FIGURES

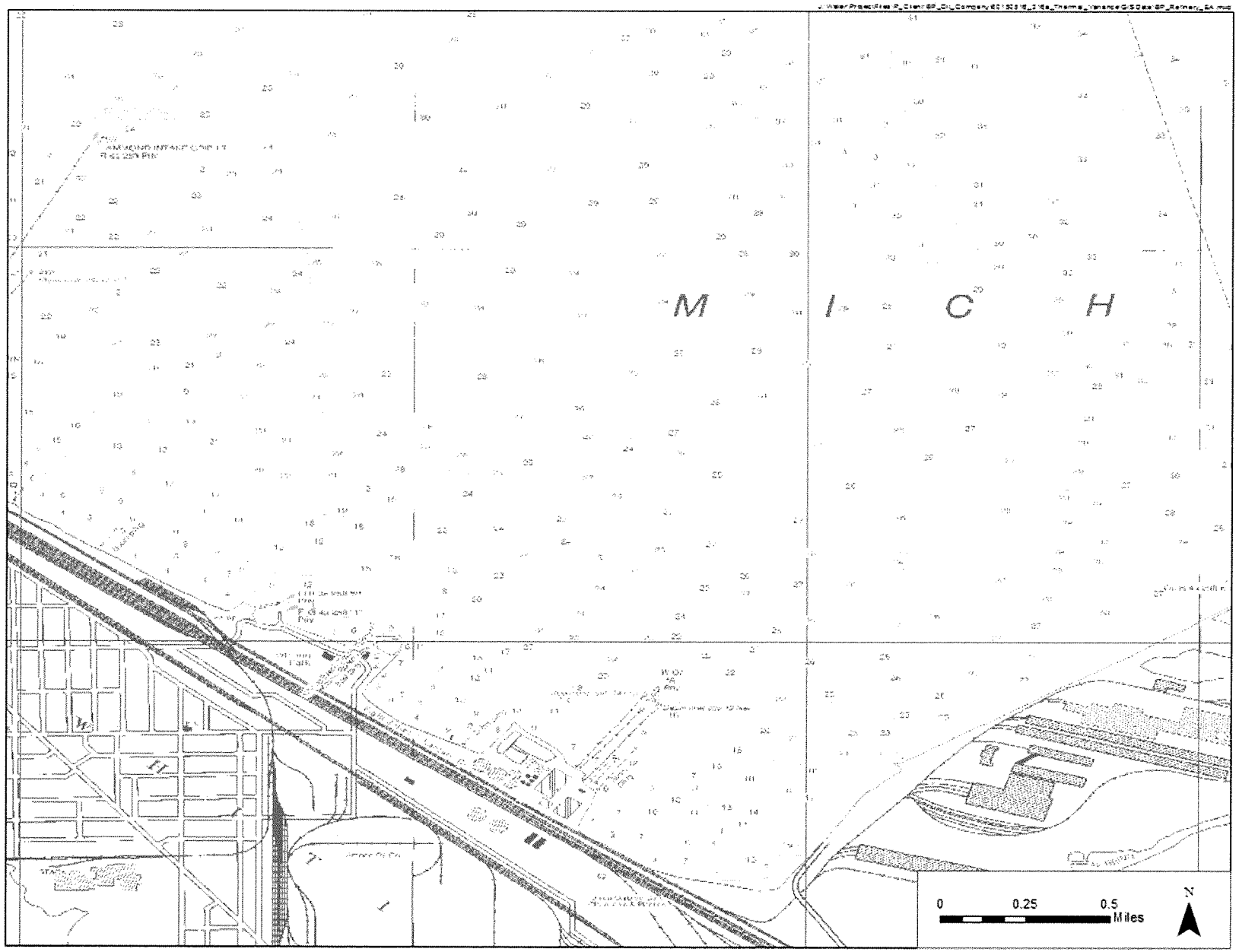

Figure 1-1. Location of the BP Whiting Refinery.

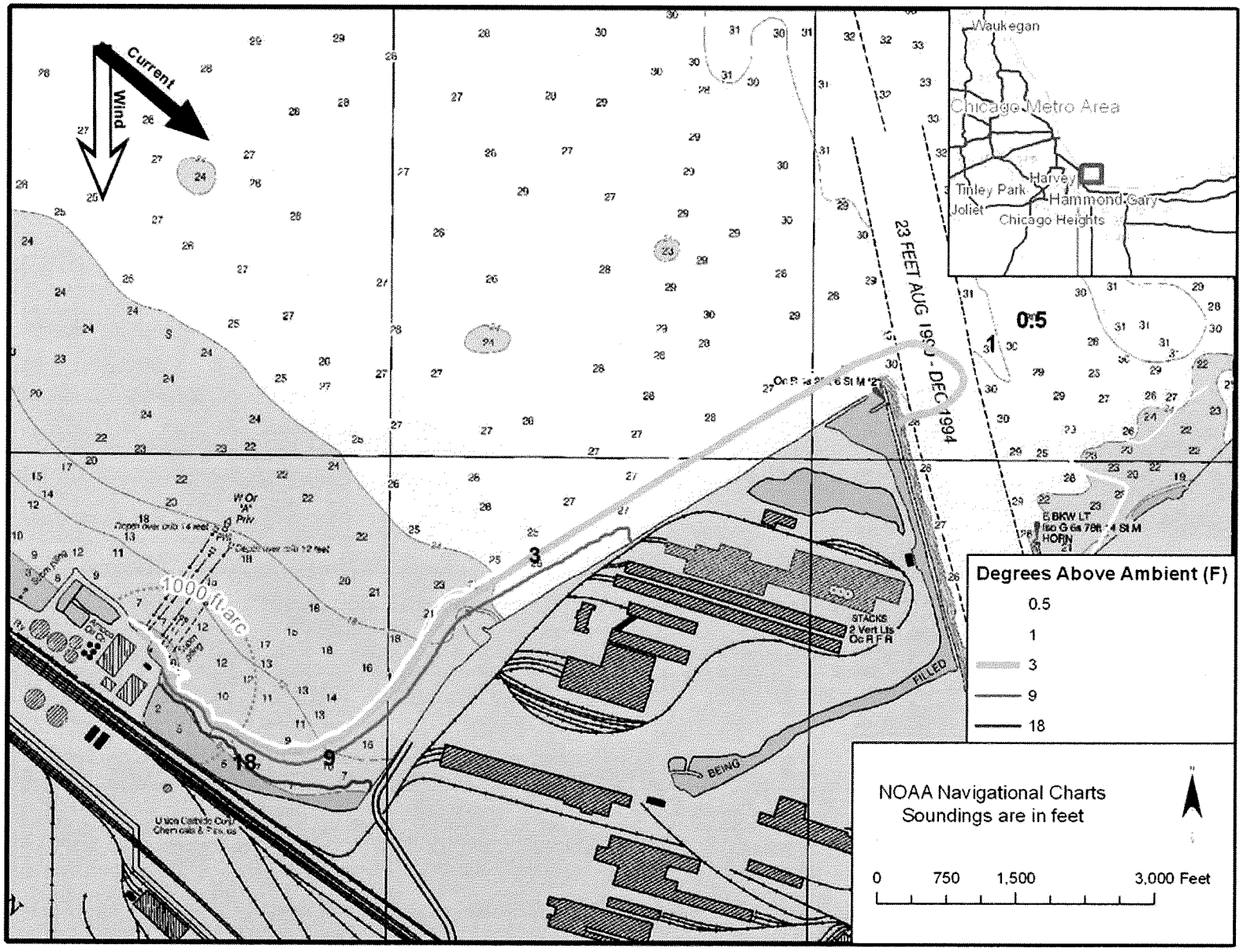

Figure 1-2. Thermal Plume Contour Map for the Scenario of the Wind from the North and Current to the Southeast during the Spring under Proposed Conditions.

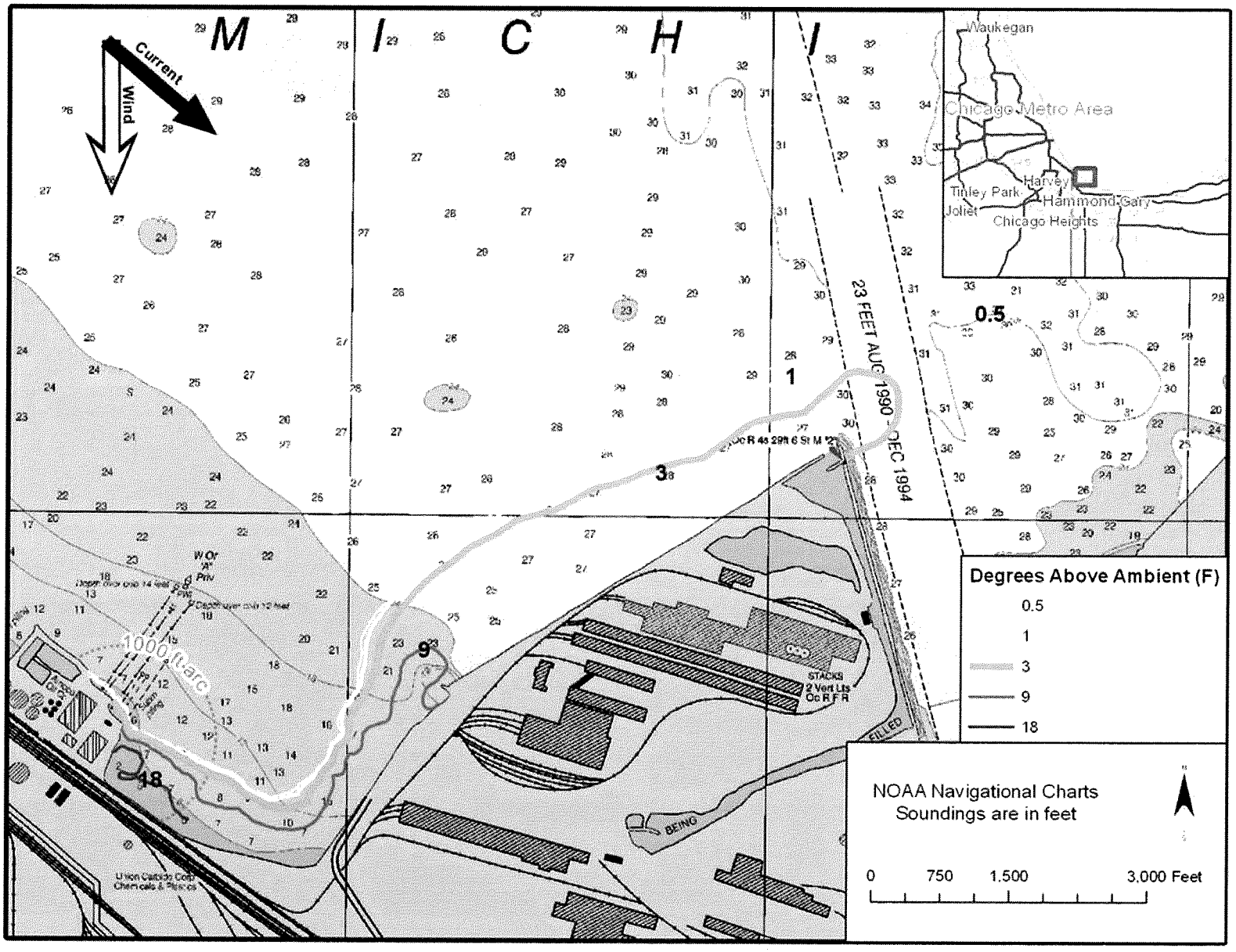

Figure 1-3. Thermal Plume Contour Map for the Scenario of the Wind from the North and Current to the Southeast during the Summer under Proposed Conditions.

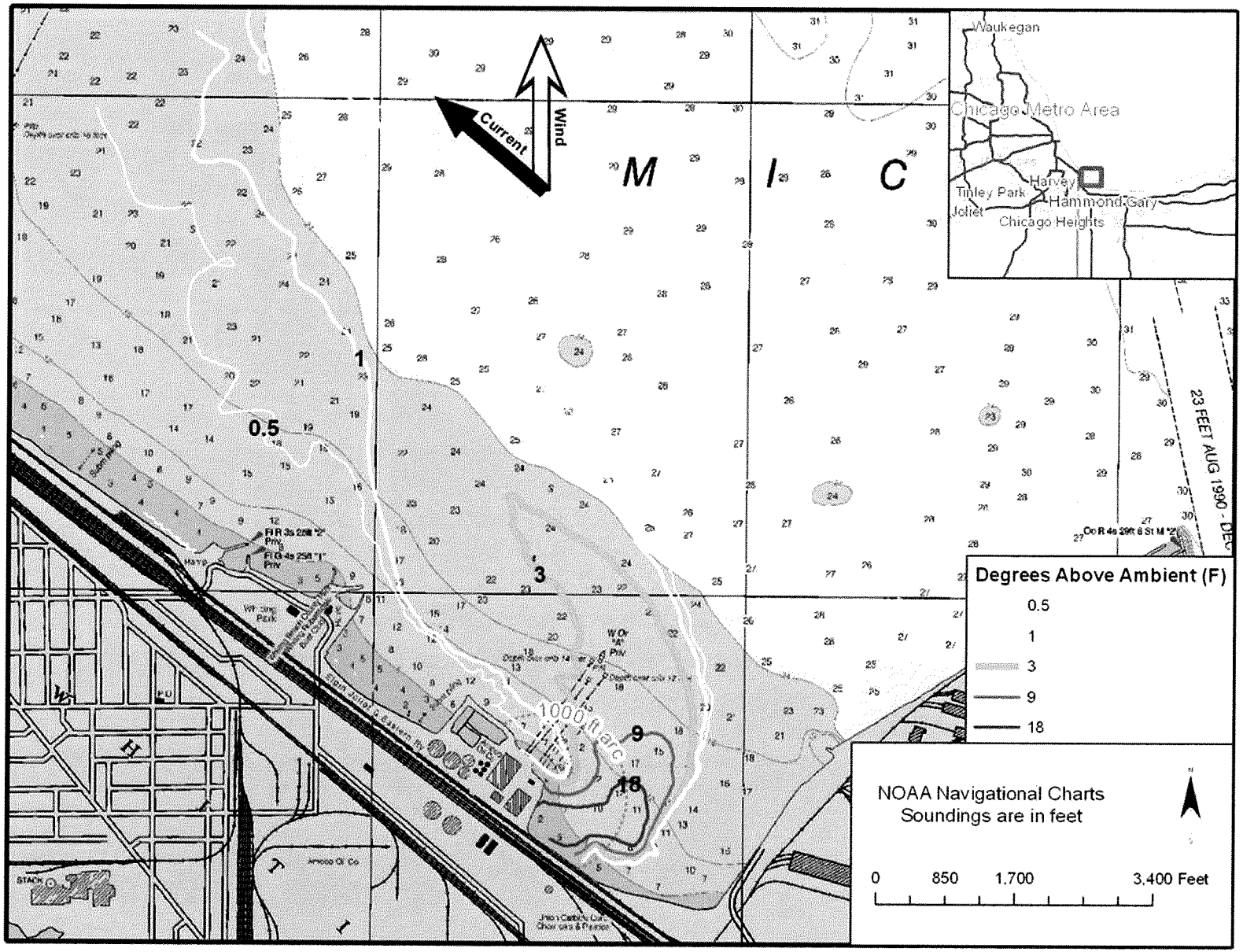

Figure 1-4. Thermal Plume Contour Map for the Scenario of the Wind from the South and Current to the Northwest during the Summer under existing Conditions.

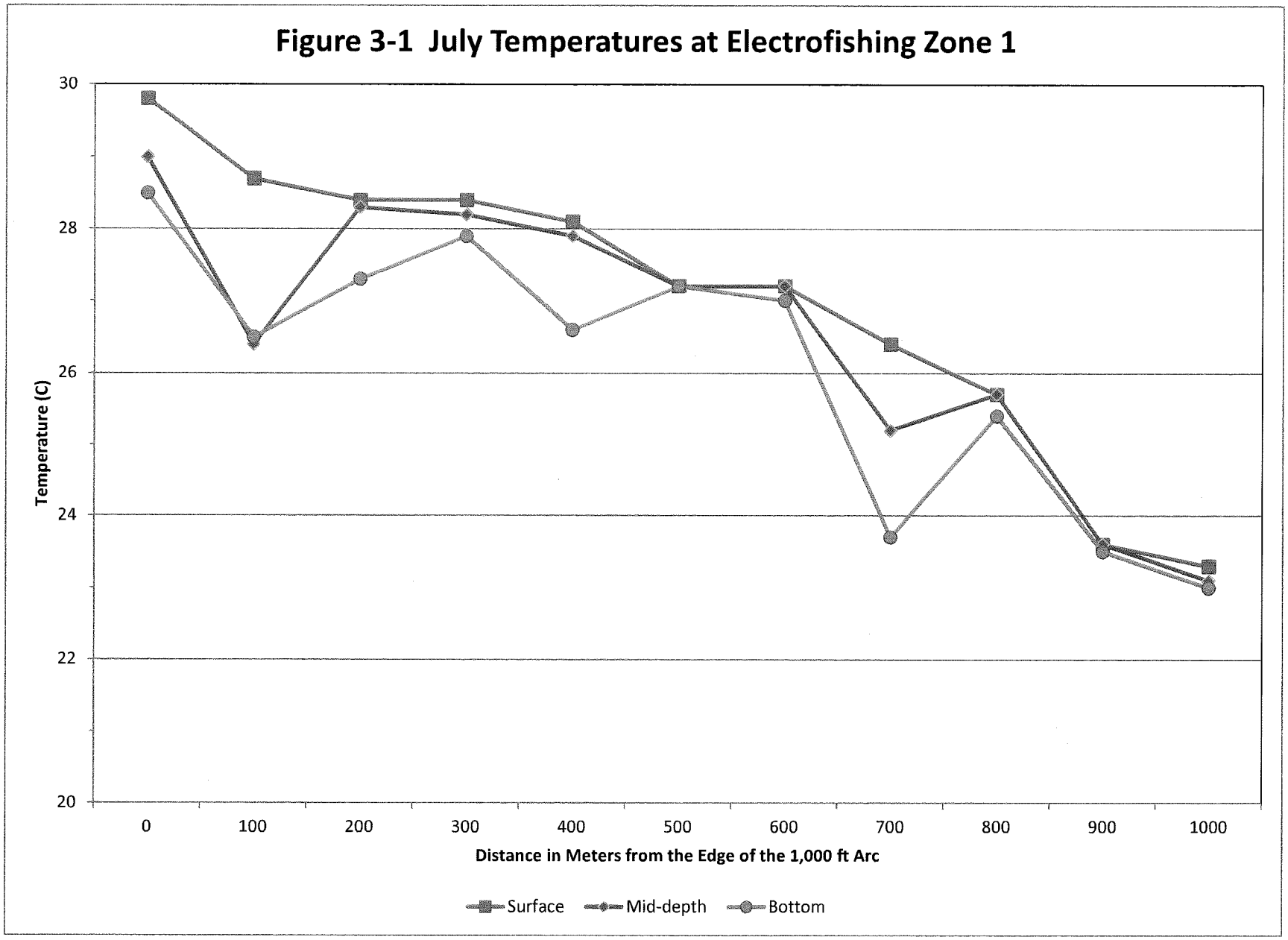
Figure 3-1 July Temperatures at Electrofishing Zone 1
30
28
26
24
22
20
Temperature (C)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

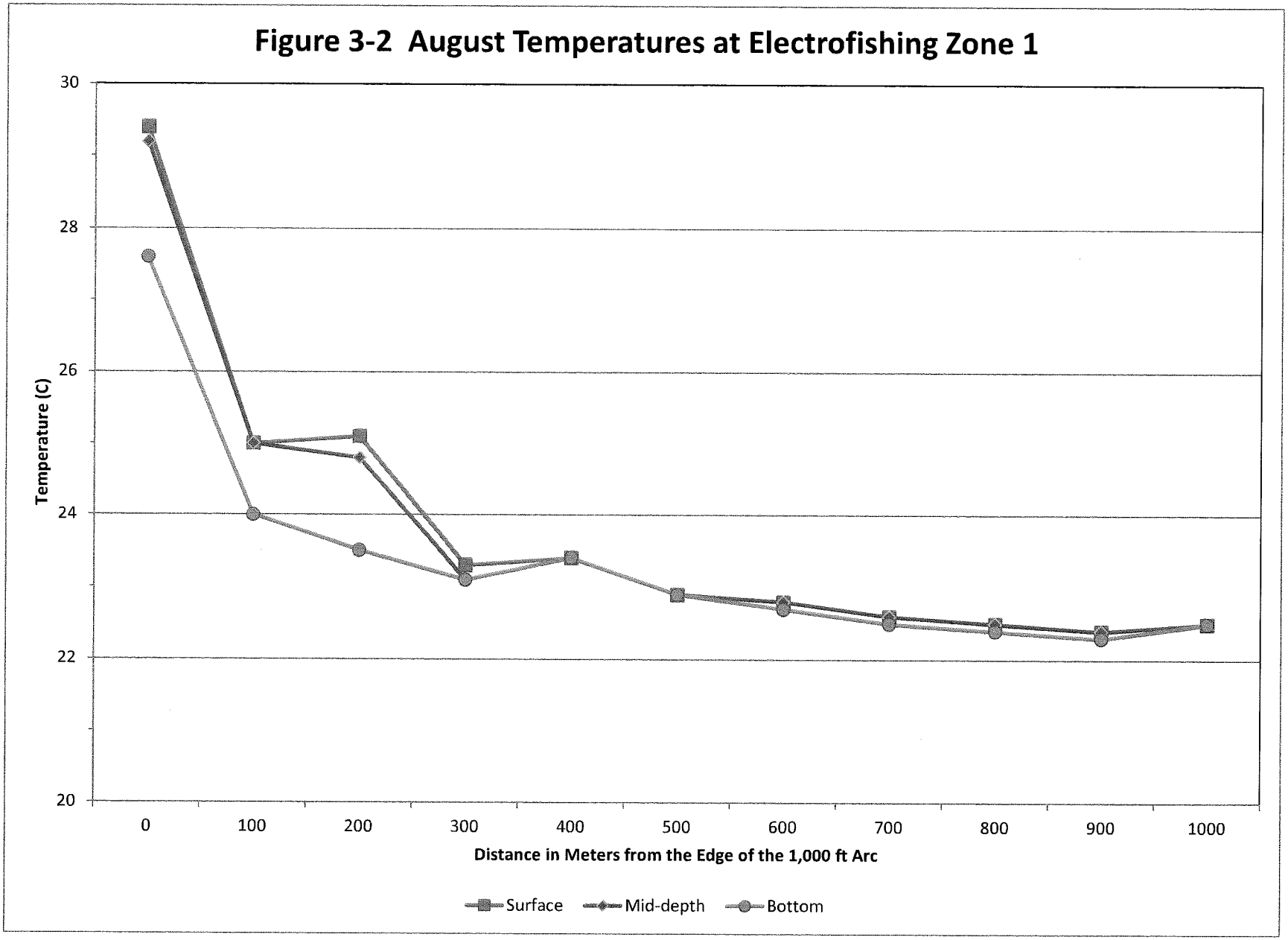
Figure 3-2 August Temperatures at Electrofishing Zone 1
30
28
26
24
22
20
Temperature (C)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

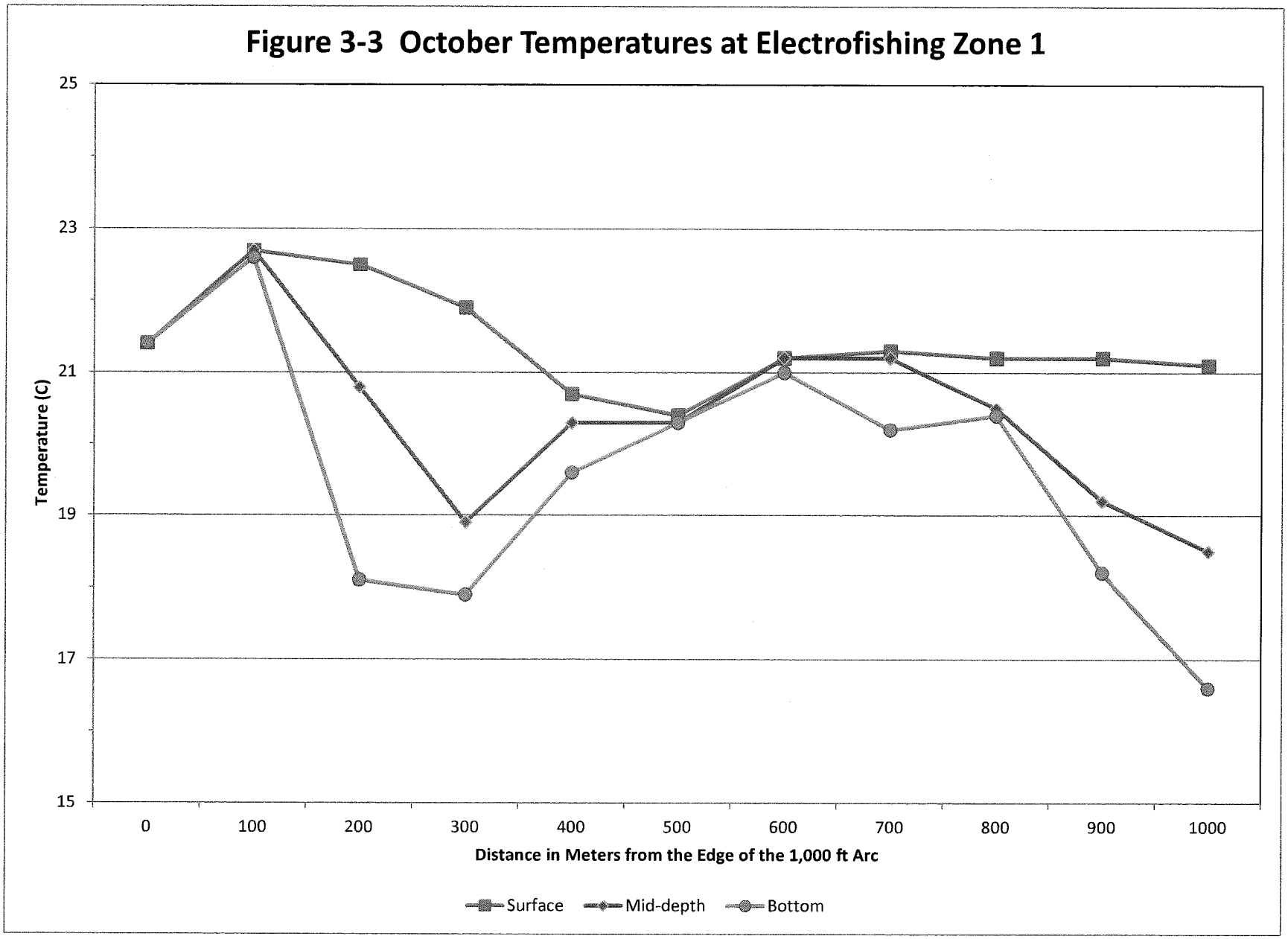
Figure 3-3 October Temperatures at Electrofishing Zone 1
25
23
21
19
17
15
Temperature (C)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

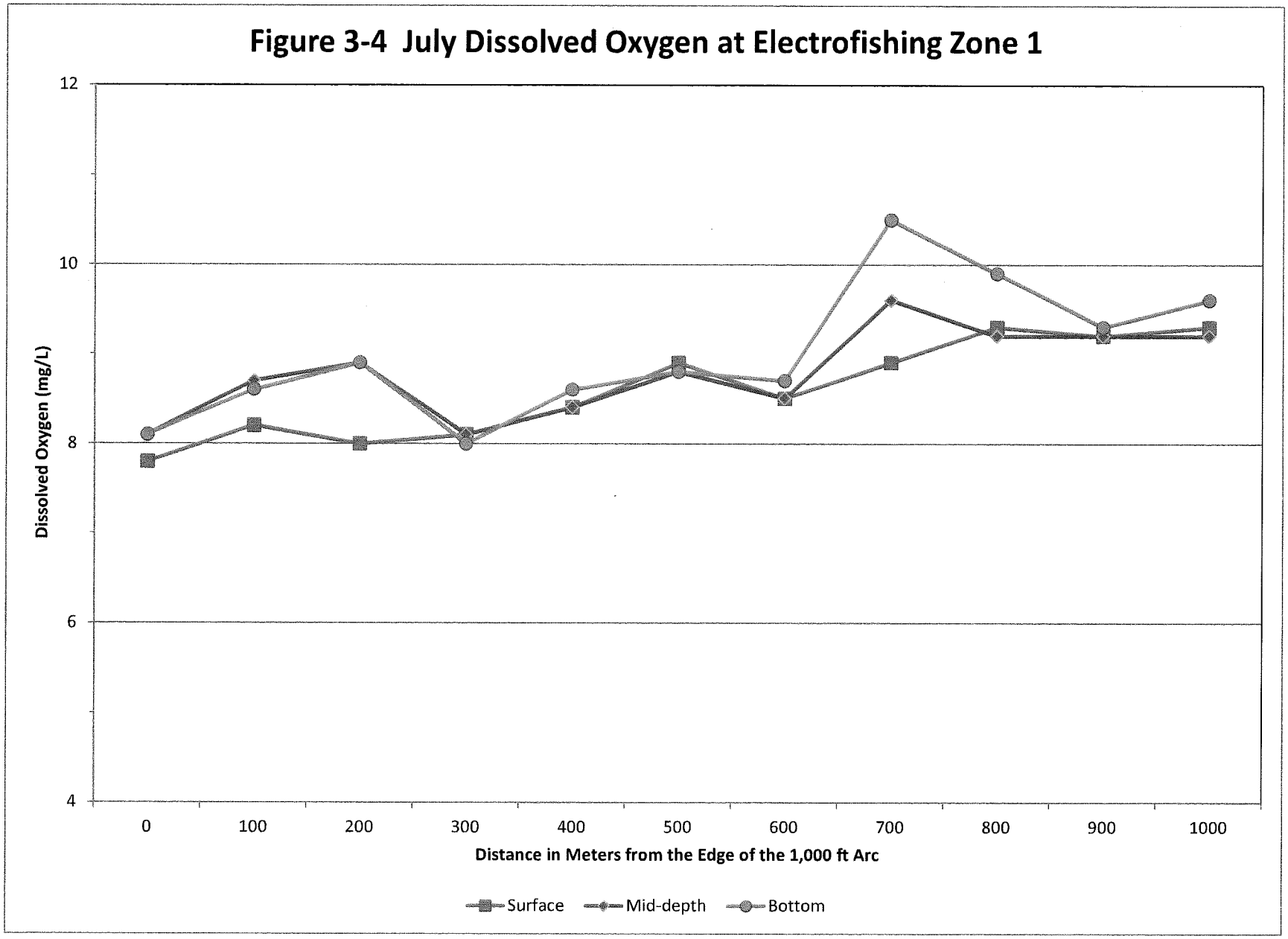
Figure 3-4 July Dissolved Oxygen at Electrofishing Zone 1
Dissolved Oxygen (mg/L)
12
10
8
6
4
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

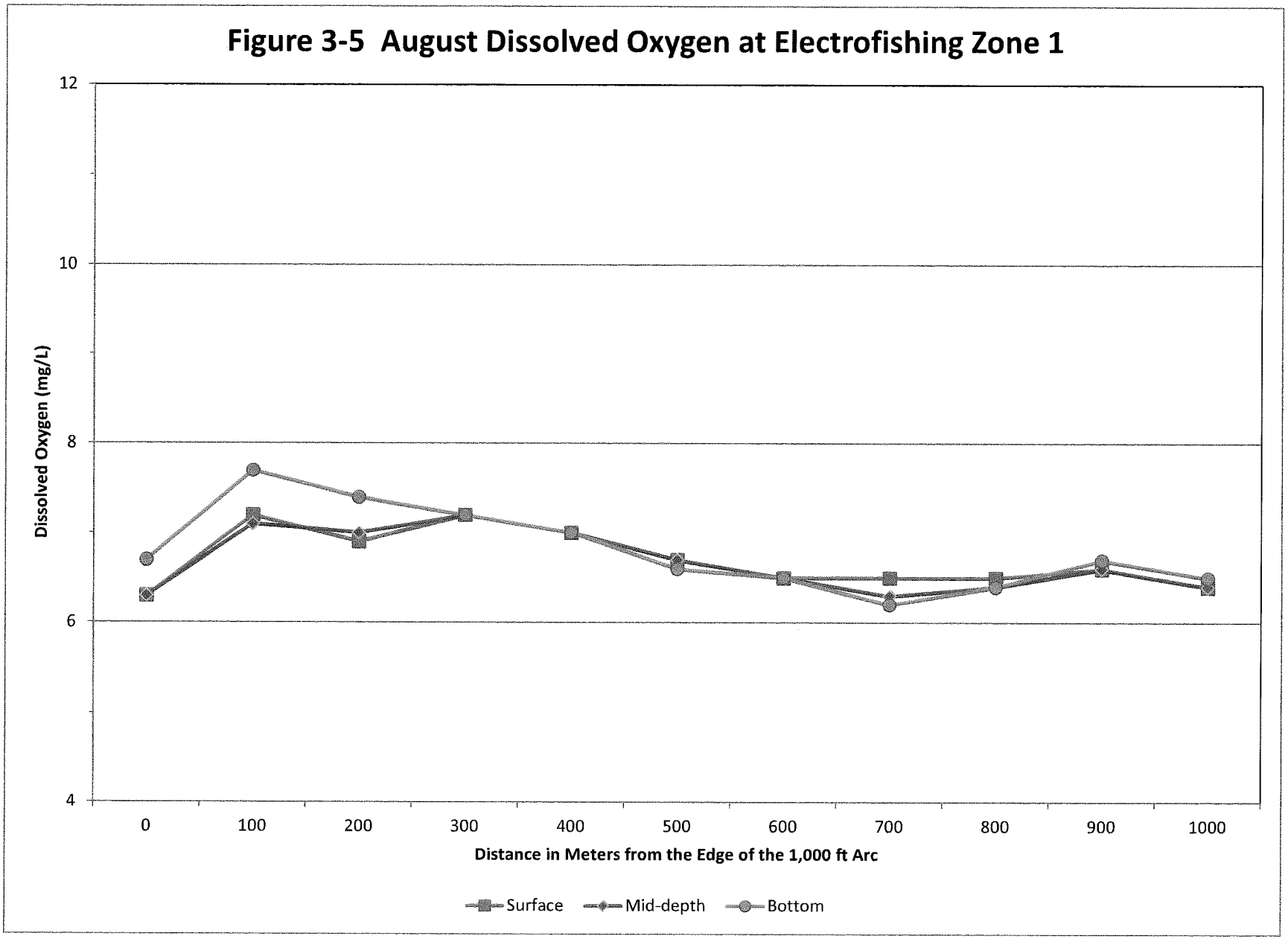
Figure 3-5 August Dissolved Oxygen at Electrofishing Zone 1
Dissolved Oxygen (mg/L)
12
10
8
6
4
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

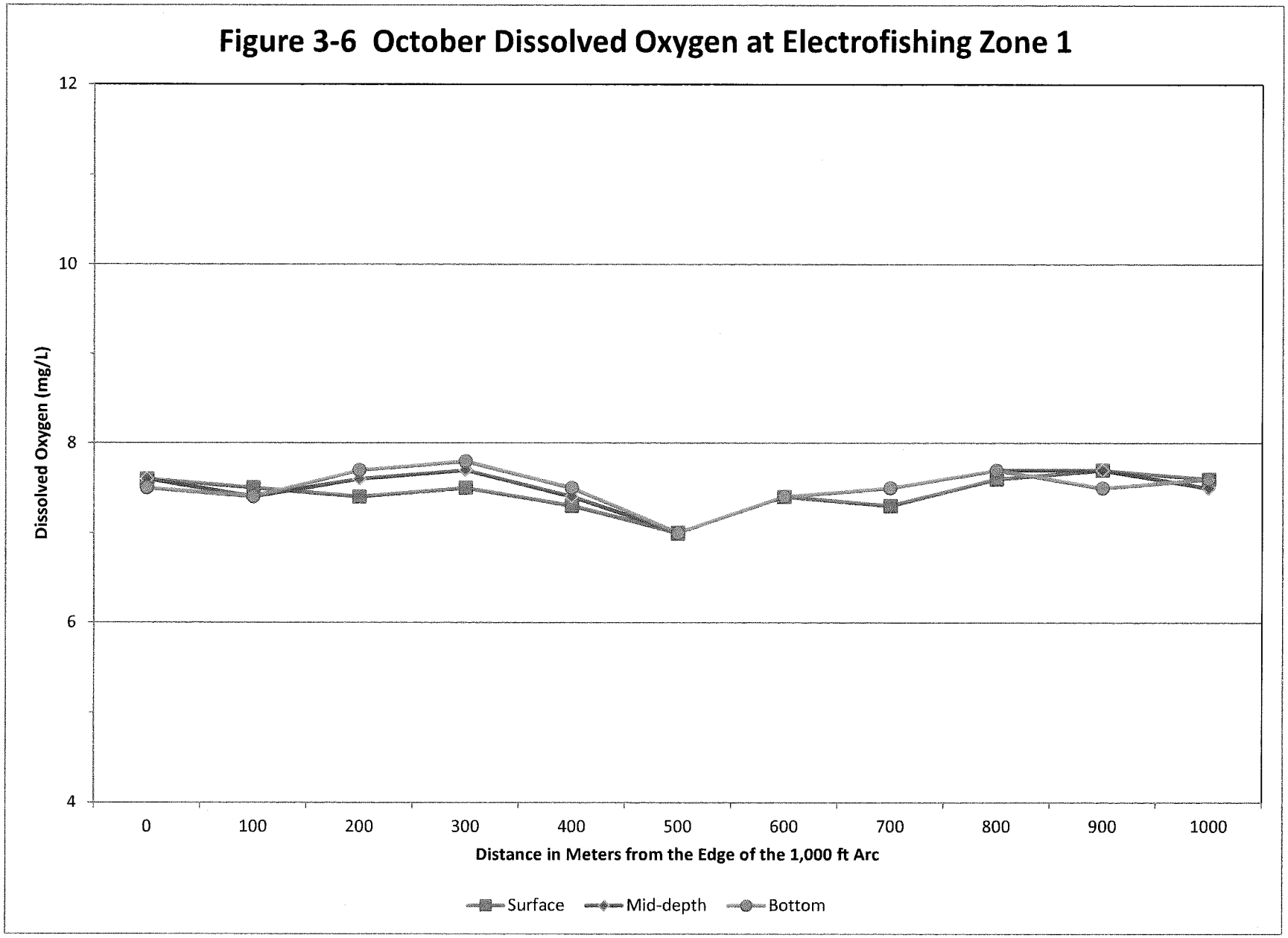
Figure 3-6 October Dissolved Oxygen at Electrofishing Zone 1
Dissolved Oxygen (mg/L)
12
10
8
6
4
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

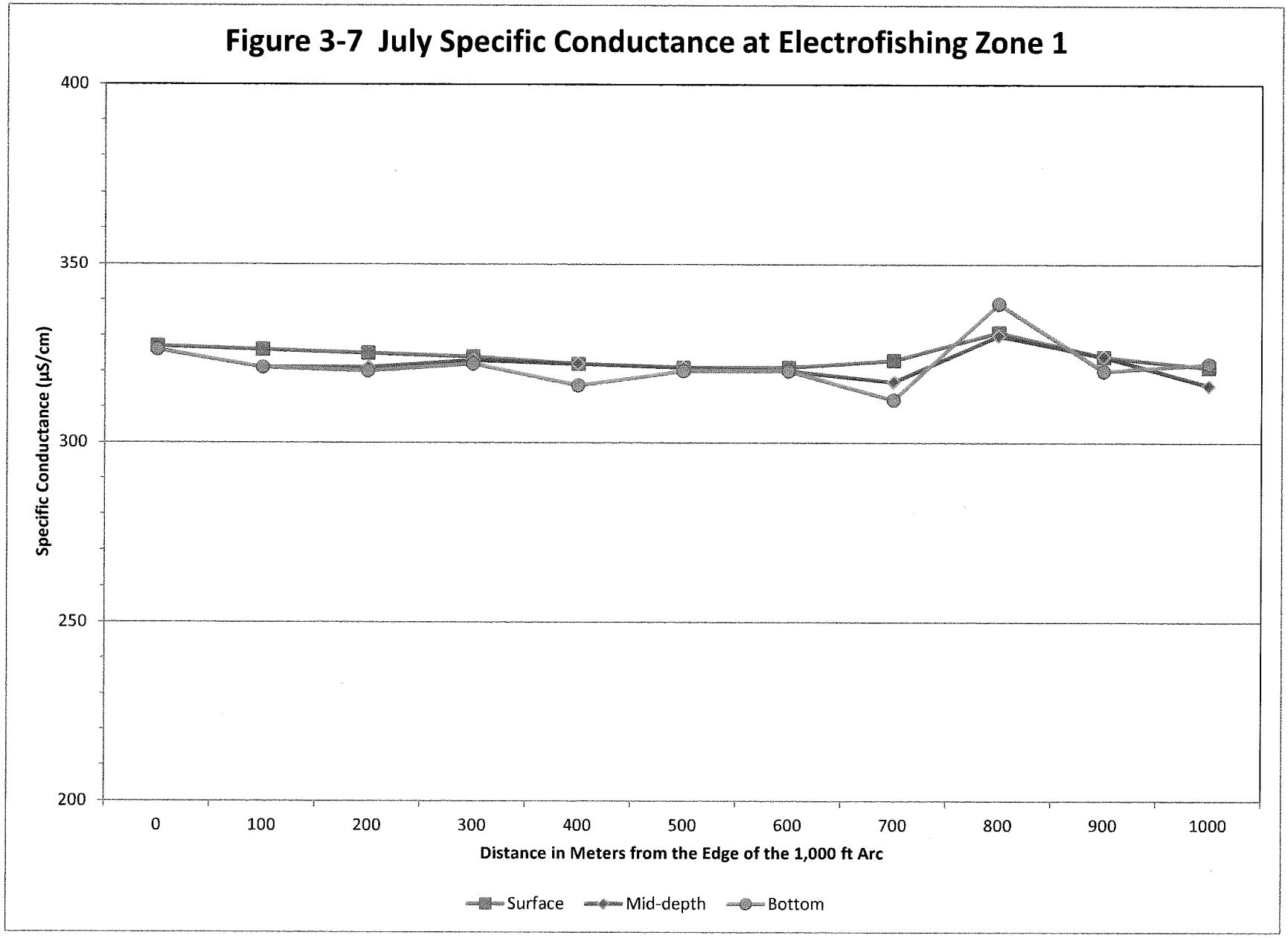
Figure 3-7 July Specific Conductance at Electrofishing Zone 1
400
350
300
250
200
Specific Conductance (µS/cm)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

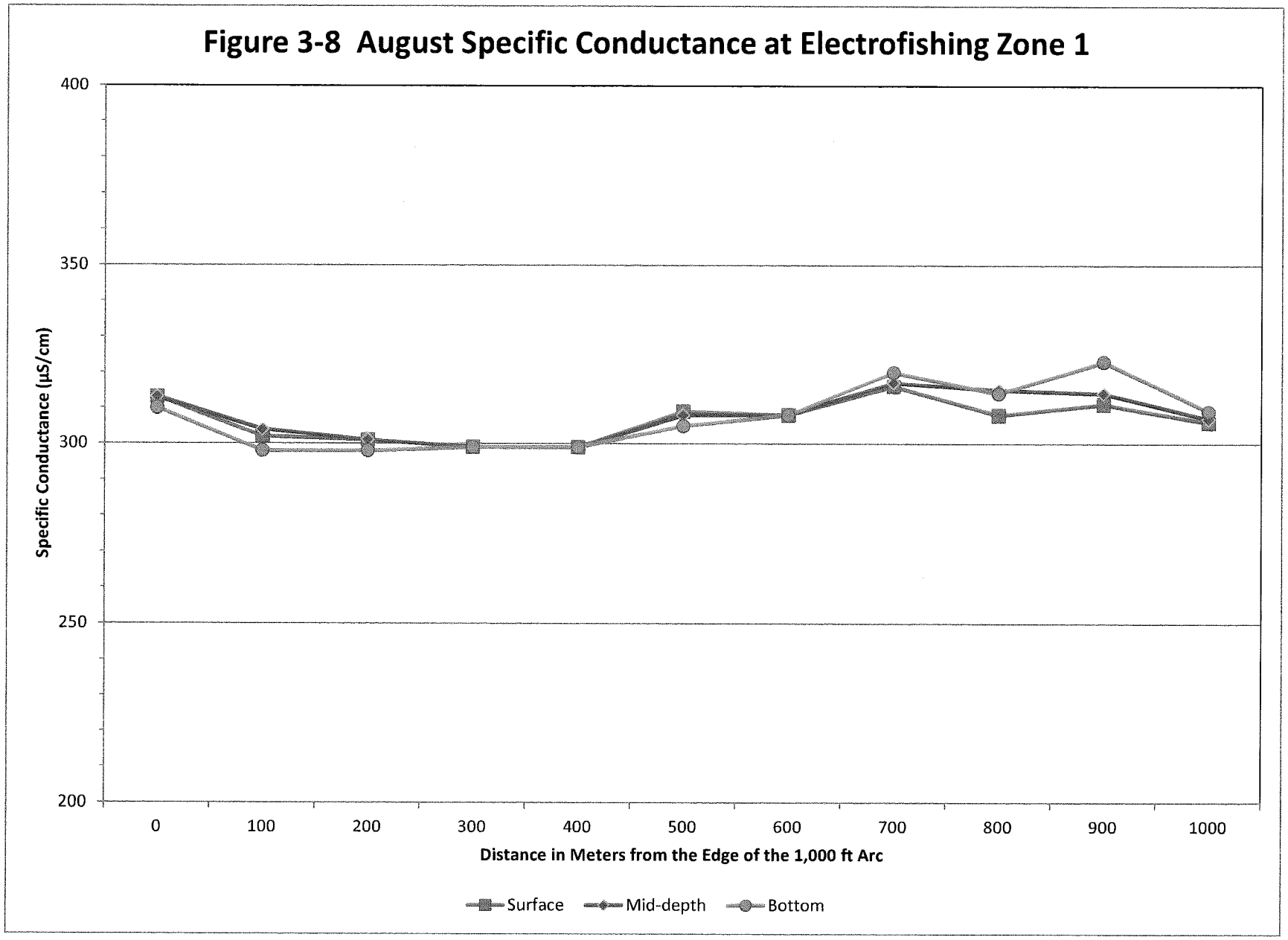
Figure 3-8 August Specific Conductance at Electrofishing Zone 1
400
350
300
250
200
Specific Conductance (µS/cm)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

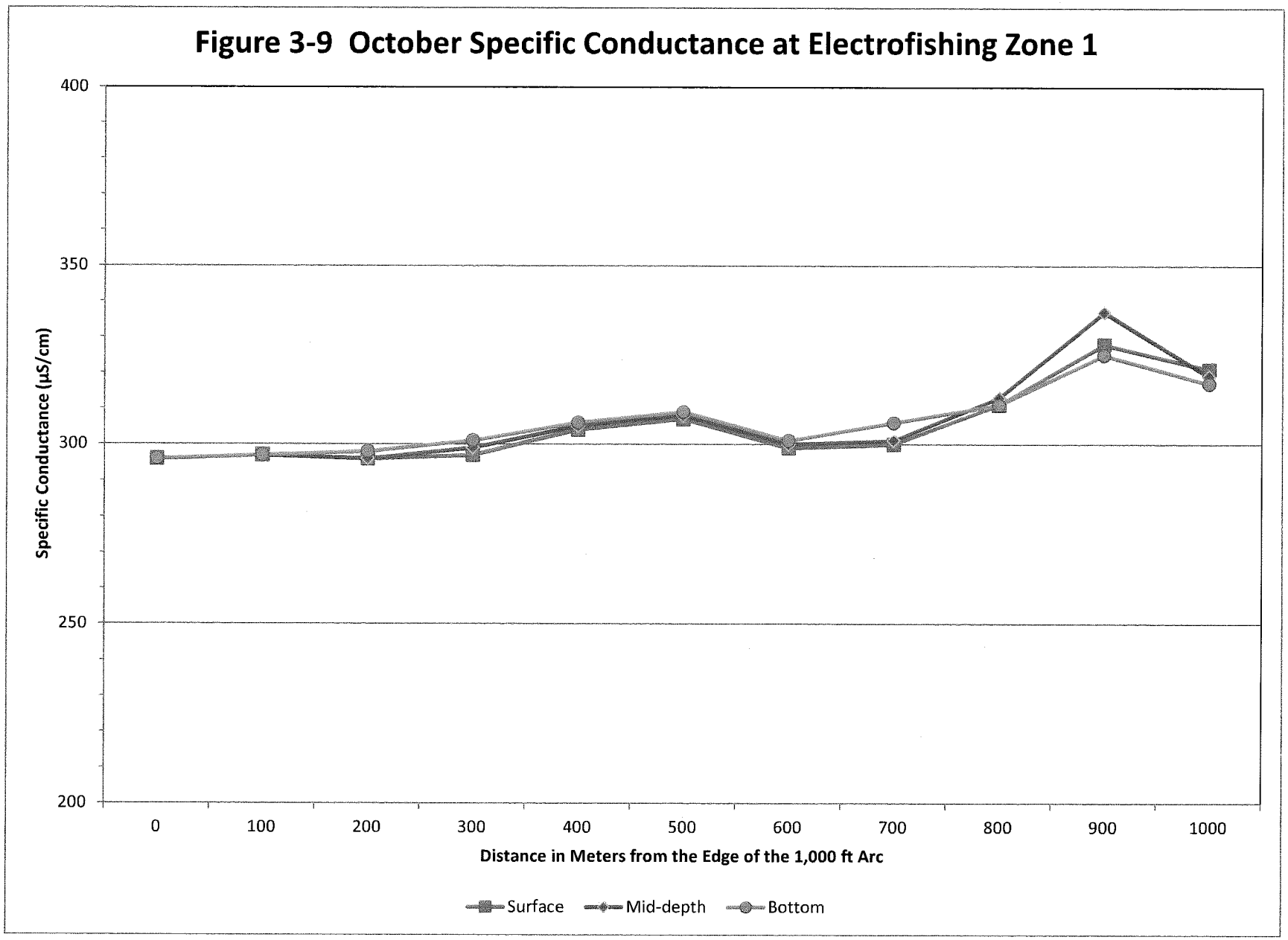
Figure 3-9 October Specific Conductance at Electrofishing Zone 1
400
350
300
250
200
Specific Conductance (µS/cm)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

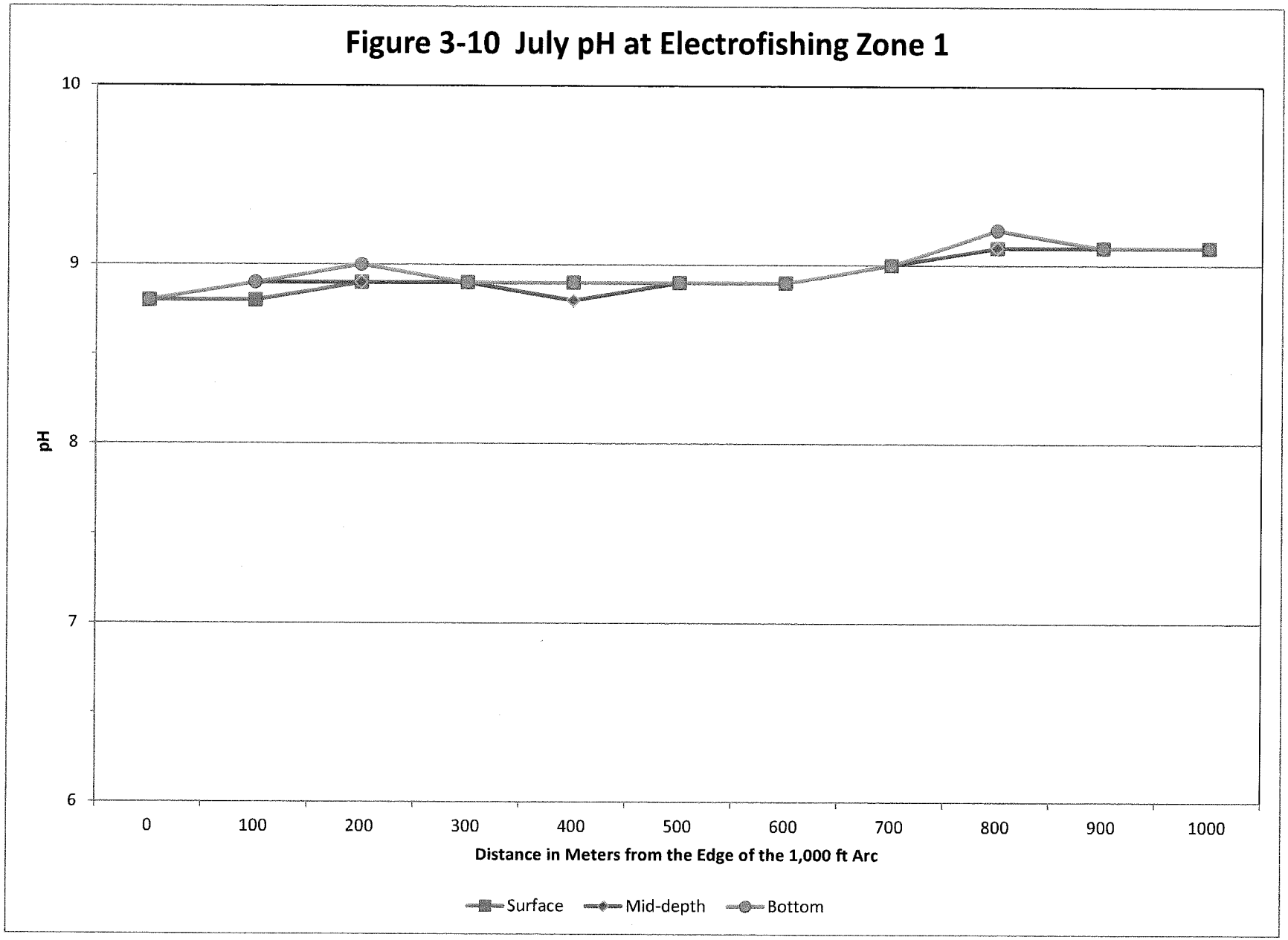
Figure 3-10 July pH at Electrofishing Zone 1
10
9
8
7
6
pH
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

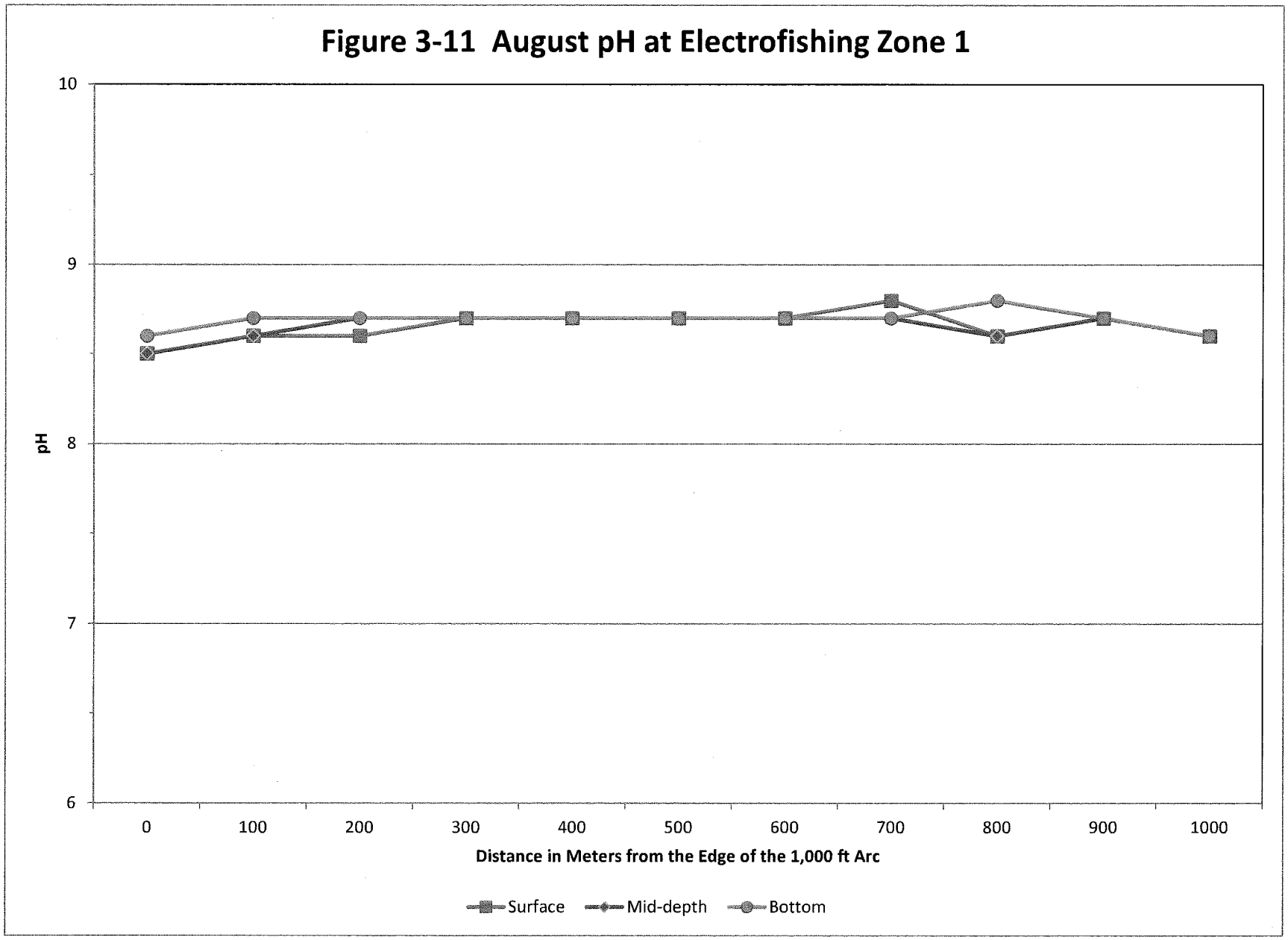
Figure 3-11 August pH at Electrofishing Zone 1
10
9
8
7
6
pH
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

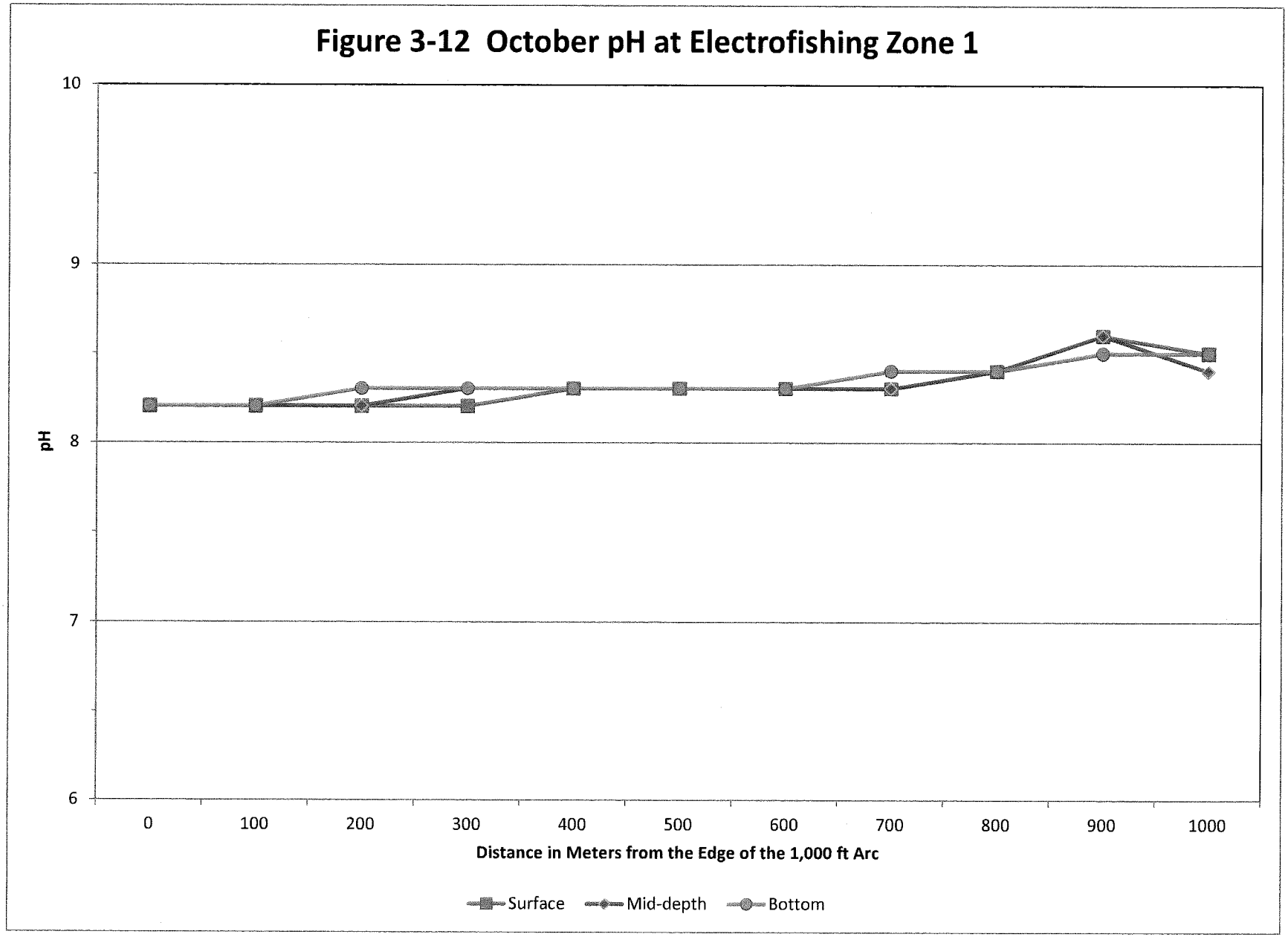
Figure 3-12 October pH at Electrofishing Zone 1
10
9
8
7
6
pH
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Surface
Mid-depth
Bottom

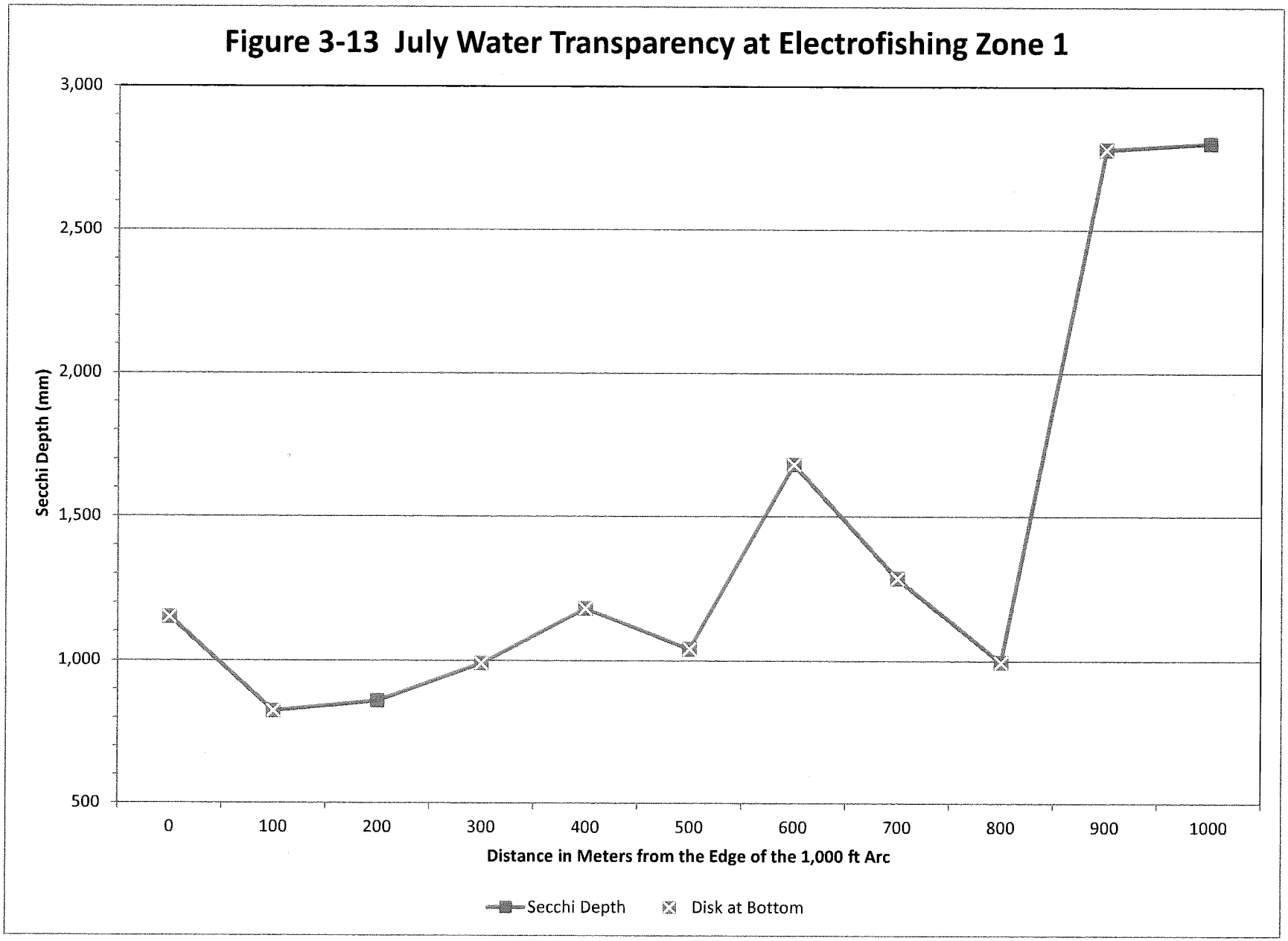
Figure 3-13 July Water Transparency at Electrofishing Zone 1
3,000
2,500
2,000
1,500
1,000
500
Secchi Depth (mm)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Secchi Depth
Disk at Bottom

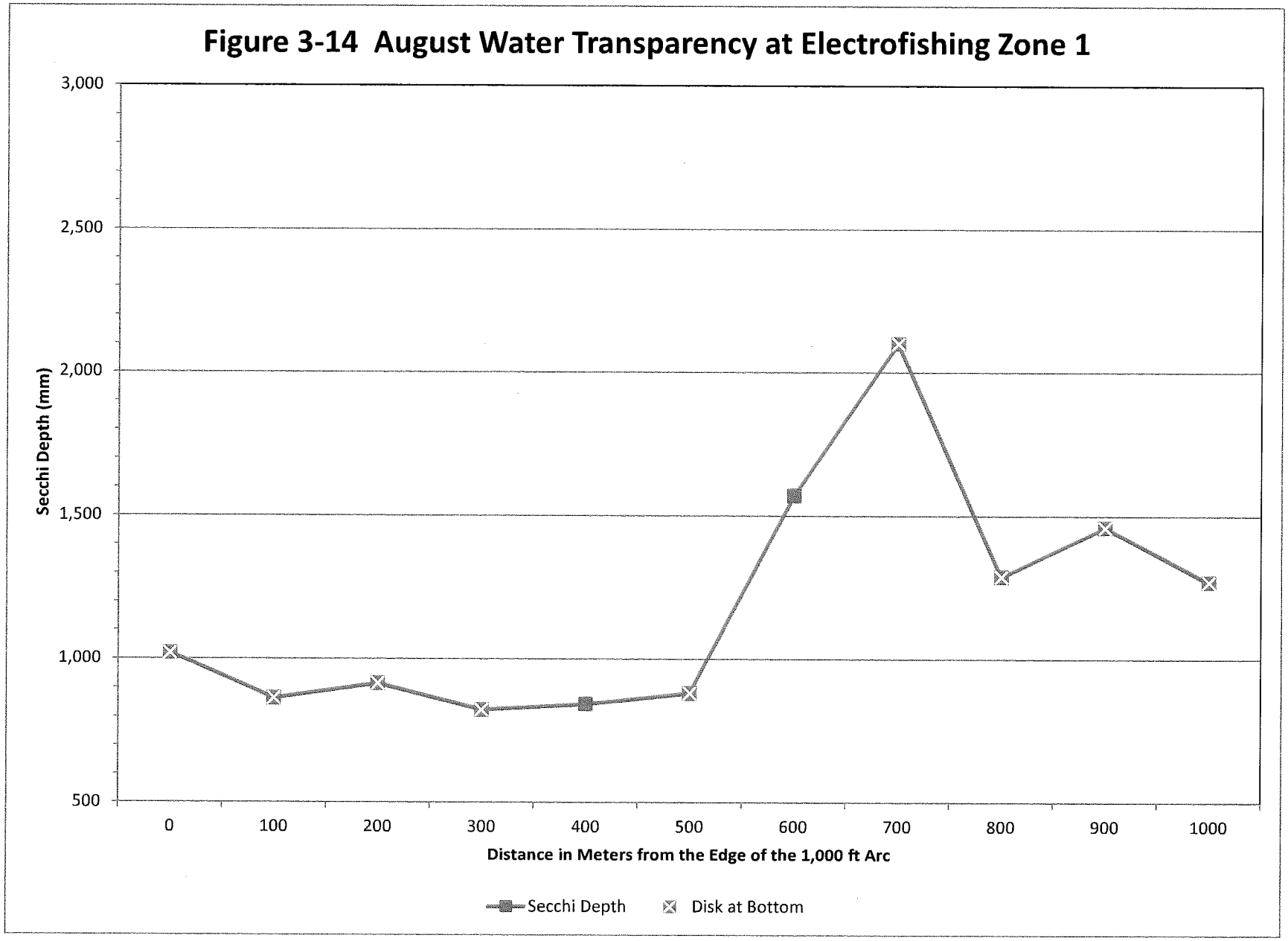
Figure 3-14 August Water Transparency at Electrofishing Zone 1
3,000
2,500
2,000
1,500
1,000
500
Secchi Depth (mm)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Secchi Depth
Disk at Bottom

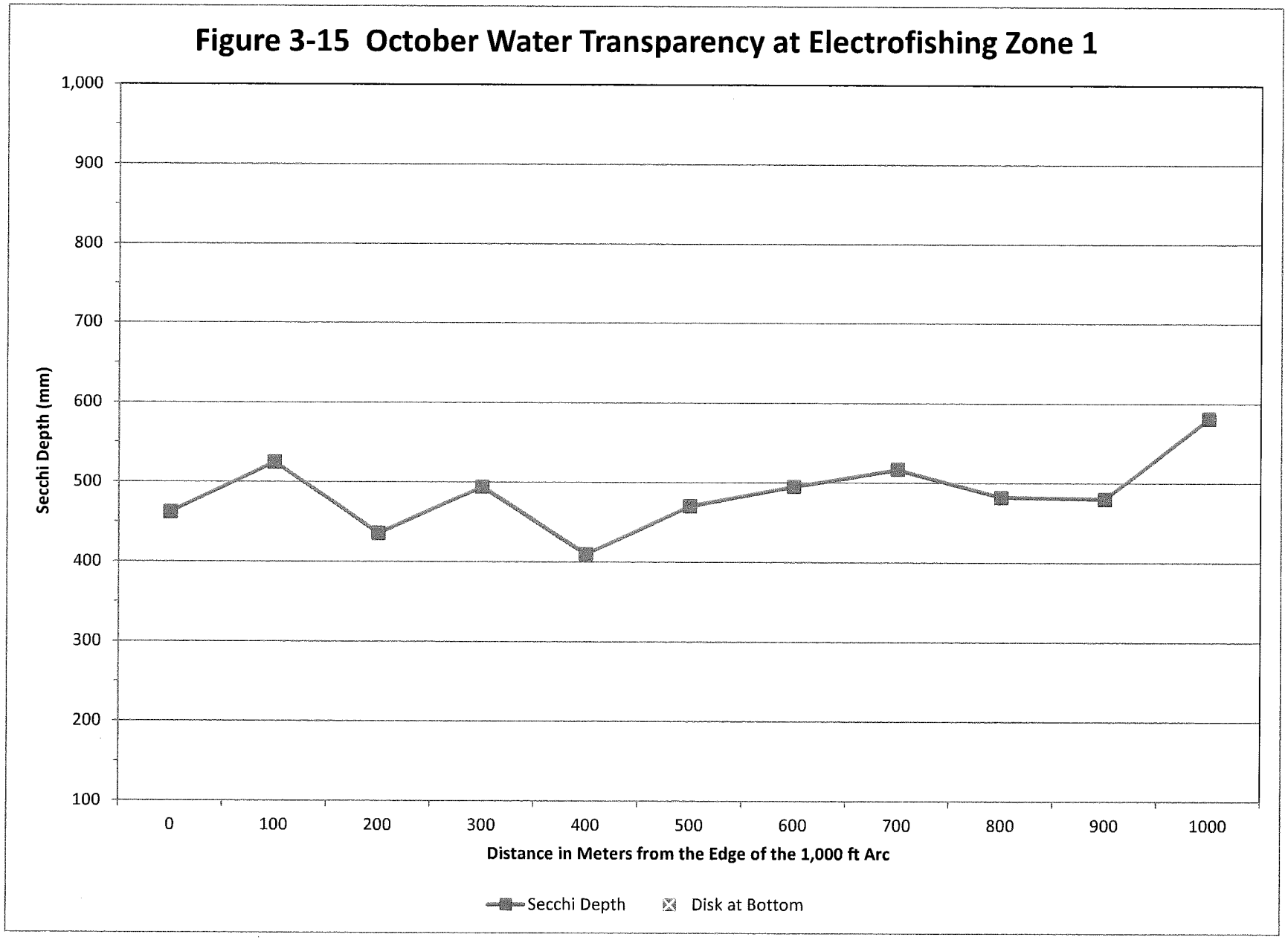
Figure 3-15 October Water Transparency at Electrofishing Zone 1
1,000
900
800
700
600
500
400
300
200
100
Secchi Depth (mm)
0
100
200
300
400
500
600
700
800
900
1000
Distance in Meters from the Edge of the 1,000 ft Arc
Secchi Depth
Disk at Bottom