Results

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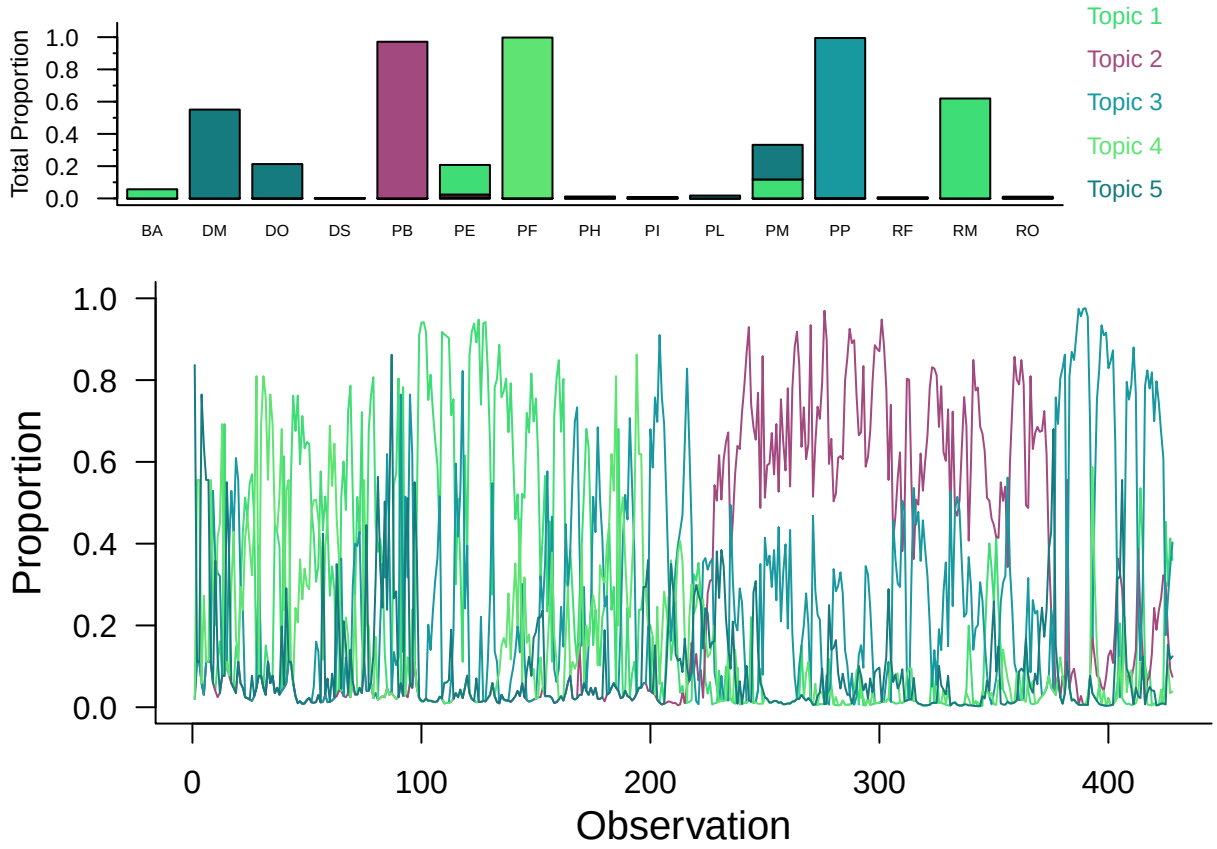
5/30/2018

Exclosure plots

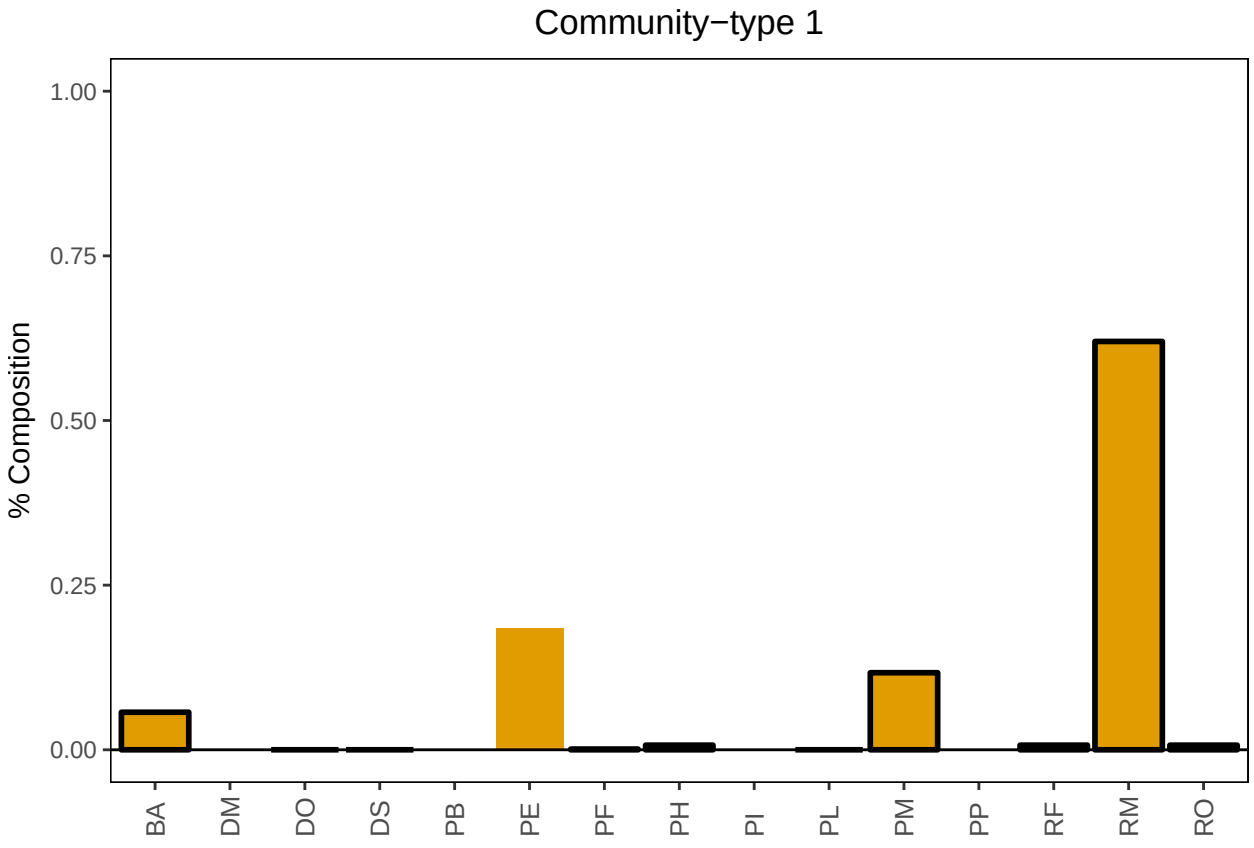
Granivores only, fewer plots (4), full time series.

```
load('models/excl_time_gran.Rdata')
```

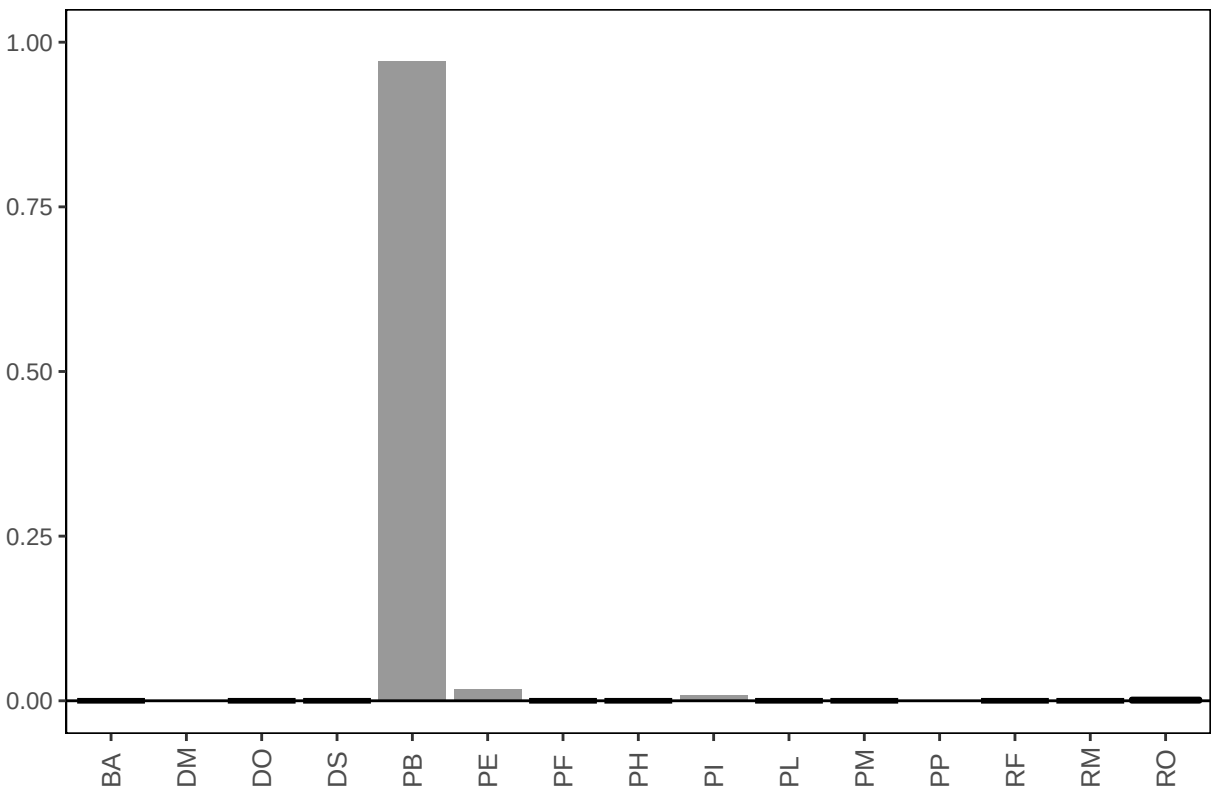
LDA model:



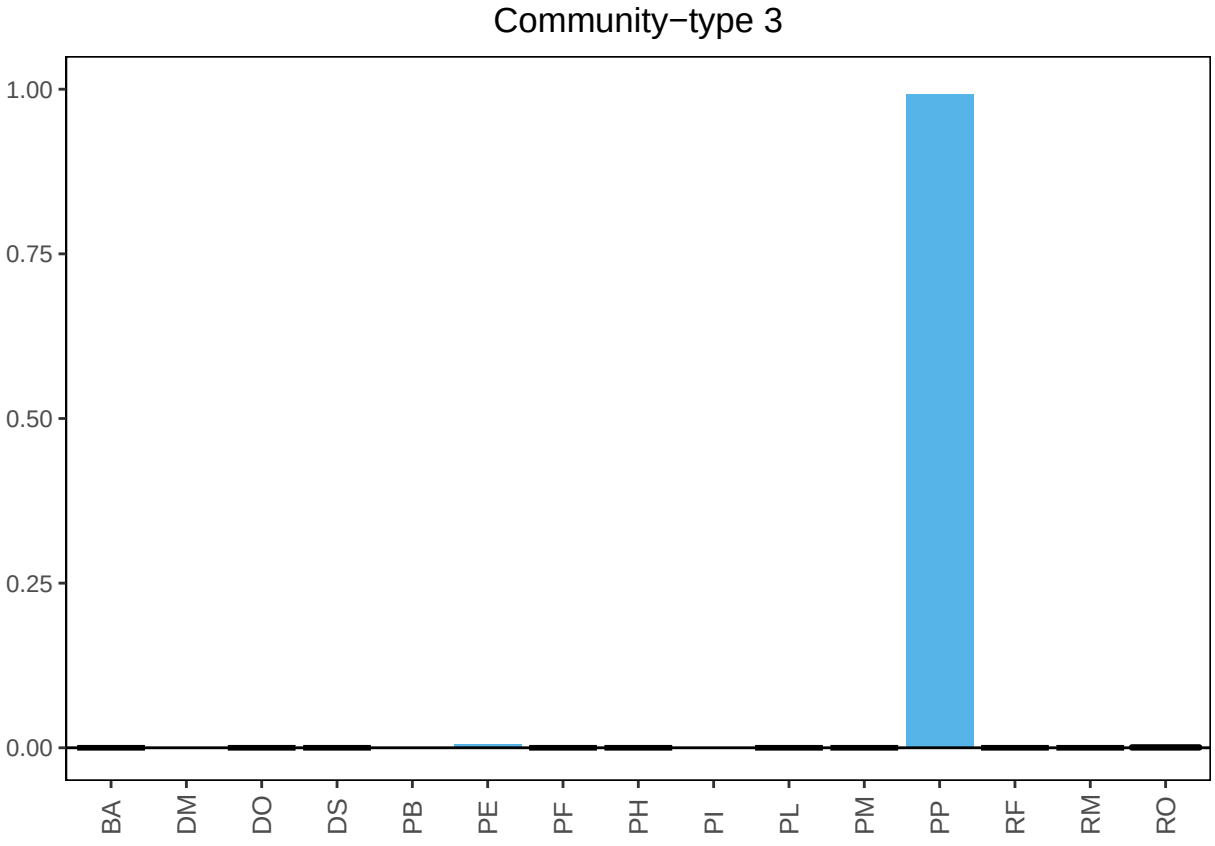

```
## [[1]]
```


Community−type 1
% Composition
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

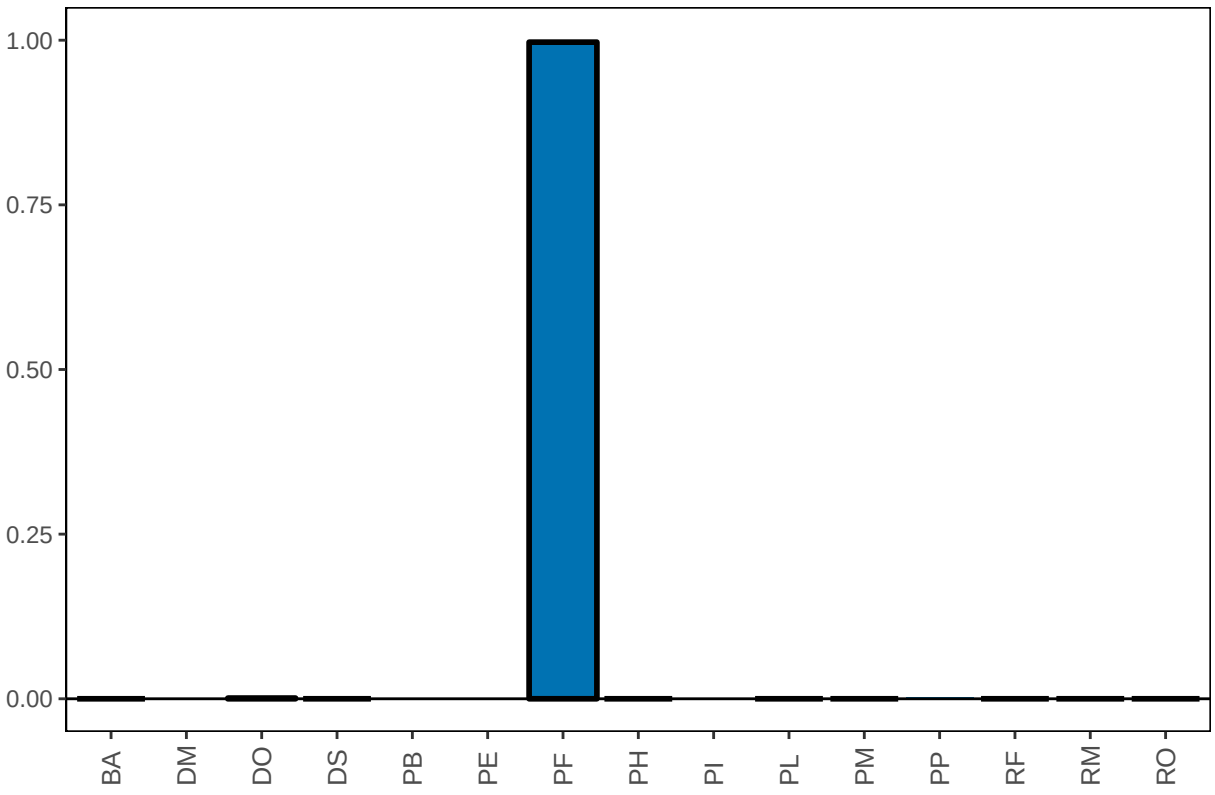
```
##
## [[2]]
```


Community−type 2
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

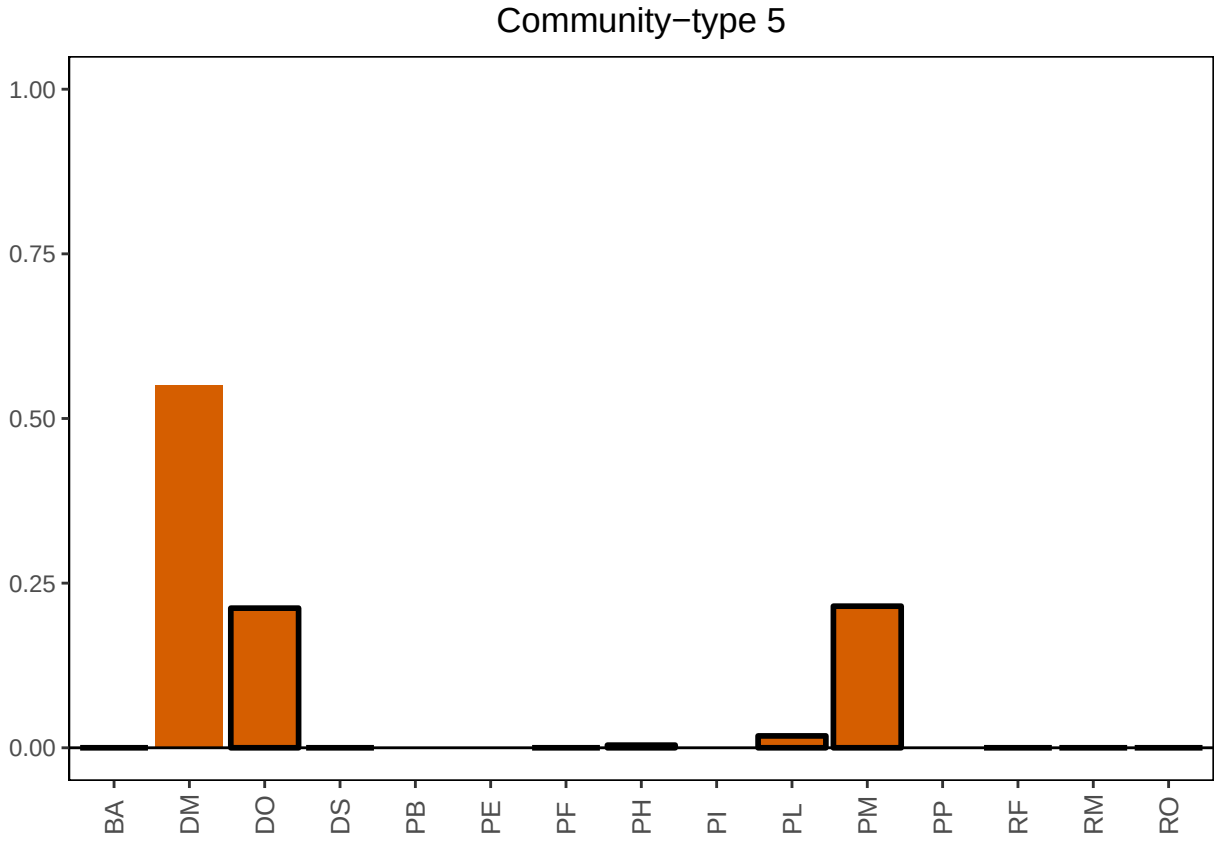
```
##
## [[3]]
```


Community−type 3
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

```
##
## [[4]]
```


Community−type 4
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

```
##
## [[5]]
```



Changepoint model:

```
##                   Mean  Median    Lower    Upper    SD MCMCerr   AC10
## Changepoint_1 1974.11 1997.79 1784.789 1999.789 91.57  0.9203 0.5874
## Changepoint_2 2008.44 2009.79 1996.789 2011.789  4.50  0.0452 0.8130
##                     ESS
## Changepoint_1 39.23734
## Changepoint_2 41.23844
```

For 1e4 iterations, the ESS for the 'best' model is ~ 40 and the autocorrelation is .58 and .81 for the two changepoints. It's also getting a range that extends well before 1977 for the first changepoint. This says to me that we need to run the model for more iterations or tinker with it some other way.

Here are some more diagnostics:

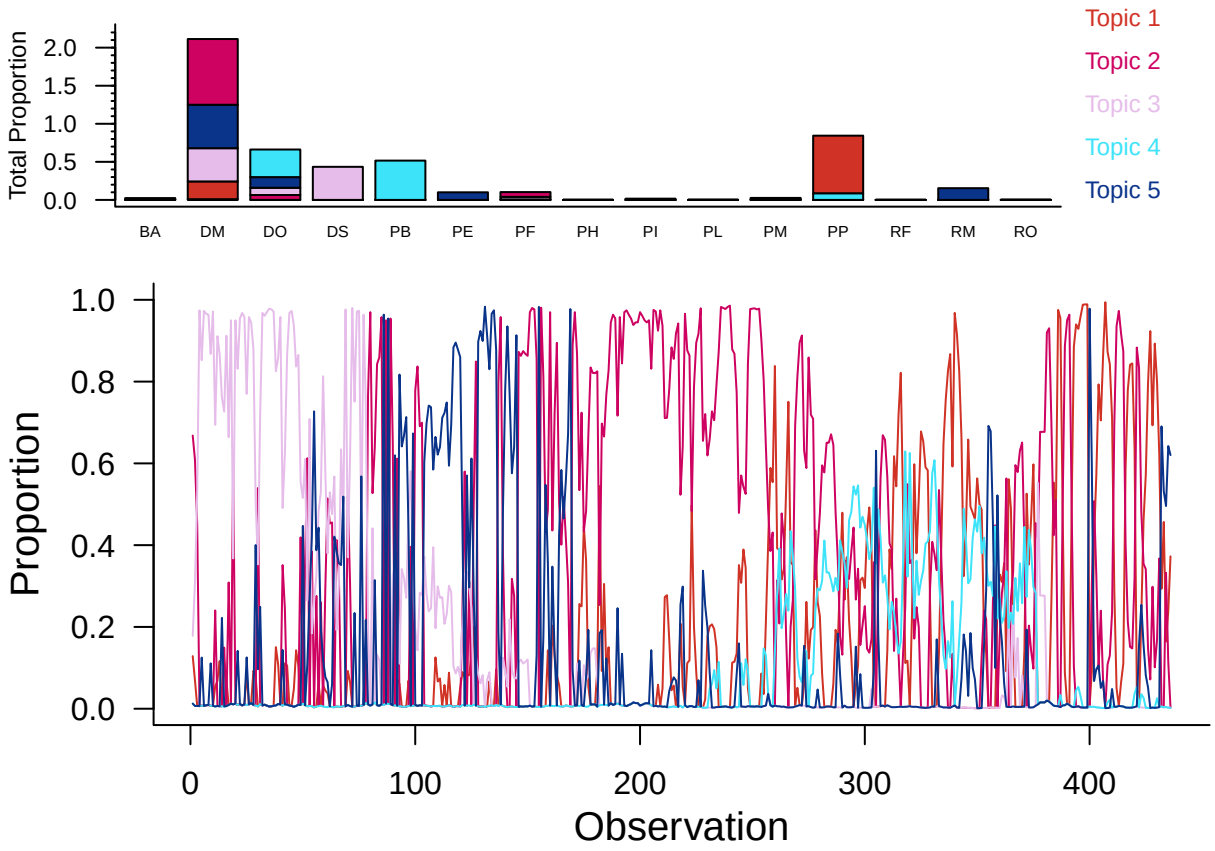
```
## $acceptance_rates
## [1] 0.1236364 0.6030303 0.9063636 0.9601010 0.9710101 0.9738384
##
## $swapping_rates
## [1] 0.1046465 0.2809091 0.8491919 0.9692929 0.9851515
##
## $trip_counts
## [1] 26  9 22 11 32  4
##
## $trip_rates
## [1] 0.0026262626 0.0009090909 0.0022222222 0.0011111111 0.0032323232
## [6] 0.0004040404
```

Control plots

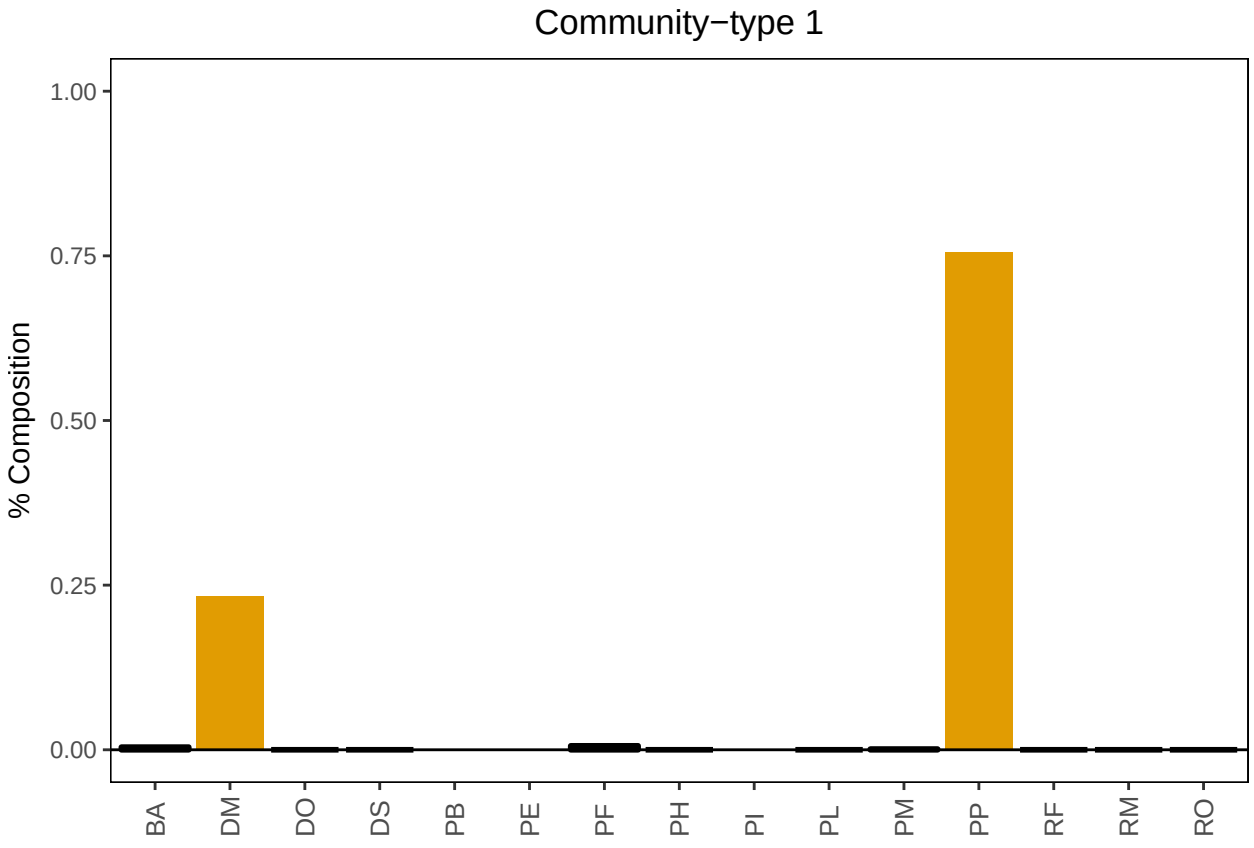
Granivores only, fewer plots (4), full time series.

```
load('models/ctrl_time_gran.Rdata')
```

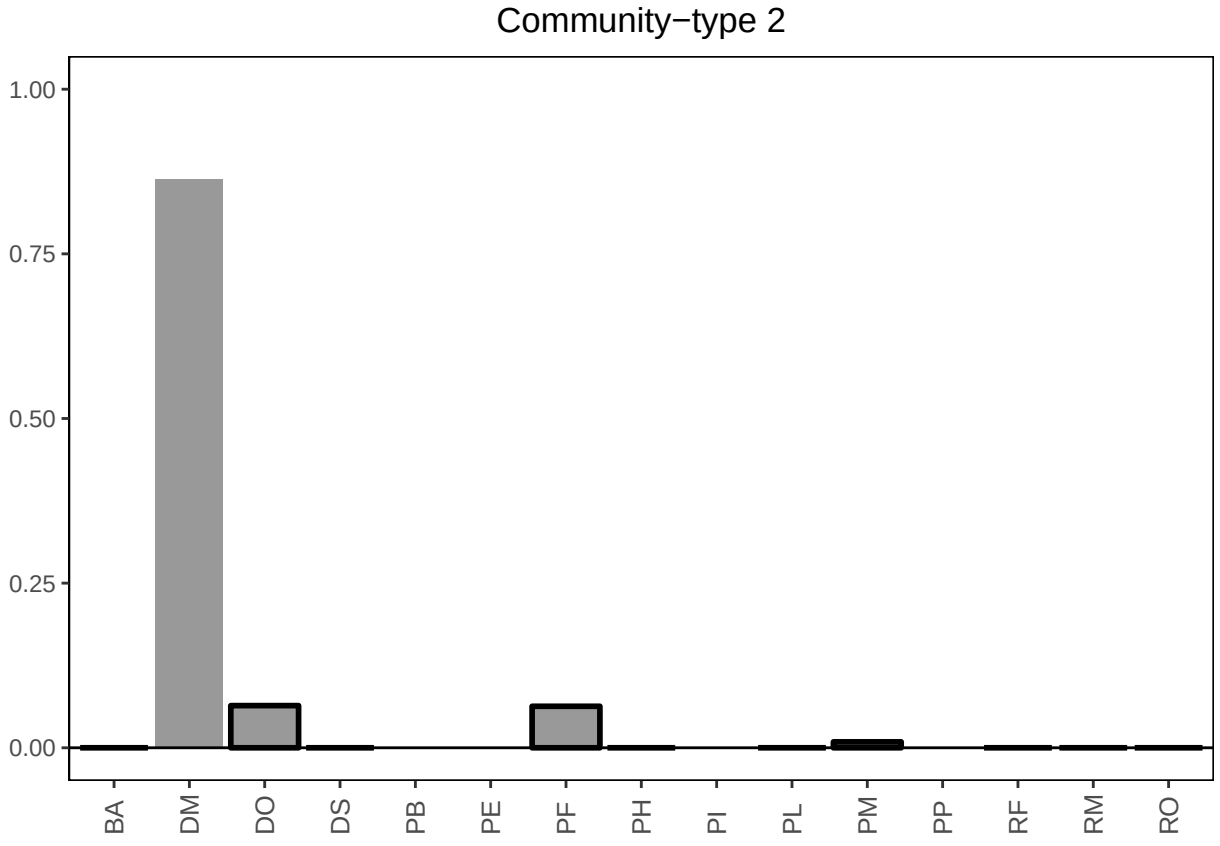
LDA model:



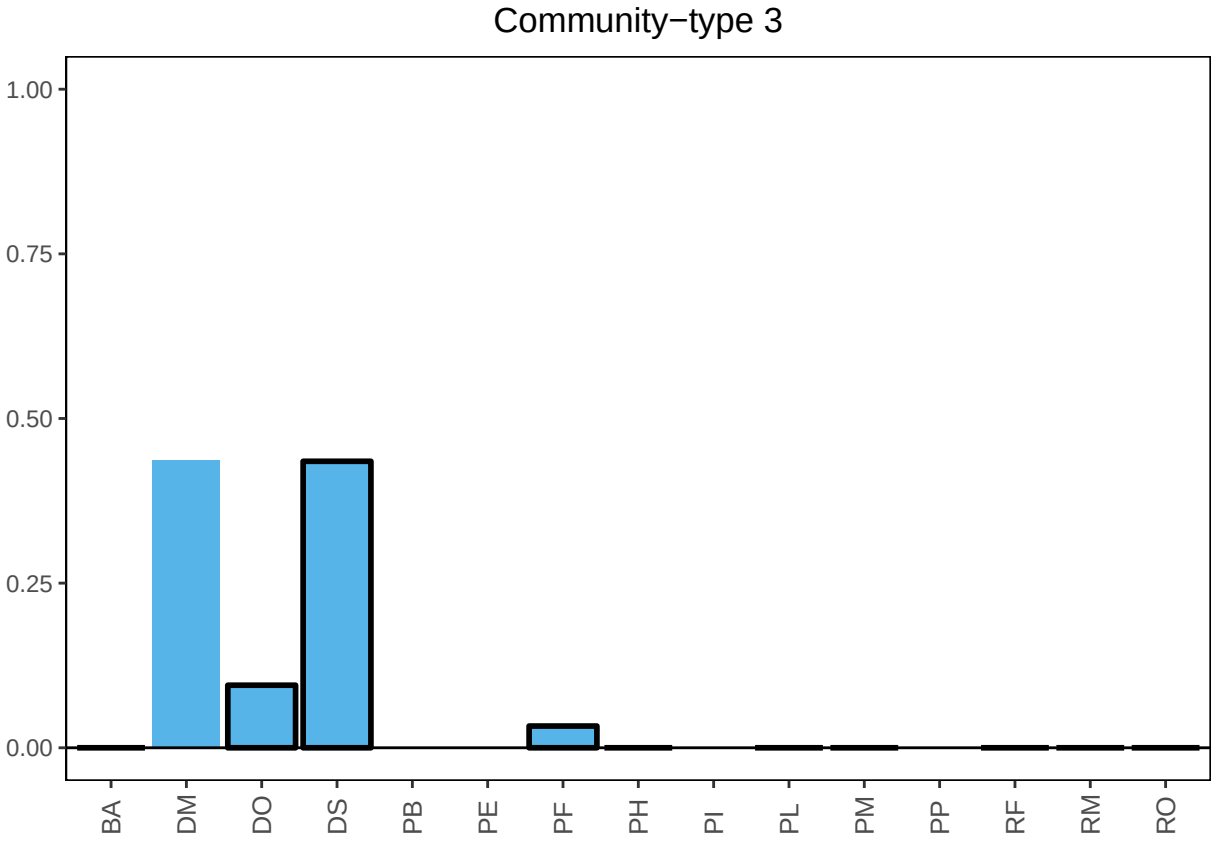

```
## [[1]]
```


Community−type 1
% Composition
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

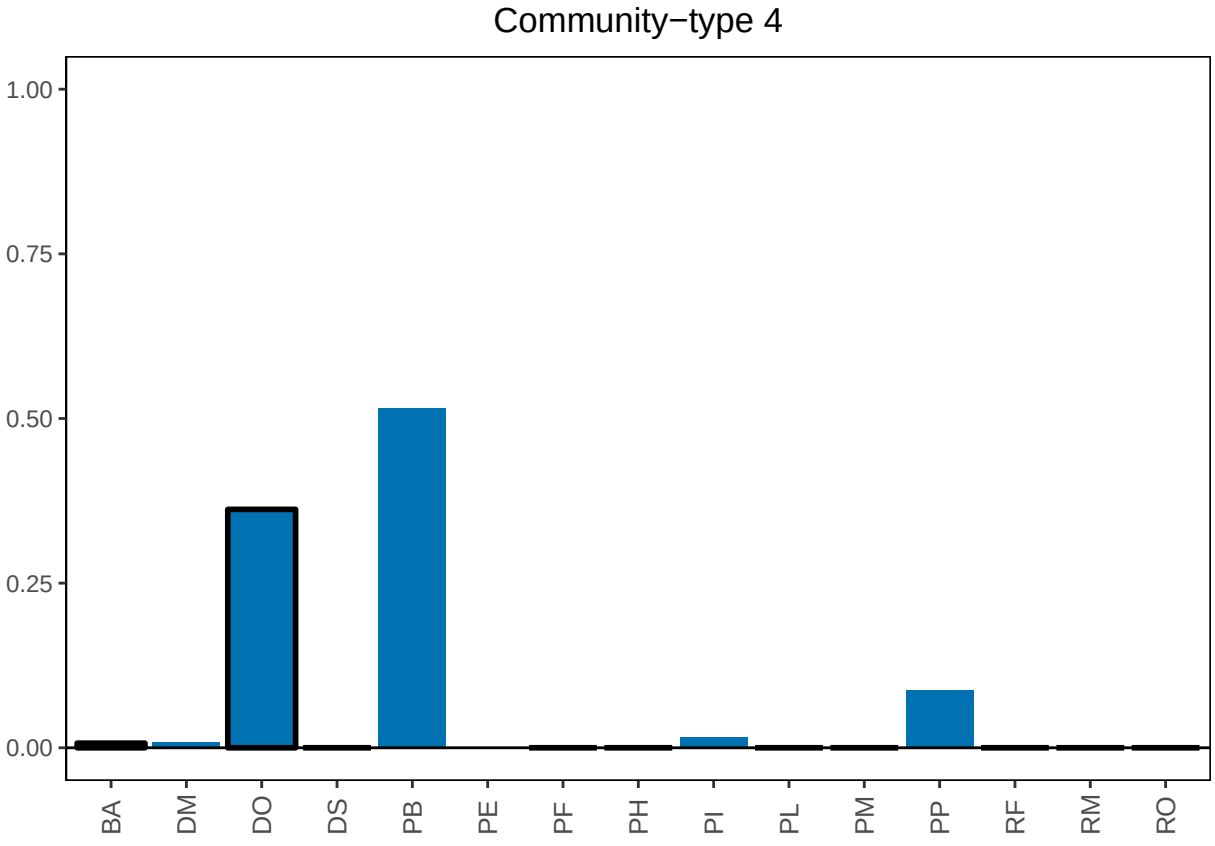
```
##
## [[2]]
```


Community−type 2
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

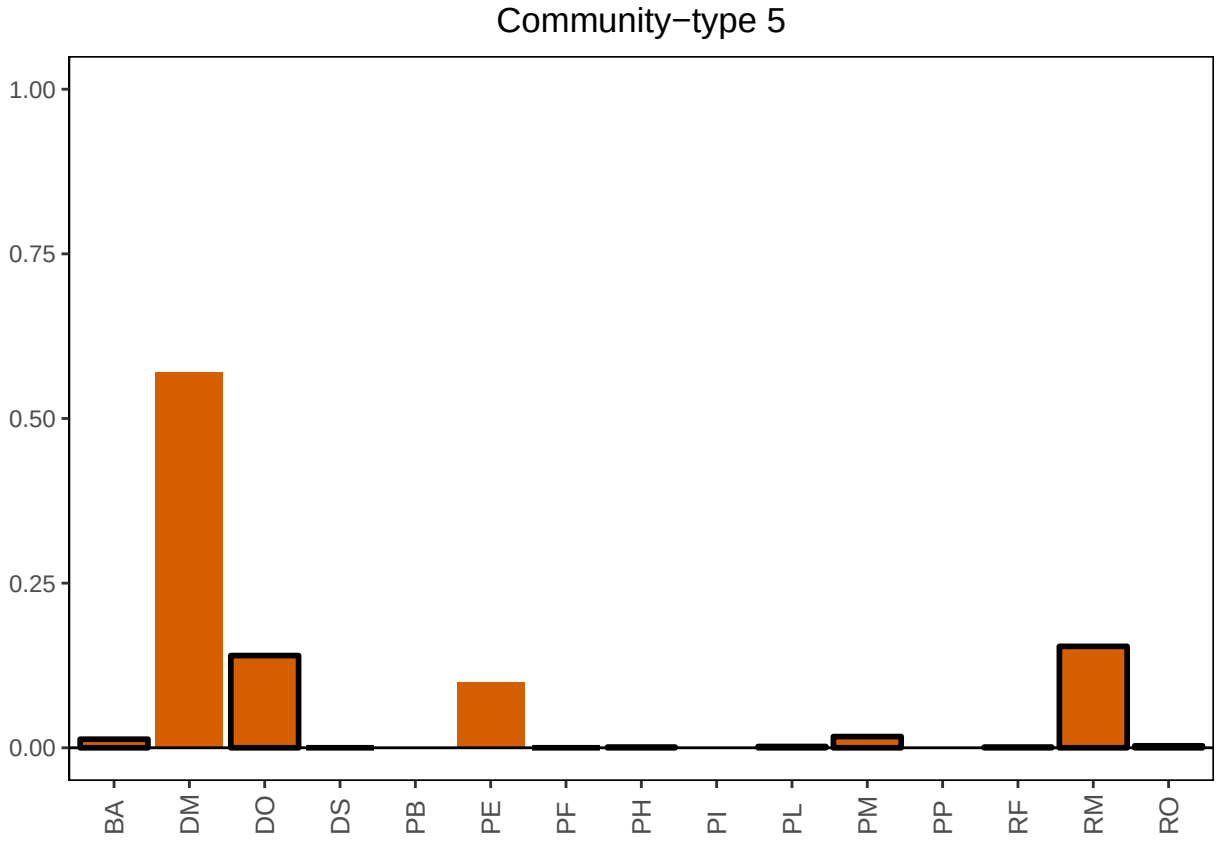
```
##
## [[3]]
```


Community−type 3
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

```
##
## [[4]]
```


Community−type 4
1.00
0.75
0.50
0.25
0.00
BA
DM
DO
DS
PB
PE
PF
PH
PI
PL
PM
PP
RF
RM
RO

```
##
## [[5]]
```



Changepoint model:

```
##                   Mean  Median    Lower    Upper    SD MCMCerr    AC10
## Changepoint_1 1989.21 1990.54 1986.537 1993.537 37.73  0.3792 -0.0003
## Changepoint_2 2000.16 1999.54 1997.537 2003.537  1.90  0.0191  0.3479
##                      ESS
## Changepoint_1 4916.5129
## Changepoint_2  457.8272
```

Here are some more diagnostics:

```
## $acceptance_rates
## [1] 0.1111111 0.5381818 0.8203030 0.9483838 0.9745455 0.9786869
##
## $swapping_rates
## [1] 0.1141414 0.3363636 0.5269697 0.9170707 0.9656566
##
## $trip_counts
## [1] 0 2 7 8 9 6
##
## $trip_rates
## [1] 0.0000000000 0.0002020202 0.0007070707 0.0008080808 0.0009090909
## [6] 0.0006060606
```