Lake Tenkiller Output

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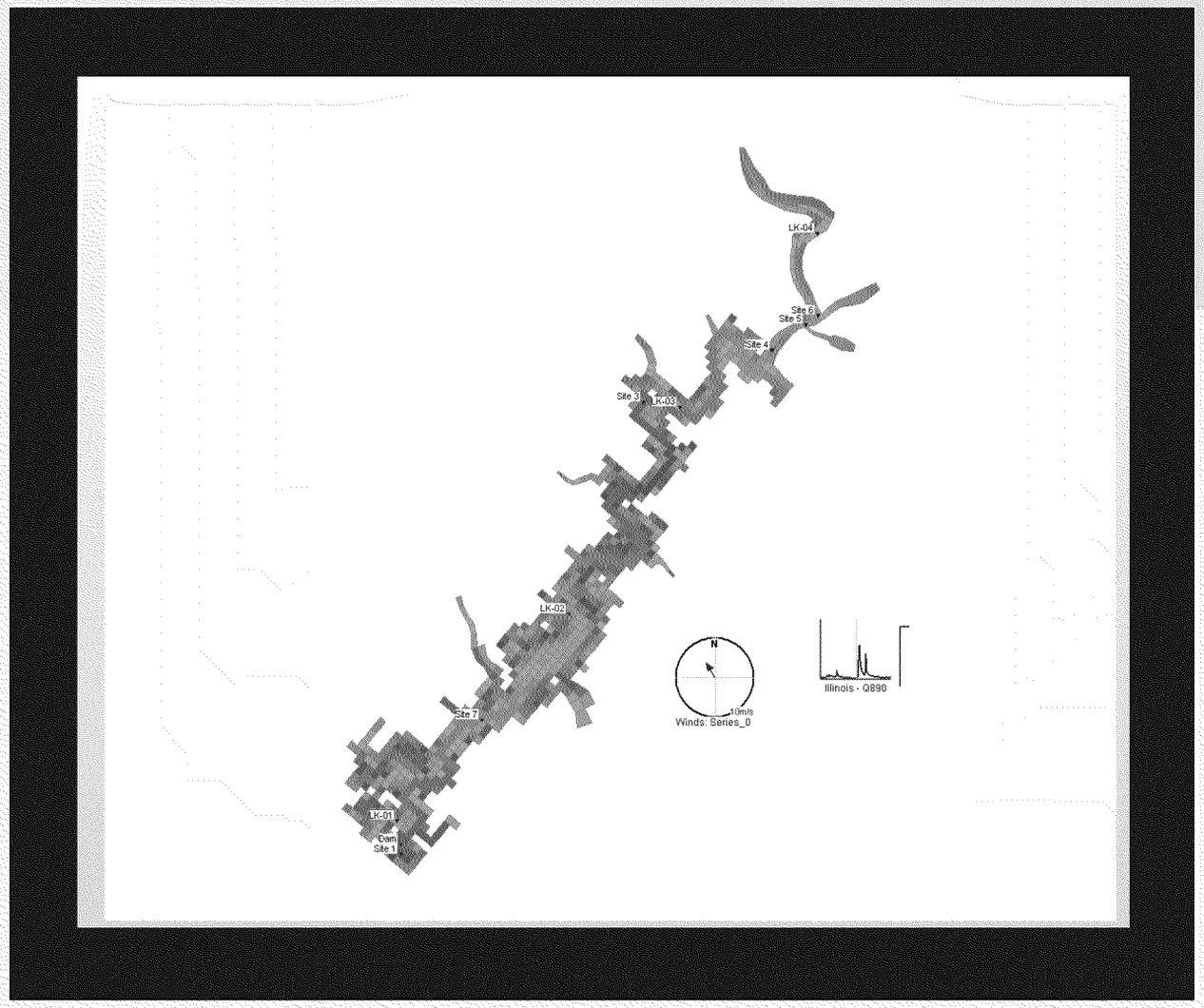
EPA REGION 6

EPA United States Environmental Protection Agency

Lake Tenkiller

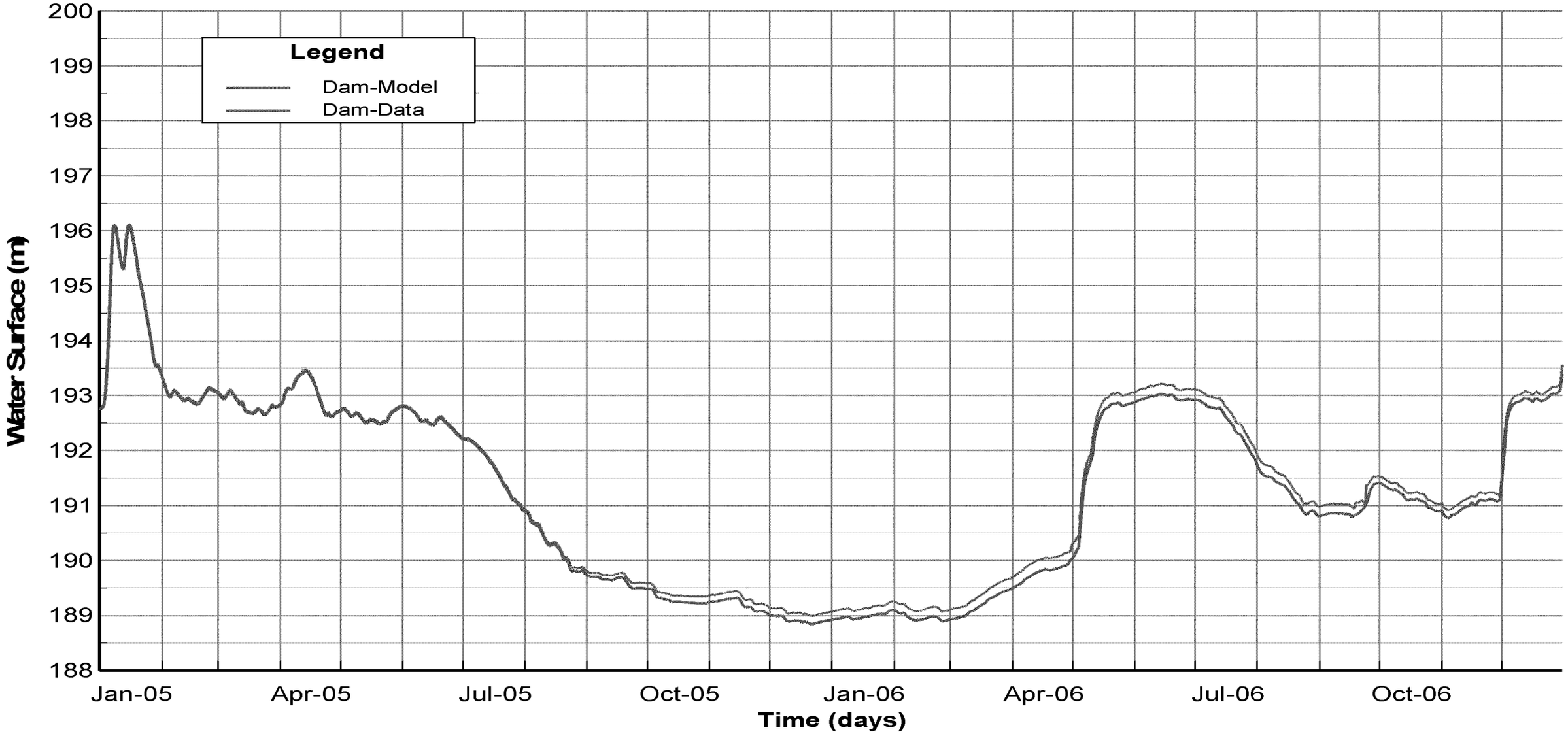


Outline

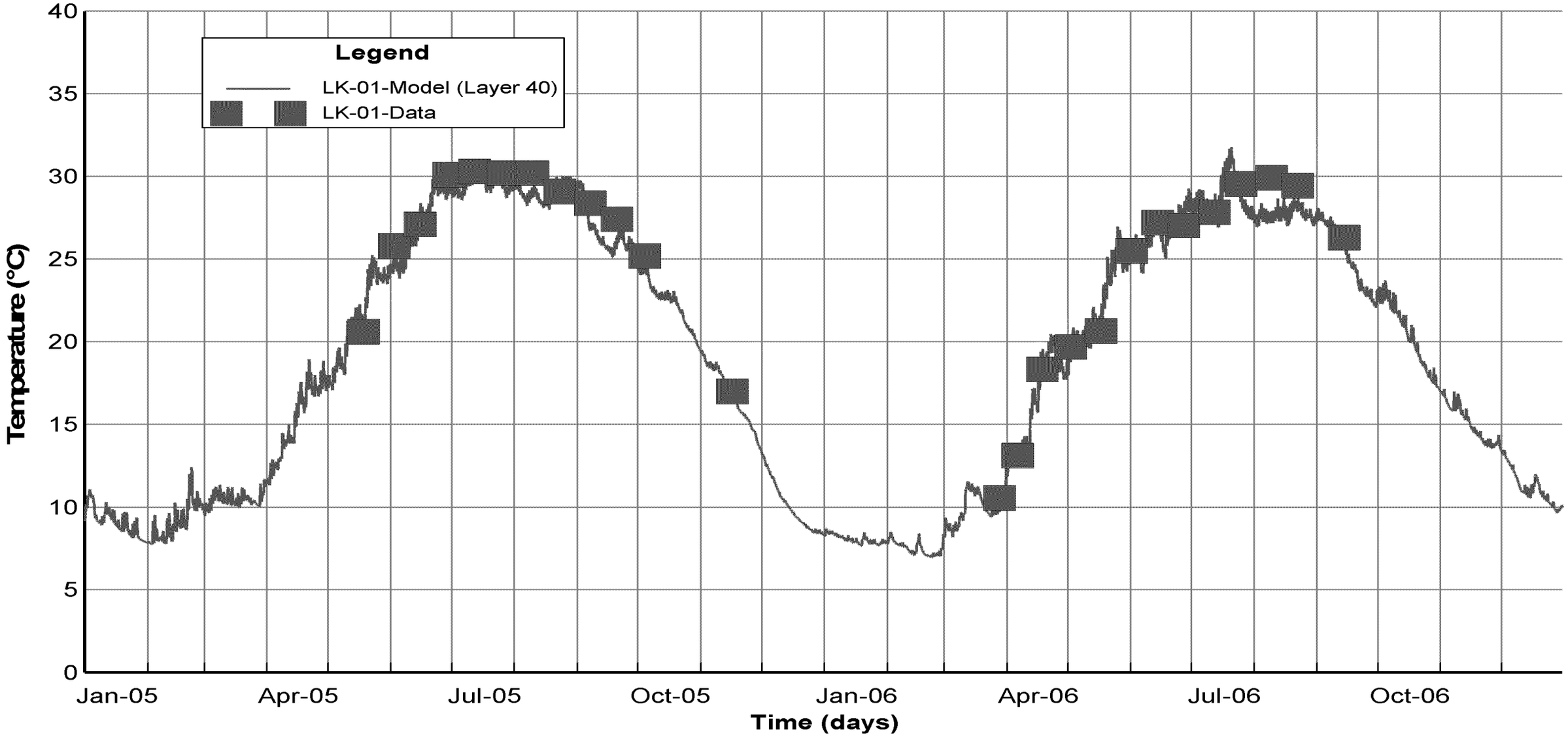
- Calibration Output
  - Water Surface
  - Temperature
  - Dissolved Oxygen
  - Chlorophyll-*a*
  - Sediment Nutrients
- Conclusions and Next Steps

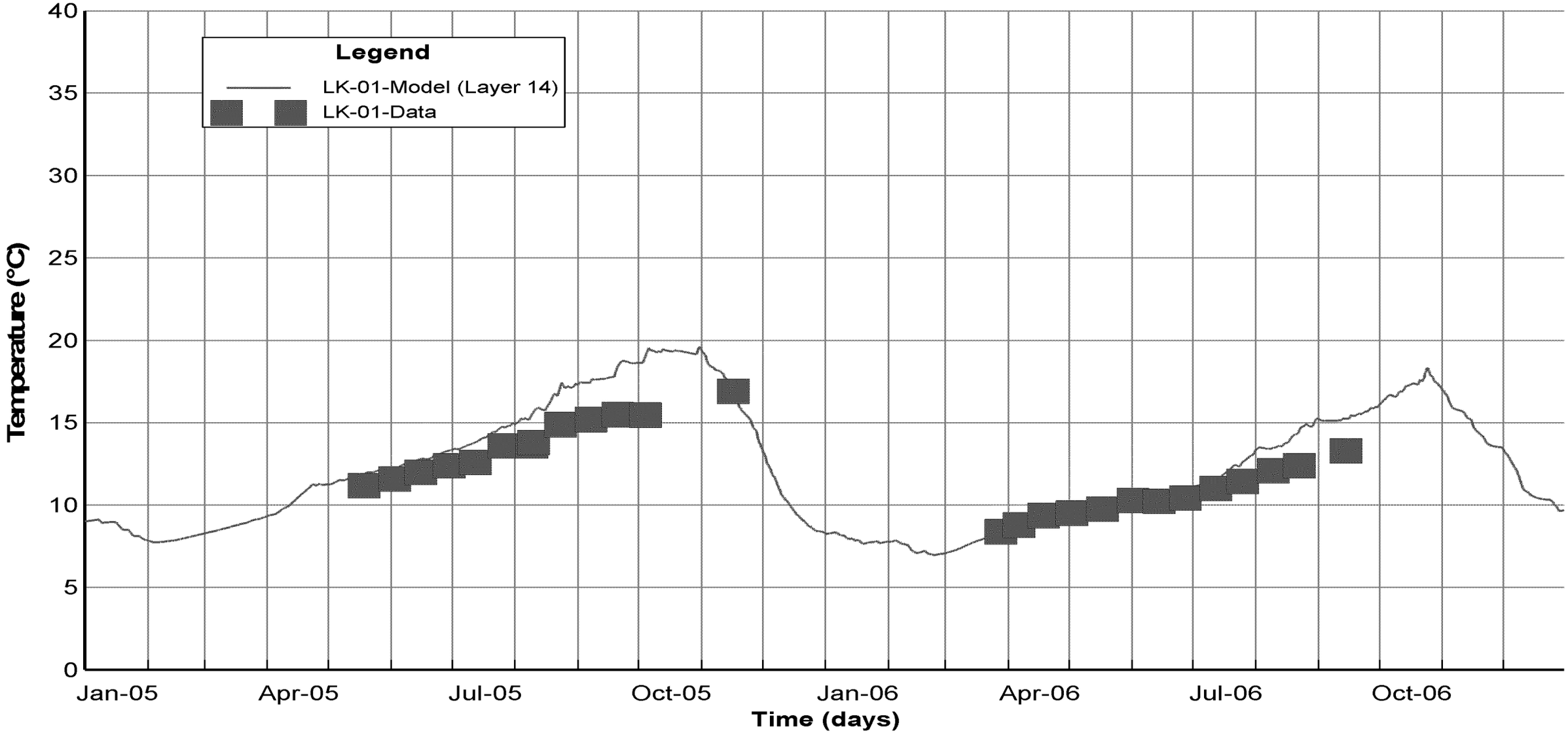
United States Environmental Protection Agency

Water Surface

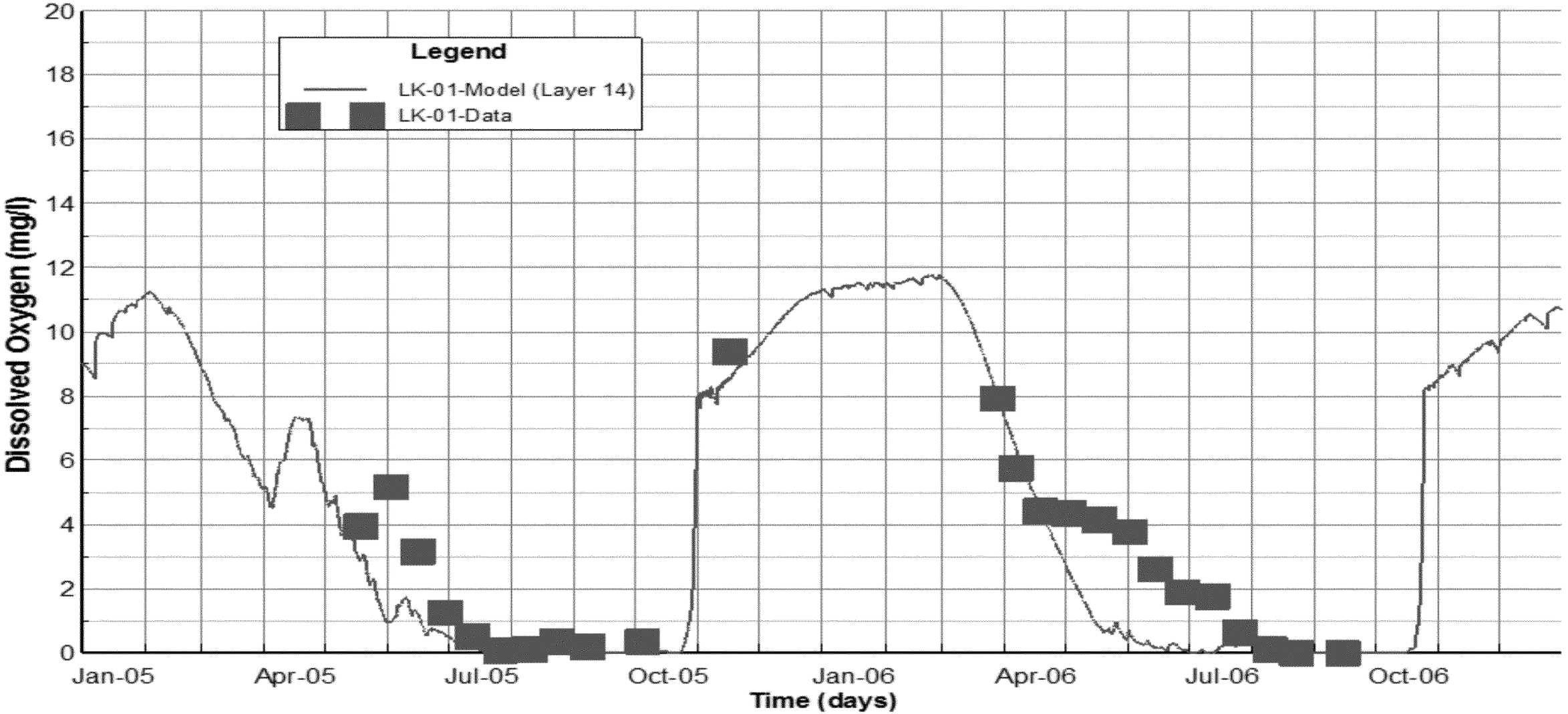

Legend
Dam-Model
Dam-Data
Water Surface (m)
200
199
198
197
196
195
194
193
192
191
190
189
188
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

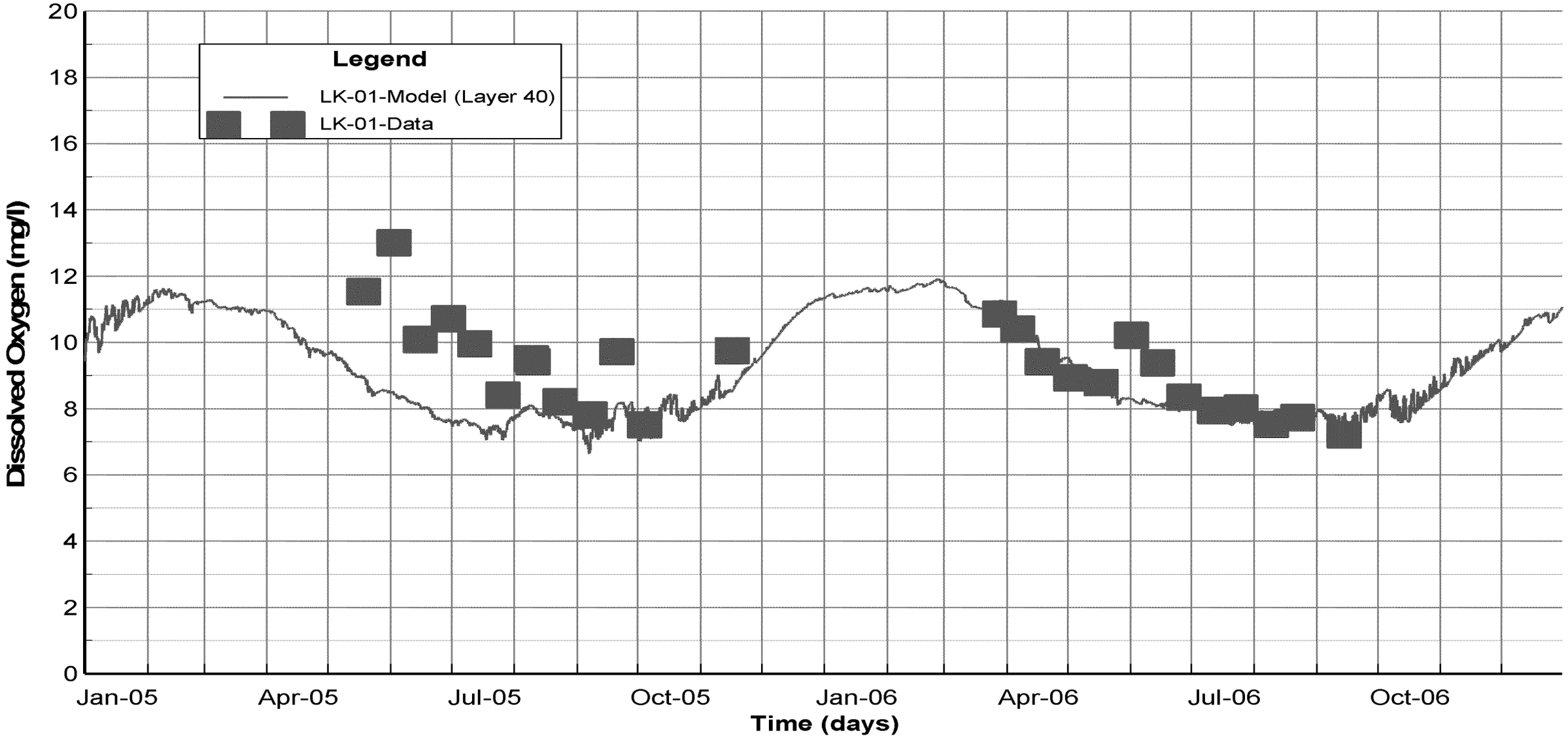
Temperature Example

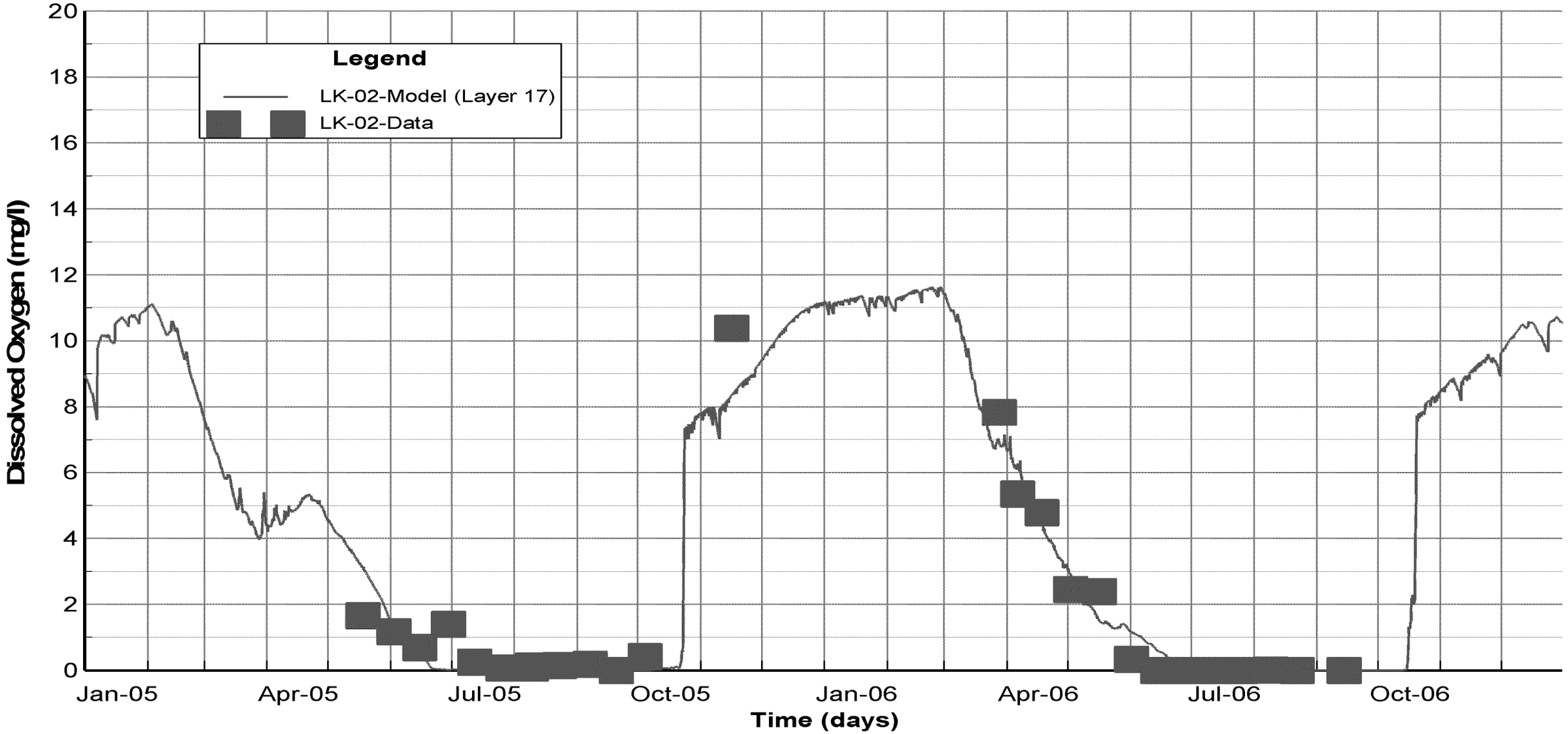

Legend
LK-01-Model (Layer 40)
LK-01-Data
Temperature (°C)
40
35
30
25
20
15
10
5
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

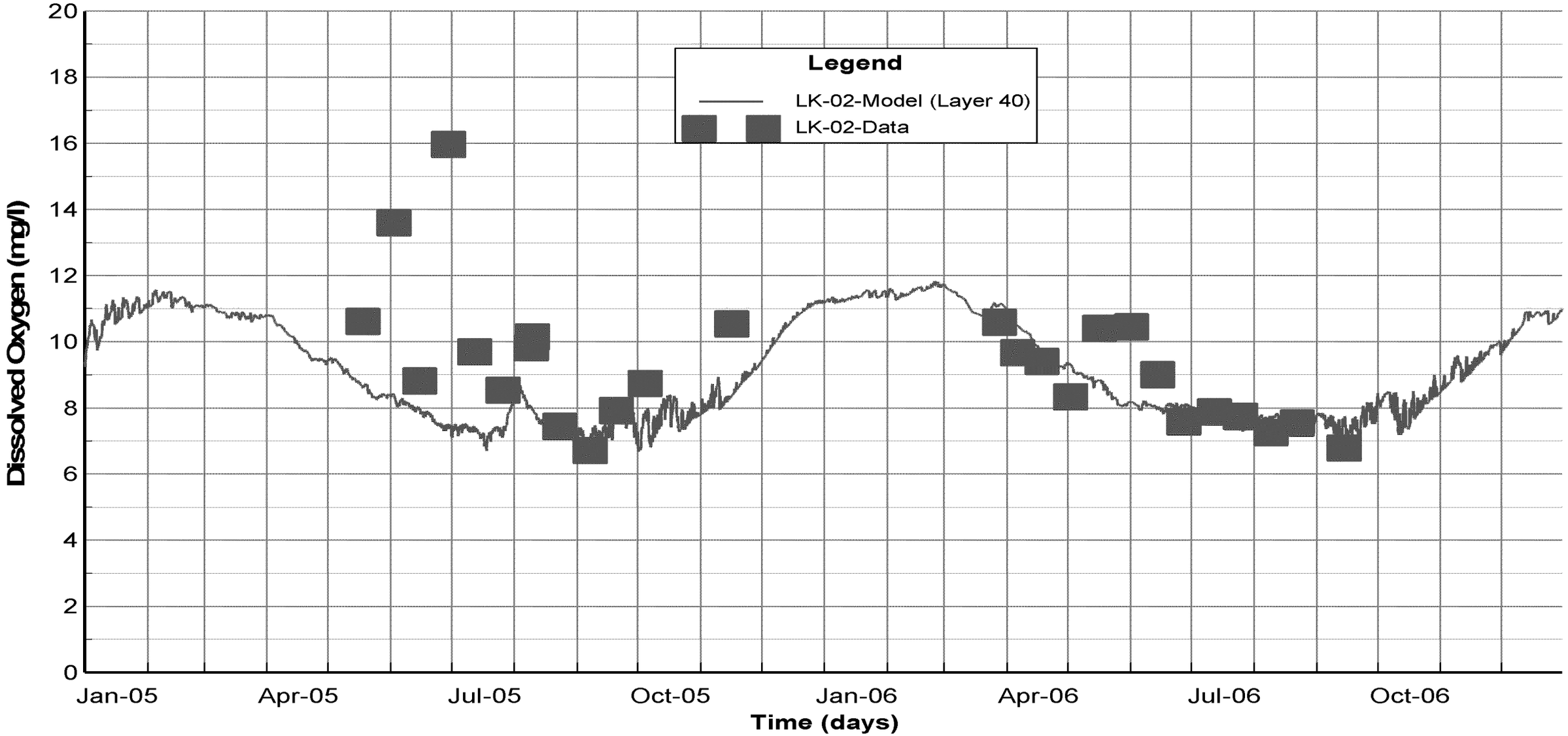

Legend
LK-01-Model (Layer 14)
LK-01-Data
Temperature (°C)
40
35
30
25
20
15
10
5
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

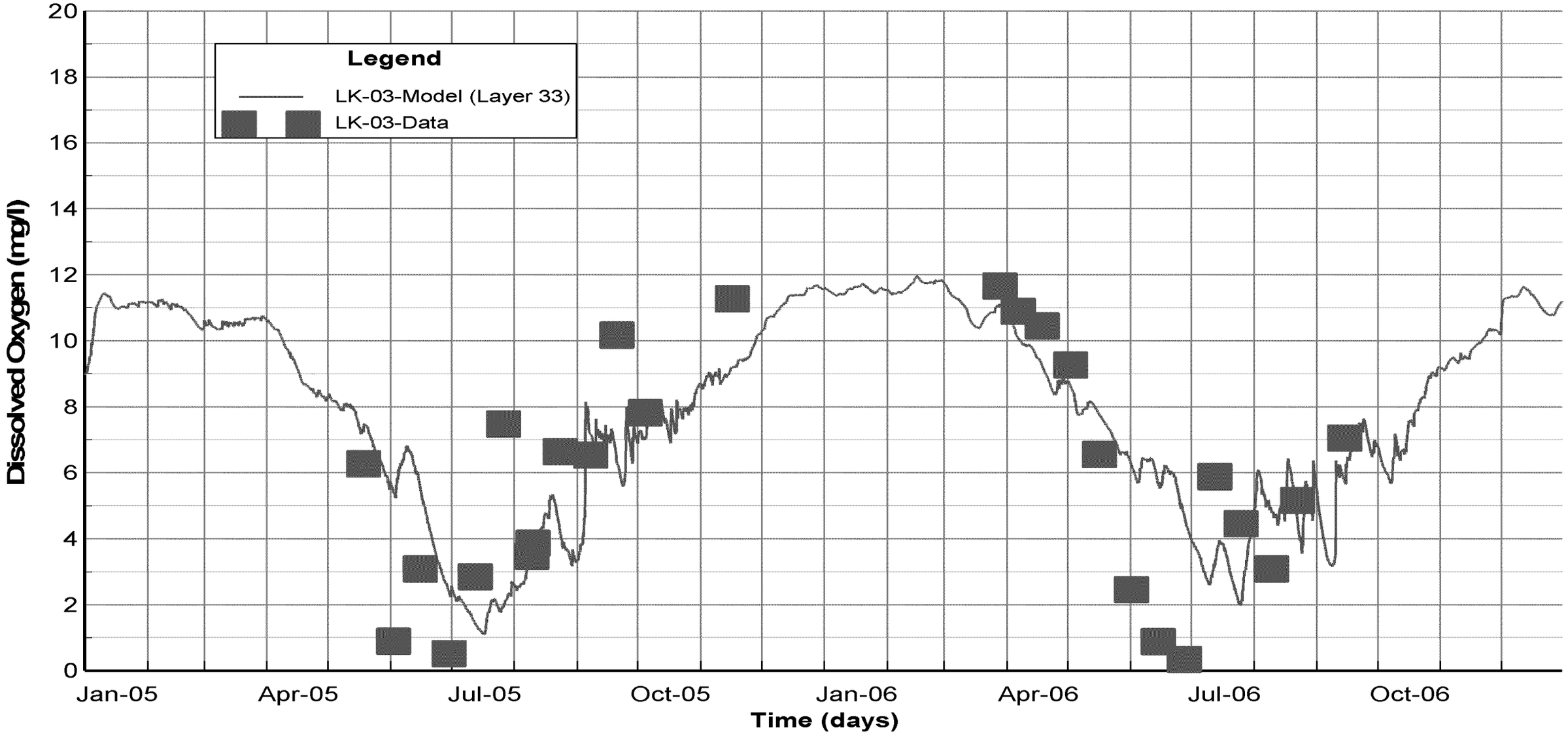
Dissolved Oxygen

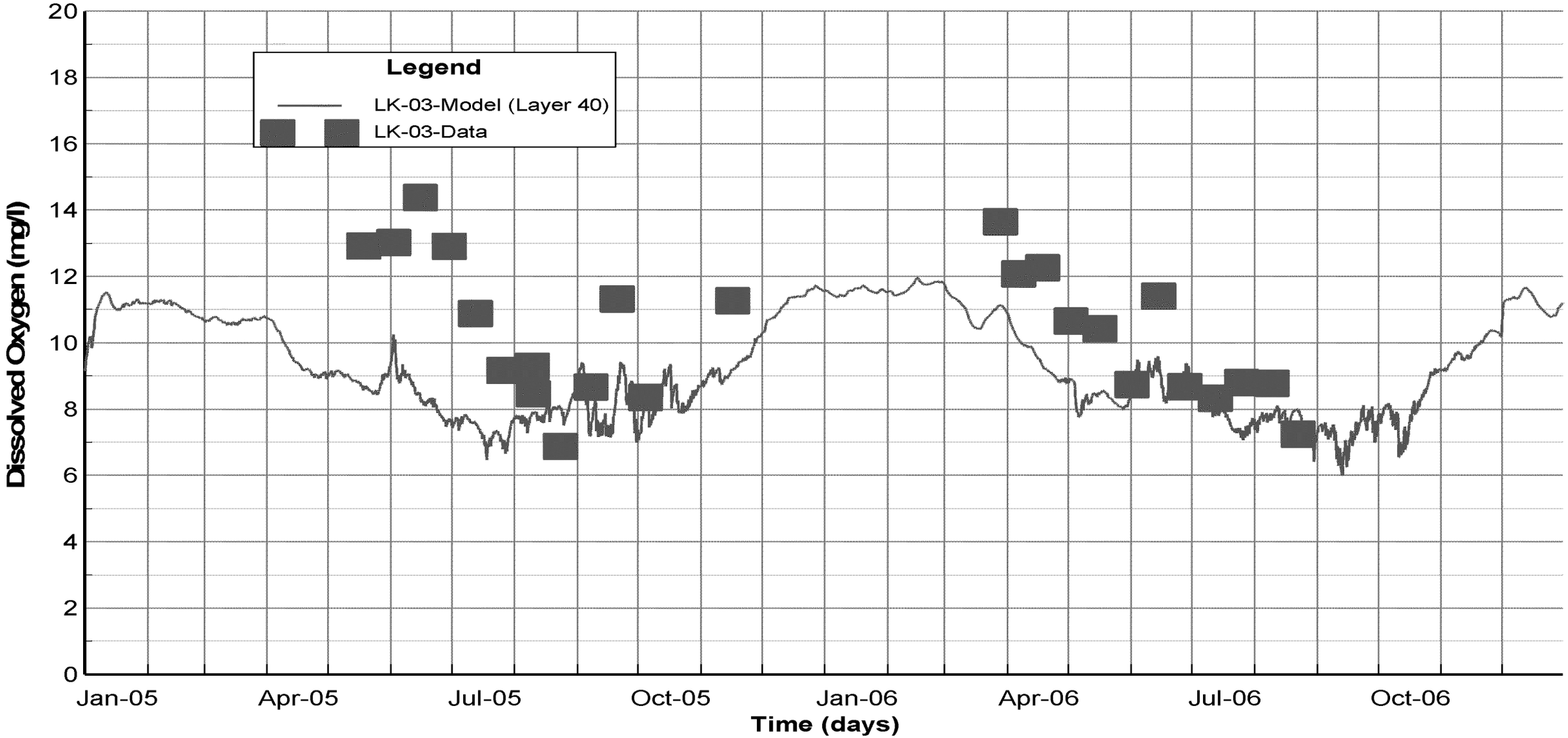

Legend
LK-01-Model (Layer 14)
LK-01-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

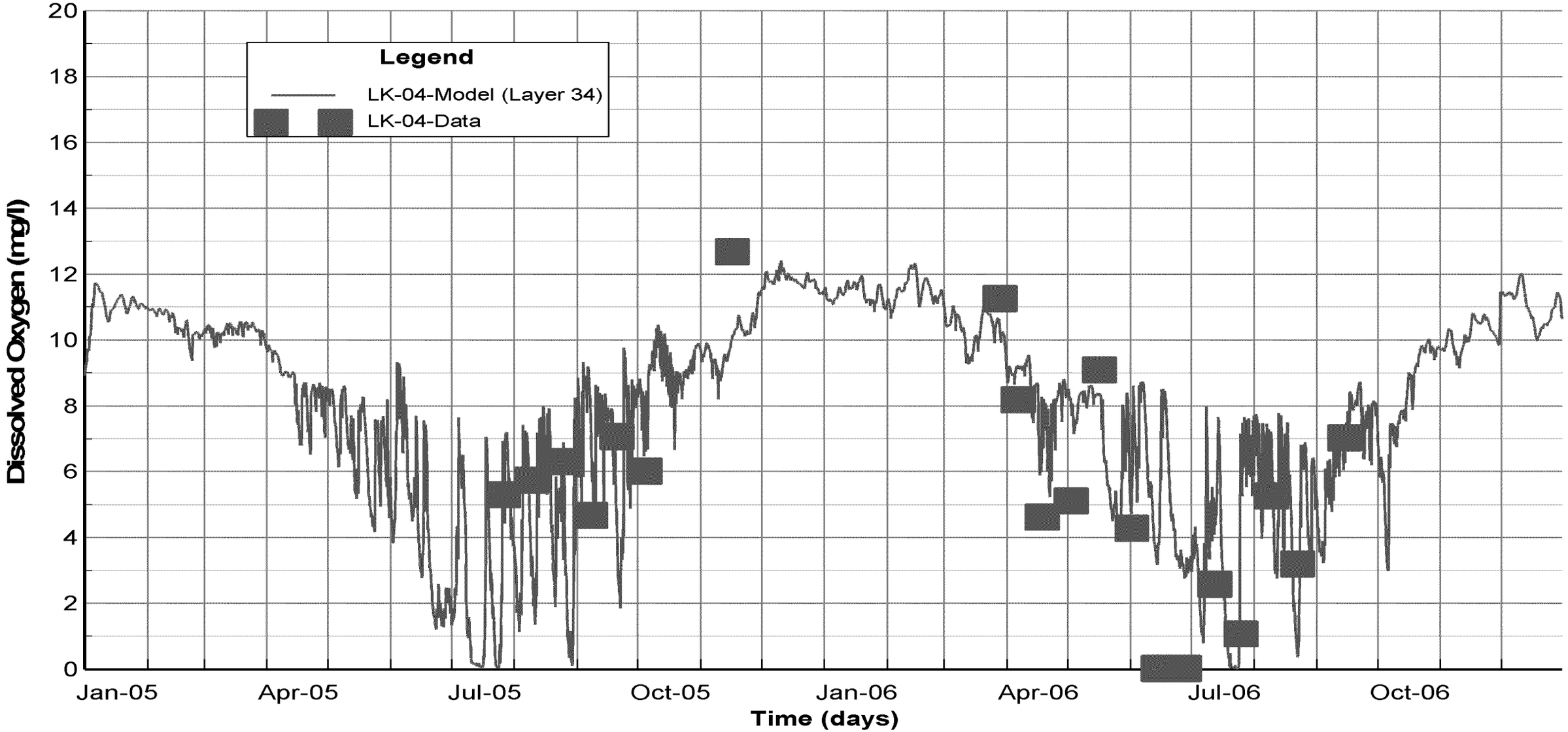

Legend
LK-01-Model (Layer 40)
LK-01-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

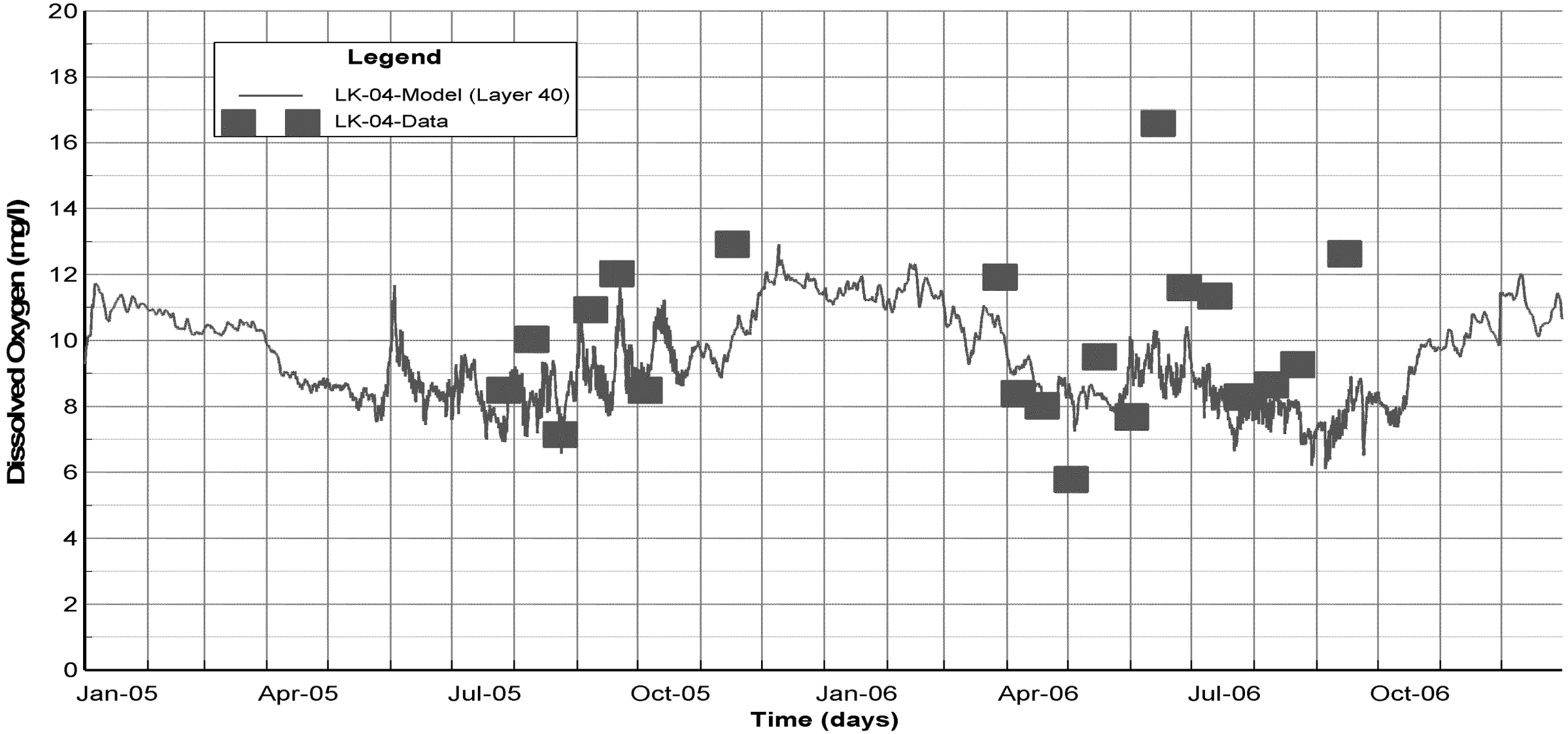

Legend
LK-02-Model (Layer 17)
LK-02-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)


Legend
LK-02-Model (Layer 40)
LK-02-Data
Dissolved Oxygen (mg/l)
0
2
4
6
8
10
12
14
16
18
20
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

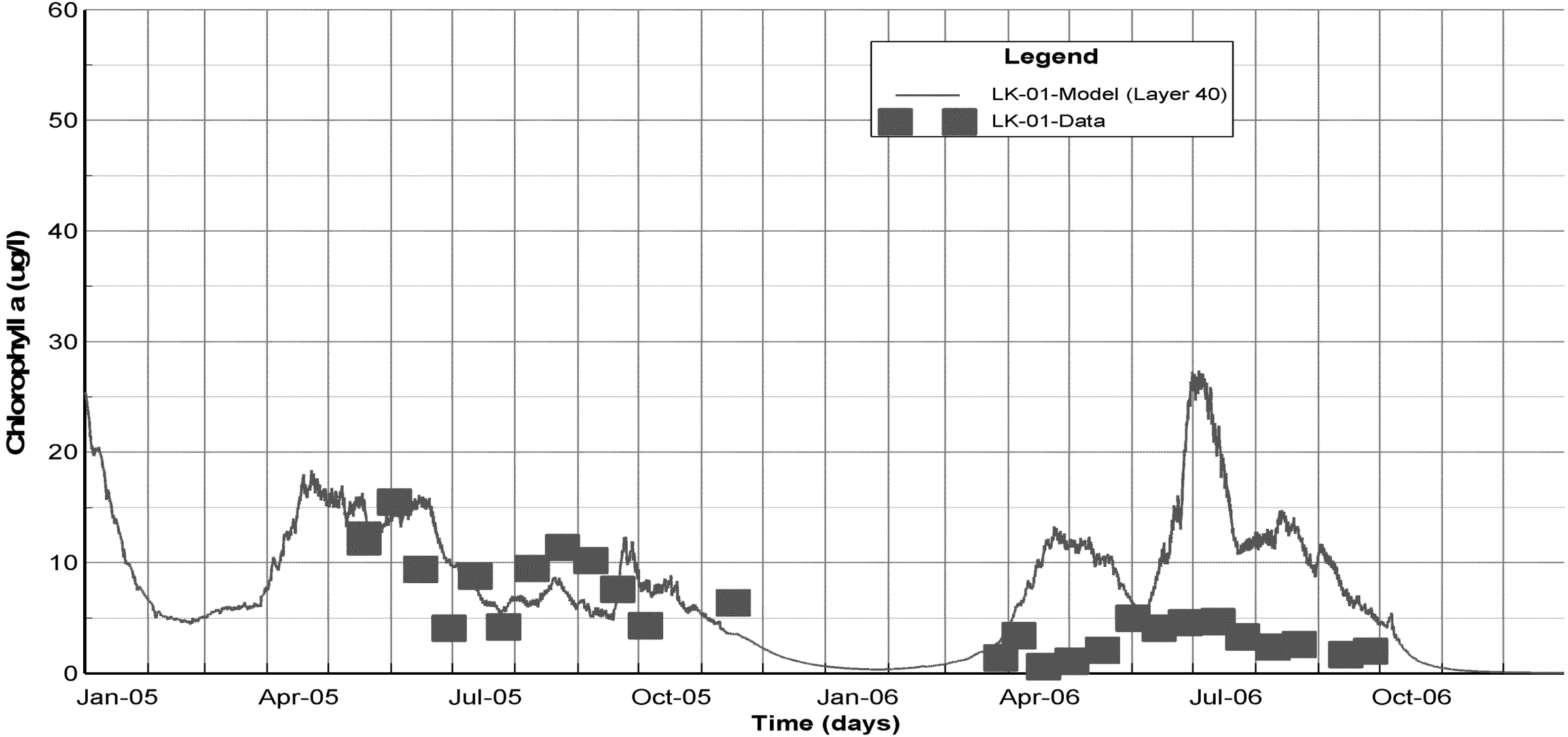

Legend
LK-03-Model (Layer 33)
LK-03-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

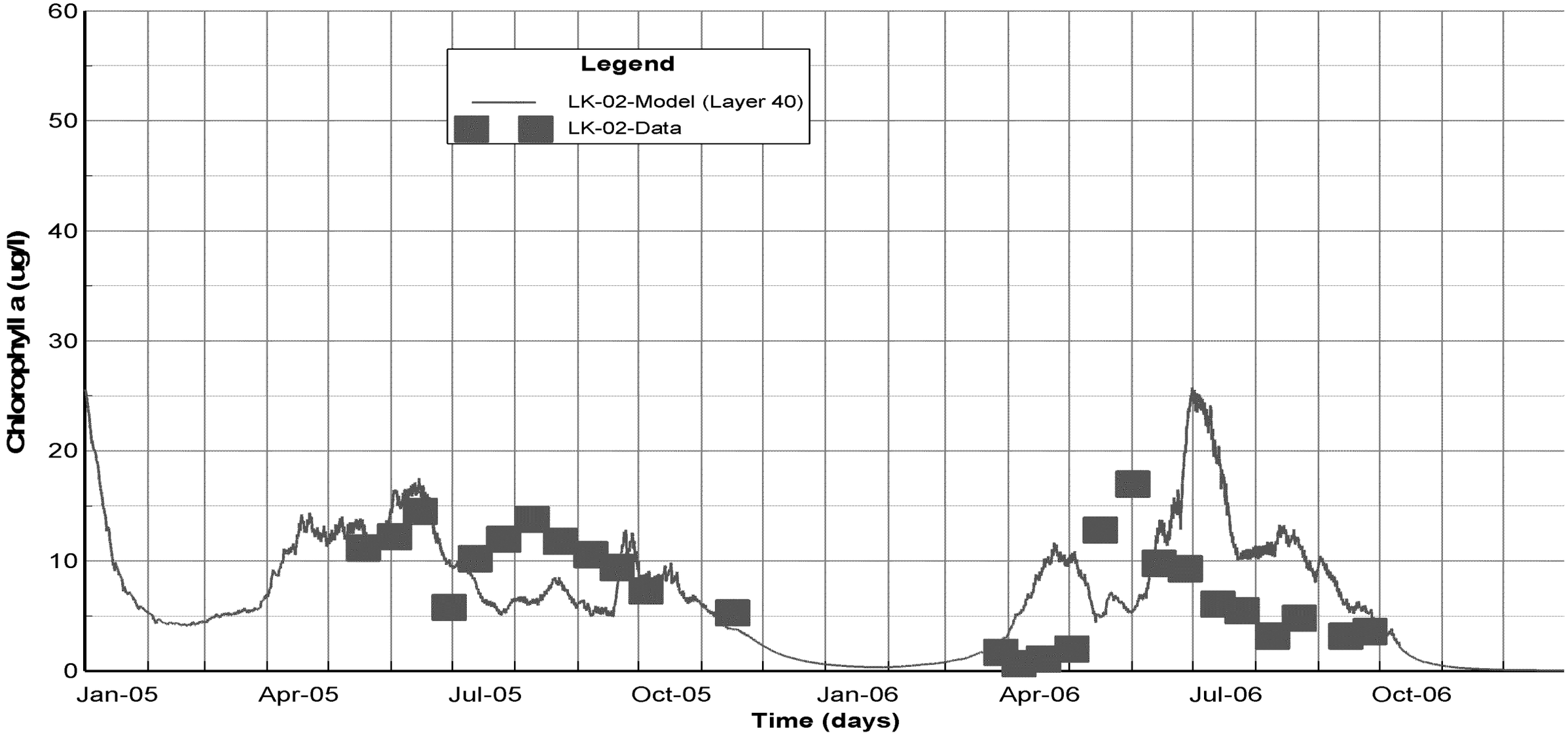

Legend
LK-03-Model (Layer 40)
LK-03-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

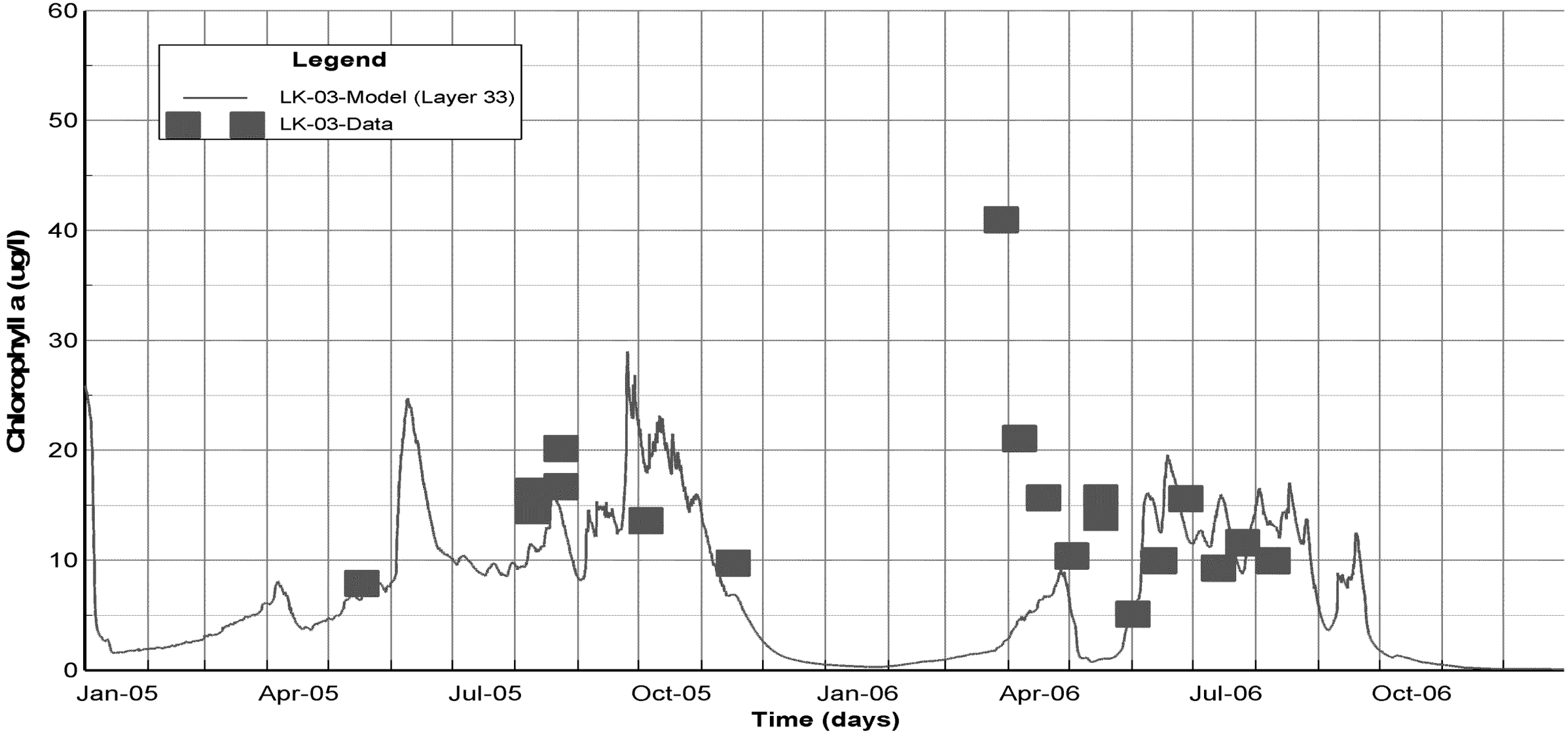

Legend
LK-04-Model (Layer 34)
LK-04-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

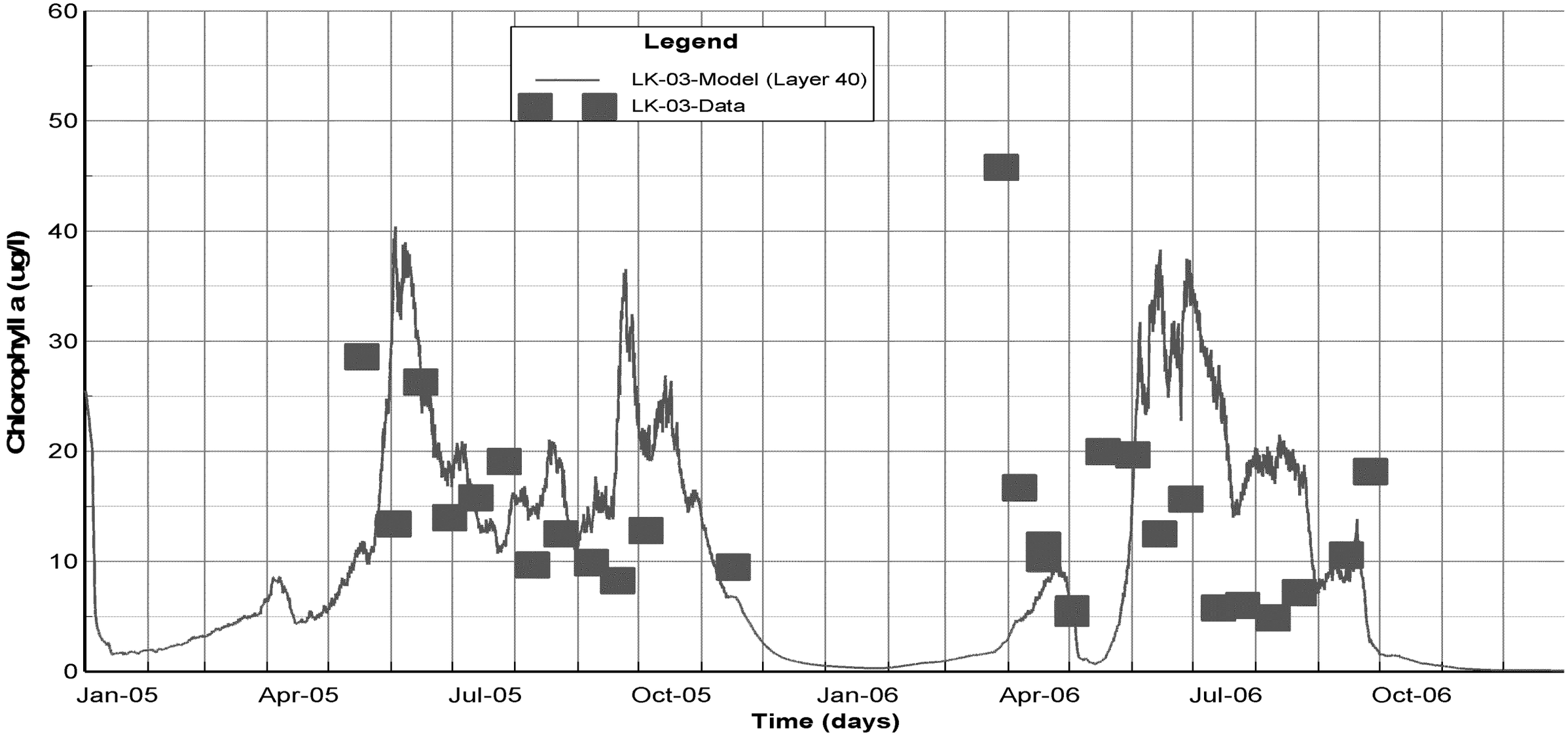

Legend
LK-04-Model (Layer 40)
LK-04-Data
Dissolved Oxygen (mg/l)
20
18
16
14
12
10
8
6
4
2
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

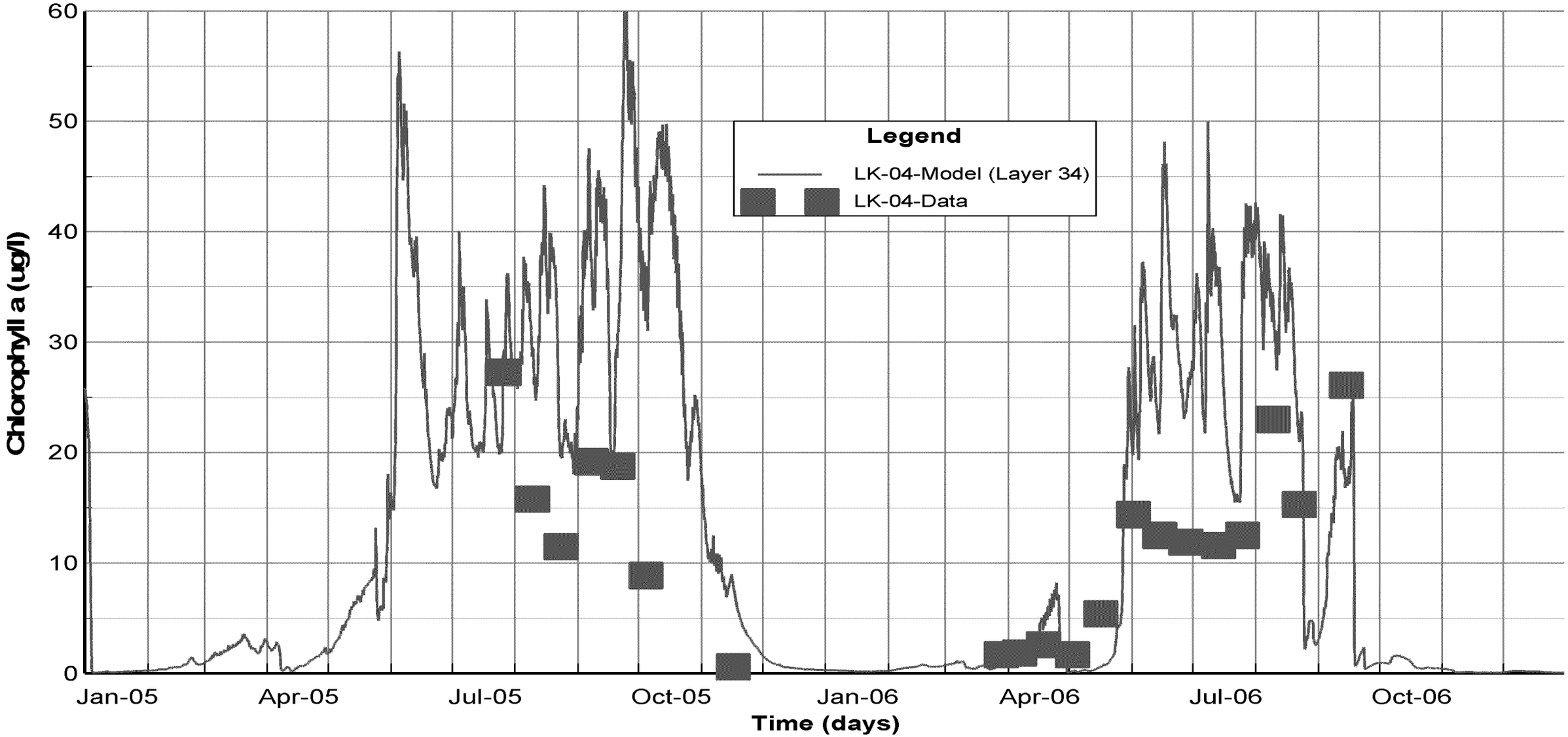
Chlorophyll-*a*

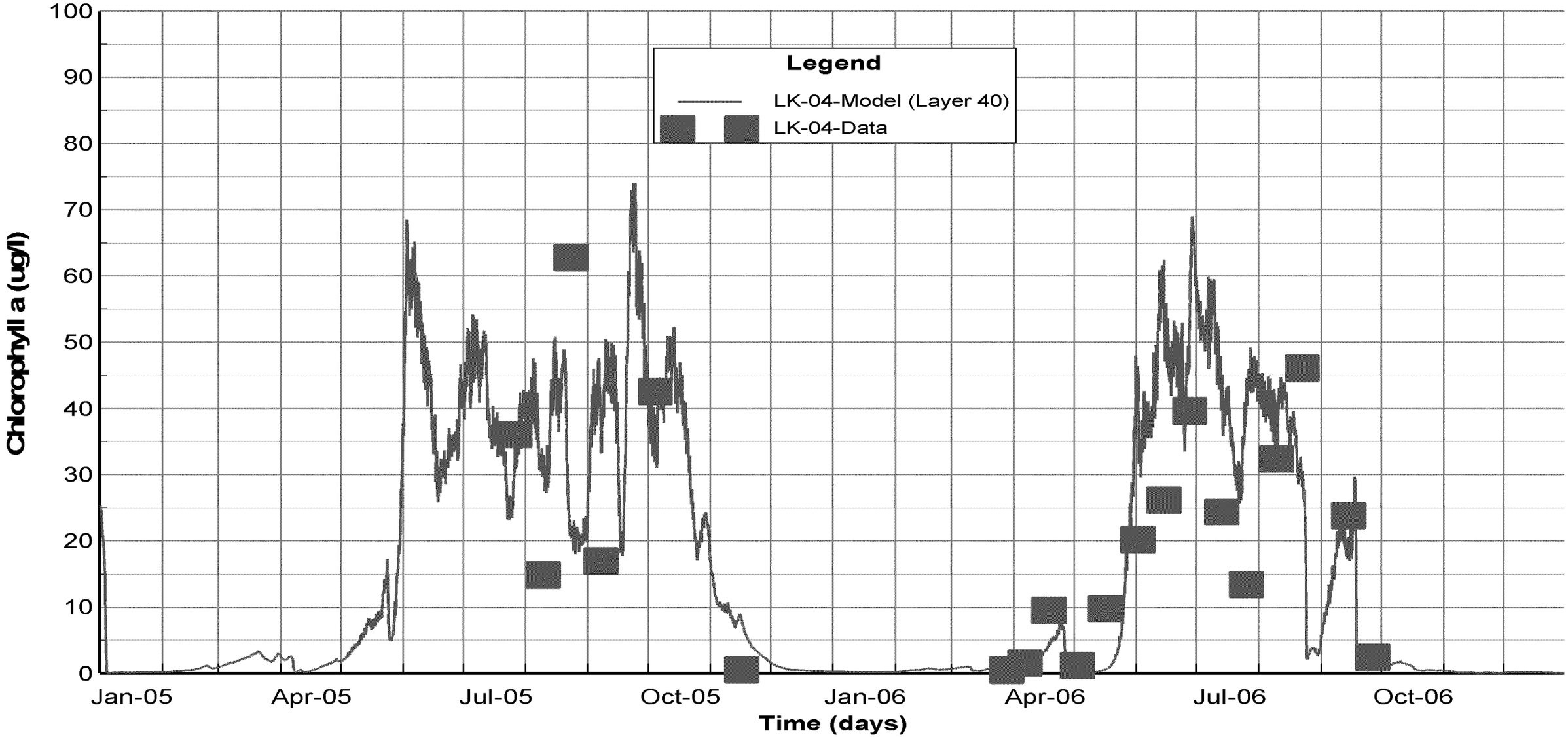

Legend
LK-01-Model (Layer 40)
LK-01-Data
Chlorophyll a (ug/l)
60
50
40
30
20
10
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)


Legend
LK-02-Model (Layer 40)
LK-02-Data
Chlorophyll a (ug/l)
60
50
40
30
20
10
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

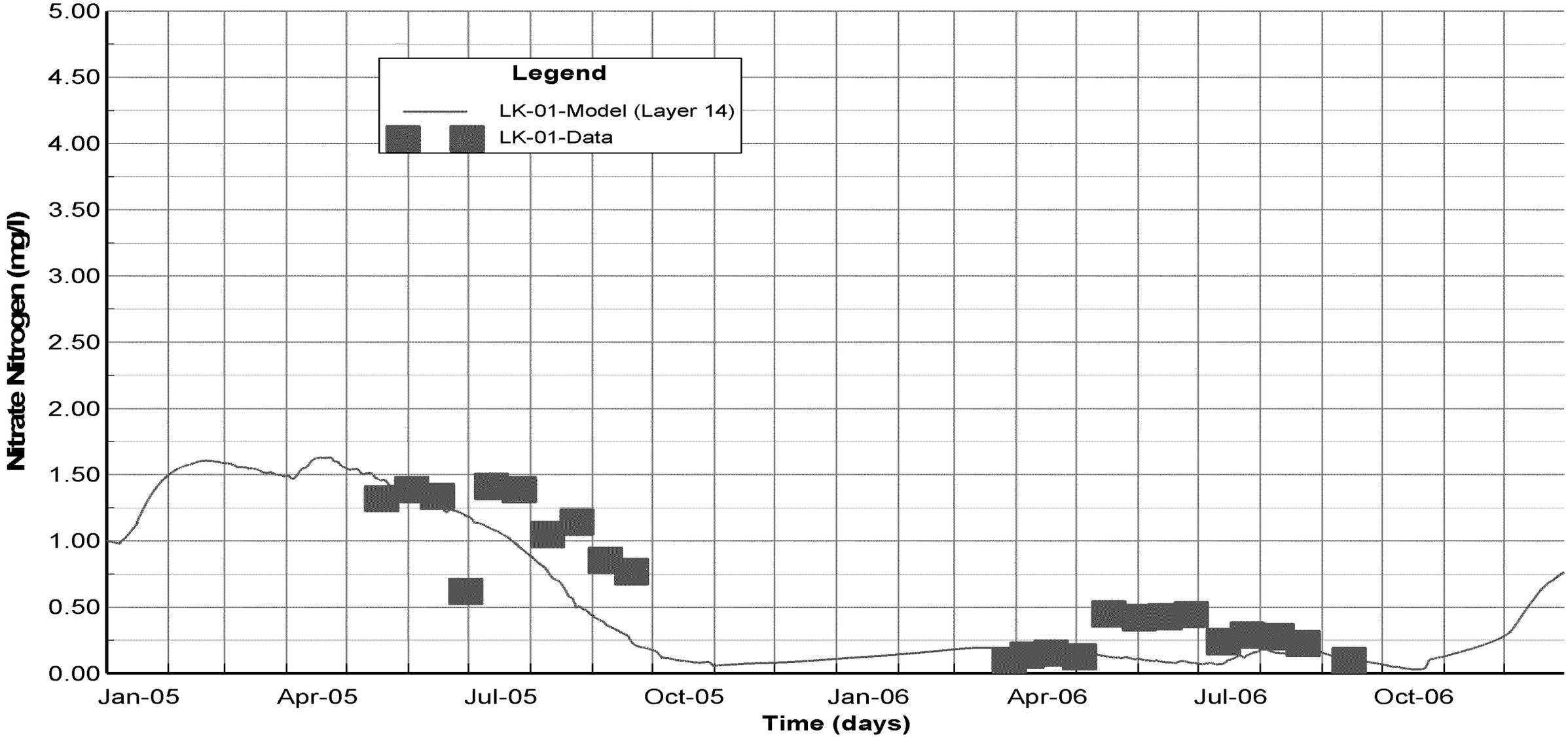

Legend
LK-03-Model (Layer 33)
LK-03-Data
Chlorophyll a (ug/l)
60
50
40
30
20
10
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

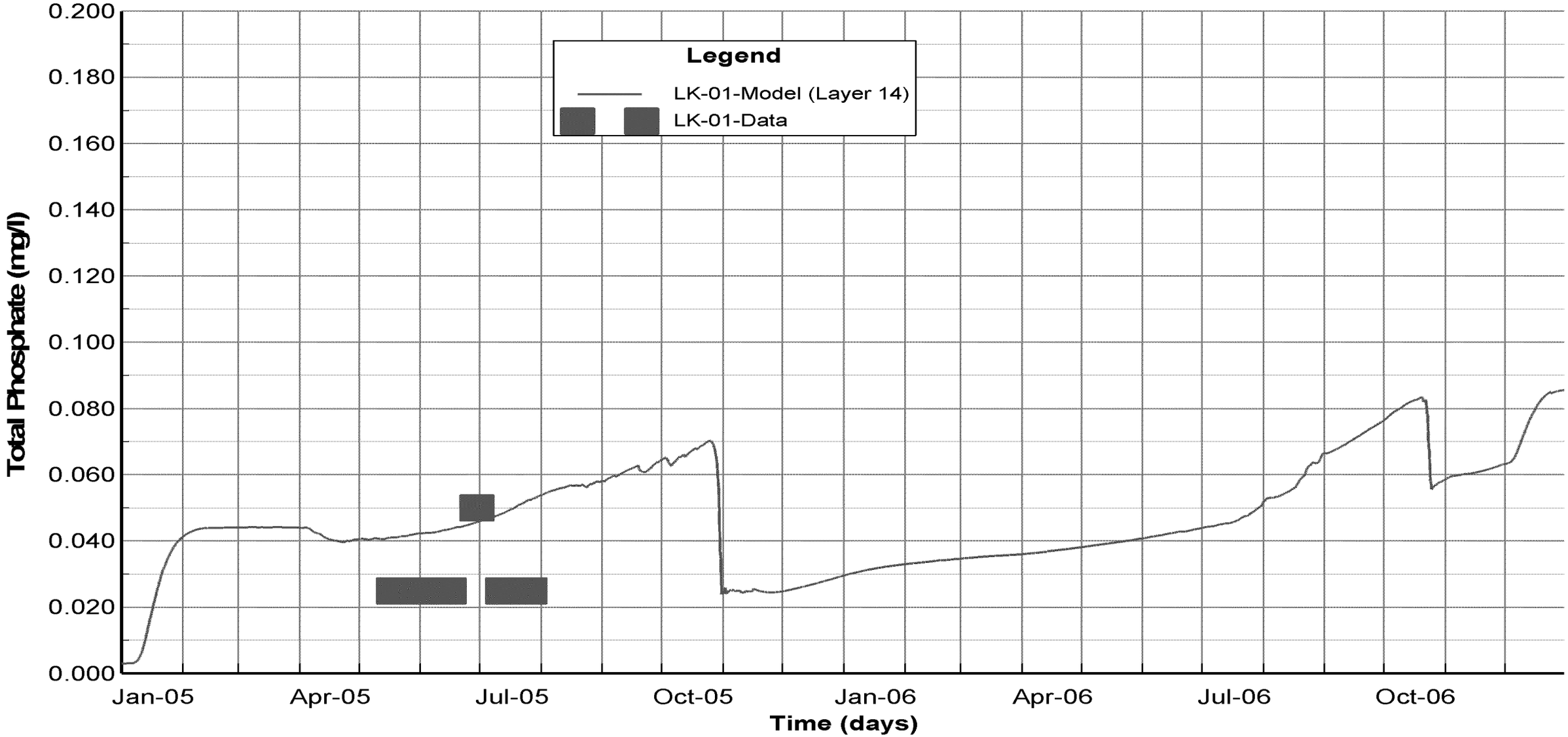

Legend
LK-03-Model (Layer 40)
LK-03-Data
Chlorophyll a (ug/l)
60
50
40
30
20
10
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)


Legend
LK-04-Model (Layer 34)
LK-04-Data
Chlorophyll a (ug/l)
60
50
40
30
20
10
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)


Legend
LK-04-Model (Layer 40)
LK-04-Data
Chlorophyll a (ug/l)
100
90
80
70
60
50
40
30
20
10
0
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

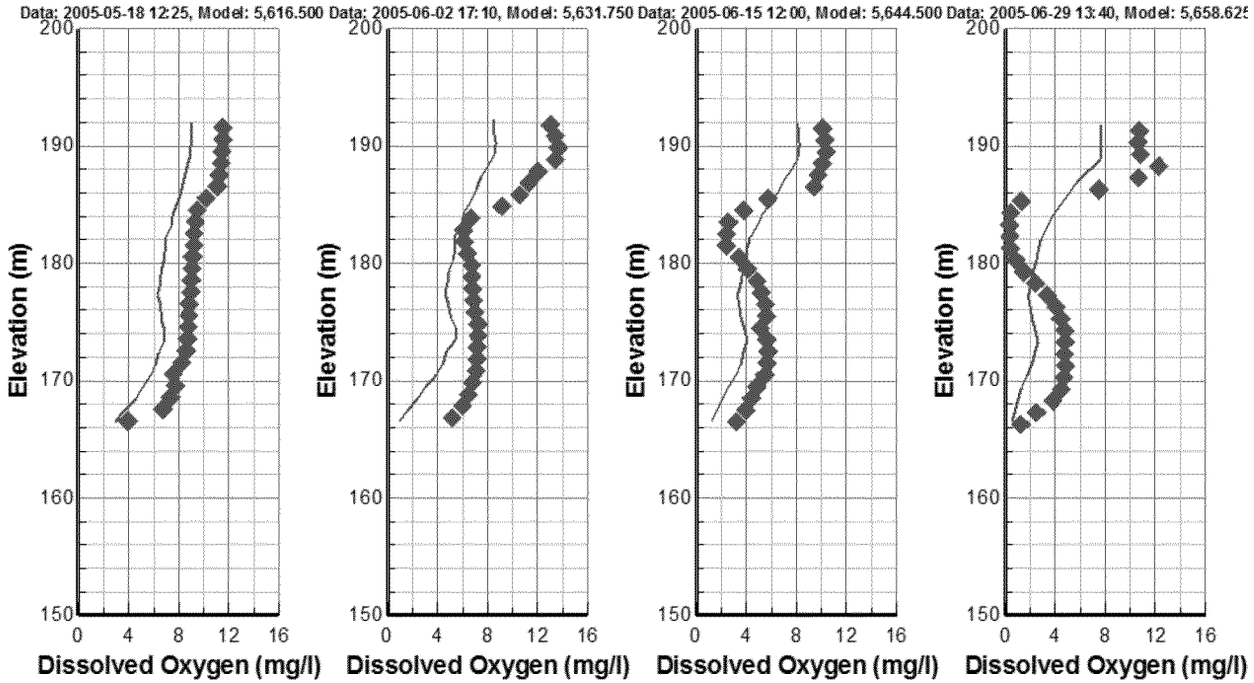
Sediment Nutrient Examples

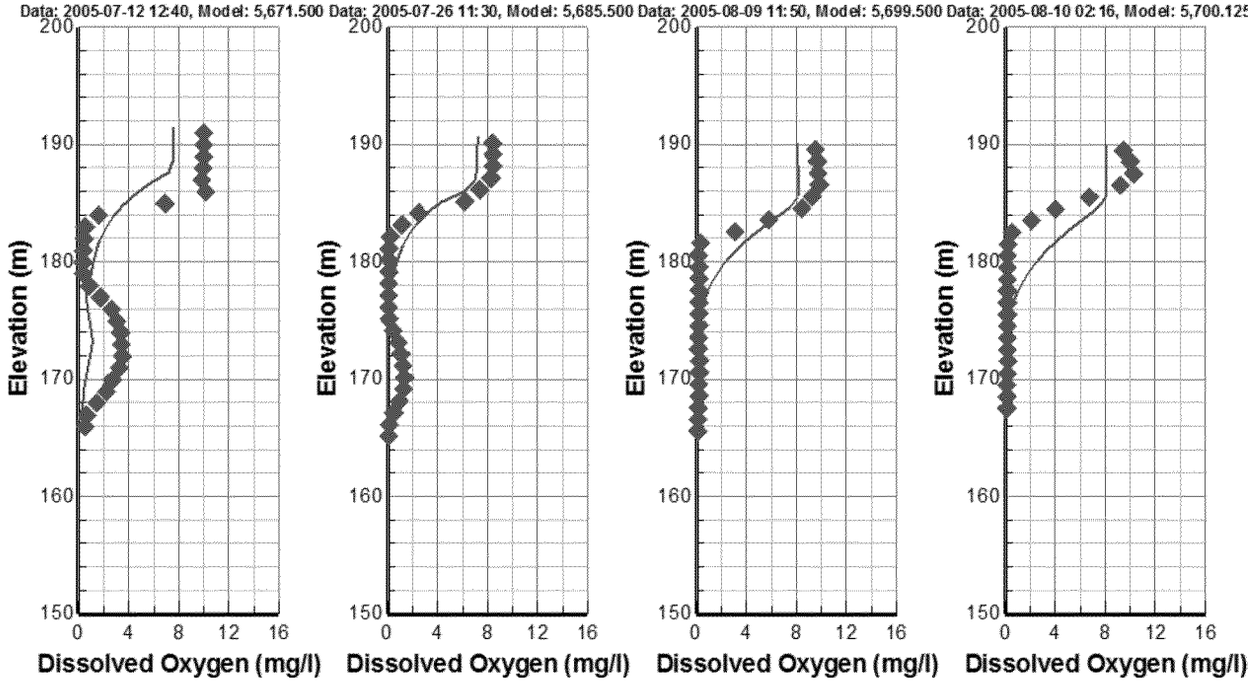
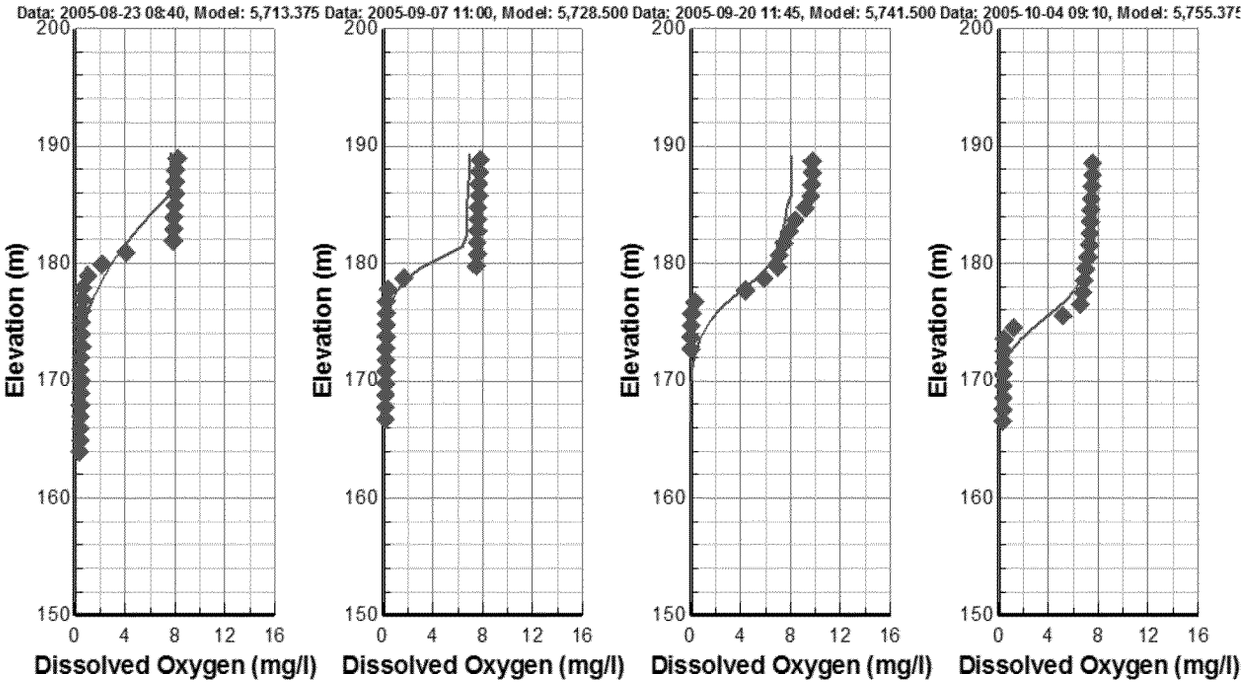
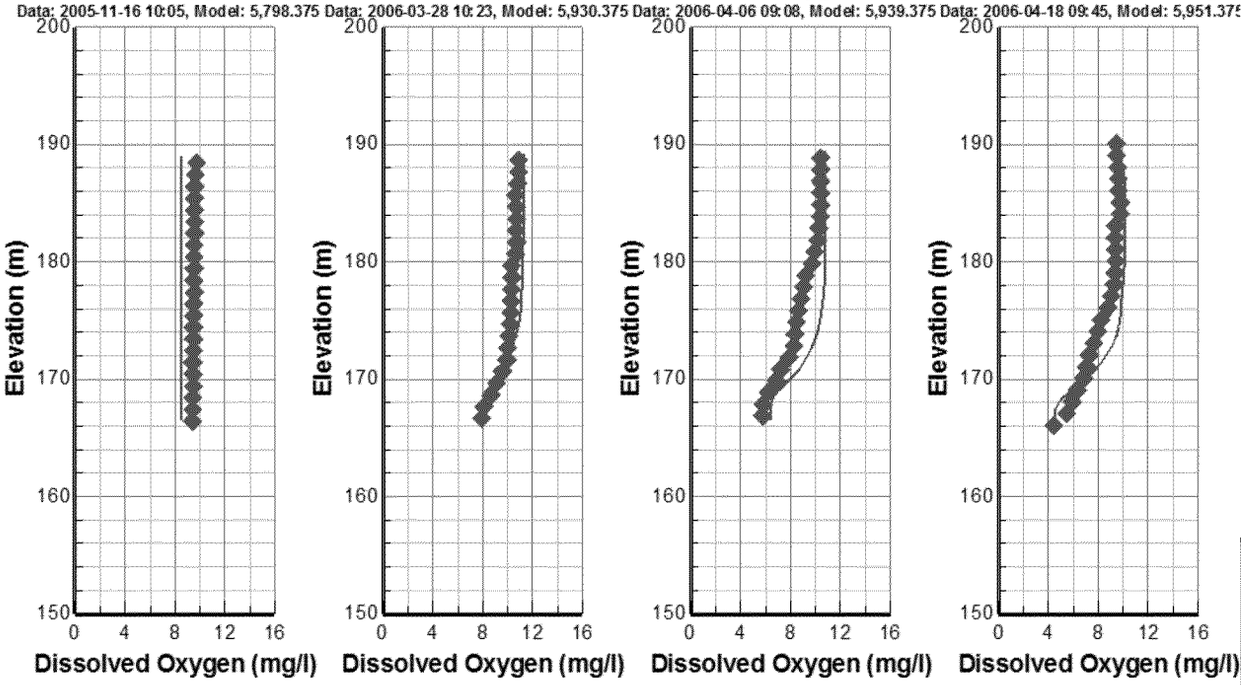

Legend
LK-01-Model (Layer 14)
LK-01-Data
Nitrate Nitrogen (mg/l)
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)


Legend
LK-01-Model (Layer 14)
LK-01-Data
Total Phosphate (mg/l)
0.200
0.180
0.160
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Apr-06
Jul-06
Oct-06
Time (days)

Bonus DO Profile LK-01

Vertical Profiles: LK-01, Model Cell: 18, 7





Vertical Profiles: LK-01, Model Cell: 18, 7