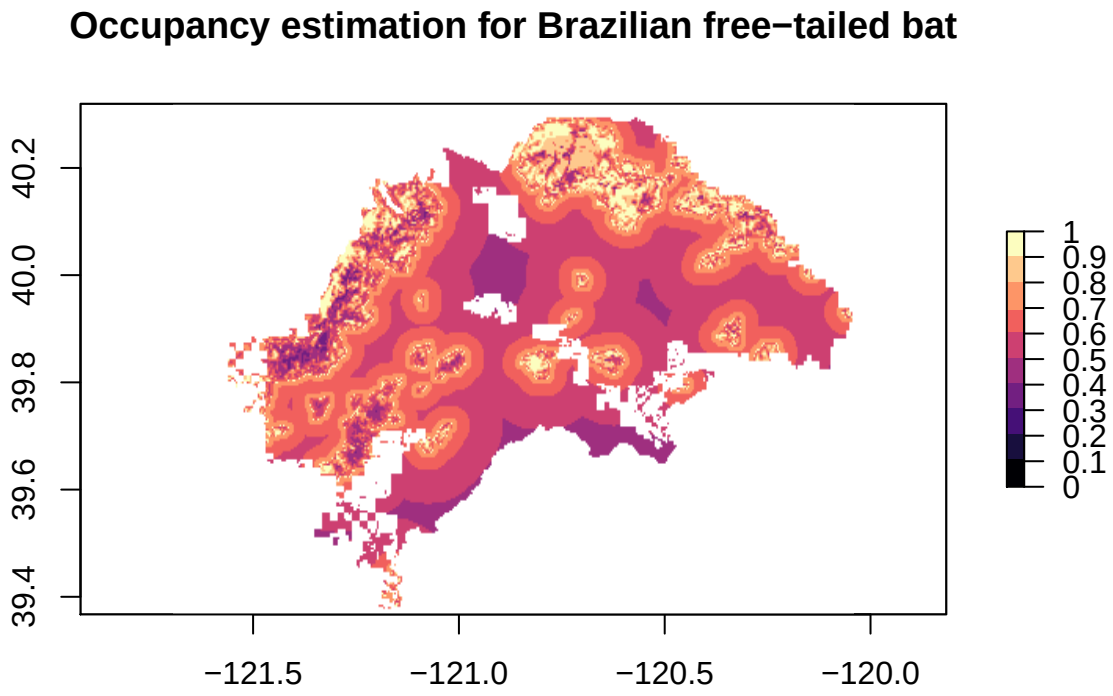
111

111

***p* < 0.001,** *p* < *0.01,* p < 0.05

Brazilian free-tailed bat (*Tadarida brasiliensis*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

psi(Int)

-0.05

-0.78

0.68**

0.68**

0.25

0.24

-0.40

(0.37)

(0.63)

(0.24)

(0.24)

(0.29)

(0.30)

(0.68)

psi(I(Burn.intensity.soil^2))

0.74*

1.50*

1.12

(0.35)

(0.69)

(0.72)

psi(fire_dist)

-1.64

-1.26

-1.51

-1.47

-1.52

-1.50

-1.72

(0.94)

(0.75)

(0.93)

(0.92)

(0.92)

(0.91)

(0.94)

psi(forest_dist)

-1.68

-1.99

-1.99

-1.47

-1.44

-1.22

(0.99)

(1.05)

(1.05)

(0.96)

(0.94)

(1.21)

p(Int)

0.64***

0.63***

0.64***

0.64***

0.64***

0.64***

0.64***

(0.17)

(0.17)

(0.17)

(0.17)

(0.17)

(0.17)

(0.17)

p(Meanhum)

1.59*

1.57*

1.59*

1.60*

1.58*

1.59*

1.58*

(0.64)

(0.64)

(0.64)

(0.64)

(0.64)

(0.64)

(0.64)

p(Minhum)

-1.74*

-1.72*

-1.74*

-1.74*

-1.73*

-1.73*

-1.73*

(0.70)

(0.70)

(0.71)

(0.71)

(0.71)

(0.71)

(0.70)

p(sdhum)

-0.78*

-0.78*

-0.78*

-0.78*

-0.78*

-0.78*

-0.78*

(0.38)

(0.38)

(0.39)

(0.39)

(0.38)

(0.38)

(0.38)

psi(Burn.intensity.soil)

-1.77

-0.79

(1.07)

(1.30)

psi(Burn.intensity.basal)

0.98*

(0.47)

psi(Burn.intensity.Canopy)

1.00*

(0.50)

psi(I(Burn.intensity.basal^2))

0.45

(0.25)

psi(I(Burn.intensity.Canopy^2))

0.46

(0.25)

Log Likelihood

-188.97

-189.34

-189.34

-189.51

-189.64

-189.67

-188.77

AICc

395.35

396.09

396.10

396.43

396.69

396.74

397.31

Delta

0.00

0.75

0.75

1.09

1.35

1.40

1.97

Weight

0.23

0.16

0.16

0.13

0.12

0.11

0.09

Num. obs.

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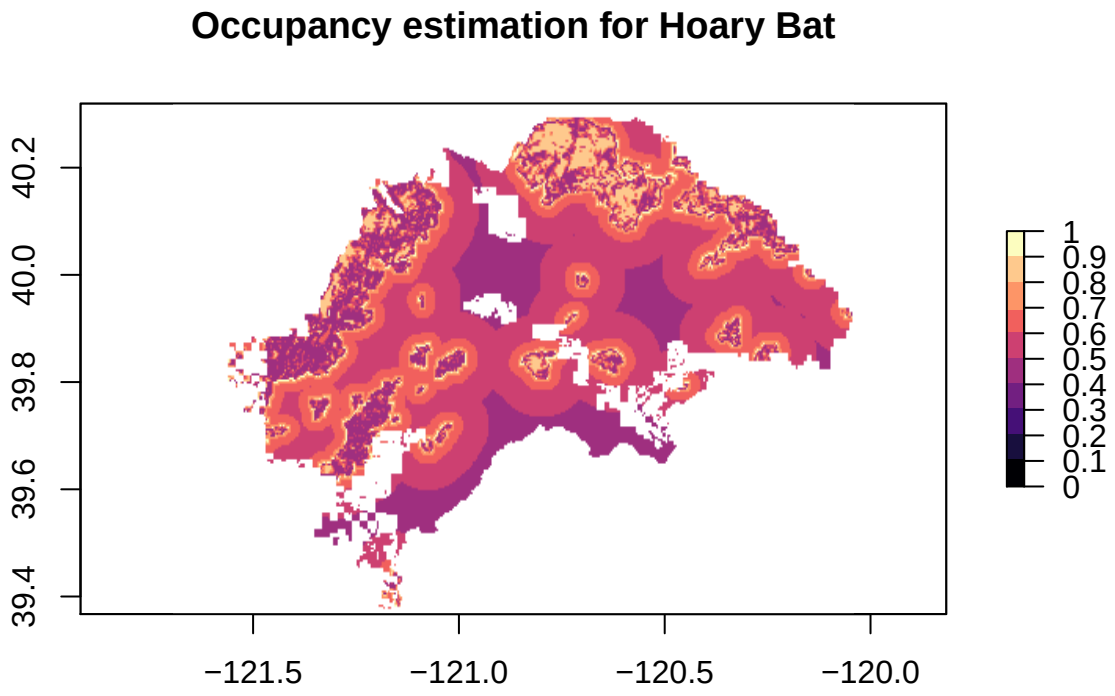
***p* < 0.001,** *p* < 0.01, p < 0.05

hoary bat (*Lasiurus cinereus*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

Model 7

Model 8

Model 9

psi(Int)

-1.02

-1.14

0.40

-0.64

0.38

-1.11

0.40

0.03

-1.24

(0.65)

(0.77)

(0.29)

(0.55)

(0.28)

(0.82)

(0.29)

(0.37)

(0.77)

psi(Burn.intensity.soil)

-2.17

-2.33

(1.17)

(1.22)

psi(I(Burn.intensity.soilˆ2))

1.41*

1.57*

1.52

0.34

2.16

(0.65)

(0.80)

(0.84)

(0.27)

(1.52)

psi(fire_dist)

-1.42

-1.14

-0.24

-1.13

-0.96

-1.51

(0.83)

(0.69)

(0.25)

(0.72)

(0.62)

(0.85)

p(Int)

-0.18

-0.20

-0.23

-0.21

-0.23

-0.20

-0.23

-0.22

-0.18

(0.20)

(0.20)

(0.20)

(0.20)

(0.21)

(0.20)

(0.20)

(0.20)

(0.20)

p(Julian)

-0.48*

-0.52**

-0.52**

-0.49*

-0.50**

-0.50**

-0.52**

-0.51**

-0.49*

(0.19)

(0.19)

(0.19)

(0.19)

(0.19)

(0.19)

(0.19)

(0.19)

(0.19)

p(Meantemp)

0.33

0.32

0.32

0.33

0.34

0.31

0.33

0.35

0.32

(0.20)

(0.20)

(0.20)
(0.20)
(0.20)
(0.20)
(0.20)
(0.20)
(0.20)
p(Minhum)
0.44*
0.42*
0.43*
0.44*
0.45*
0.42*
0.44*
0.44*
0.43*
(0.19)
(0.19)
(0.19)
(0.19)
(0.19)
(0.19)
(0.19)
(0.19)
(0.19)
p(sdtemp)
0.80**
0.81***
0.82***
0.82***
0.83***
0.79**
0.83***
0.81***
0.80***

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

(0.24)

psi(Burn.intensity.Canopy)

-2.03

(1.14)

psi(Burn.intensity.basal)

-1.95

-1.84

(1.18)

(1.12)

psi(I(Burn.intensity.basal^2))

1.09

(0.57)

psi(forest_dist)

0.14

(0.25)

psi(I(Burn.intensity.Canopy^2))

-0.52

(0.90)

Log Likelihood

-162.04

-162.40

-164.98

-162.65

-166.22

-162.78

-165.29

-165.30

-161.78

AICc

343.85

344.59

345.05

345.08

345.24

345.34

345.67

345.68

345.77

Delta

0.00

0.74

1.20

1.23

1.38

1.49

1.81

1.83

1.91

Weight

0.20

0.14

0.11

0.11

0.10

0.10

0.08

0.08

0.08

Num. obs.

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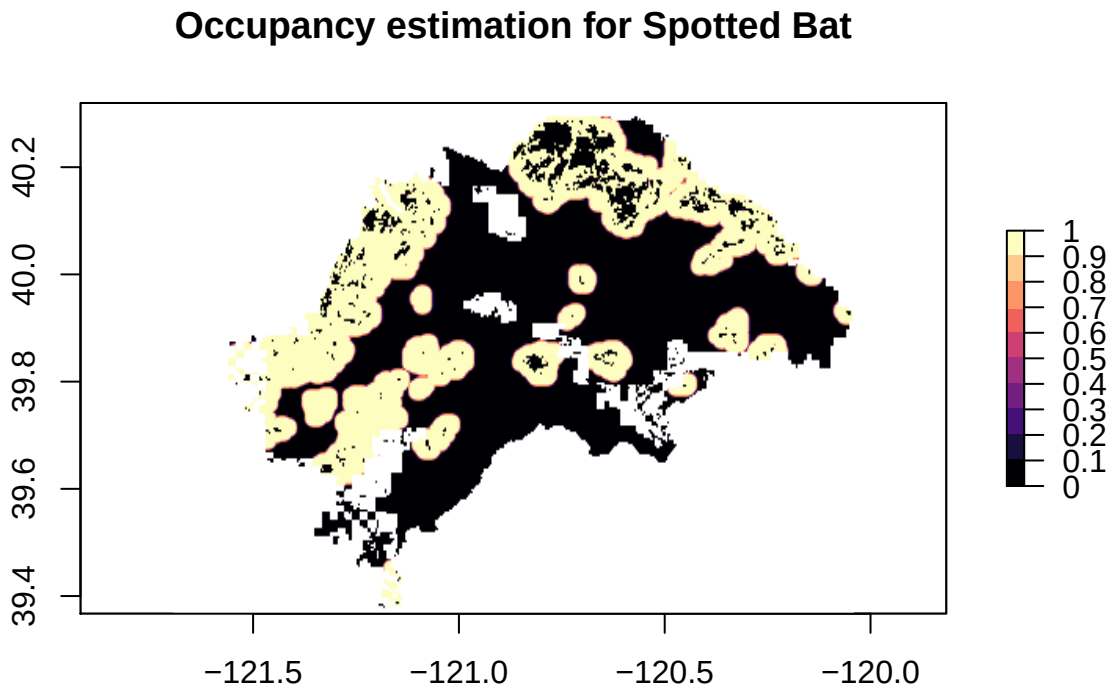
***p* < 0.001,** *p* < *0.01*, p < 0.05

Spotted bat (*Euderma maculatum*)



Statistical models

Model 1

Model 2

Model 3

Model 4

Model 5

Model 6

psi(Int)

68.36

22.30

14.62

57.80

26.73

-2.12

(104.86)

(36.88)

(17.62)

(77.33)

(34.00)

(7.13)

psi(I(Burn.intensity.basal^2))

-40.21

(67.78)

psi(fire_dist)

-73.46

-102.46

-69.00

-62.93

-38.83

-83.87

(114.03)

(166.35)

(85.50)

(85.33)

(50.44)

(113.44)

p(Int)

-5.08***

-5.09***

-5.07***

-5.11***

-5.25***

-4.99***

(1.19)

(1.18)

(1.18)

(1.18)

(1.16)

(1.17)

p(Maxhum)

-2.08**

-2.09**

-2.07**

-2.09**

-2.07**

-1.91**

(0.73)

(0.73)

(0.73)

(0.73)

(0.72)

(0.73)

p(Maxtemp)

1.89*

1.90*

1.88*

1.90*

1.61*

1.62

(0.83)

(0.82)

(0.82)

(0.82)

(0.79)

(0.89)

p(Meantemp)

-3.04**

-3.05**

-3.03**

-3.05**

-2.75*

-2.64*

(1.17)

(1.17)

(1.17)

(1.17)

(1.14)

(1.12)

psi(Burn.intensity.Canopy)

-66.63

(108.63)

psi(Burn.intensity.basal)

-46.79

(58.83)

psi(I(Burn.intensity.Canopy^2))

-30.63

(40.76)

psi(forest_dist)

-70.28

(95.10)

Log Likelihood

-11.73

-11.74

-11.75

-11.77

-13.08

-12.60

AICc

38.54

38.57

38.60

38.64

38.96

40.30

Delta

0.00

0.03

0.06

0.09

0.42

1.75

Weight

0.19

0.19

0.19

0.19

0.16

0.08

Num. obs.

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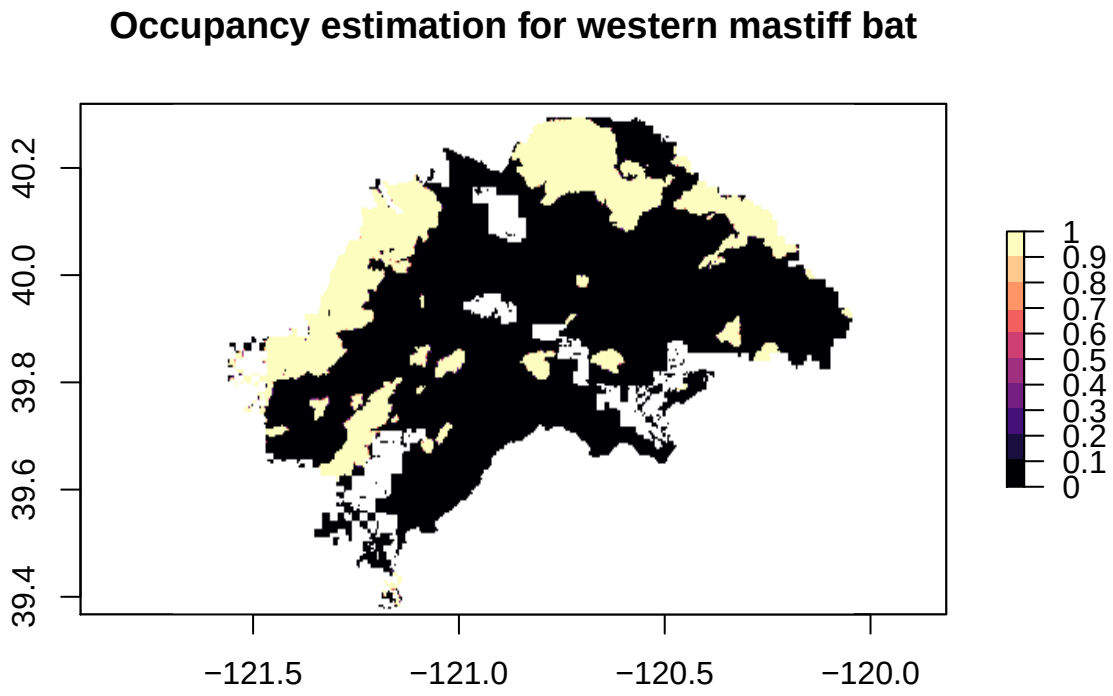
***p* < 0.001,** *p* < *0.01,* p < 0.05

western mastiff bat (*Eumops perotis*)



Statistical models

Model 1

Model 2

Model 3

Model 4

psi(Int)

11.73

10.27

-3.48

-4.67

(13.32)

(12.49)

(246.73)

(108.44)

psi(Burn.intensity.basal)

27.86

(32.02)

p(Int)

-3.62***

-3.64***

-3.65***

-3.67***

(0.68)

(0.69)

(0.67)

(0.67)

p(Maxhum)

-11.52*

-11.55*

-11.34*

-11.11*

(4.62)

(4.63)

(4.56)

(4.52)

p(Meanhum)

5.87*

6.01*

6.06*

5.60*

(2.93)

(2.94)

(2.92)

(2.80)

p(Minhum)

5.65

5.53

5.20

5.41

(2.99)

(2.95)

(2.83)

(2.81)
p(sdhum)
5.83*
5.76*
5.58*
5.64*
(2.70)
(2.68)
(2.60)
(2.60)
psi(Burn.intensity.Canopy)
26.14
(33.97)
psi(forest_dist)
15.05
(408.59)
psi(fire_dist)
-10.85
(106.02)
Log Likelihood
-25.33
-25.42
-25.70
-26.26
AICc
65.74
65.91
66.49
67.61
Delta
0.00
0.17
0.75
1.87
Weight
0.33

0.31

0.23

0.13

Num. obs.

111

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111

***p* < 0.001,** *p* < *0.01,* p < 0.05

Relationships between different species of Bats

Fire bats