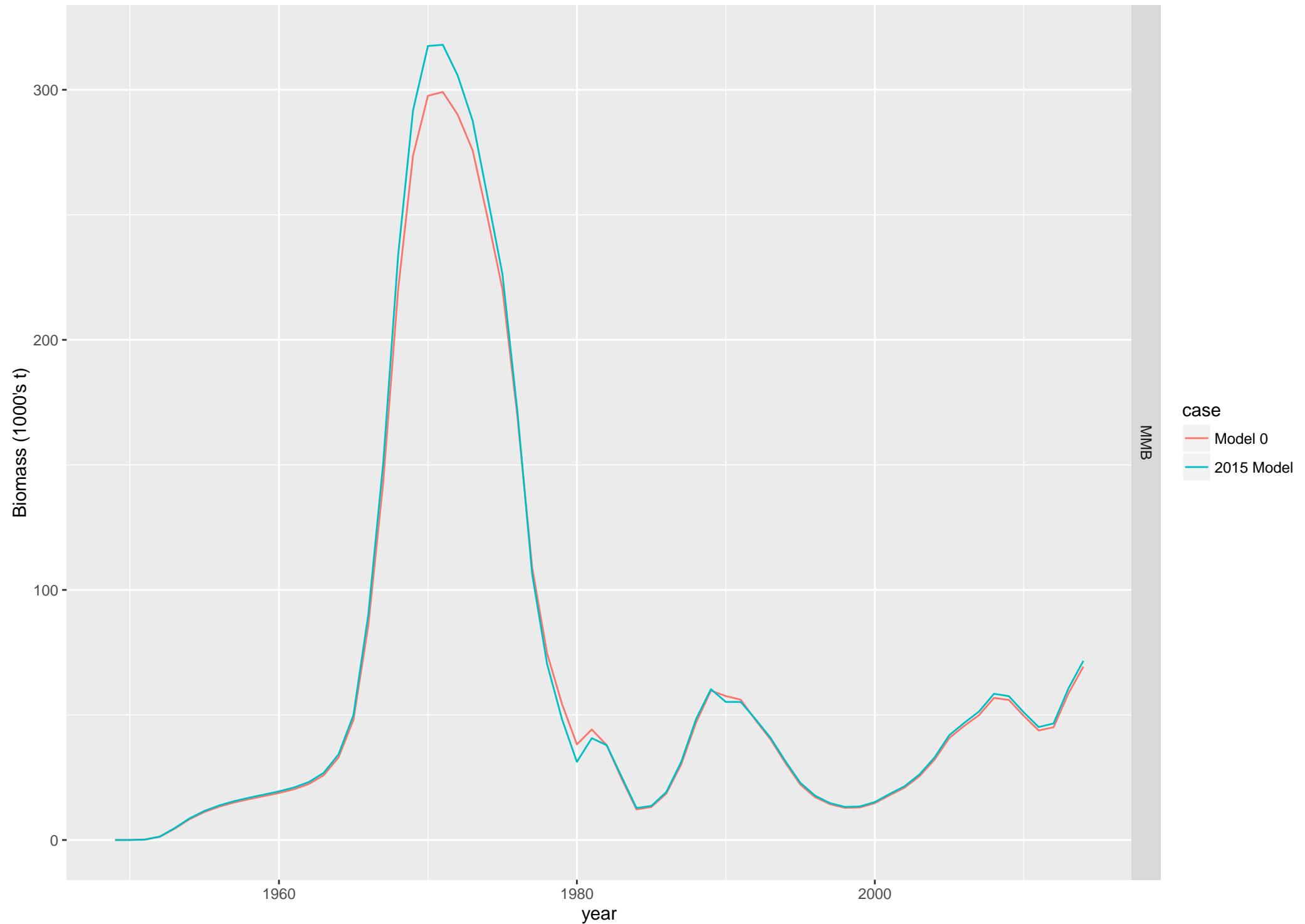


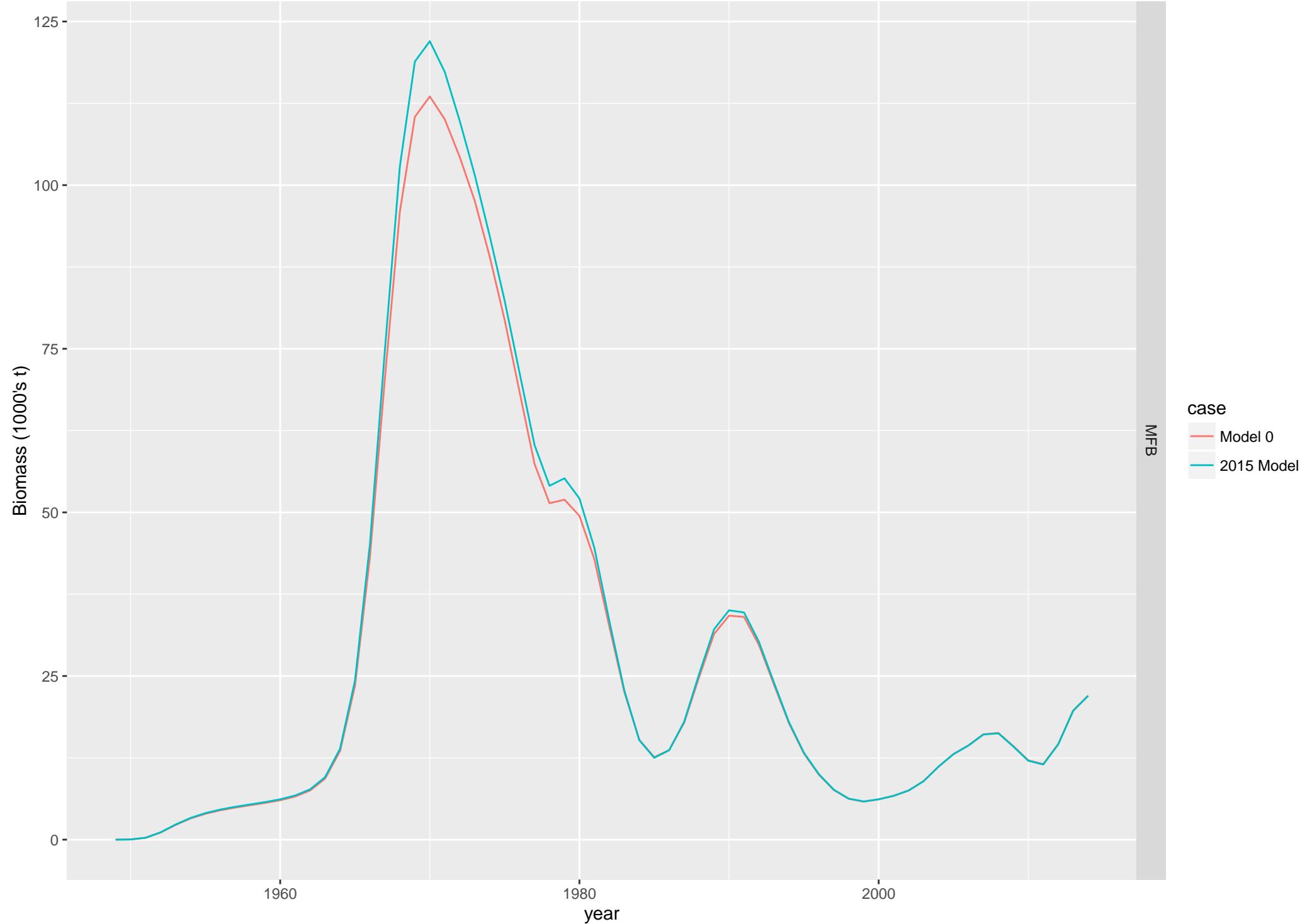
MMB—at—mating



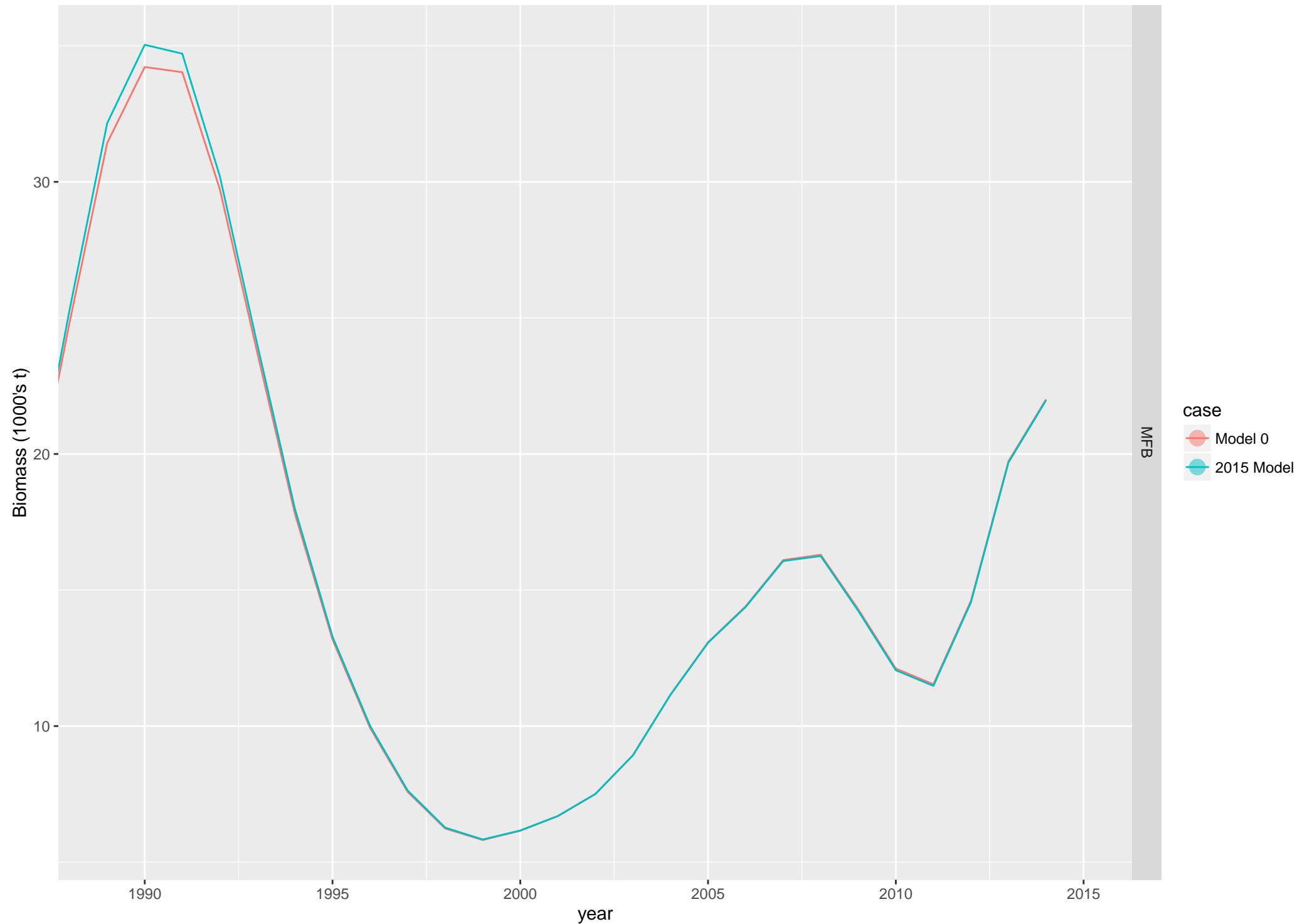
MMB-at-mating



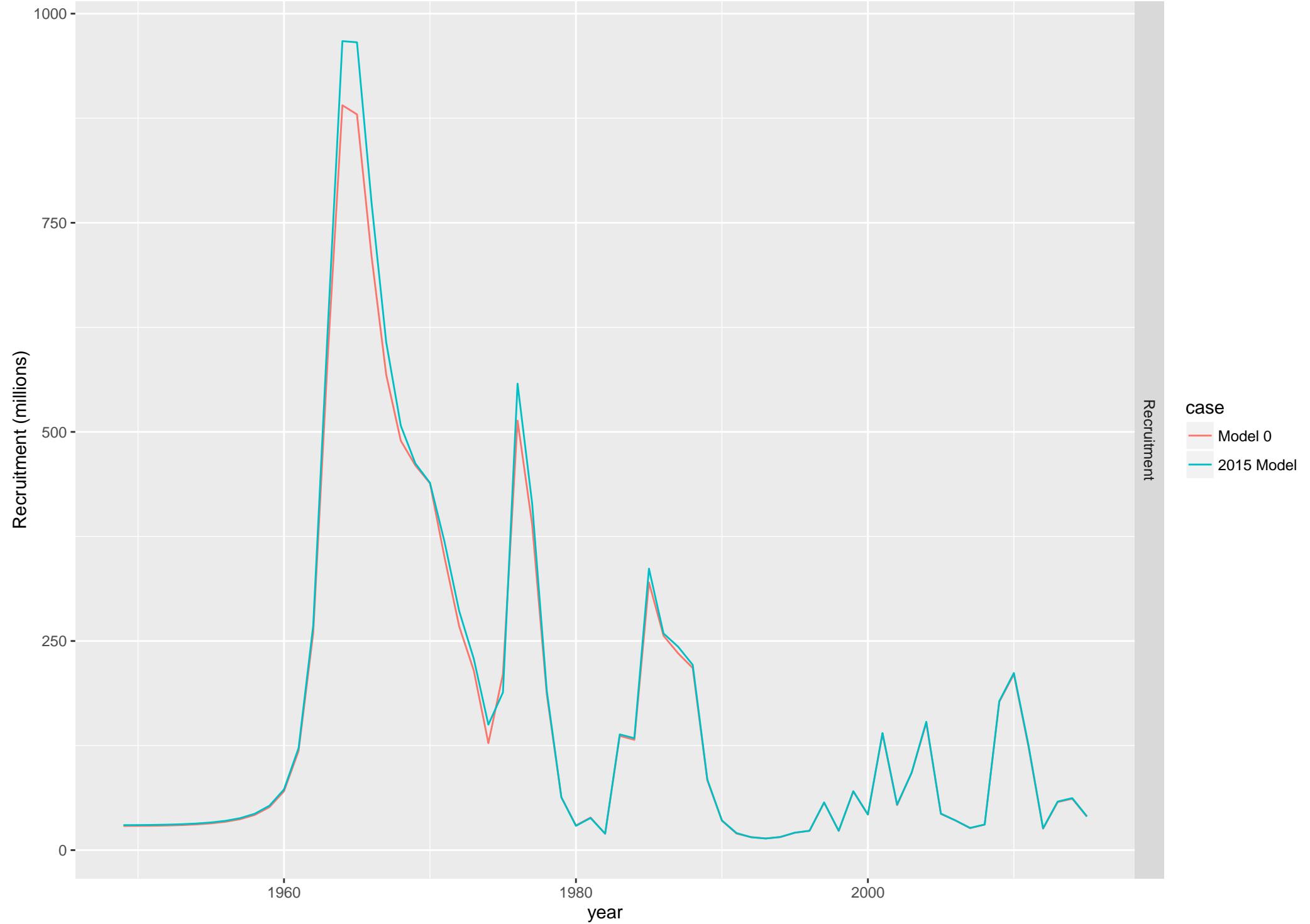
MFB-at-mating



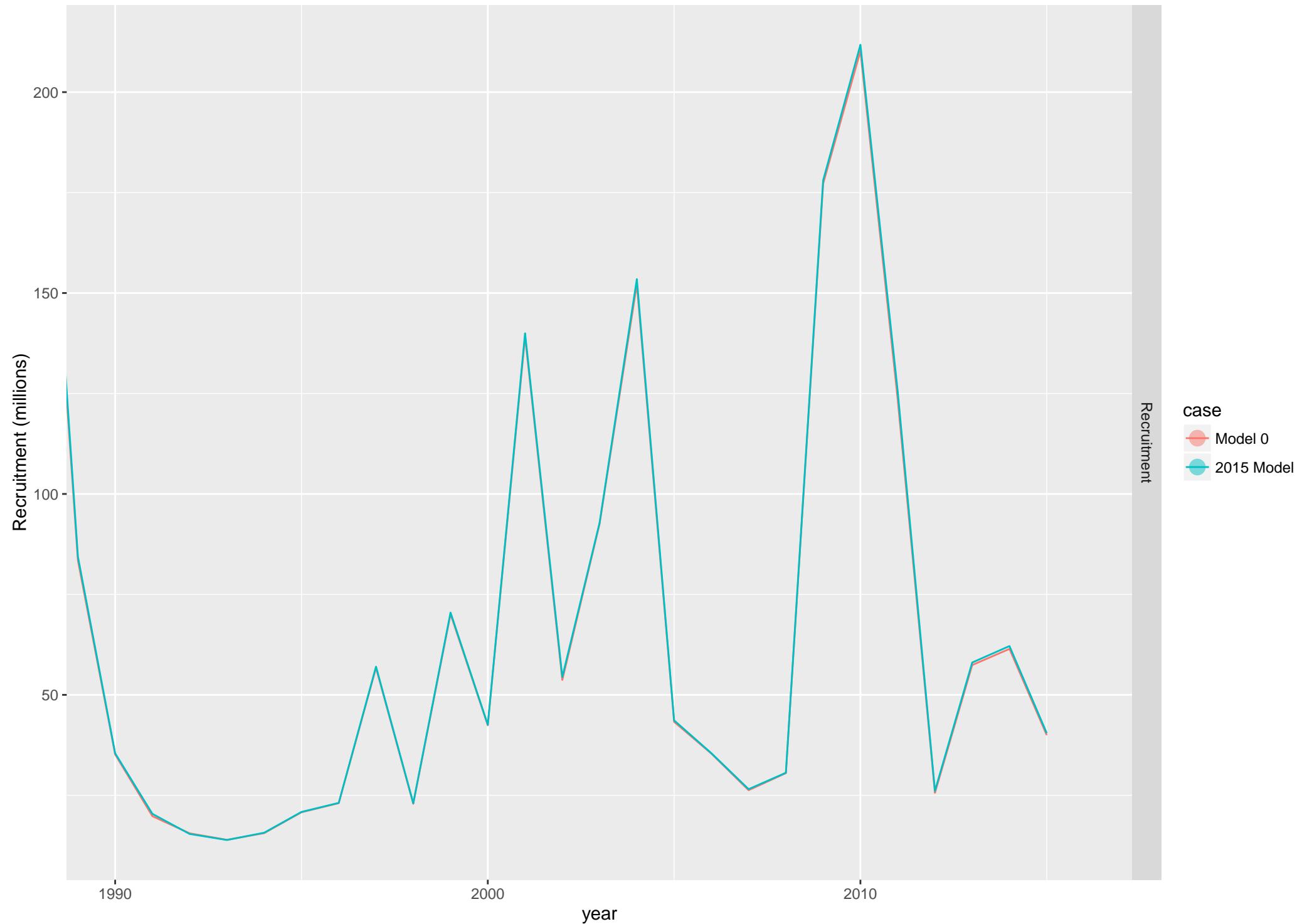
MFB-at-mating



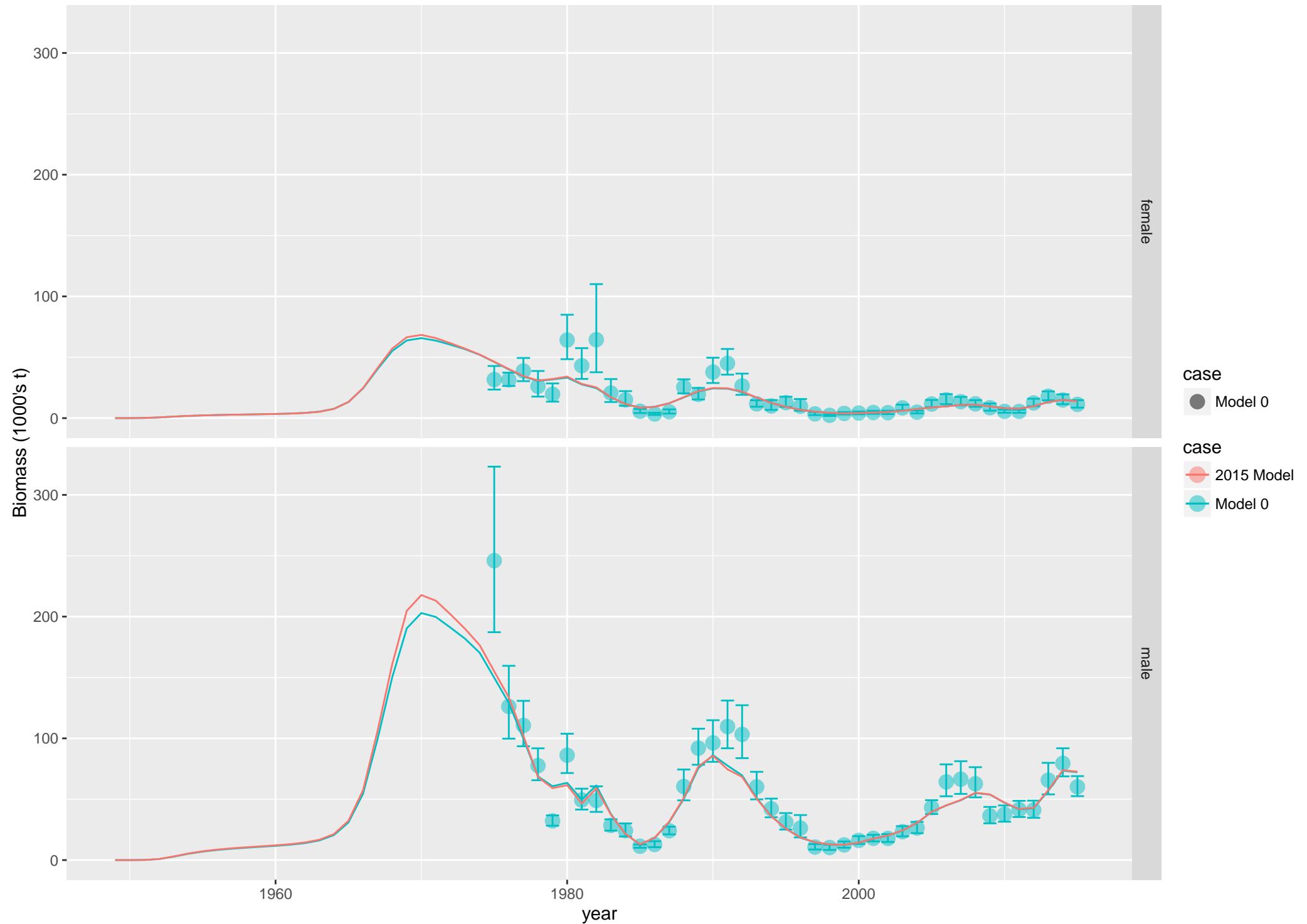
Male Recruitment



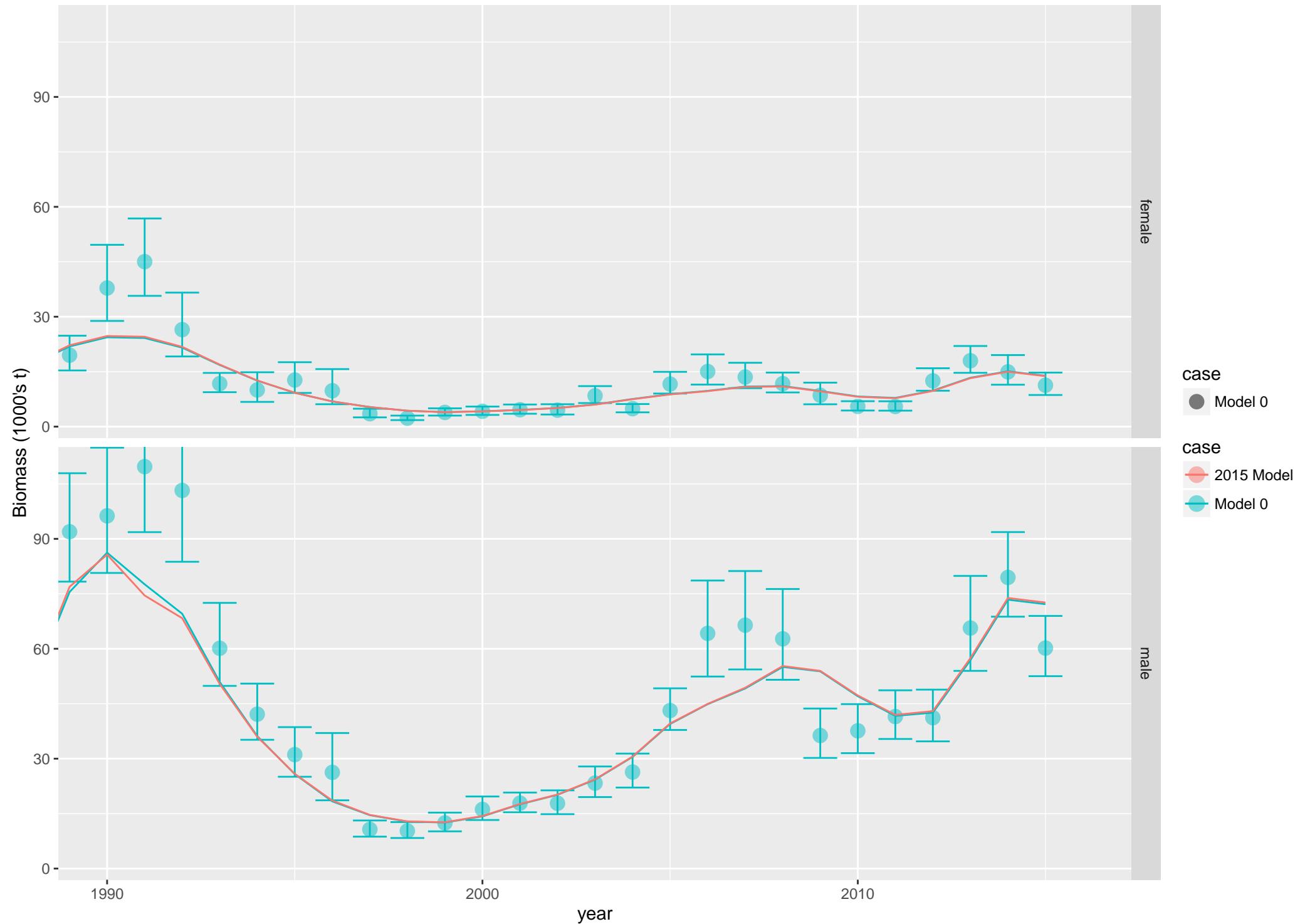
Male Recruitment



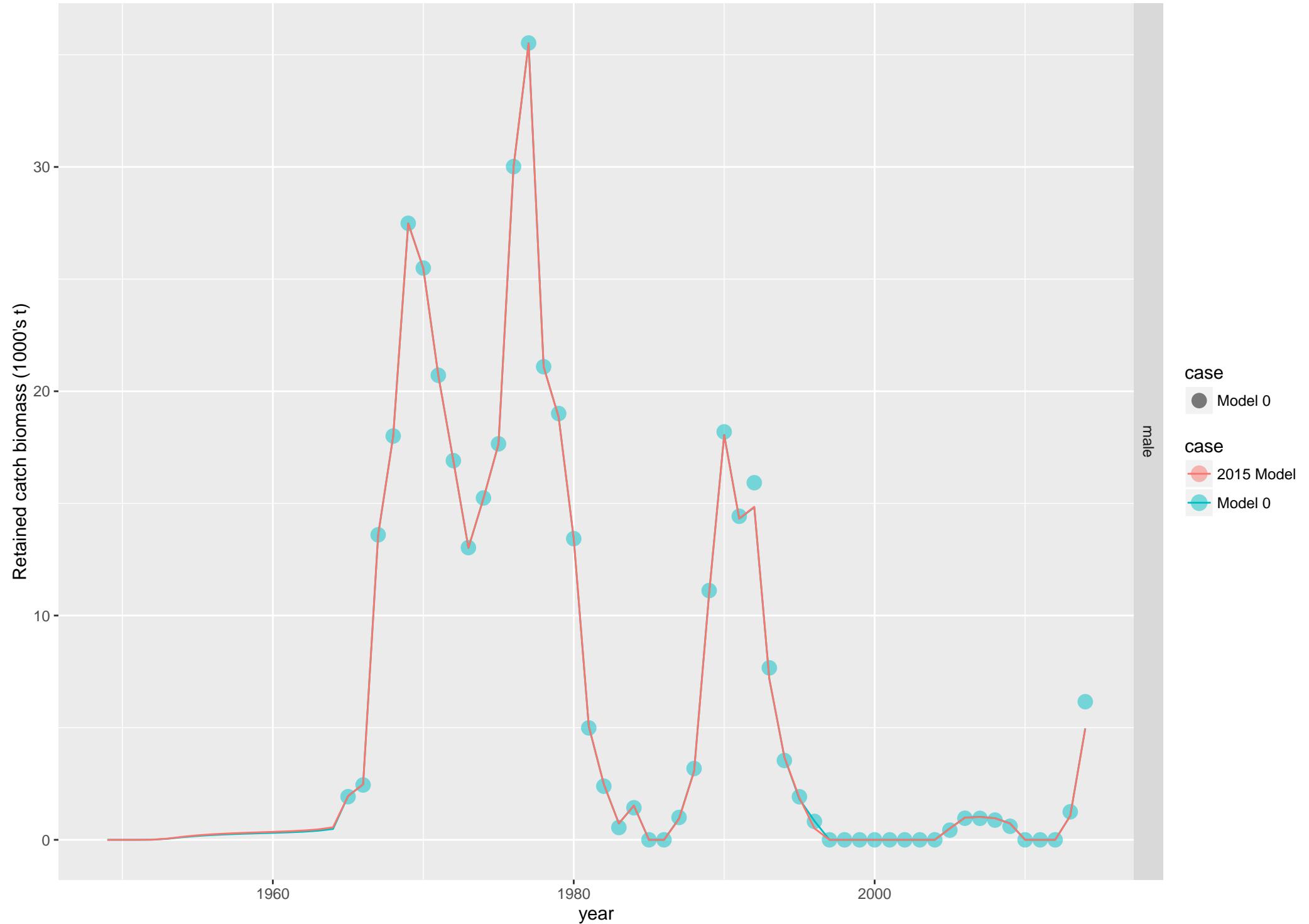
Mature survey biomass



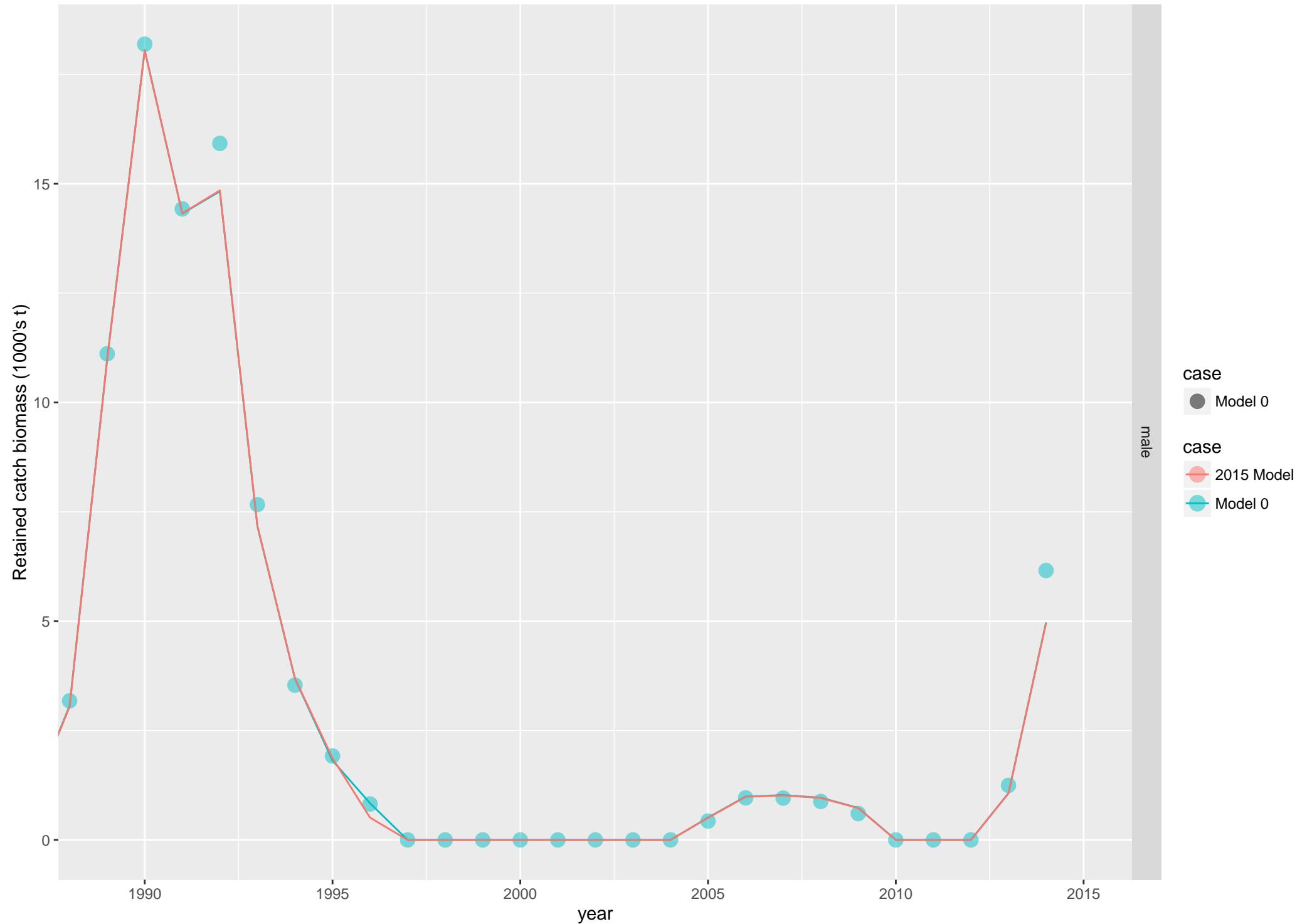
Mature survey biomass



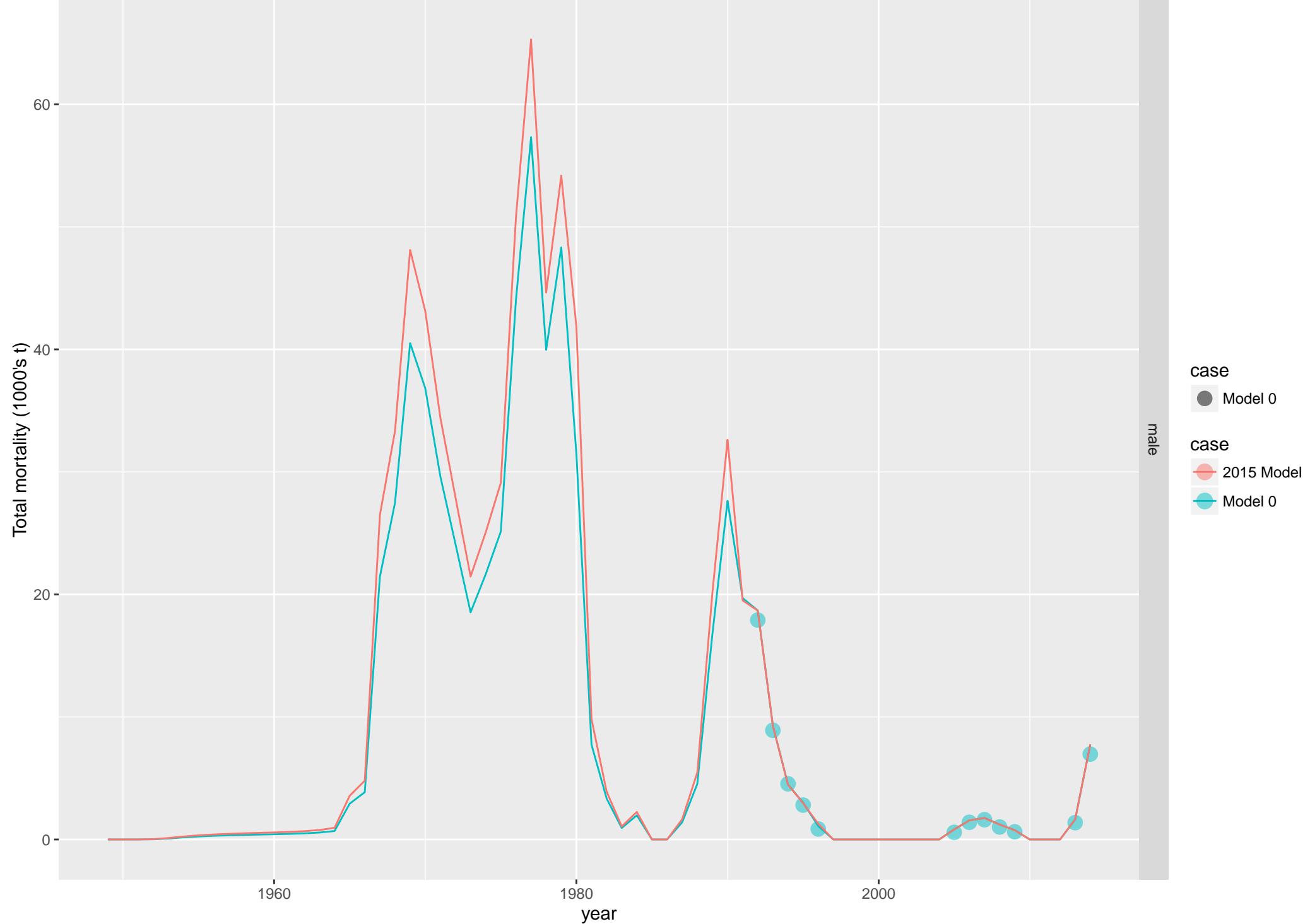
Retained catch biomass



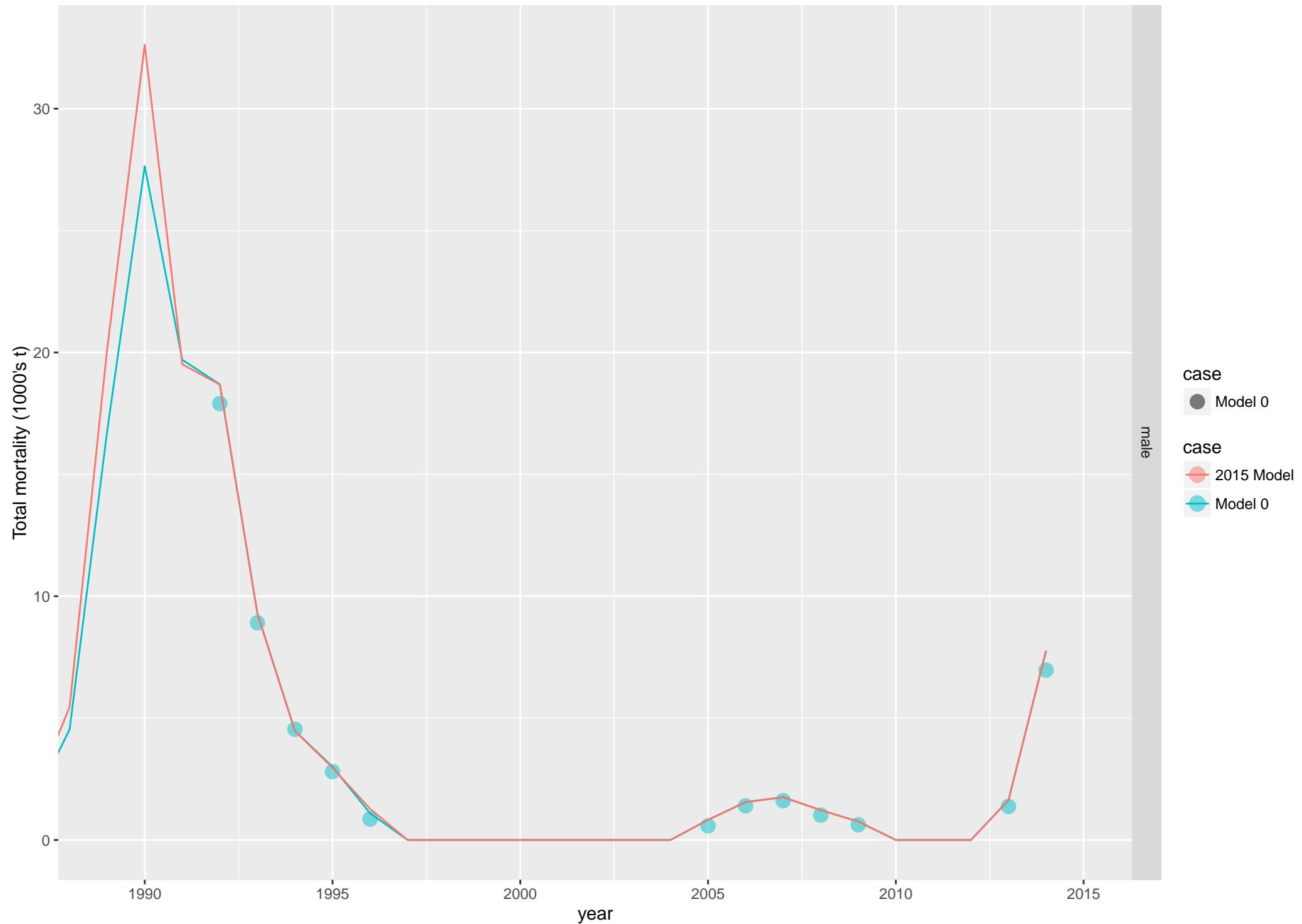
Retained catch biomass



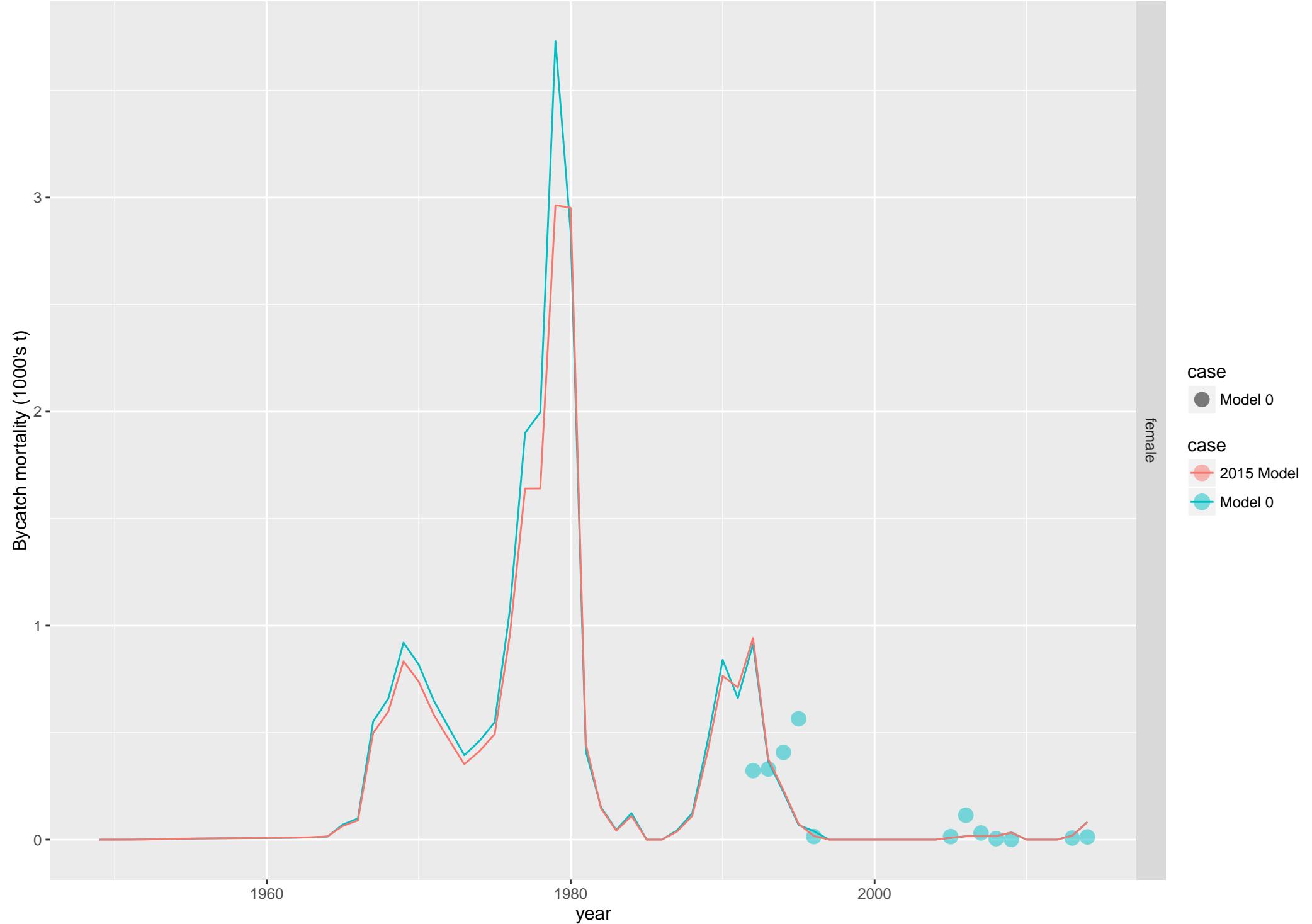
Males, directed fishery



Males, directed fishery



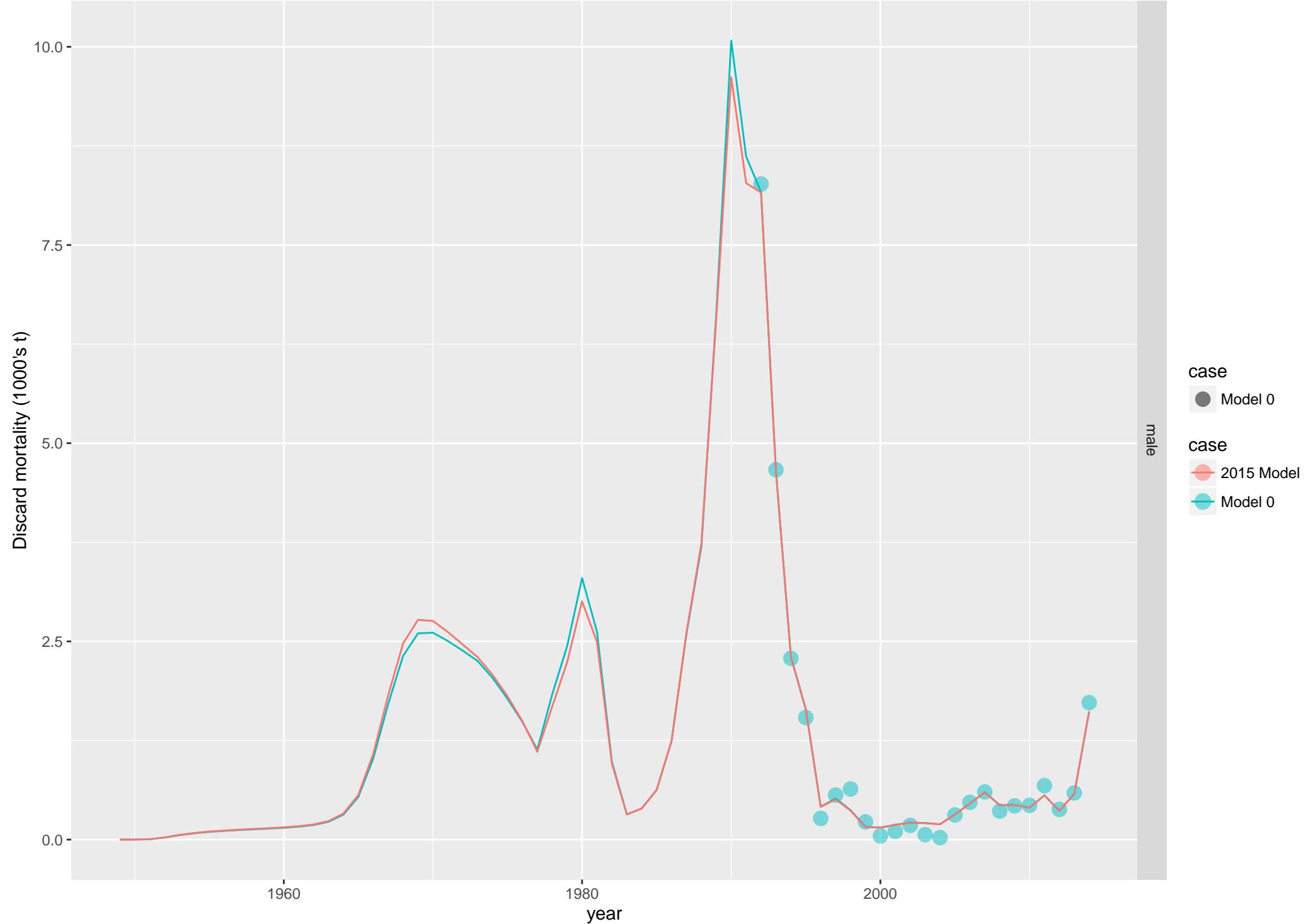
Females, directed fishery



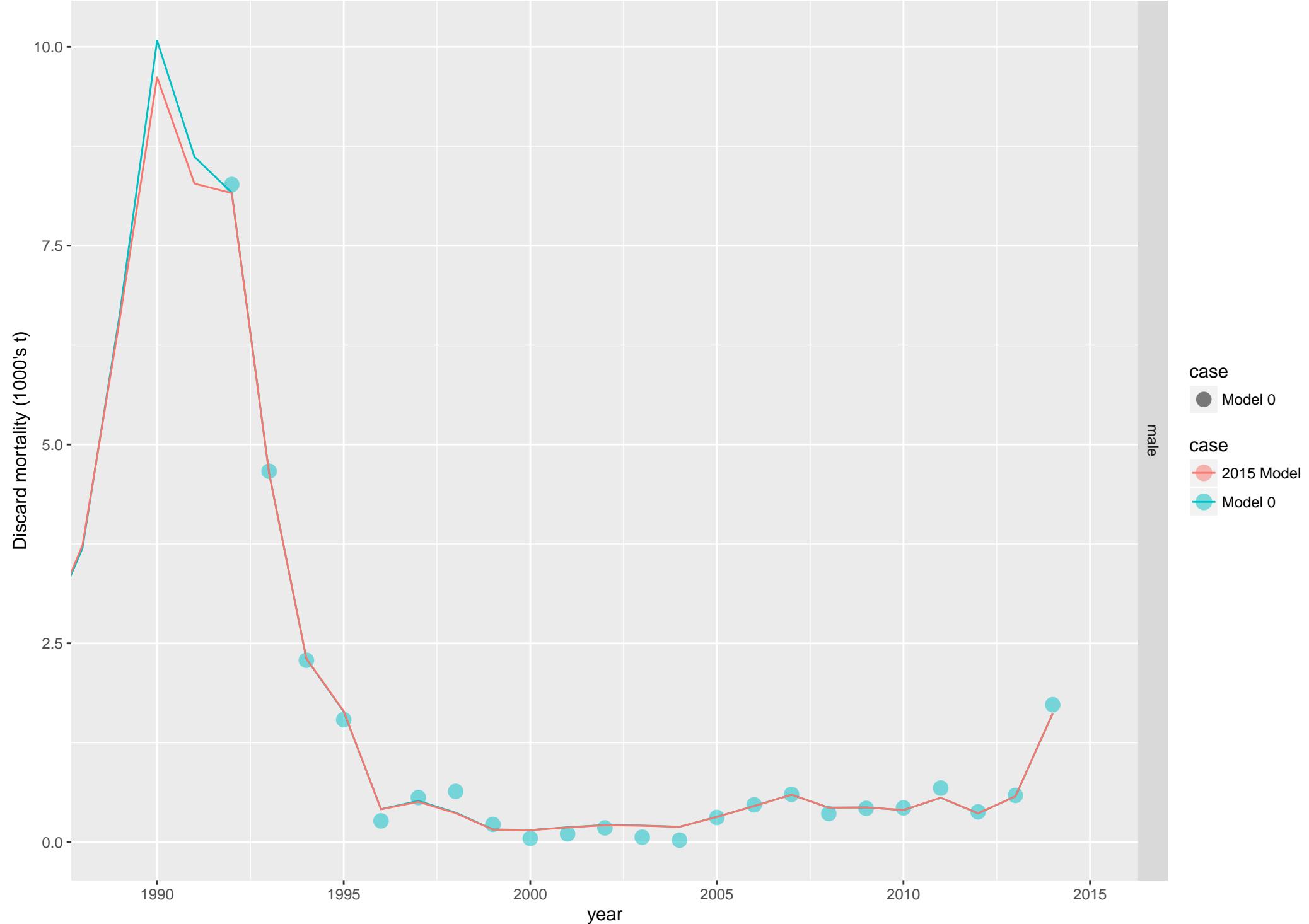
Females, directed fishery



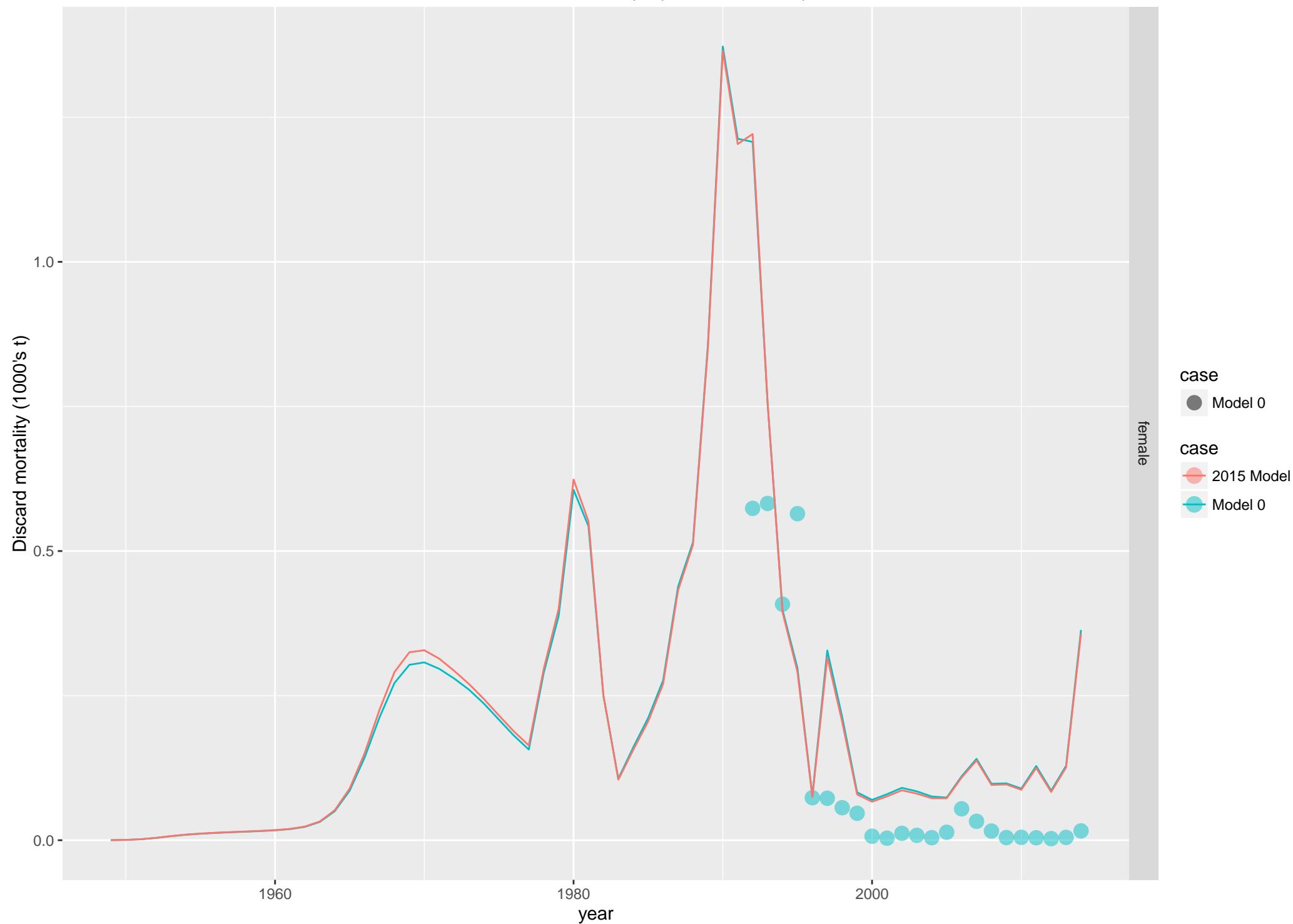
Males, snow crab fishery bycatch mortality



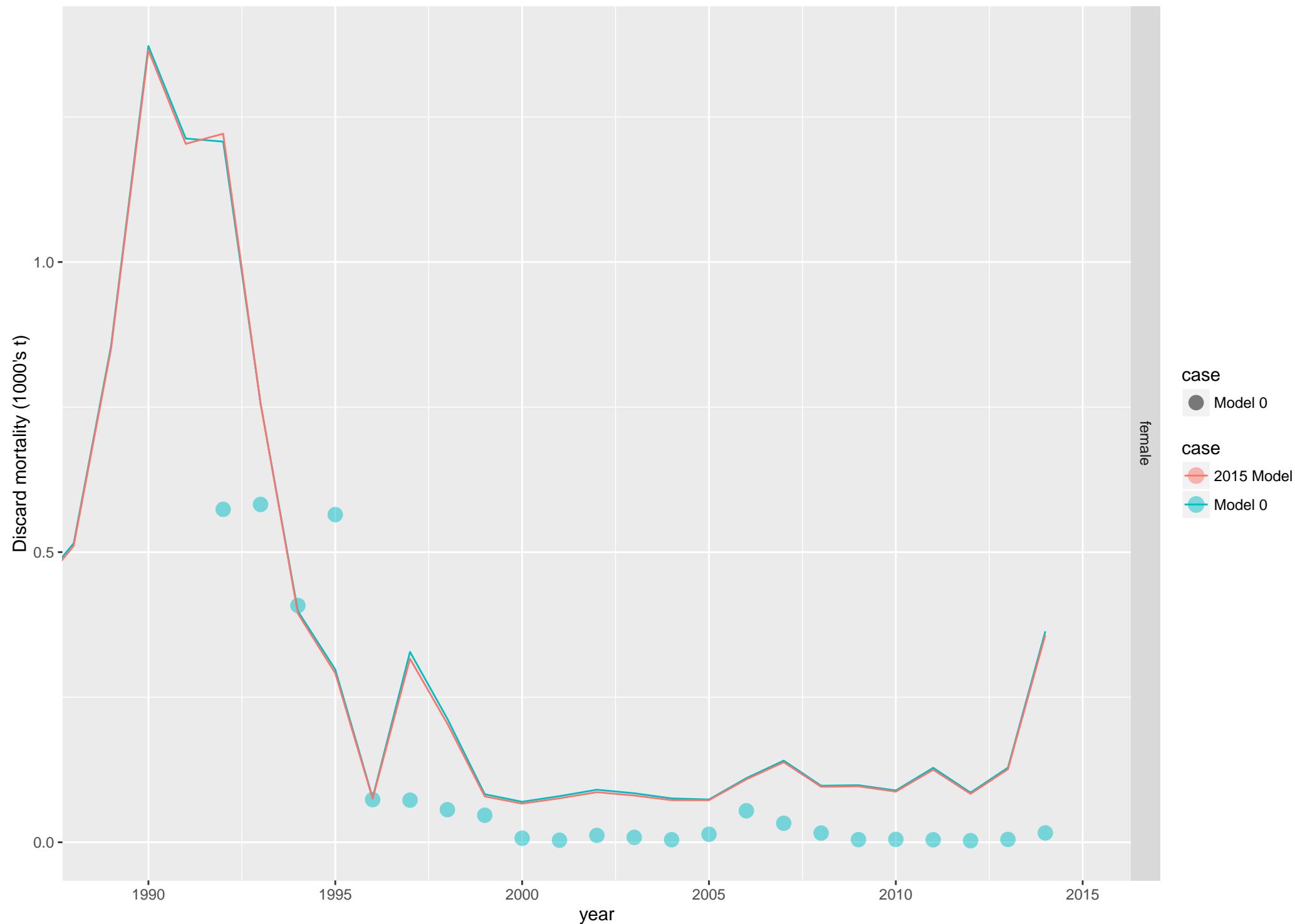
Males, snow crab fishery bycatch mortality



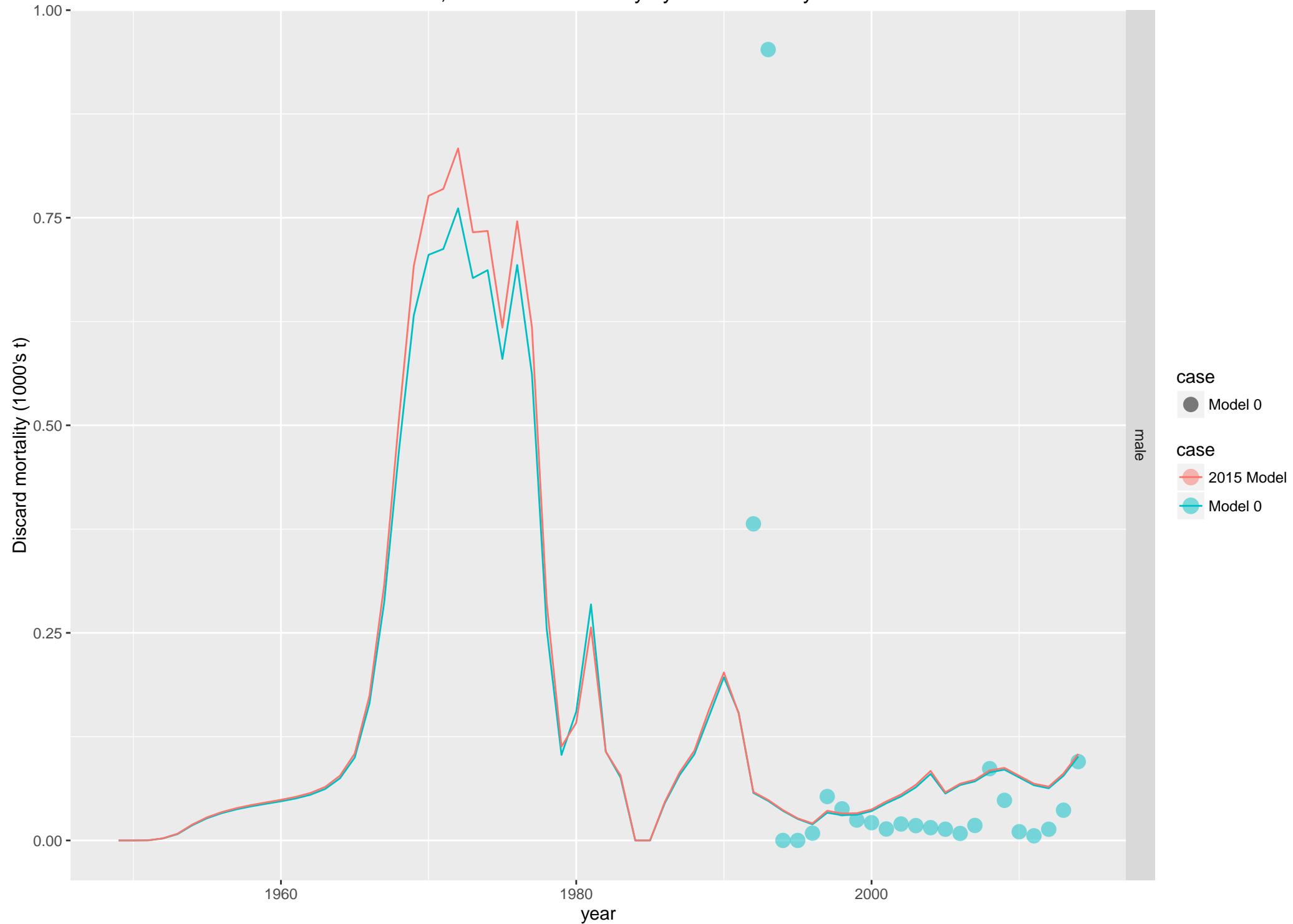
Females, snow crab fishery bycatch mortality



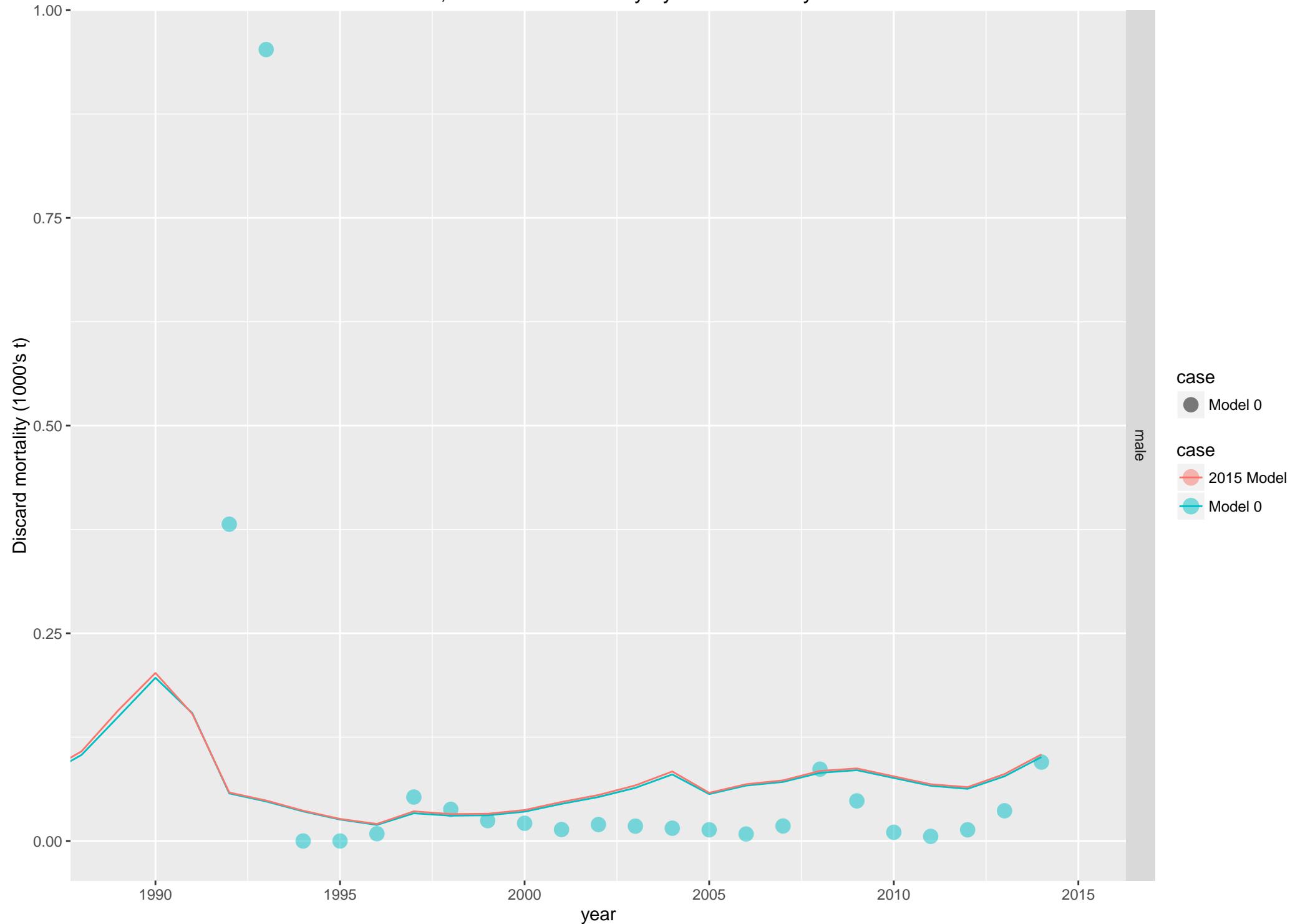
Females, snow crab fishery bycatch mortality



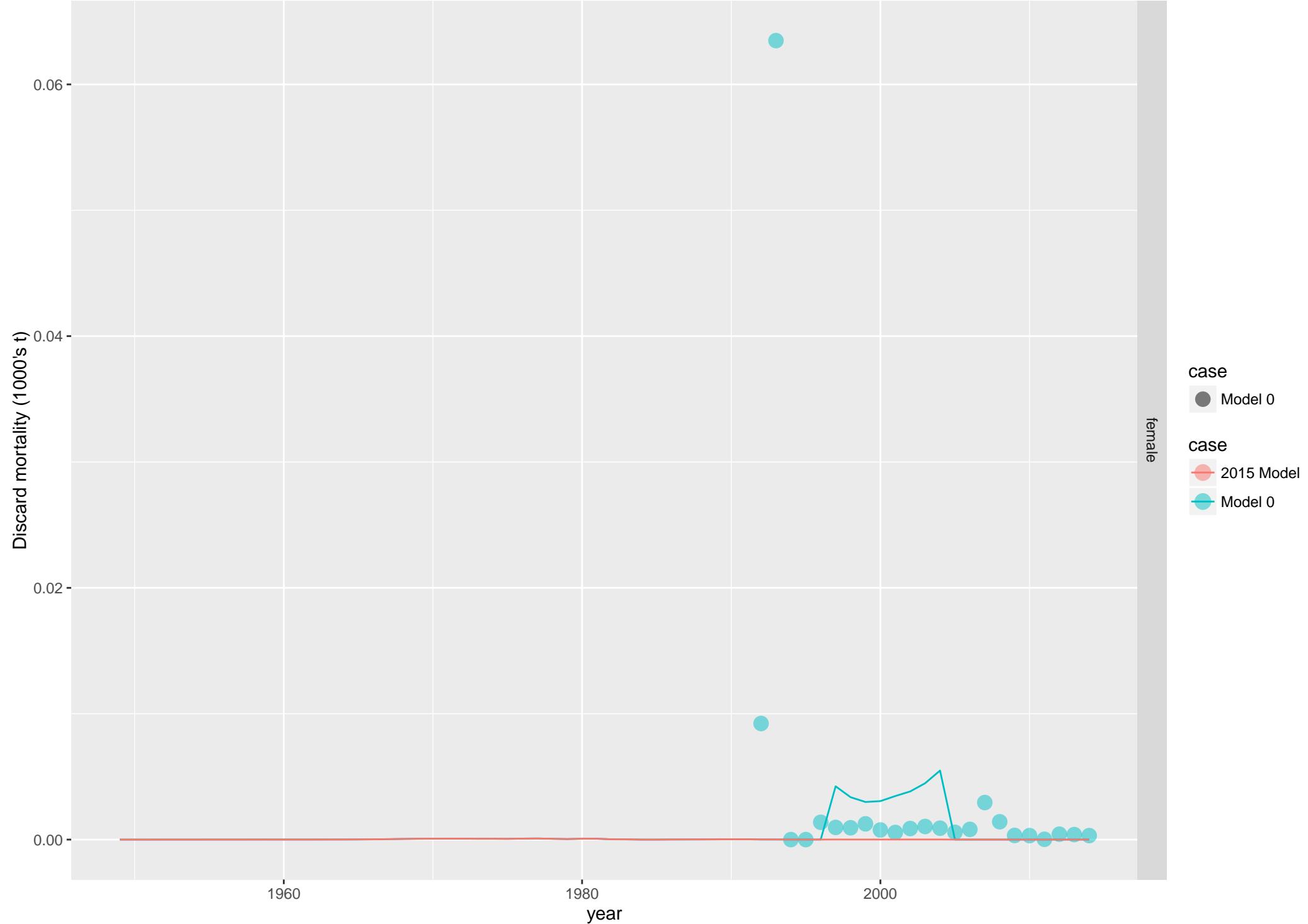
Males, BBRKC crab fishery bycatch mortality



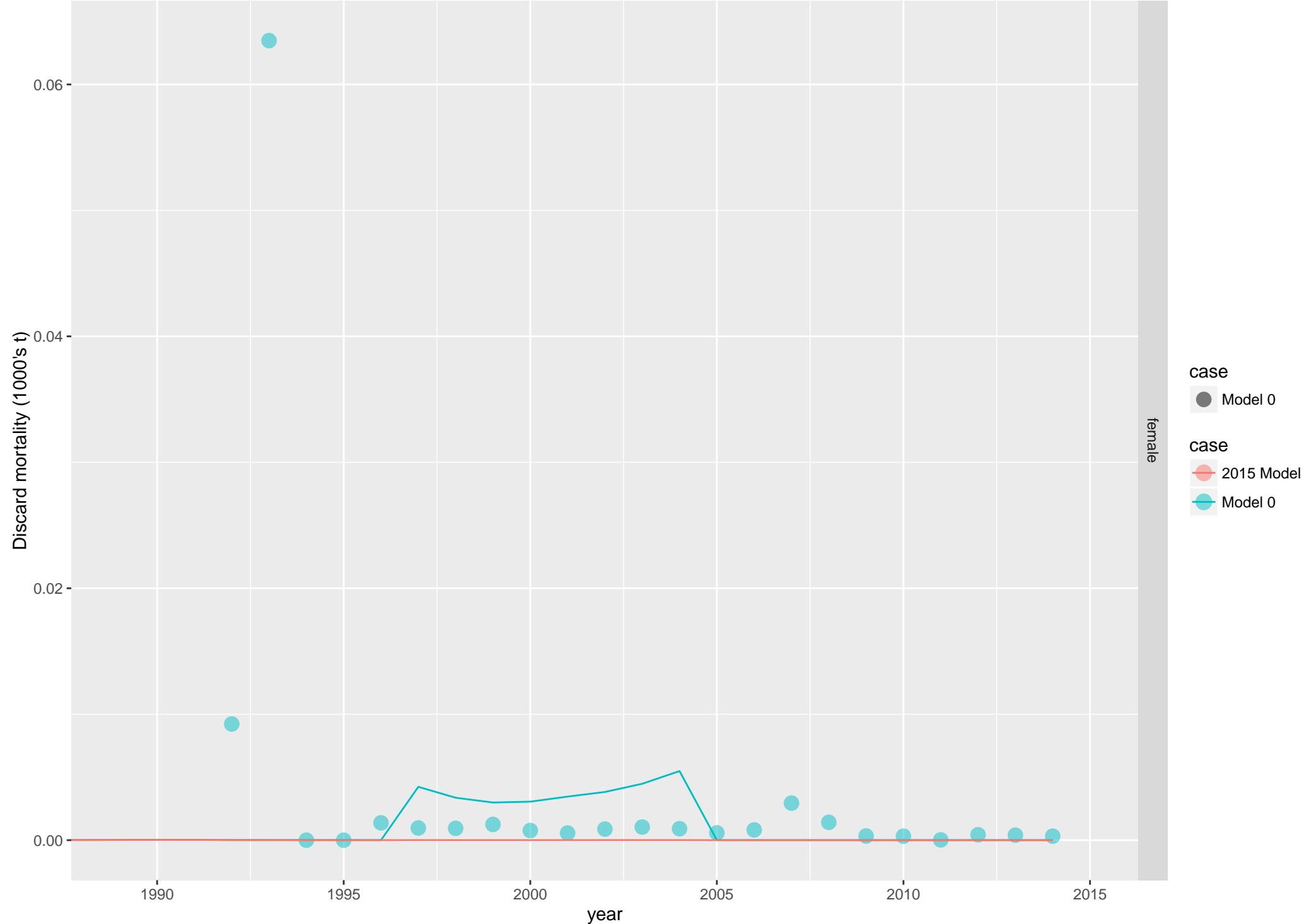
Males, BBRKC crab fishery bycatch mortality



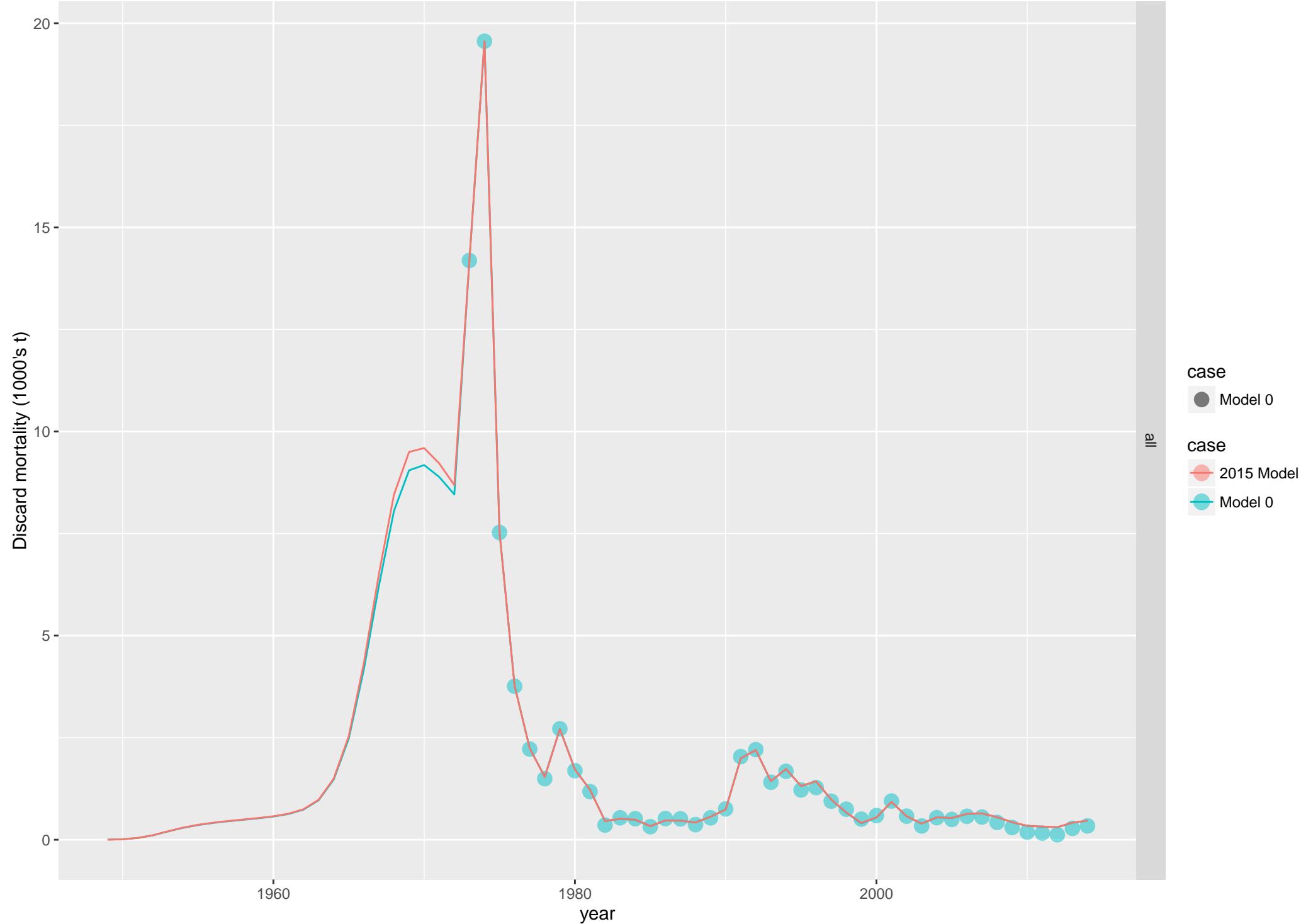
Females, BBRKC fishery bycatch mortality



Females, BBRKC fishery bycatch mortality



Groundfish fisheries bycatch mortality

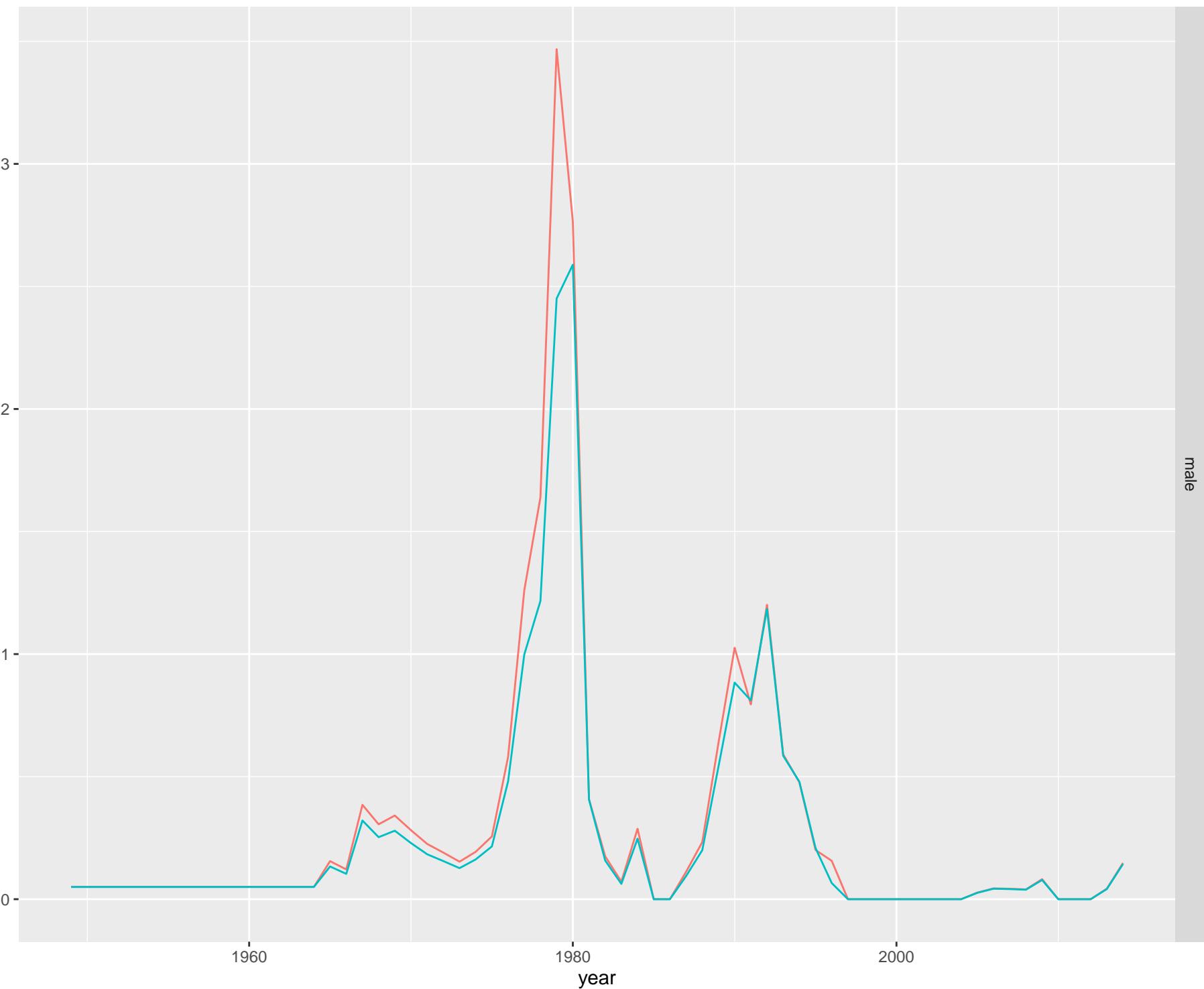


Groundfish fisheries bycatch mortality



Males, retained fishing mortality rate

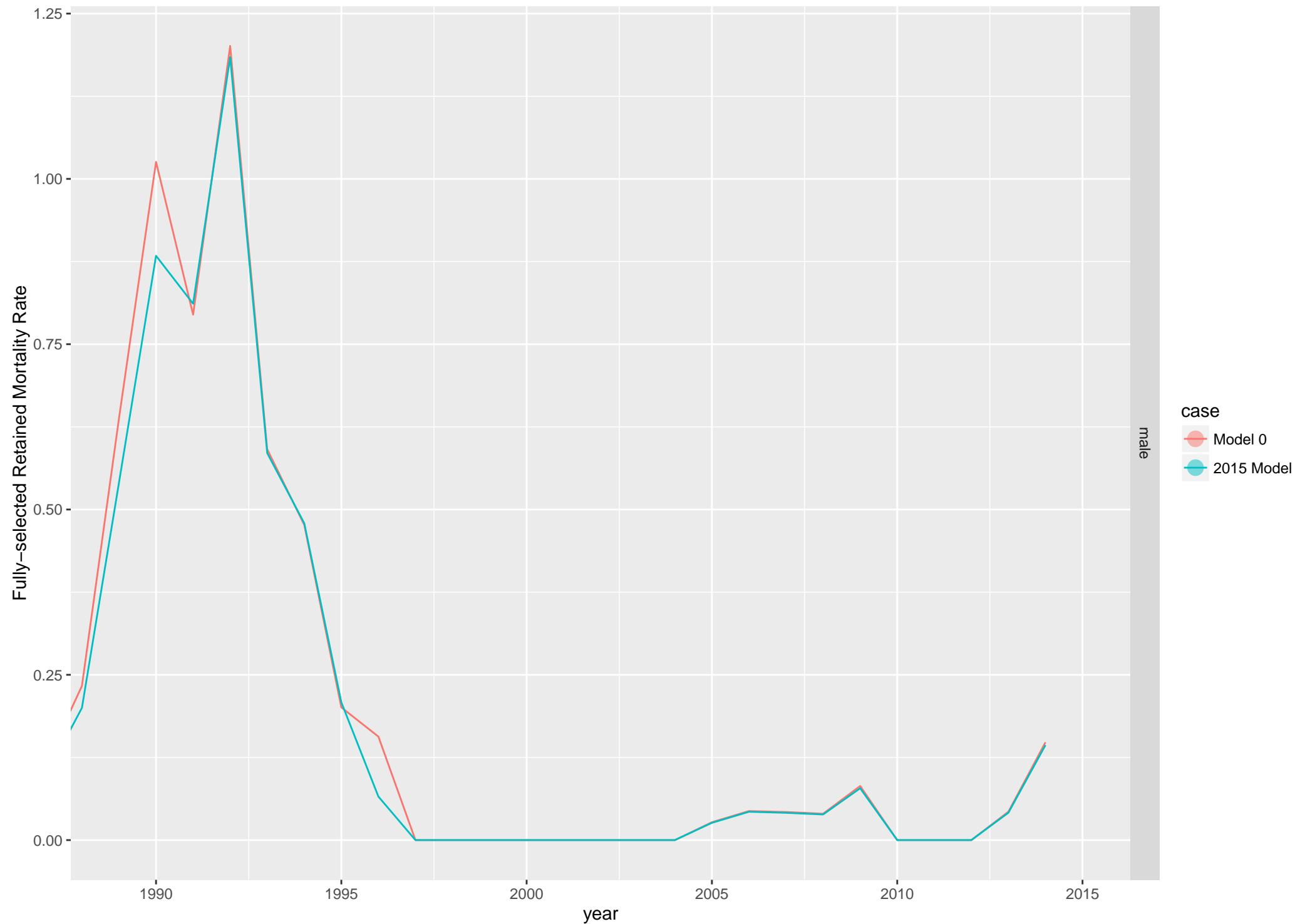
Fully-selected Retained Mortality Rate



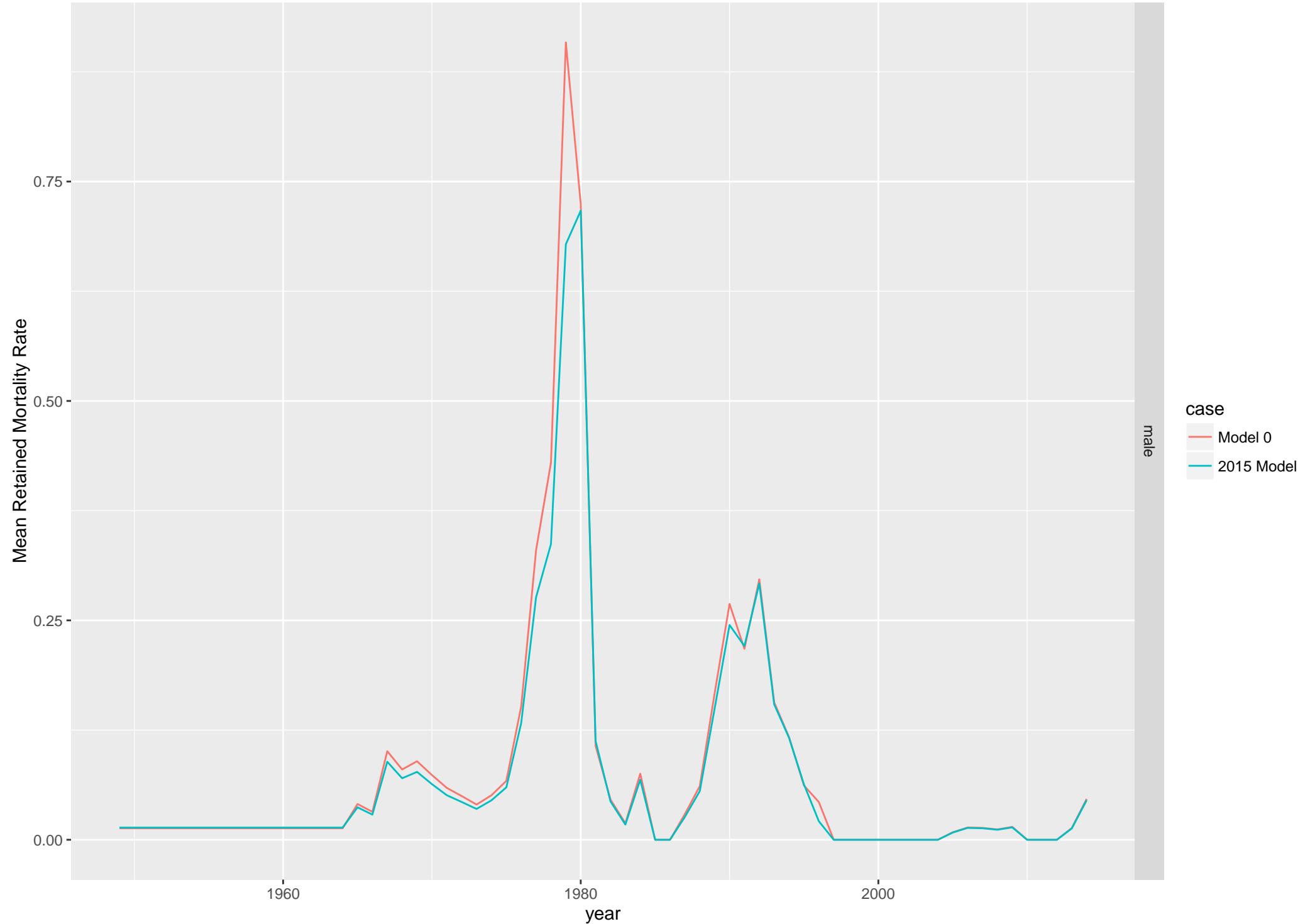
case
Model 0
2015 Model

male

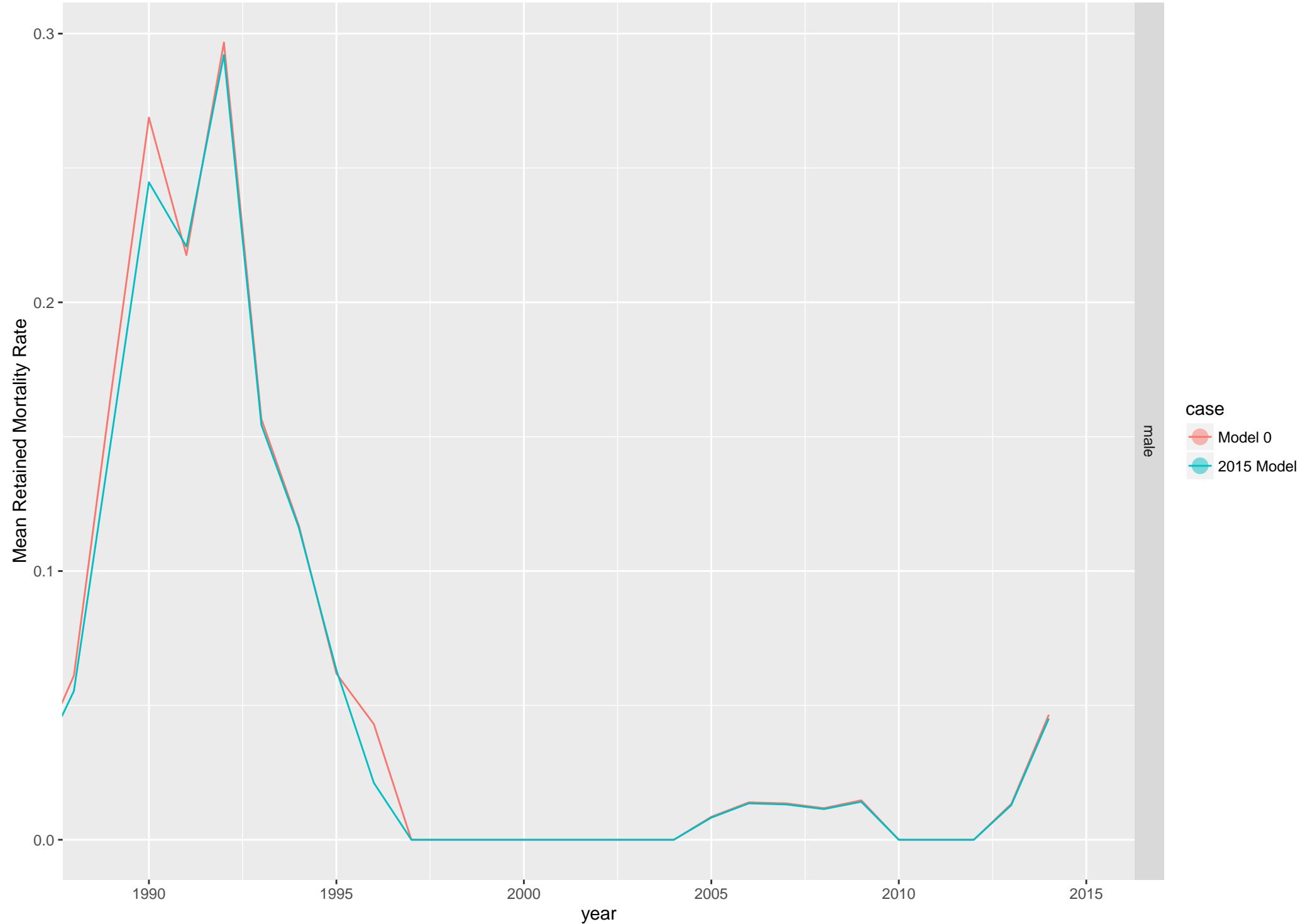
Males, retained fishing mortality rate



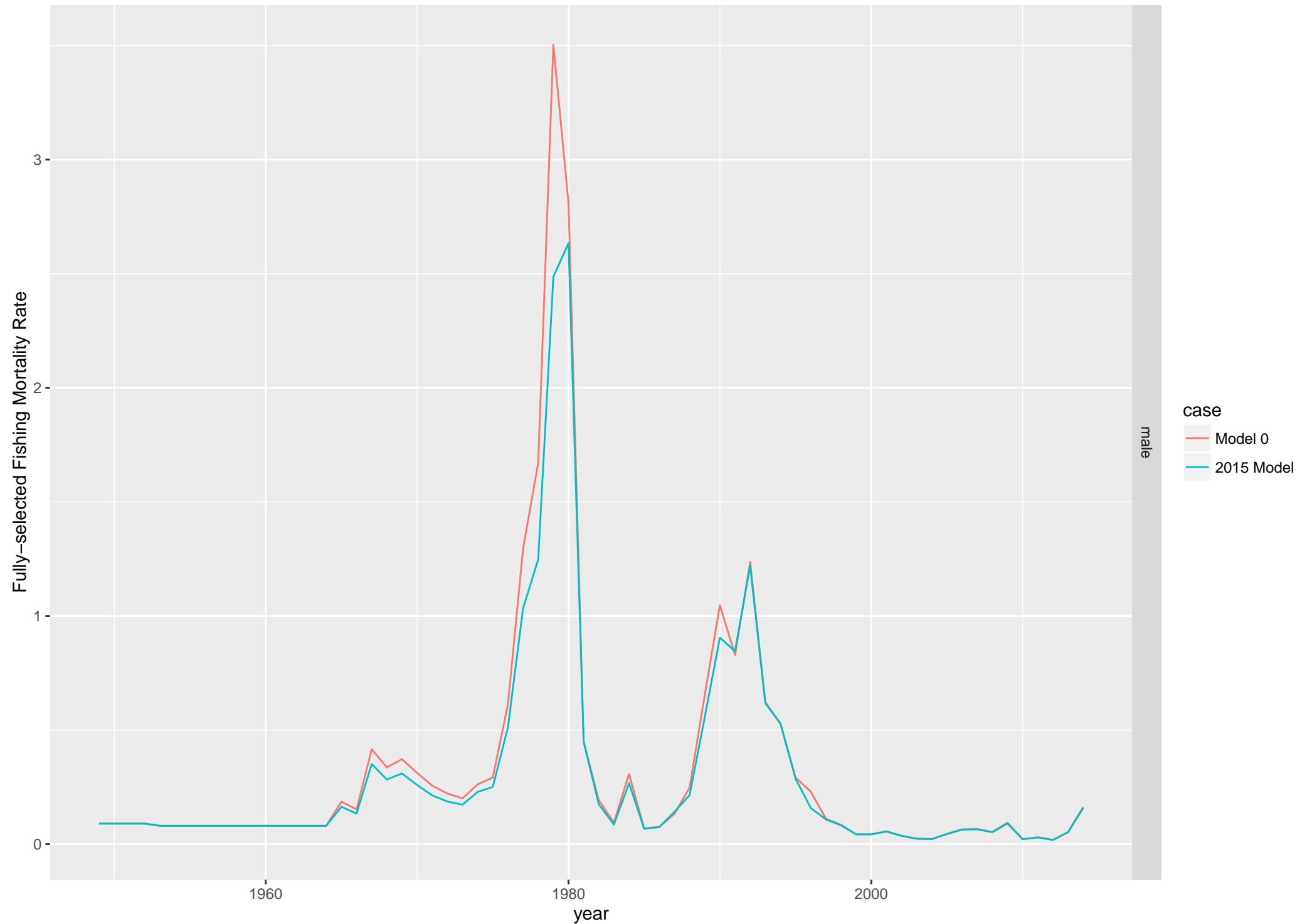
Males, retained fishing mortality rate



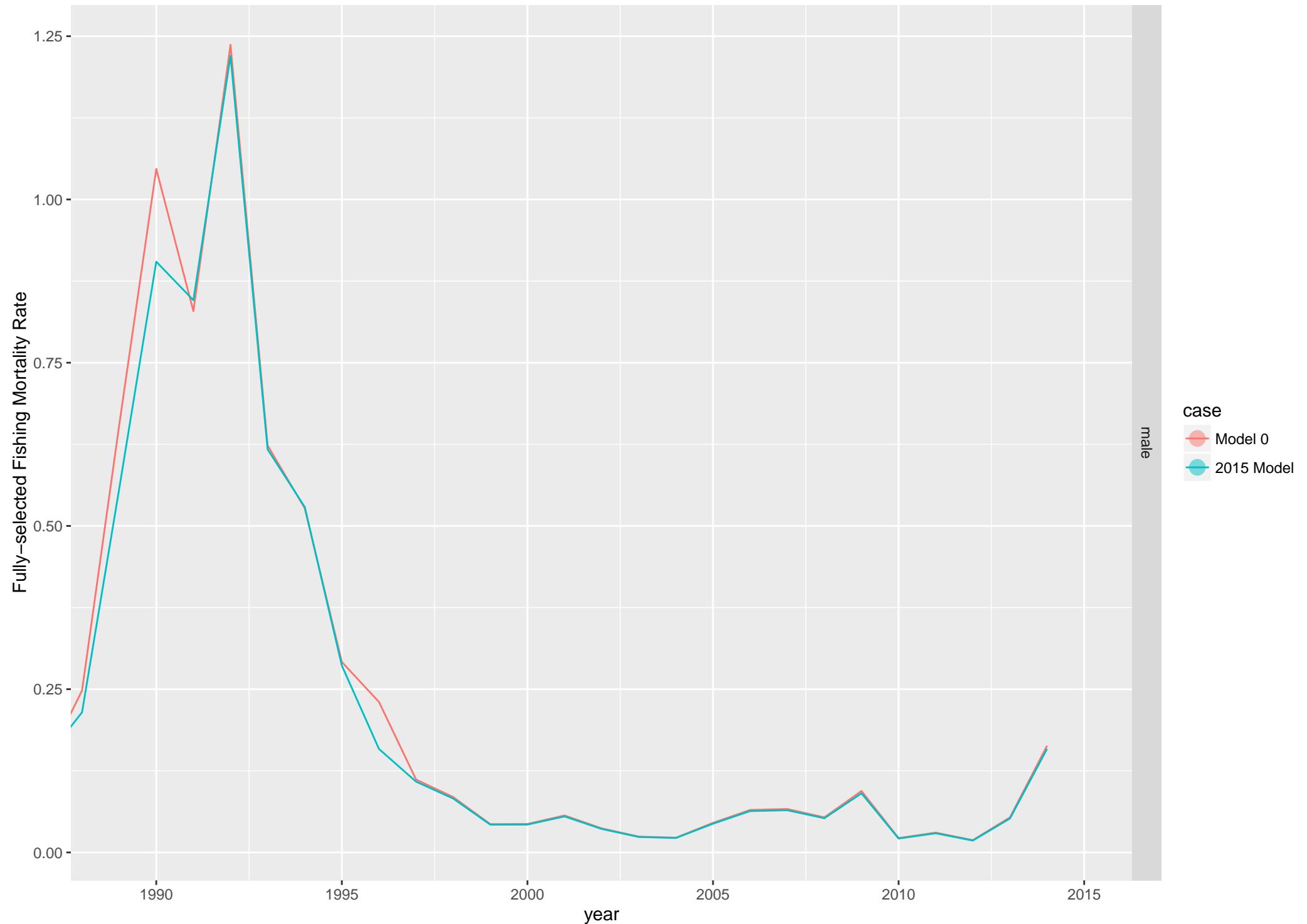
Males, retained fishing mortality rate



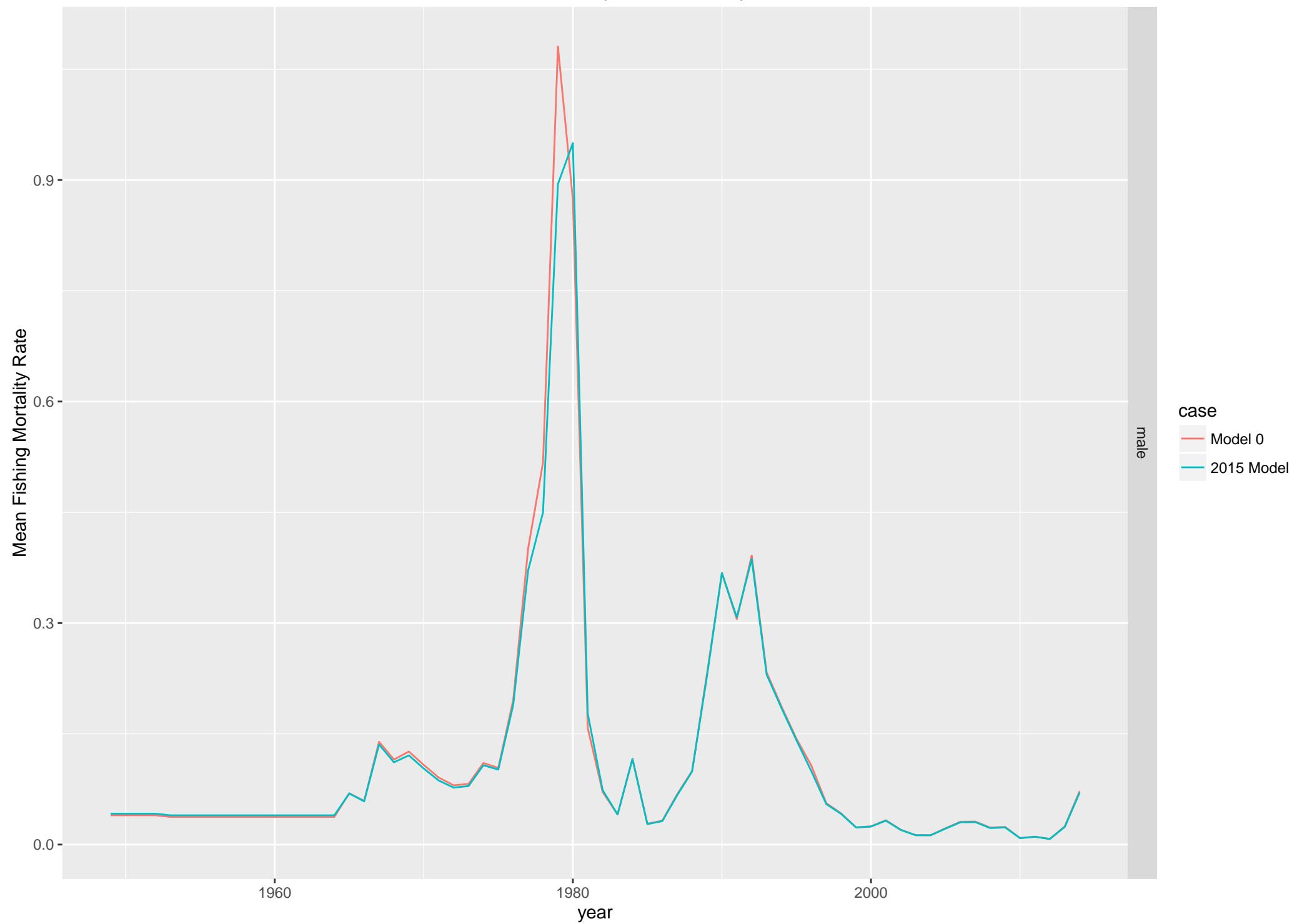
Males, directed fishery total mortality rate



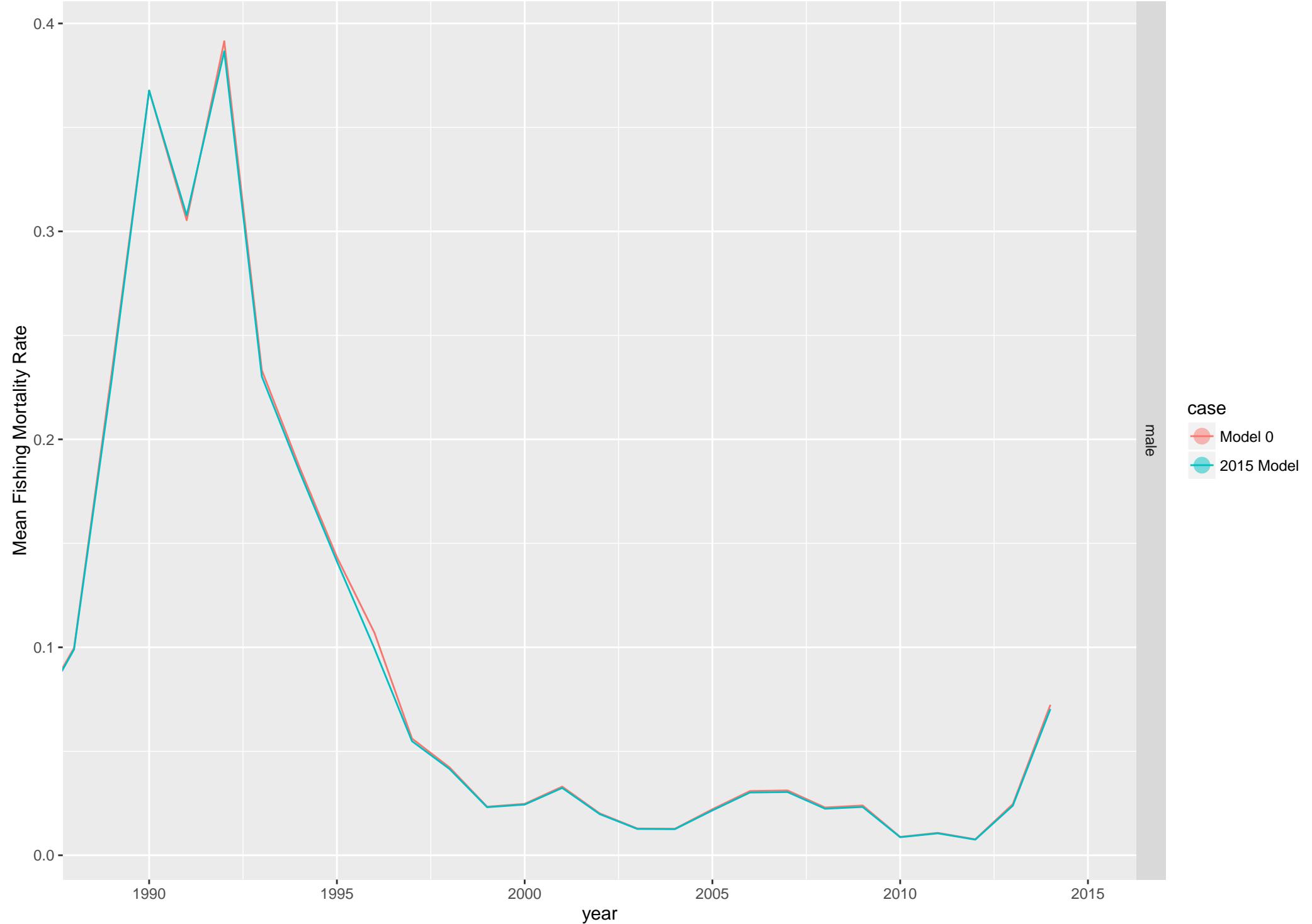
Males, directed fishery total mortality rate



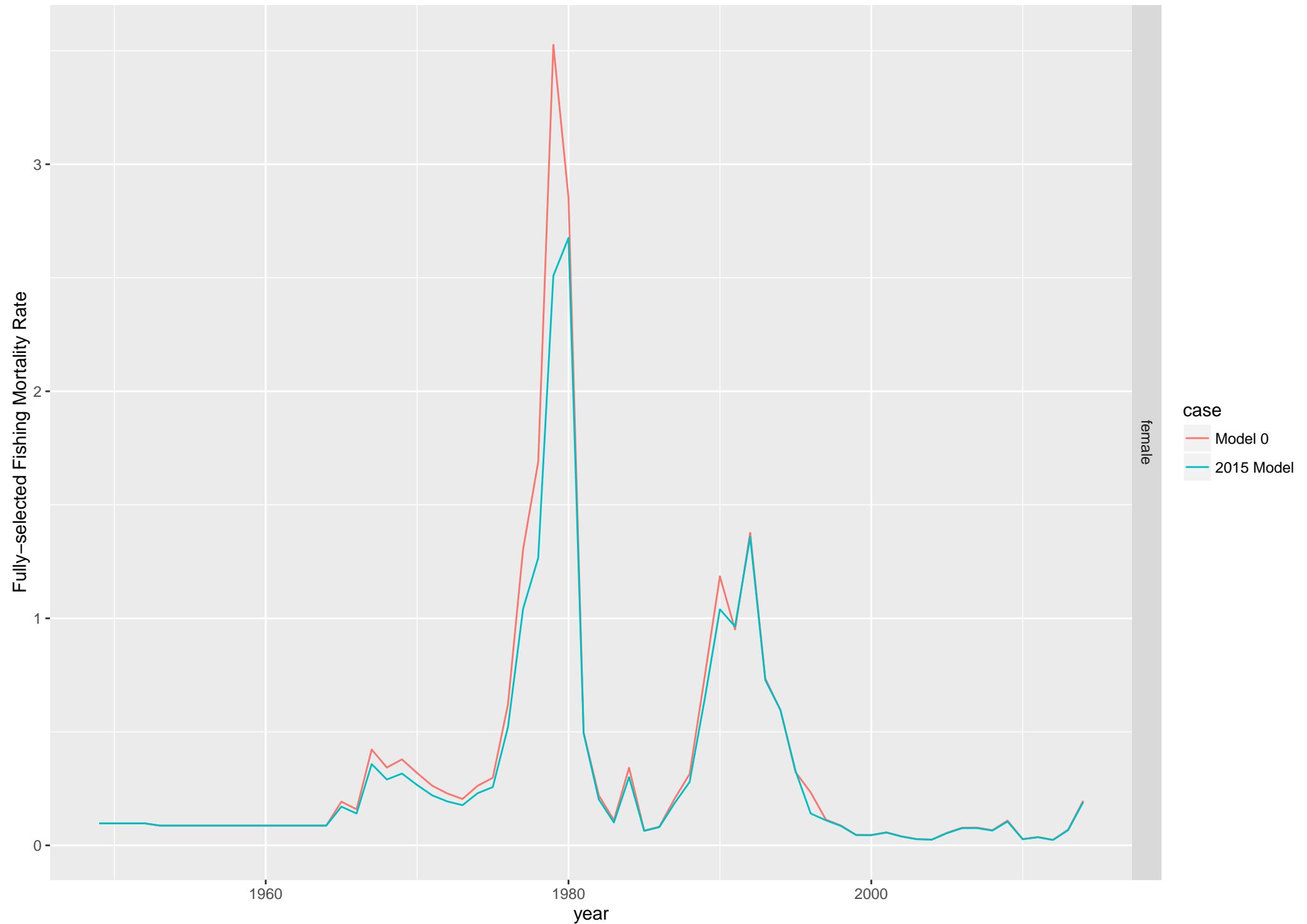
Males, directed fishery total mortality rate



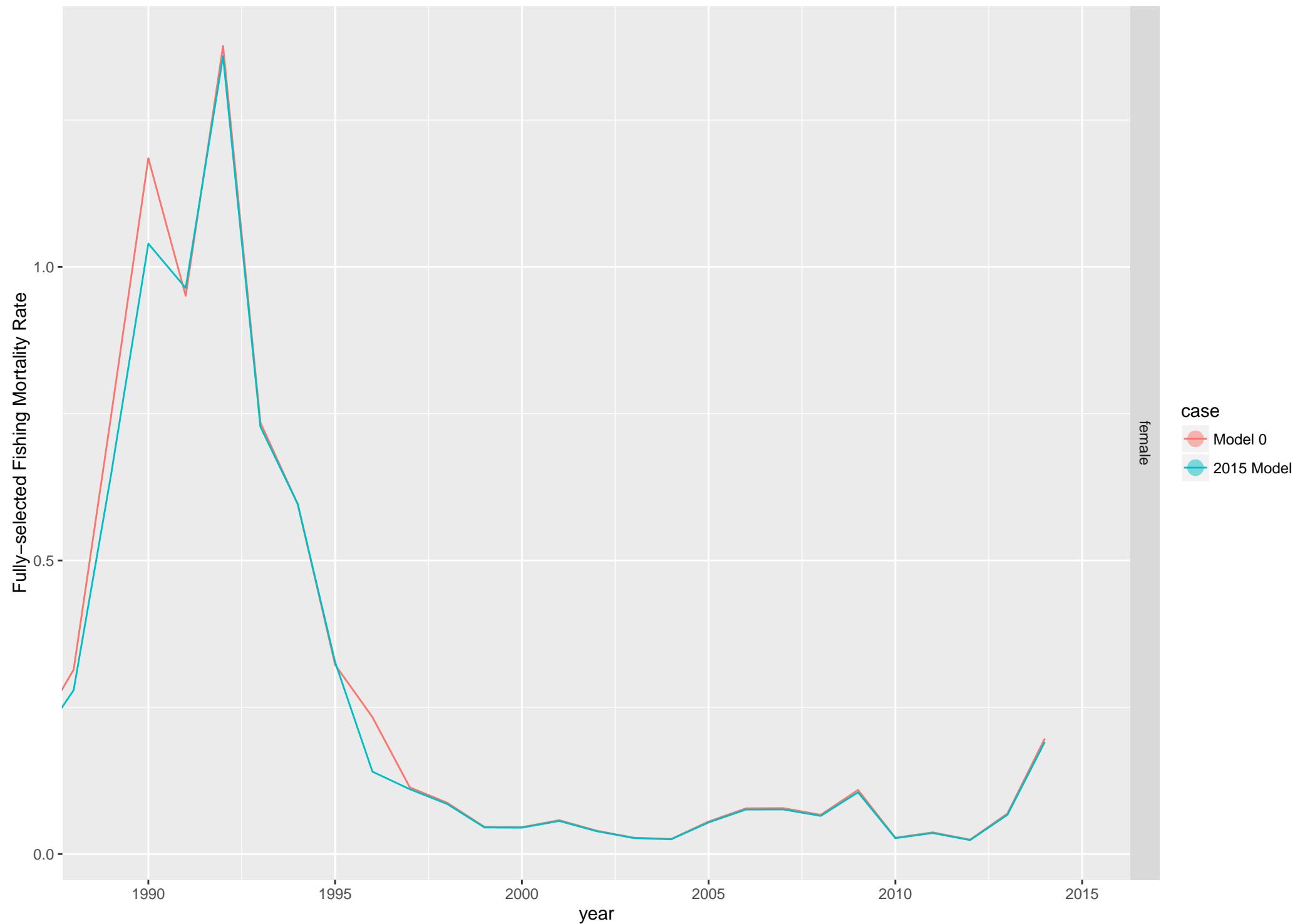
Males, directed fishery total mortality rate



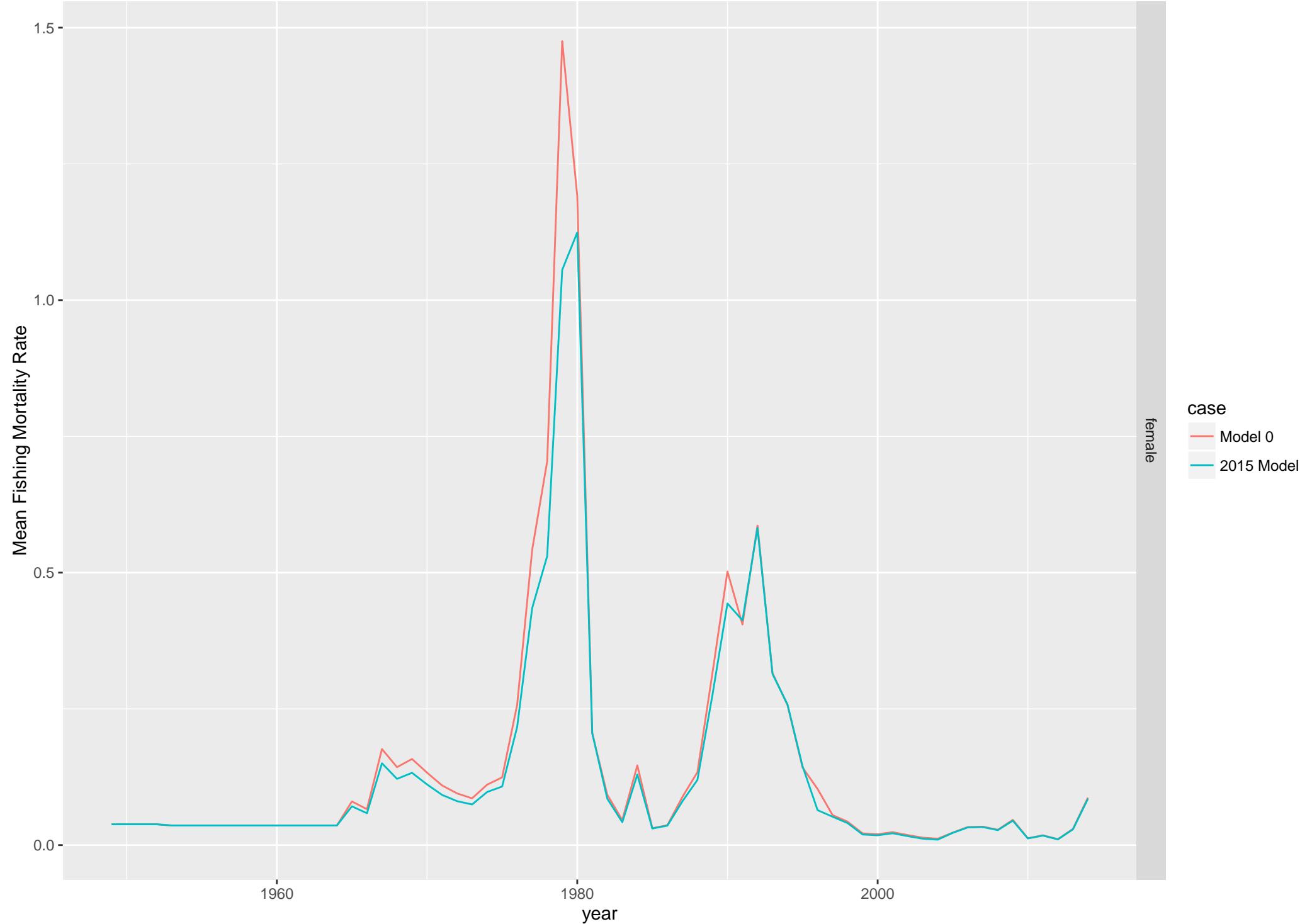
Females, directed fishery bycatch mortality rate



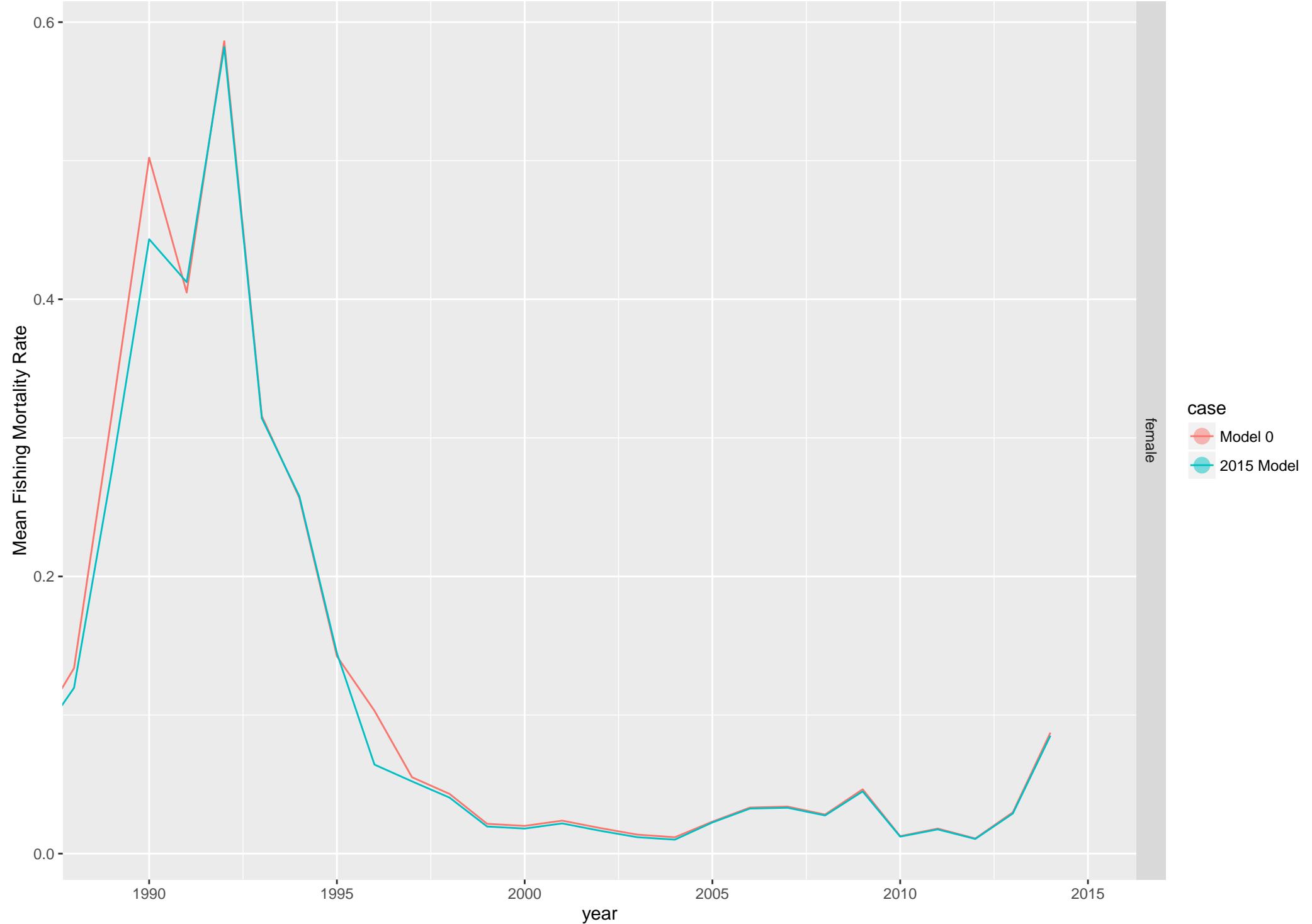
Females, directed fishery bycatch mortality rate



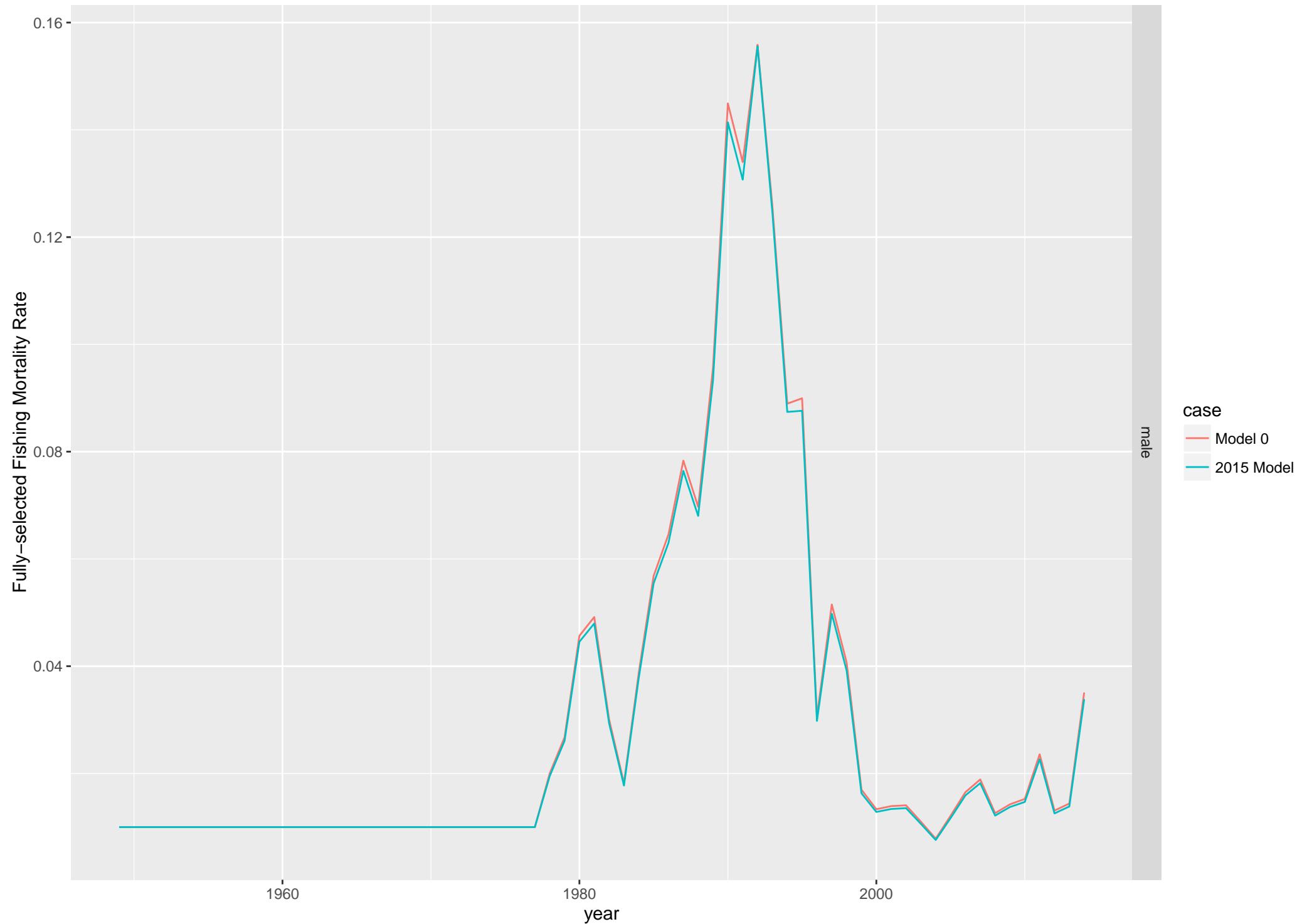
Females, directed fishery bycatch mortality rate



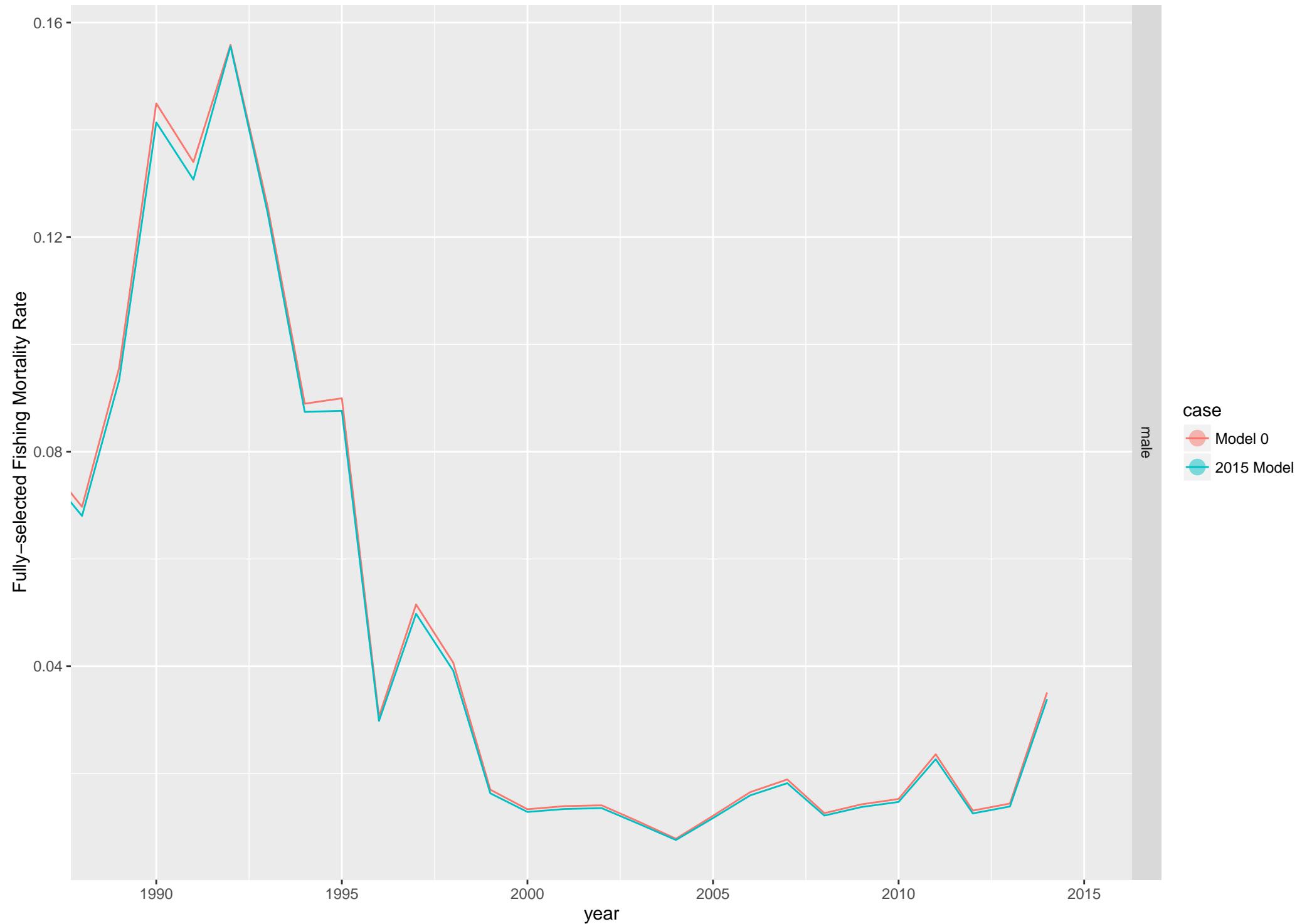
Females, directed fishery bycatch mortality rate



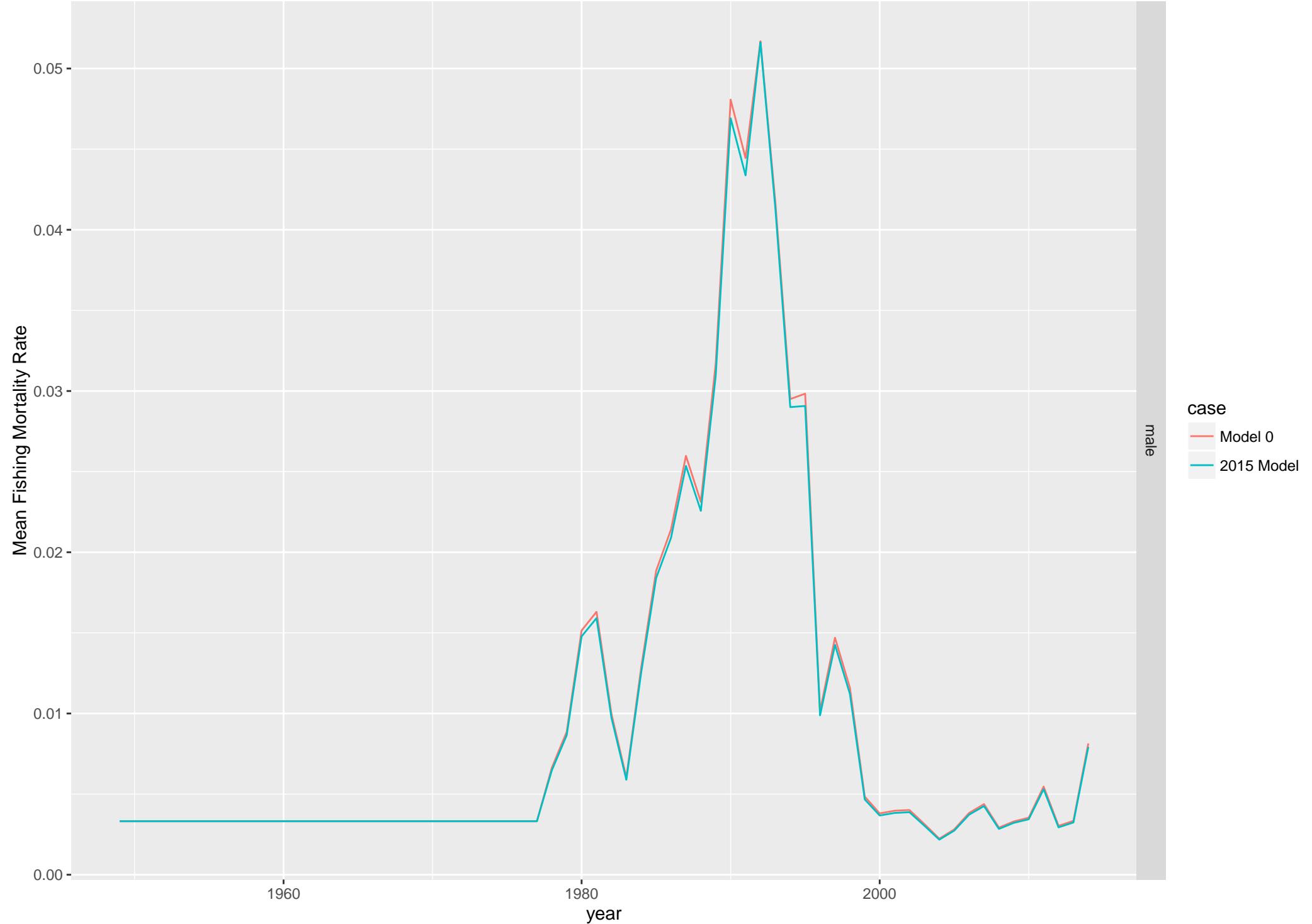
Snow crab bycatch mortality rate on males



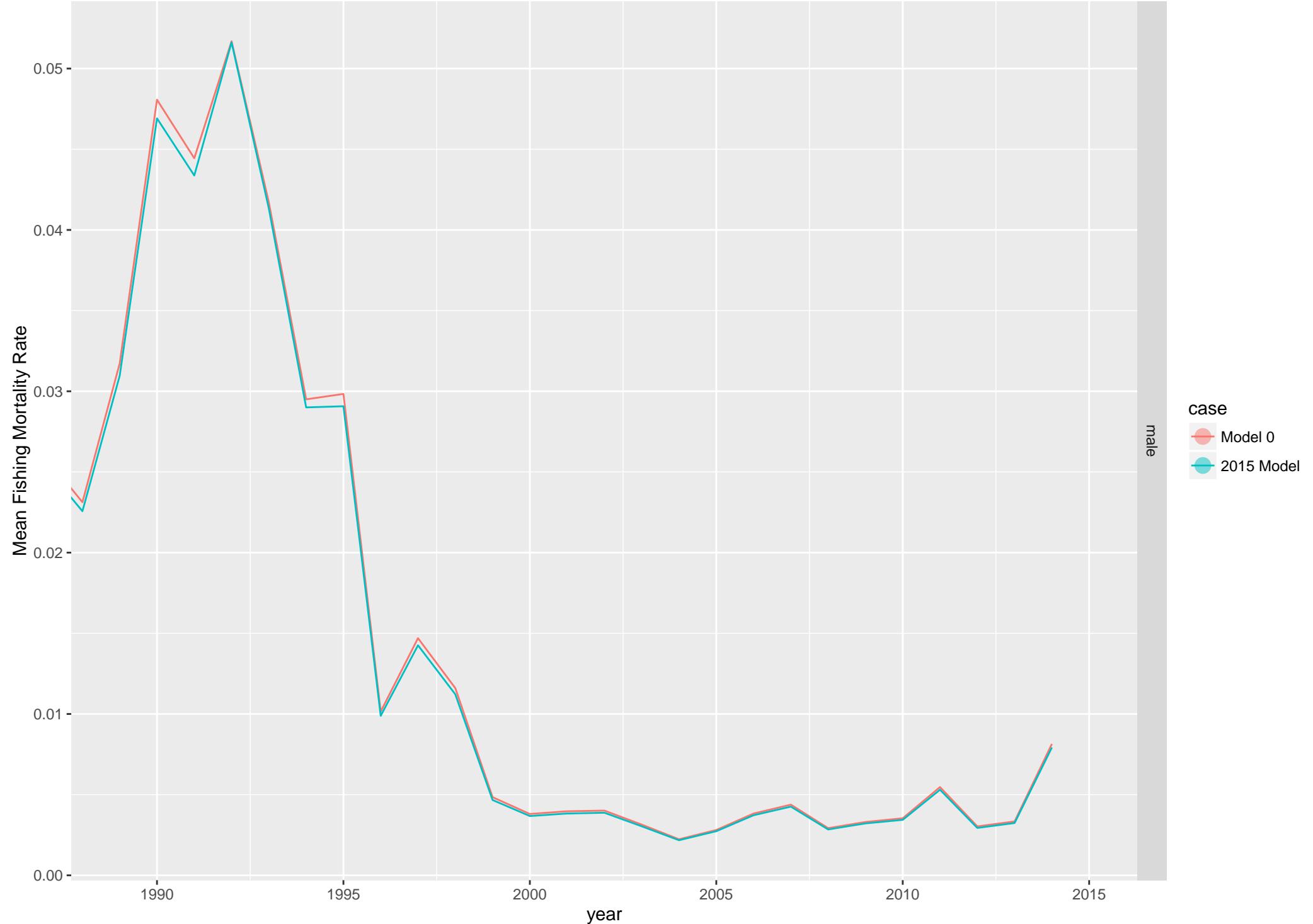
Snow crab bycatch mortality rate on males



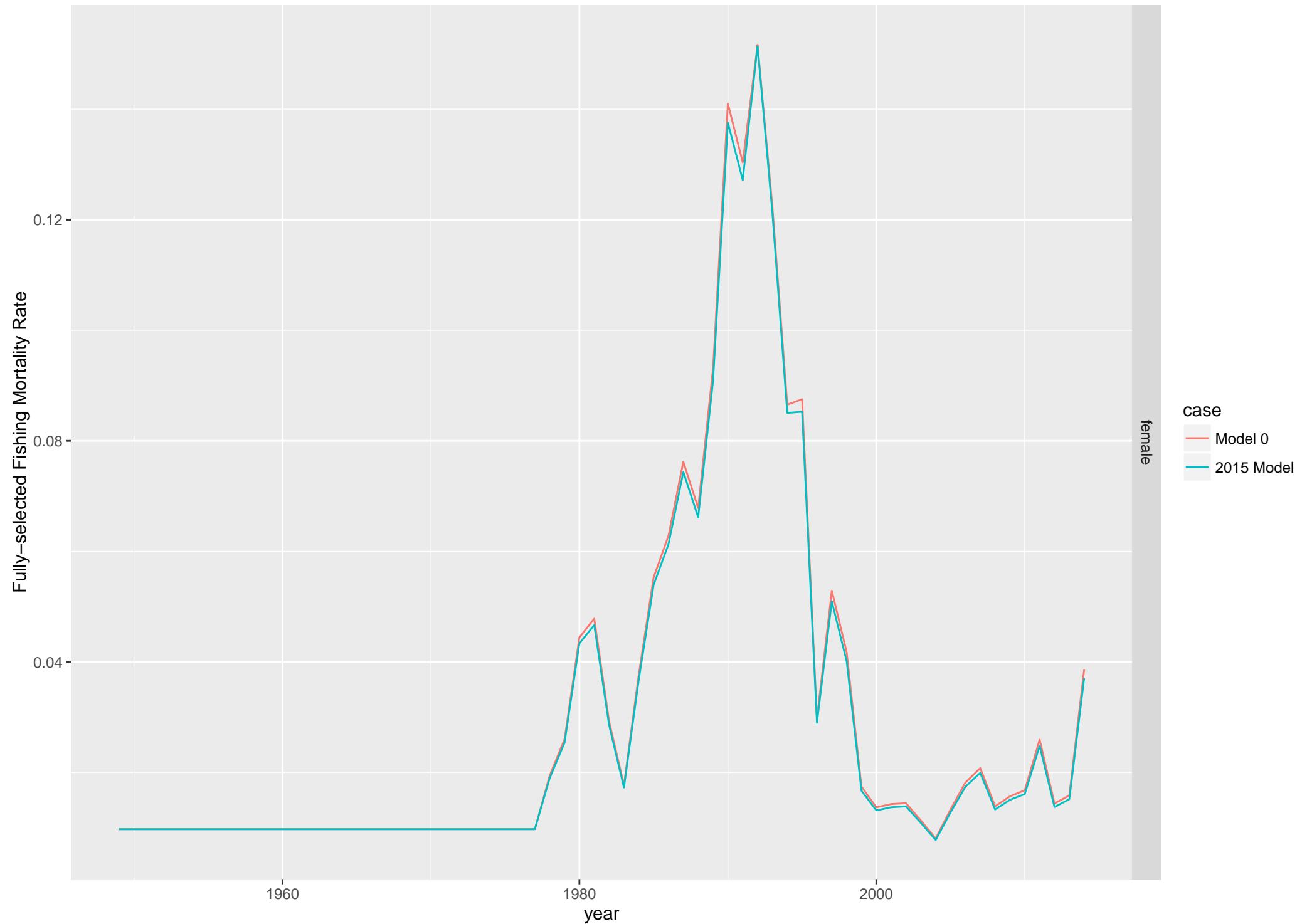
Snow crab bycatch mortality rate on males



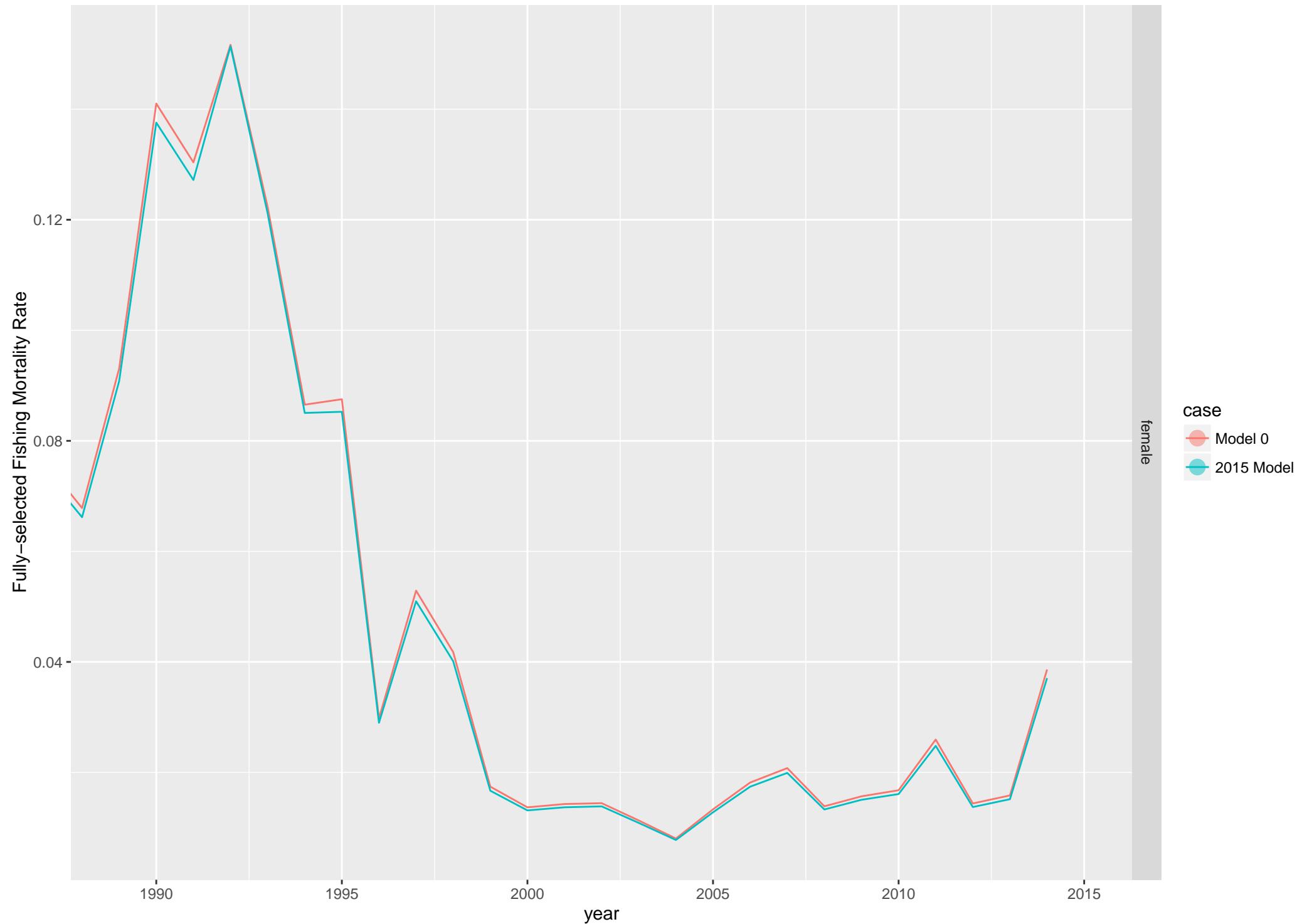
Snow crab bycatch mortality rate on males



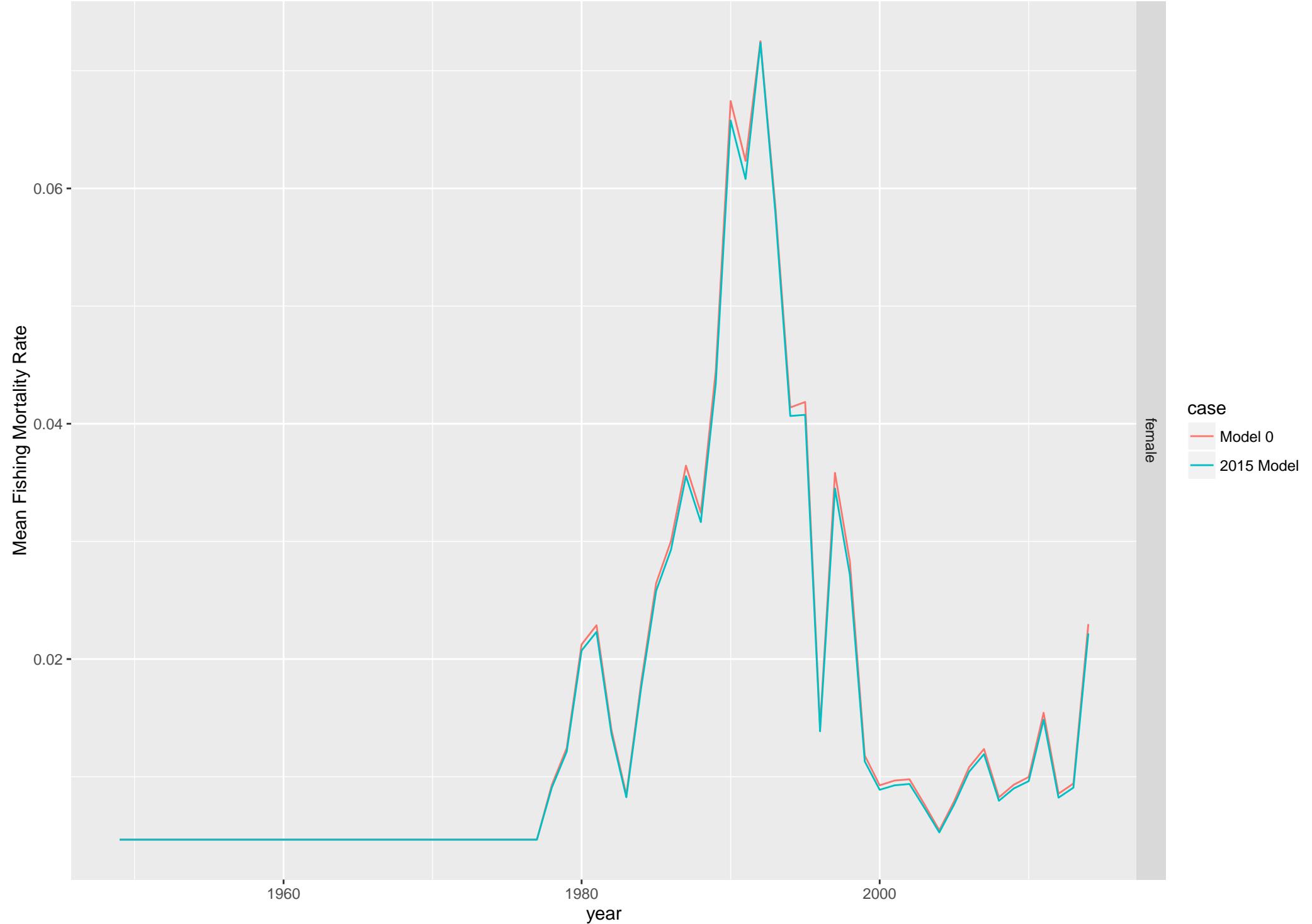
Snow crab bycatch mortality rate on females



Snow crab bycatch mortality rate on females



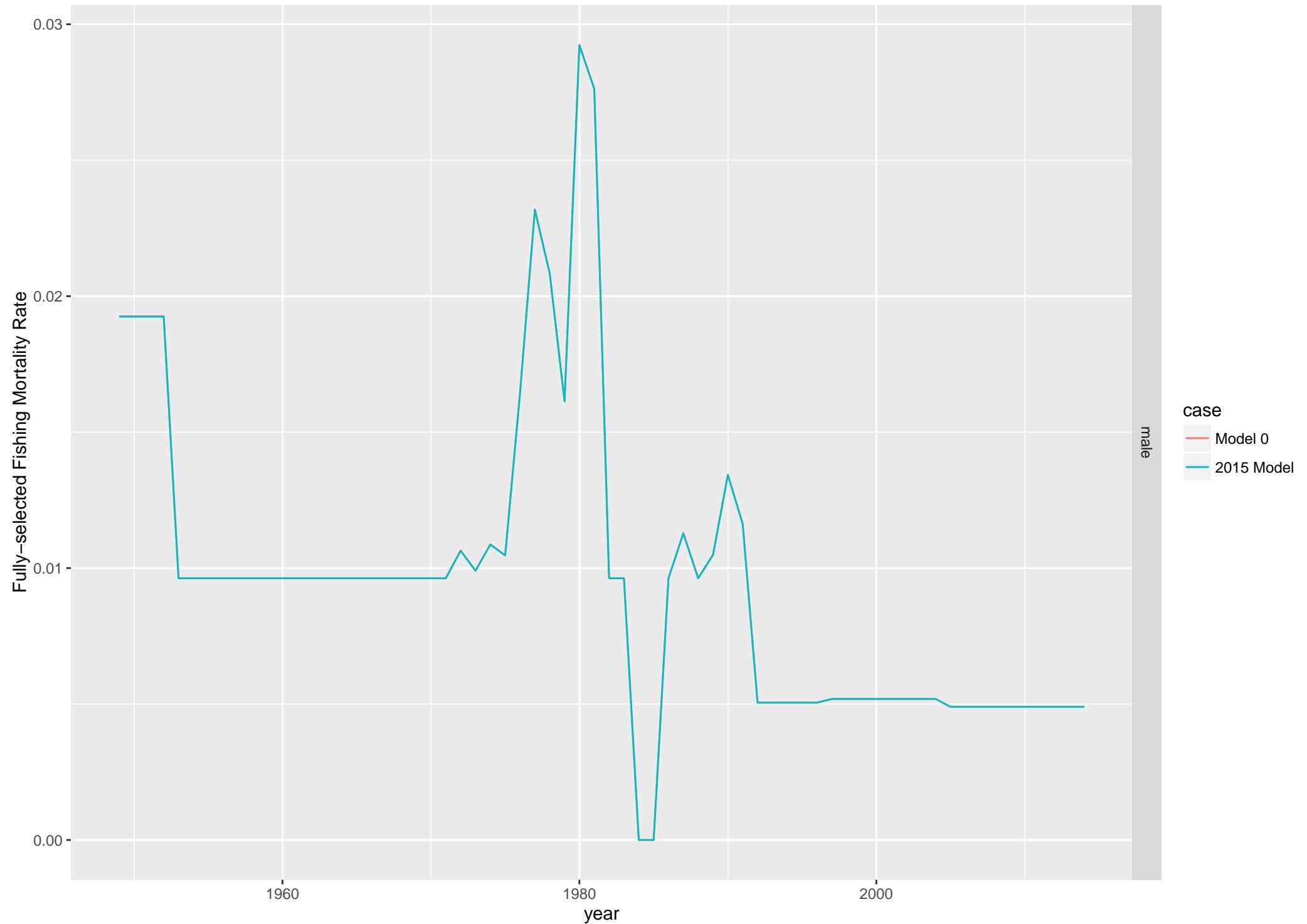
Snow crab bycatch mortality rate on females



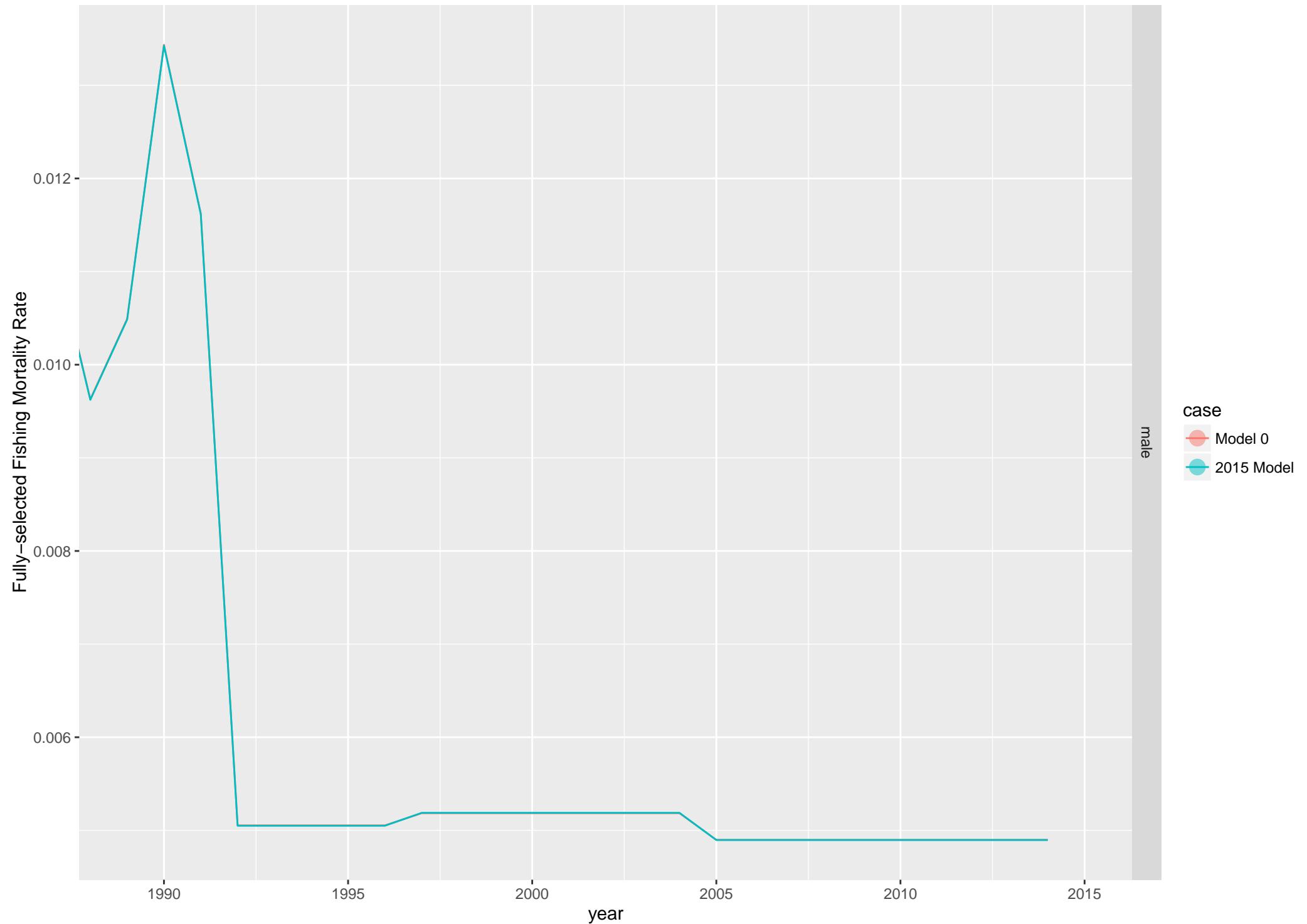
Snow crab bycatch mortality rate on females



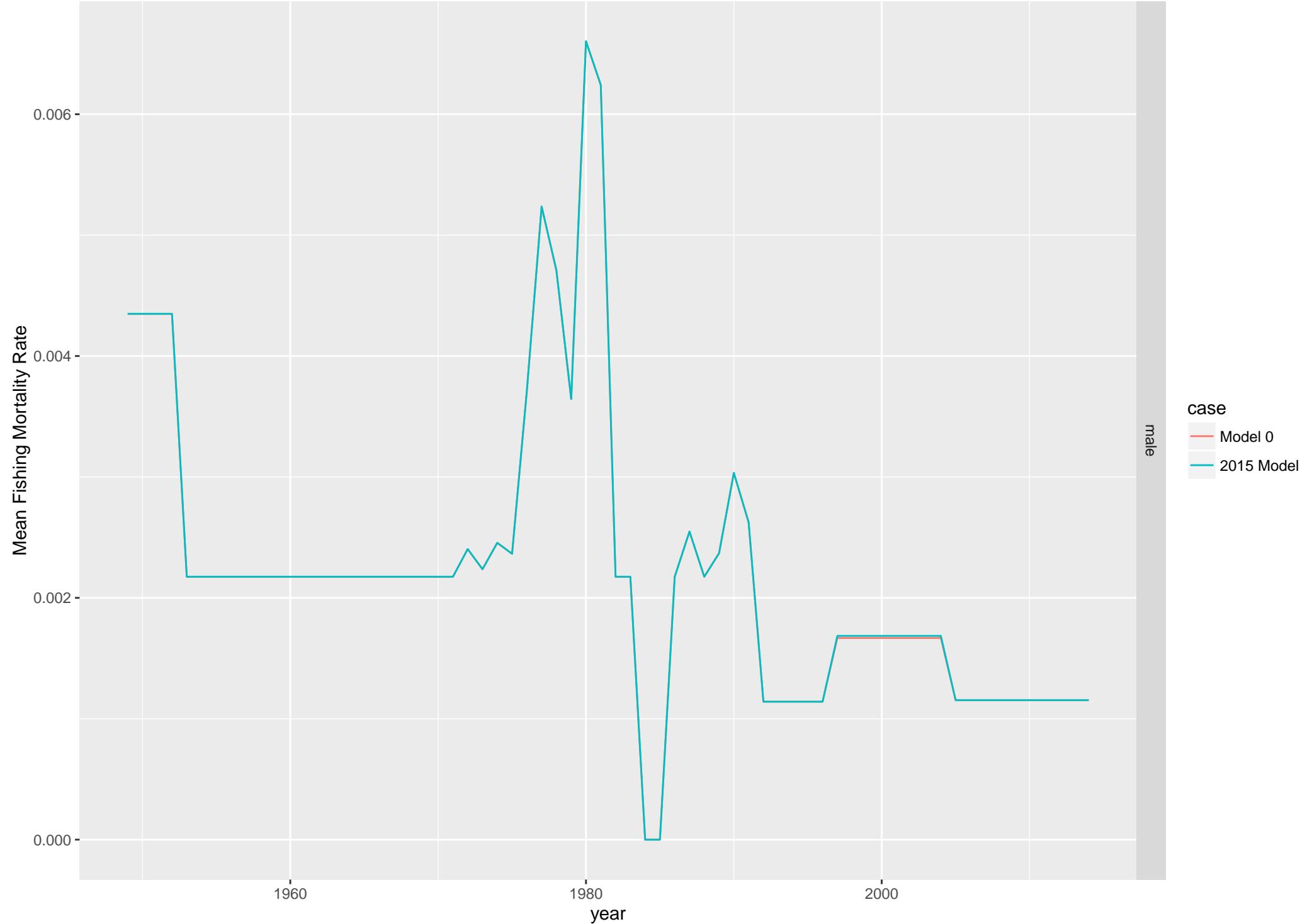
BBRKC bycatch mortality rate on males



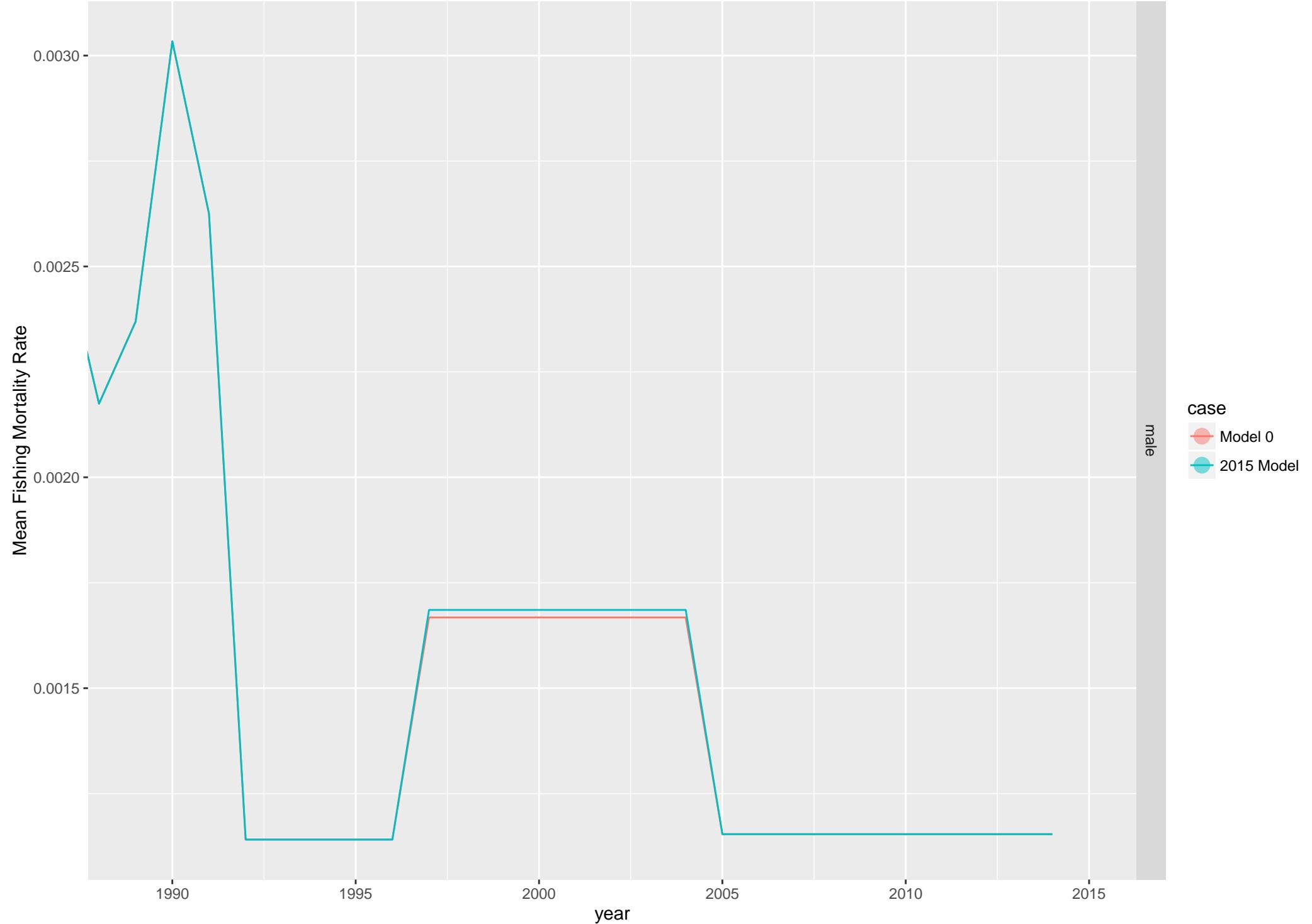
BBRKC bycatch mortality rate on males



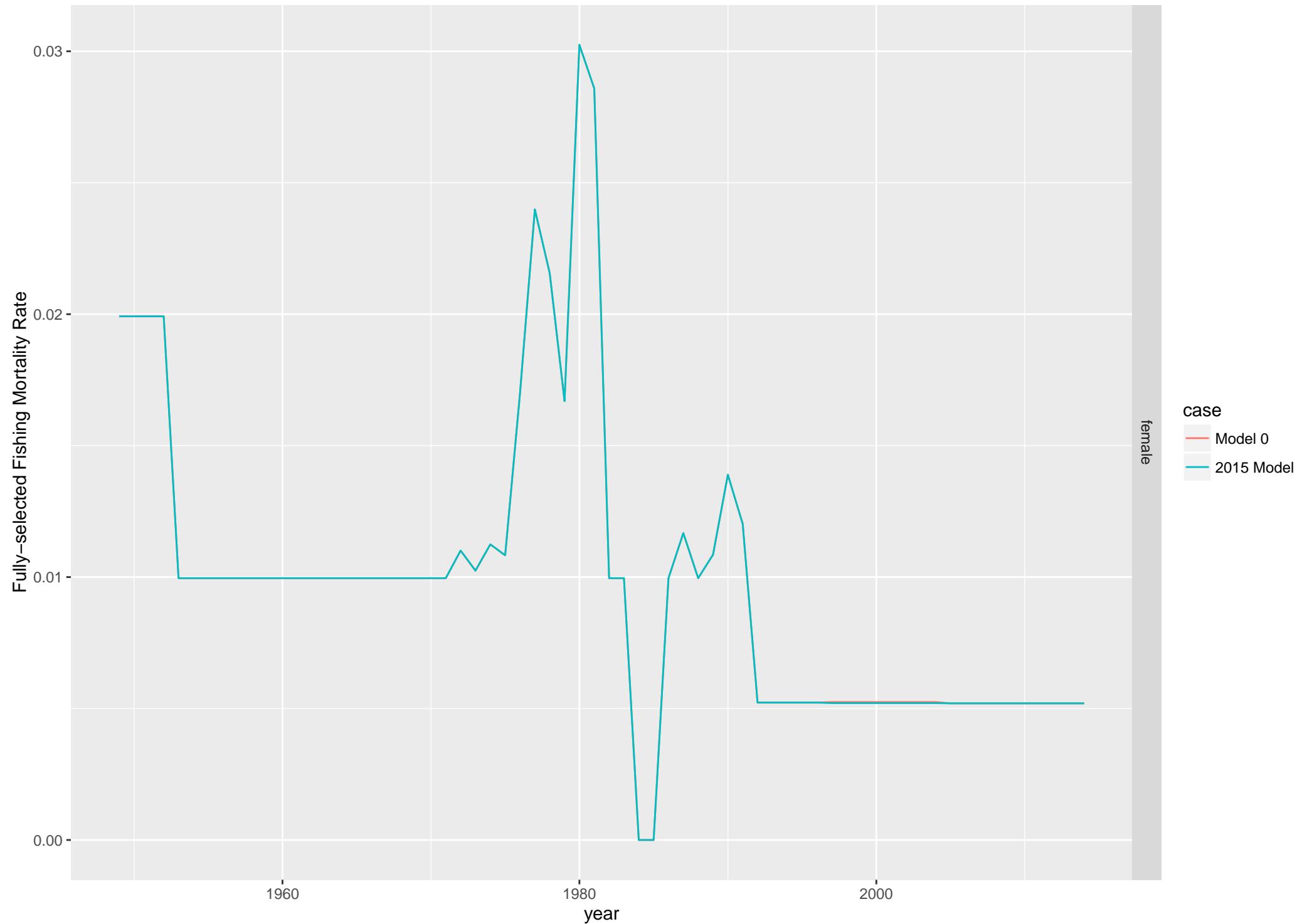
BBRKC bycatch mortality rate on males



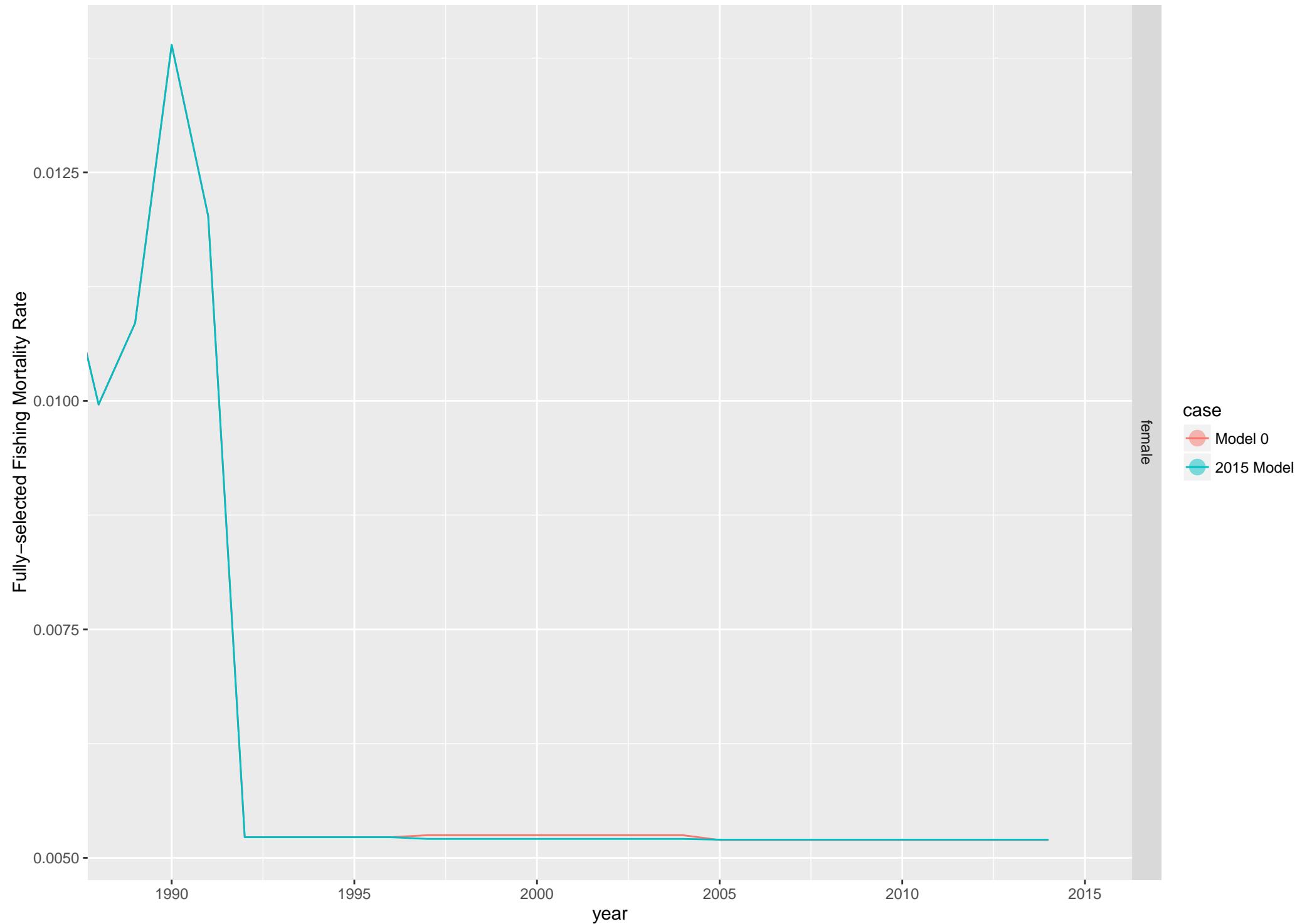
BBRKC bycatch mortality rate on males



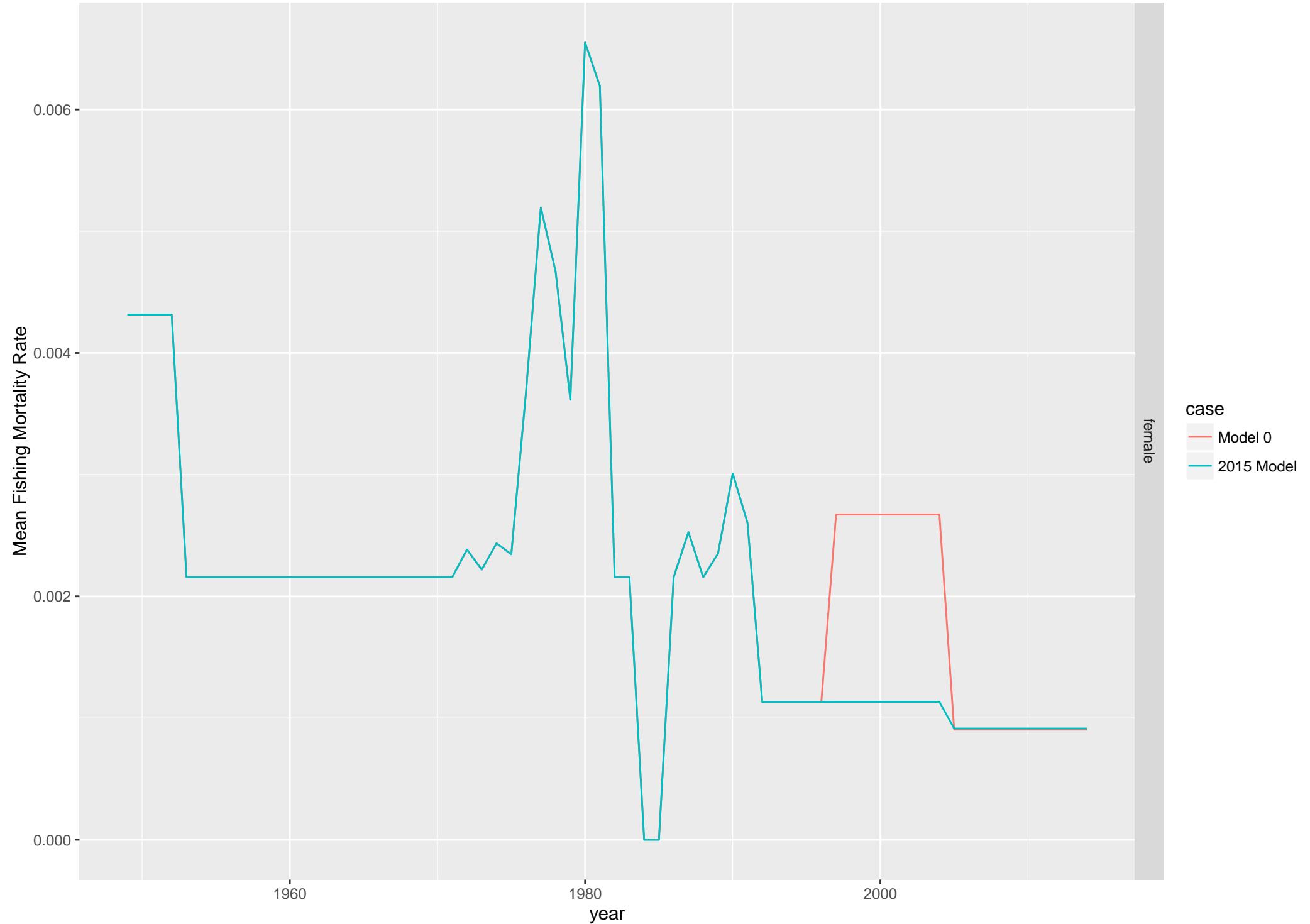
BBRKC bycatch mortality rate on females



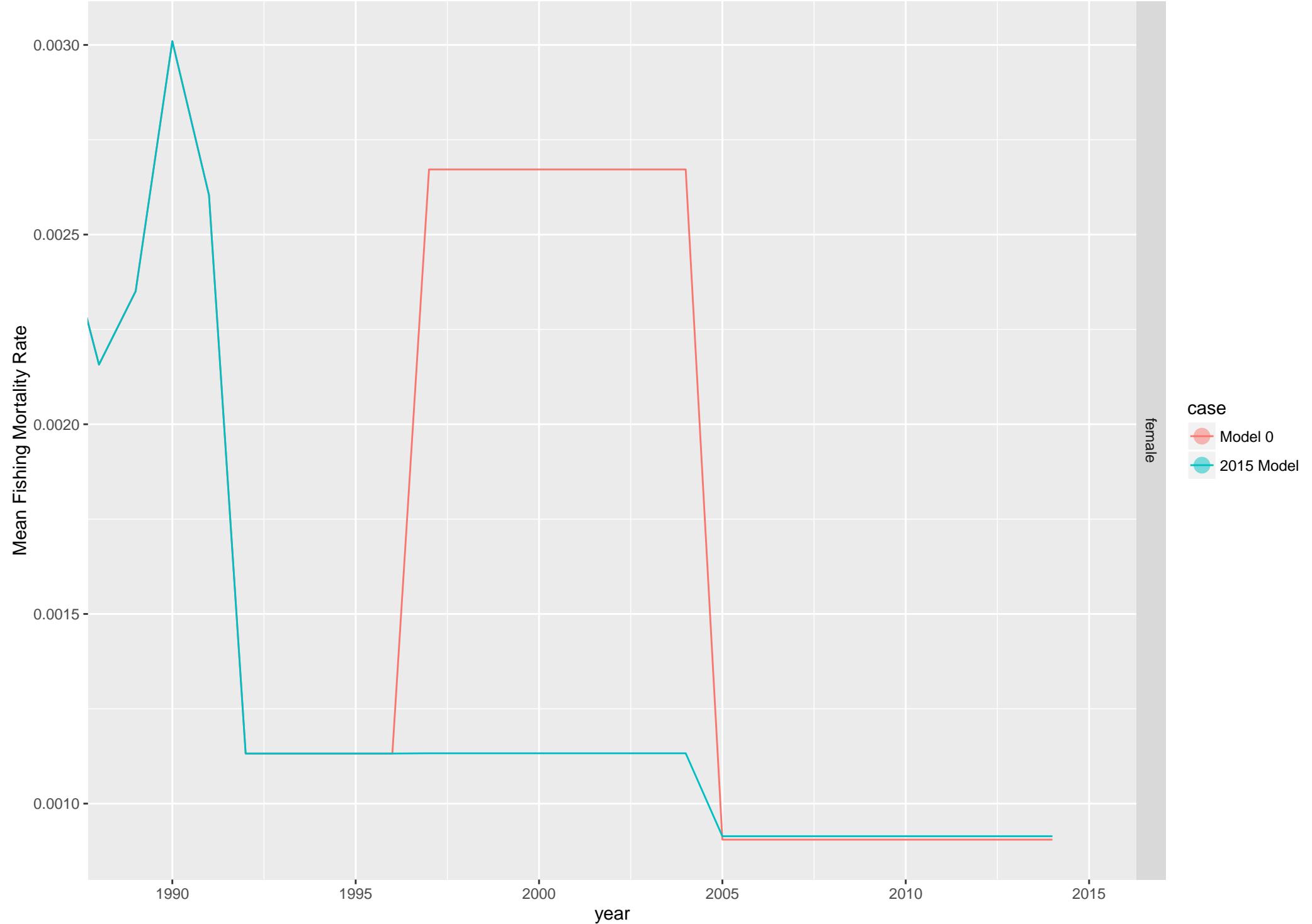
BBRKC bycatch mortality rate on females



BBRKC bycatch mortality rate on females

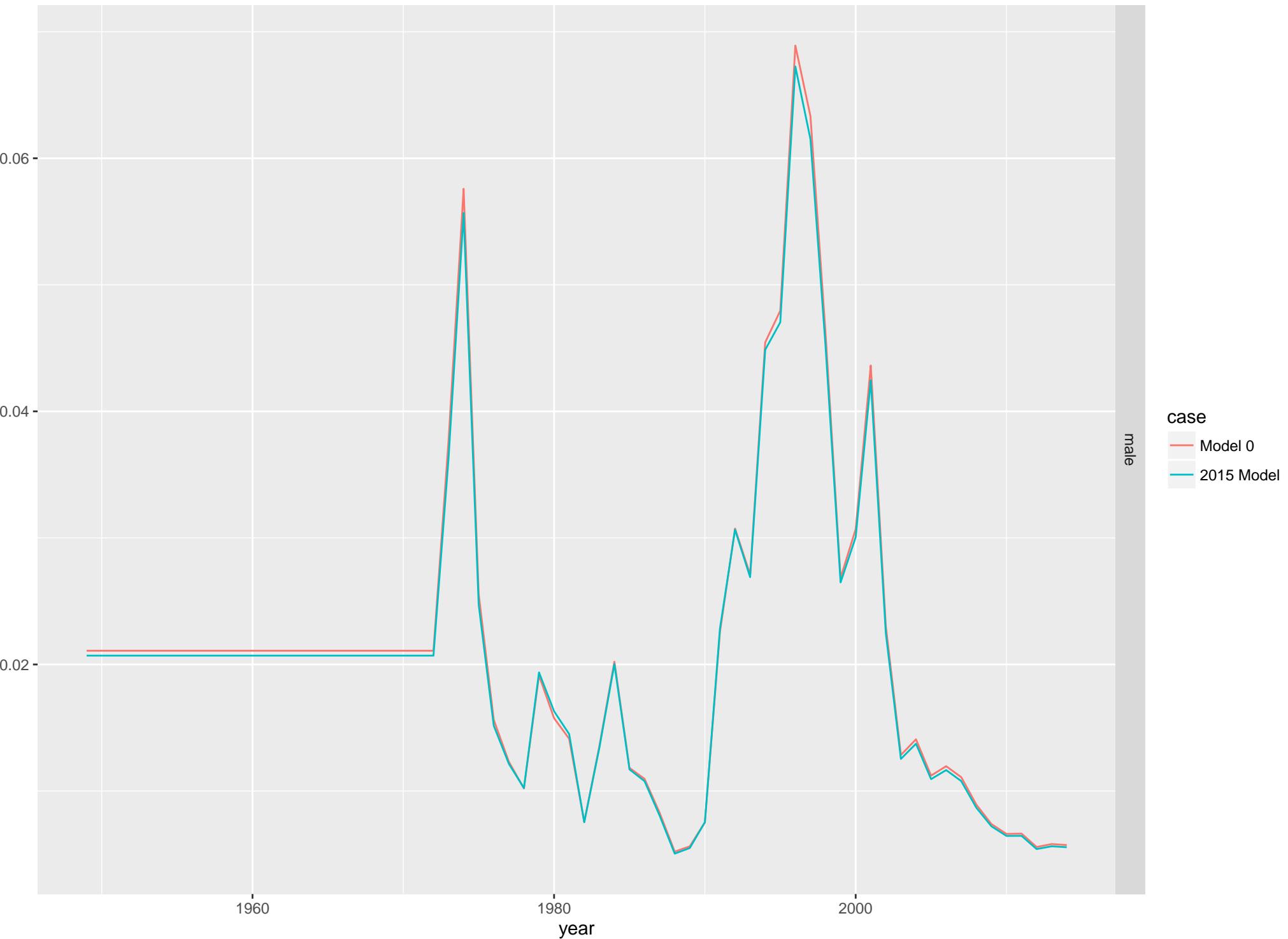


BBRKC bycatch mortality rate on females



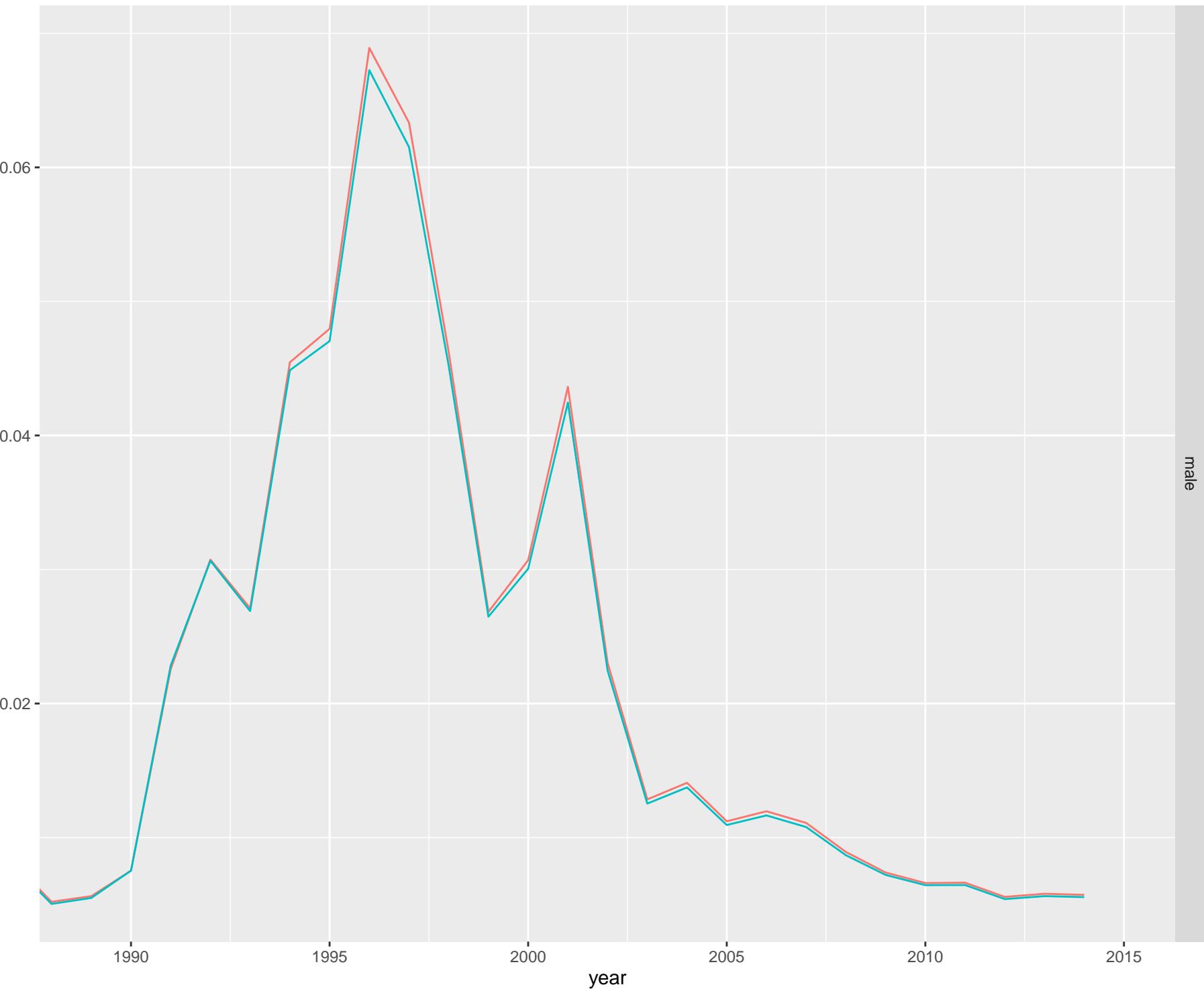
Groundfish bycatch fishing mortality

Fully-selected Fishing Mortality Rate



Groundfish bycatch fishing mortality

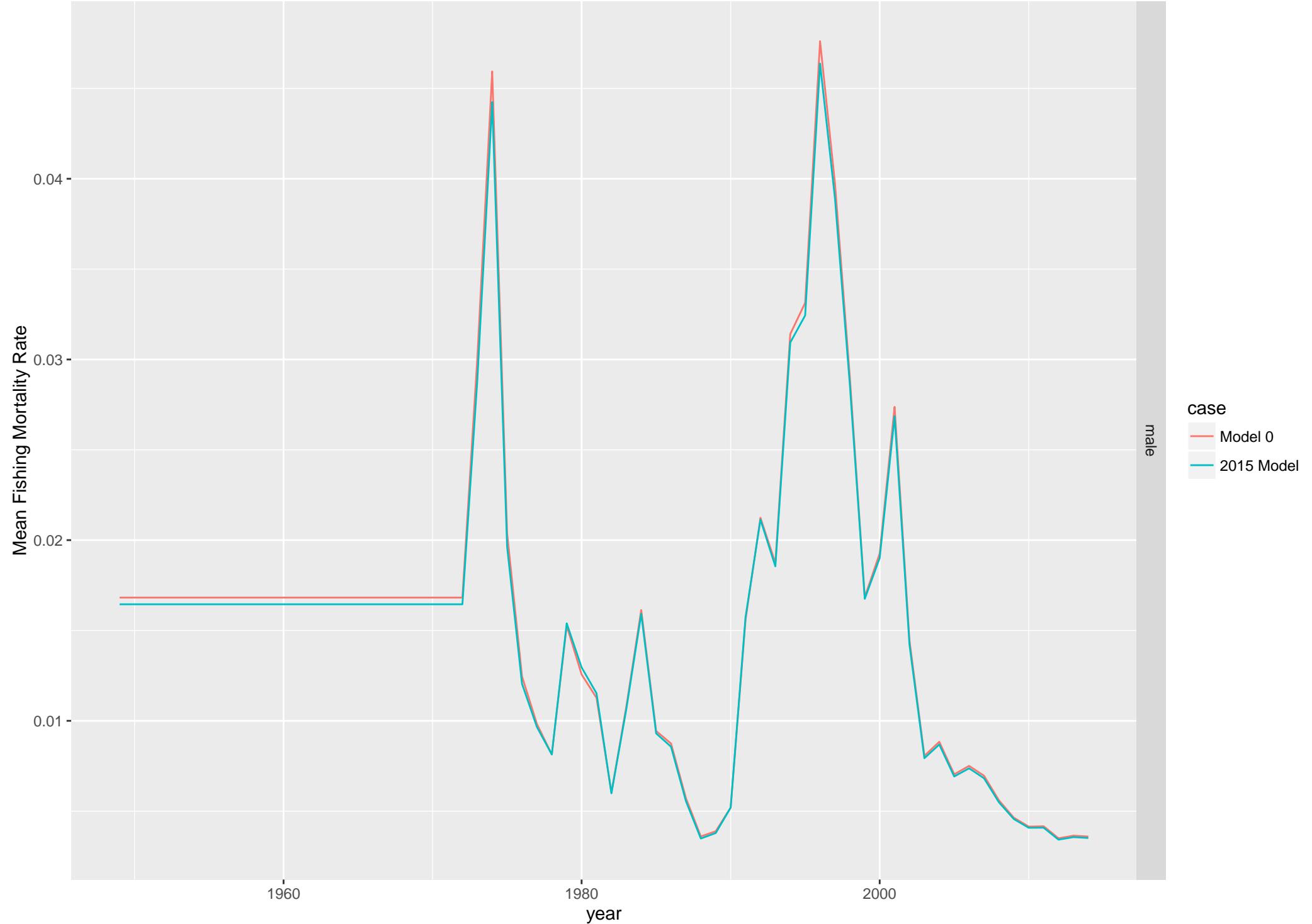
Fully-selected Fishing Mortality Rate



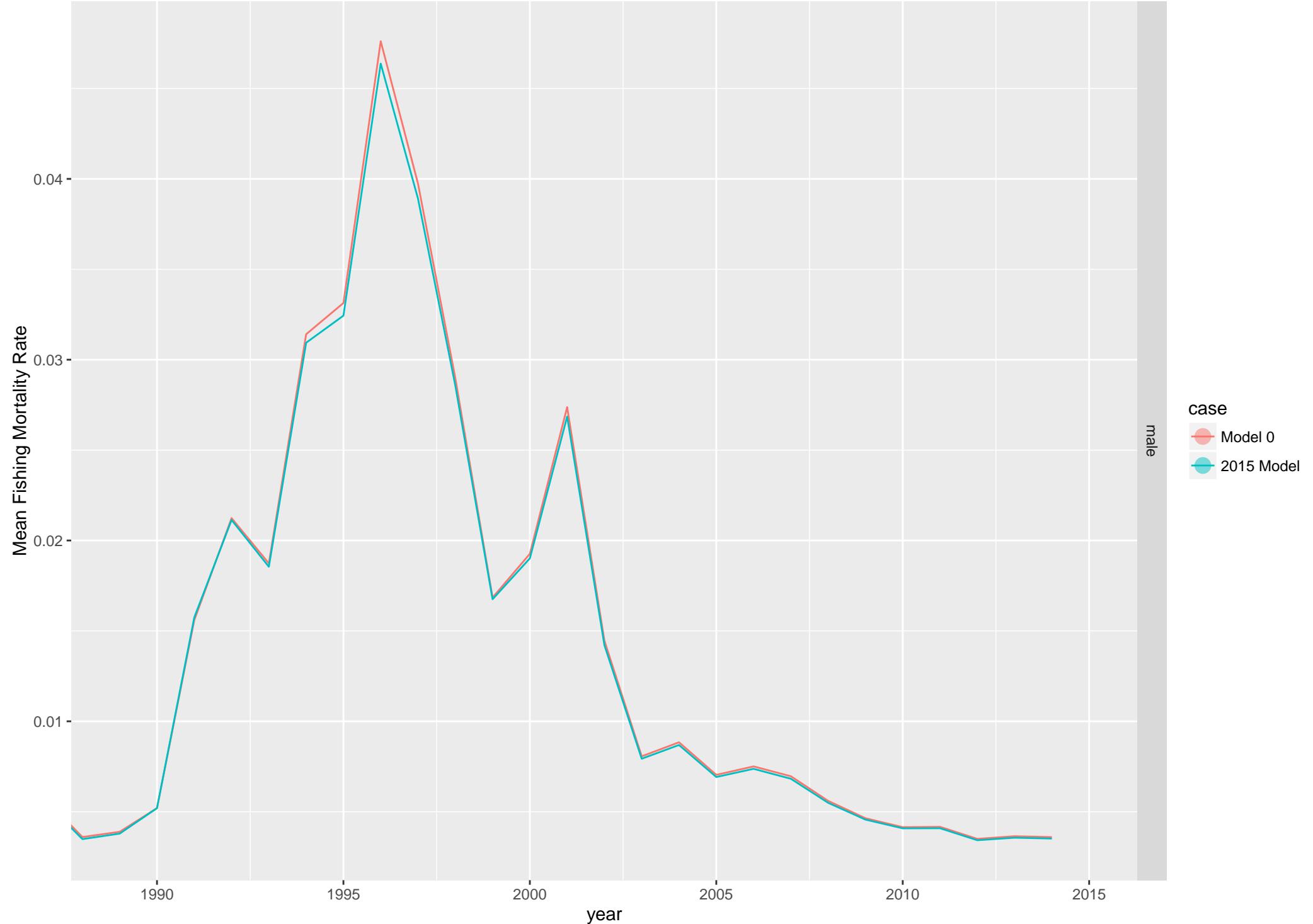
case
Model 0
2015 Model

male

Groundfish bycatch fishing mortality



Groundfish bycatch fishing mortality



relative to Model 0

■ 2015 Model

penalty on F-devs in groundfish fishery

penalty on F-devs in BBRKC fishery

penalty on F-devs in snow crab fishery

penalty on F-devs in directed fishery

1st difference penalty on changes in male size at 50% selectivity in directed fishery

smoothing penalty on male maturity curve

smoothing penalty on female maturity curve

prior on male growth parameter b

prior on male growth parameter a

prior on female growth parameter b

prior on female growth parameter a

female survey q penalty

survey q penalty

mature female natural mortality penalty

mature male natural mortality penalty

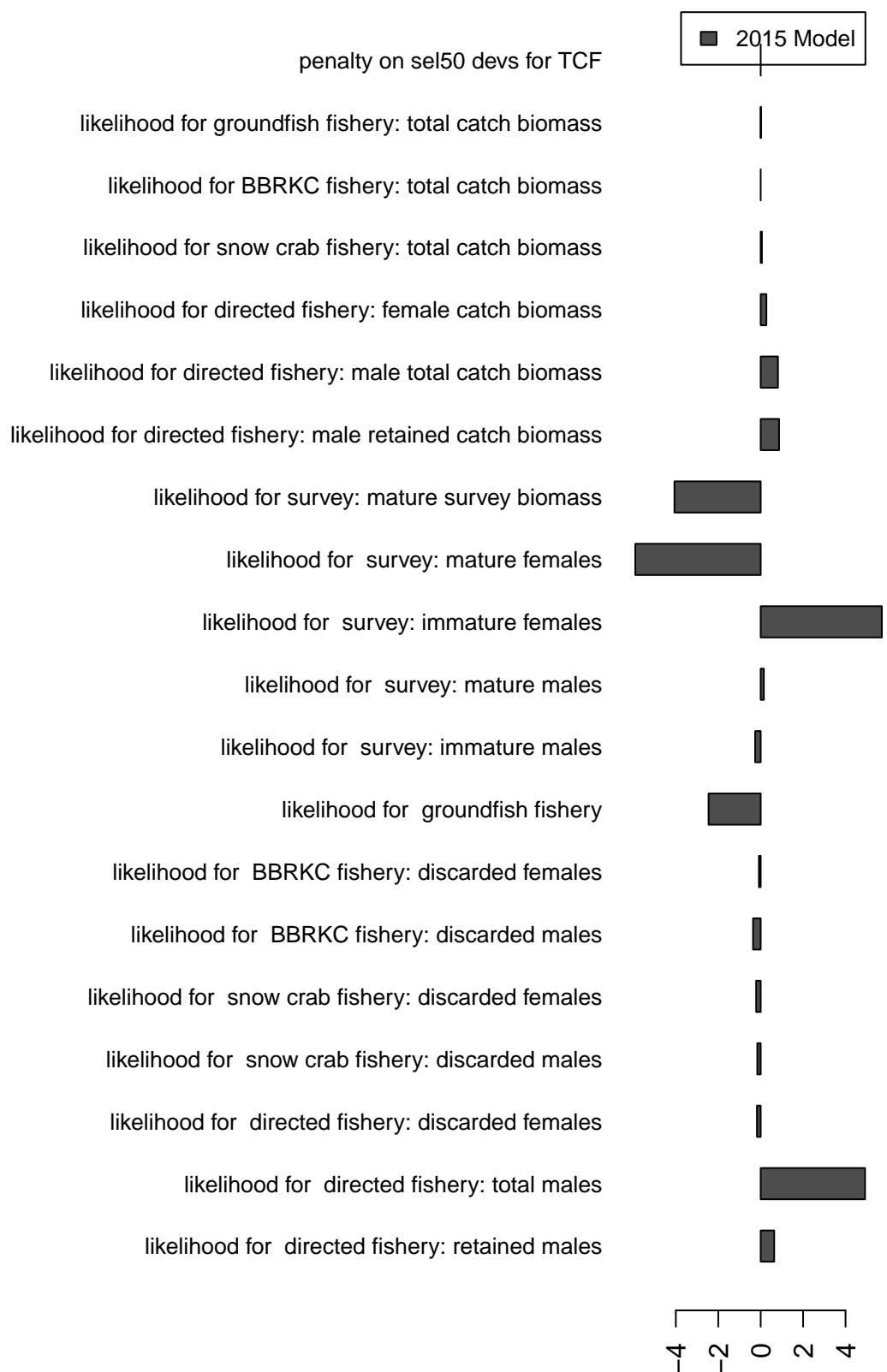
immatures natural mortality penalty

sex ratio penalty

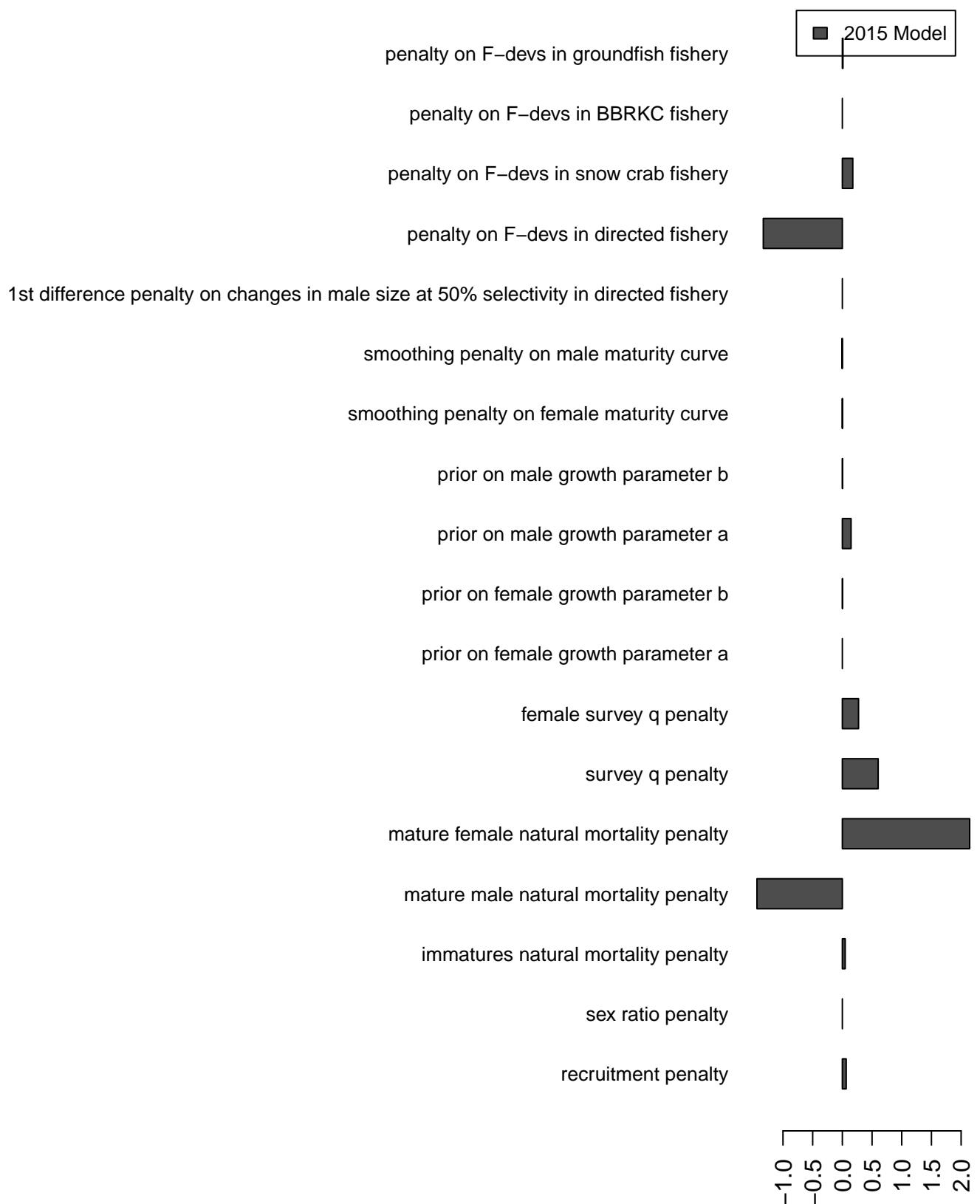
recruitment penalty



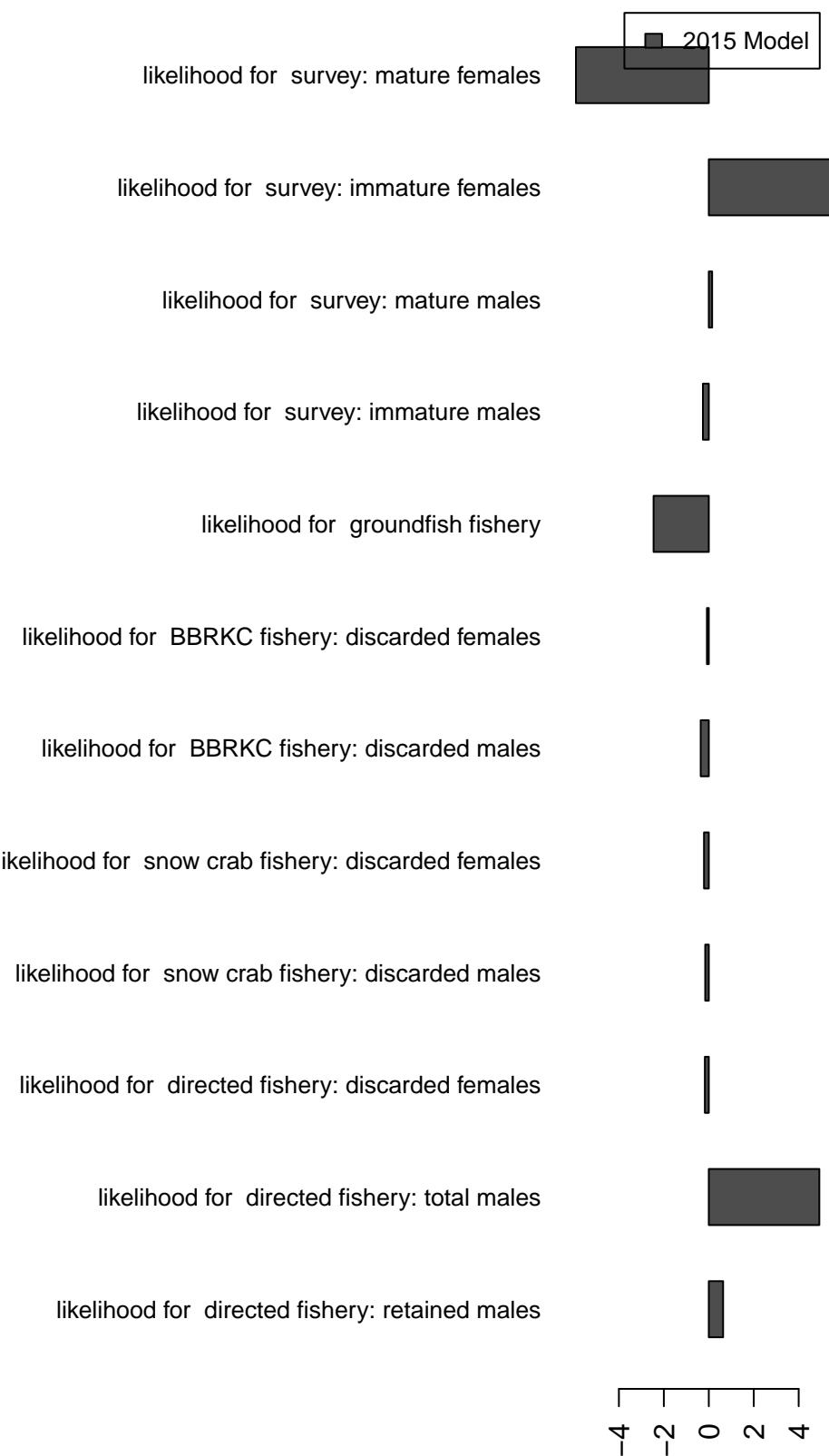
relative to Model 0



relative to Model 0



relative to Model 0



relative to Model 0

■ 2015 Model

penalty on sel50 devs for TCF

likelihood for groundfish fishery: total catch biomass

likelihood for BBRKC fishery: total catch biomass

likelihood for snow crab fishery: total catch biomass

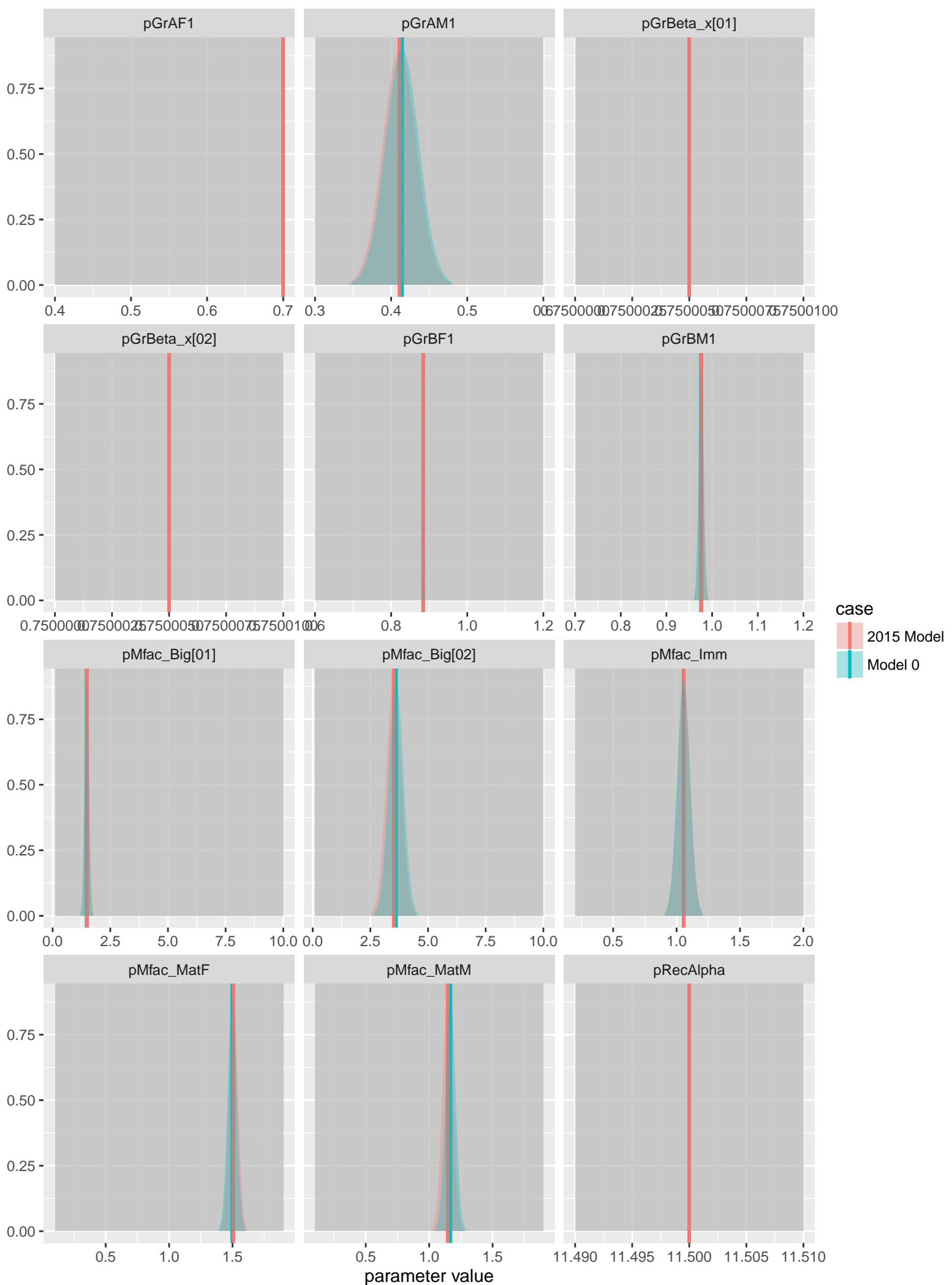
likelihood for directed fishery: female catch biomass

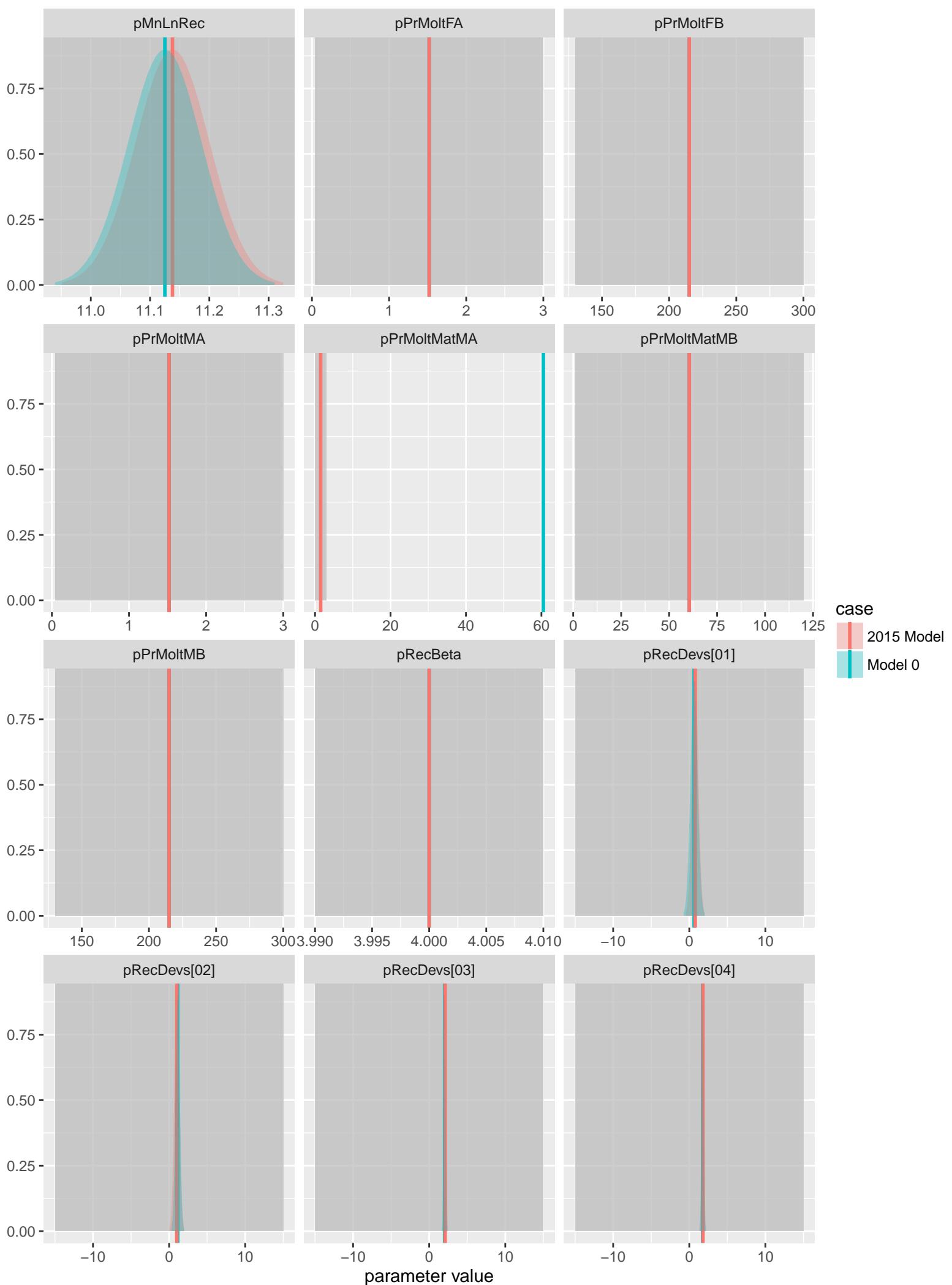
likelihood for directed fishery: male total catch biomass

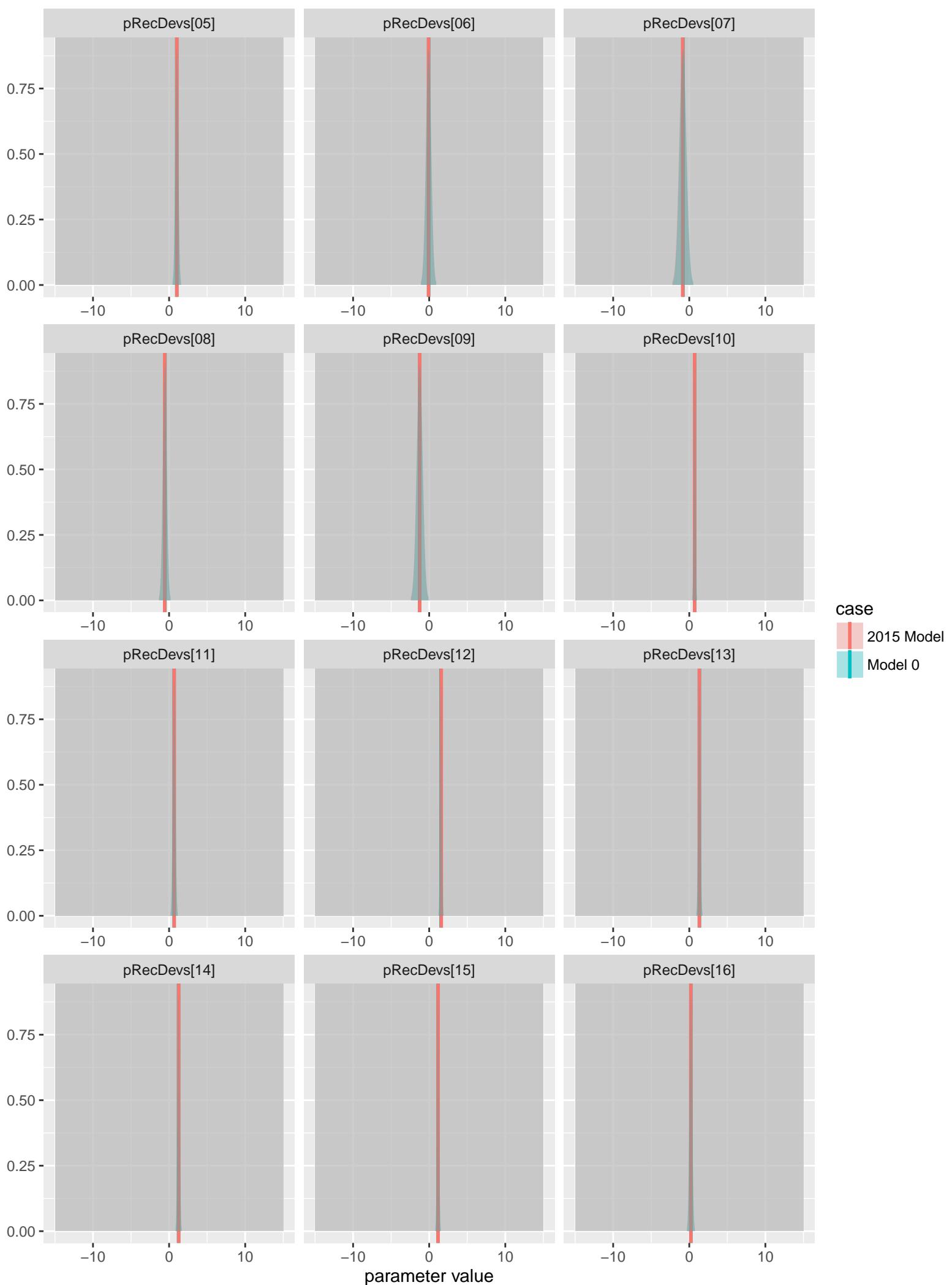
likelihood for directed fishery: male retained catch biomass

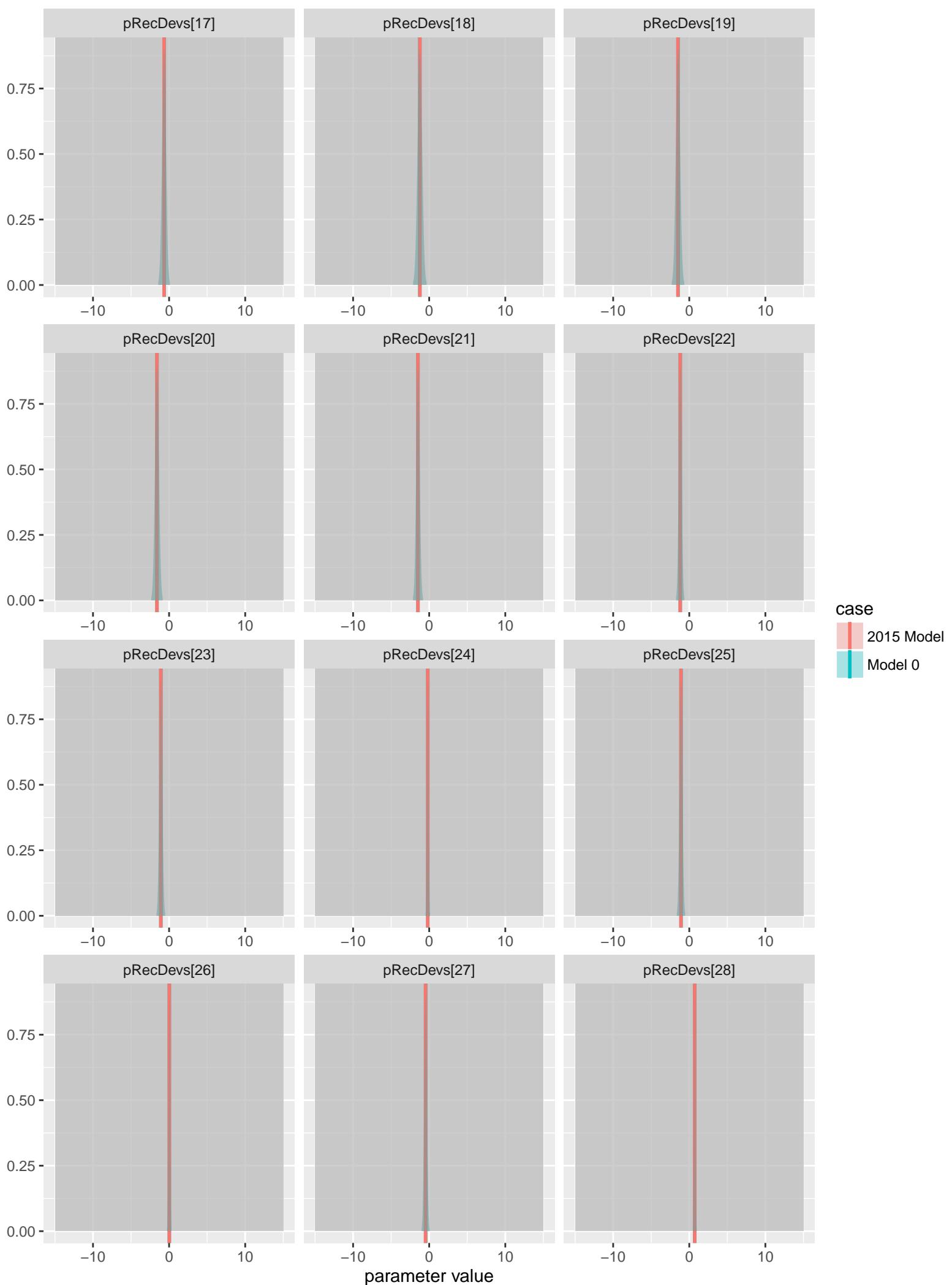
likelihood for survey: mature survey biomass

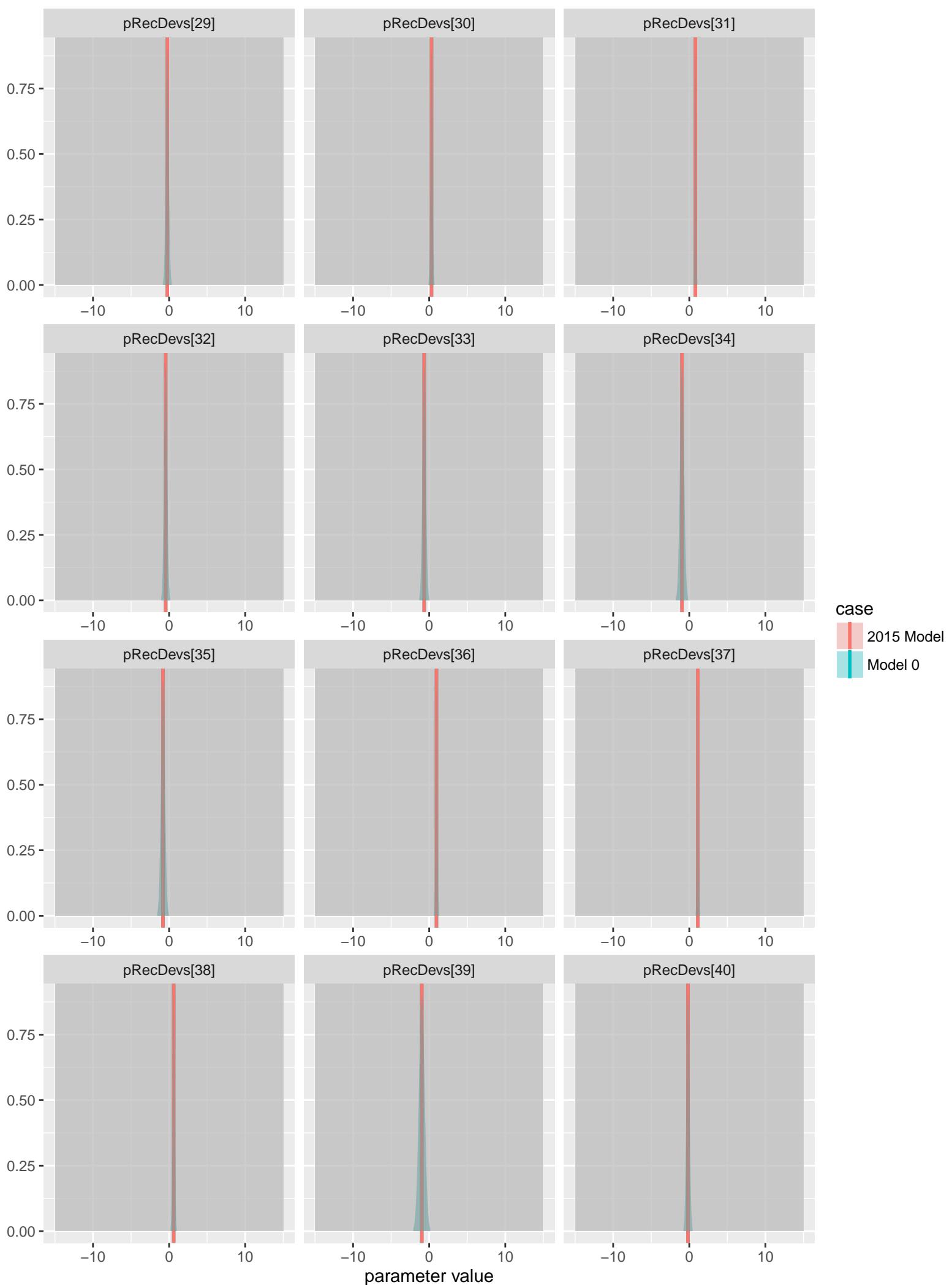
4 3 2 1 0

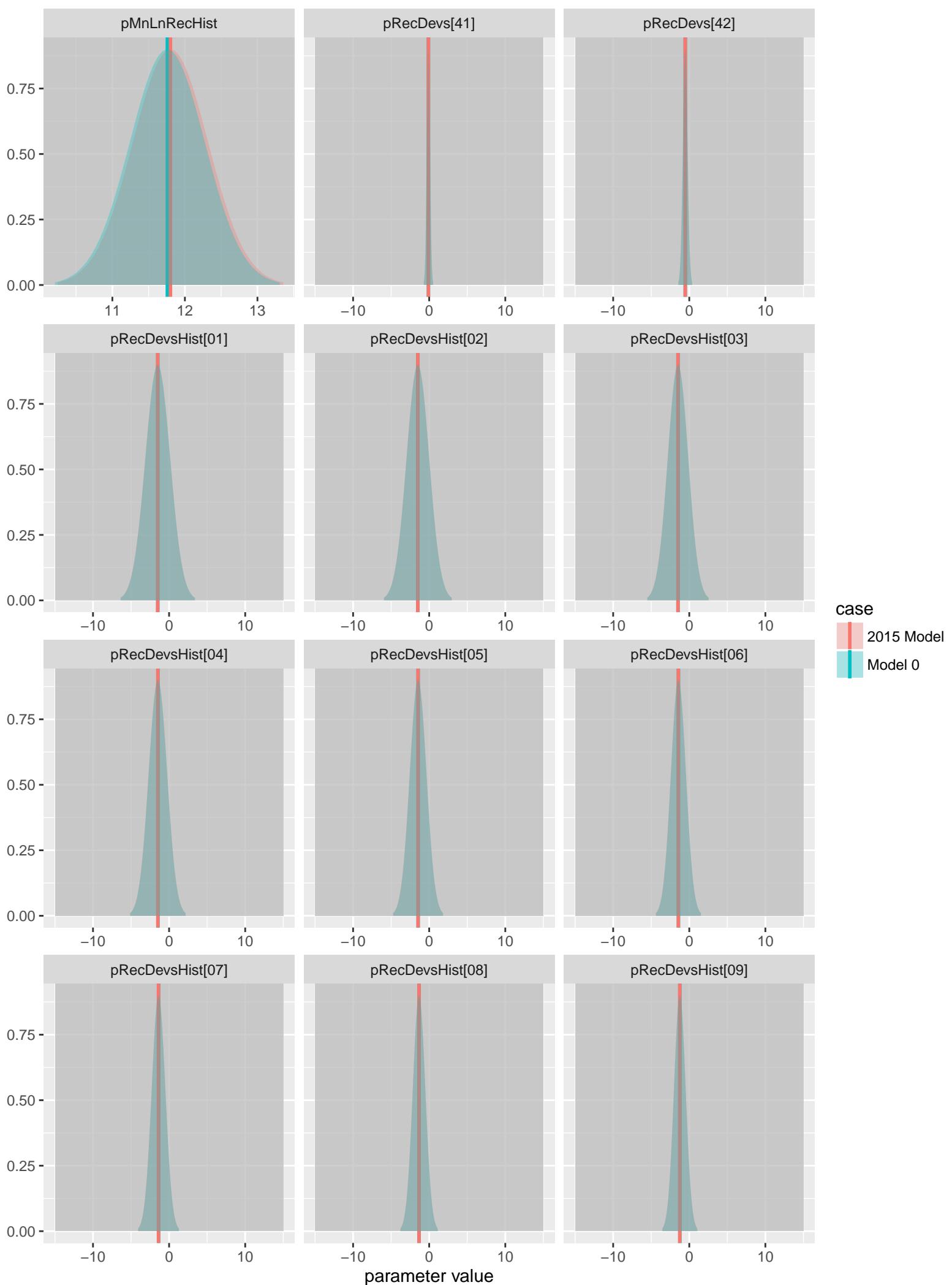


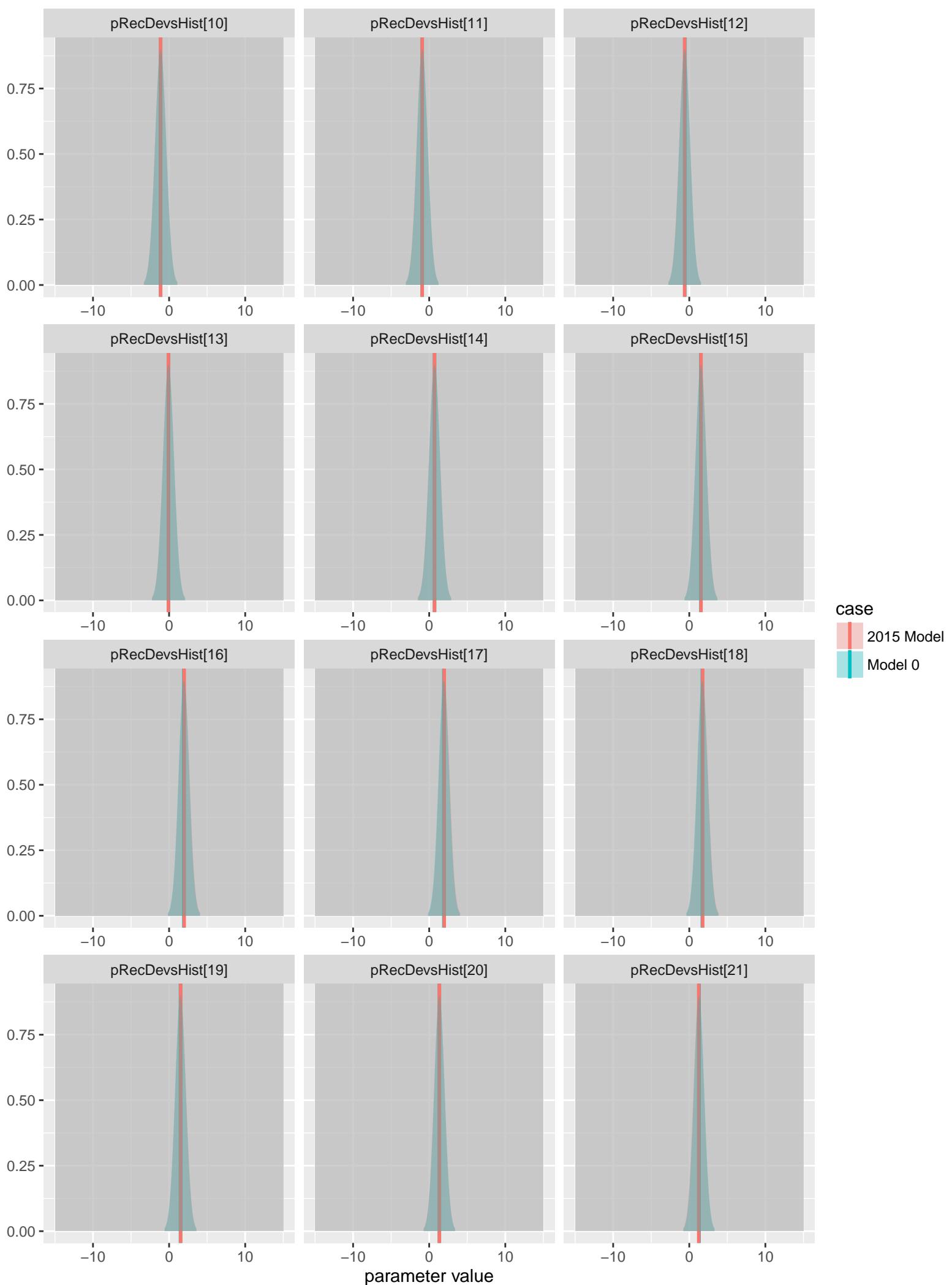


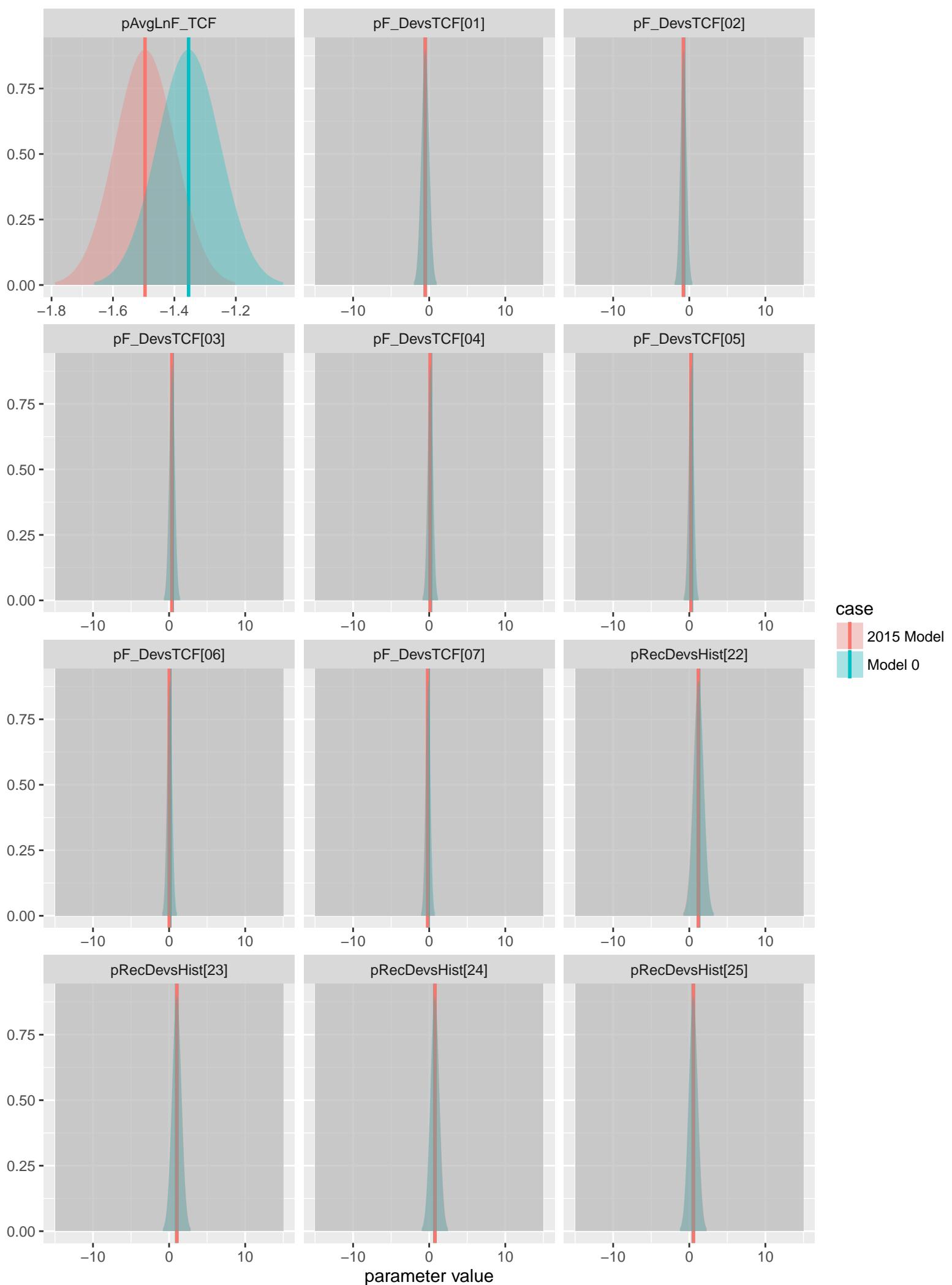


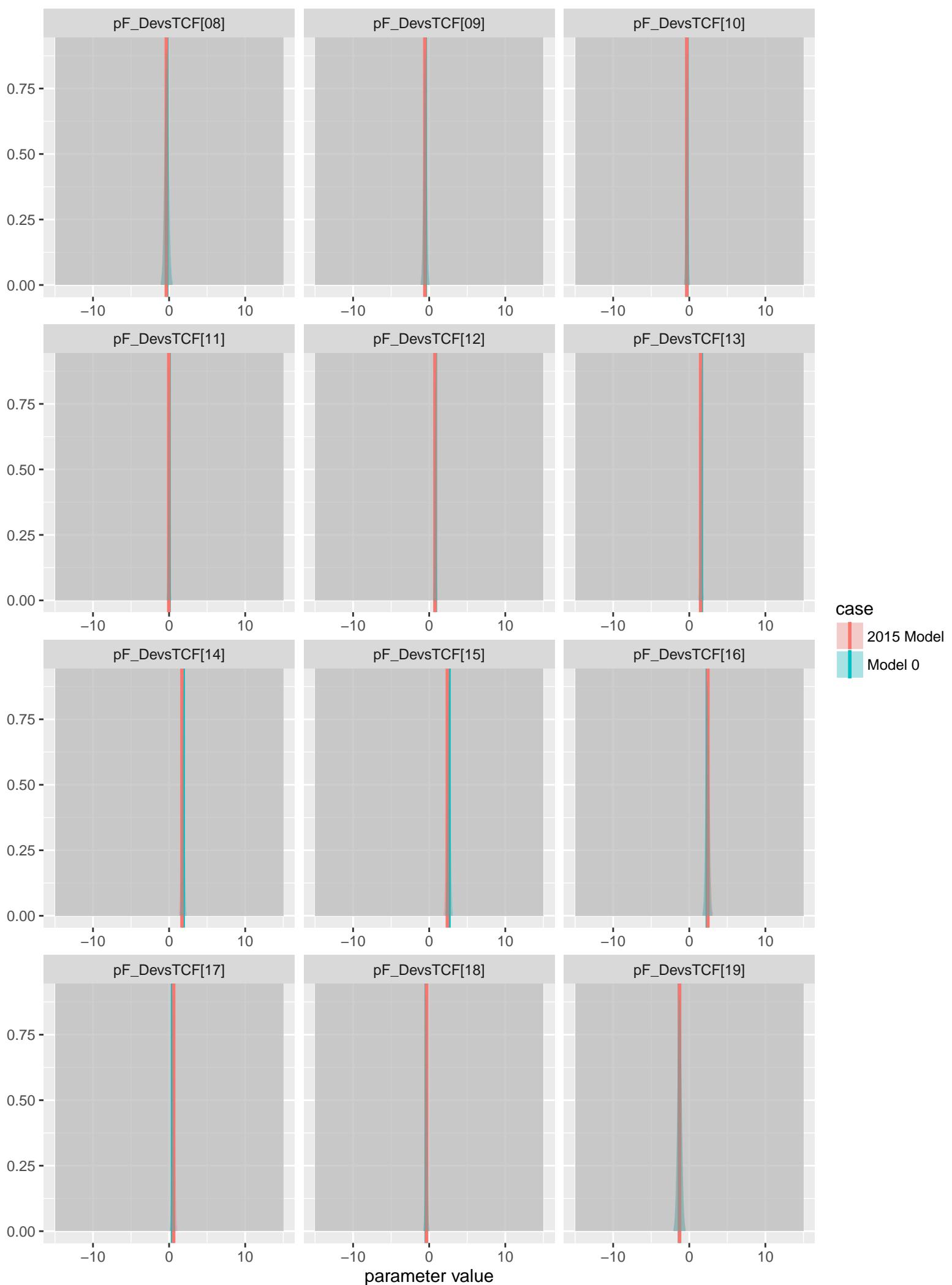


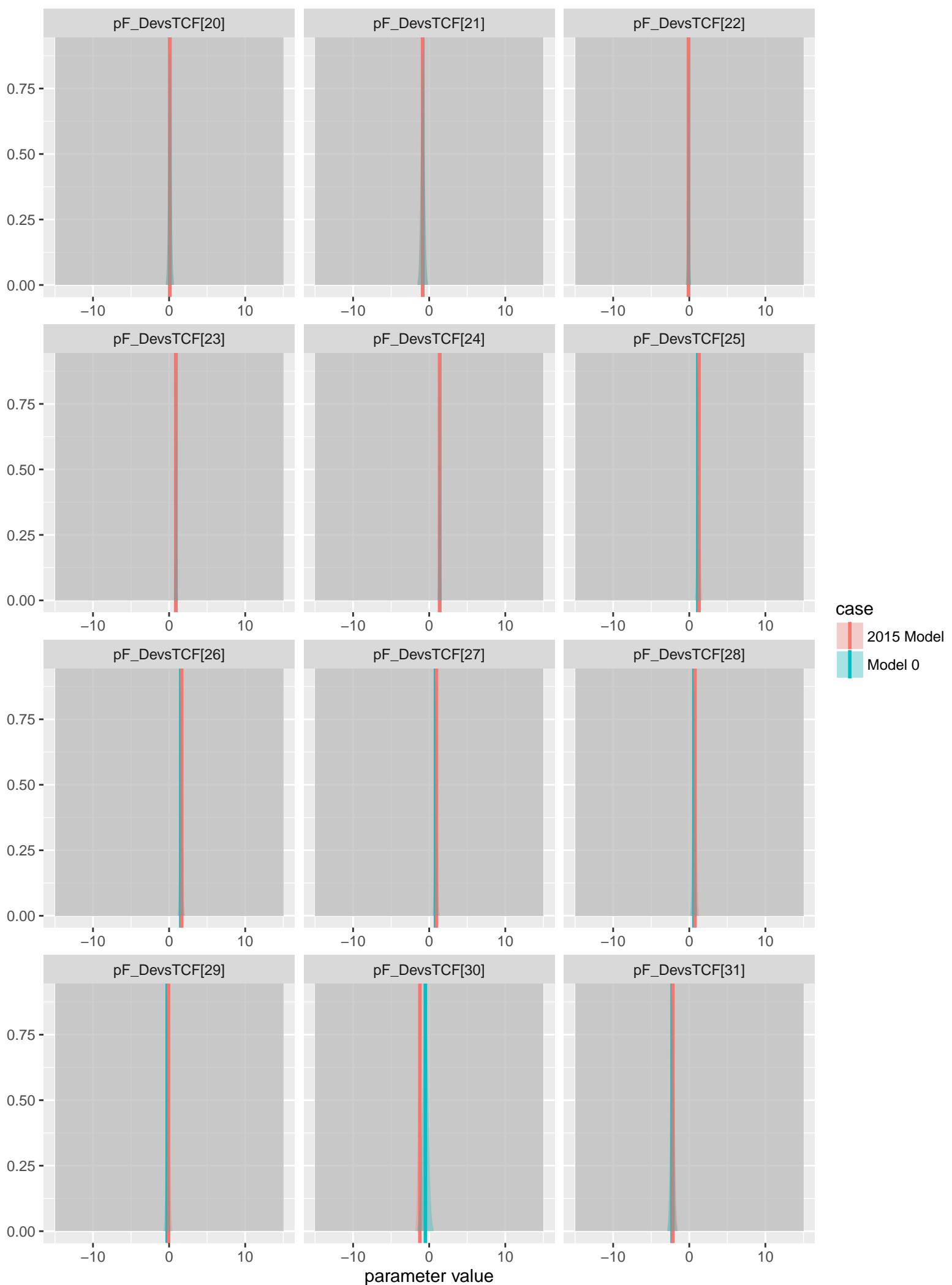


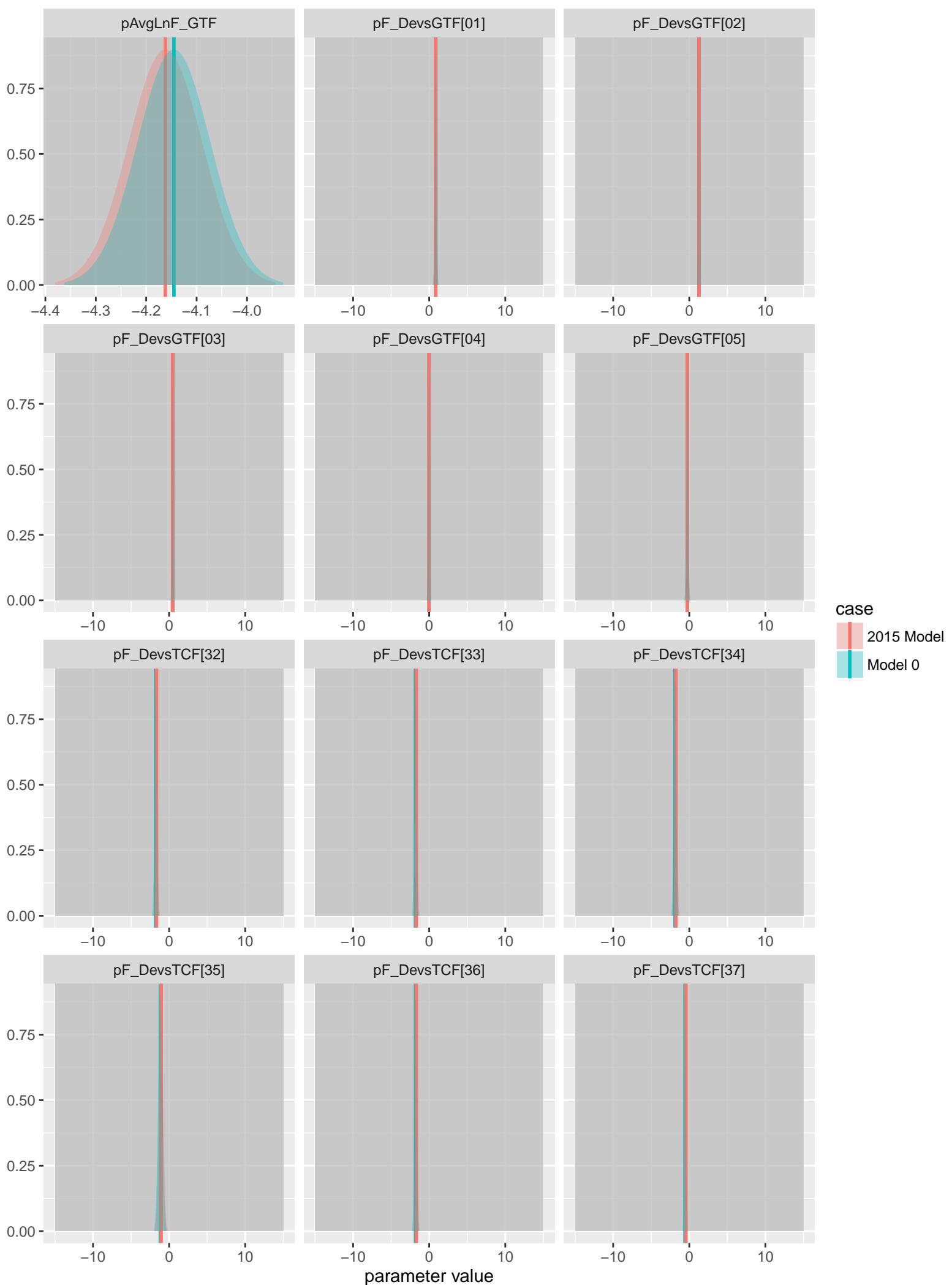


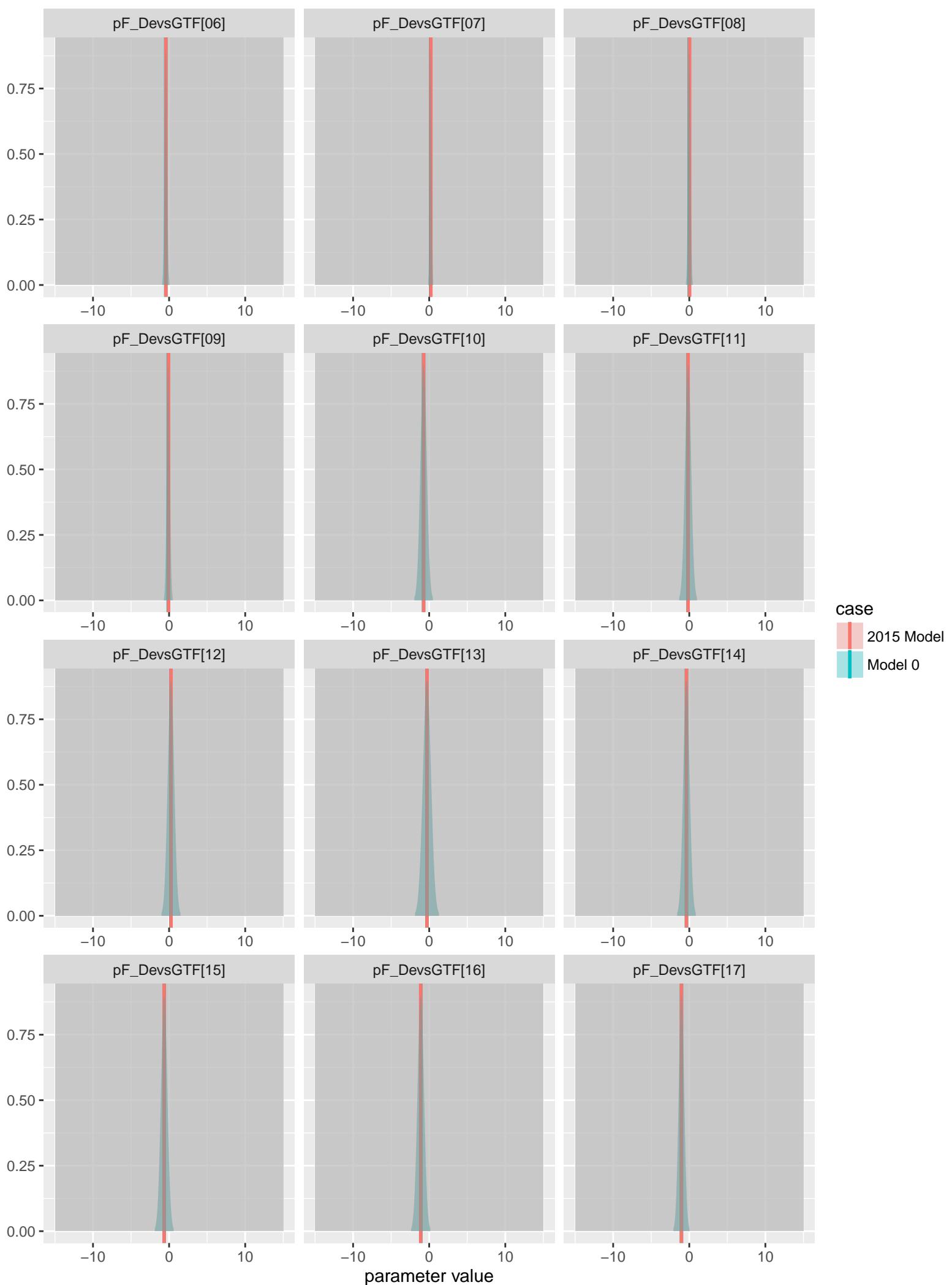


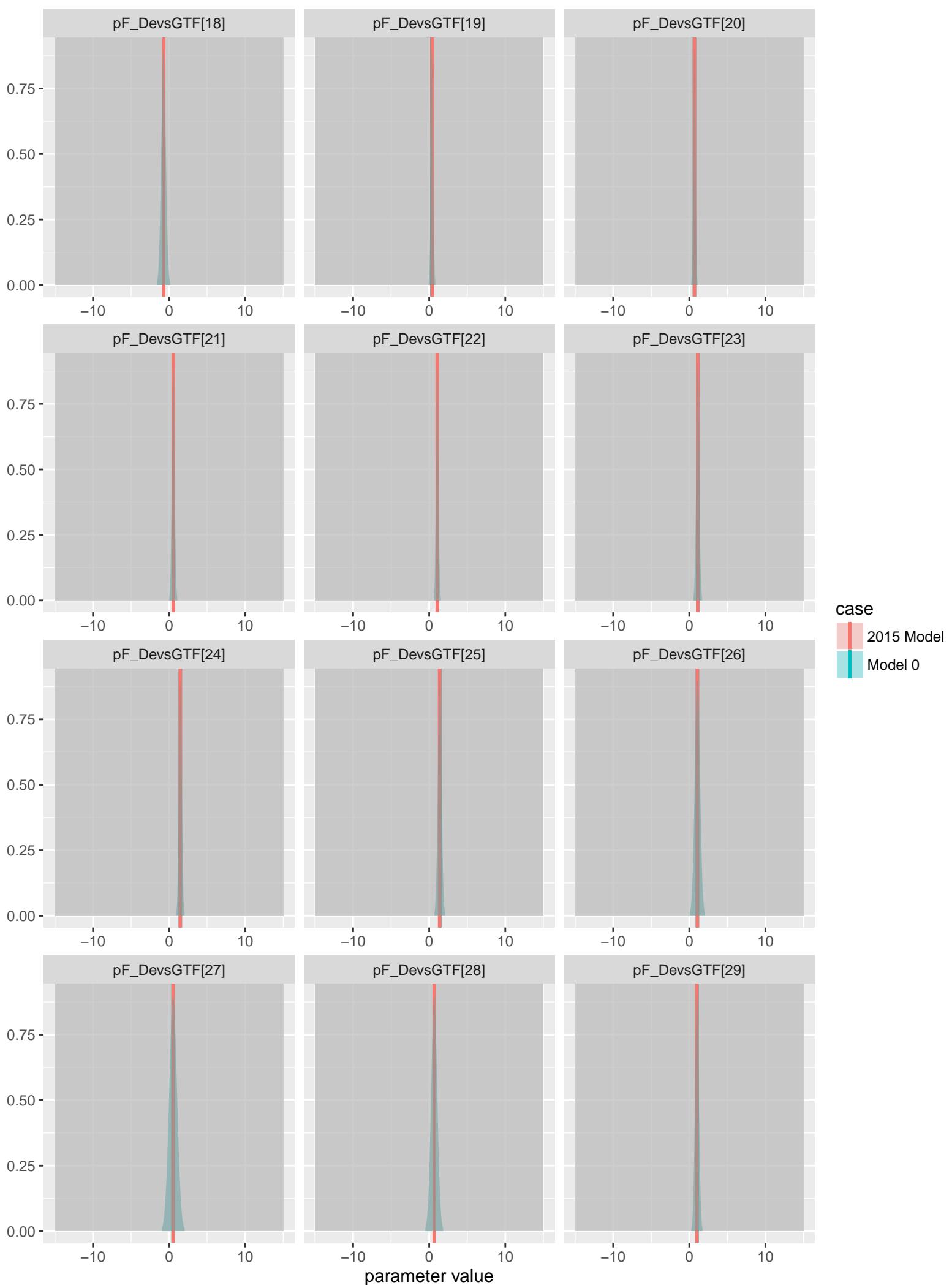


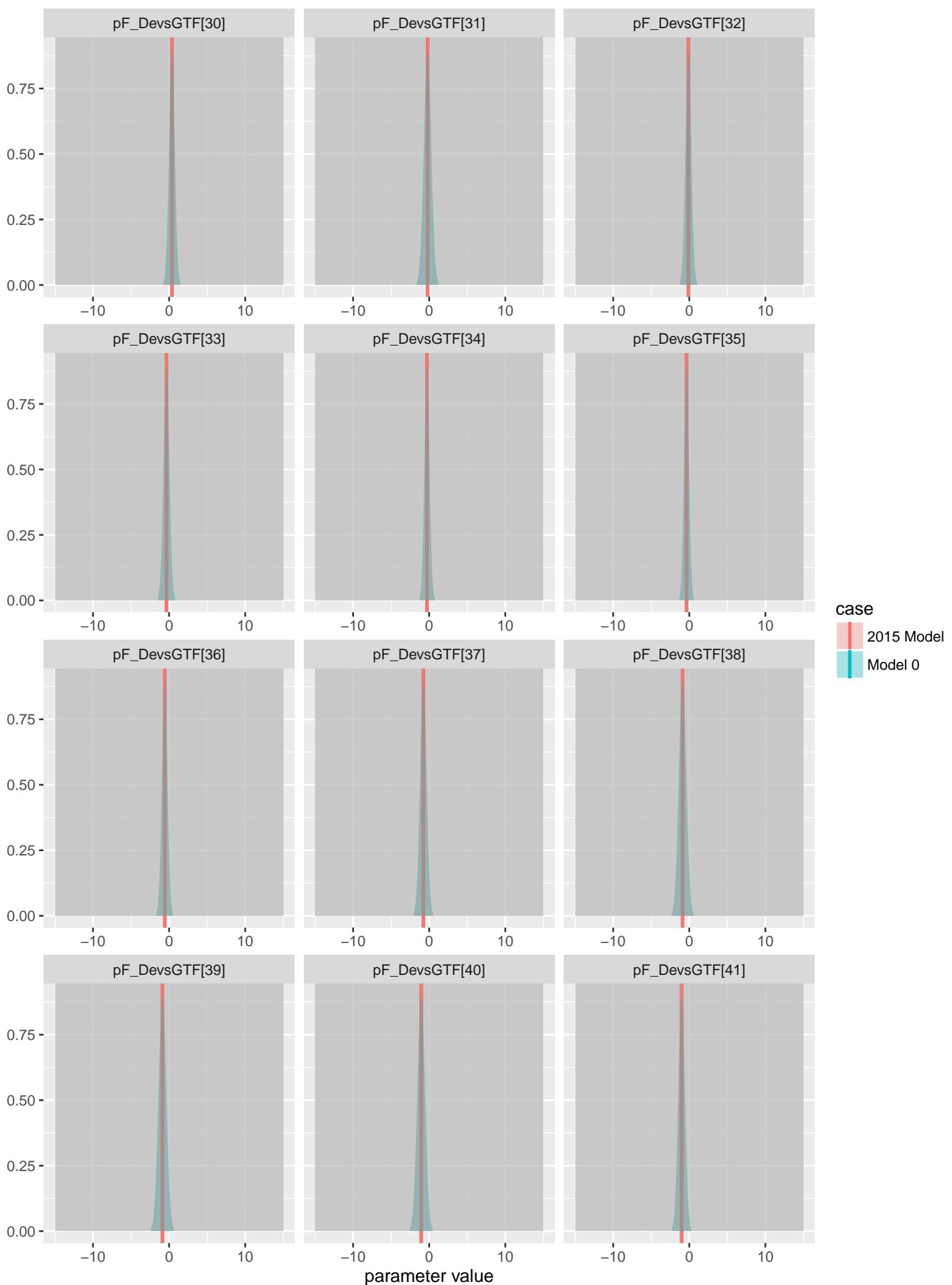


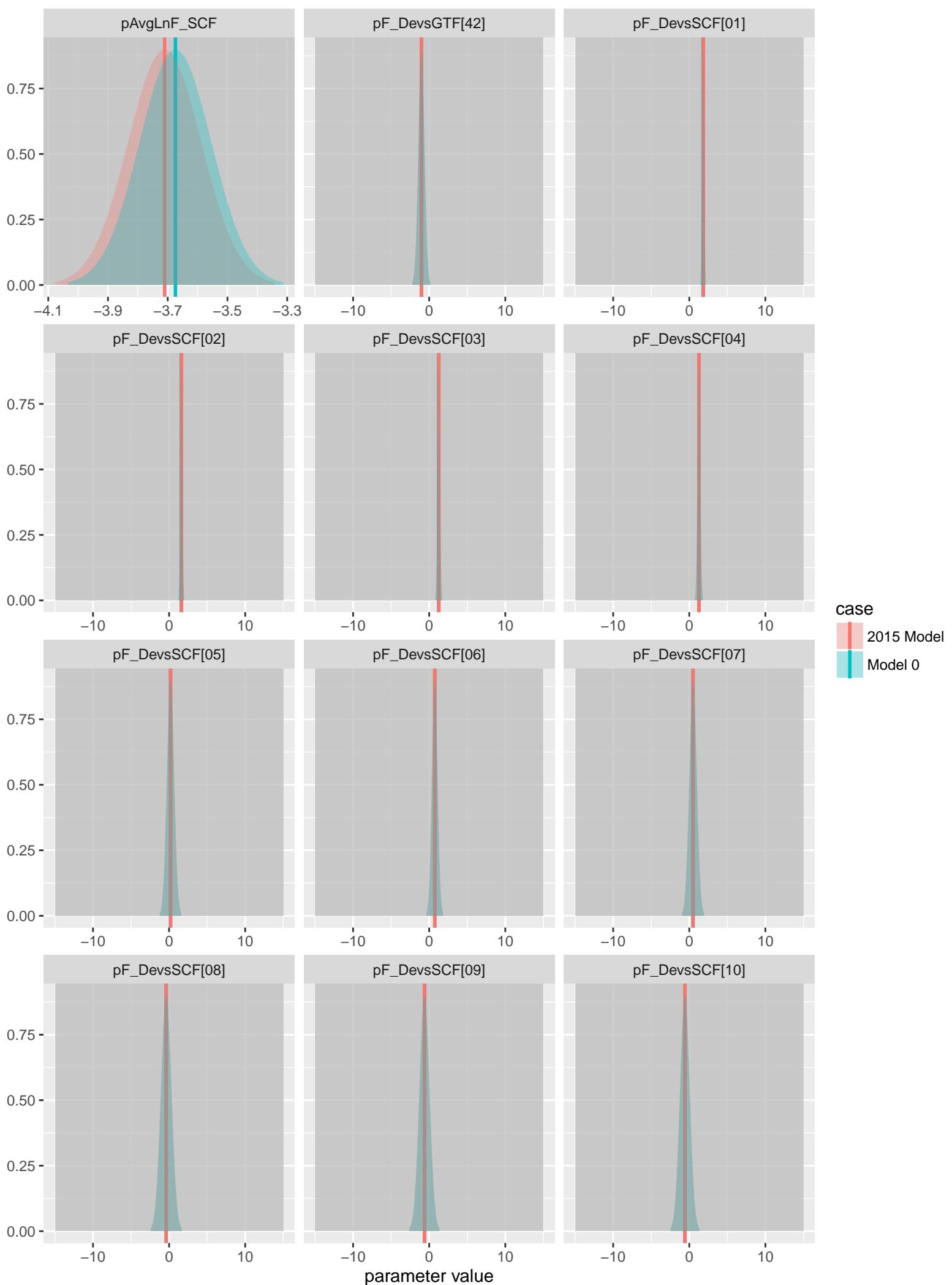


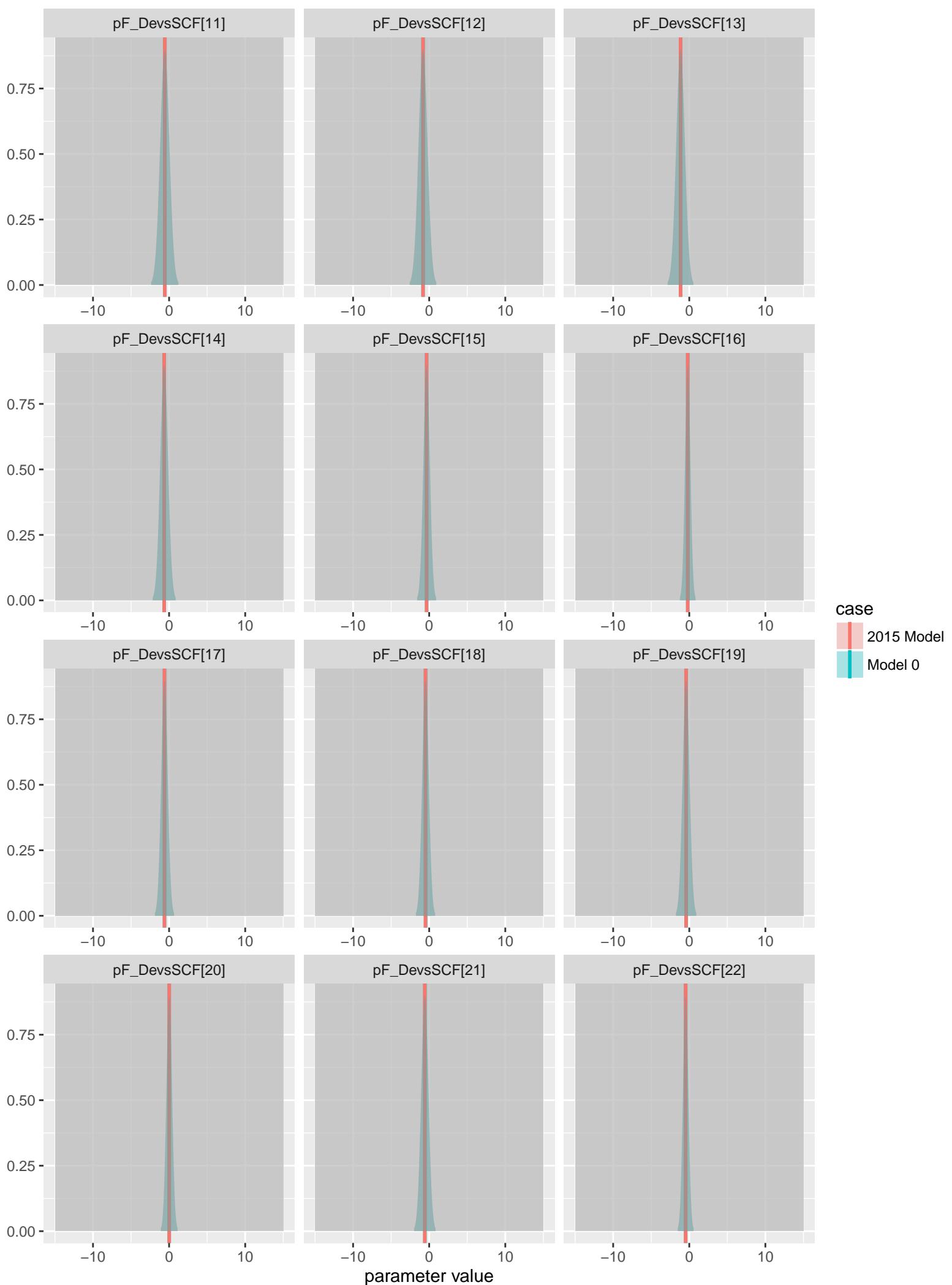


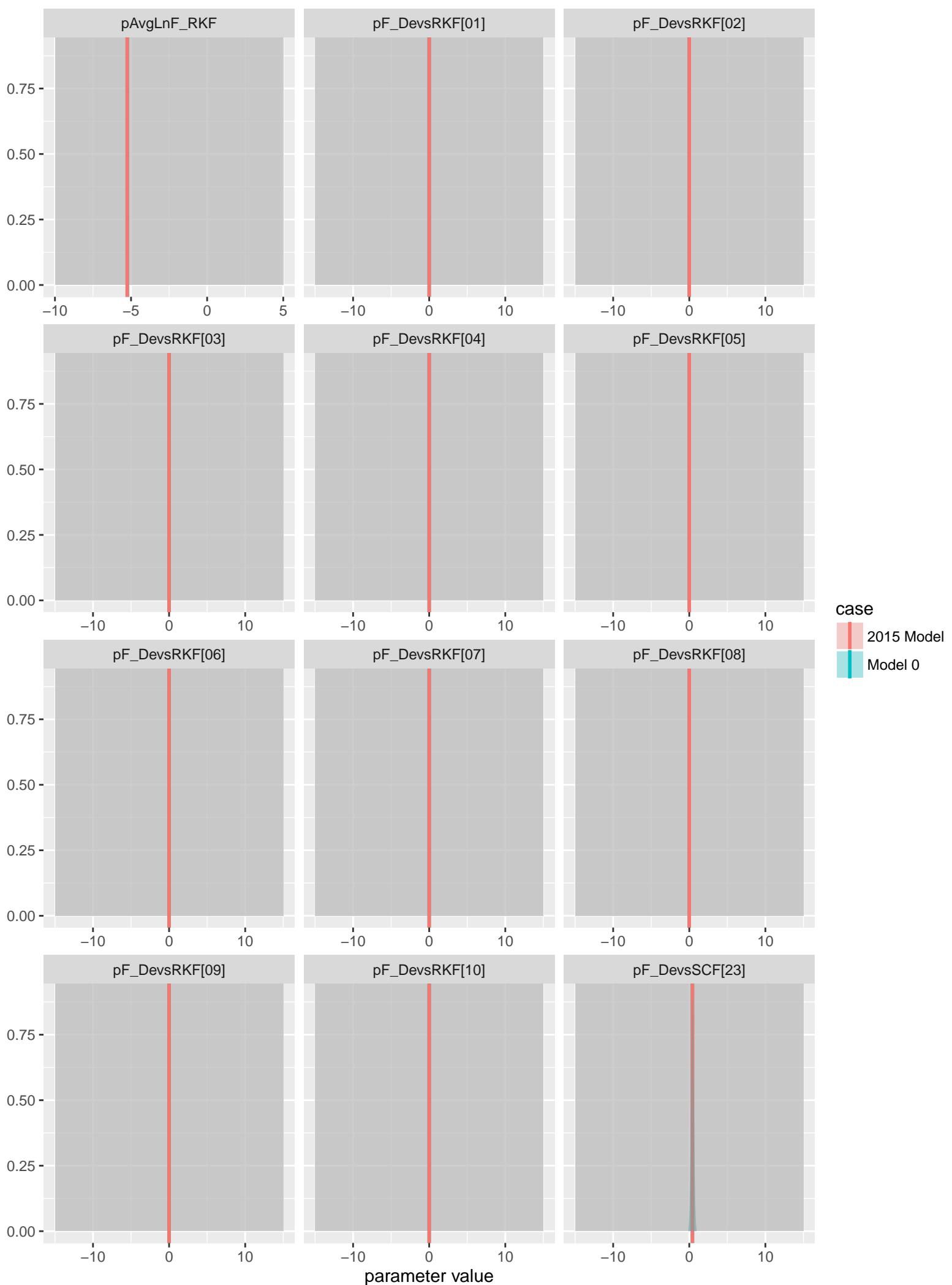






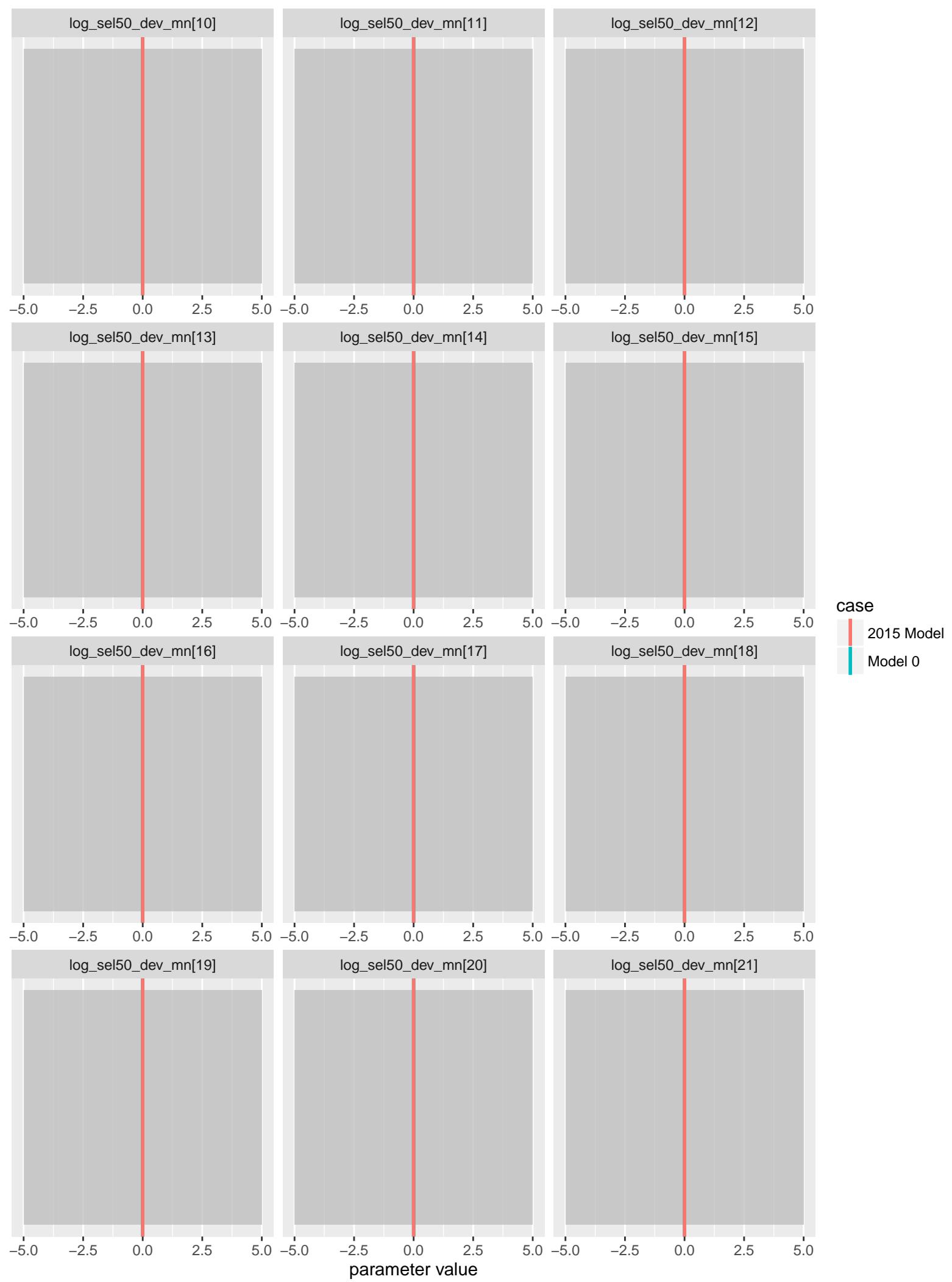


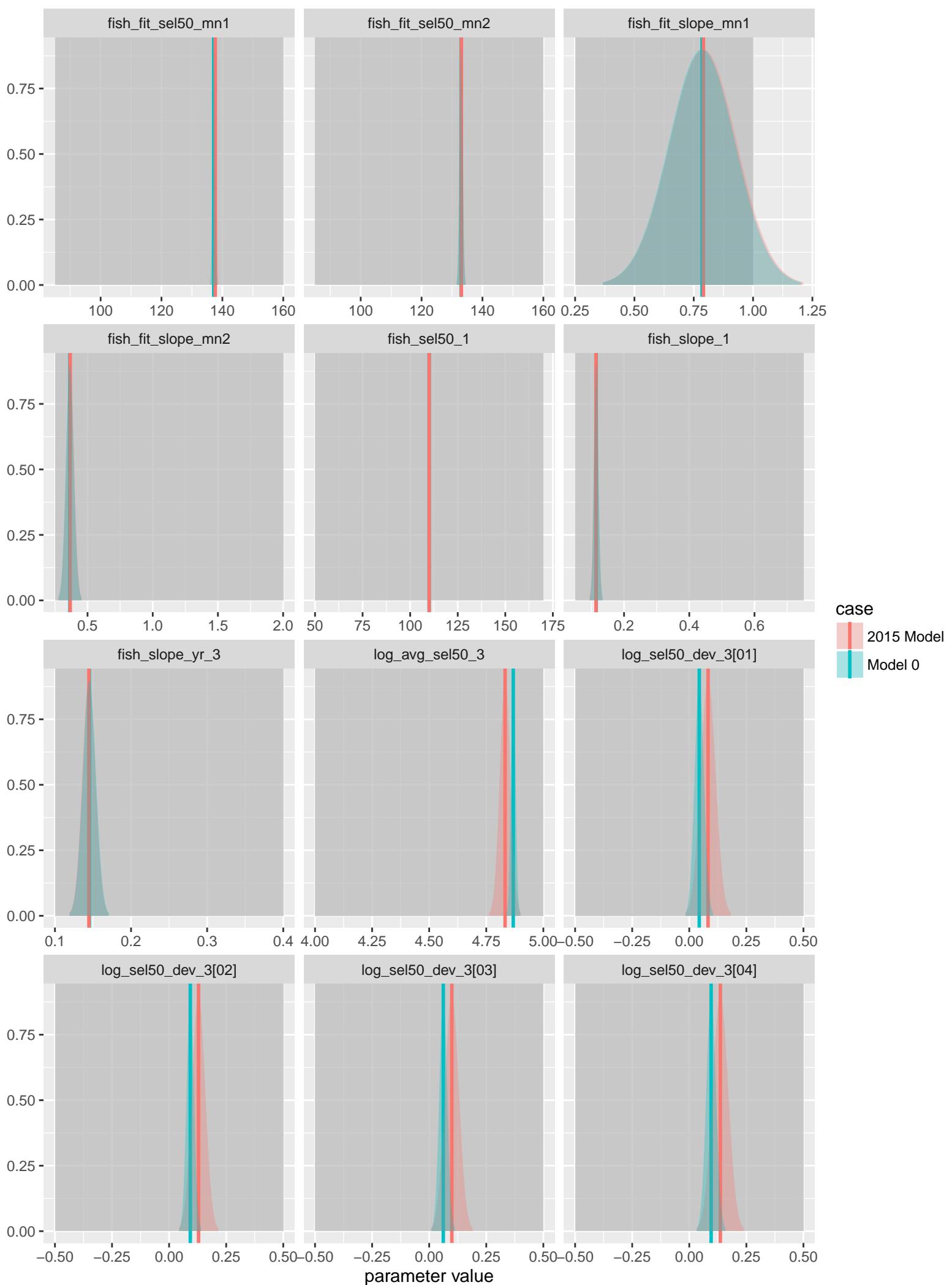


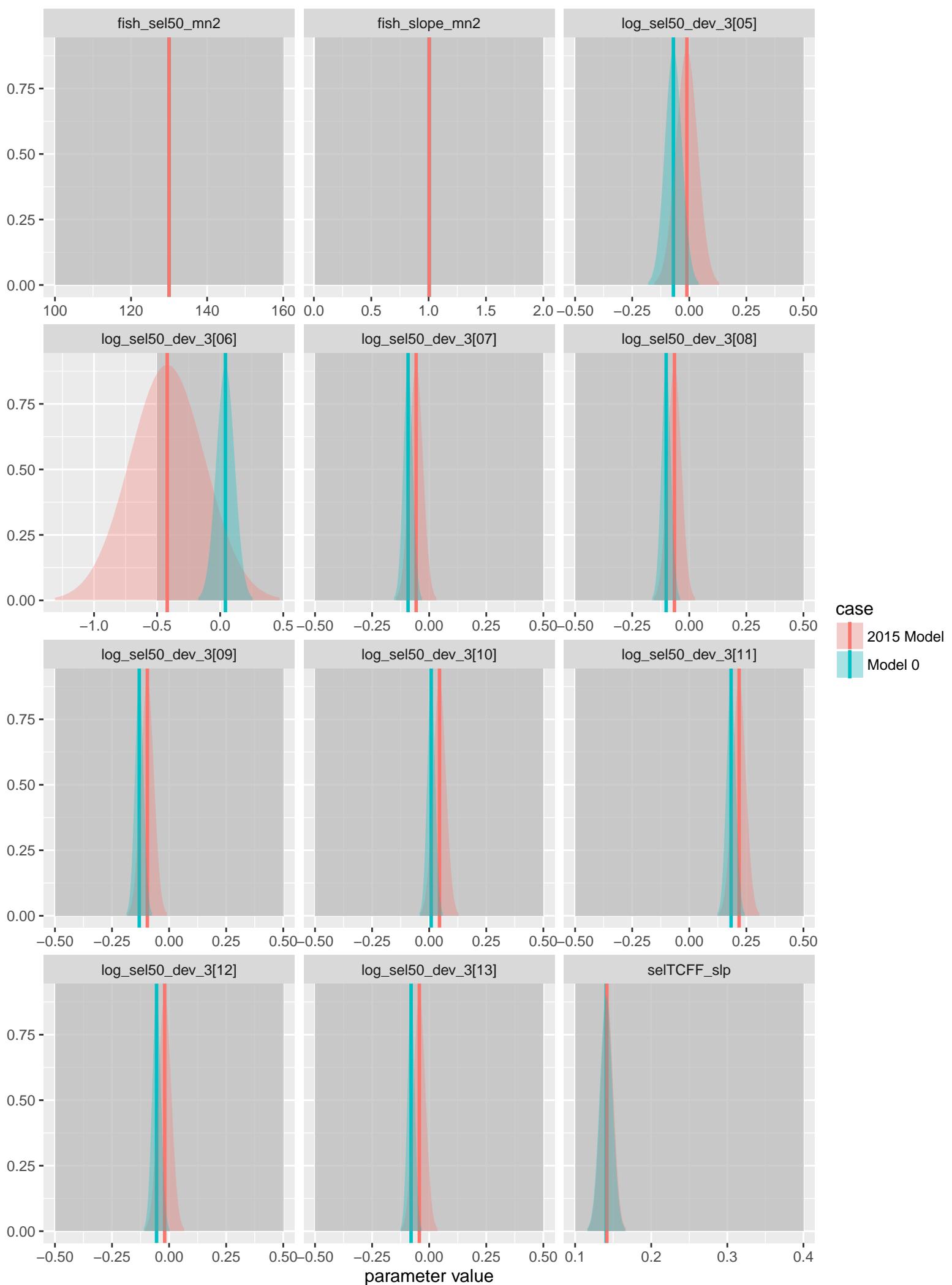


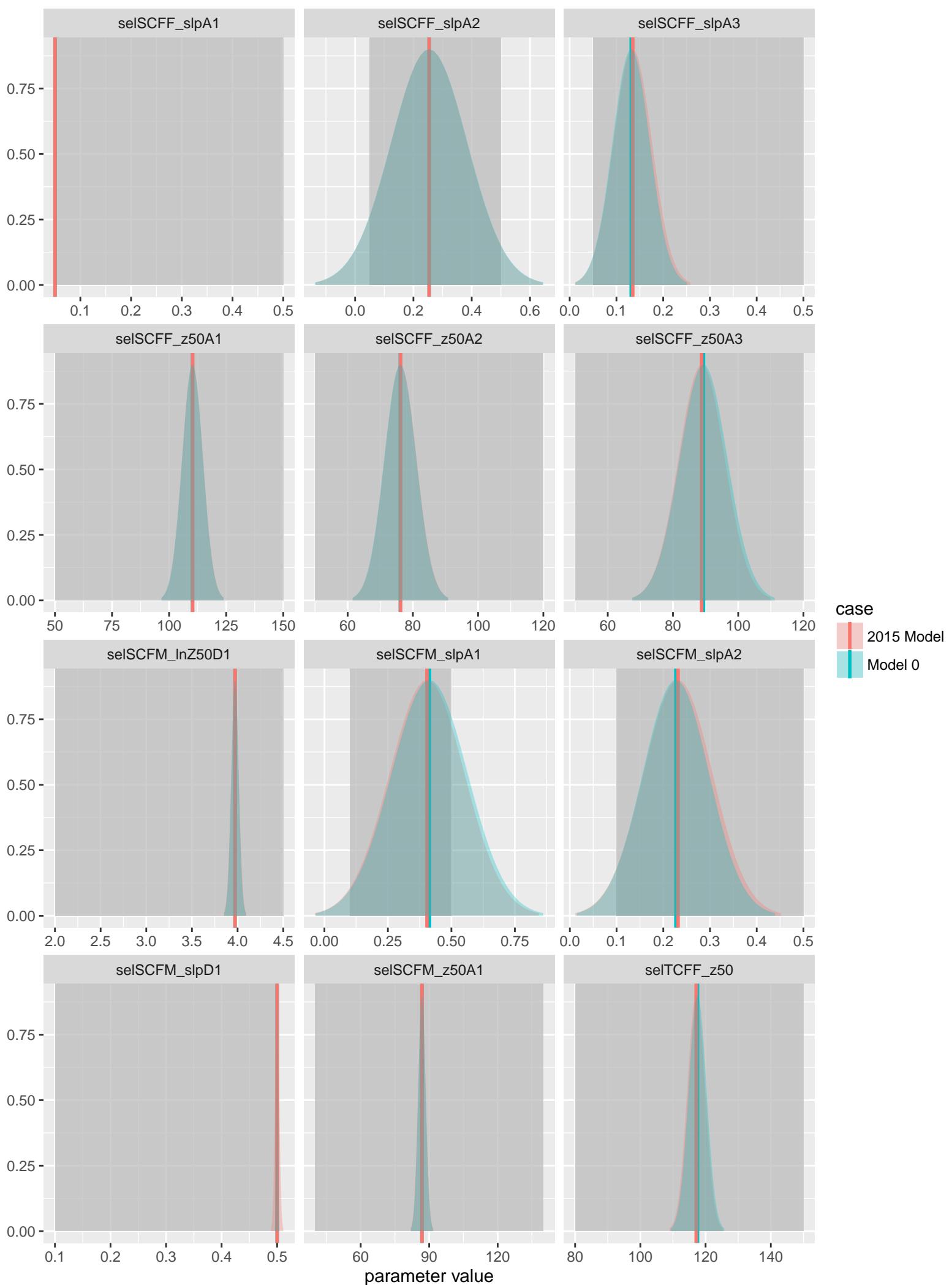


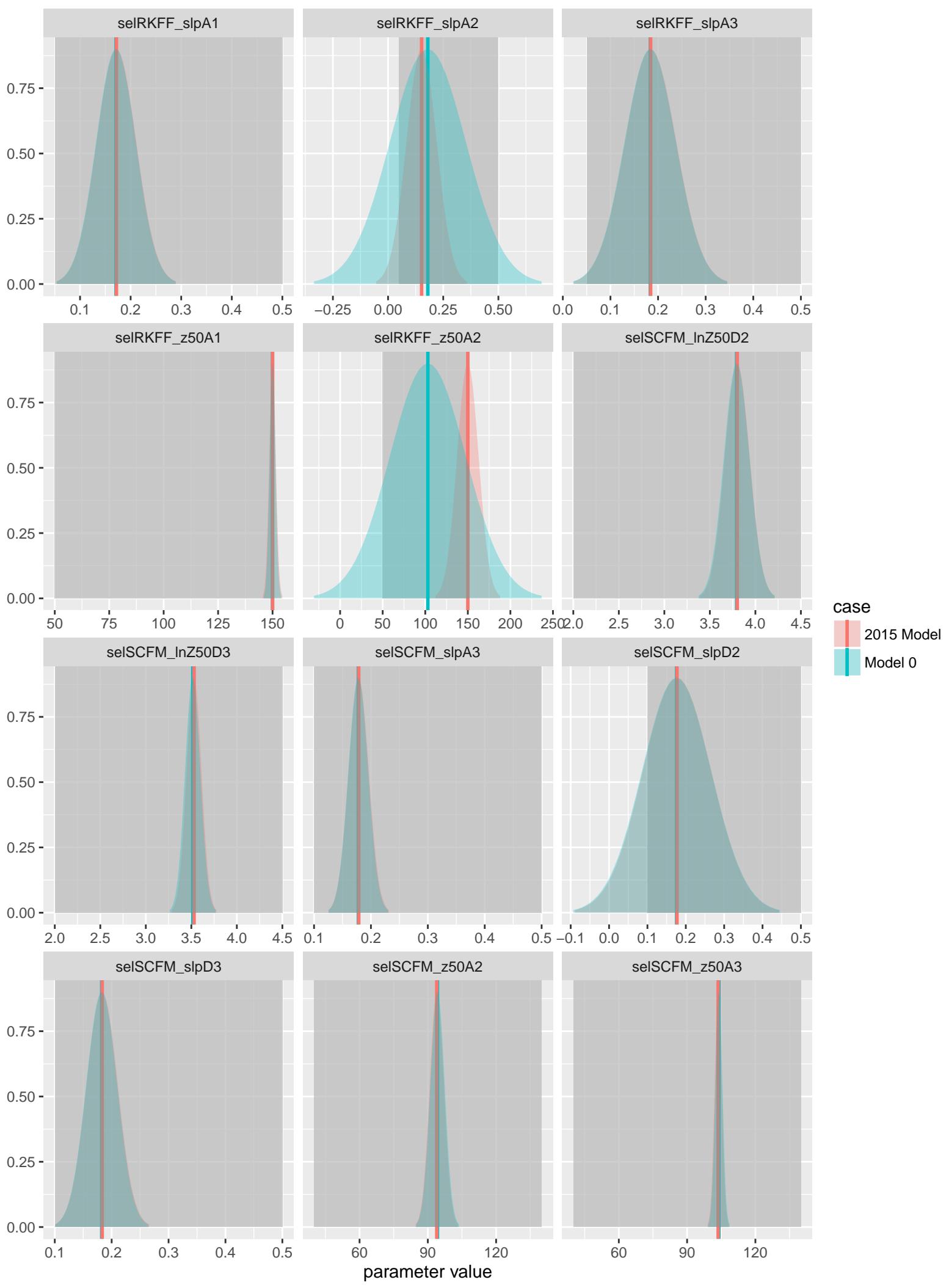


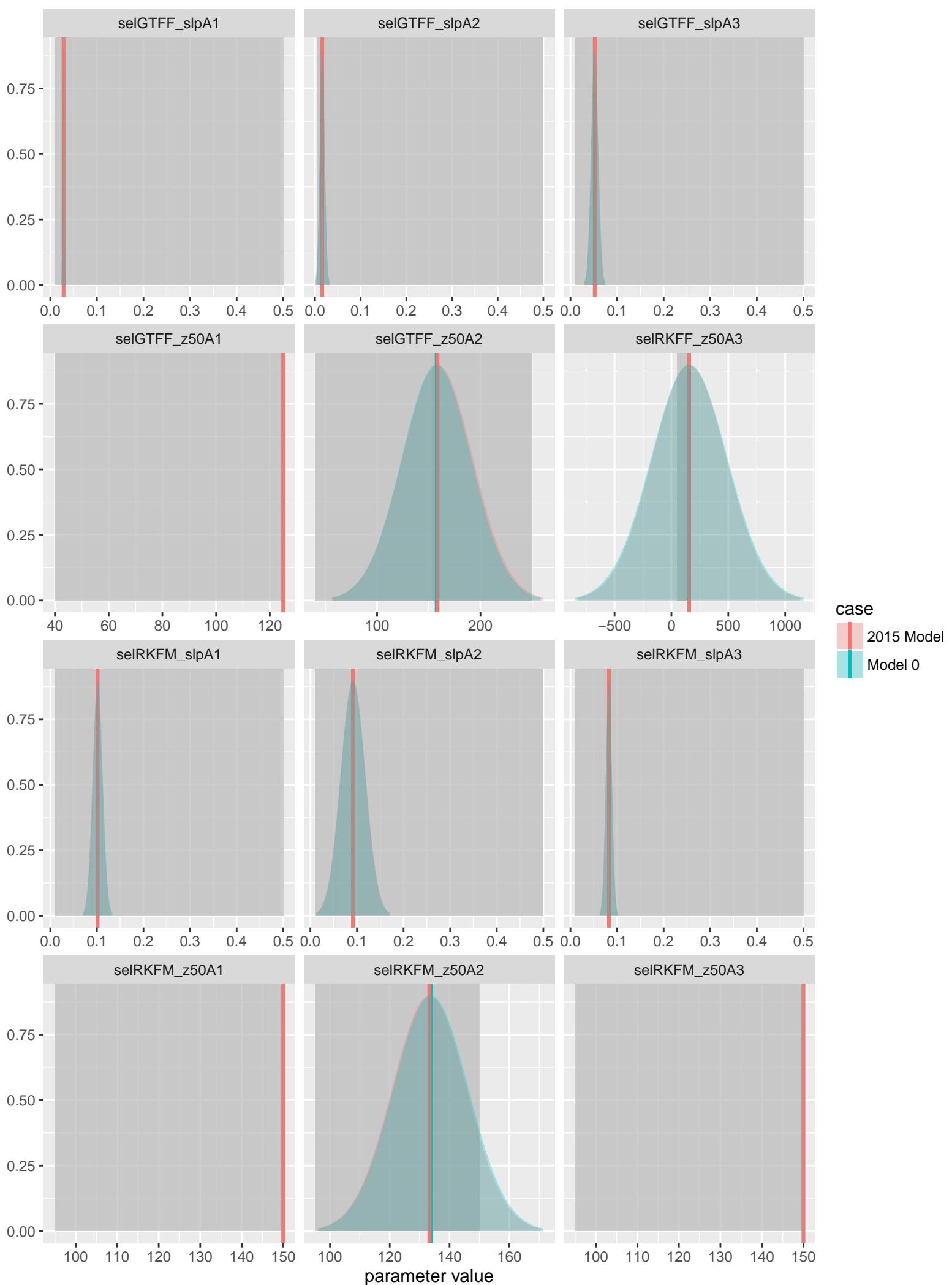


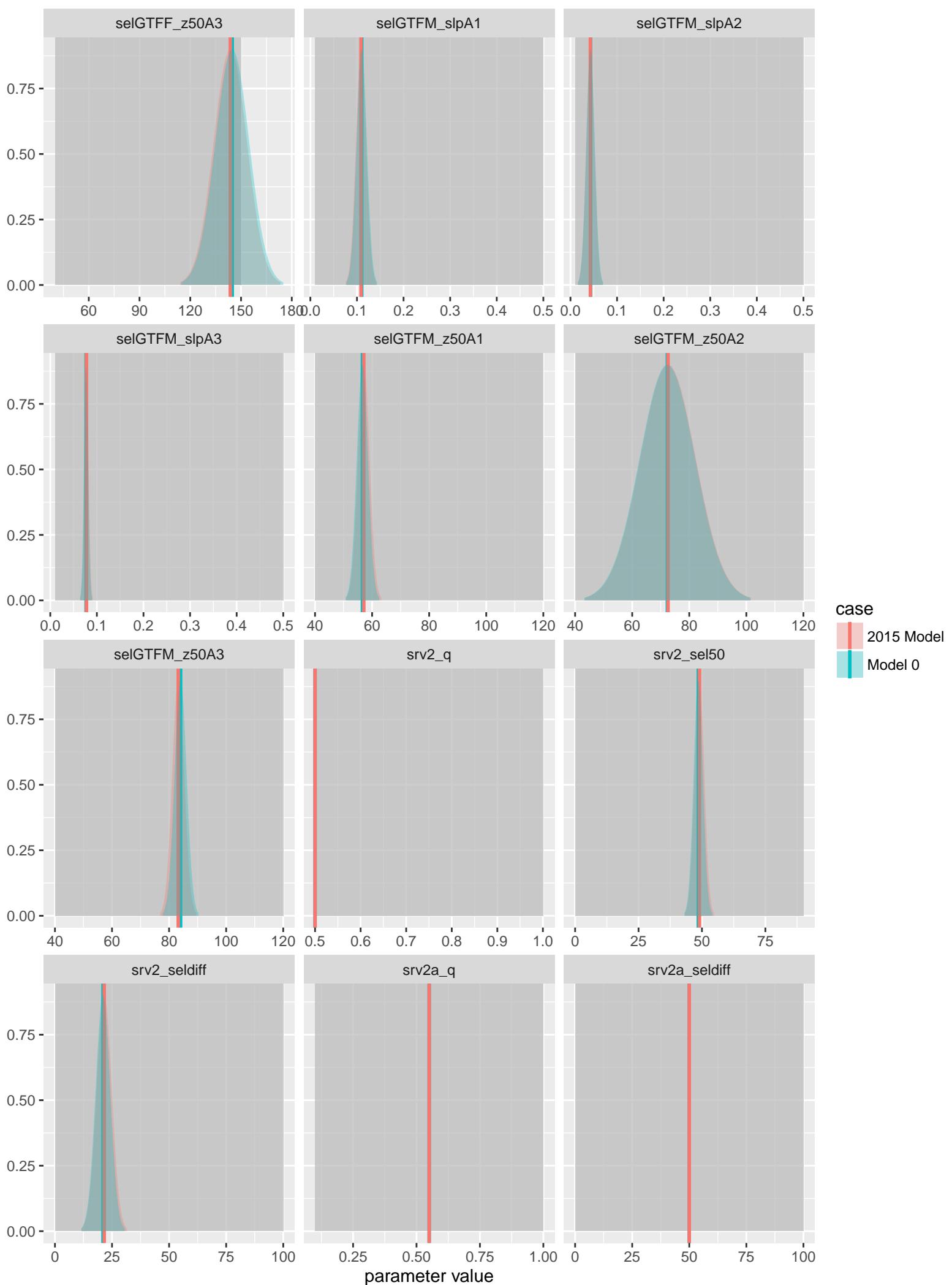


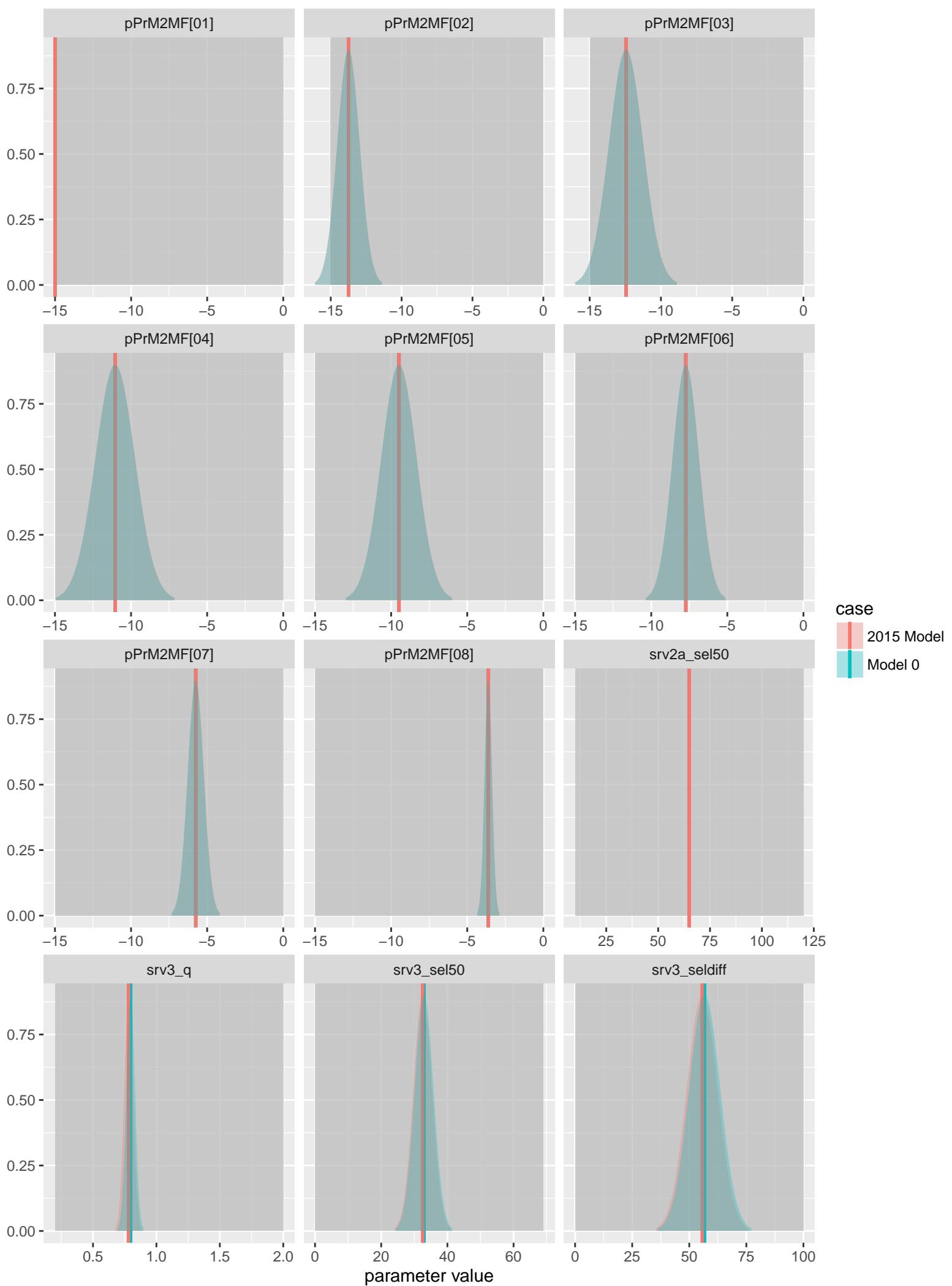


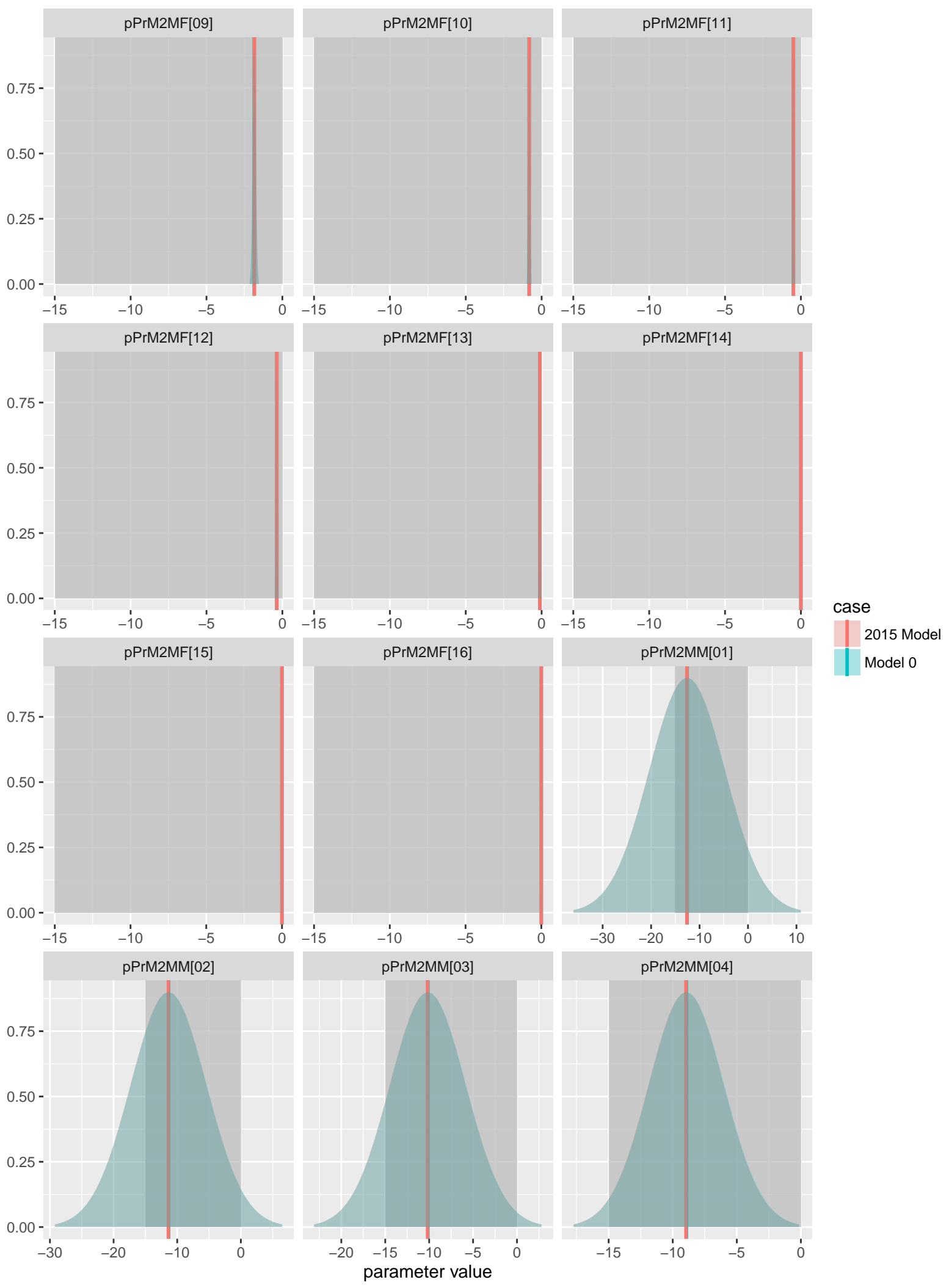


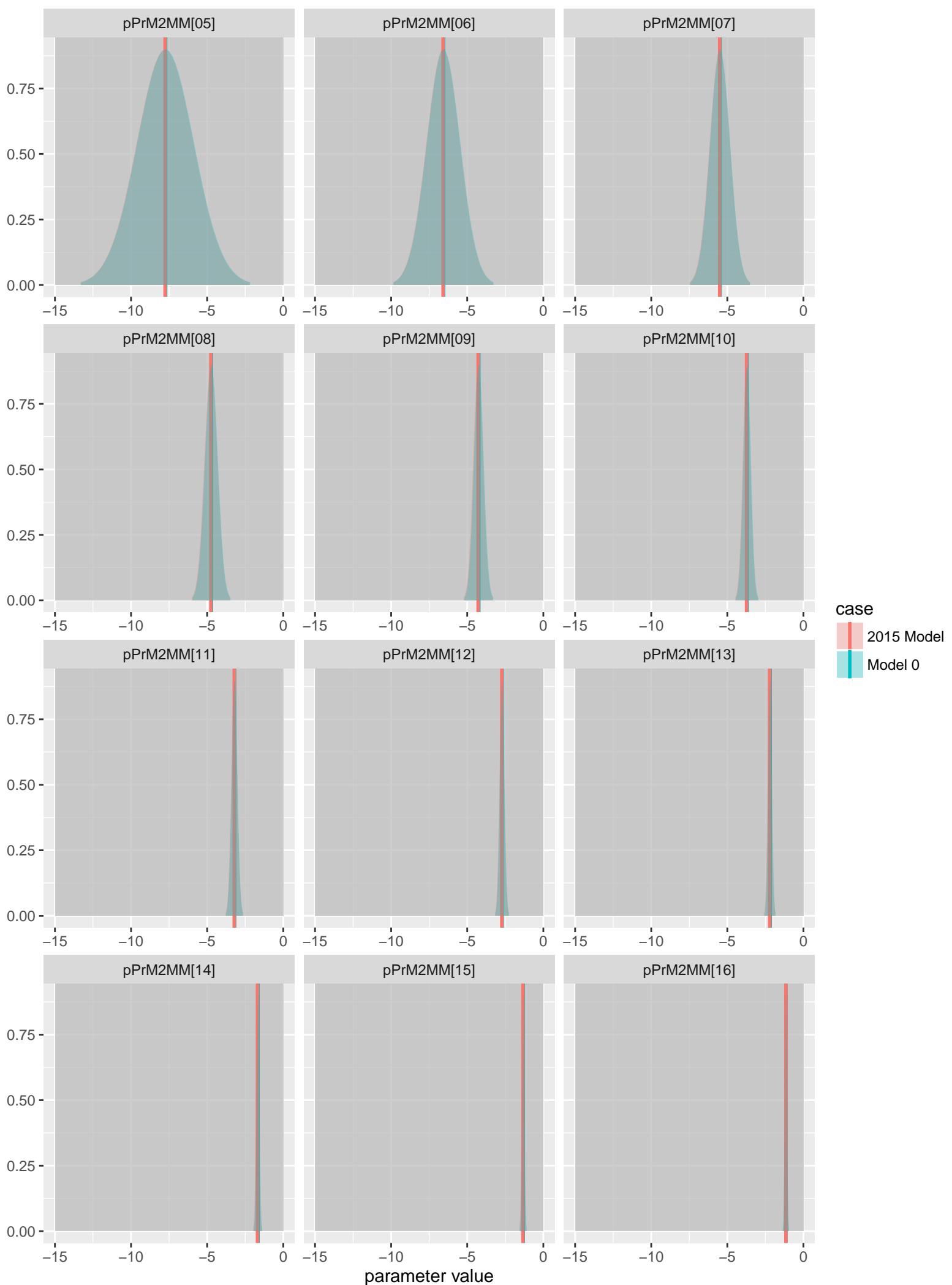


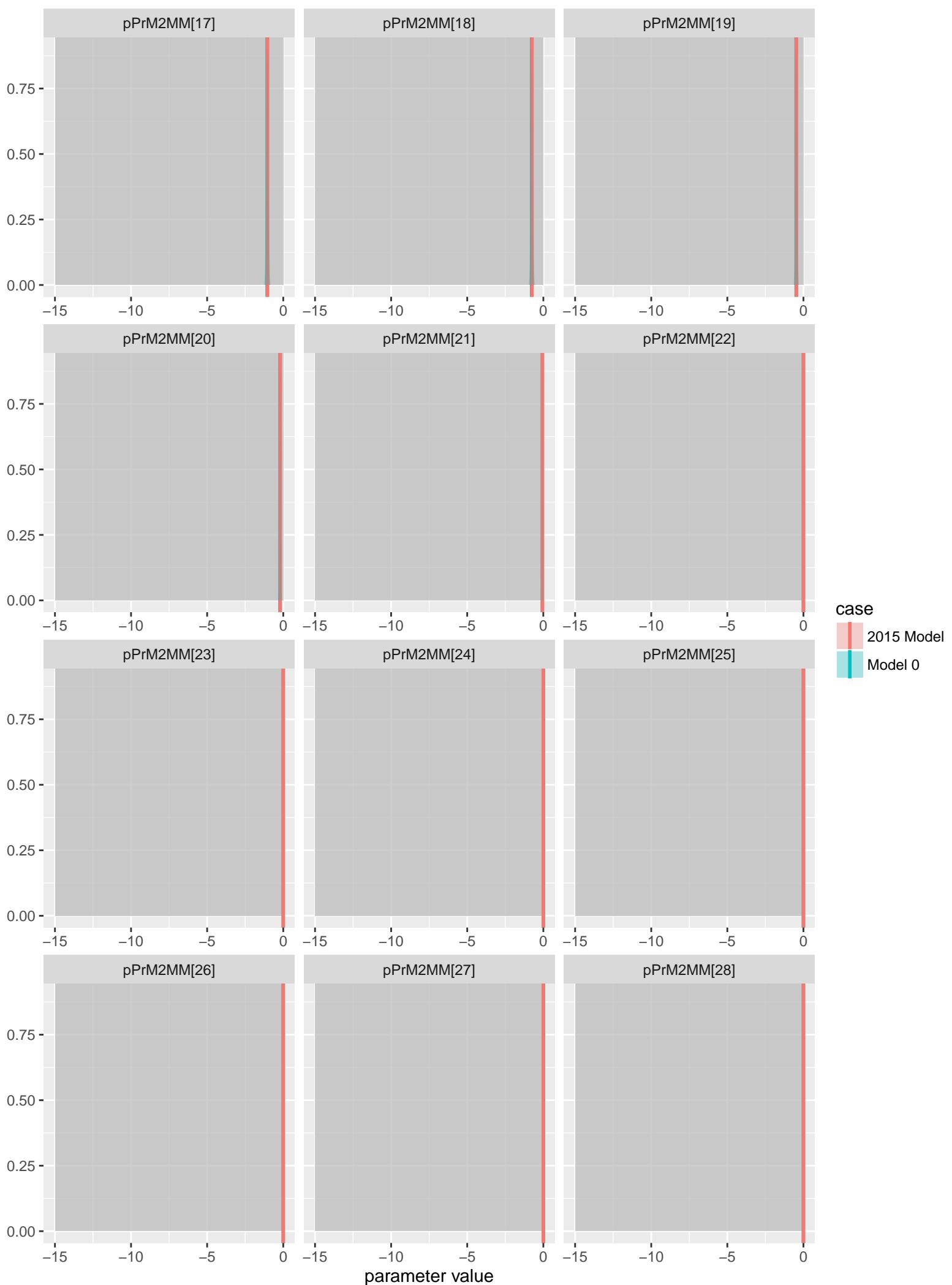


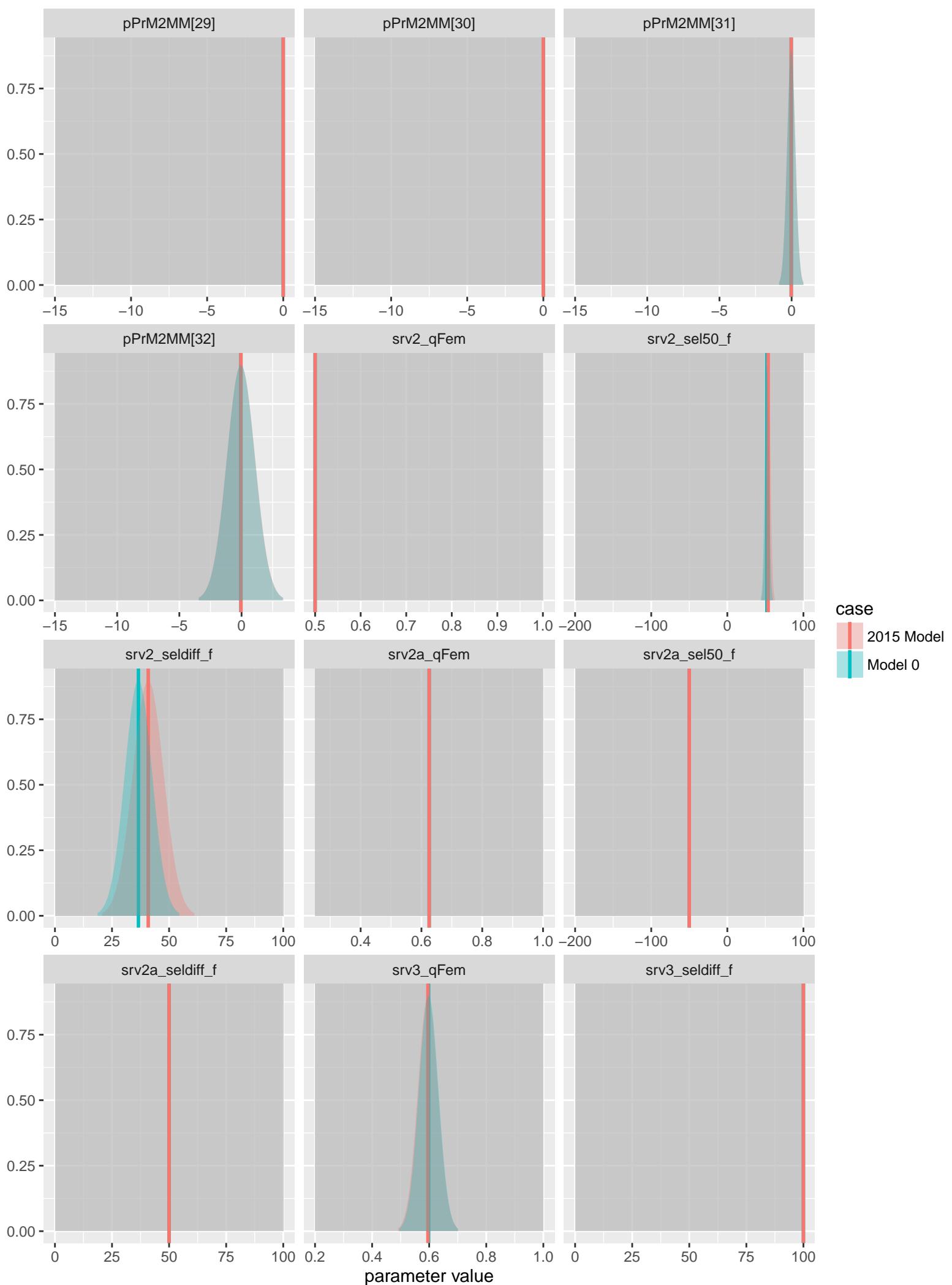


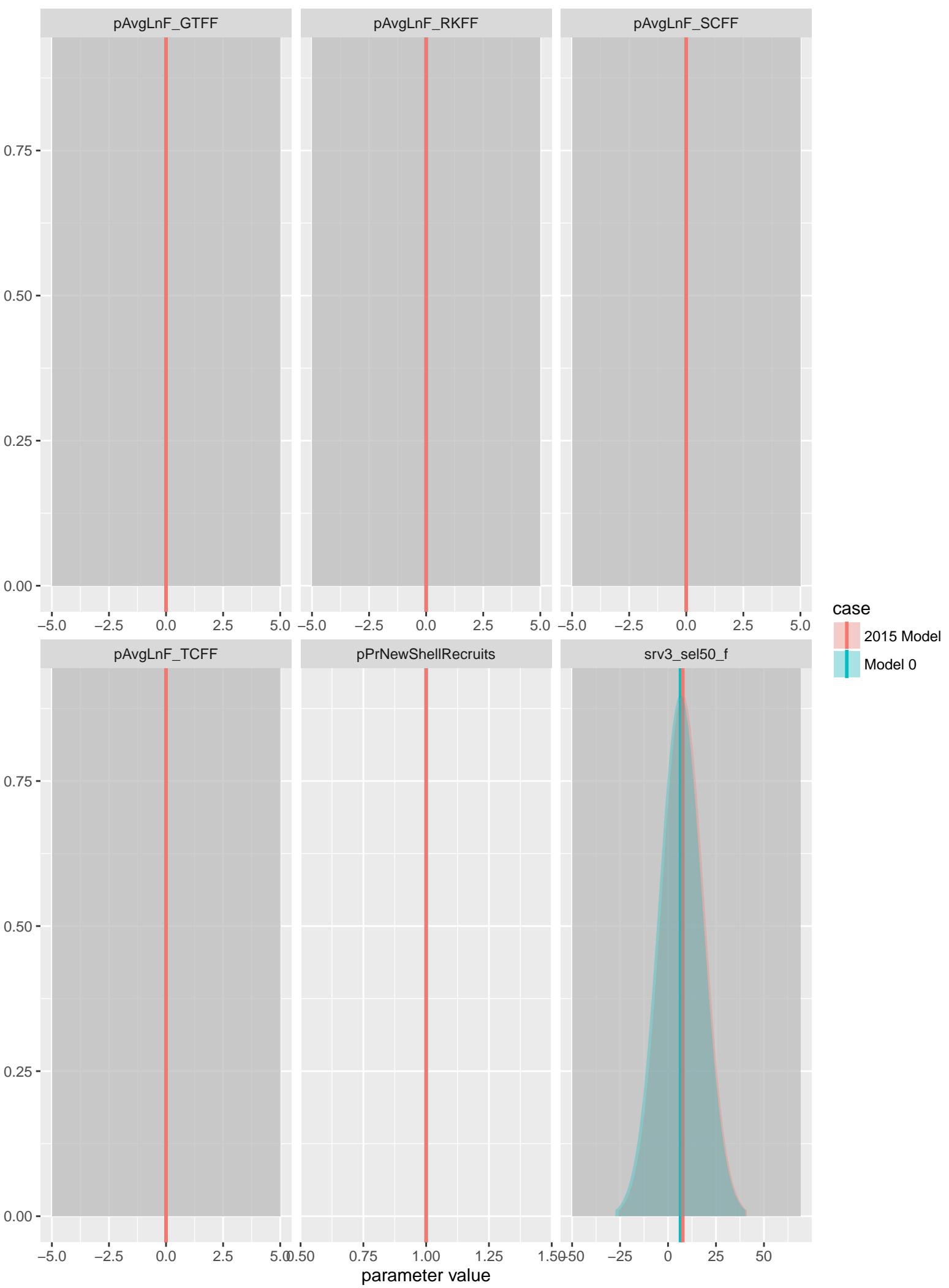




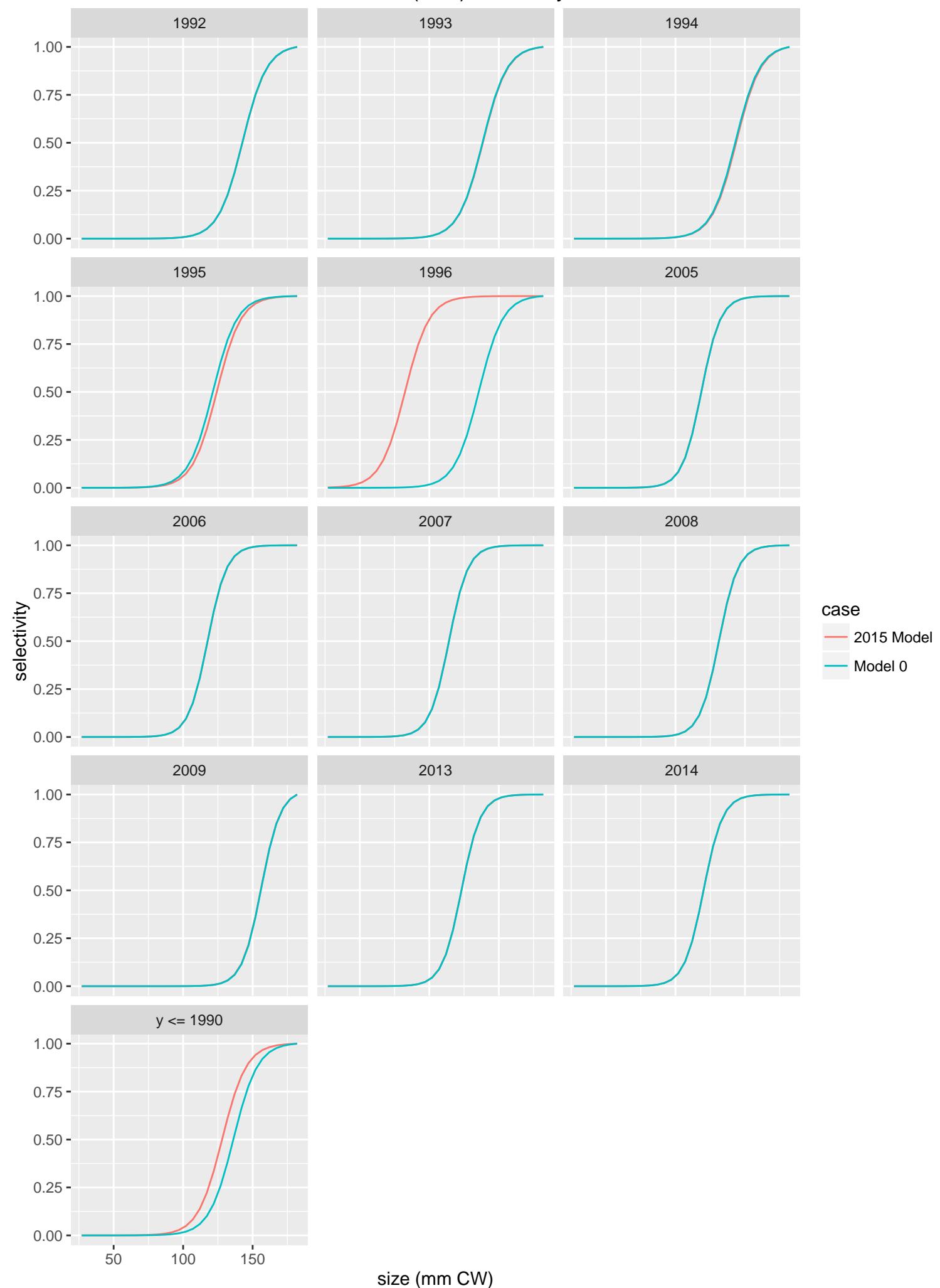




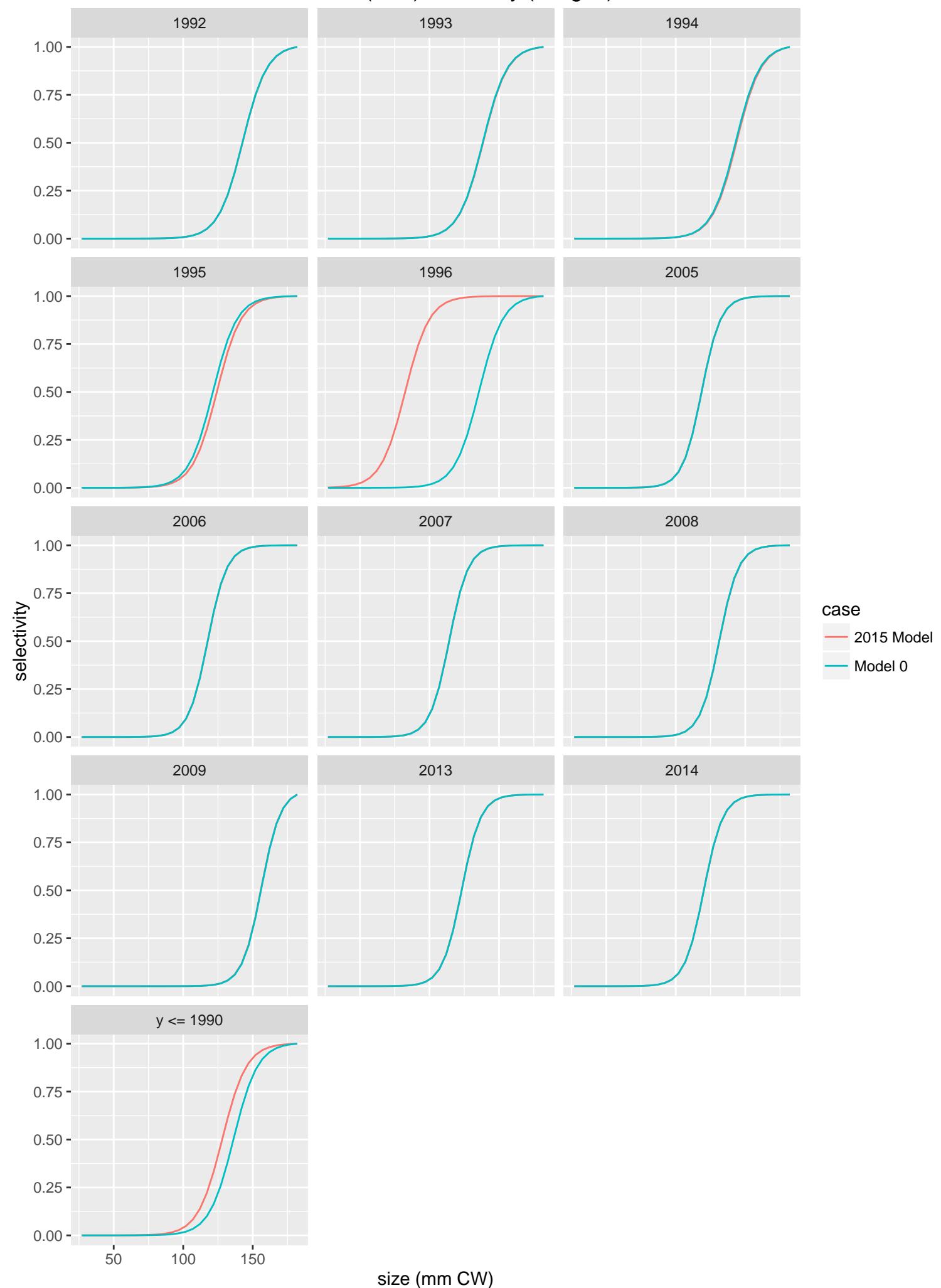




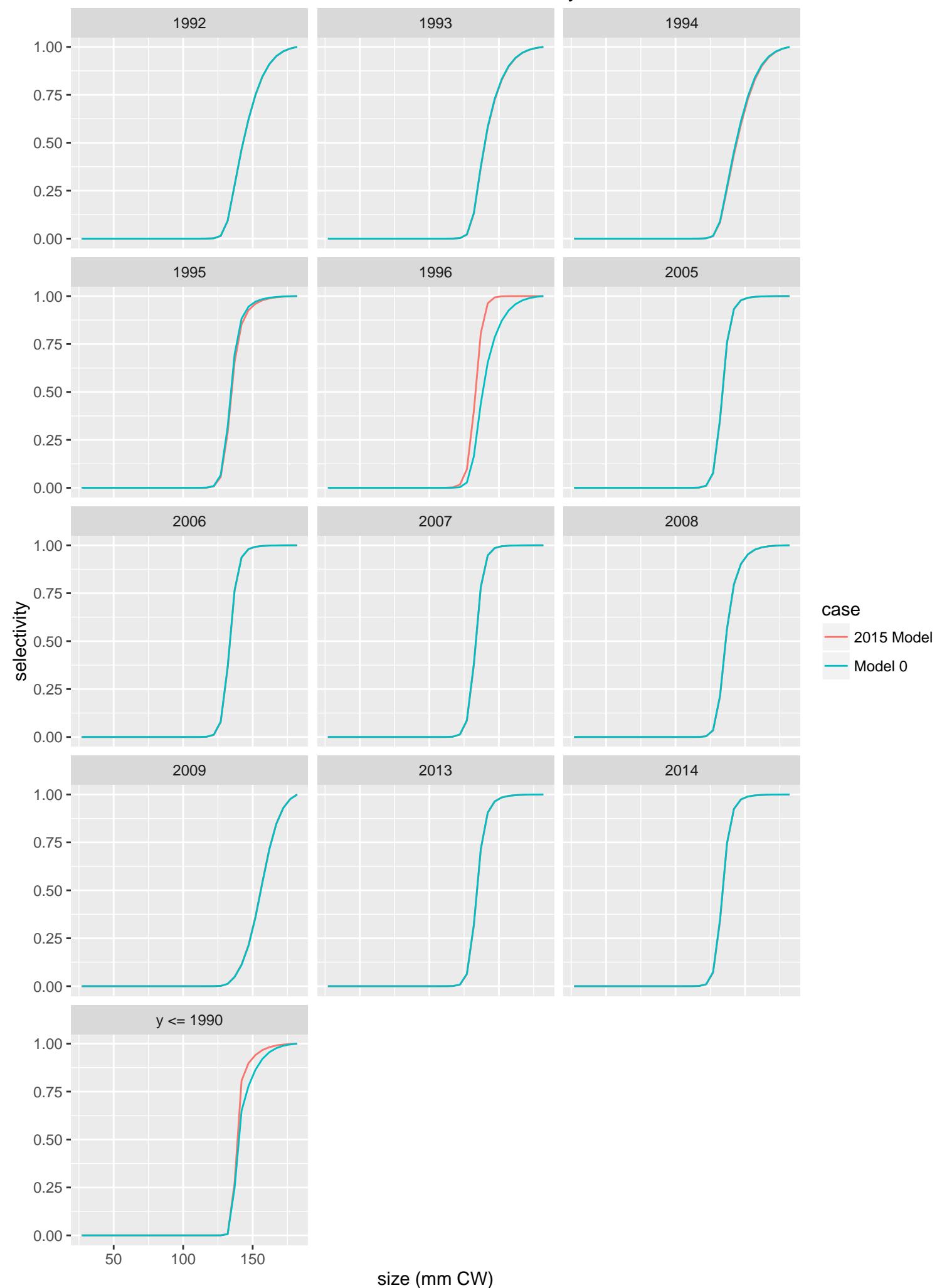
TCF: male (total) selectivity



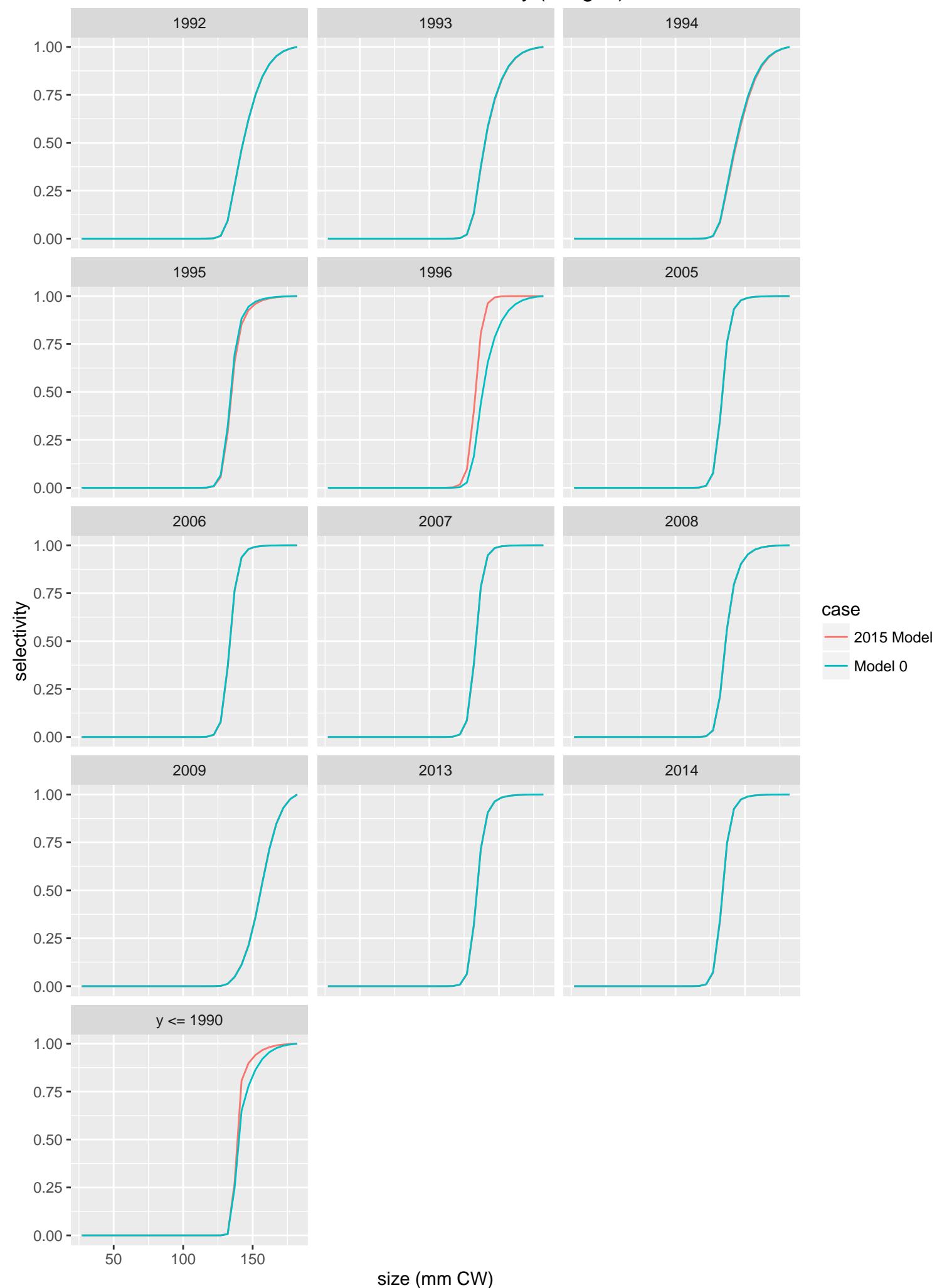
TCF: male (total) selectivity (dodged)



TCF: male retained selectivity

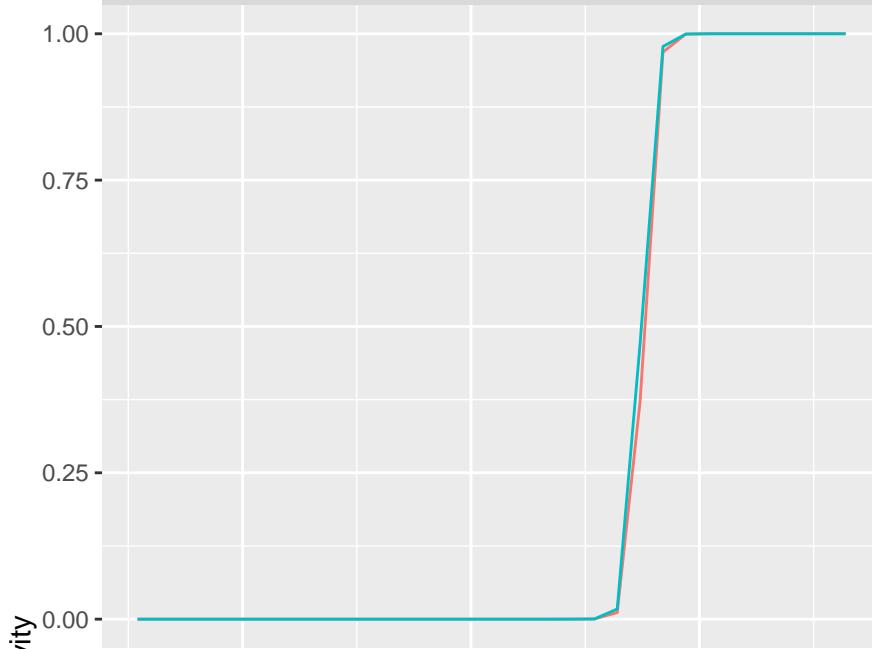


TCF: male retained selectivity (dodged)



TCF: male retention functions

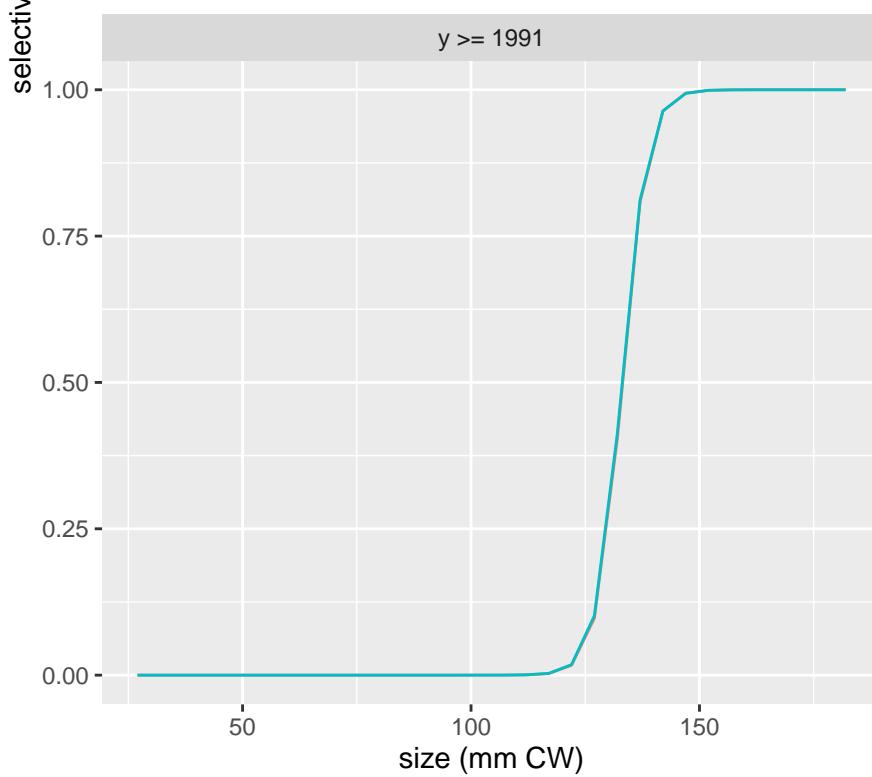
$y \leq 1990$



$y \geq 1991$

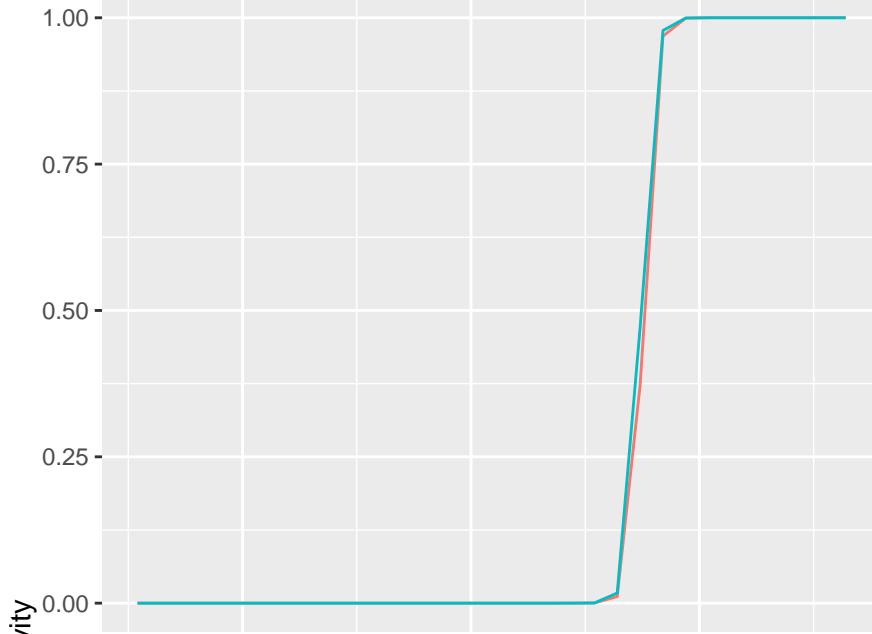
case

- 2015 Model
- Model 0



TCF: male retention functions (dodged)

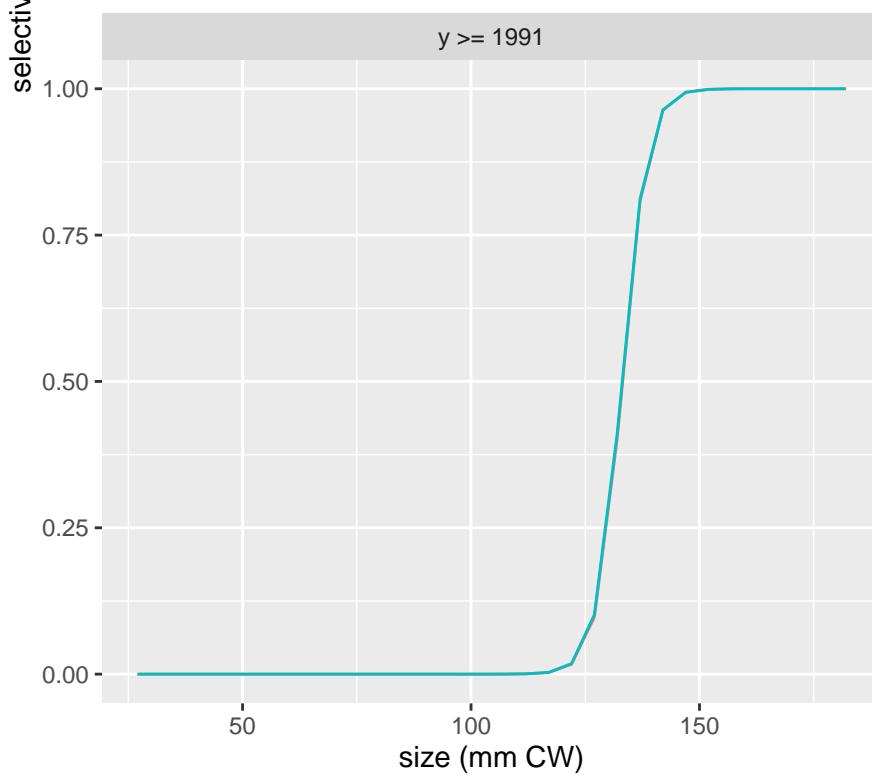
$y \leq 1990$



$y \geq 1991$

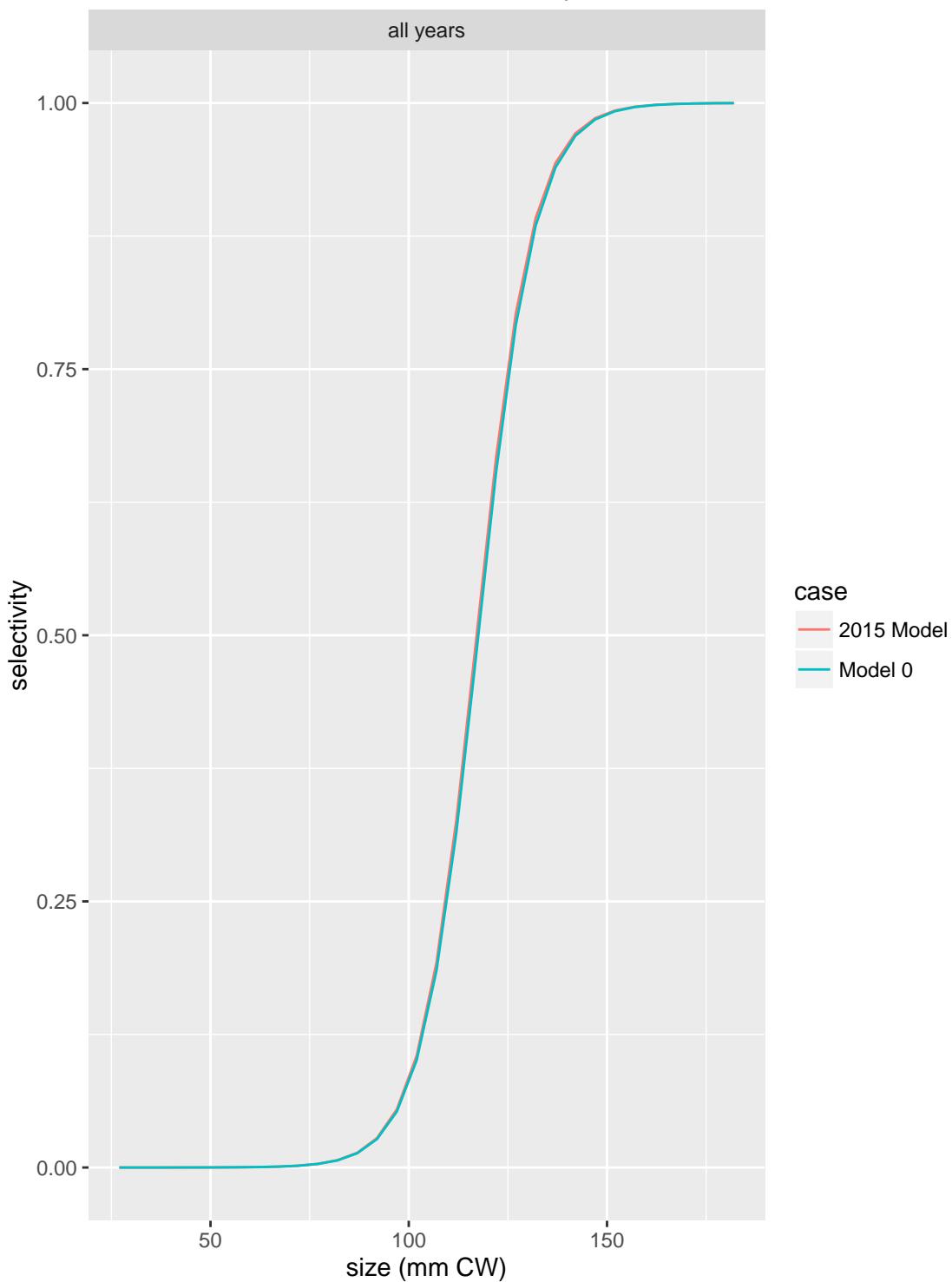
case

- 2015 Model
- Model 0



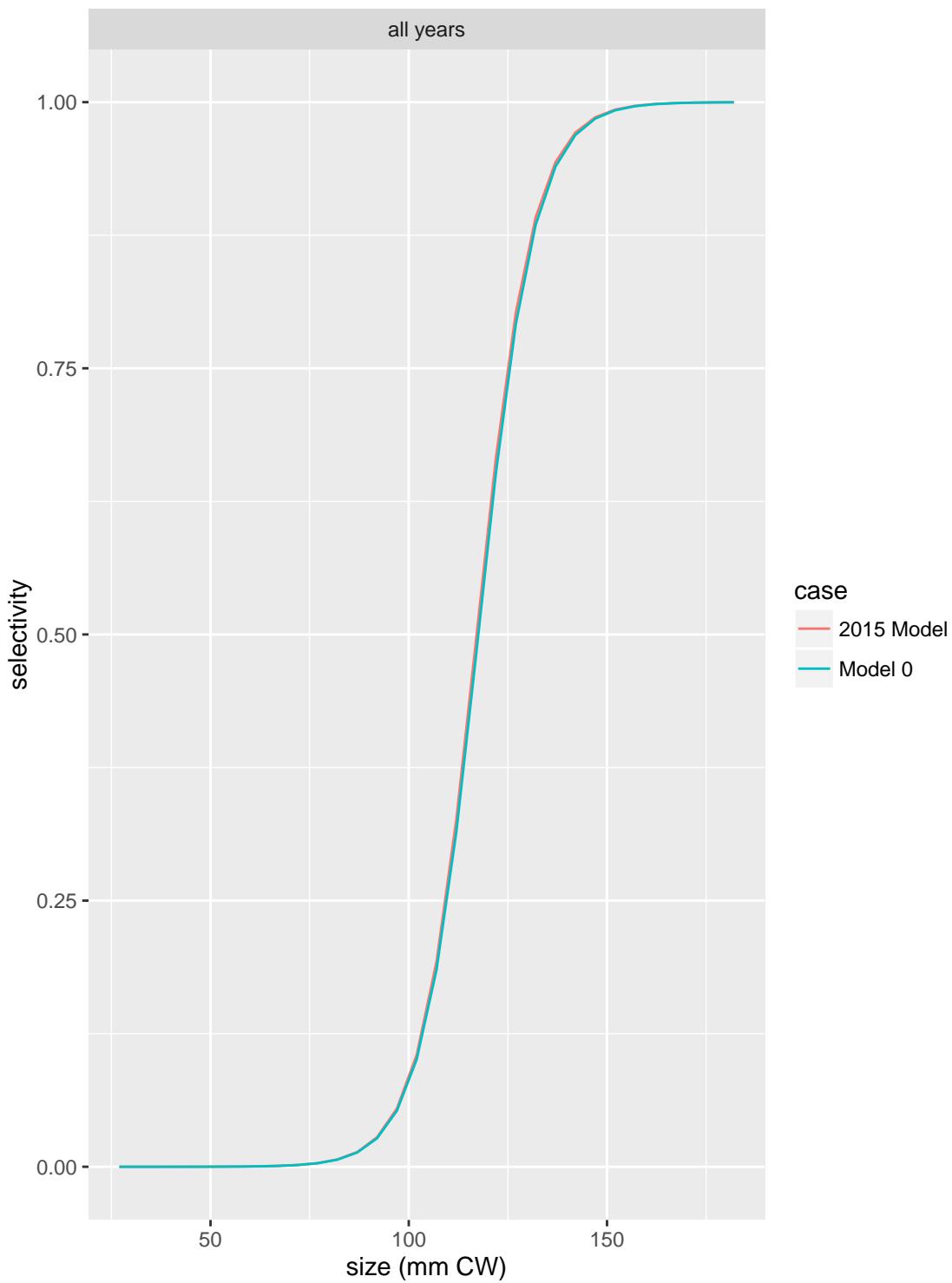
TCF: female selectivity

all years



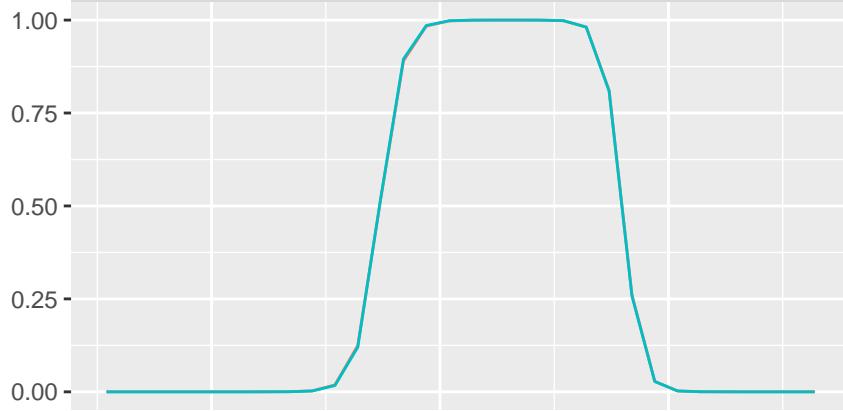
TCF: female selectivity (dodged)

all years

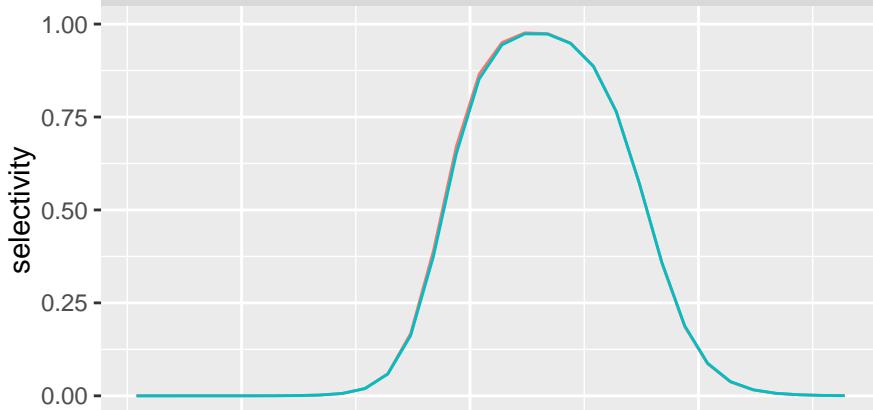


SCF: male selectivity

$y \leq 1996$

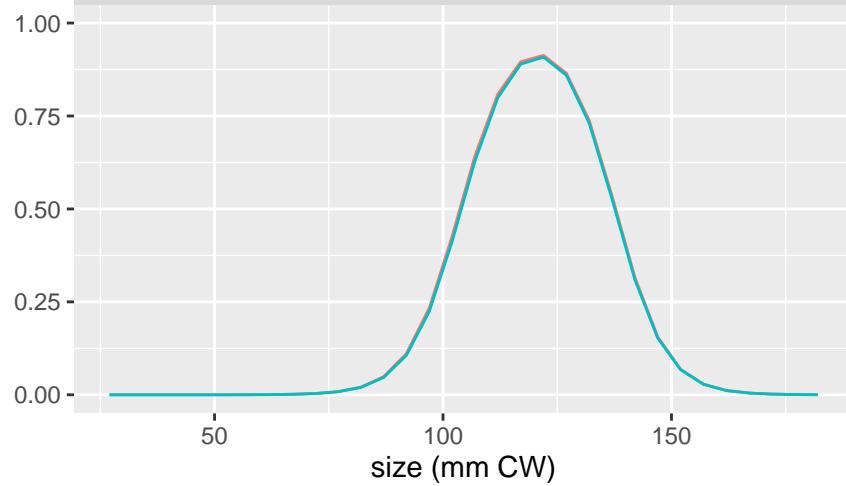


$1997 \leq y \leq 2004$



case
— 2015 Model
— Model 0

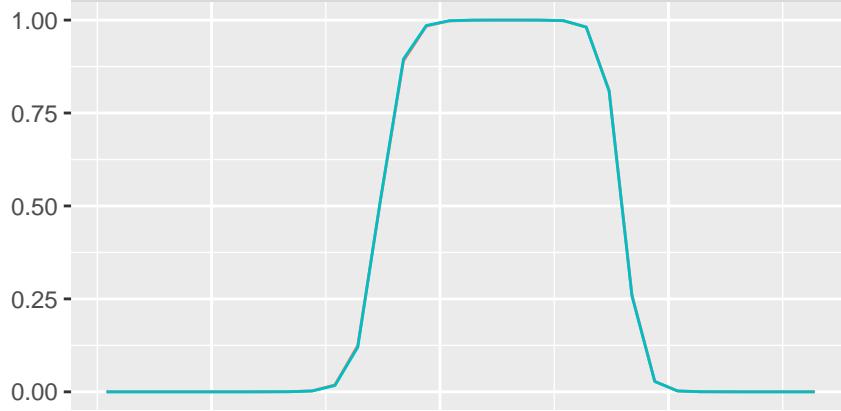
$2005 \leq y$



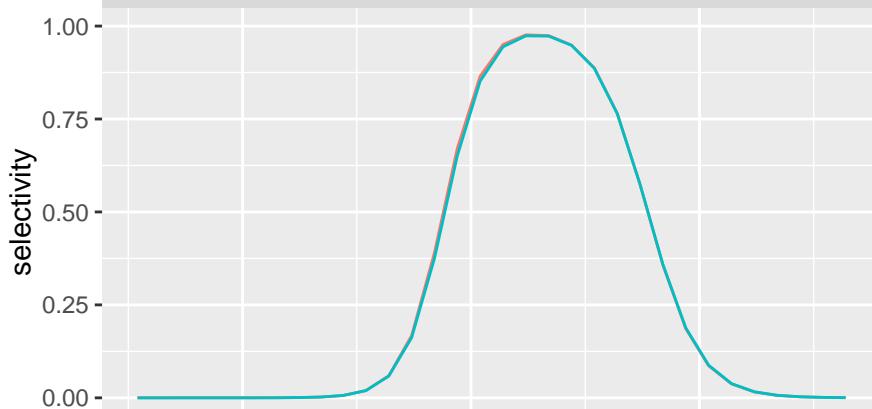
size (mm CW)

SCF: male selectivity (dodged)

$y \leq 1996$

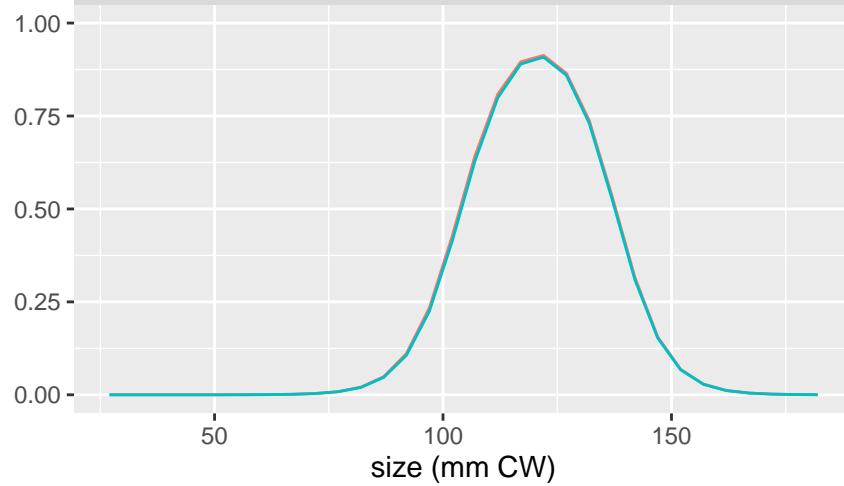


$1997 \leq y \leq 2004$



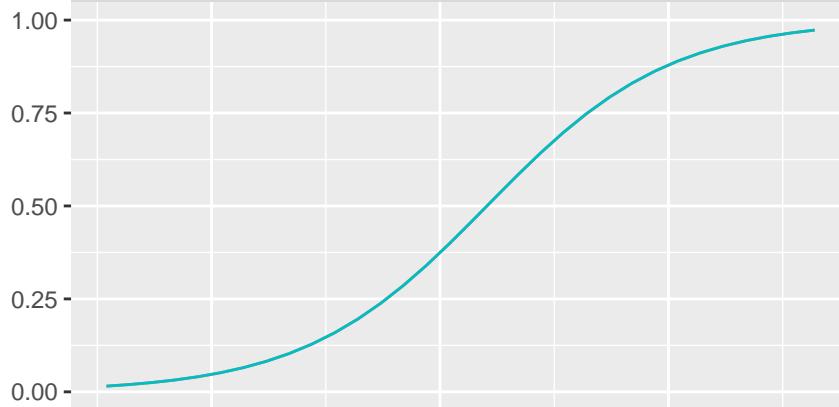
case
— 2015 Model
— Model 0

$2005 \leq y$

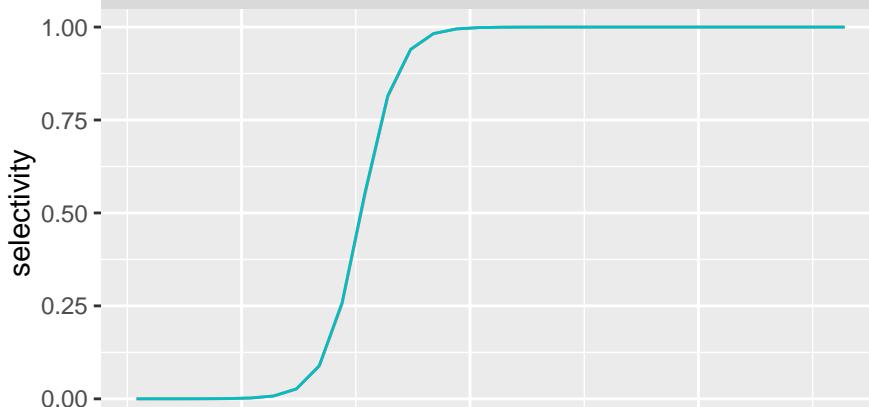


SCF: female selectivity

$y \leq 1996$

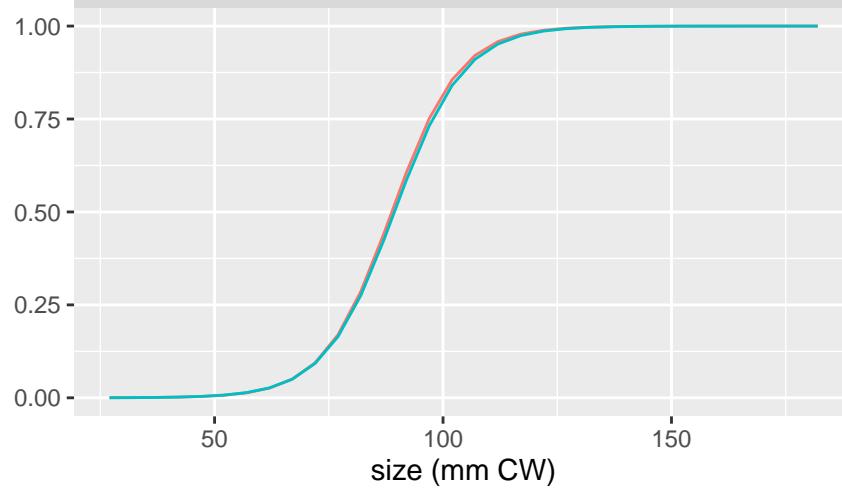


$1997 \leq y \leq 2004$



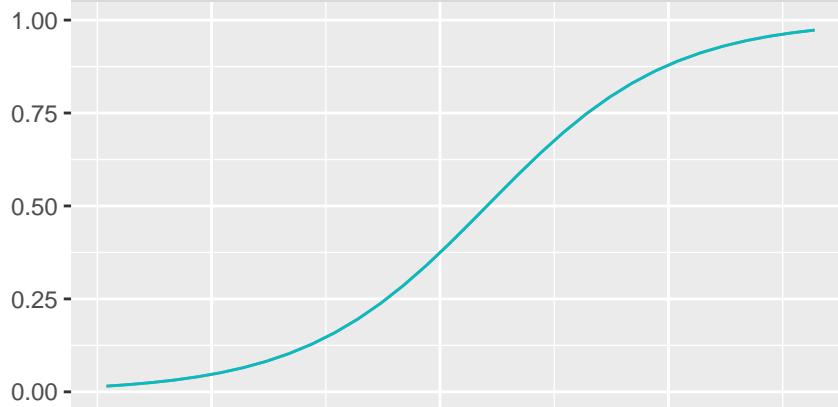
case
— 2015 Model
— Model 0

$2005 \leq y$

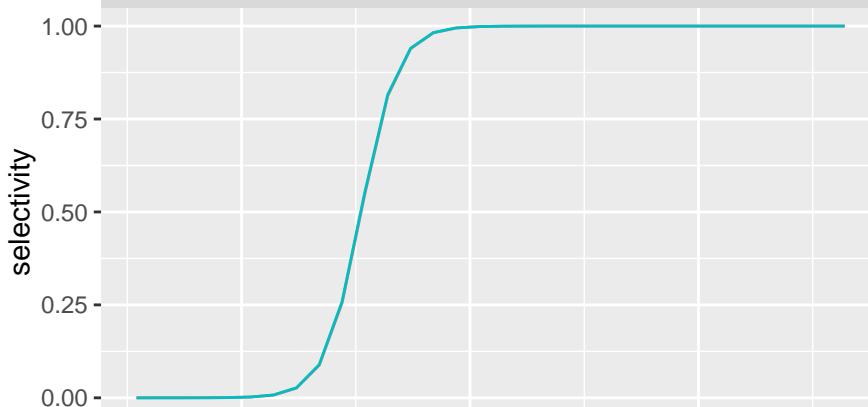


SCF: female selectivity (dodged)

$y \leq 1996$

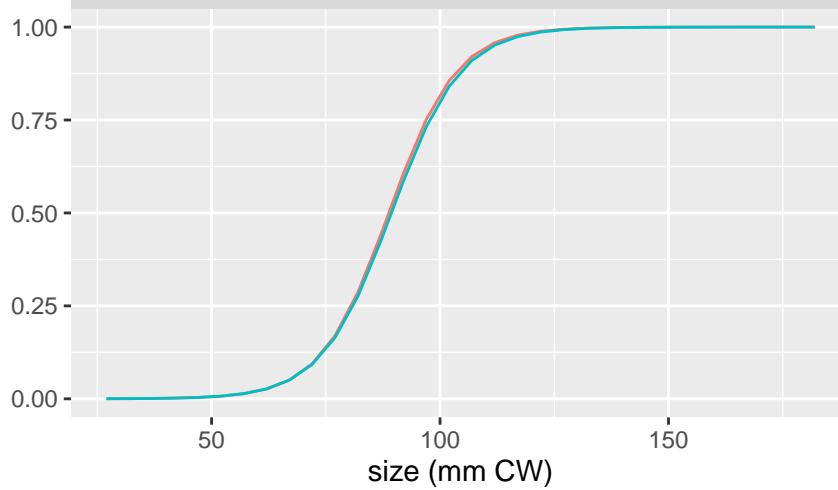


$1997 \leq y \leq 2004$



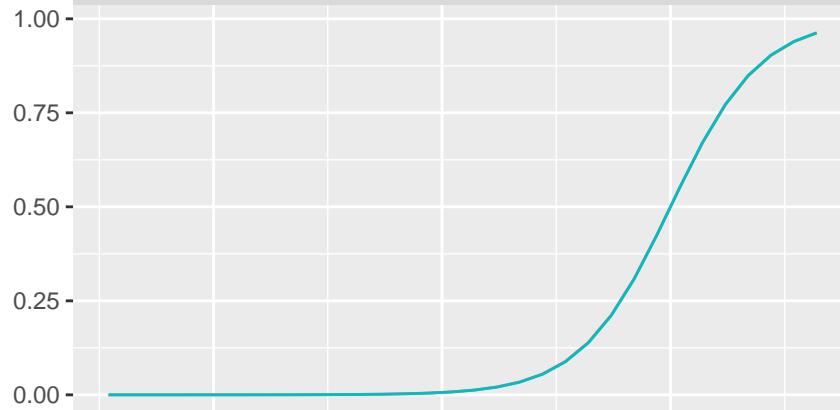
case
— 2015 Model
— Model 0

$2005 \leq y$

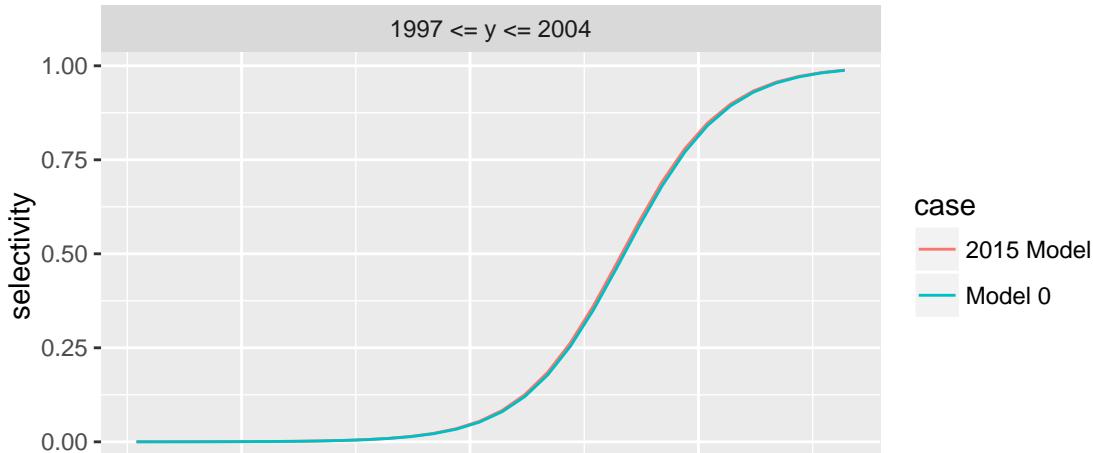


RKF: male selectivity

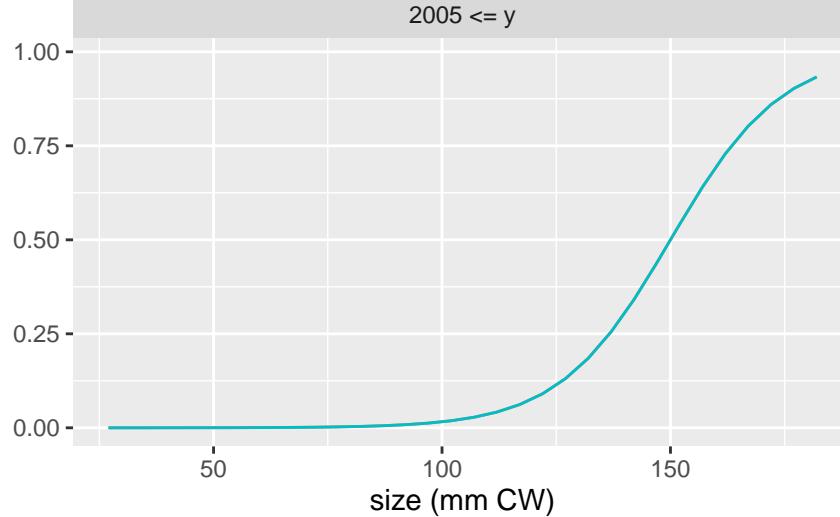
$y \leq 1996$



$1997 \leq y \leq 2004$



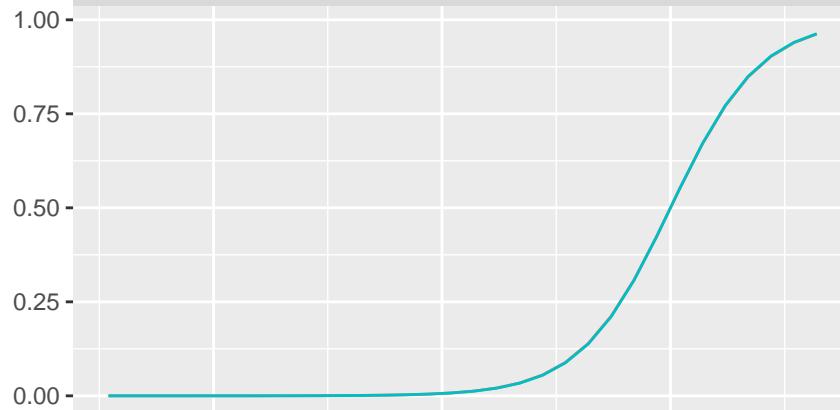
$2005 \leq y$



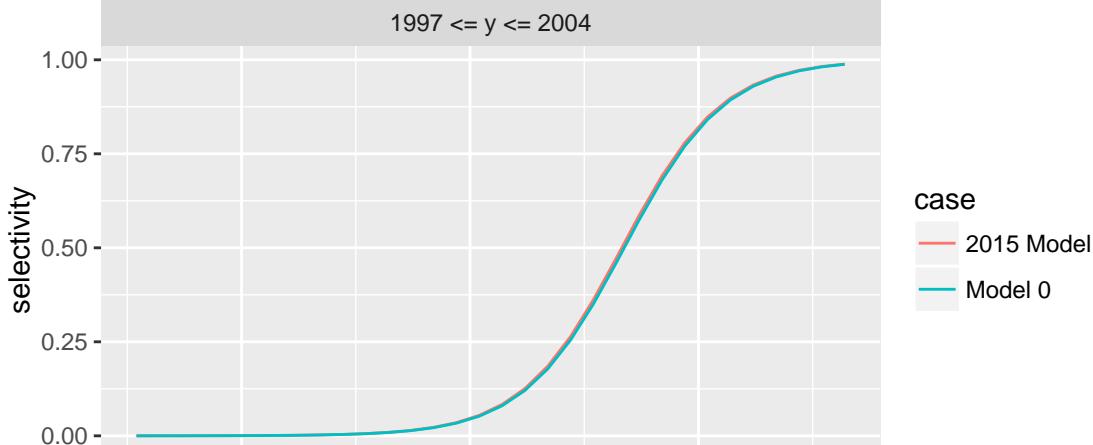
case
— 2015 Model
— Model 0

RKF: male selectivity (dodged)

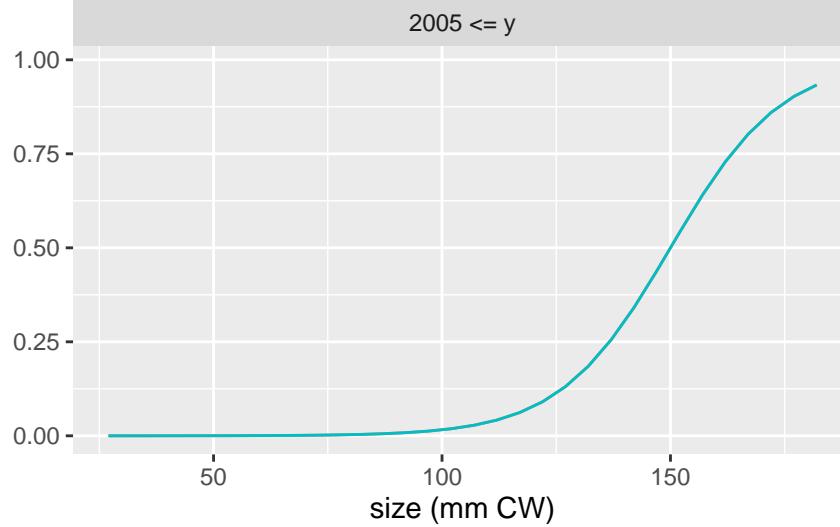
$y \leq 1996$



$1997 \leq y \leq 2004$



$2005 \leq y$

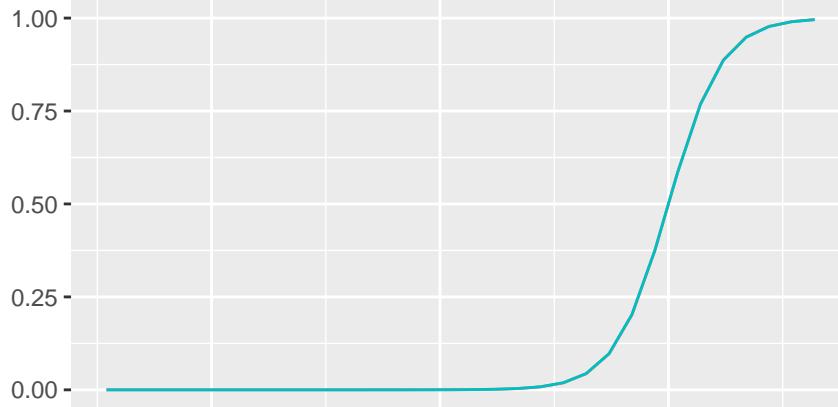


case

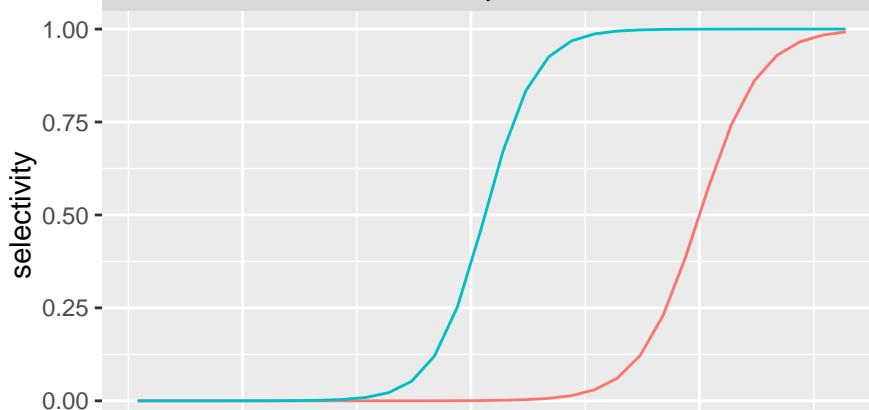
- 2015 Model
- Model 0

RKF: female selectivity

$y \leq 1996$

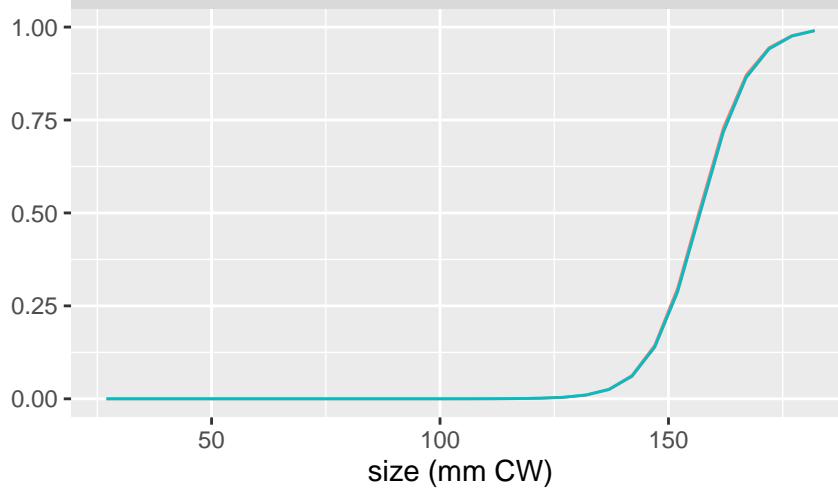


$1997 \leq y \leq 2004$



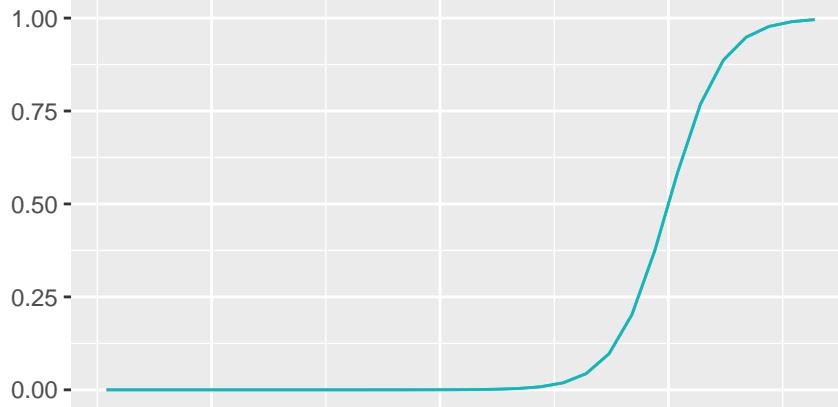
case
— 2015 Model
— Model 0

$2005 \leq y$

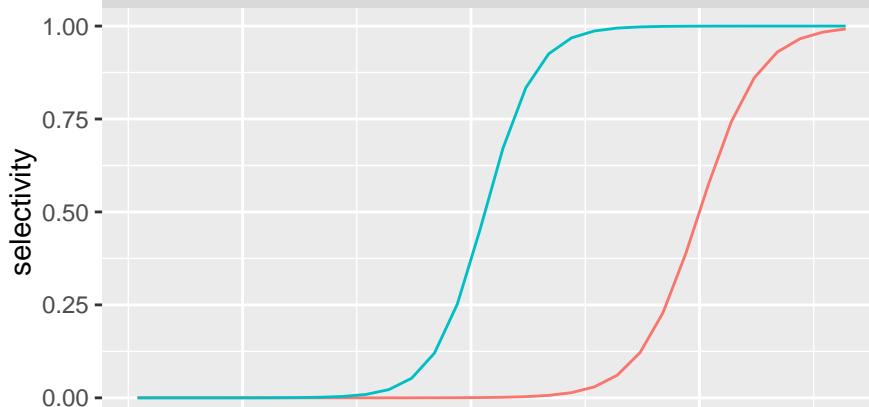


RKF: female selectivity (dodged)

$y \leq 1996$



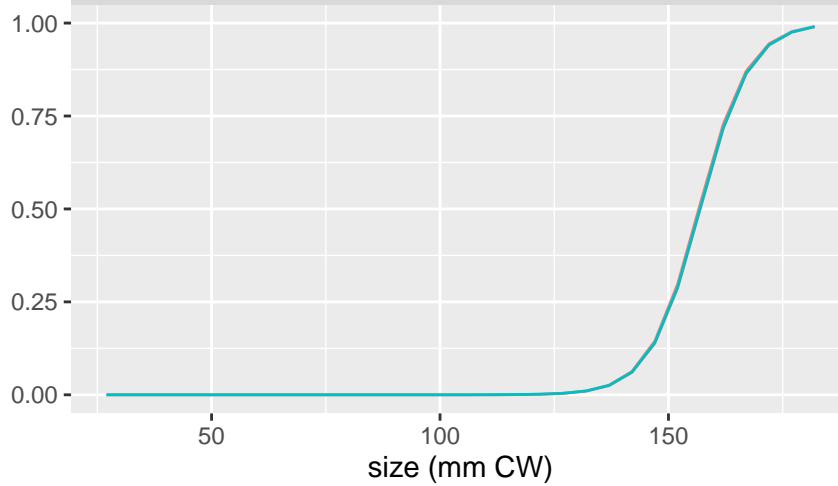
$1997 \leq y \leq 2004$



case

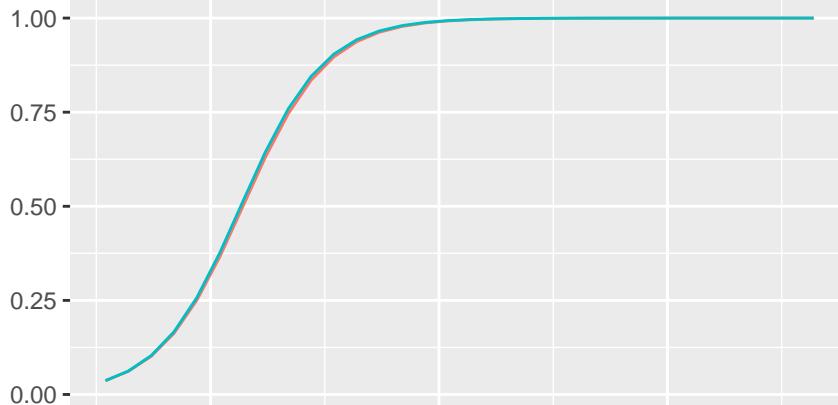
- 2015 Model
- Model 0

$2005 \leq y$

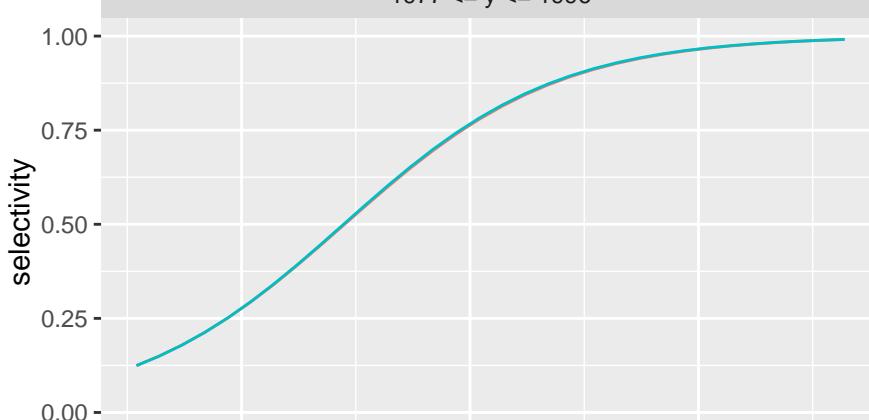


GTF: male selectivity

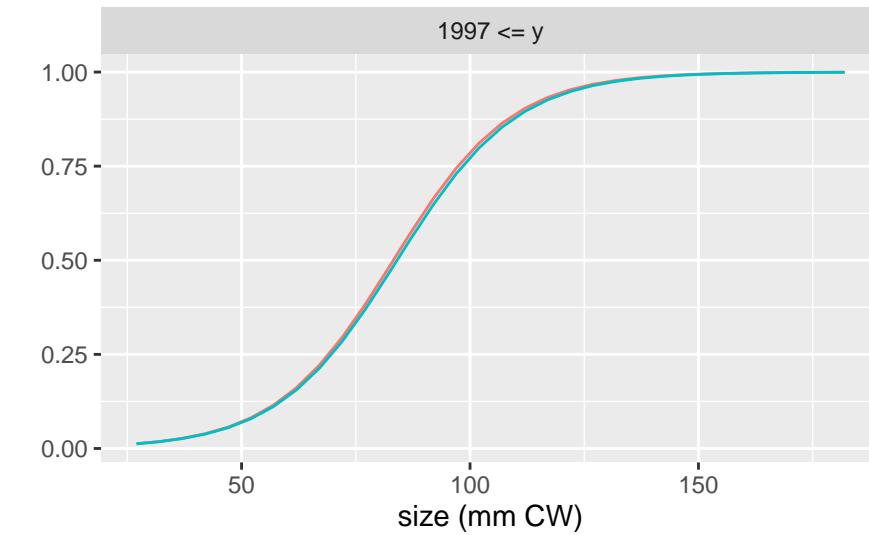
$y \leq 1986$



$1977 \leq y \leq 1996$



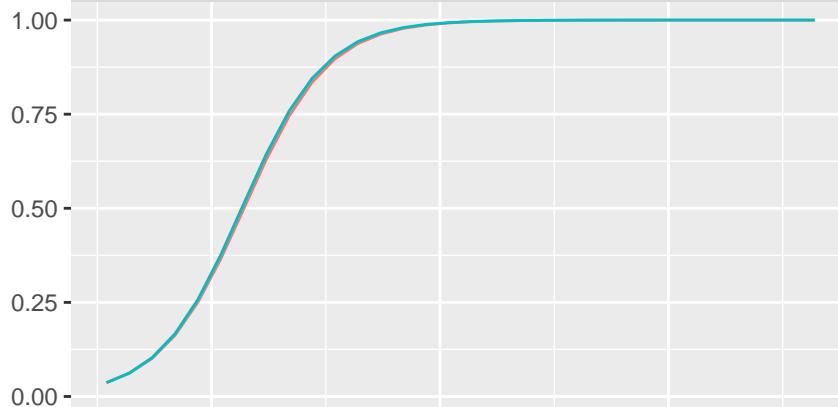
$1997 \leq y$



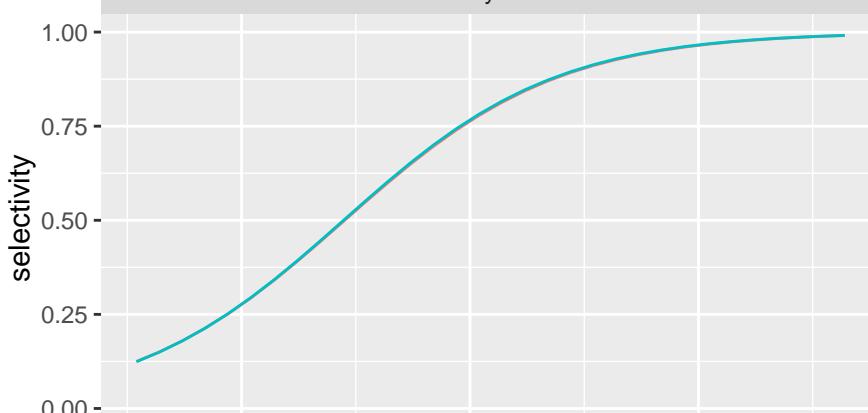
case
— 2015 Model
— Model 0

GTF: male selectivity (dodged)

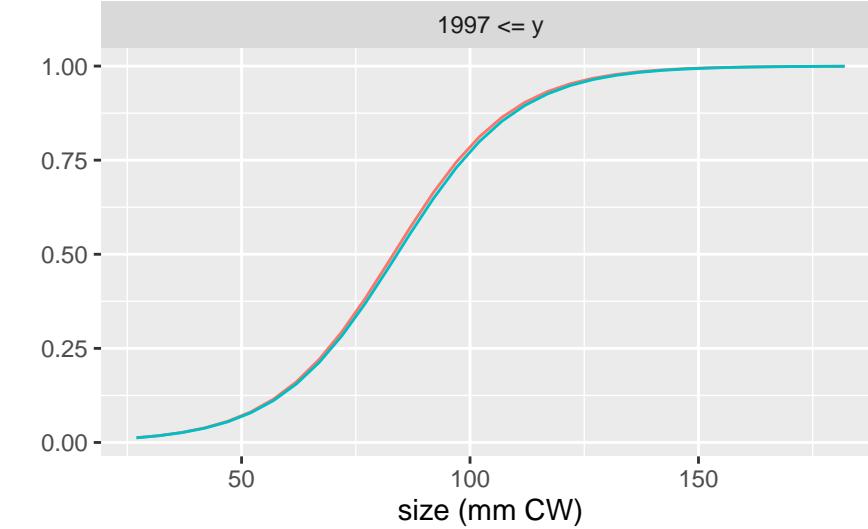
$y \leq 1986$



$1977 \leq y \leq 1996$



$1997 \leq y$



case

- 2015 Model
- Model 0

GTF: female selectivity

$y \leq 1986$

0.75
0.50
0.25
0.00

$1977 \leq y \leq 1996$

0.75
0.50
0.25
0.00

$1997 \leq y$

0.75
0.50
0.25
0.00

50 100 150

size (mm CW)

case
2015 Model
Model 0

GTF: female selectivity (dodged)

$y \leq 1986$

0.75
0.50
0.25
0.00

$1977 \leq y \leq 1996$

0.75
0.50
0.25
0.00

$1997 \leq y$

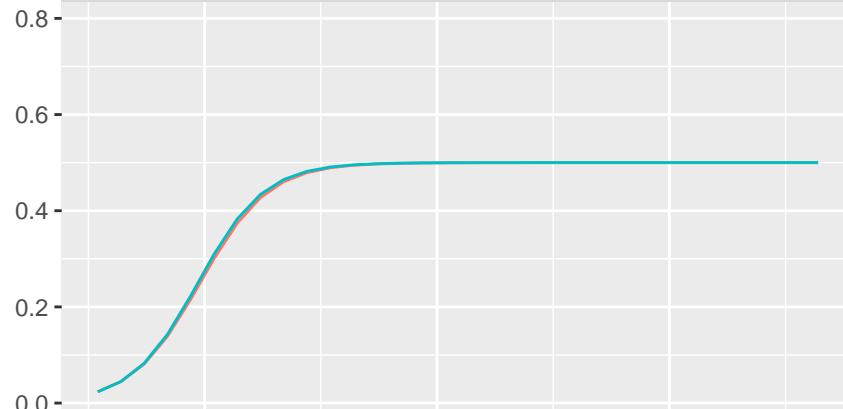
size (mm CW)

case
2015 Model
Model 0

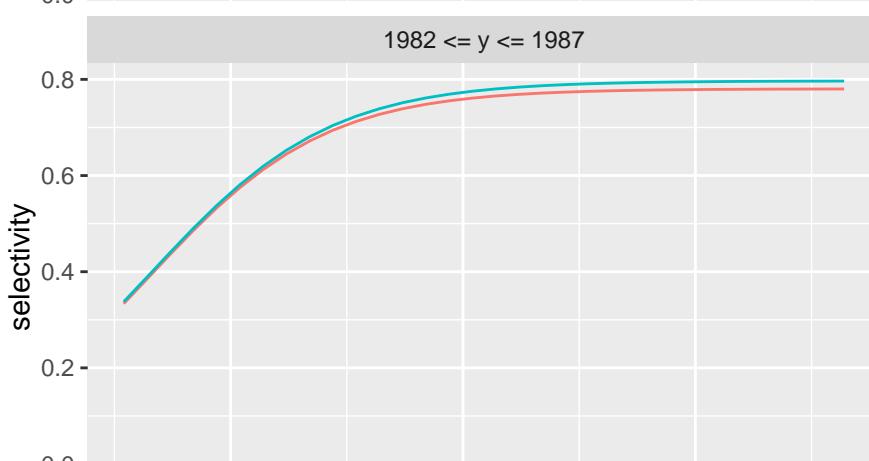
50 100 150

NMFS trawl survey: male selectivity

1974 <= y <= 1981

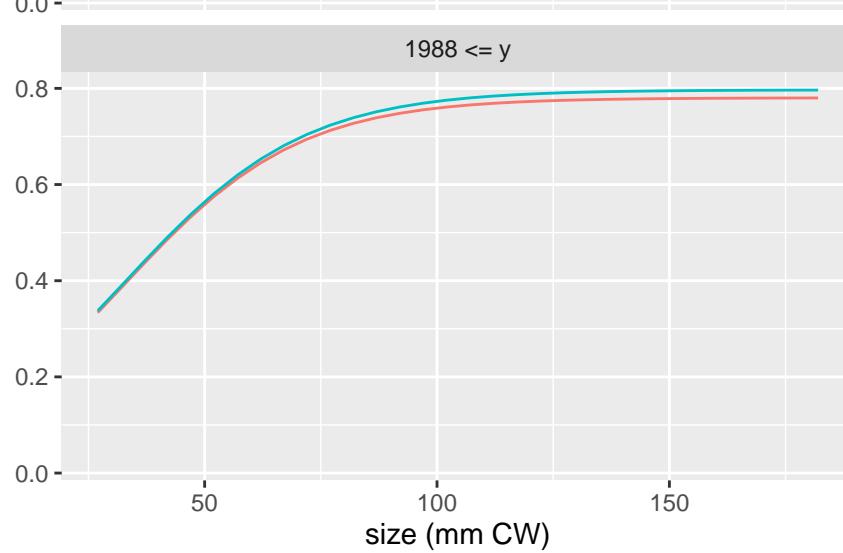


1982 <= y <= 1987



case
— 2015 Model
— Model 0

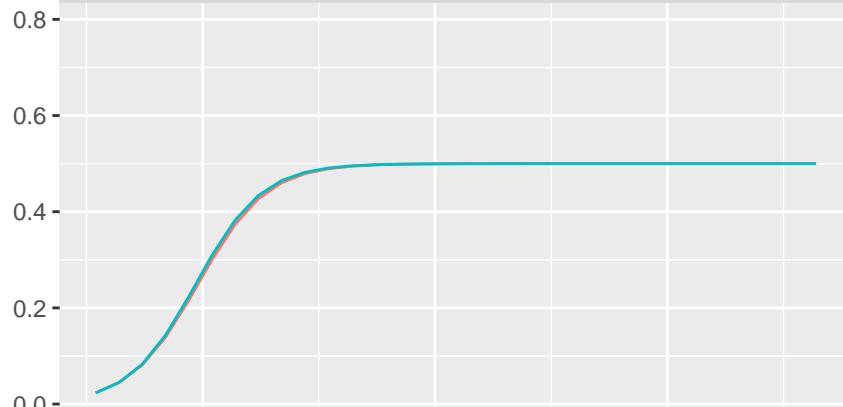
1988 <= y



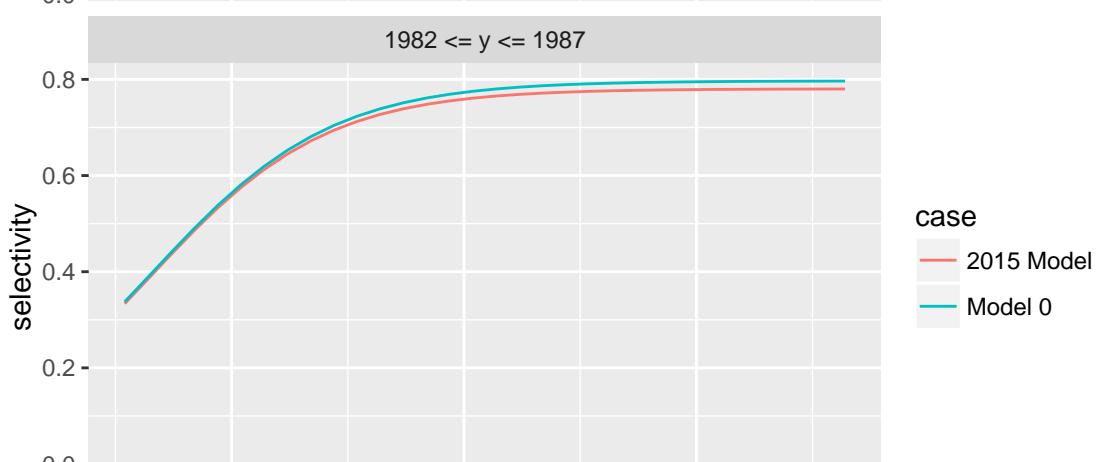
size (mm CW)

NMFS trawl survey: male selectivity (dodged)

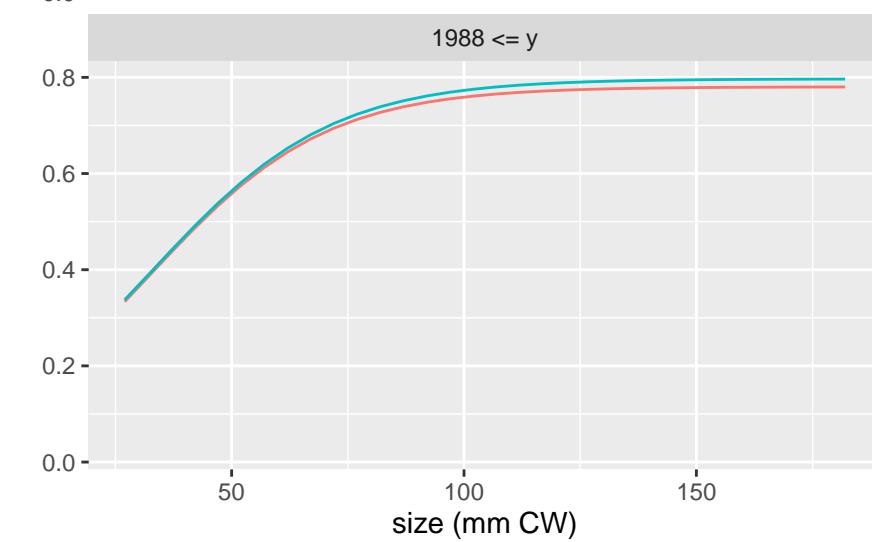
1974 <= y <= 1981



1982 <= y <= 1987



1988 <= y

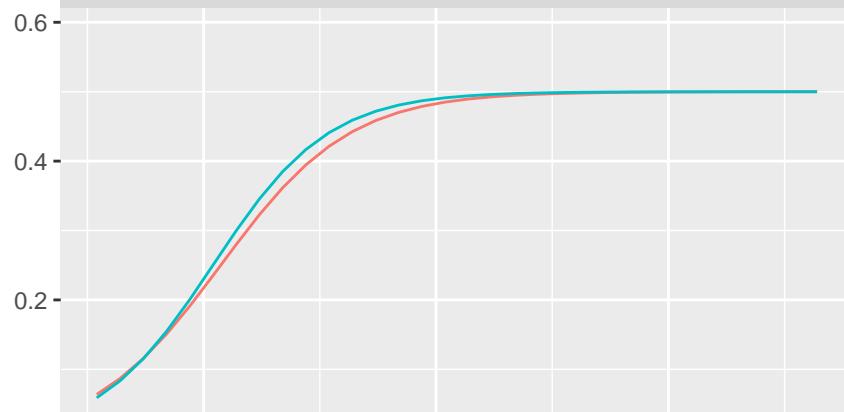


case

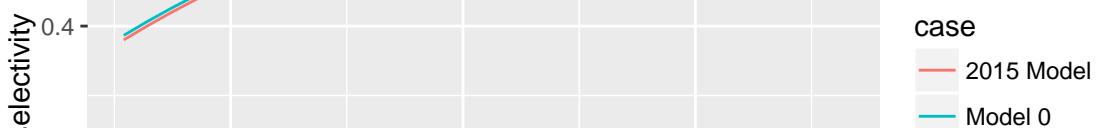
- 2015 Model
- Model 0

NMFS trawl survey: female selectivity

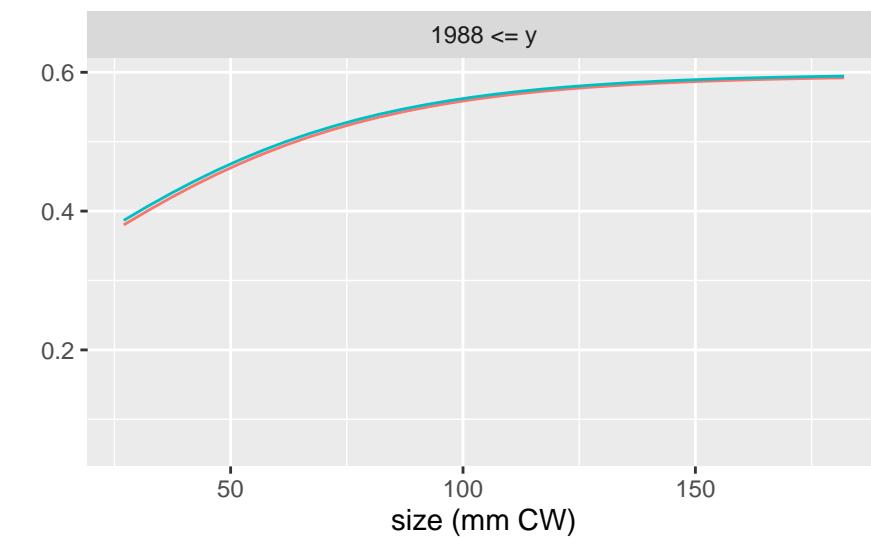
1974 <= y <= 1981



1982 <= y <= 1987



1988 <= y

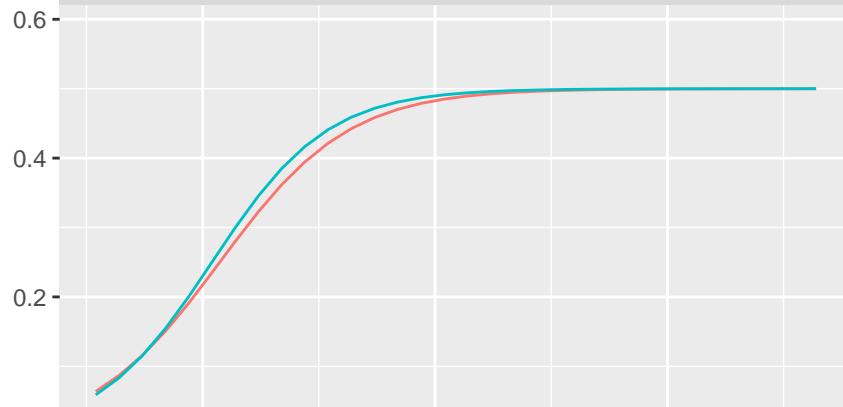


case

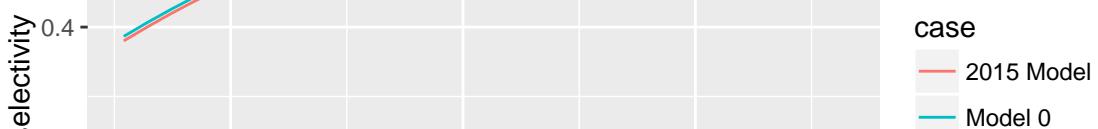
- 2015 Model
- Model 0

NMFS trawl survey: female selectivity (dodged)

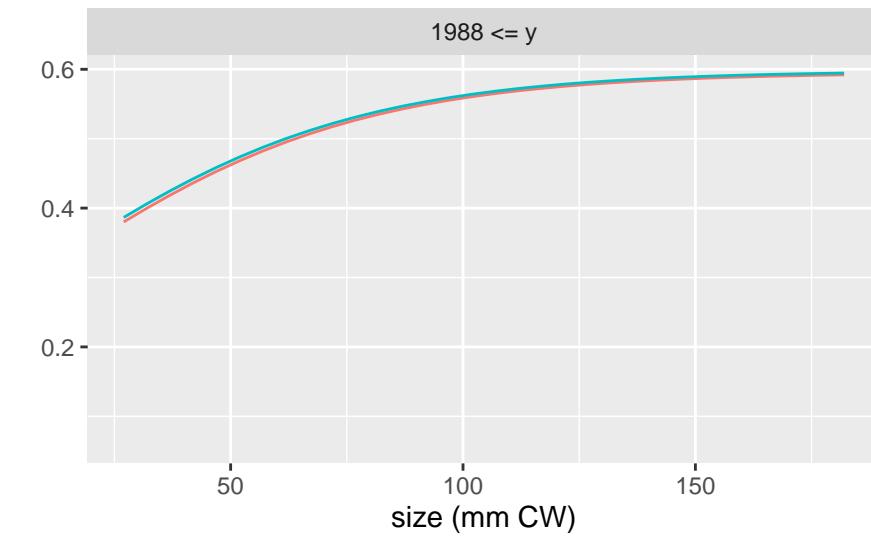
1974 <= y <= 1981



1982 <= y <= 1987



1988 <= y



case

- 2015 Model
- Model 0