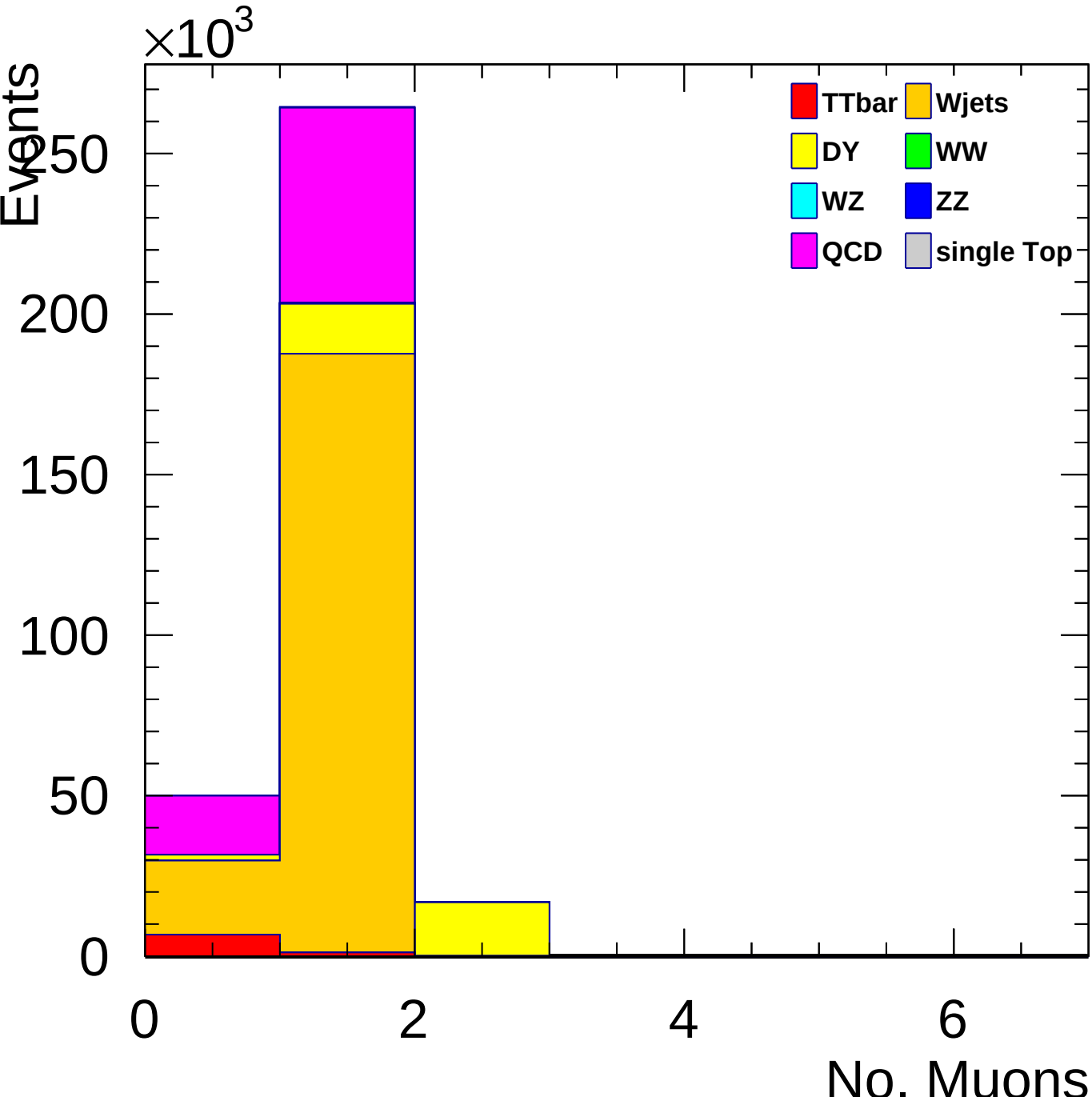
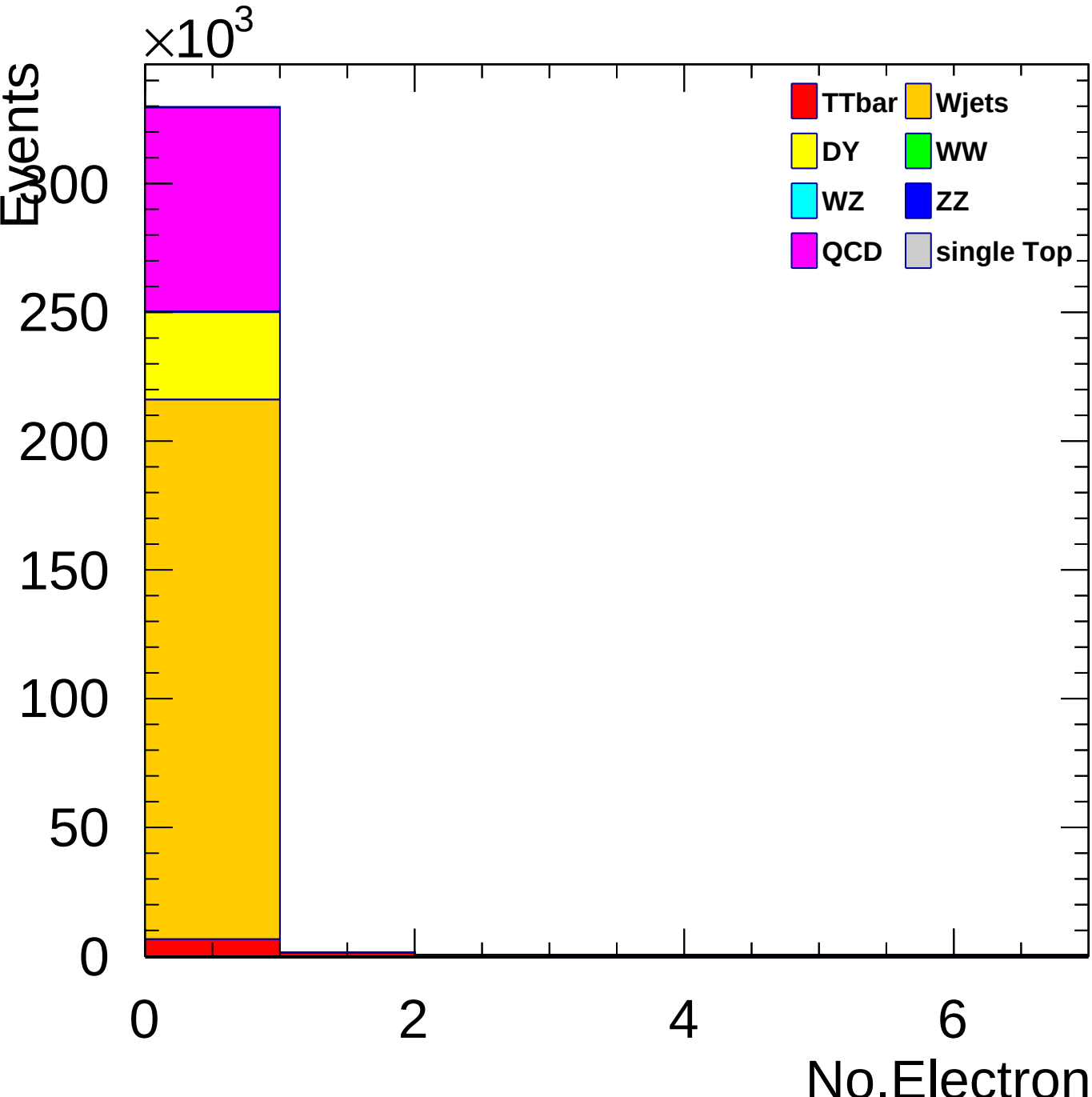
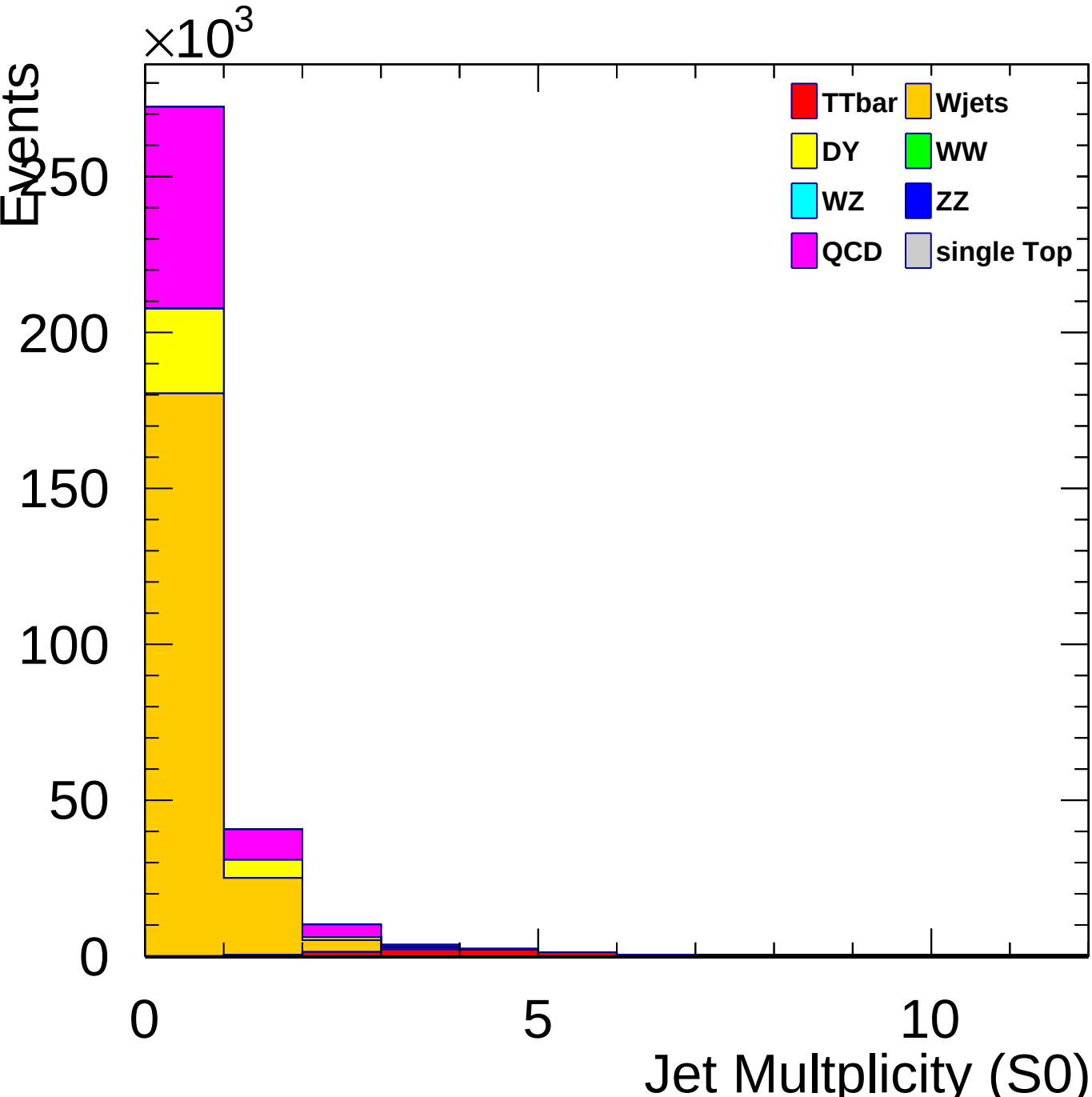
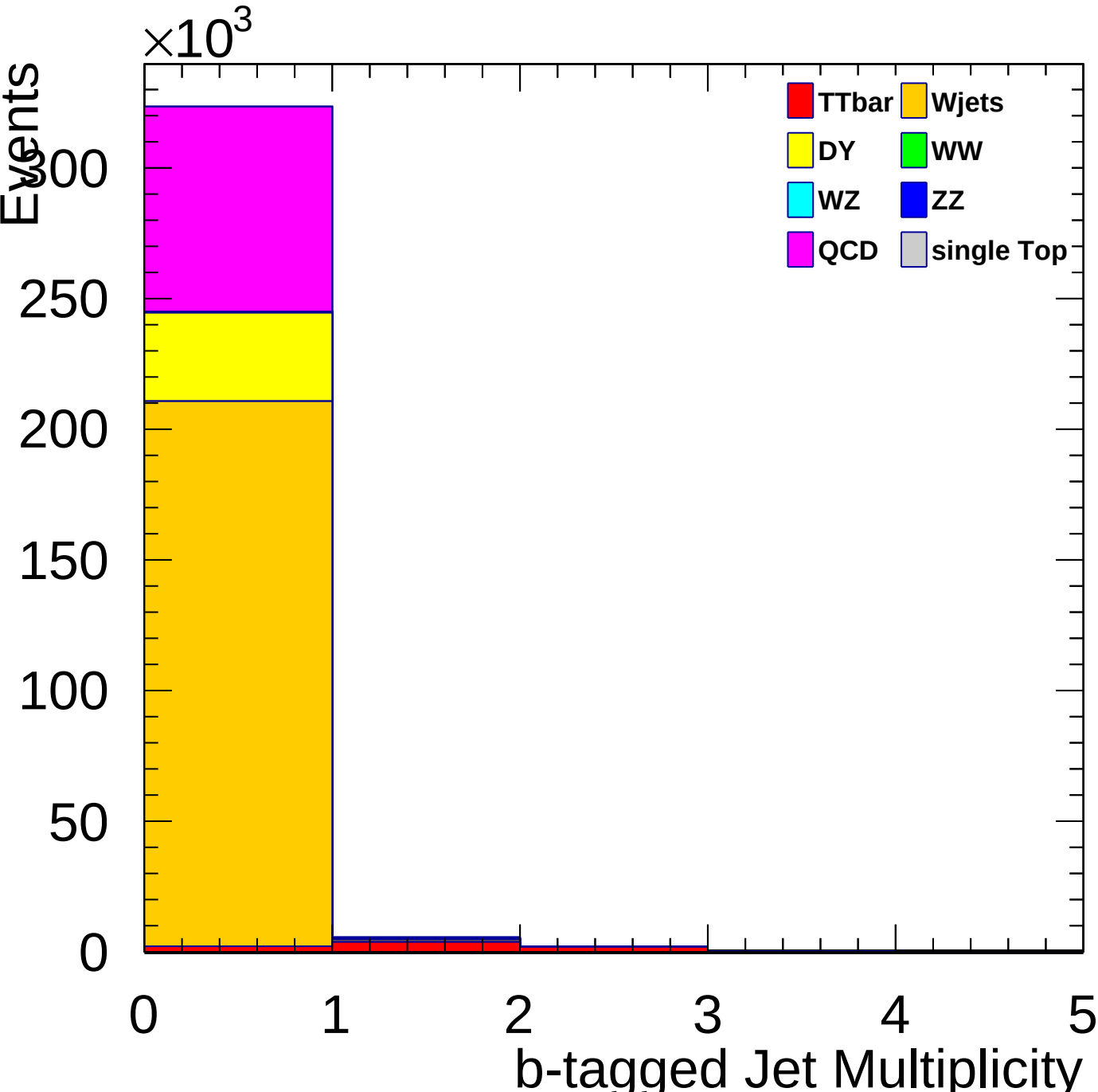
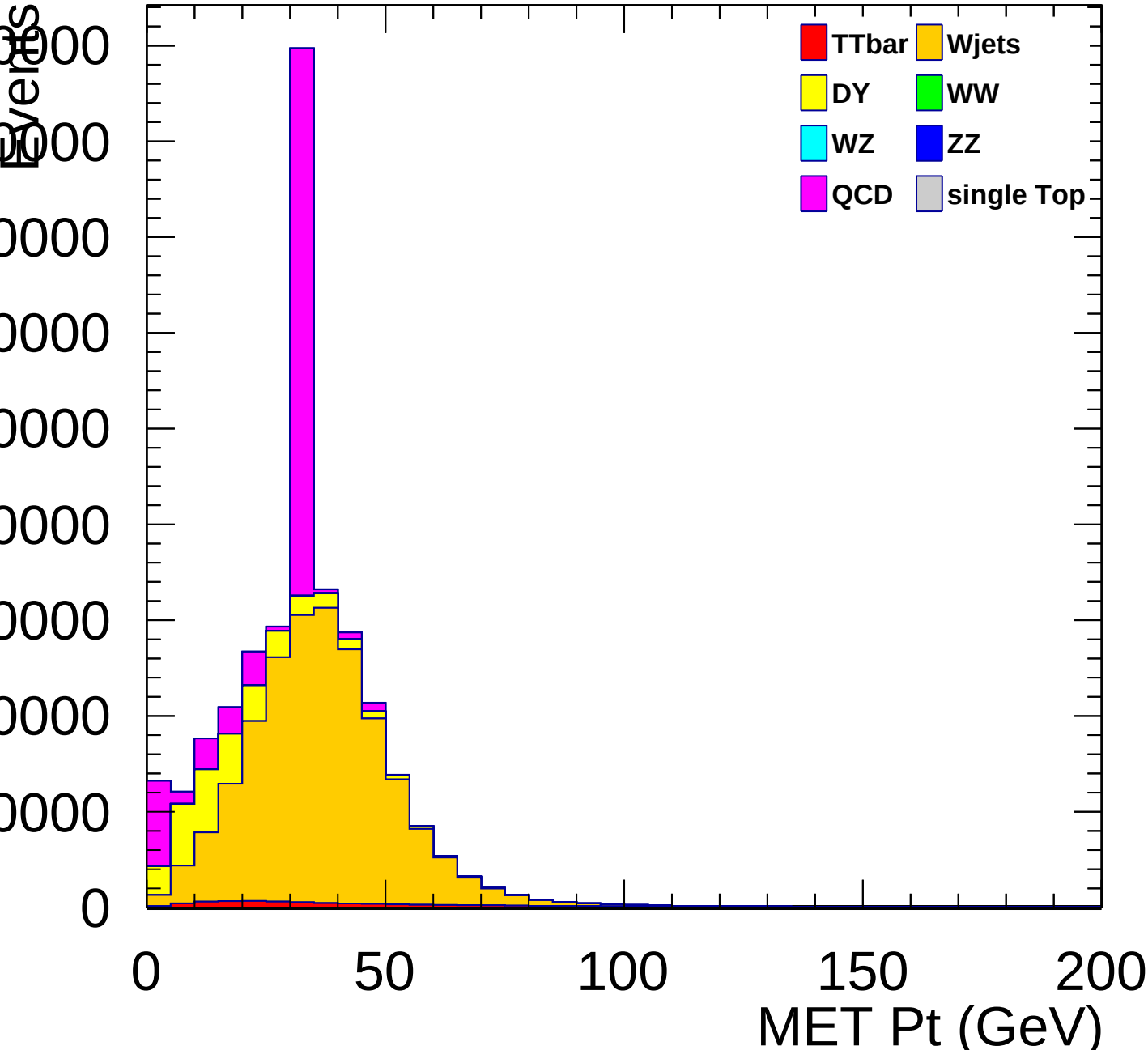
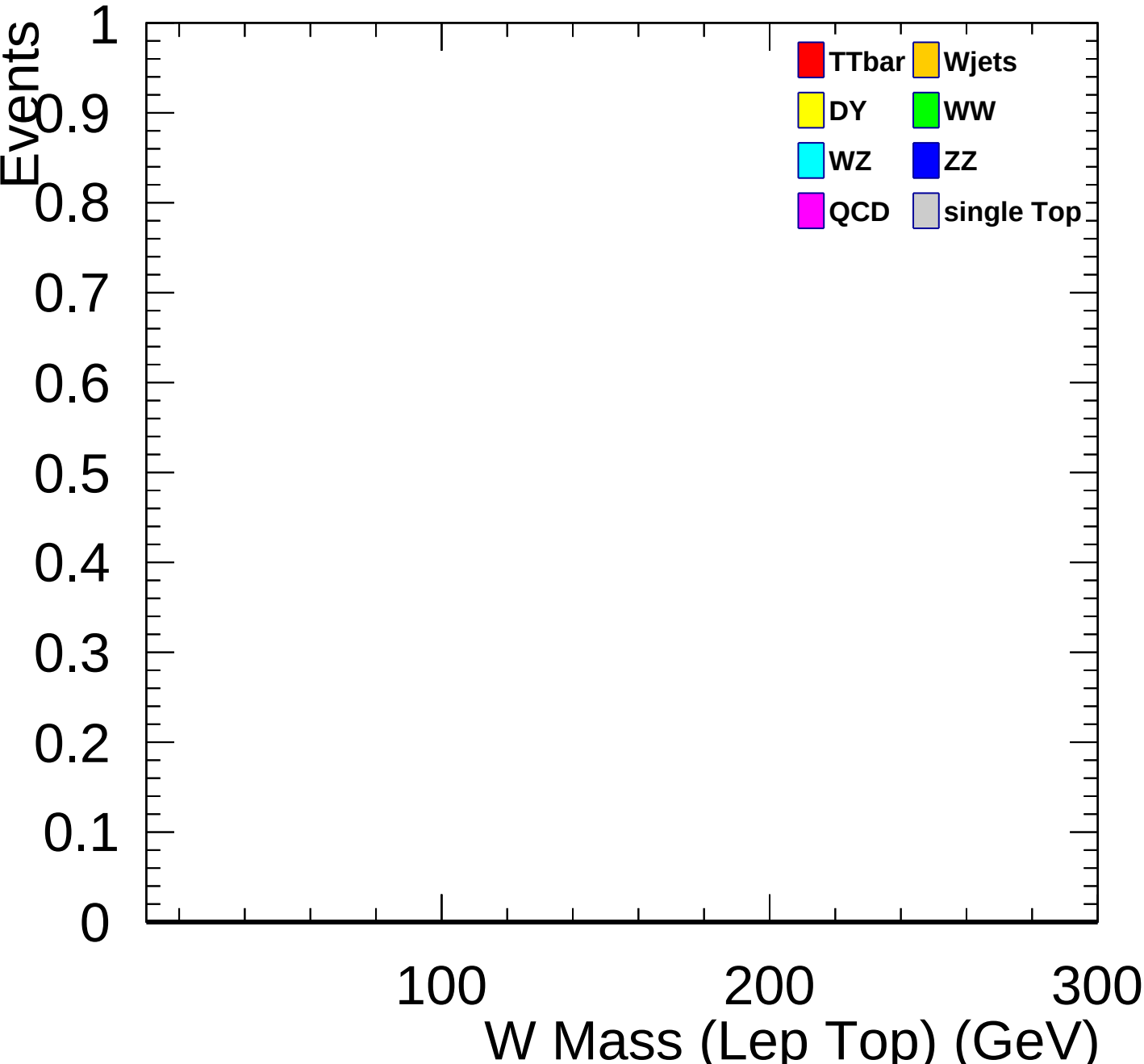

×10^3
Events
250
200
150
100
50
0
0
2
4
6
No. Muons
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

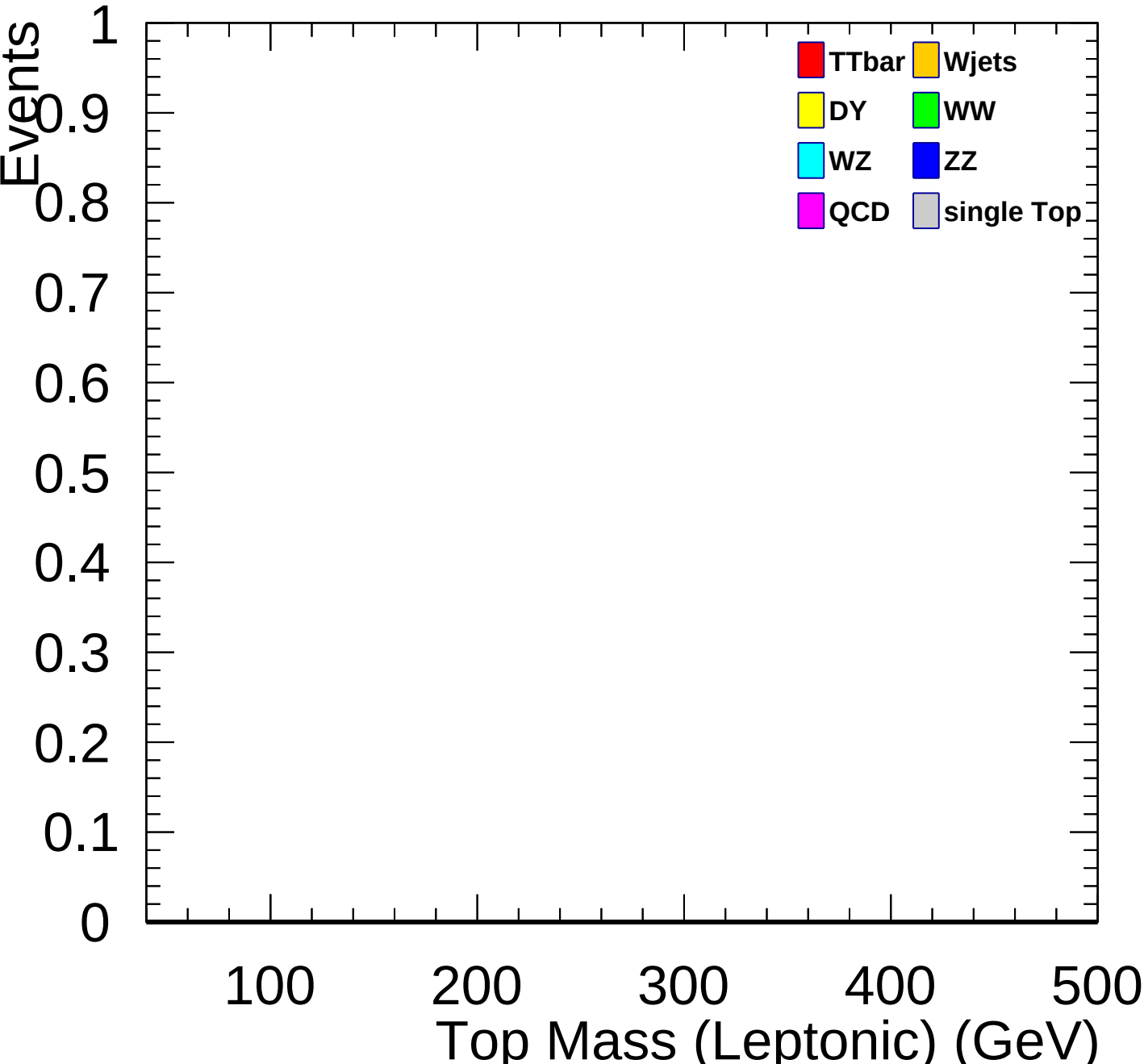

×10^3
Events
300
250
200
150
100
50
0
0
2
4
6
No.Electron
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

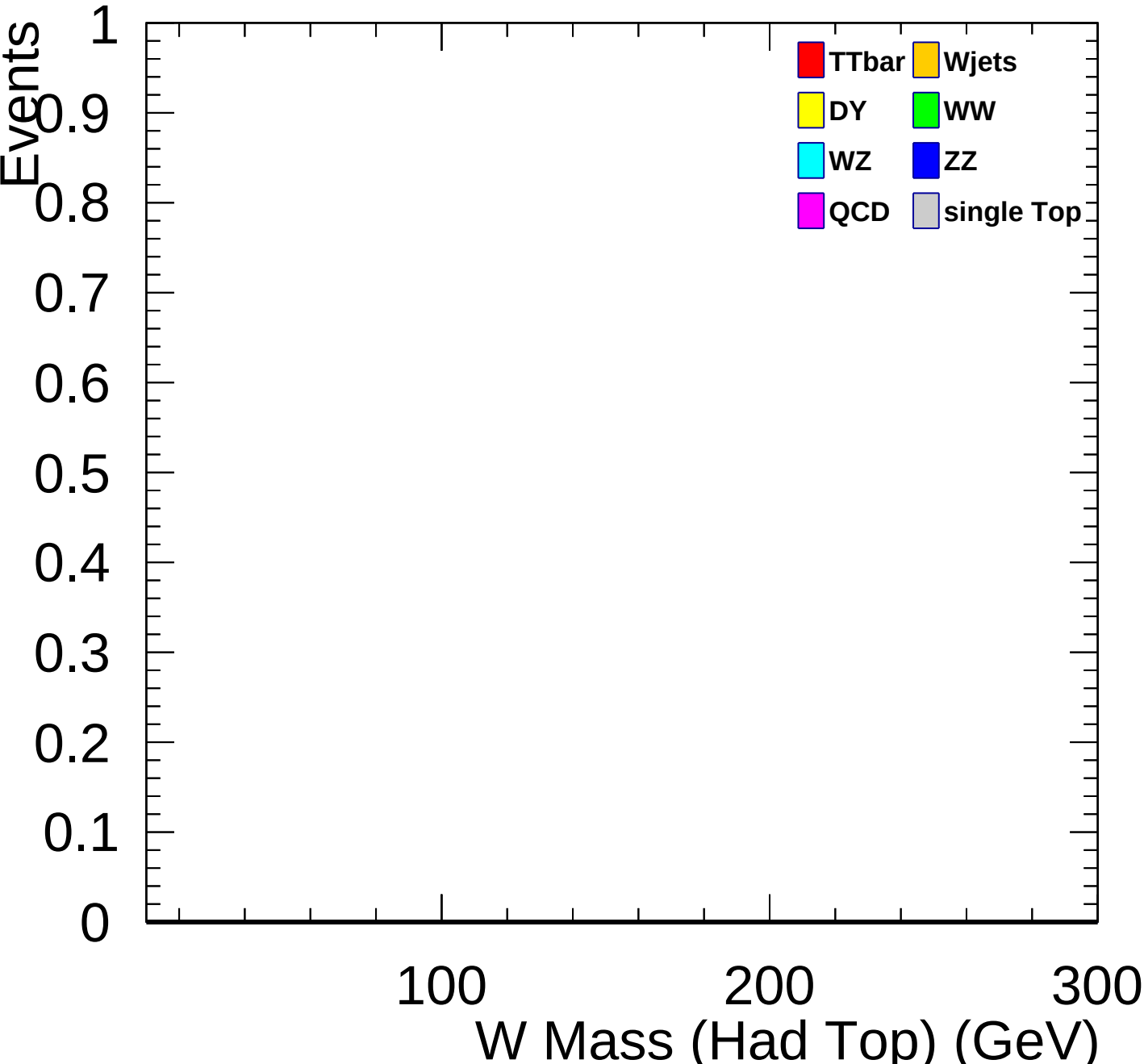

×10^3
Events
250
200
150
100
50
0
0
5
10
Jet Multplicity (S0)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

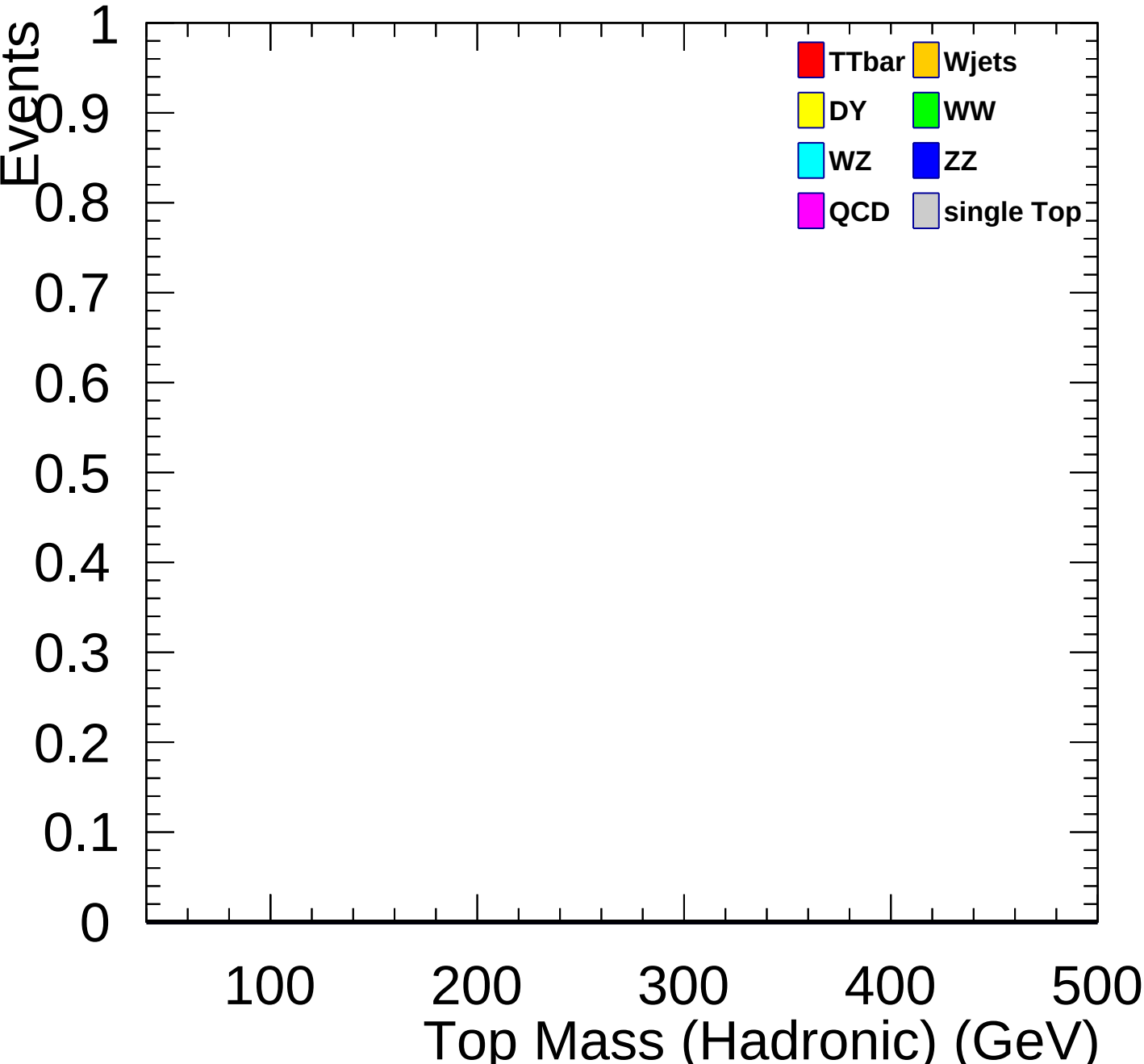

×10^3
Events
300
250
200
150
100
50
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

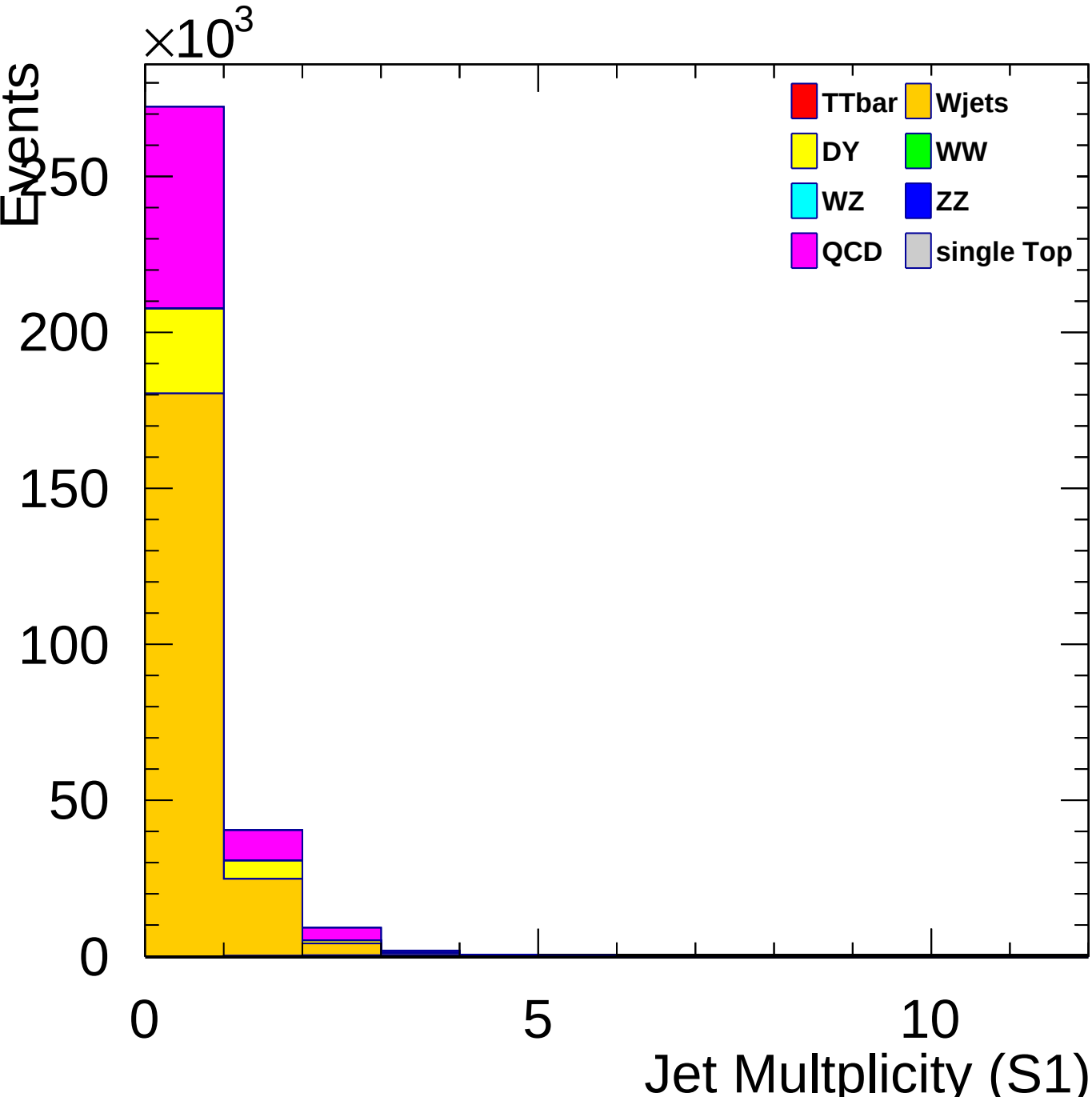

Events
0000
0000
0000
0000
0000
0000
0000
0000
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

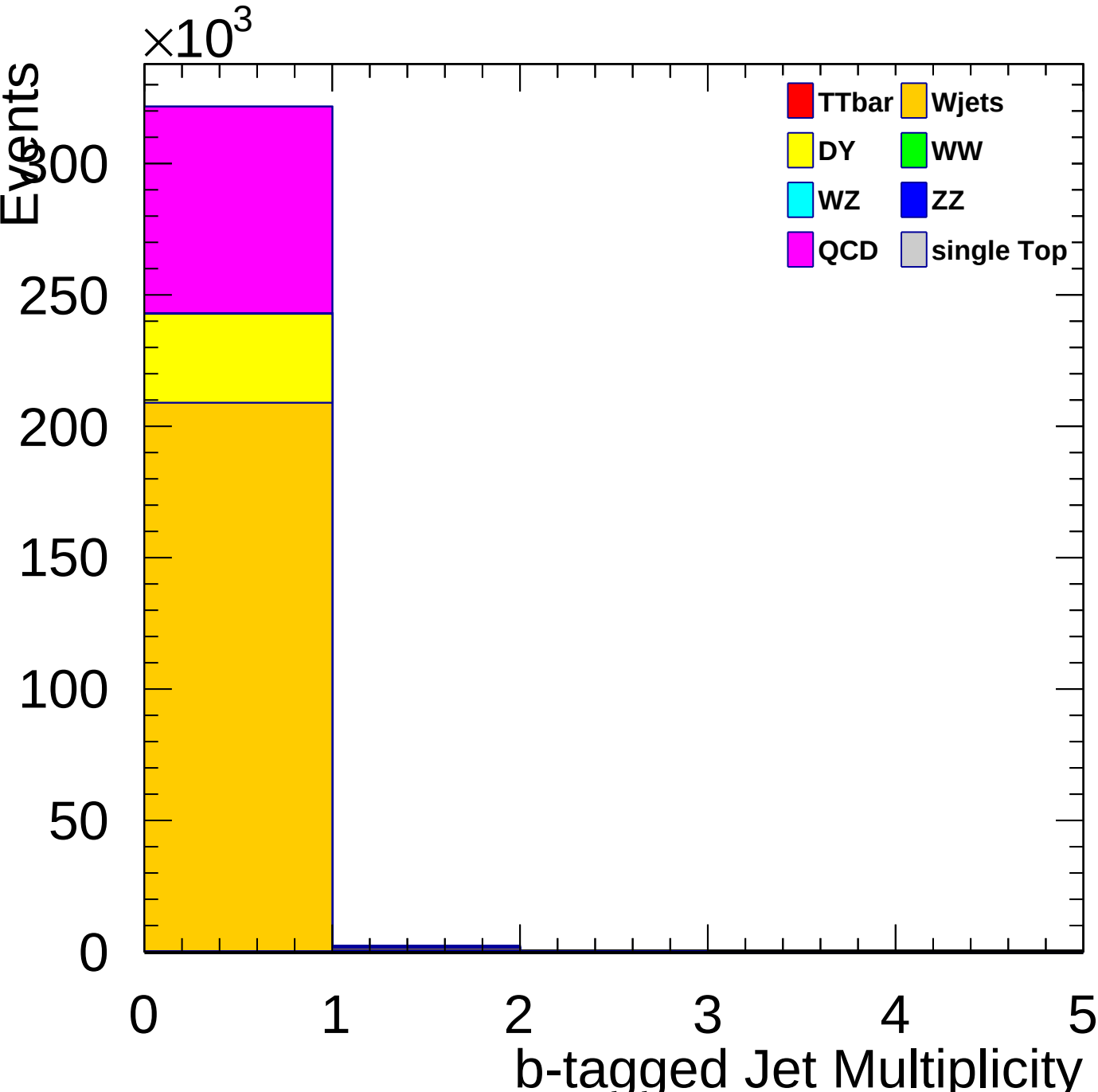

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Lep Top) (GeV)

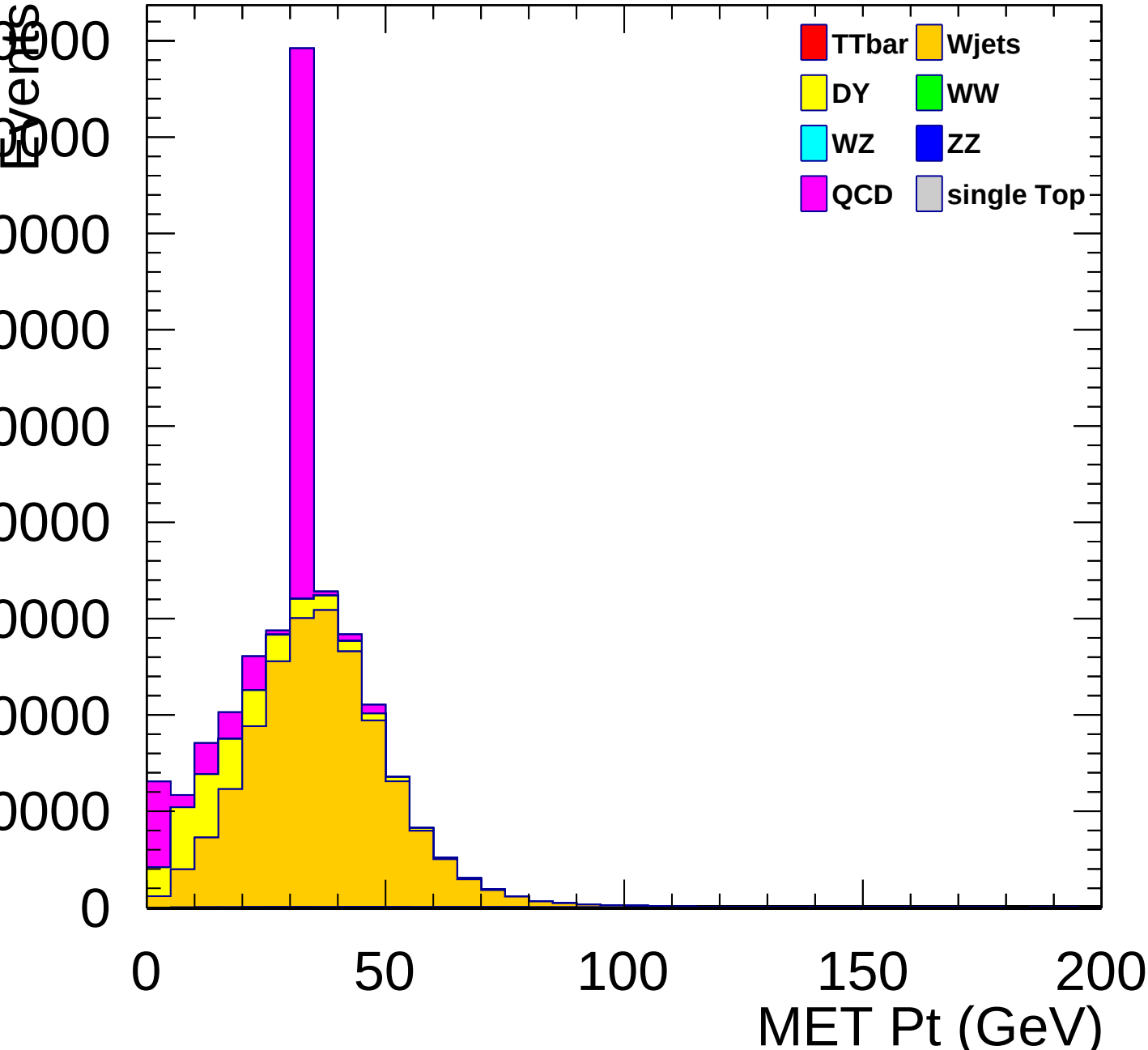

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

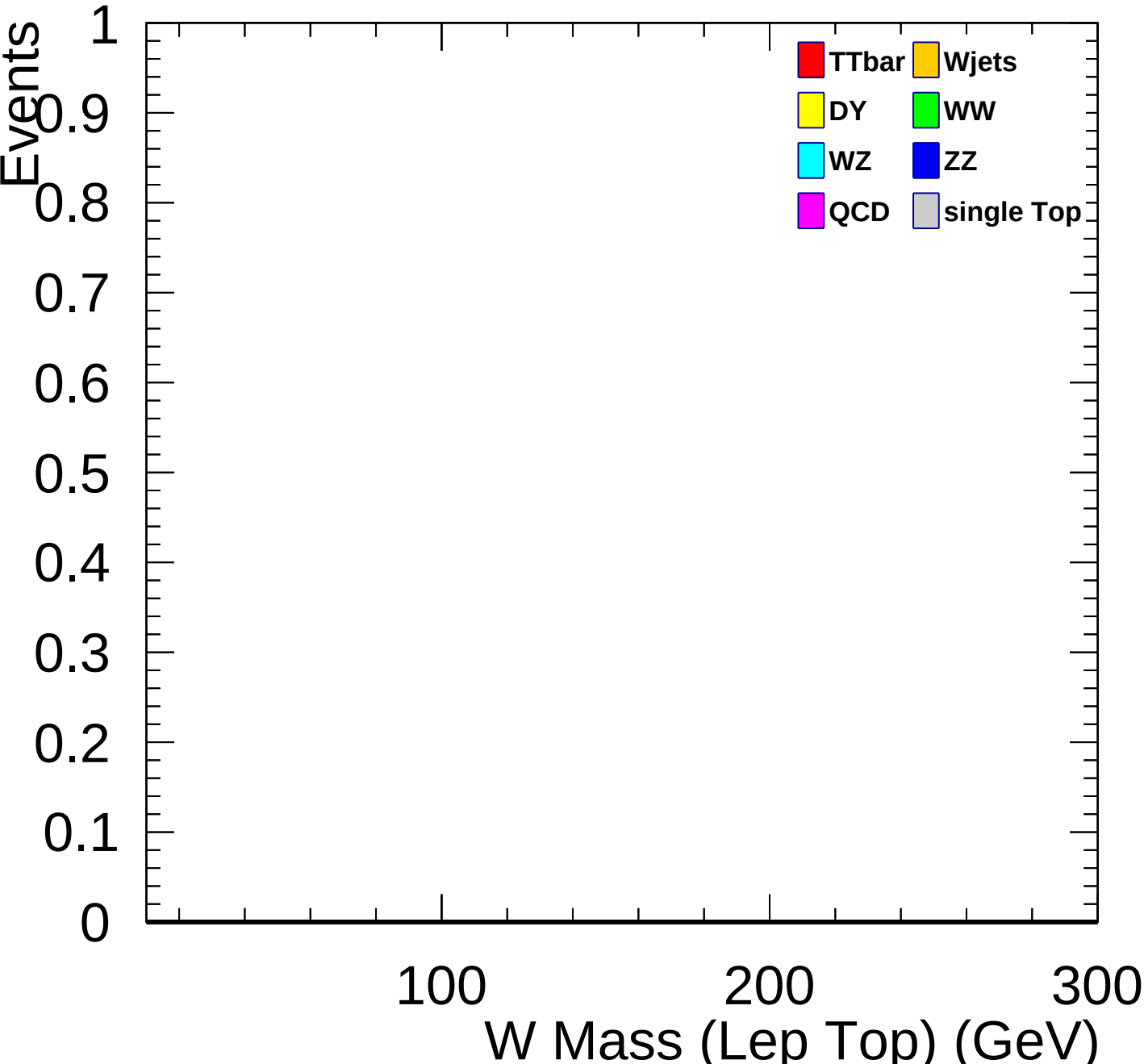

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Had Top) (GeV)

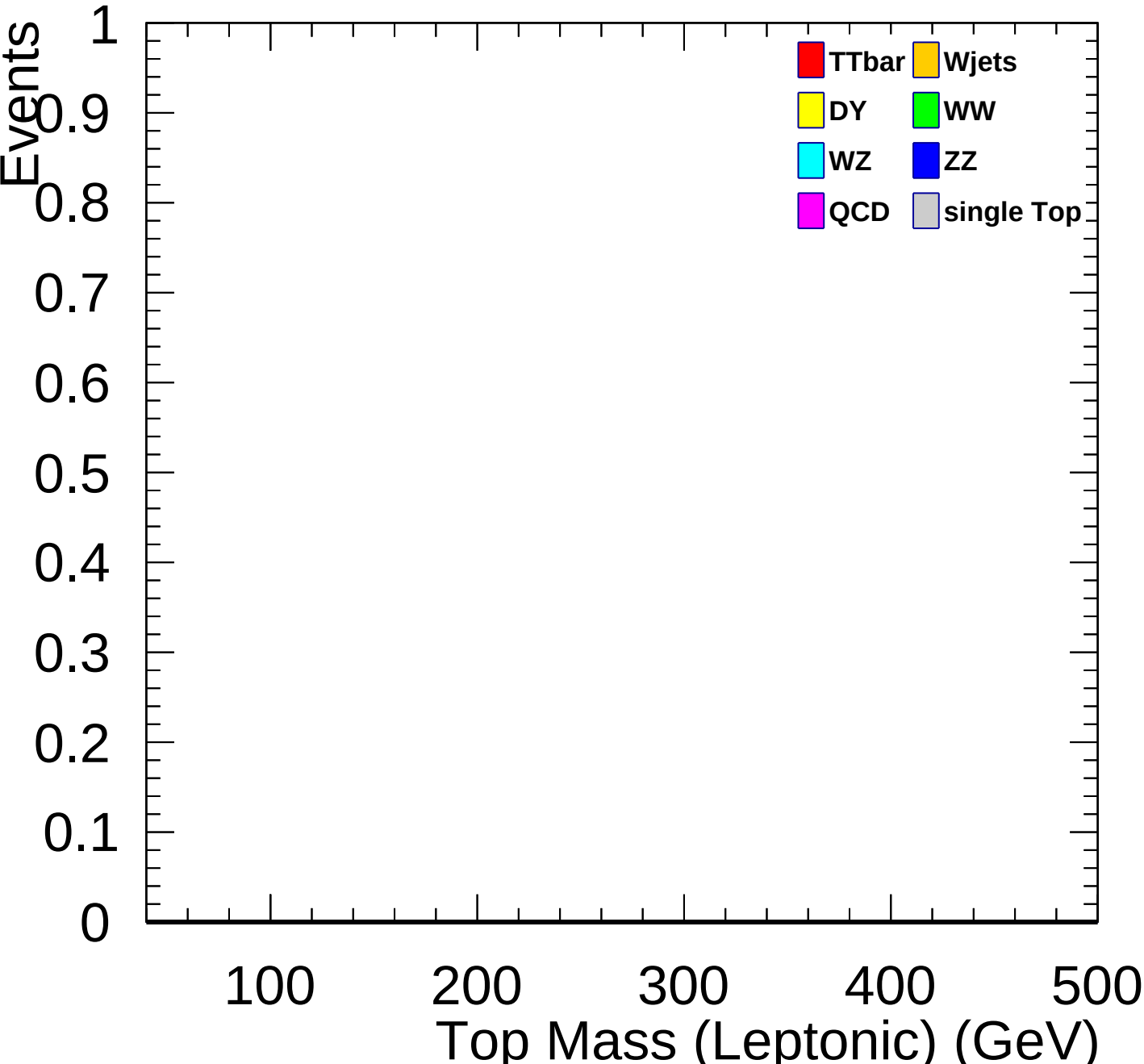

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

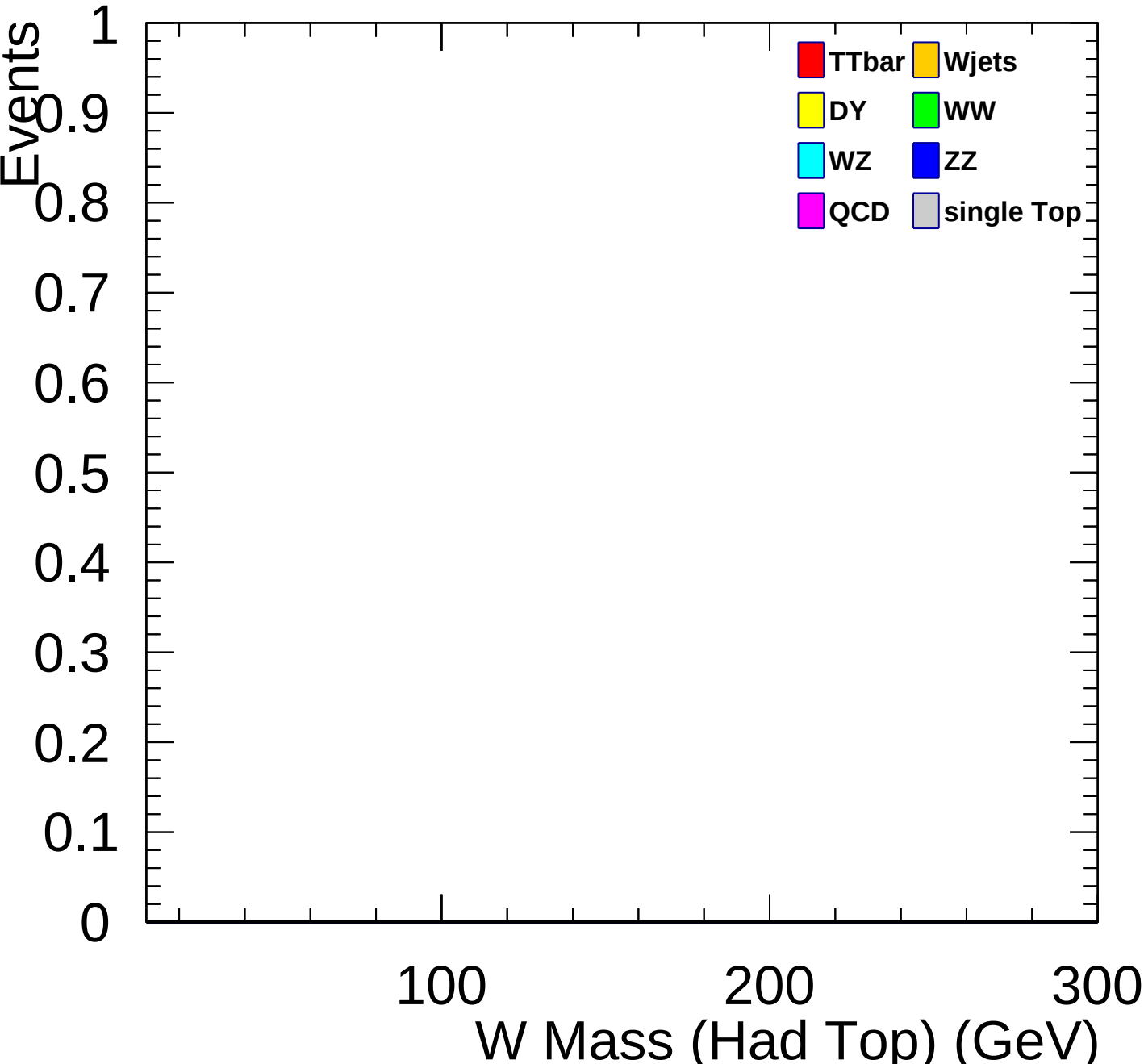

×10^3
Events
250
200
150
100
50
0
0
5
10
Jet Multplicity (S1)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

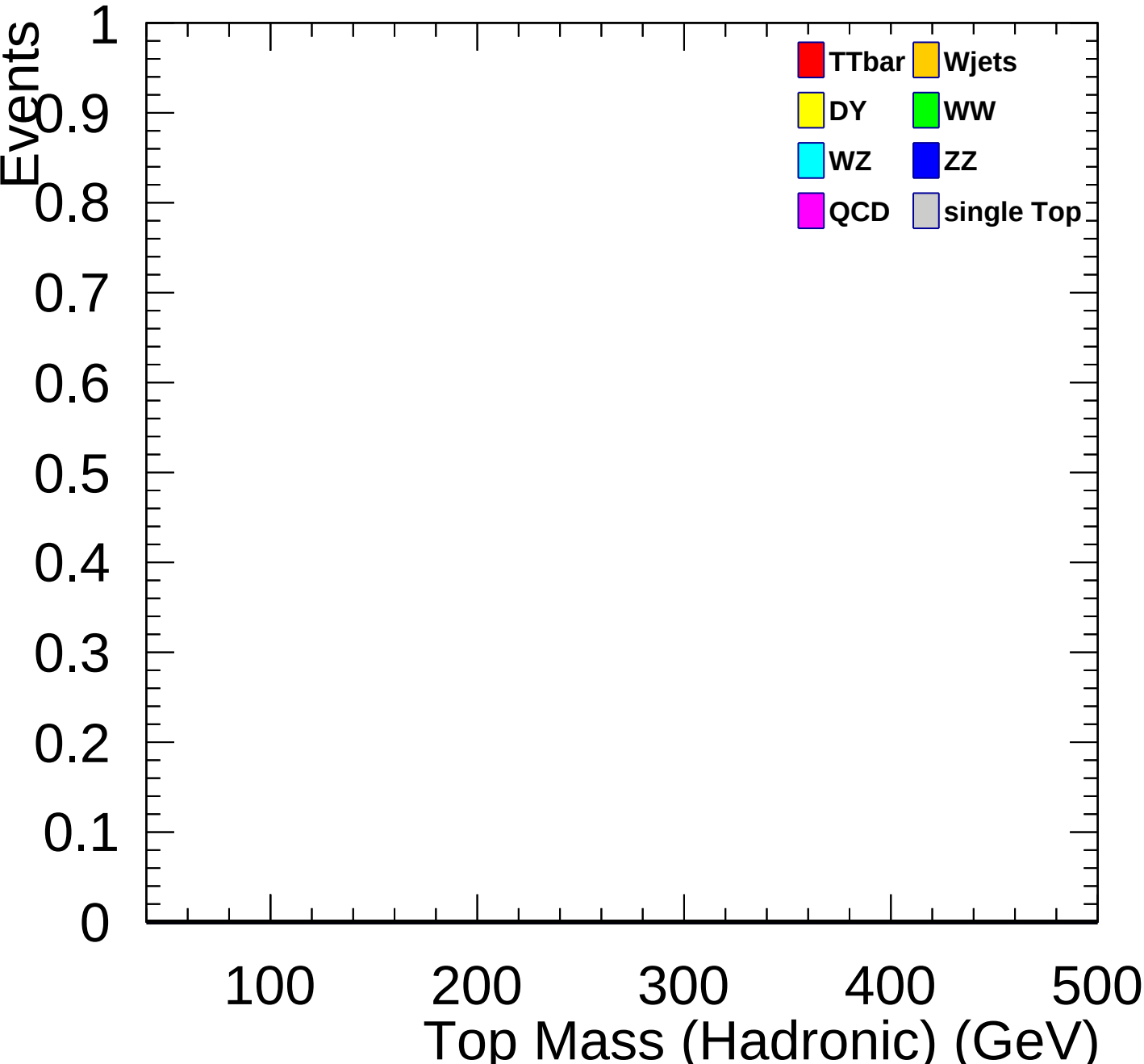

×10^3
Events
300
250
200
150
100
50
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

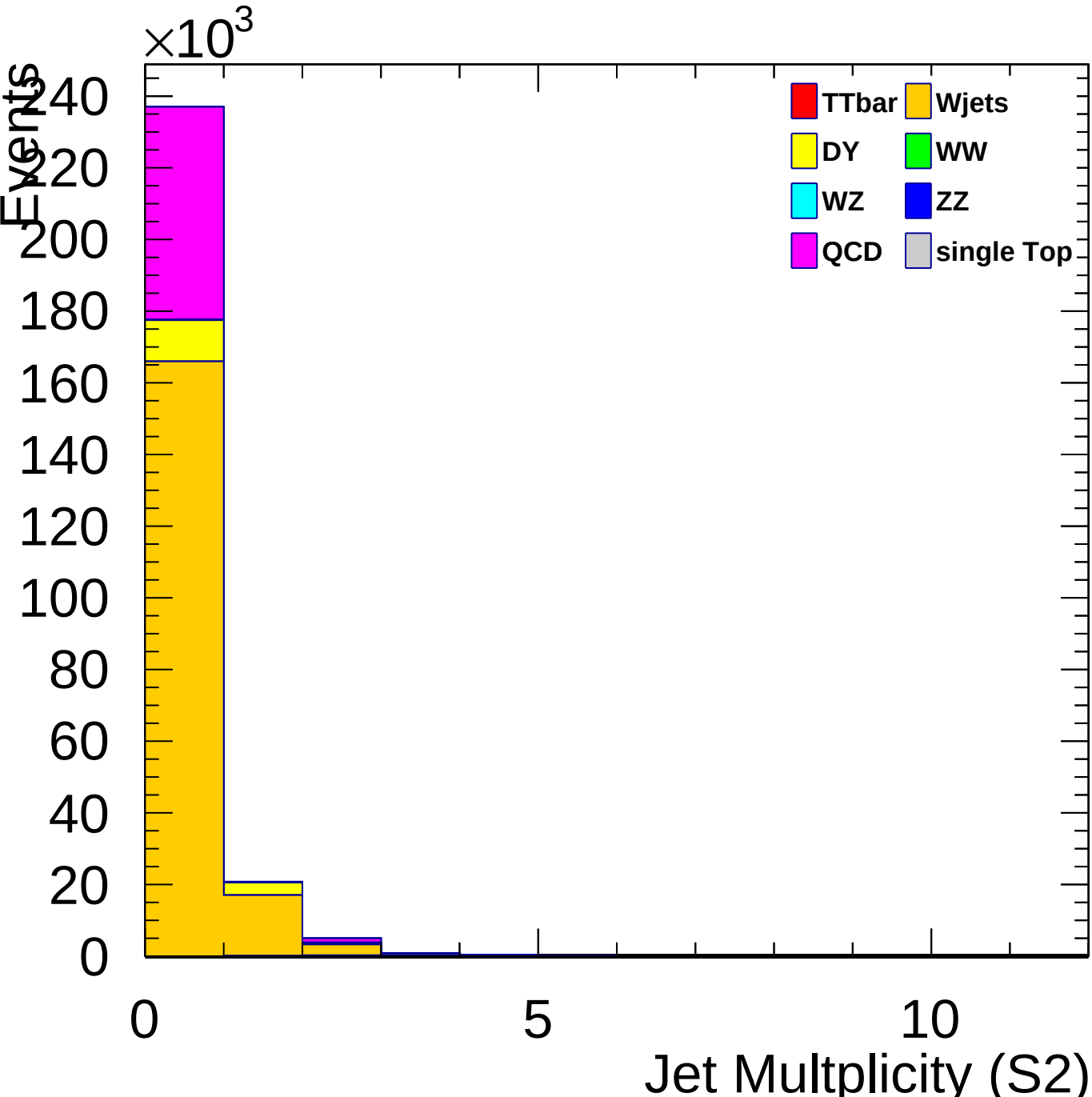

Events
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

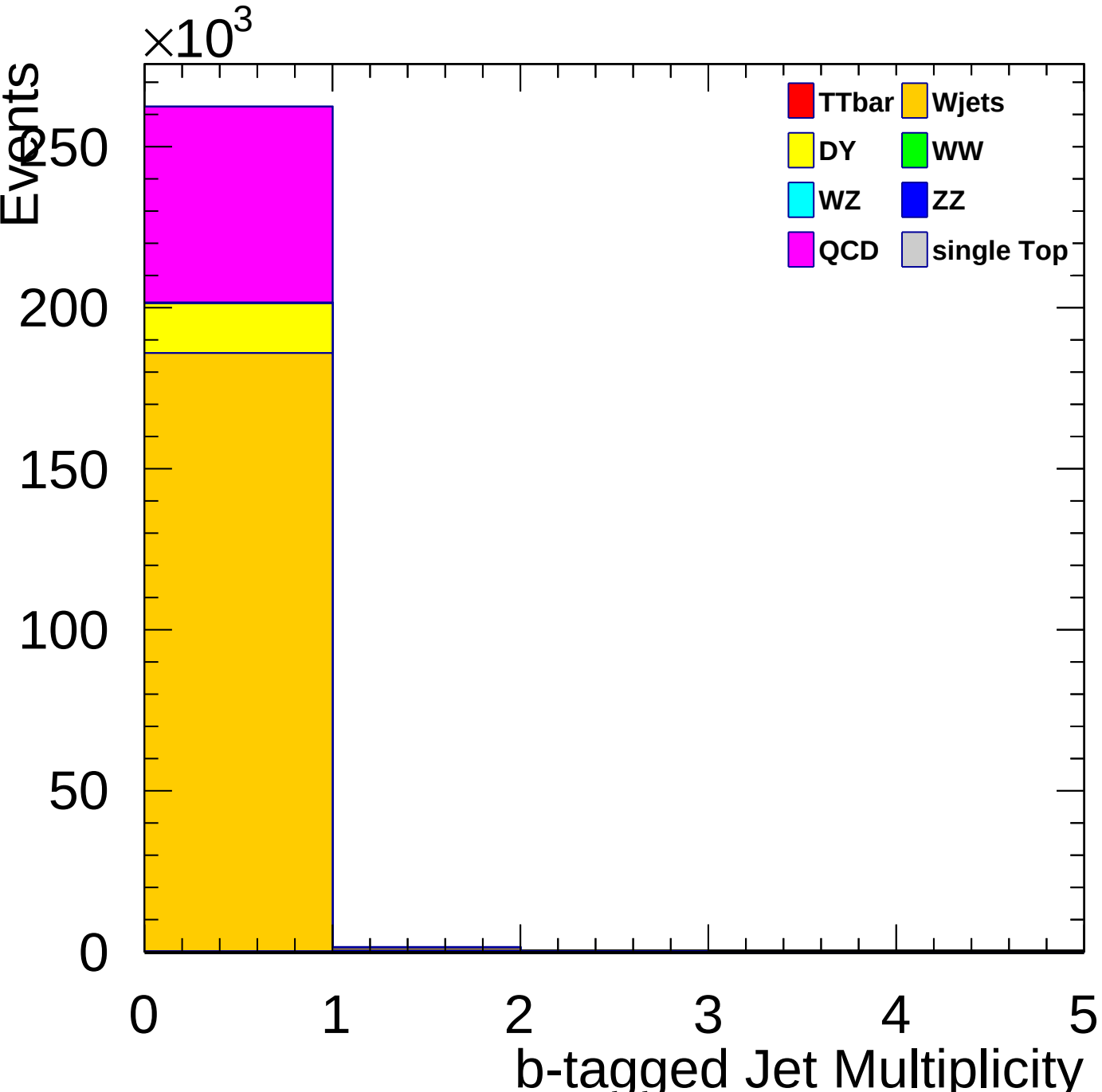

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Lep Top) (GeV)

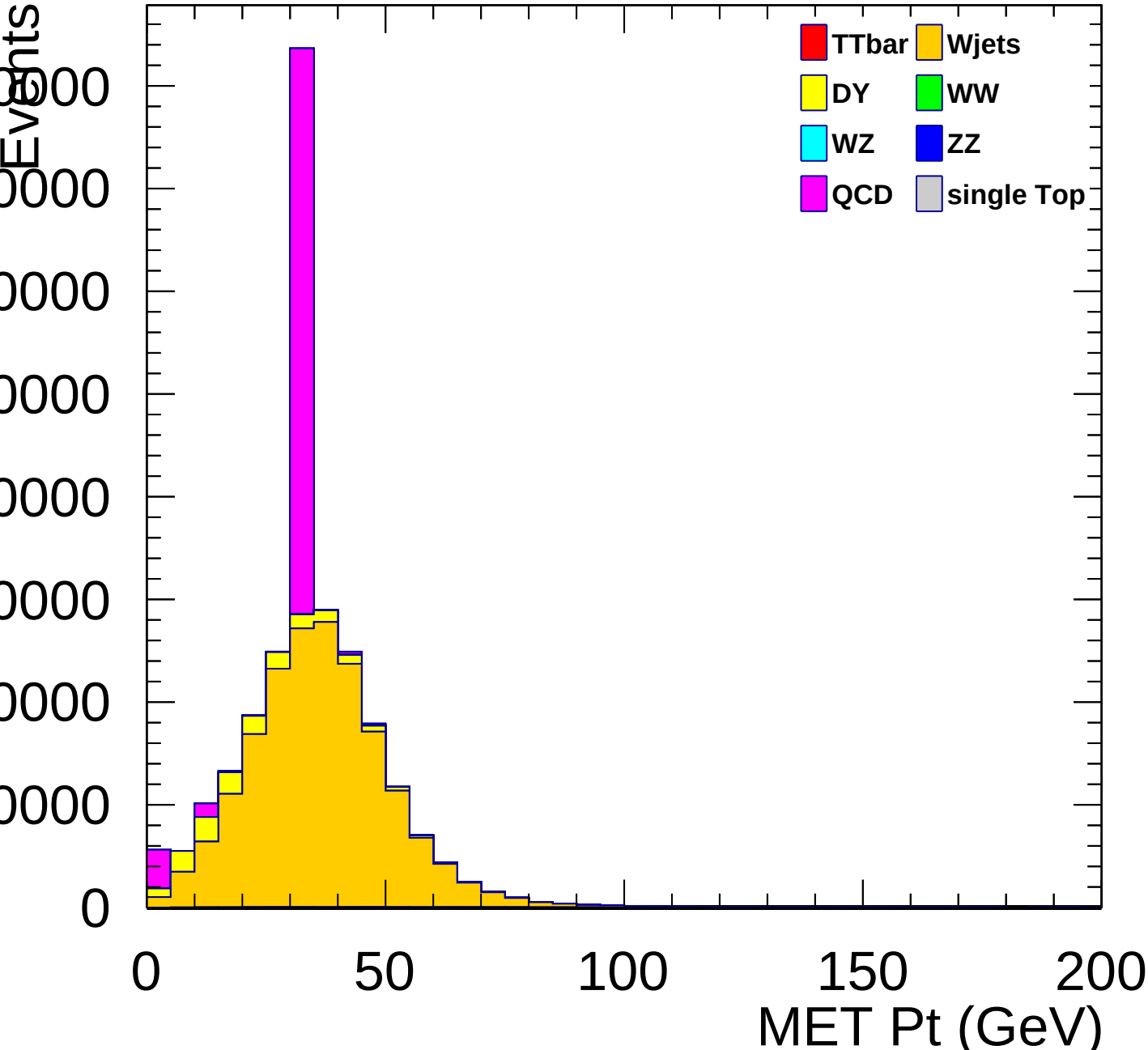

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

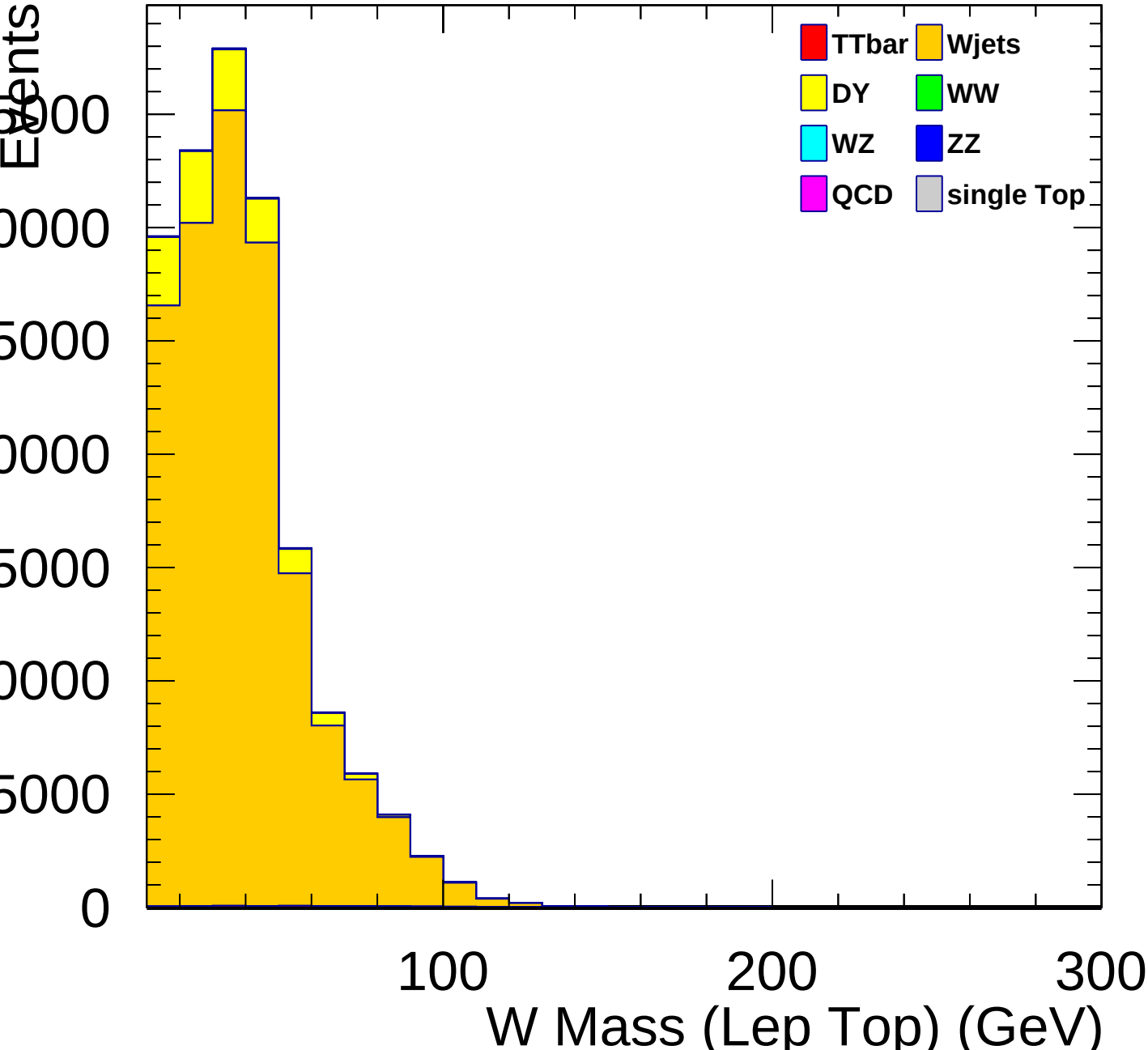

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Had Top) (GeV)

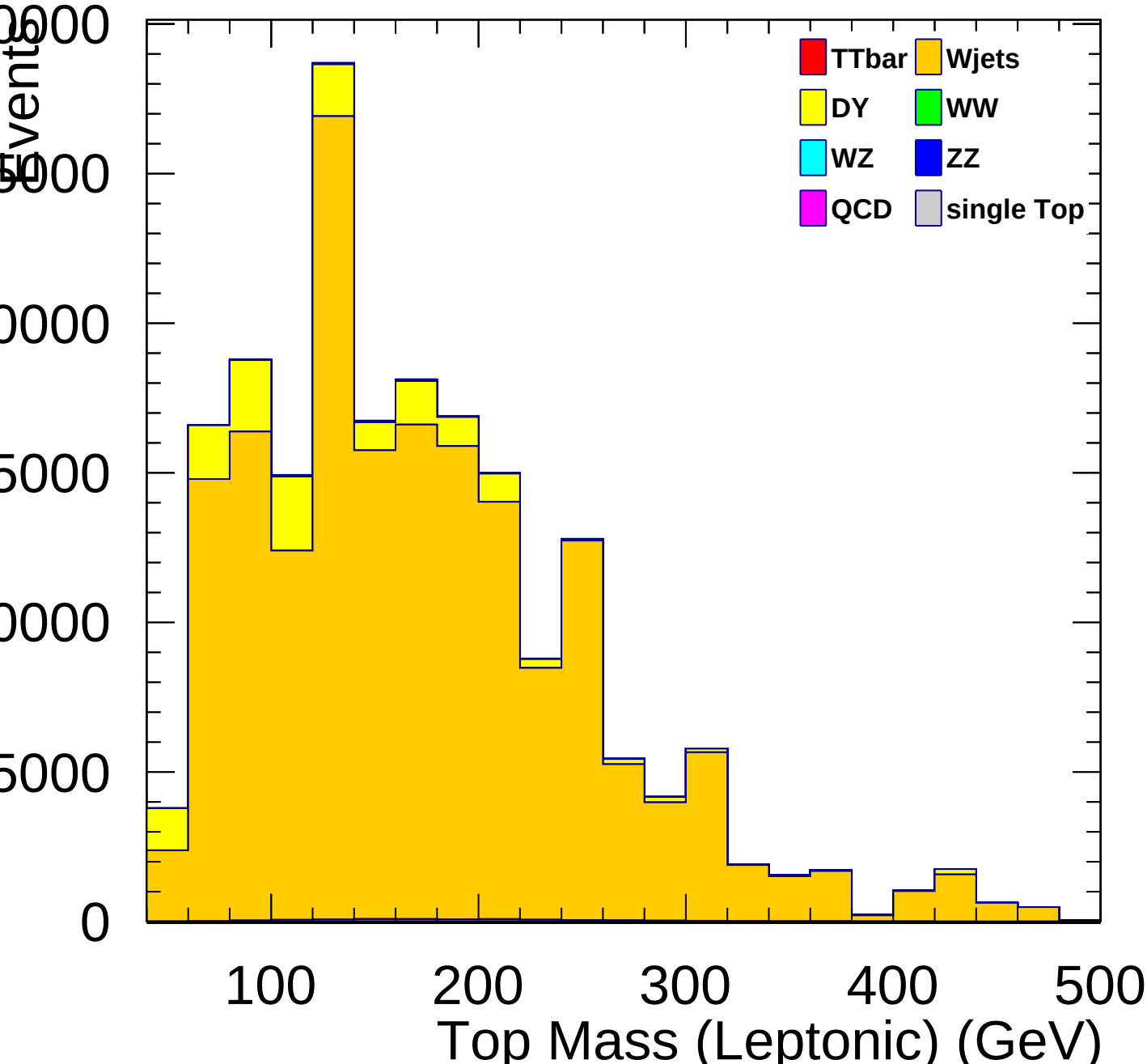

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

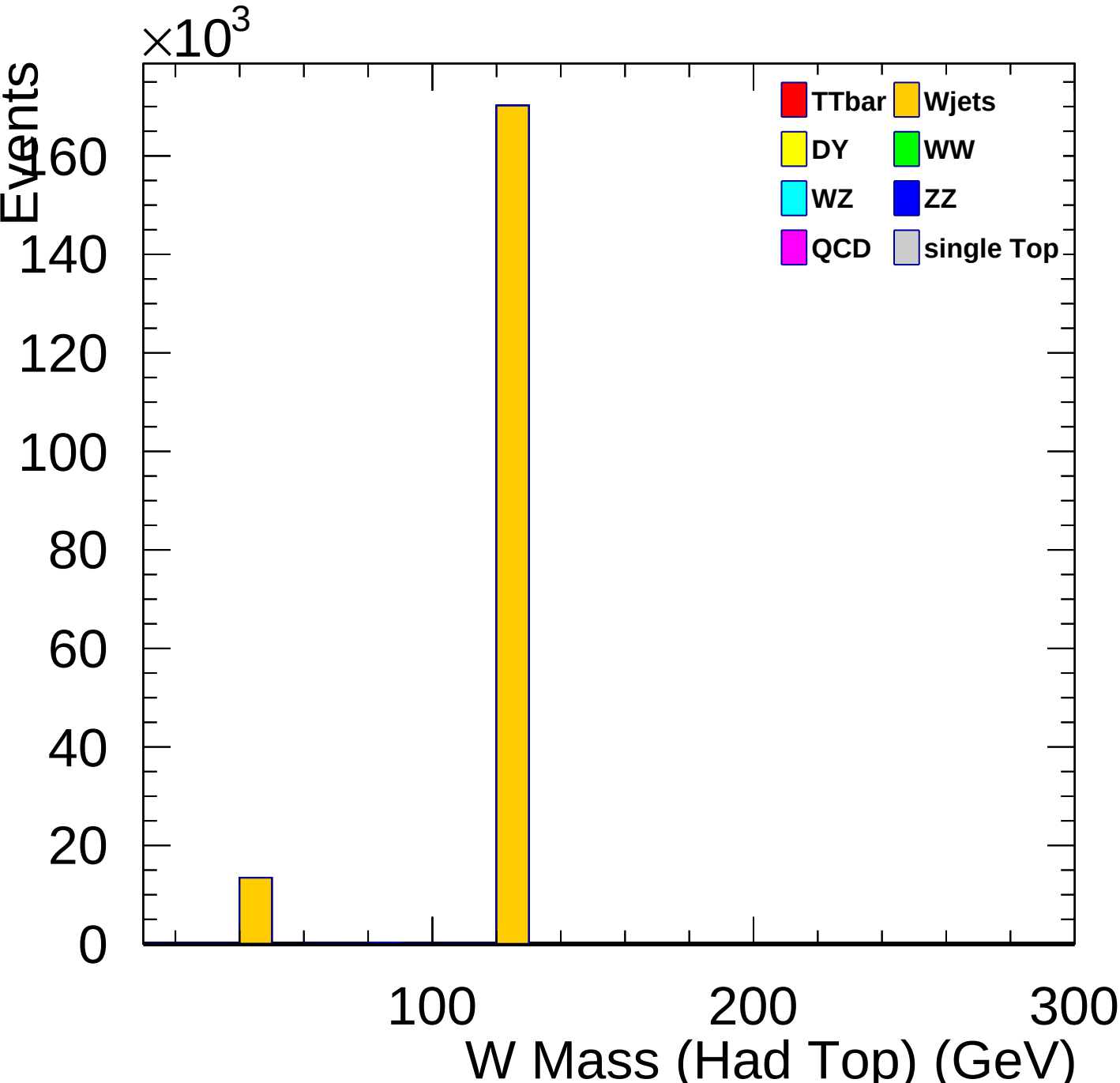

×10^3
Events
240
220
200
180
160
140
120
100
80
60
40
20
0
0
5
10
Jet Multplicity (S2)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

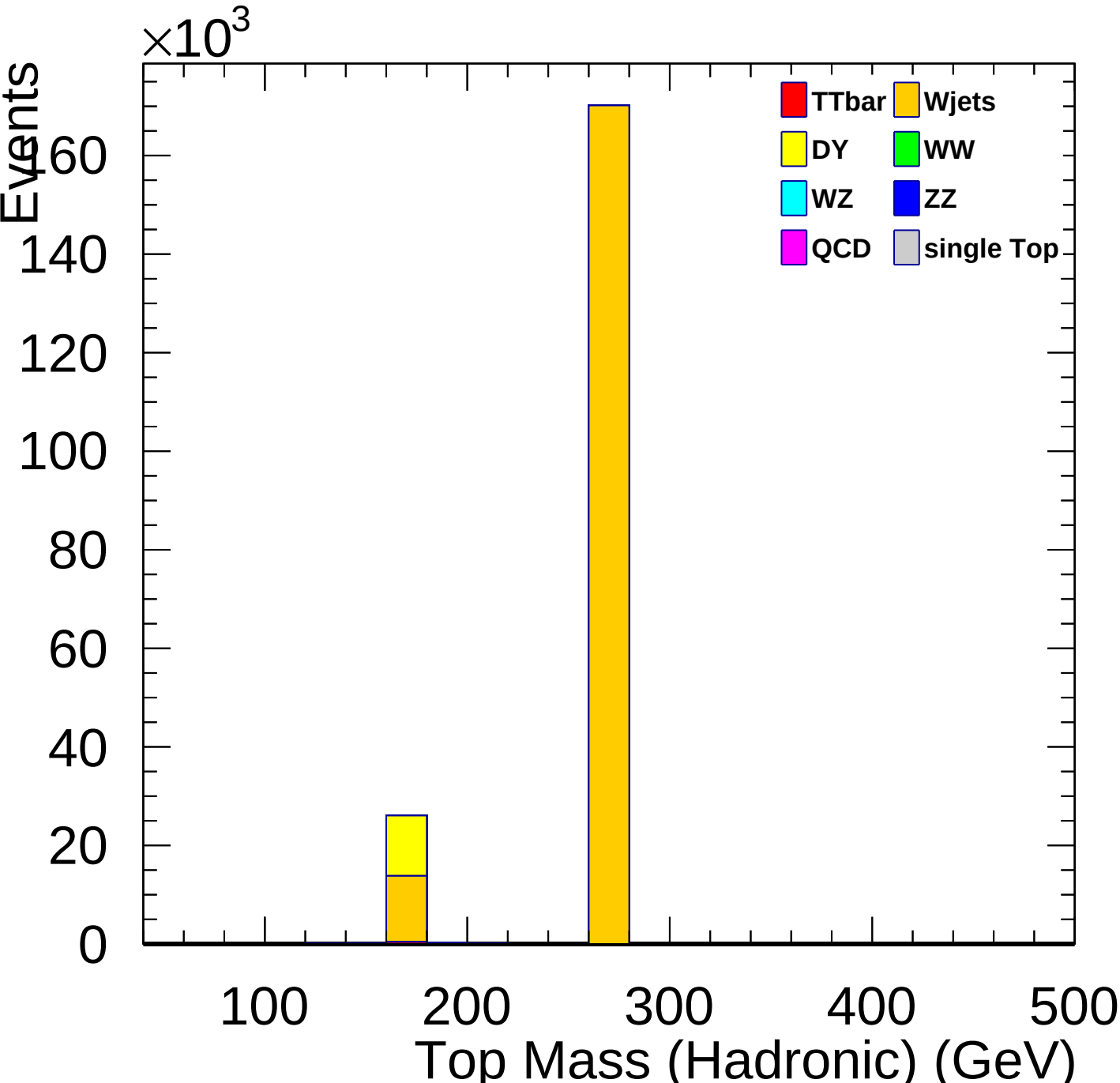

×10^3
Events
250
200
150
100
50
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

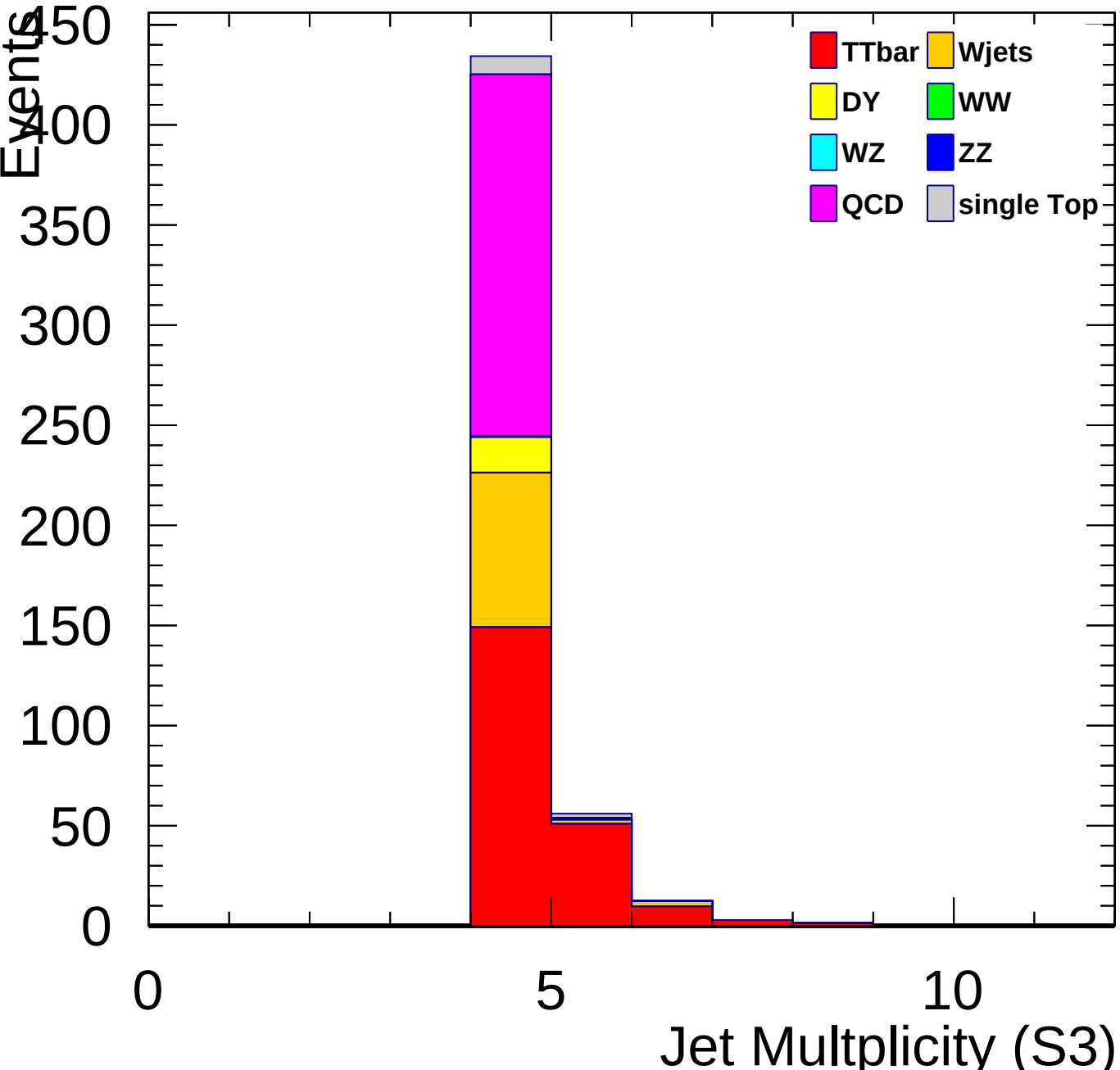

Events
0000
0000
0000
0000
0000
0000
0000
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

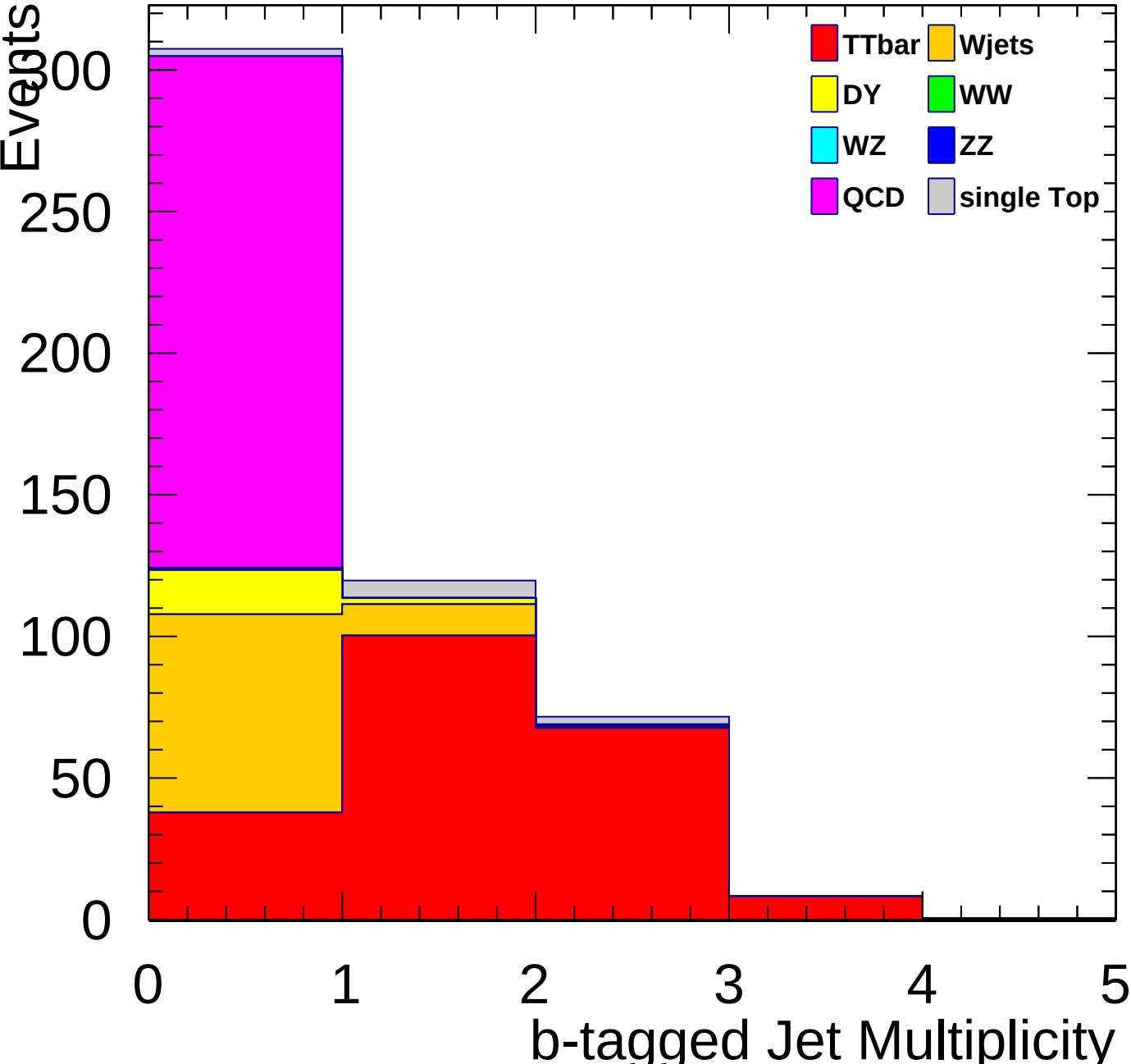

Events
0000
0000
5000
0000
5000
0000
5000
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Lep Top) (GeV)

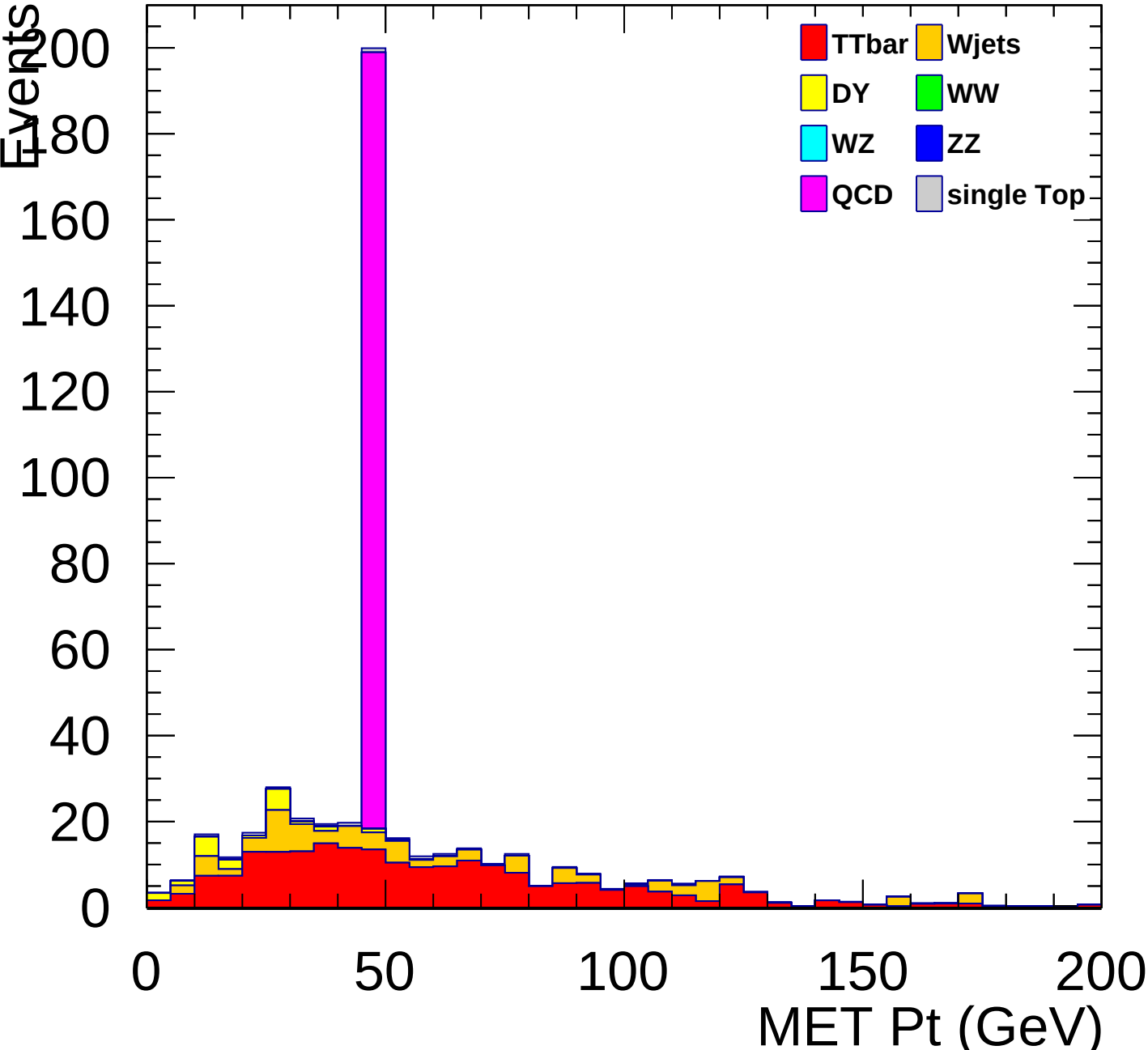

TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)

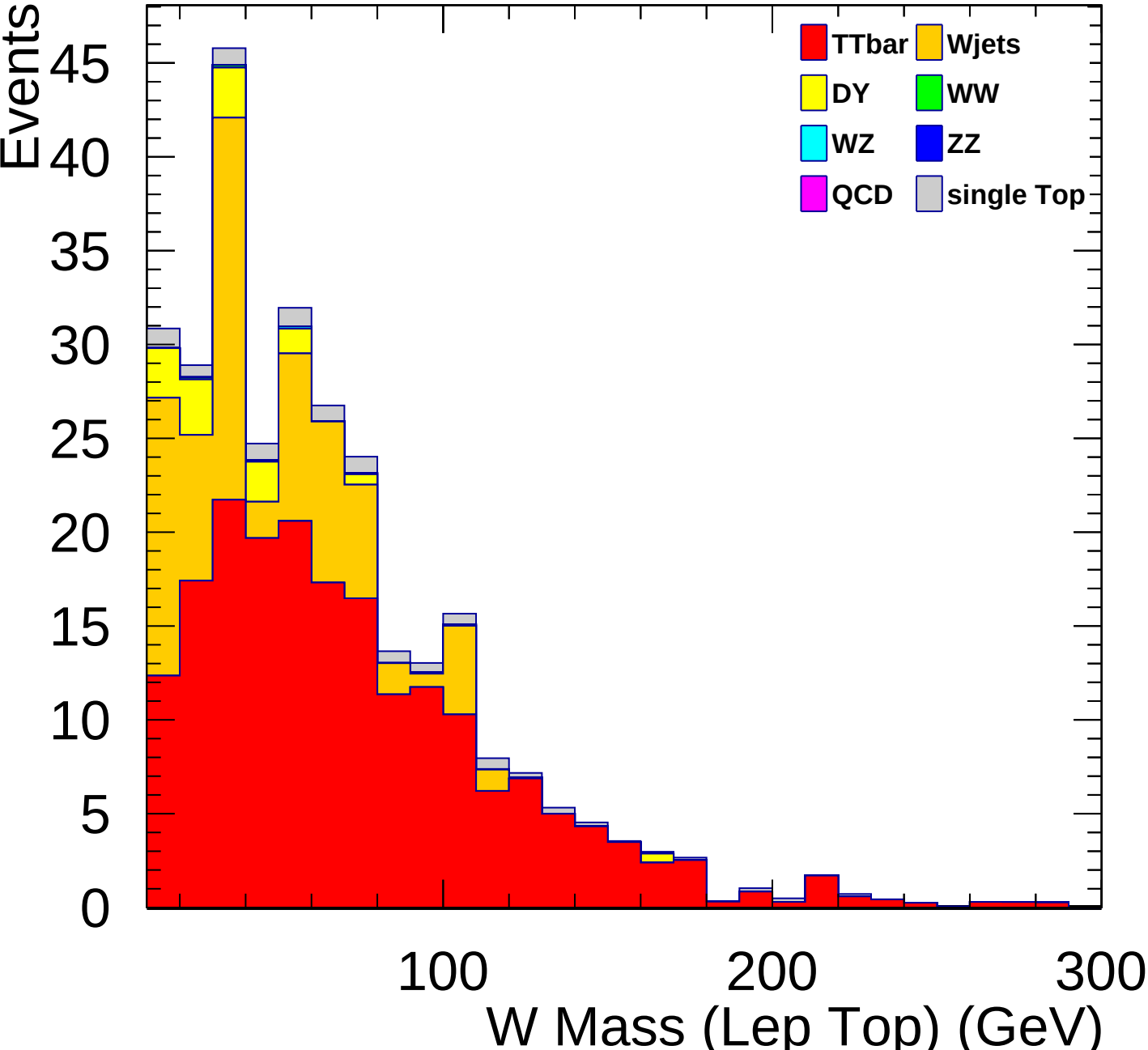

×10^3
Events
160
140
120
100
80
60
40
20
0
100
200
300
W Mass (Had Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

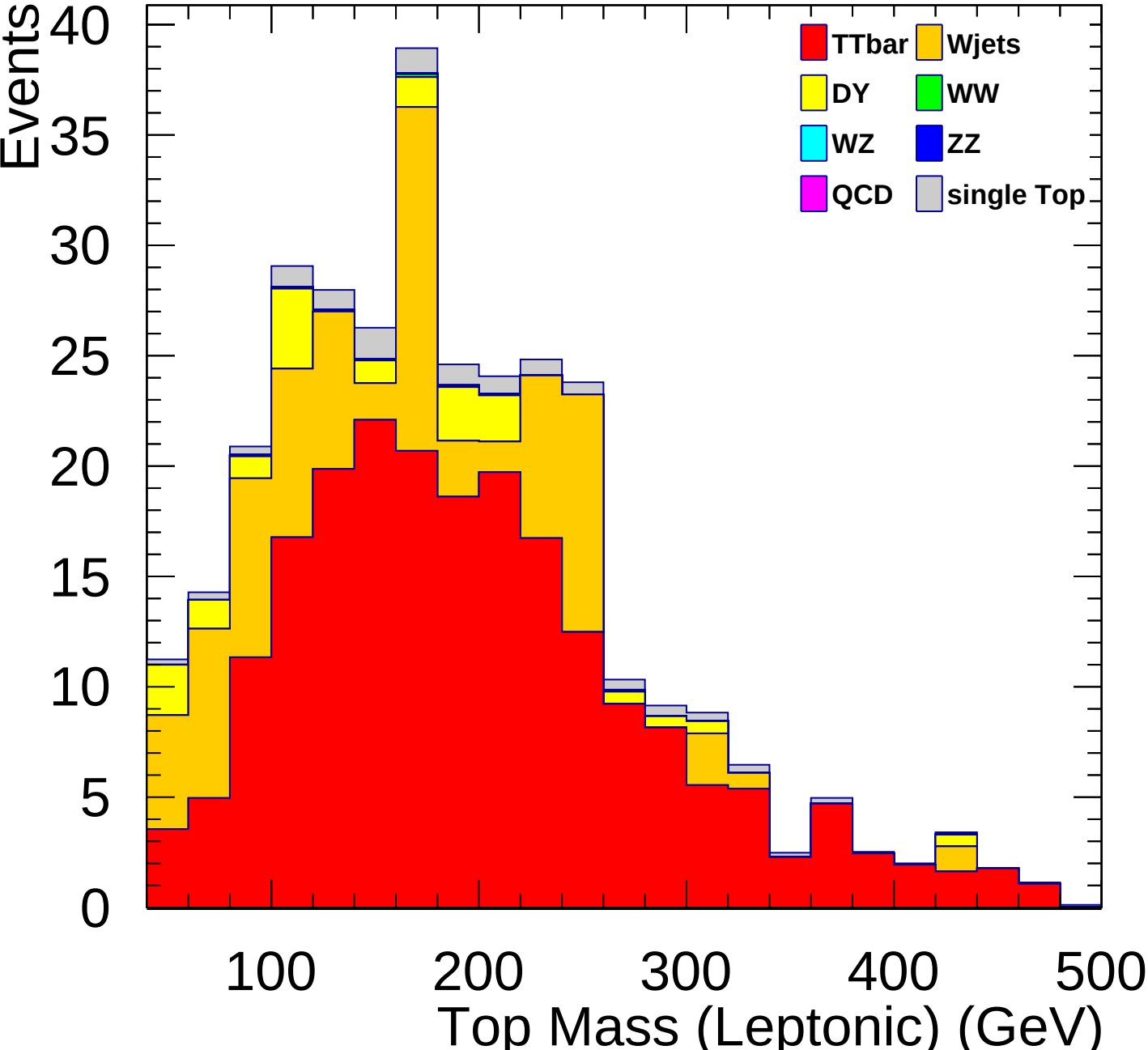

×10^3
Events
160
140
120
100
80
60
40
20
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

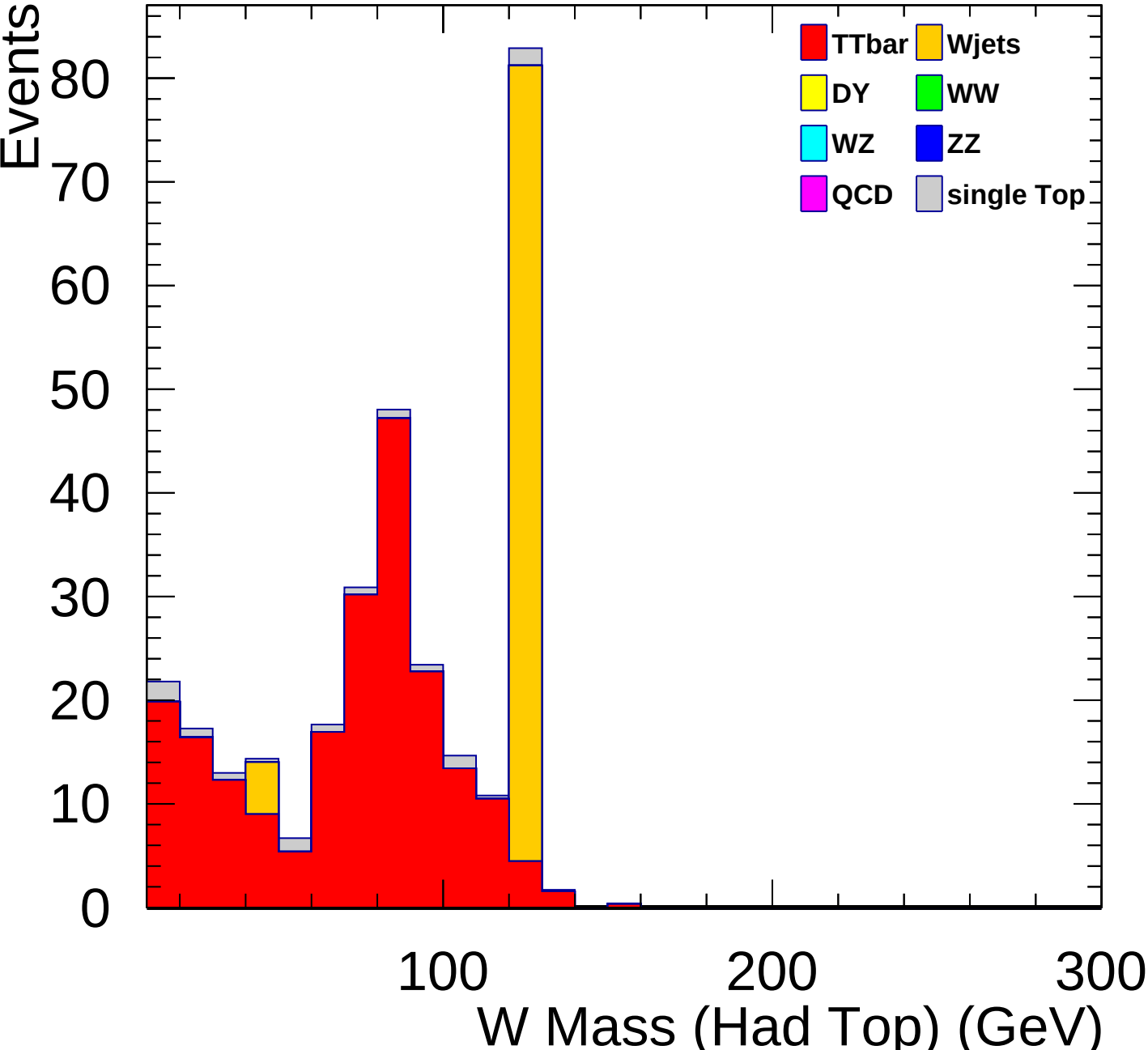

Events
450
400
350
300
250
200
150
100
50
0
0
5
10
Jet Multplicity (S3)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

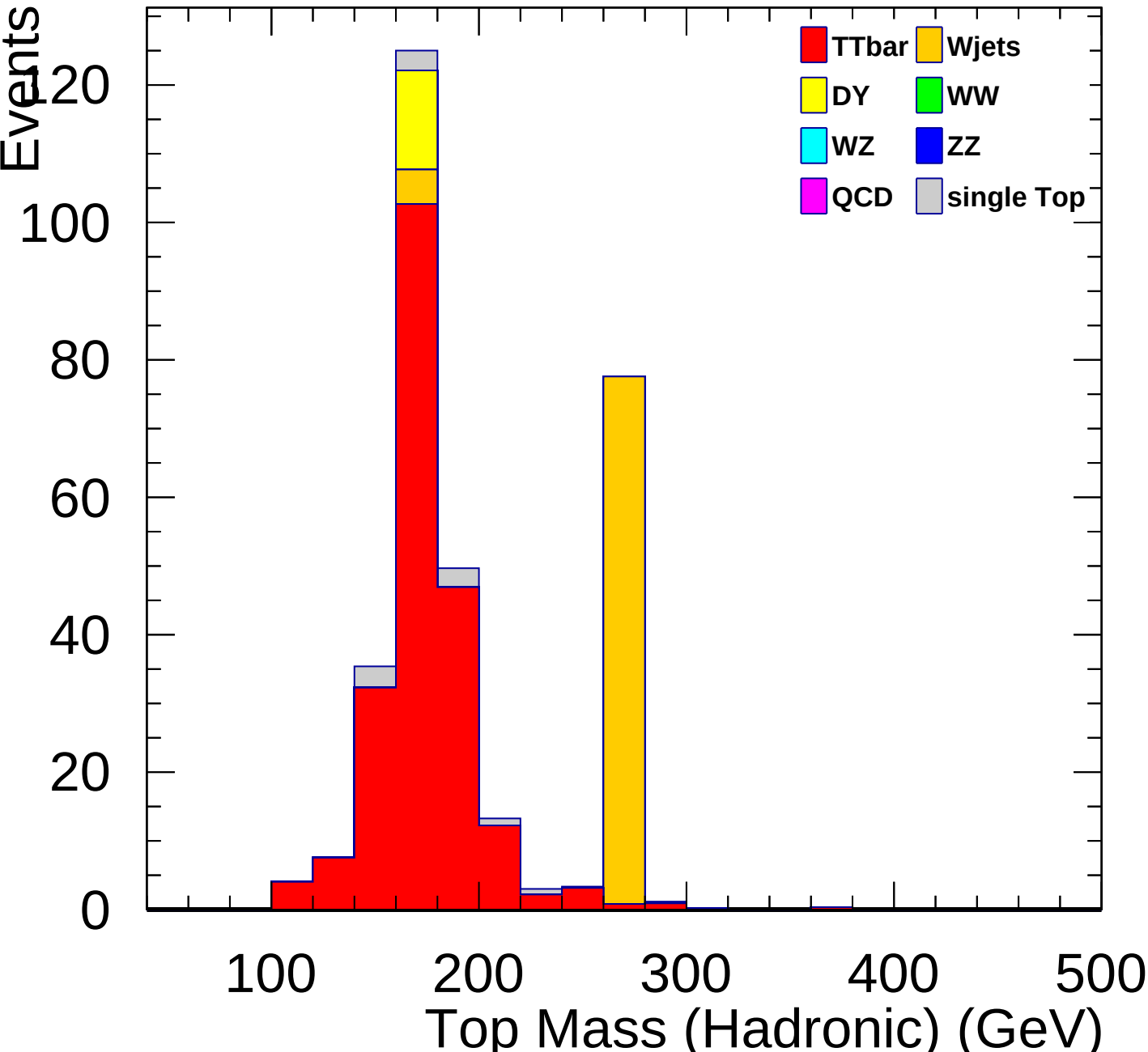

Events
300
250
200
150
100
50
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

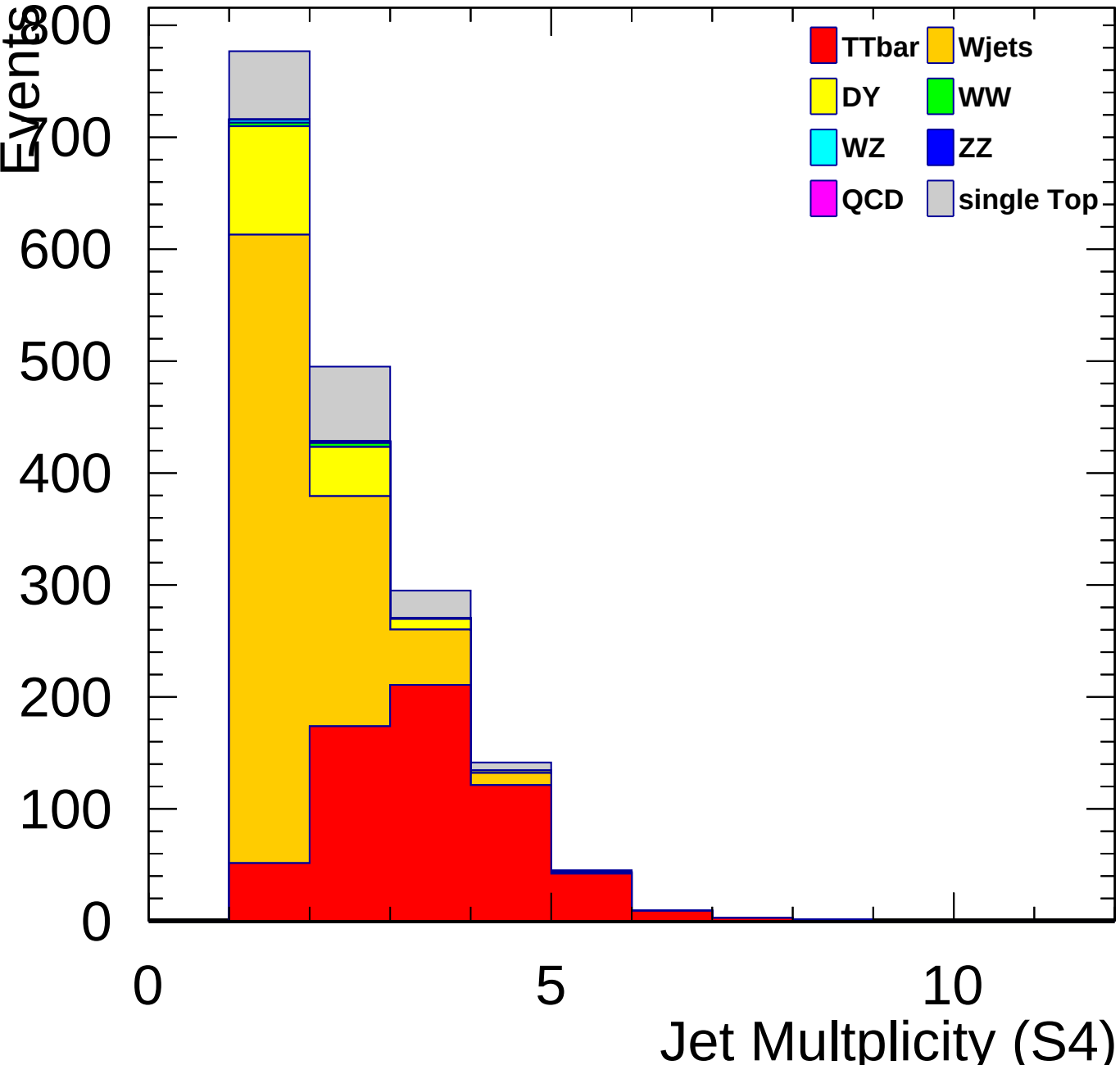

Events
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

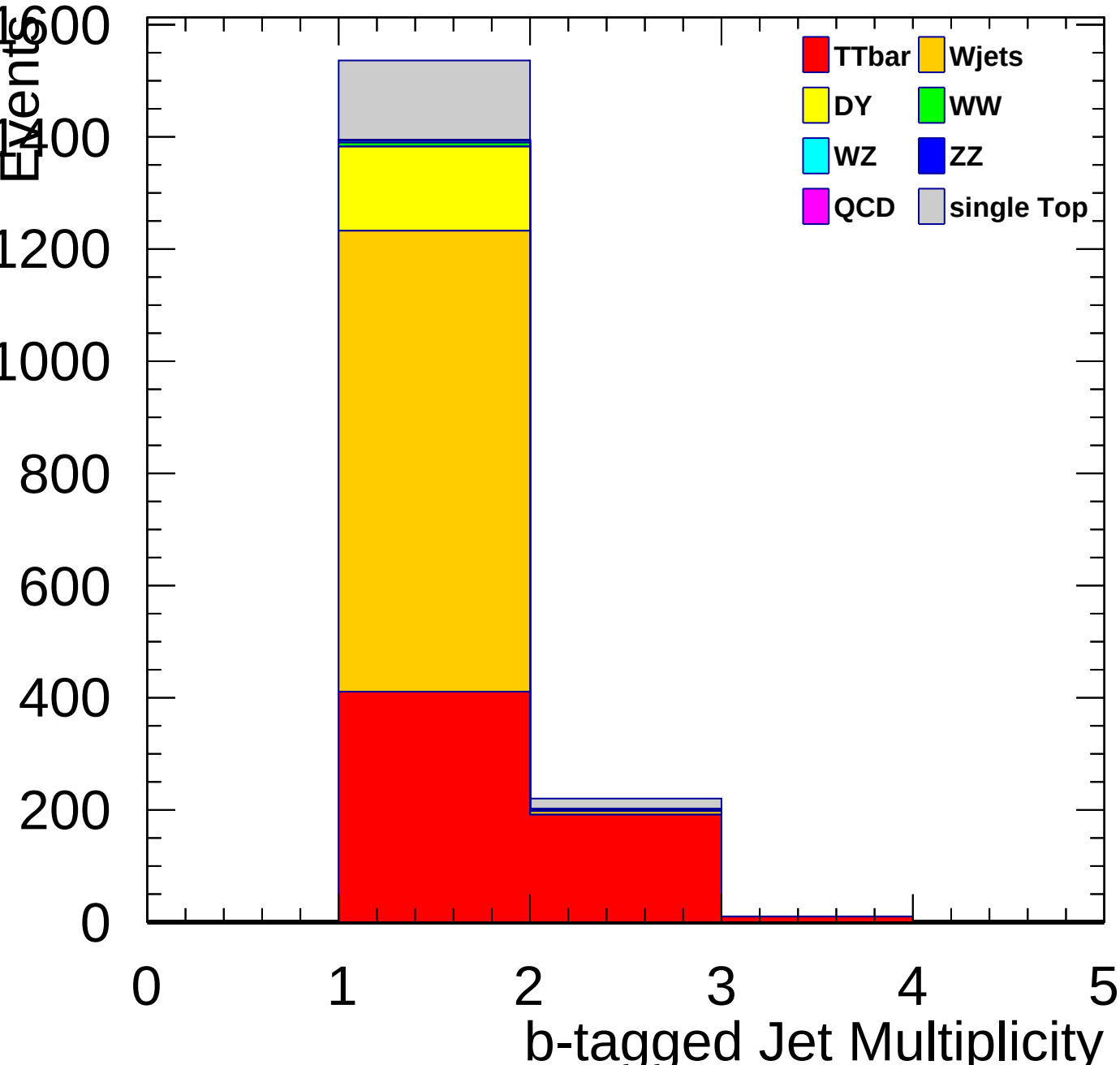

Events
45
40
35
30
25
20
15
10
5
0
100
200
300
W Mass (Lep Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

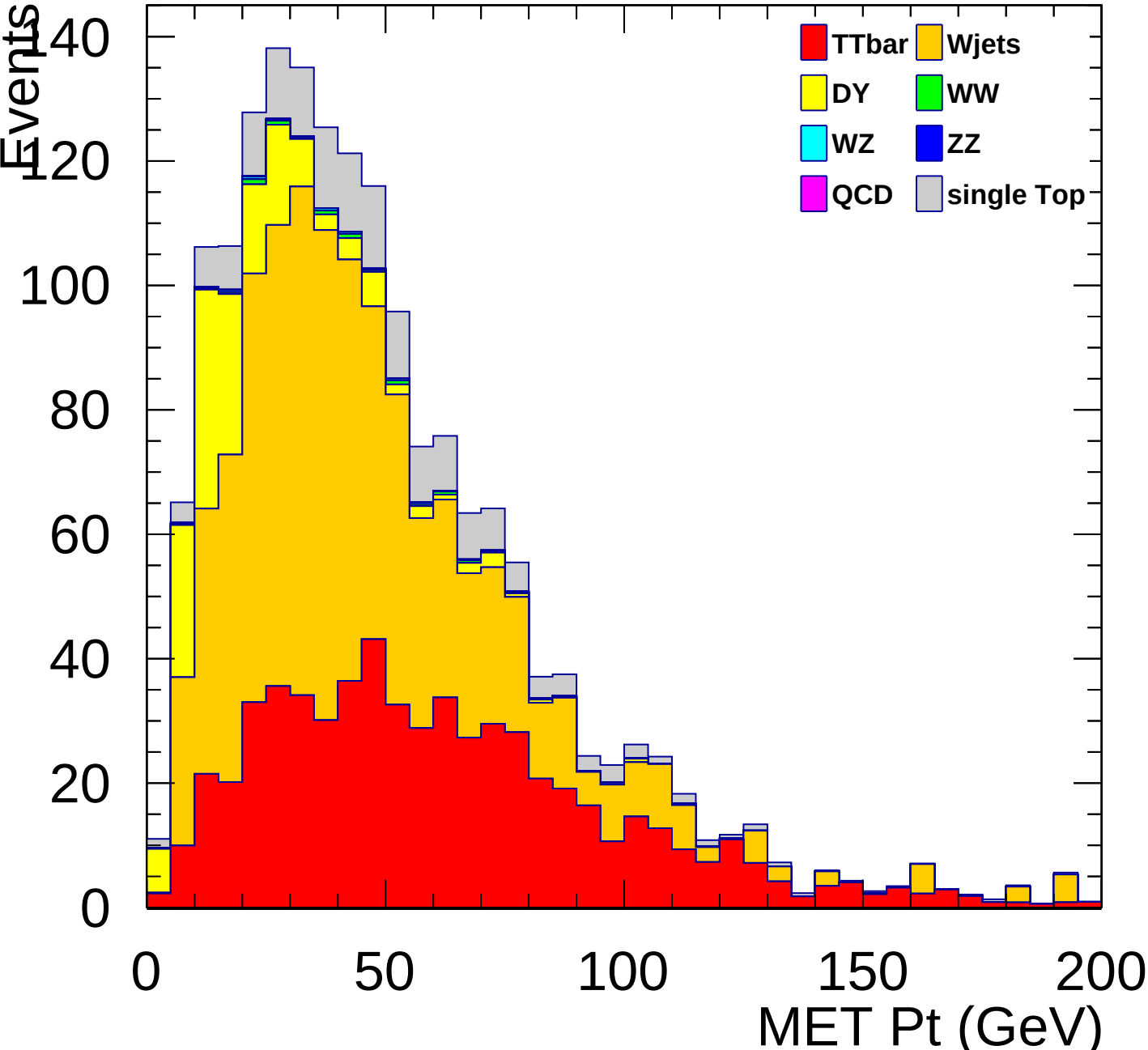

Events
40
35
30
25
20
15
10
5
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

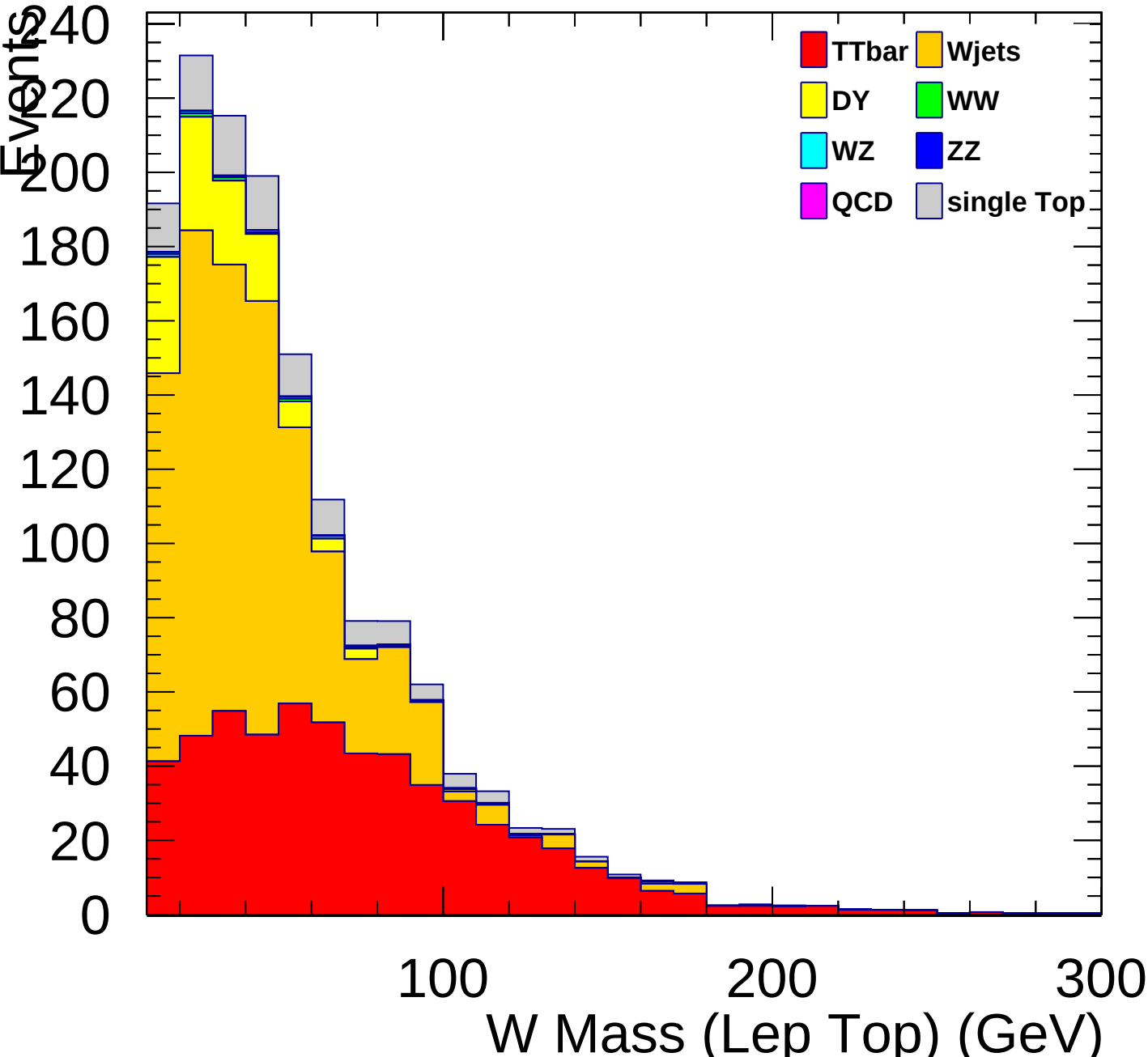

Events
0
10
20
30
40
50
60
70
80
100
200
300
W Mass (Had Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

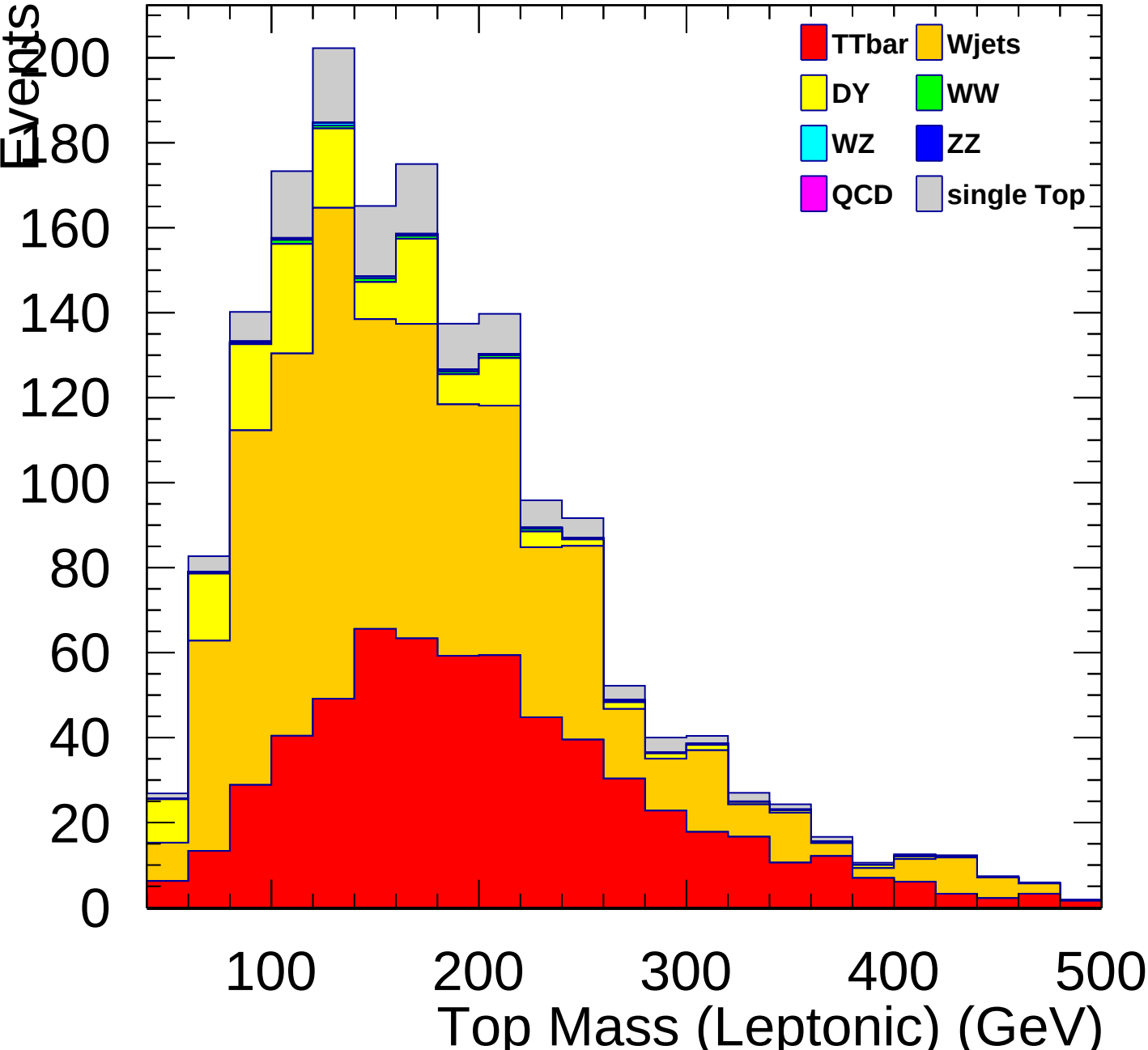

Events
120
100
80
60
40
20
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

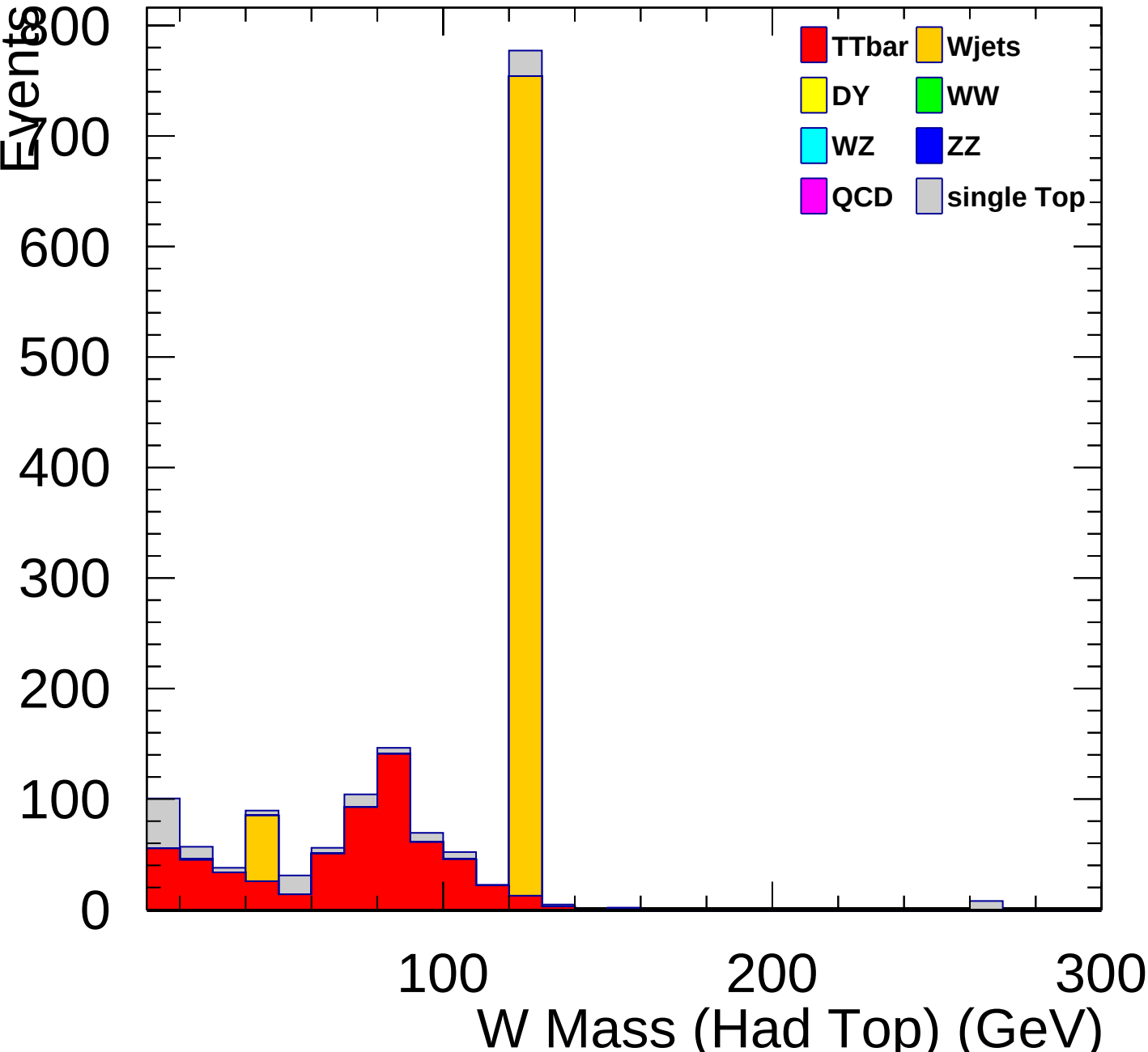

Events
800
700
600
500
400
300
200
100
0
0
5
10
Jet Multplicity (S4)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

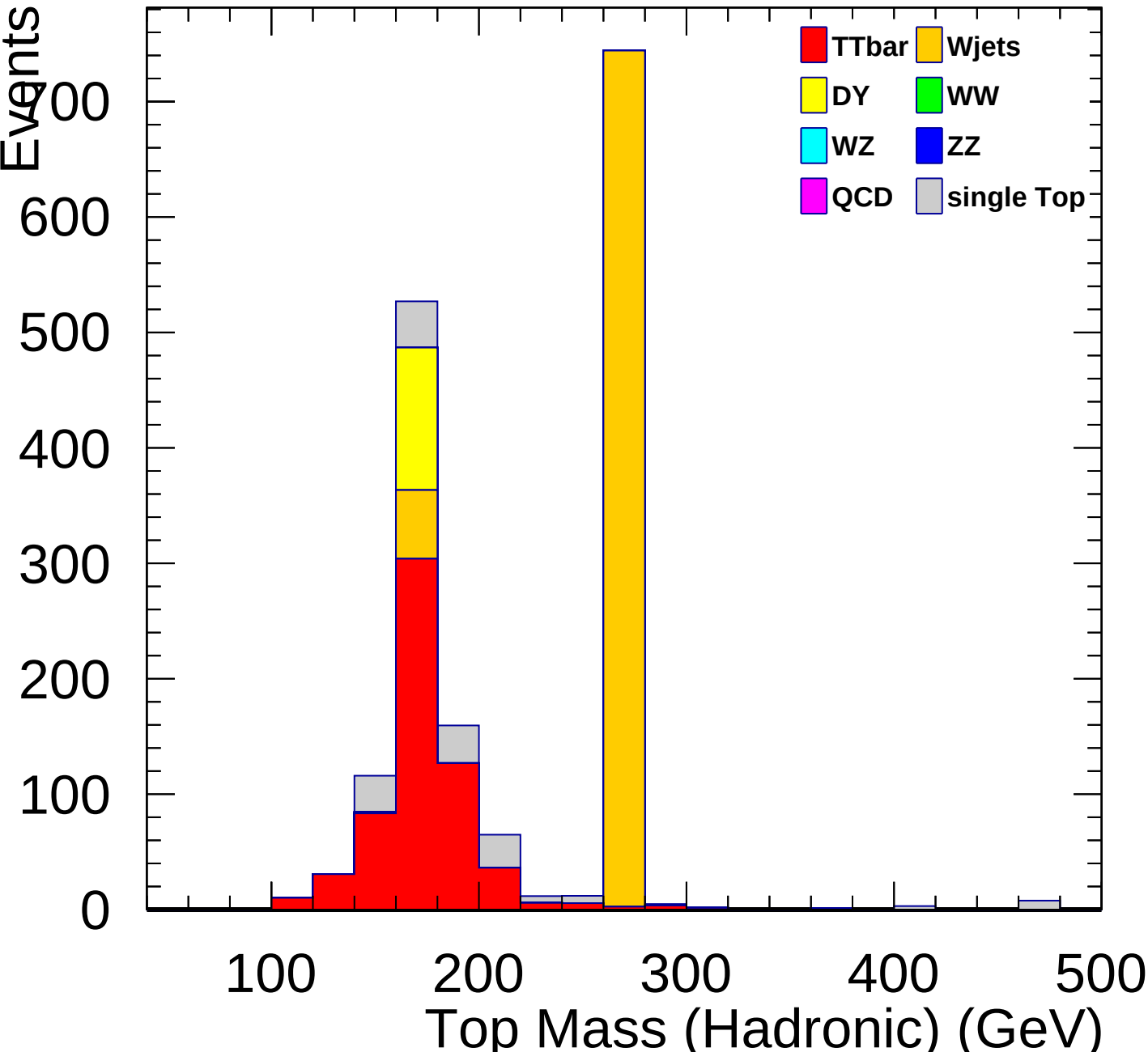

Events
1600
1400
1200
1000
800
600
400
200
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

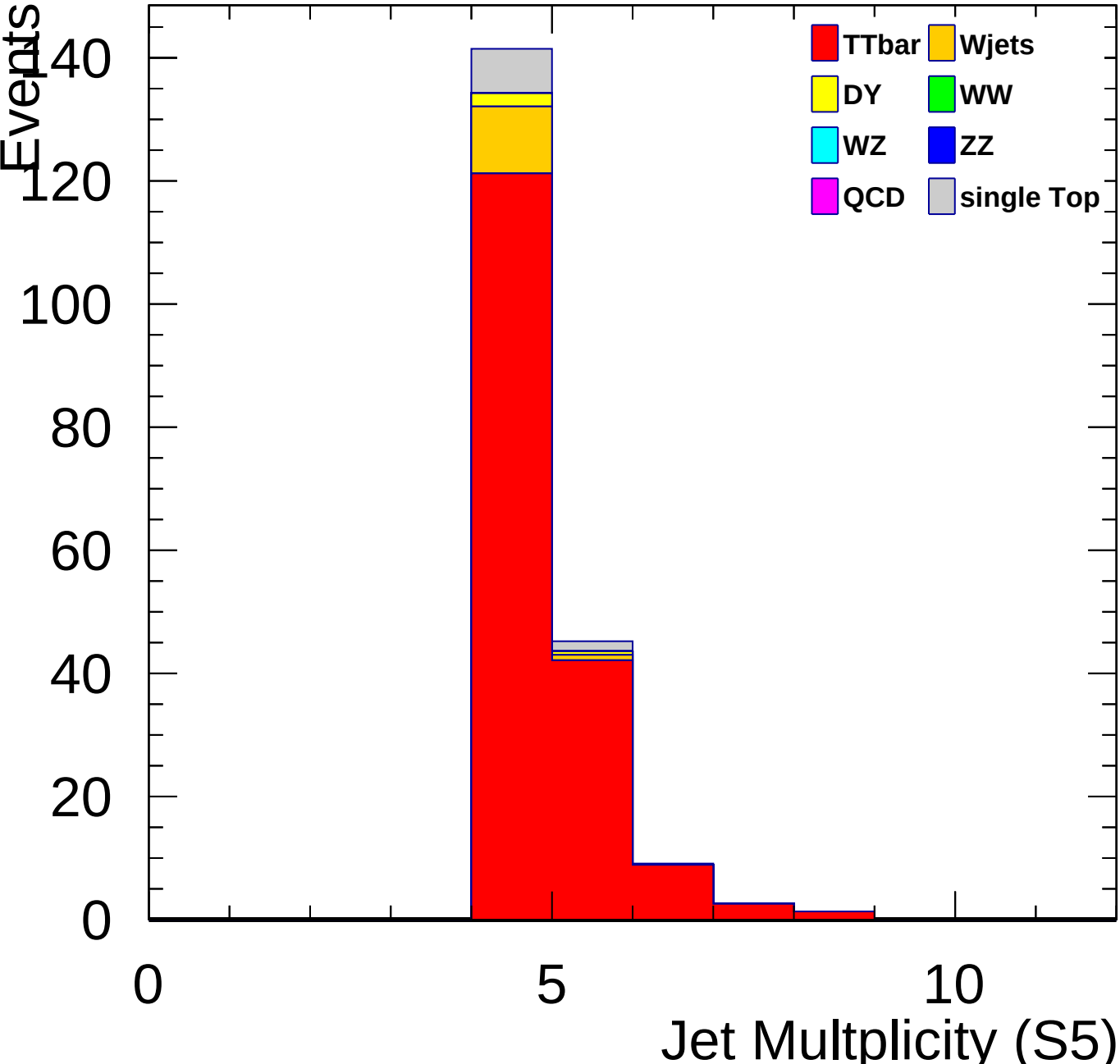

Events
140
120
100
80
60
40
20
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

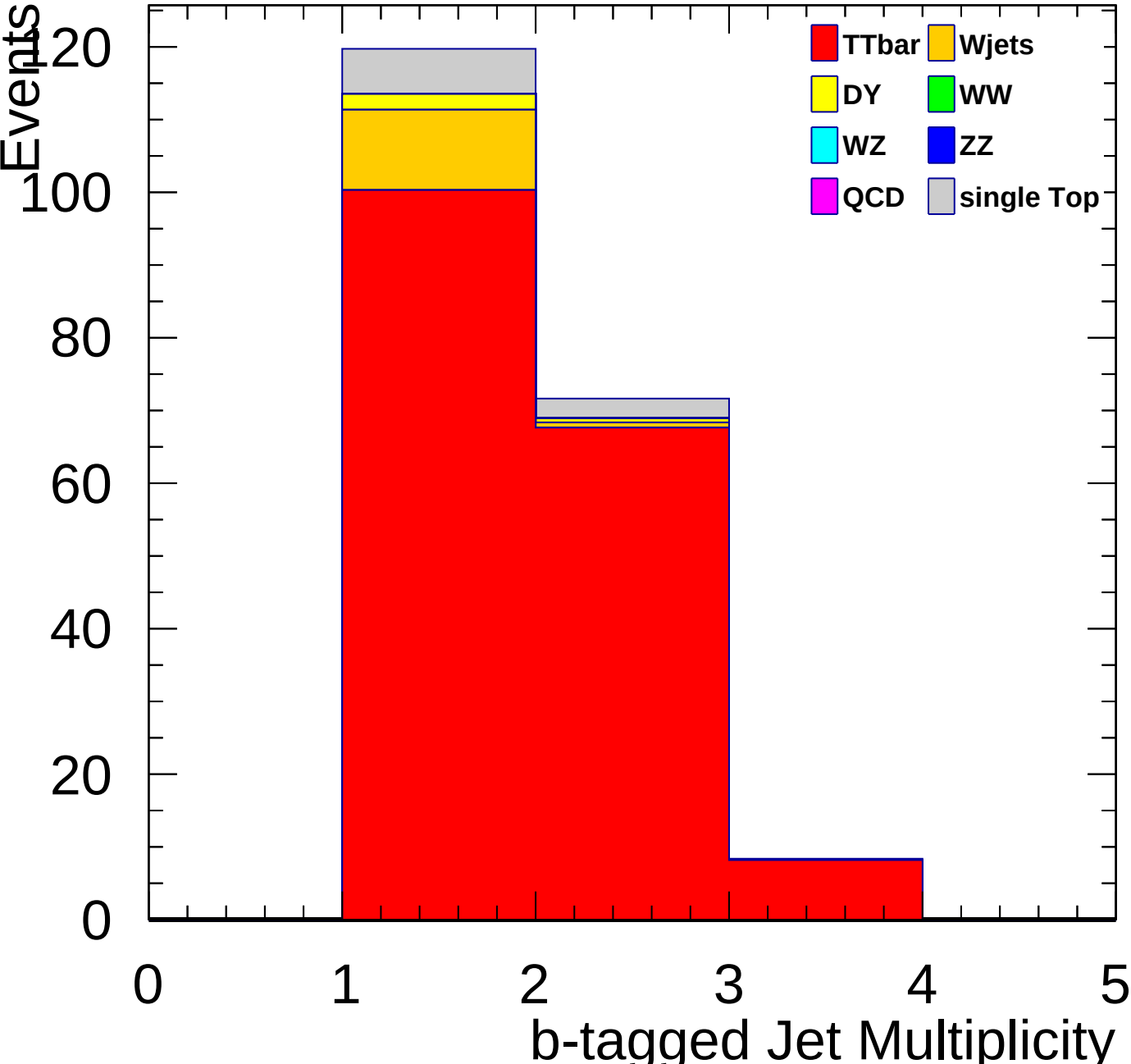

Events
240
220
200
180
160
140
120
100
80
60
40
20
0
100
200
300
W Mass (Lep Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

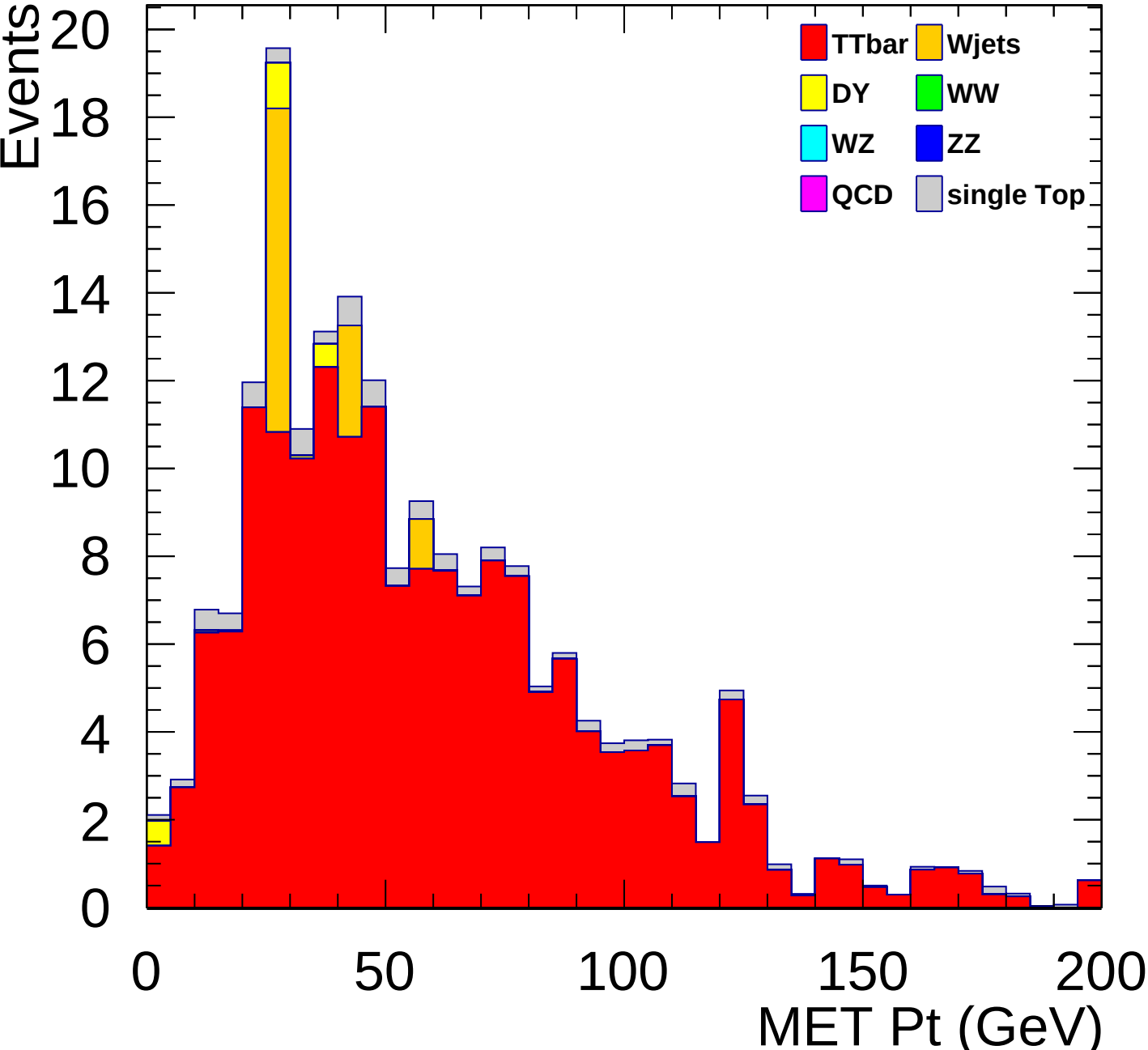

Events
200
180
160
140
120
100
80
60
40
20
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

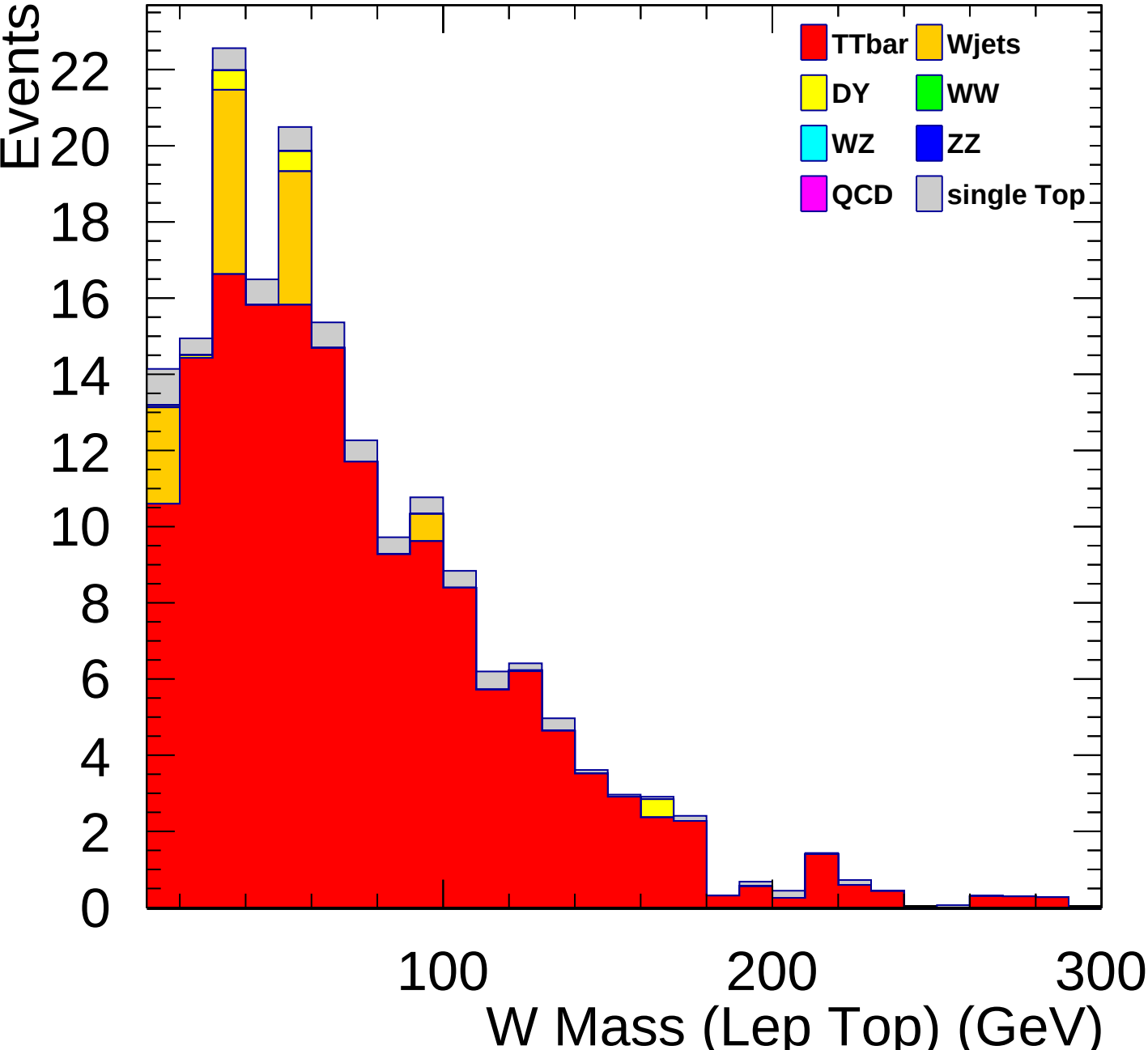

Events
800
700
600
500
400
300
200
100
0
100
200
300
W Mass (Had Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

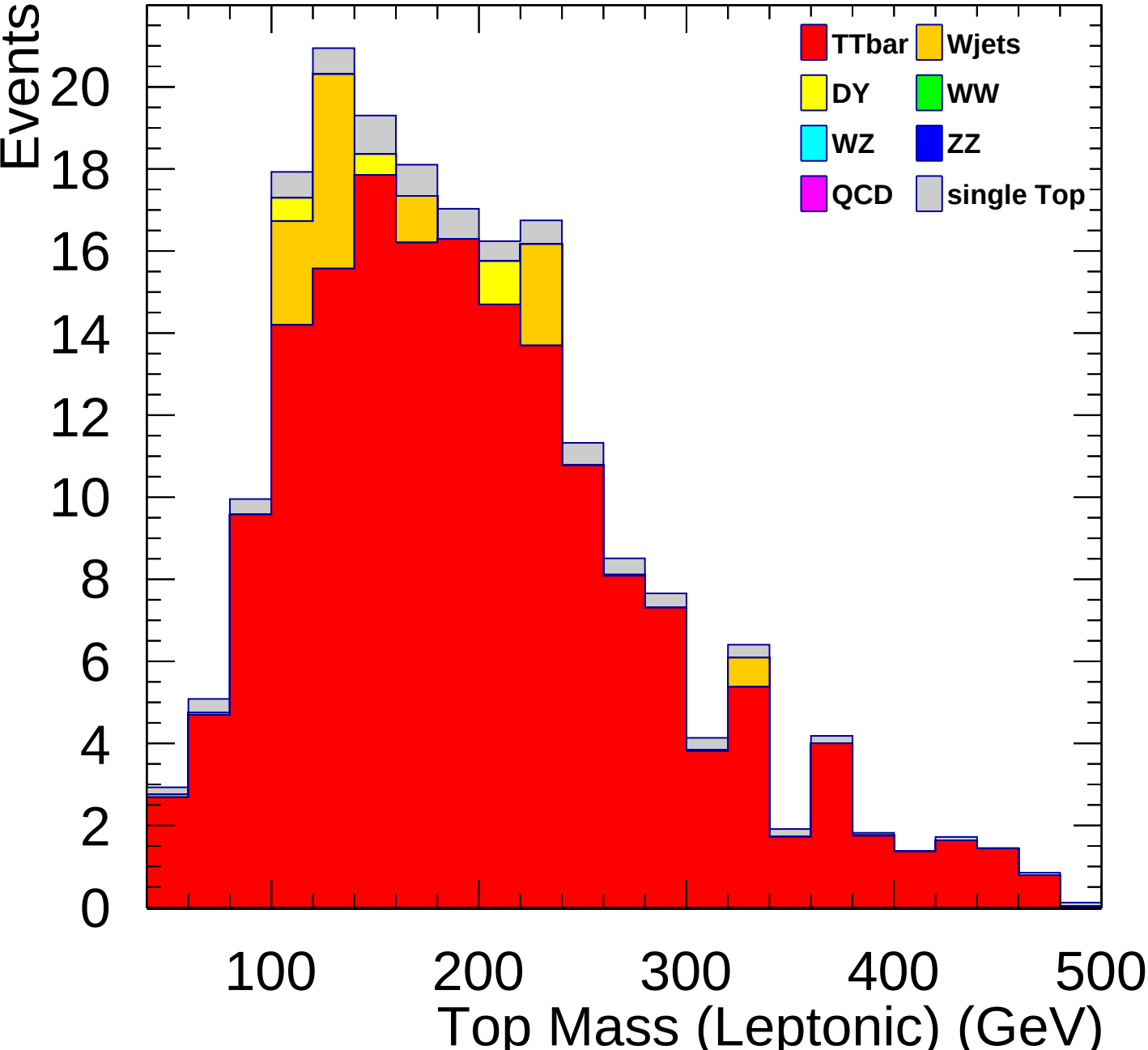

Events
700
600
500
400
300
200
100
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

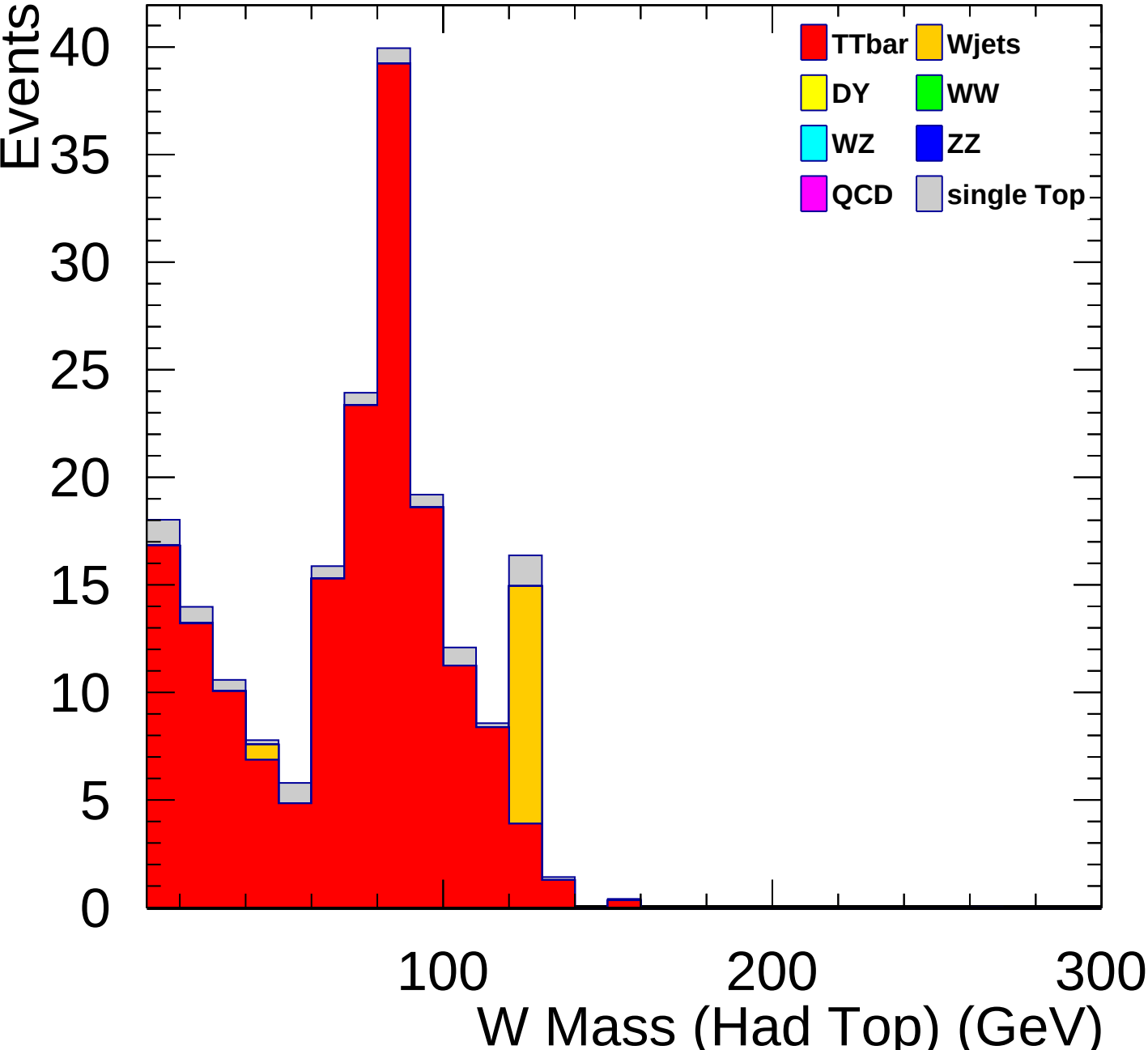

Events
140
120
100
80
60
40
20
0
0
5
10
Jet Multplicity (S5)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

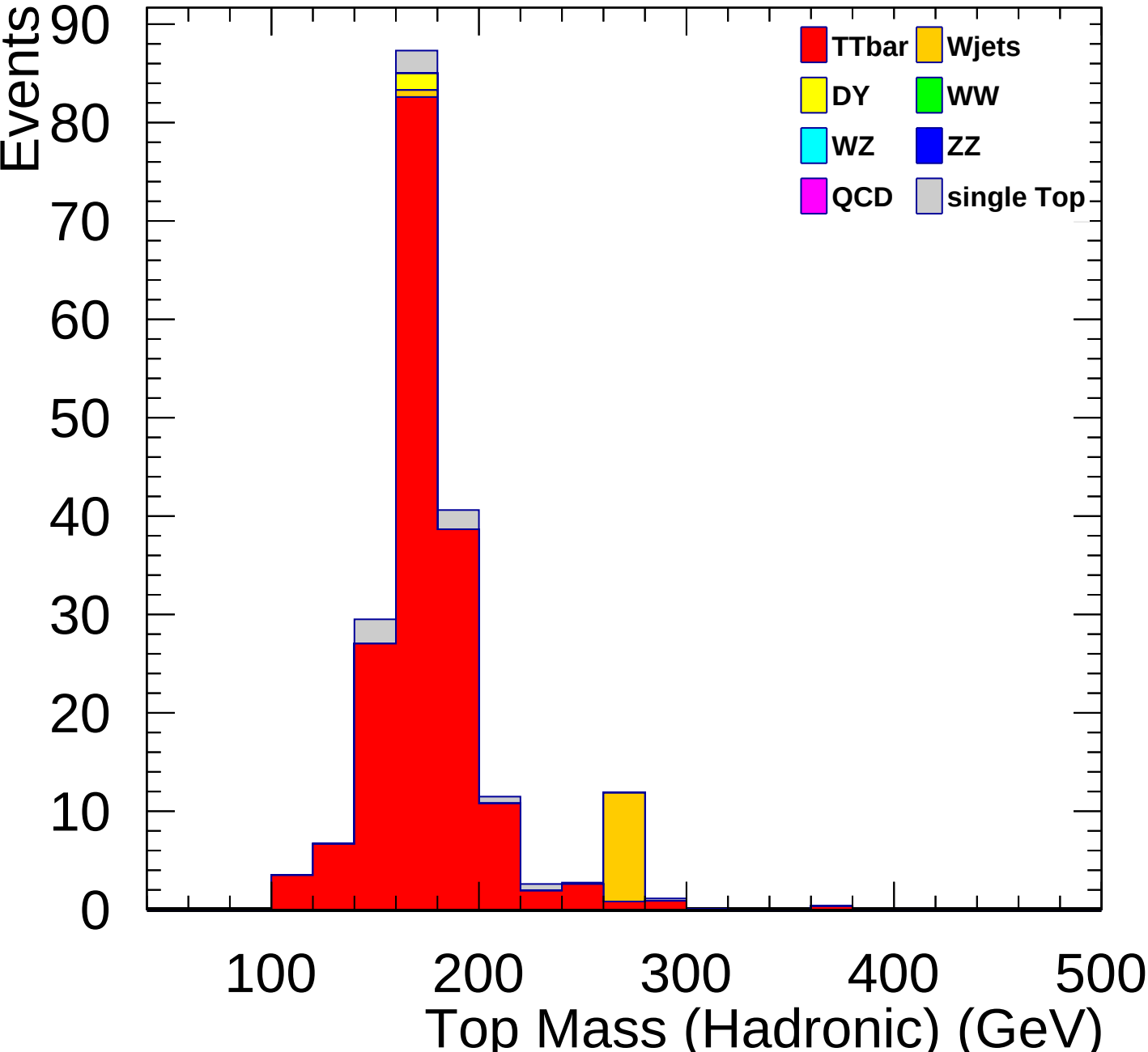

Events
120
100
80
60
40
20
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

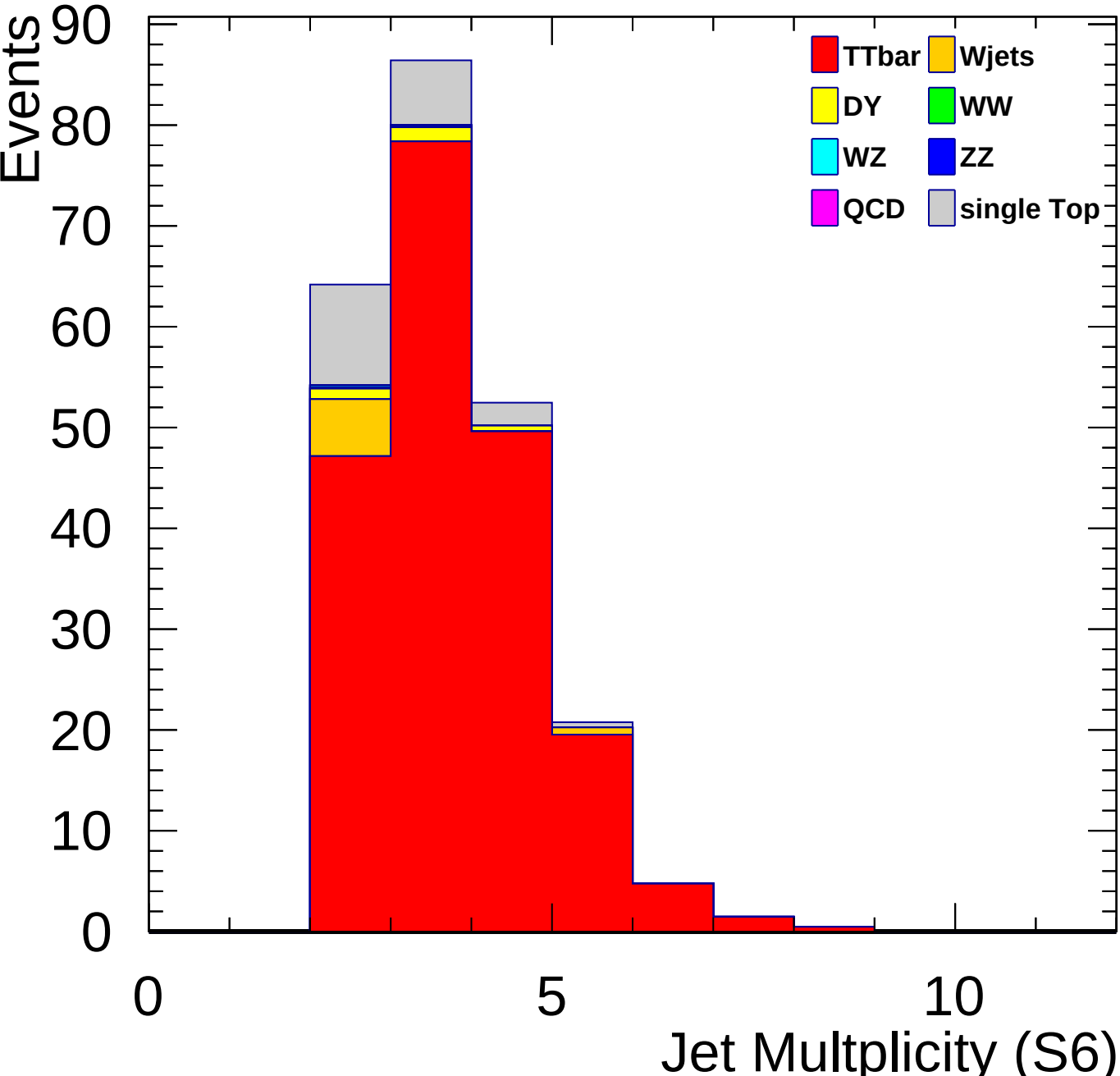

Events
20
18
16
14
12
10
8
6
4
2
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

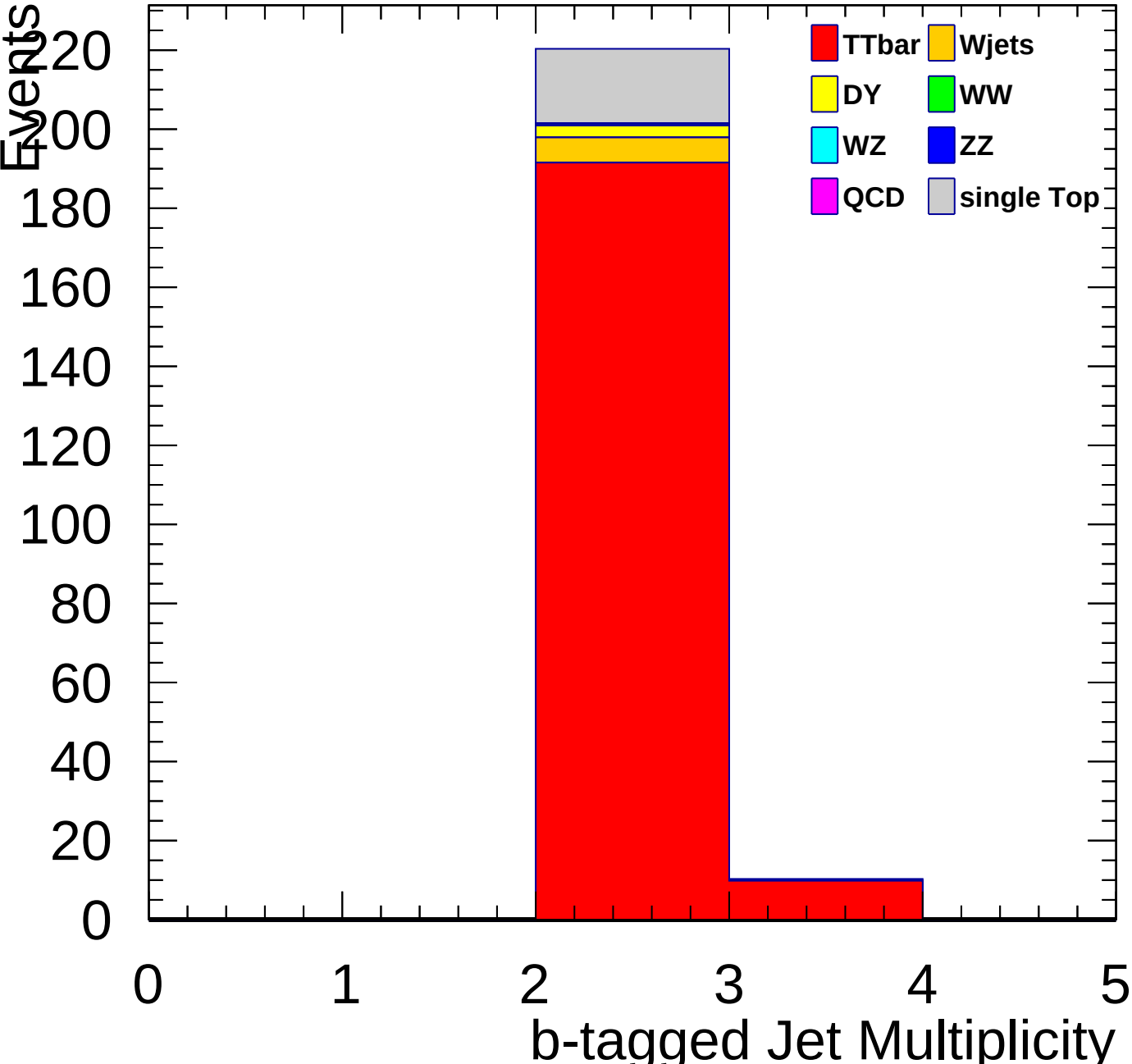

Events
0
2
4
6
8
10
12
14
16
18
20
22
100
200
300
W Mass (Lep Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

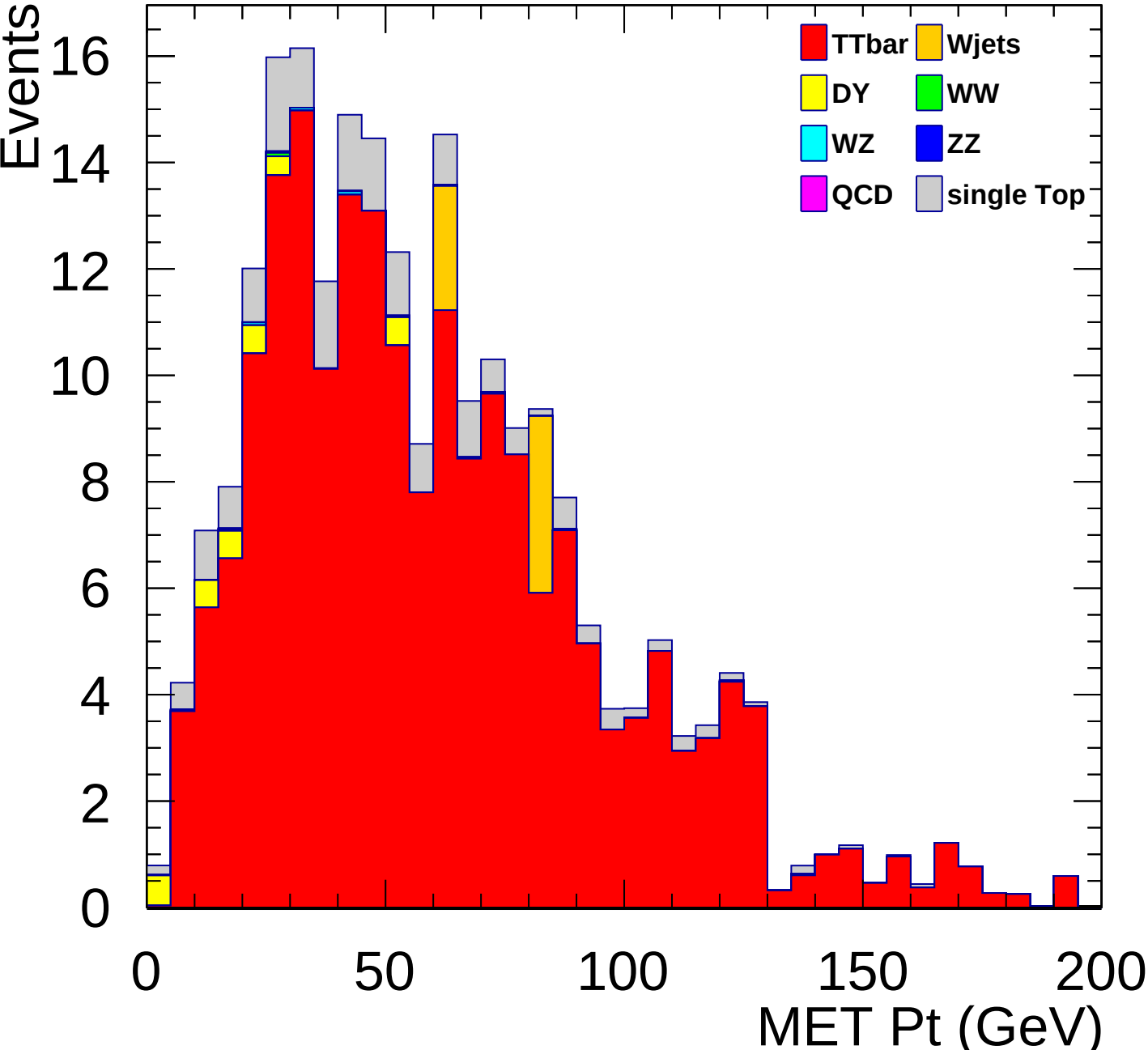

Events
0
2
4
6
8
10
12
14
16
18
20
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

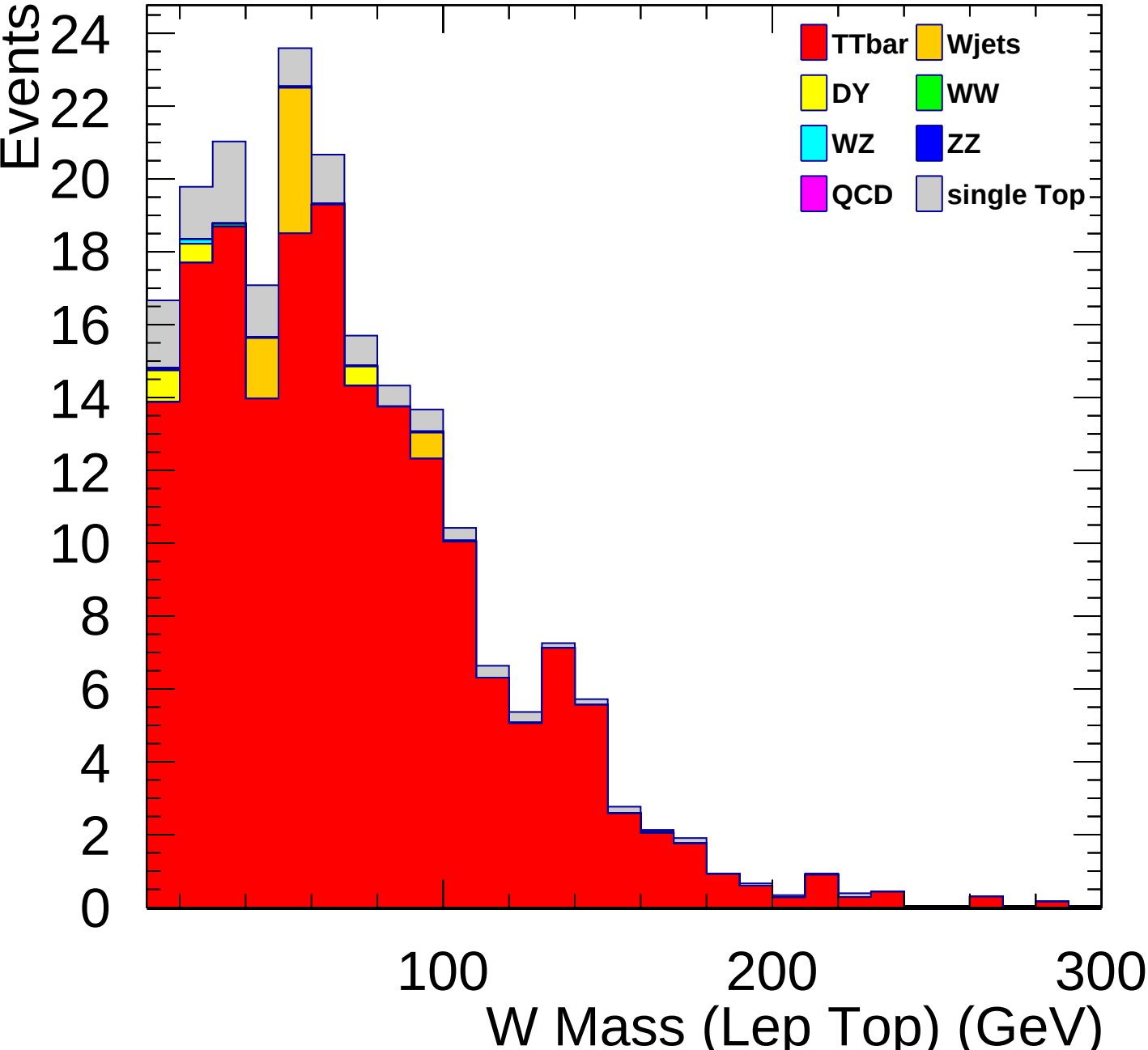

Events
40
35
30
25
20
15
10
5
0
100
200
300
W Mass (Had Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

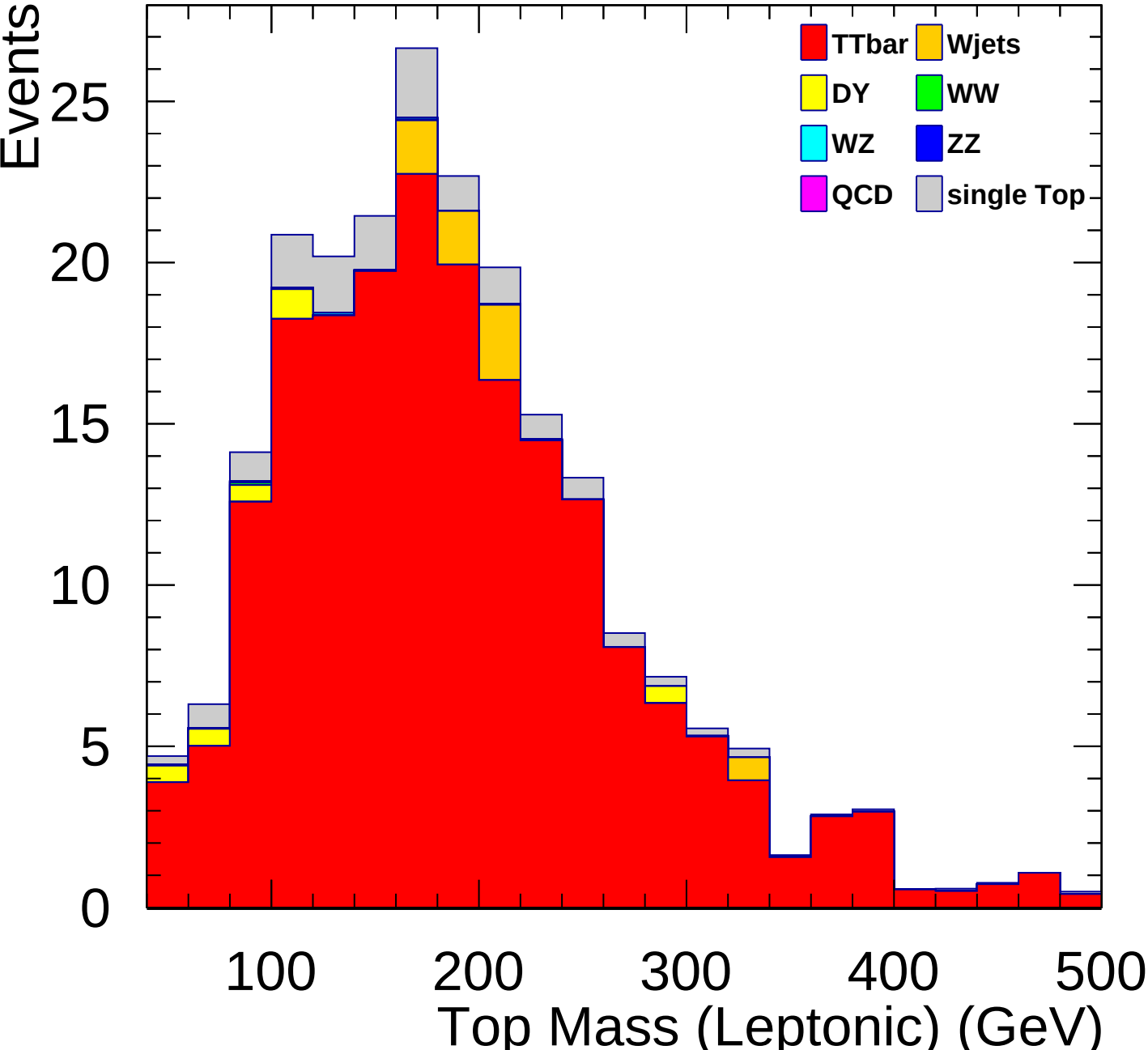

Events
90
80
70
60
50
40
30
20
10
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

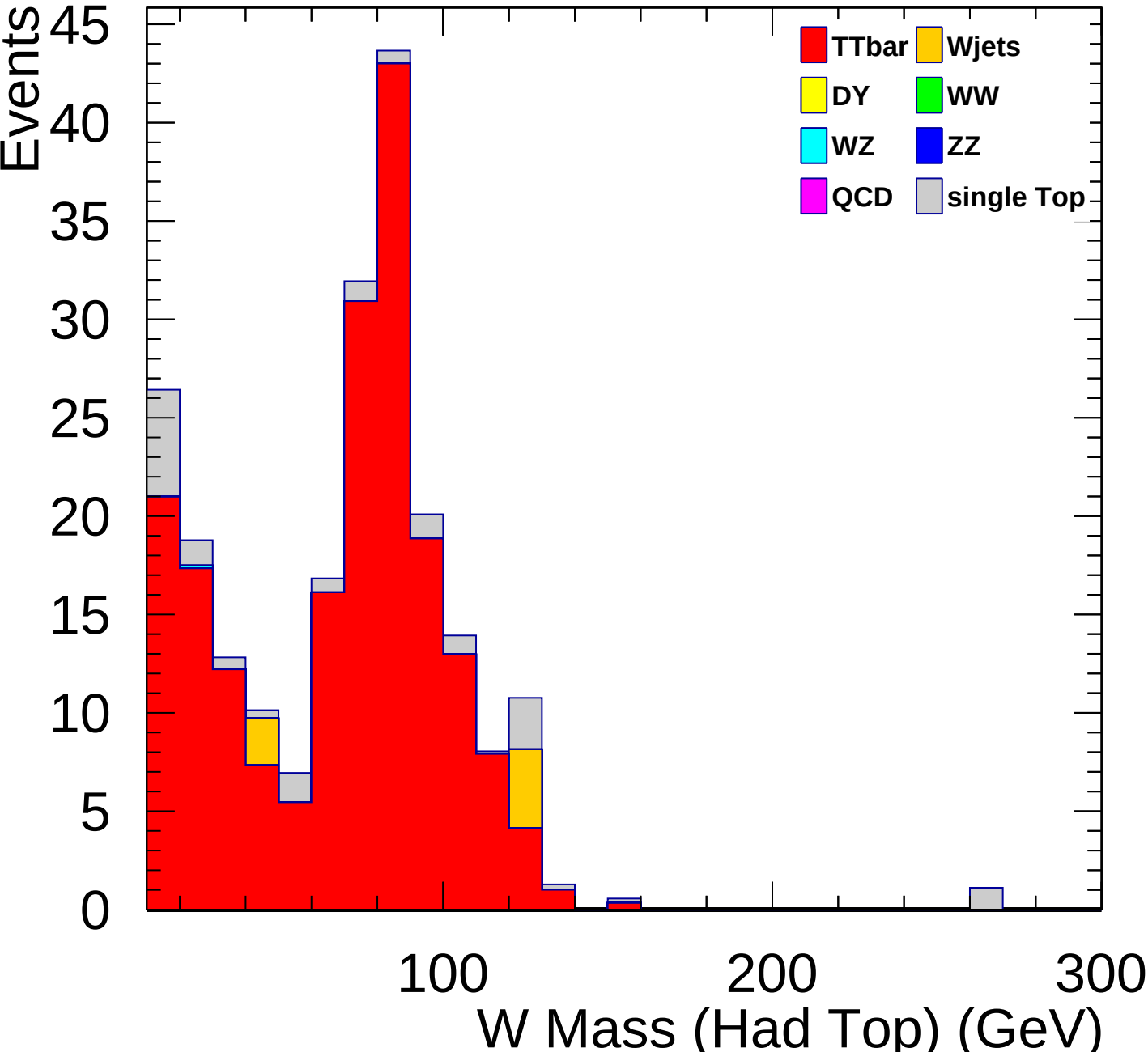

Events
90
80
70
60
50
40
30
20
10
0
0
5
10
Jet Multplicity (S6)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

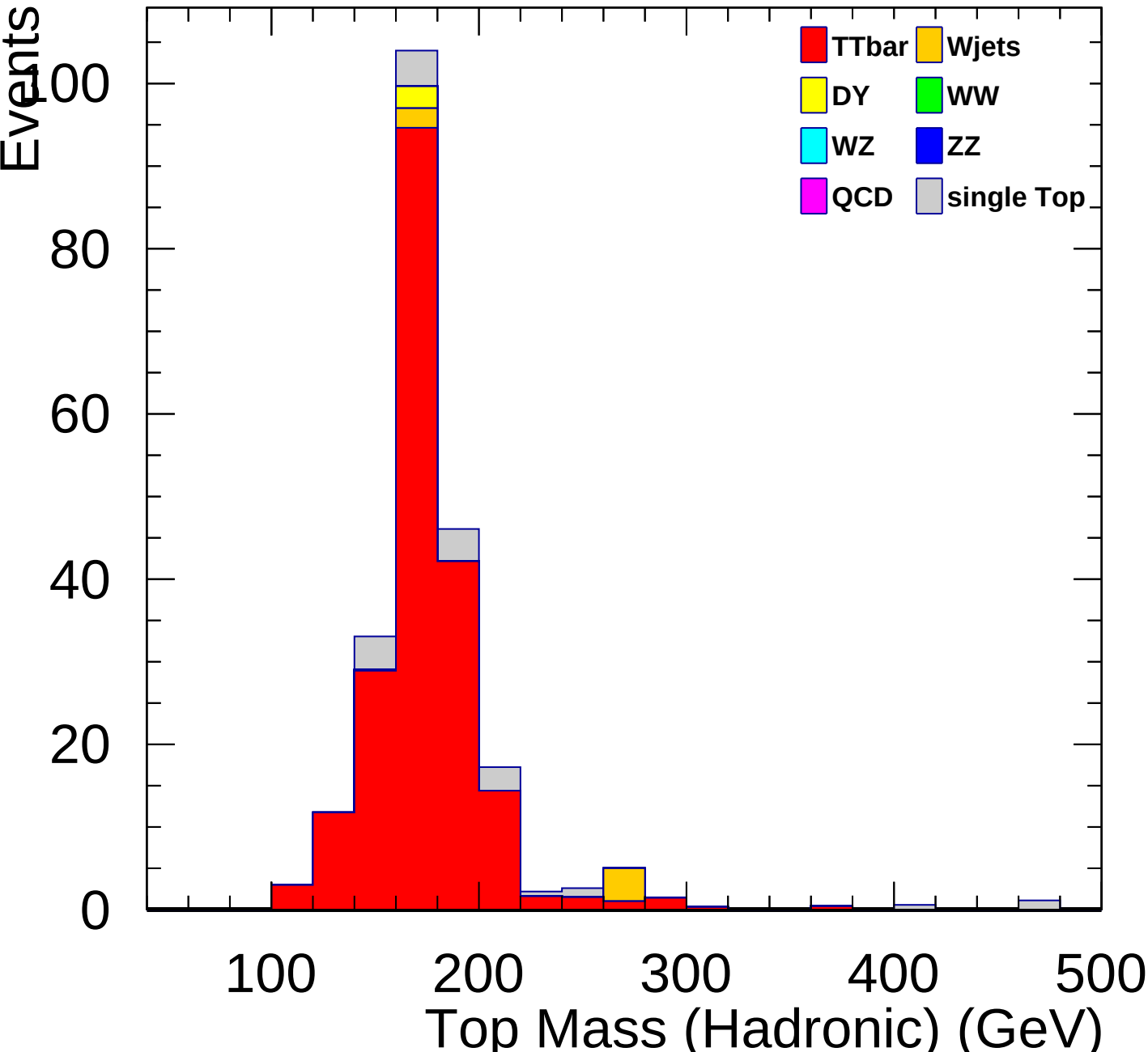

Events
220
200
180
160
140
120
100
80
60
40
20
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

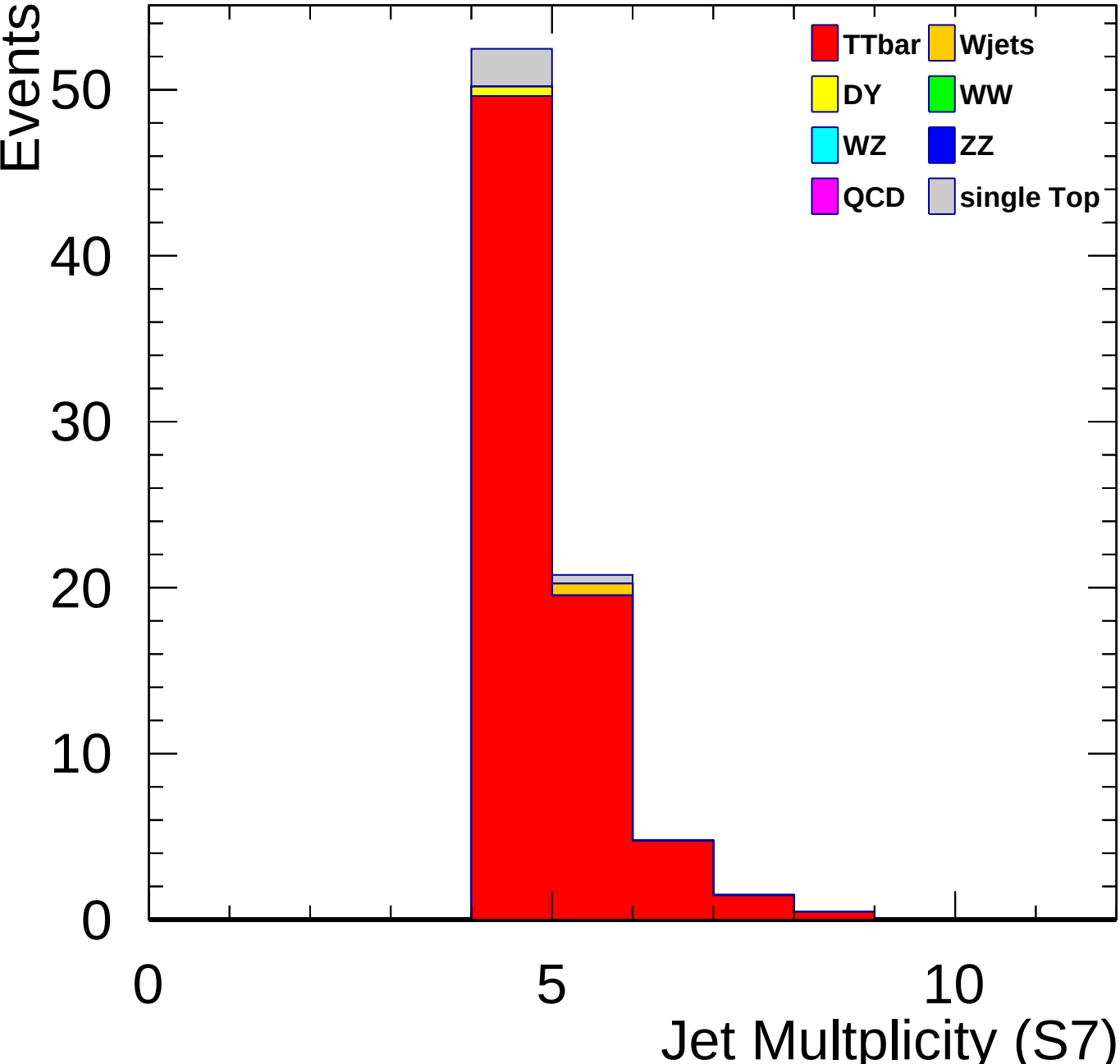

Events
16
14
12
10
8
6
4
2
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

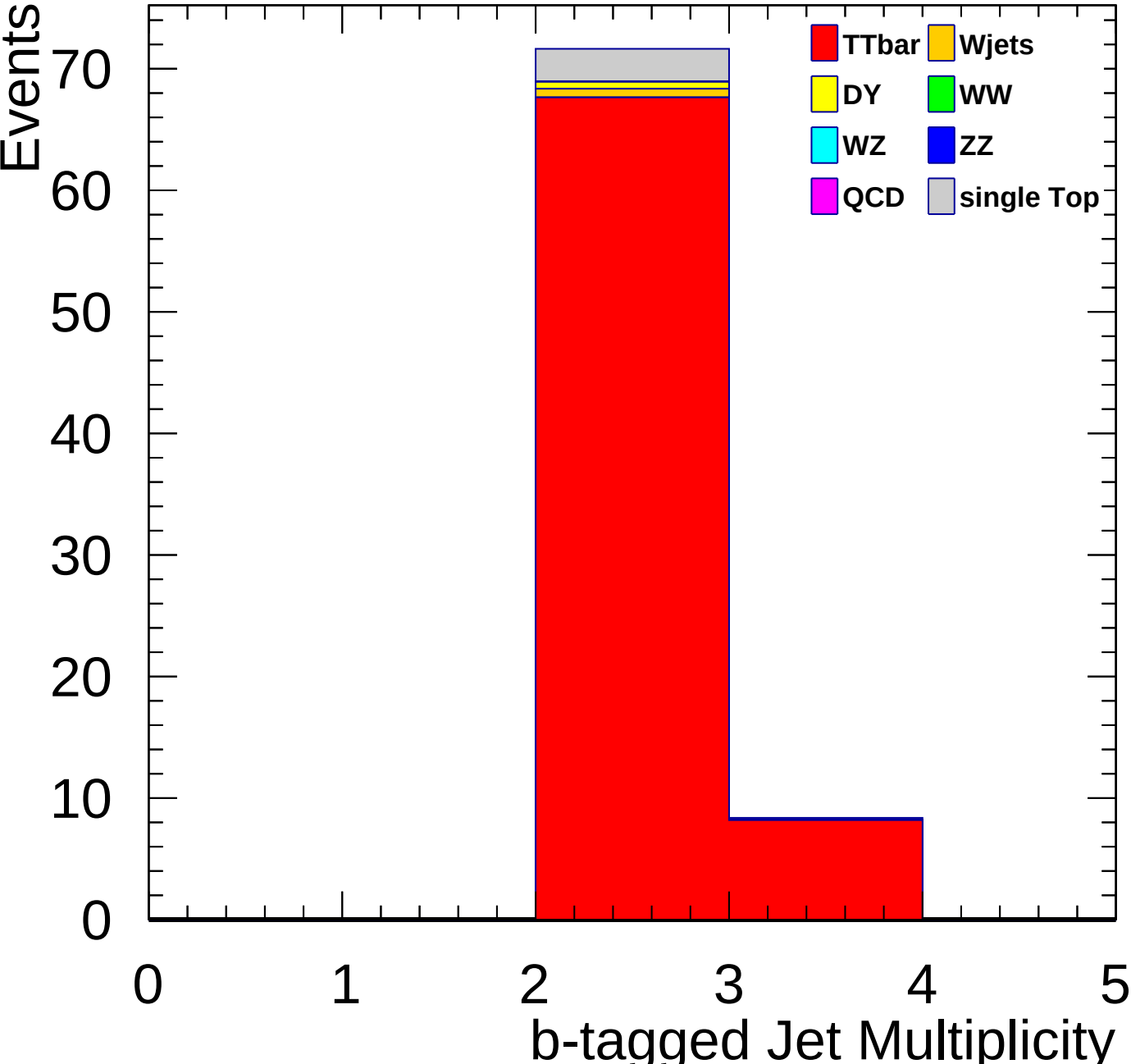

Events
24
22
20
18
16
14
12
10
8
6
4
2
0
100
200
300
W Mass (Lep Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

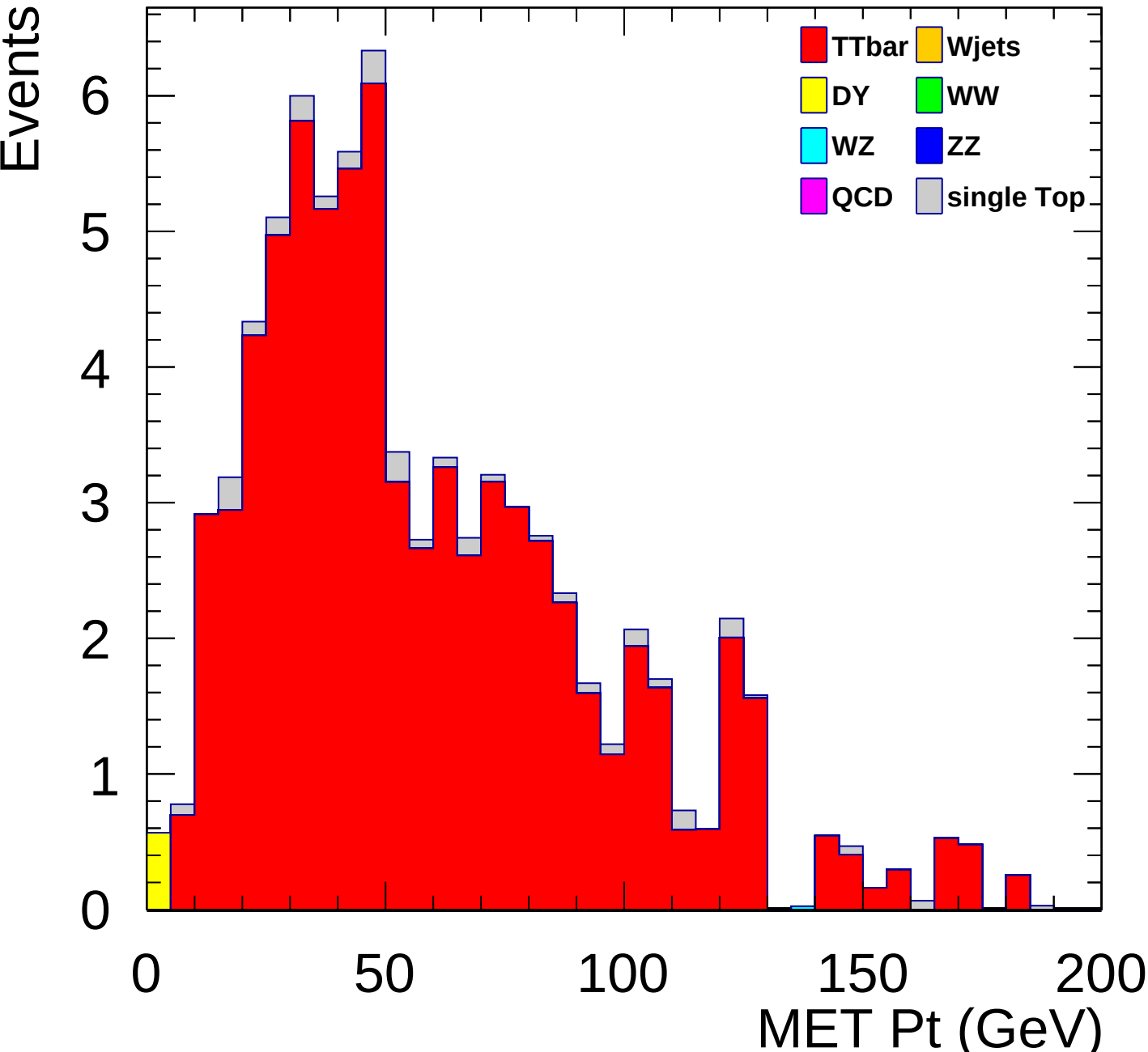

Events
25
20
15
10
5
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

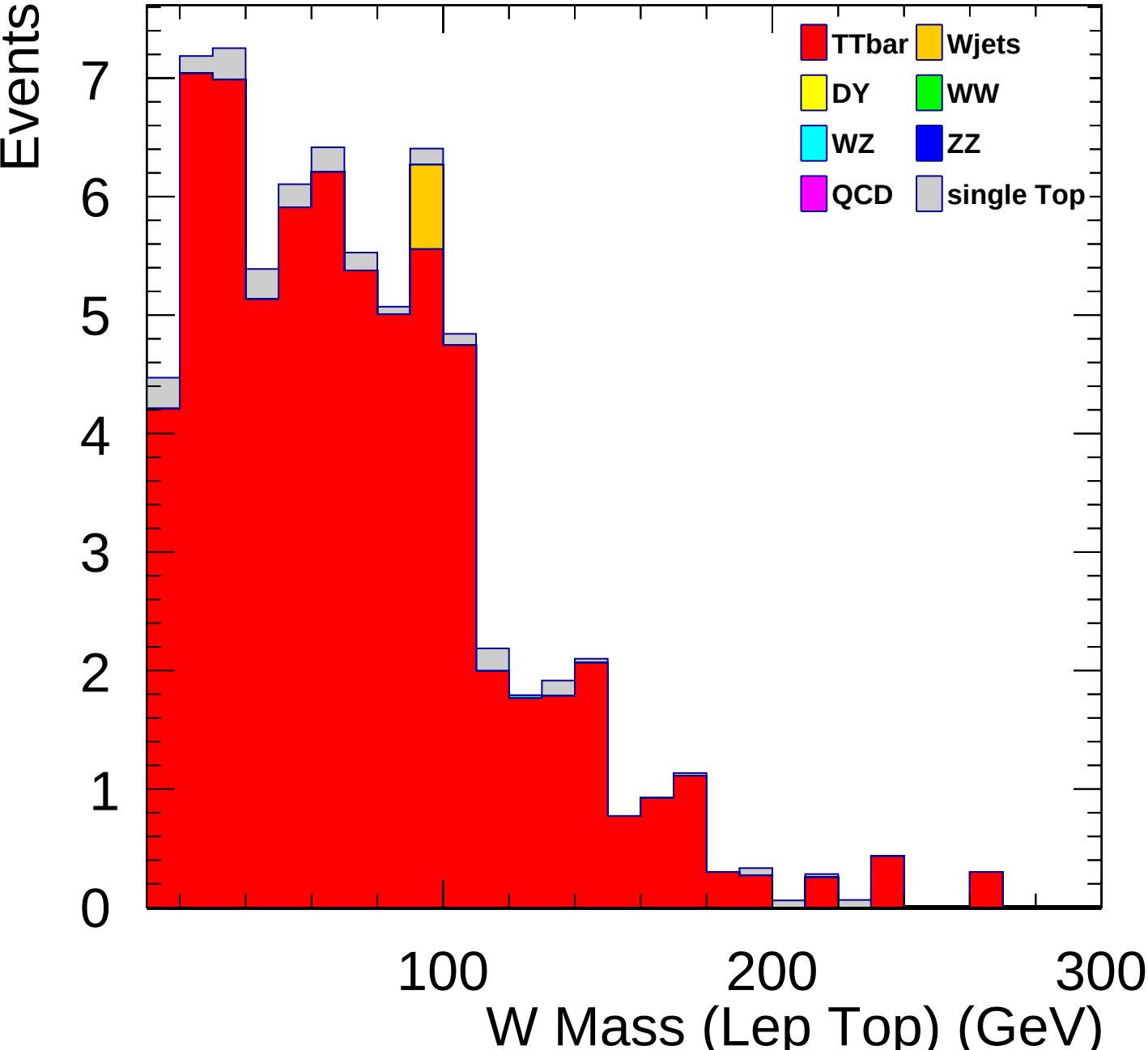

Events
45
40
35
30
25
20
15
10
5
0
100
200
300
W Mass (Had Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

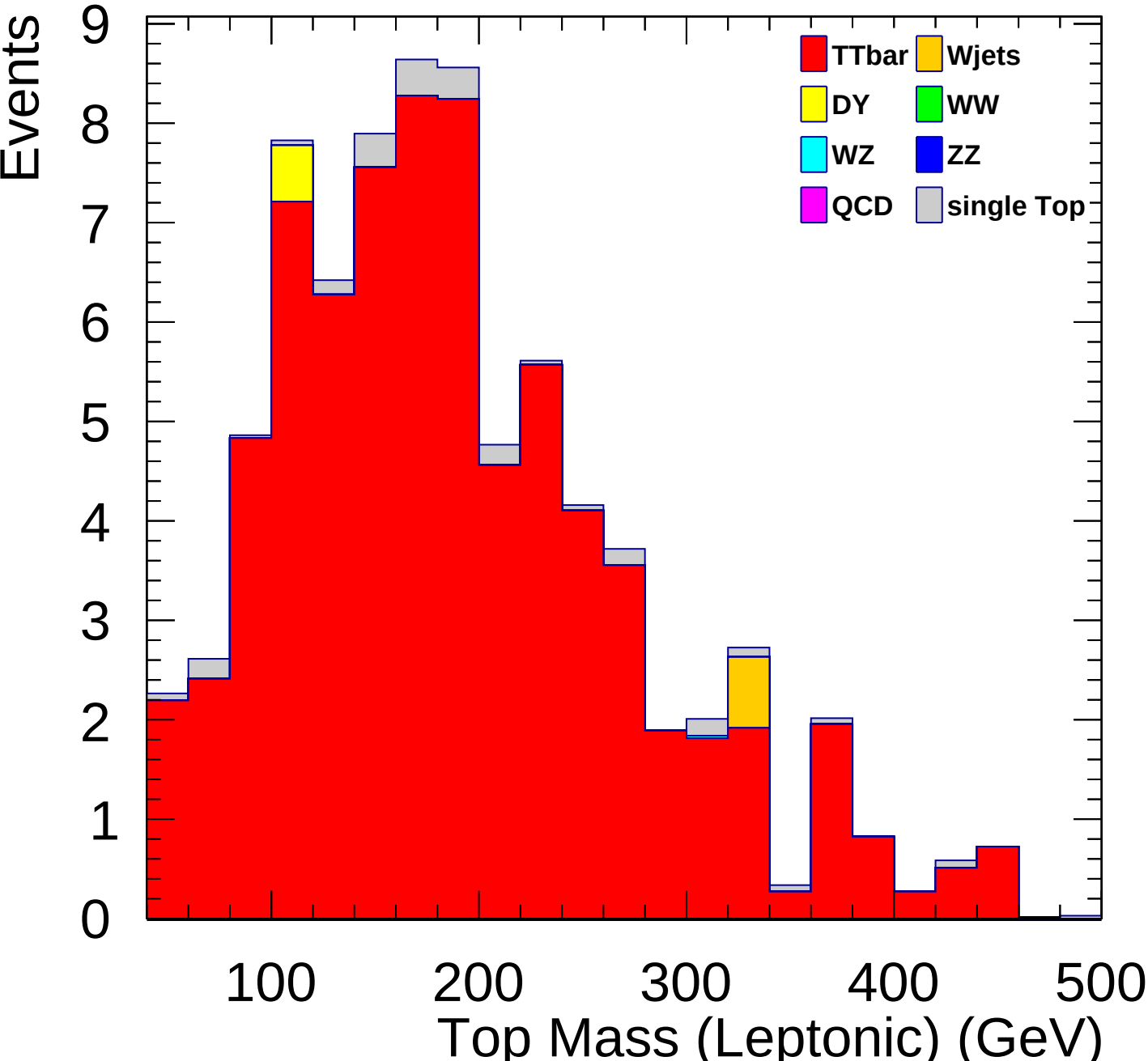

Events
0
20
40
60
80
100
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

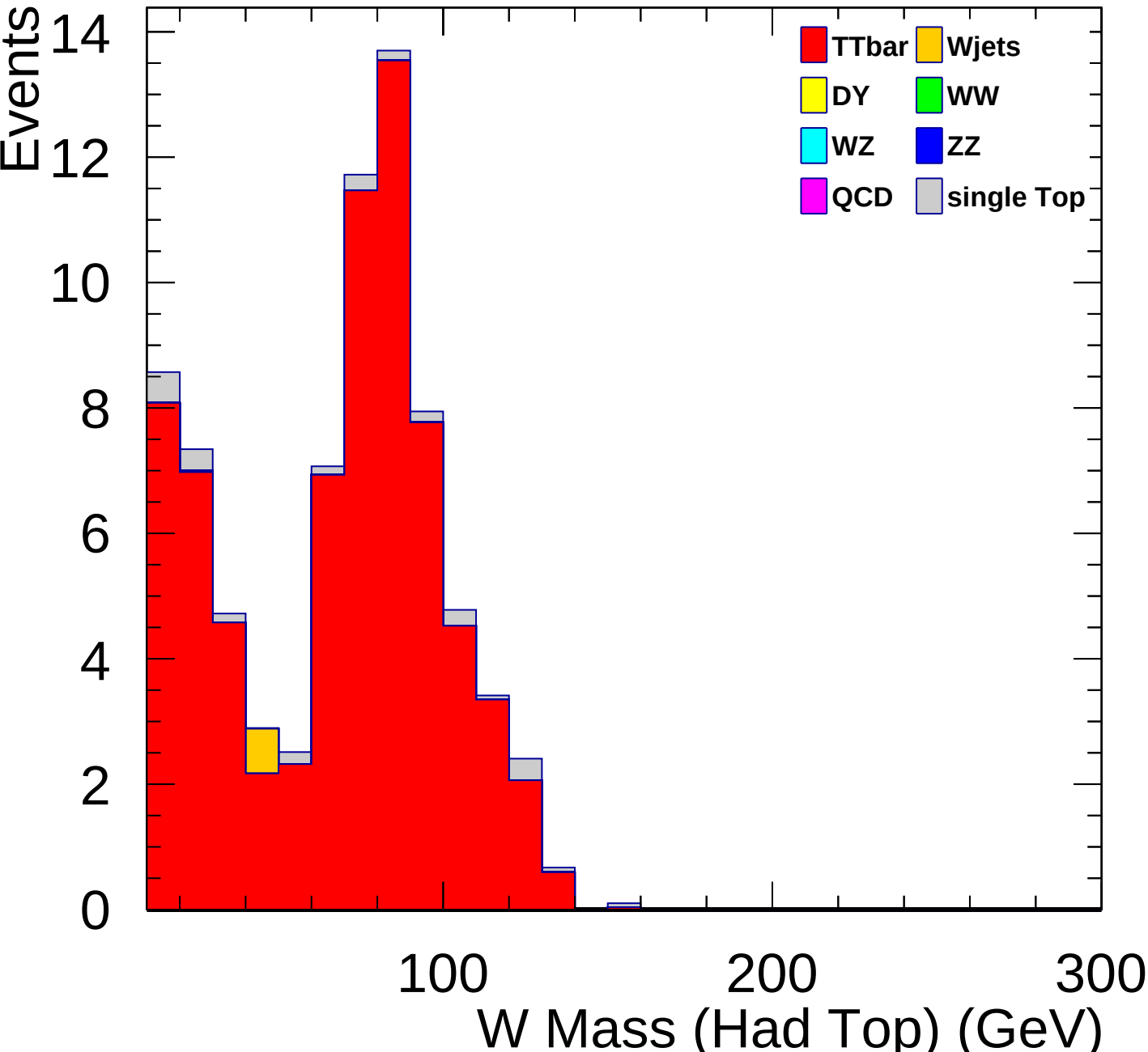

Events
50
40
30
20
10
0
0
5
10
Jet Multplicity (S7)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

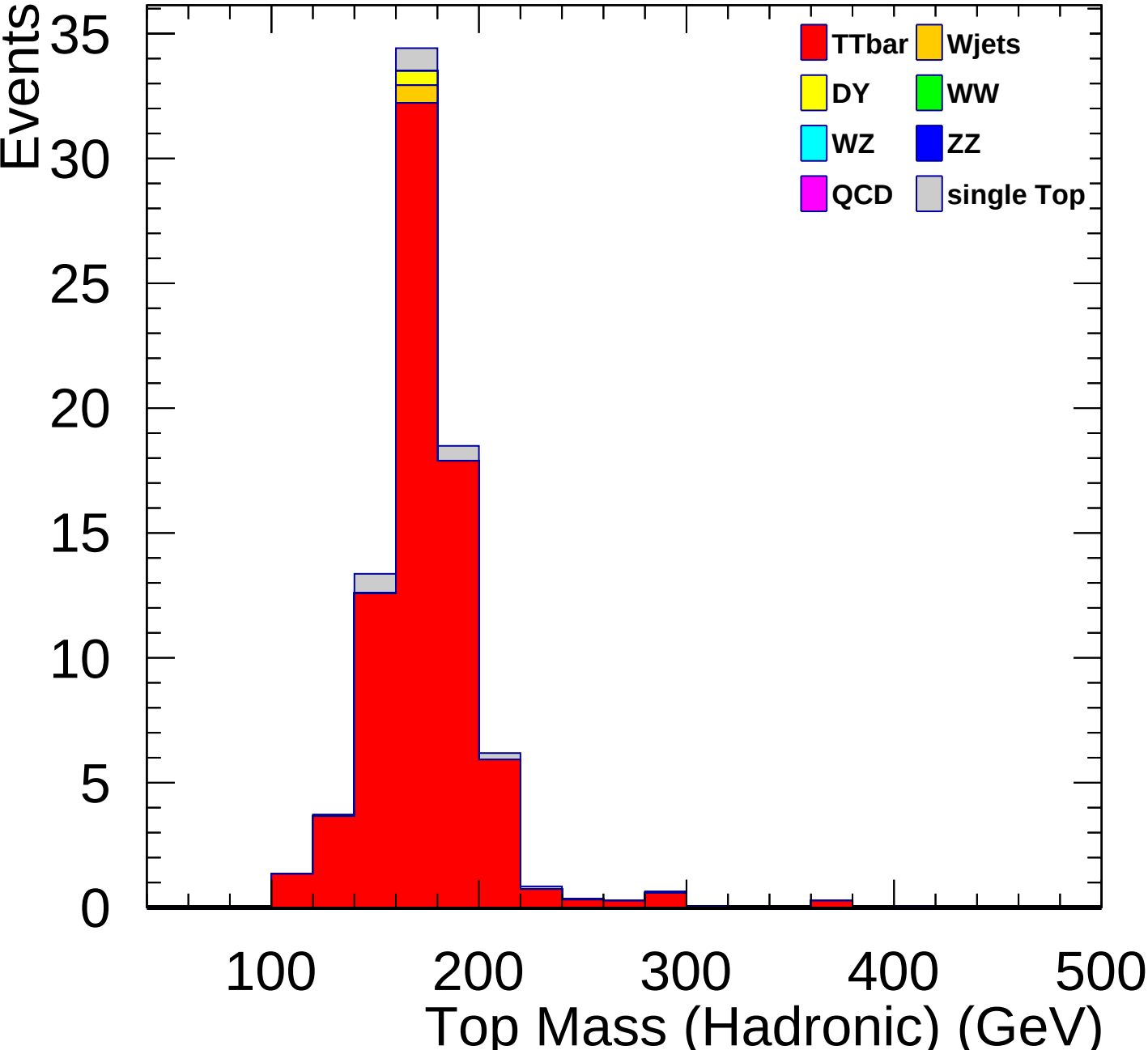

Events
70
60
50
40
30
20
10
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

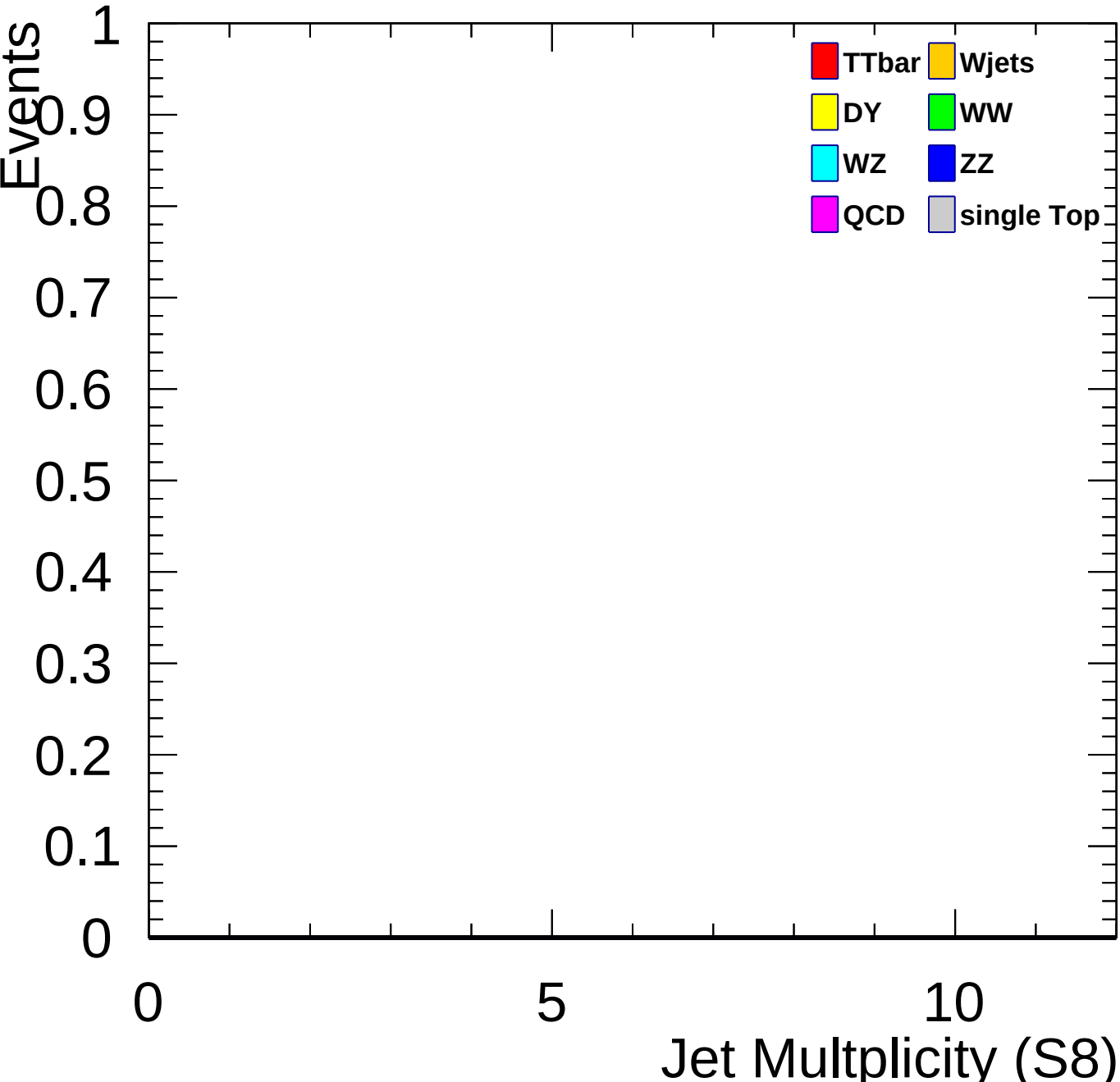

Events
0
1
2
3
4
5
6
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

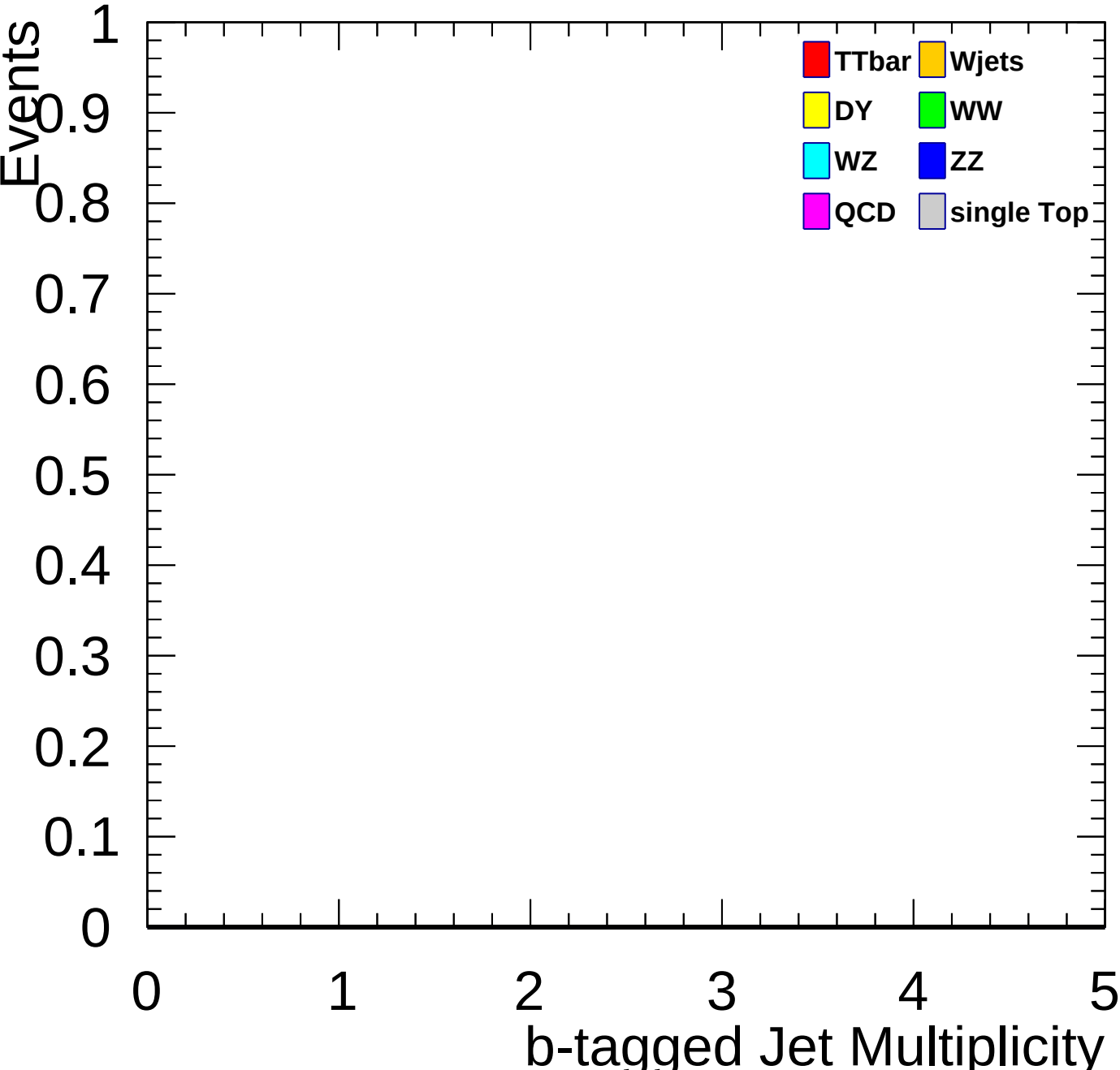

Events
0
1
2
3
4
5
6
7
100
200
300
W Mass (Lep Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

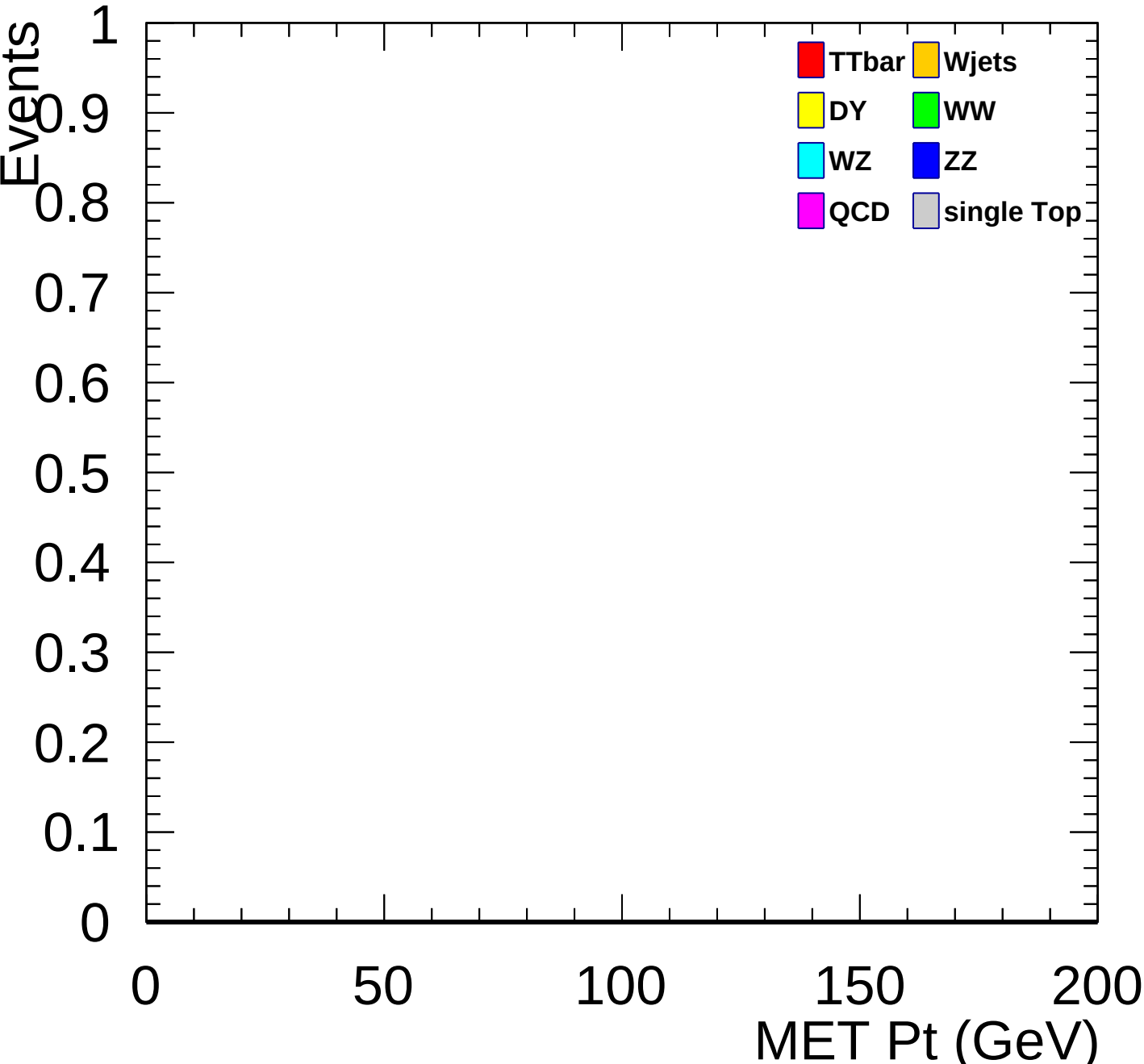

Events
9
8
7
6
5
4
3
2
1
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

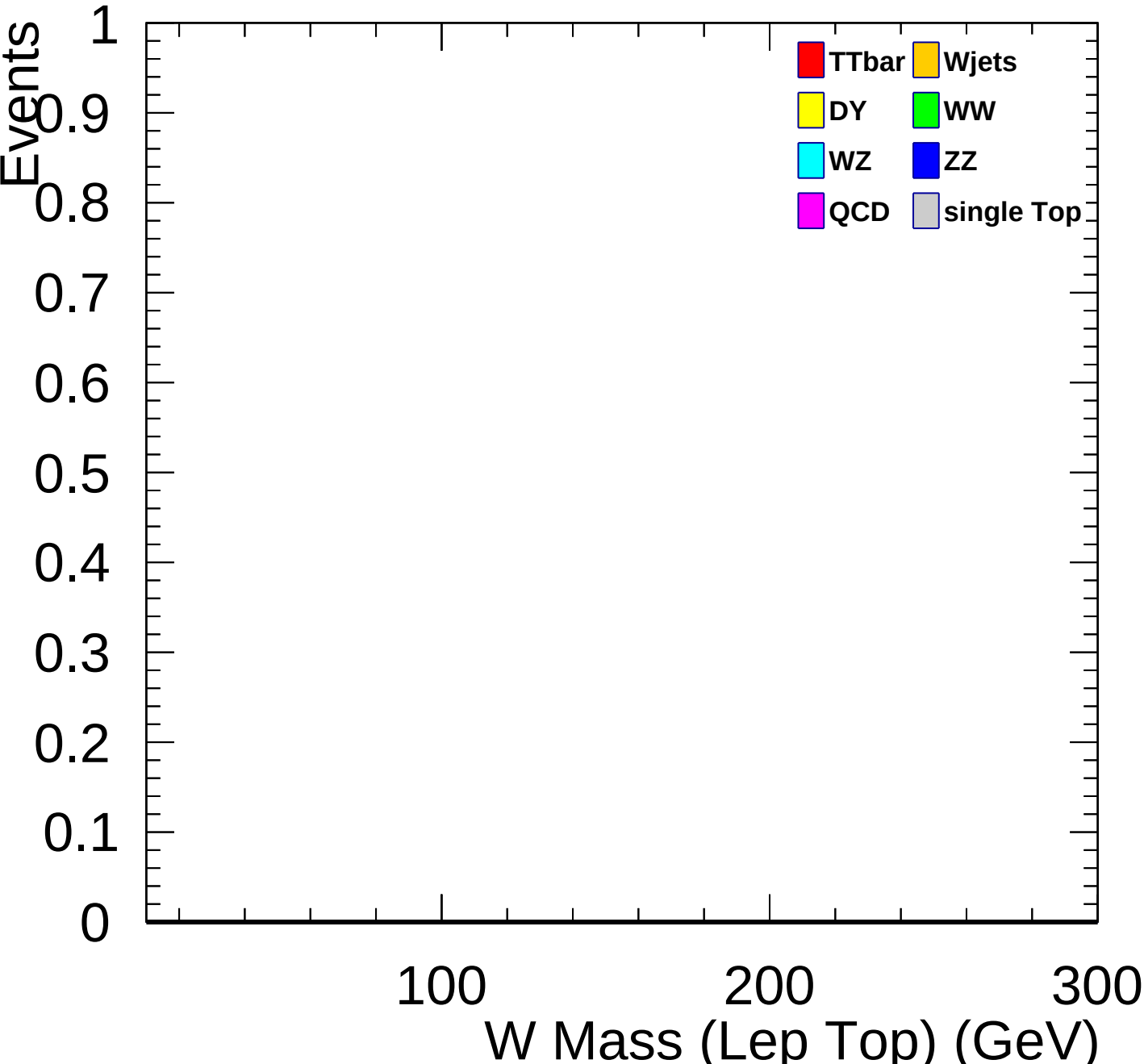

Events
14
12
10
8
6
4
2
0
100
200
300
W Mass (Had Top) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

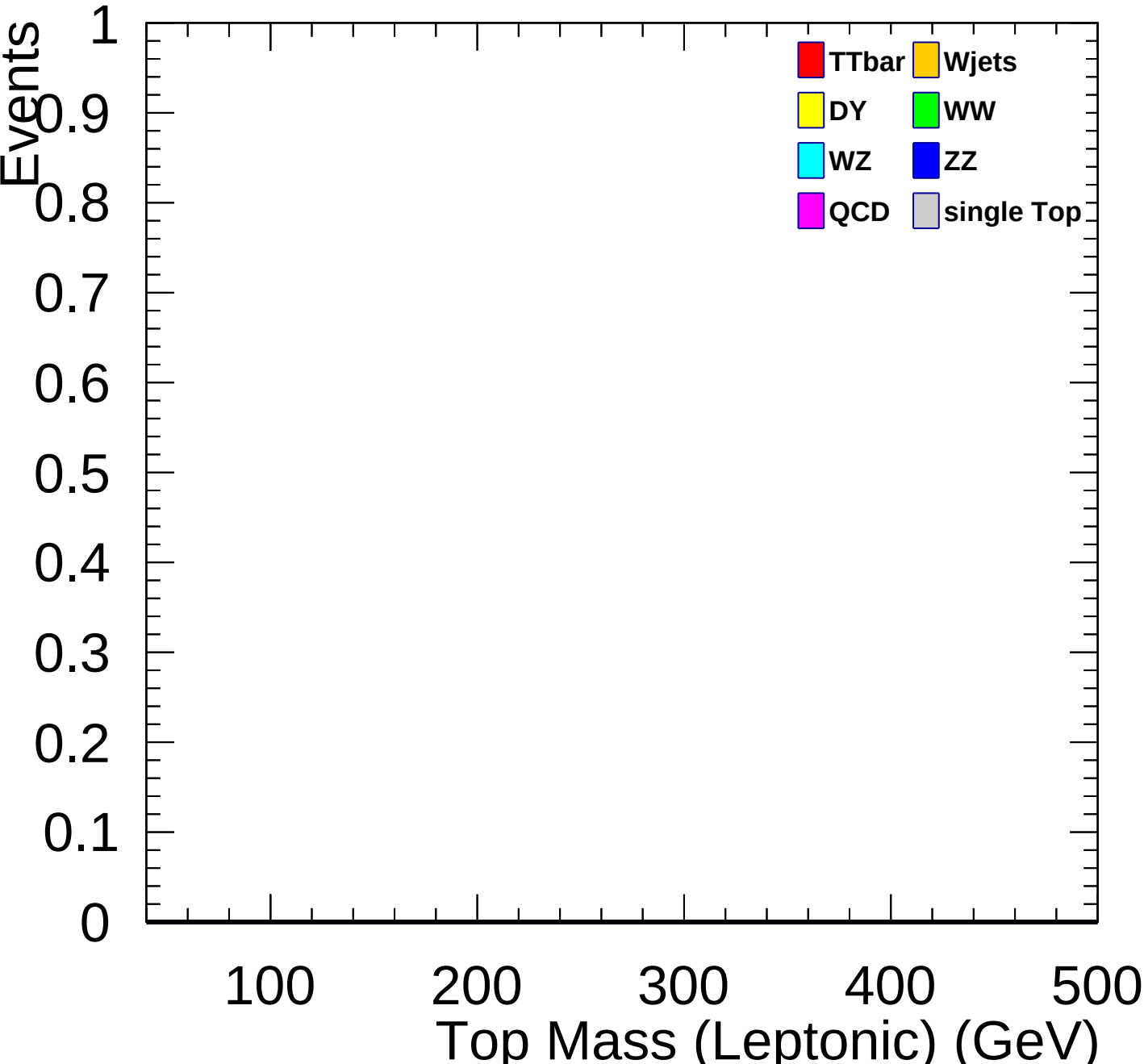

Events
35
30
25
20
15
10
5
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

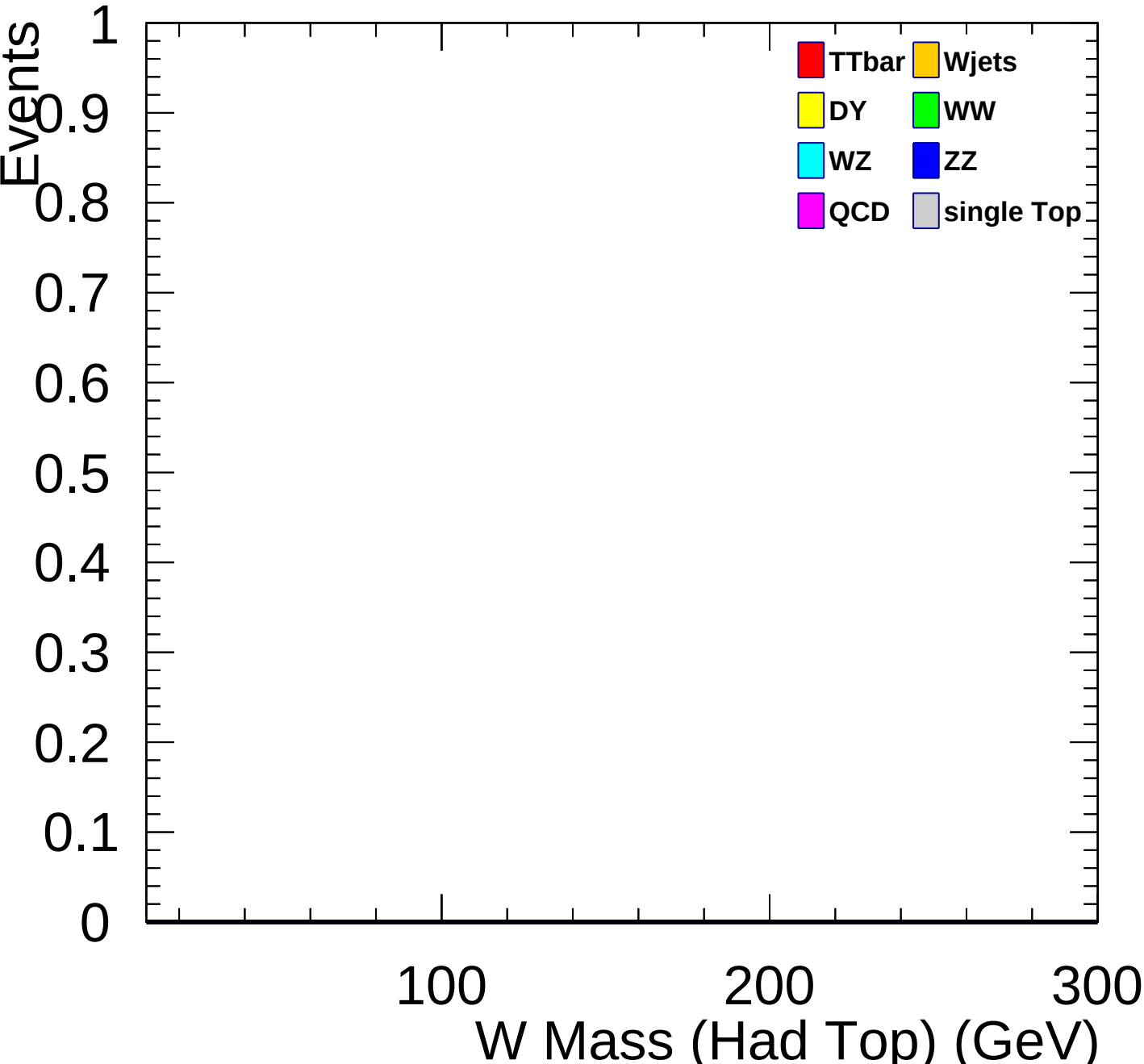

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
5
10
Jet Multplicity (S8)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top

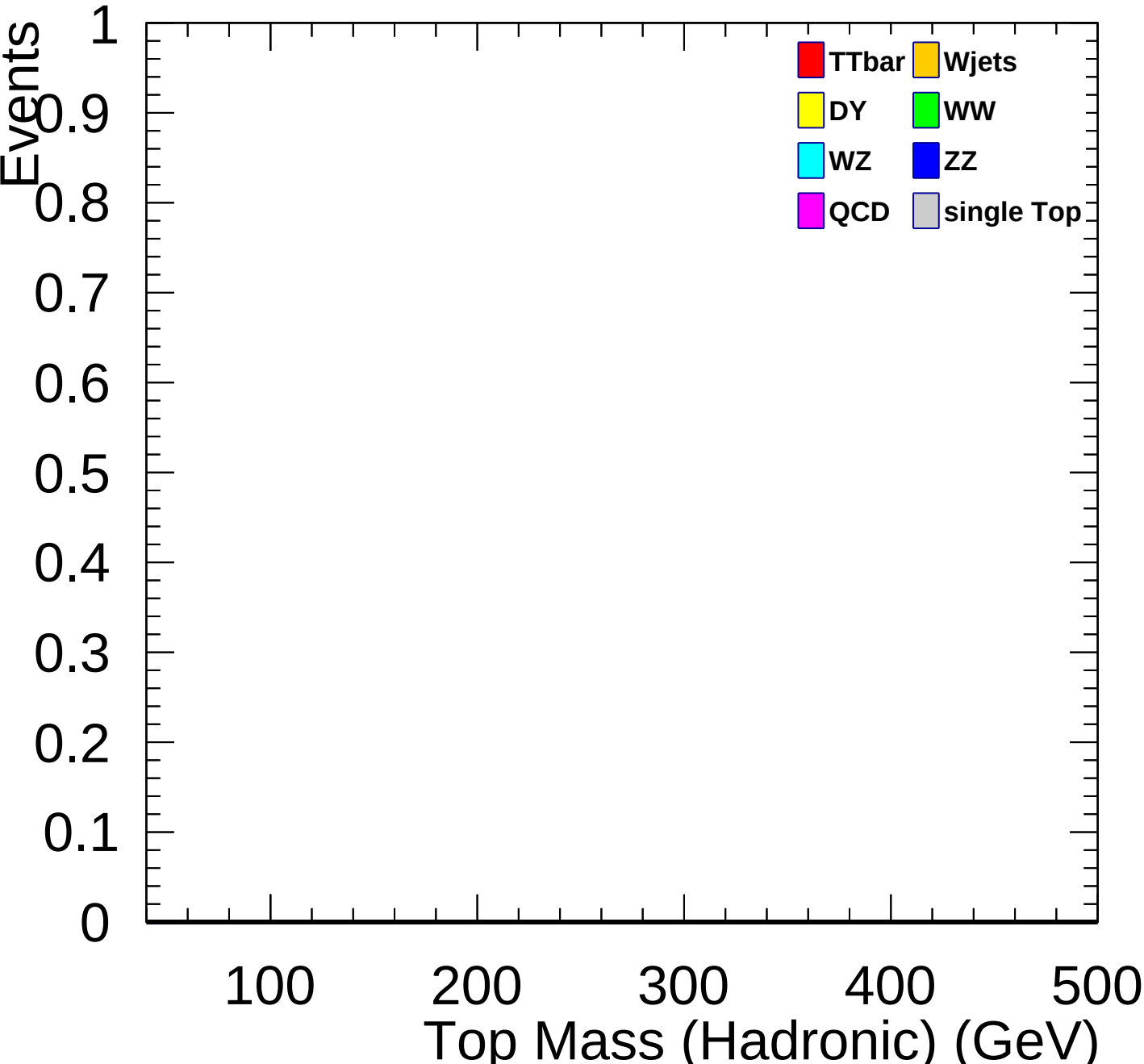

Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
b-tagged Jet Multiplicity
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top


Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
50
100
150
200
MET Pt (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top


Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Lep Top) (GeV)


Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
100
200
300
400
500
Top Mass (Leptonic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top


Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top
100
200
300
W Mass (Had Top) (GeV)


Events
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
100
200
300
400
500
Top Mass (Hadronic) (GeV)
TTbar
Wjets
DY
WW
WZ
ZZ
QCD
single Top