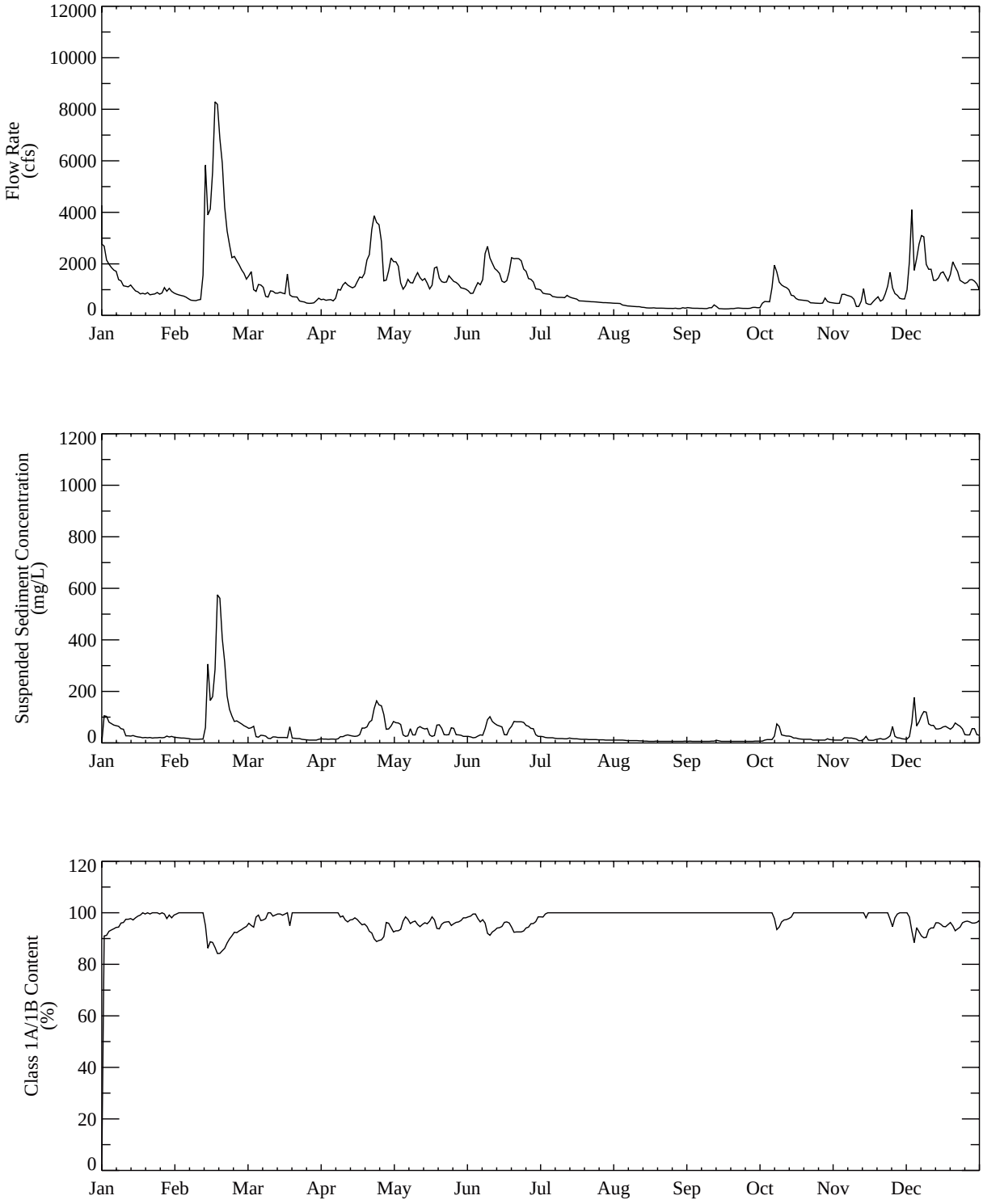


Figure F-1. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1981.

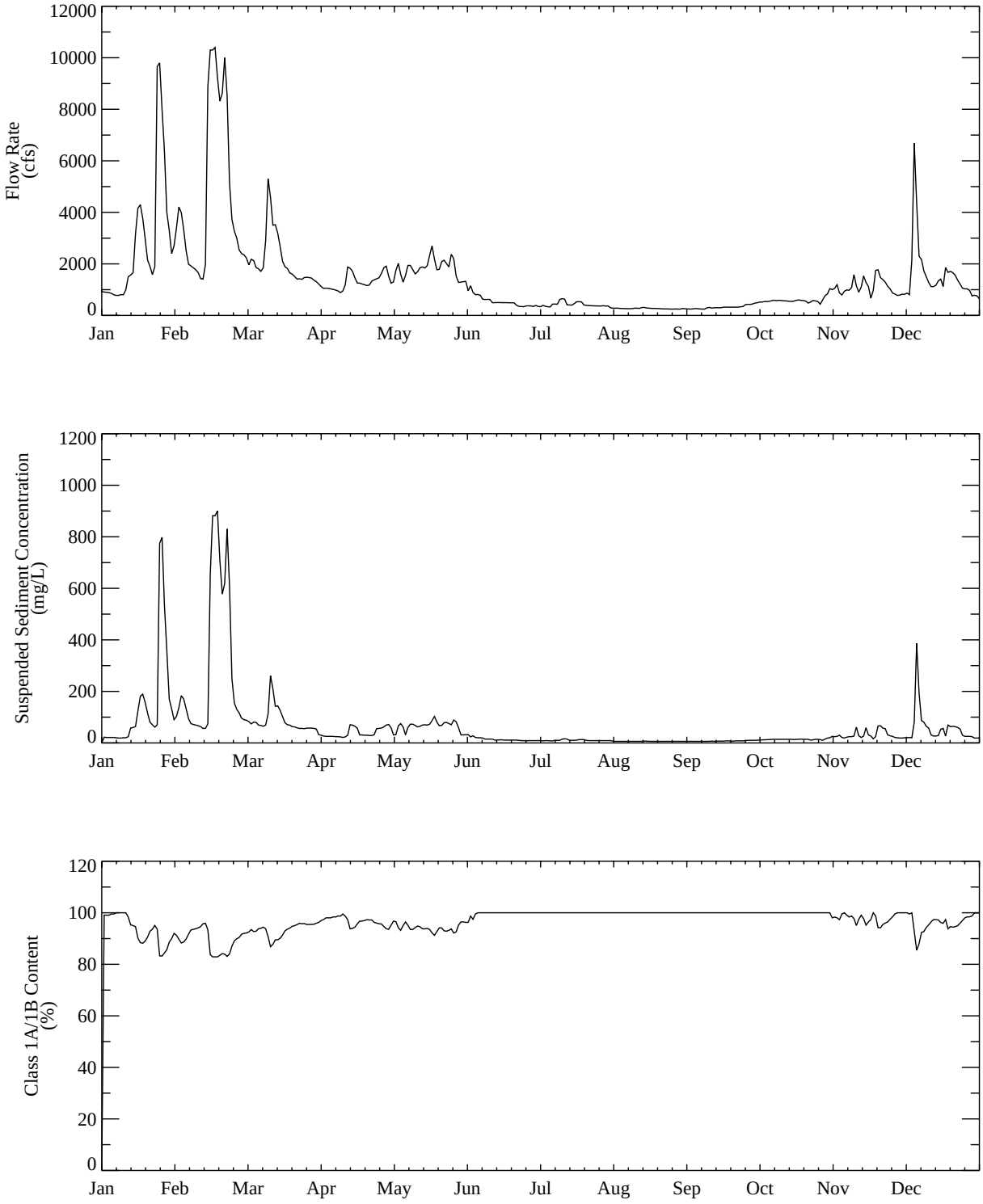


Figure F-2. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1982.

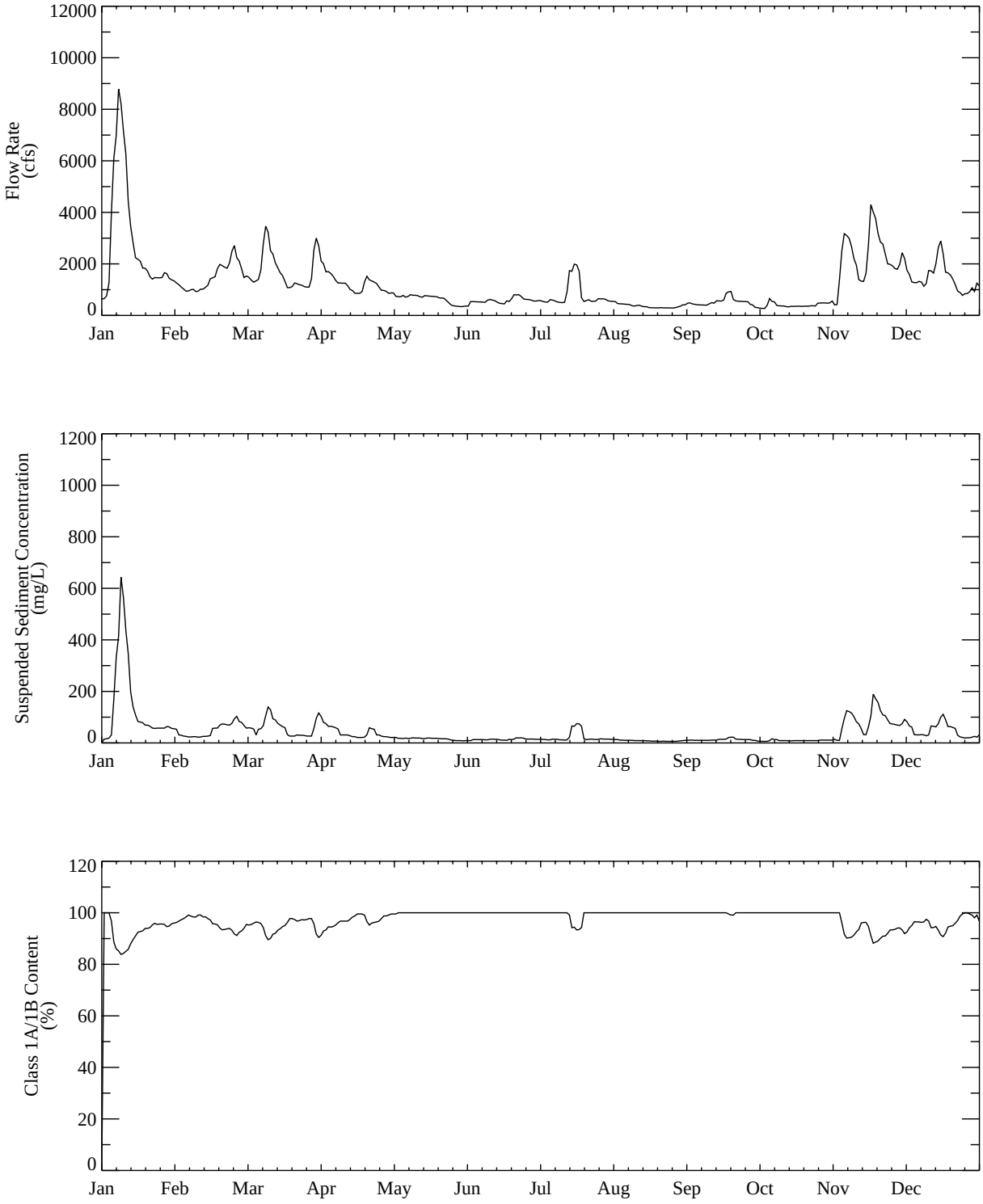


Figure F-3. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1983.

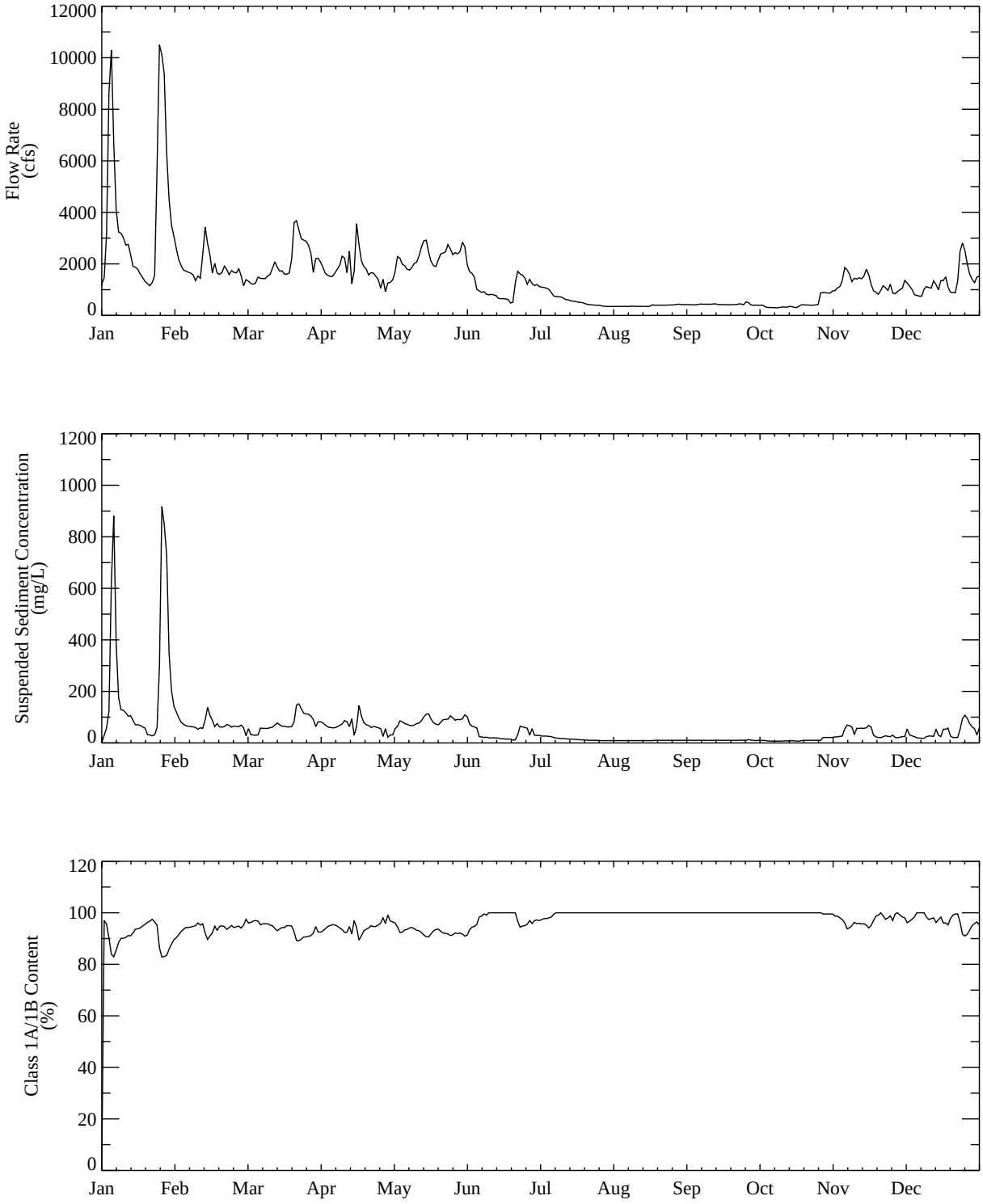


Figure F-4. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1984.

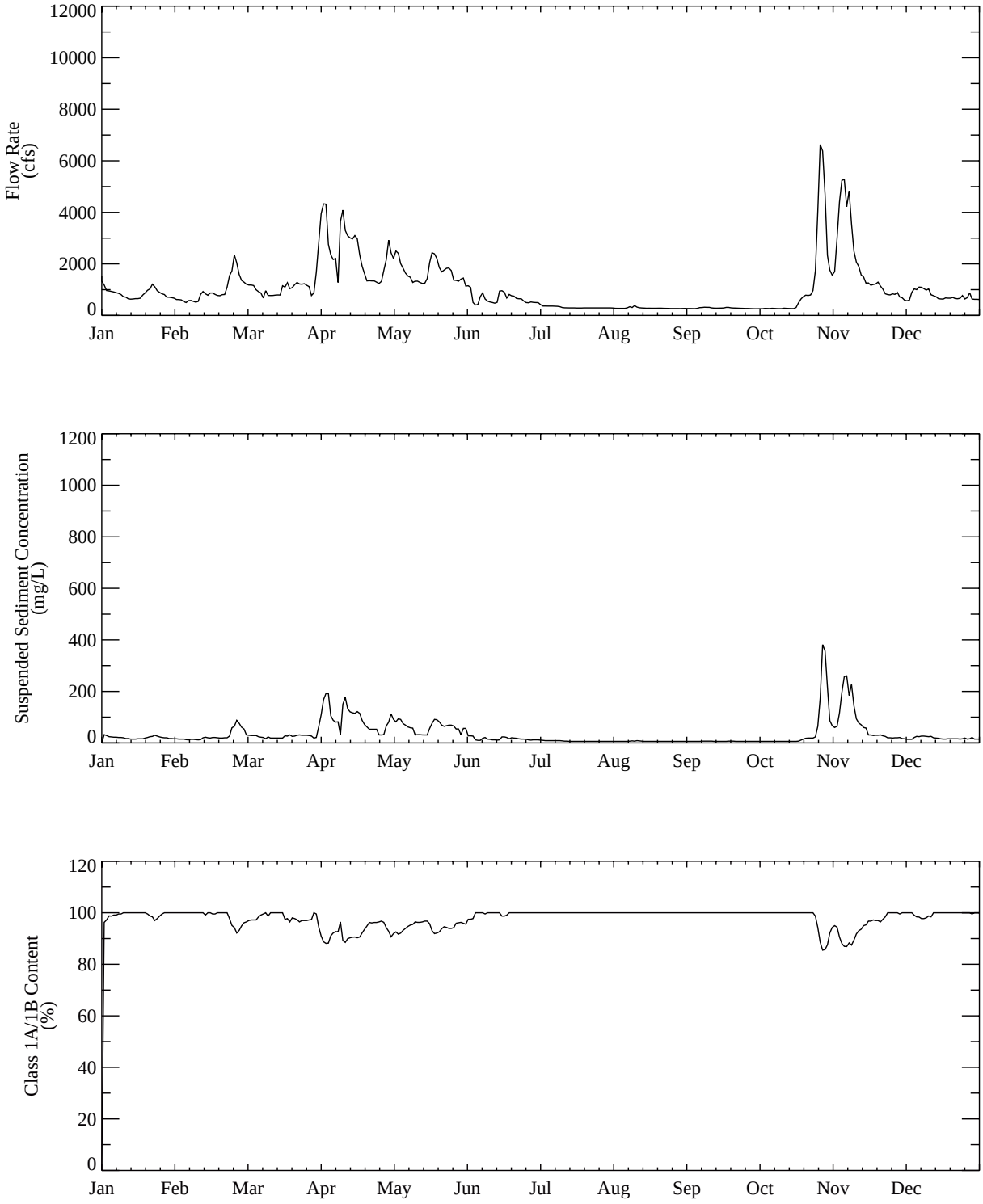


Figure F-5. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1985.

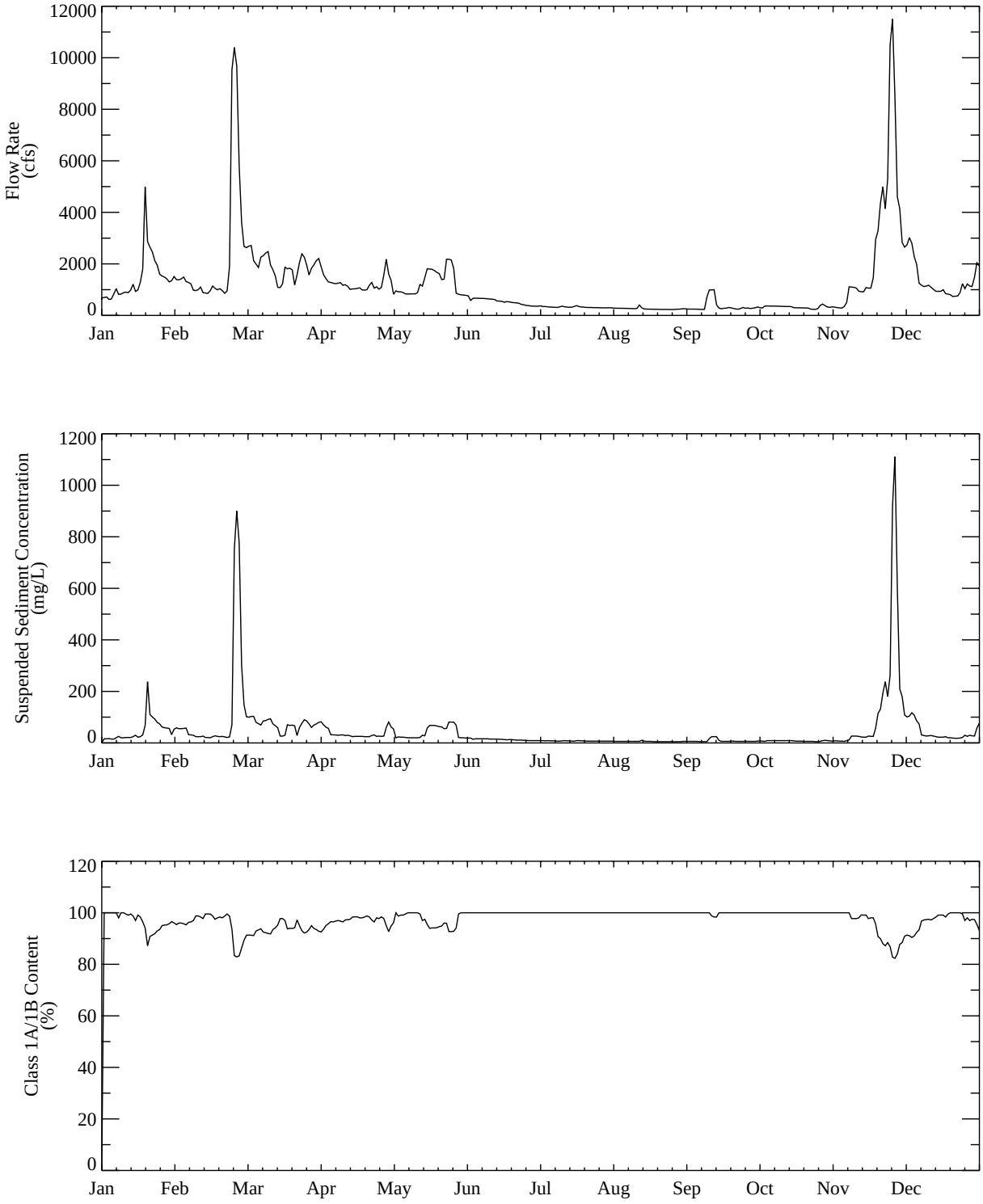


Figure F-6. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1986.

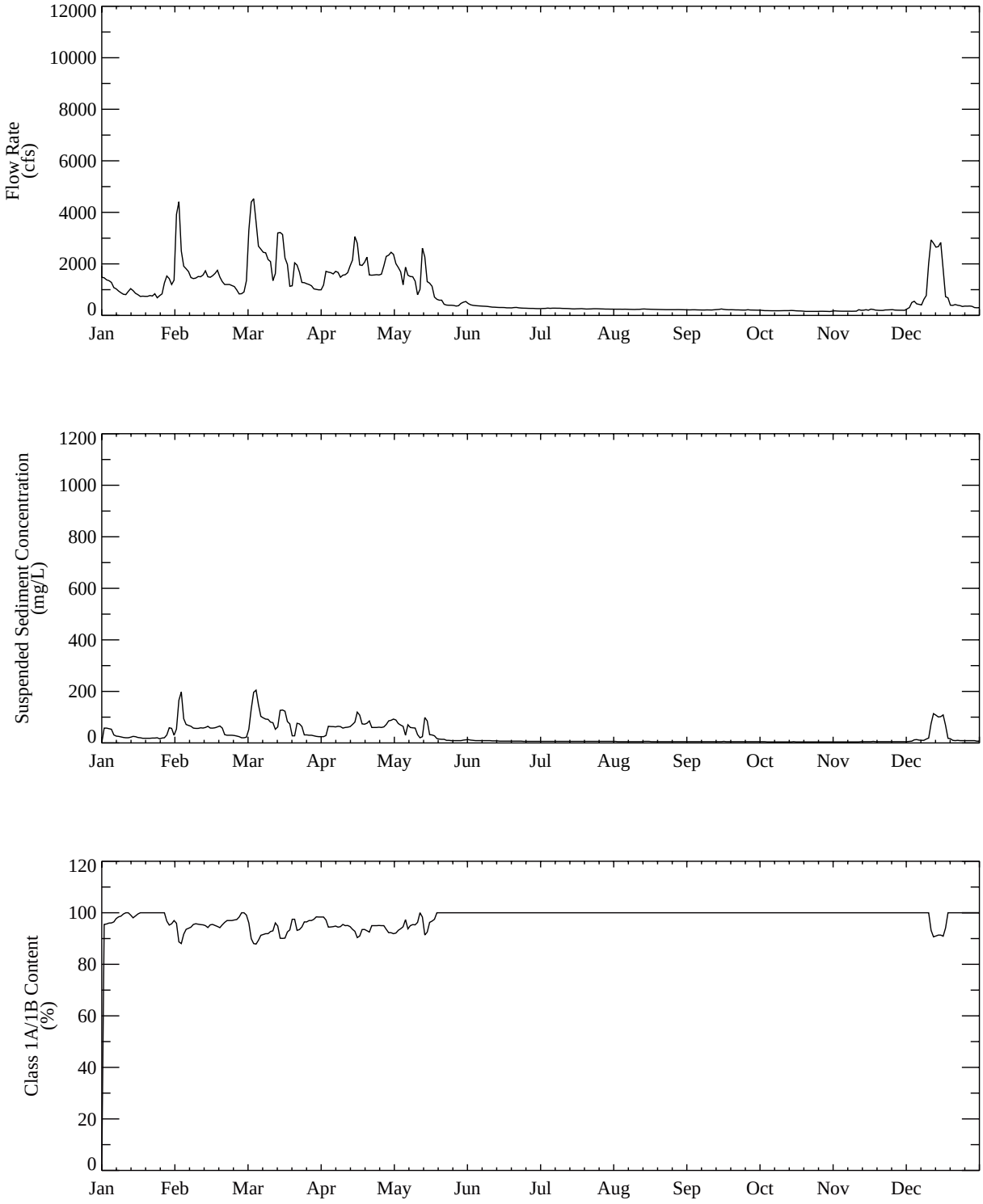


Figure F-7. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1987.

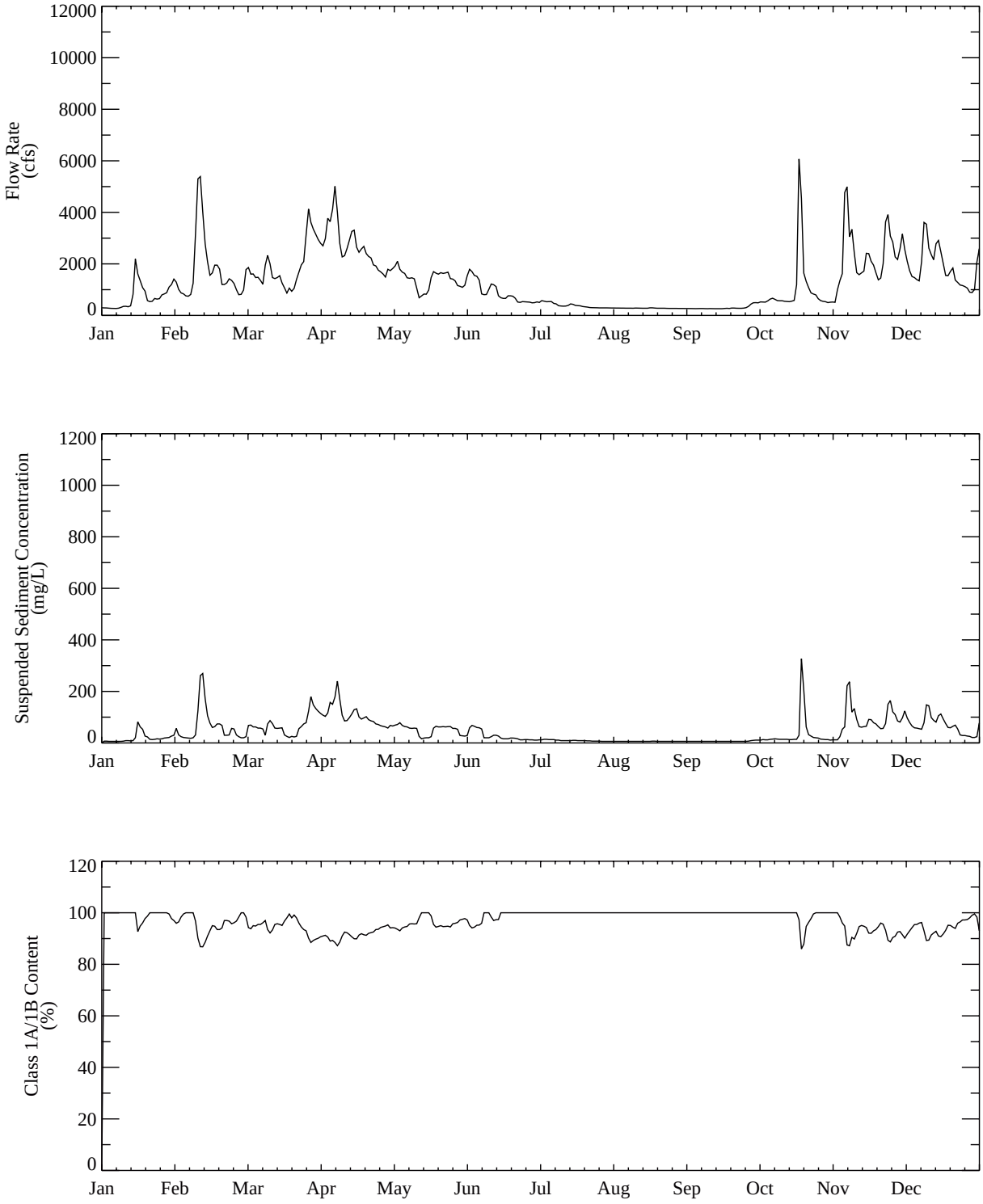


Figure F-8. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1988.

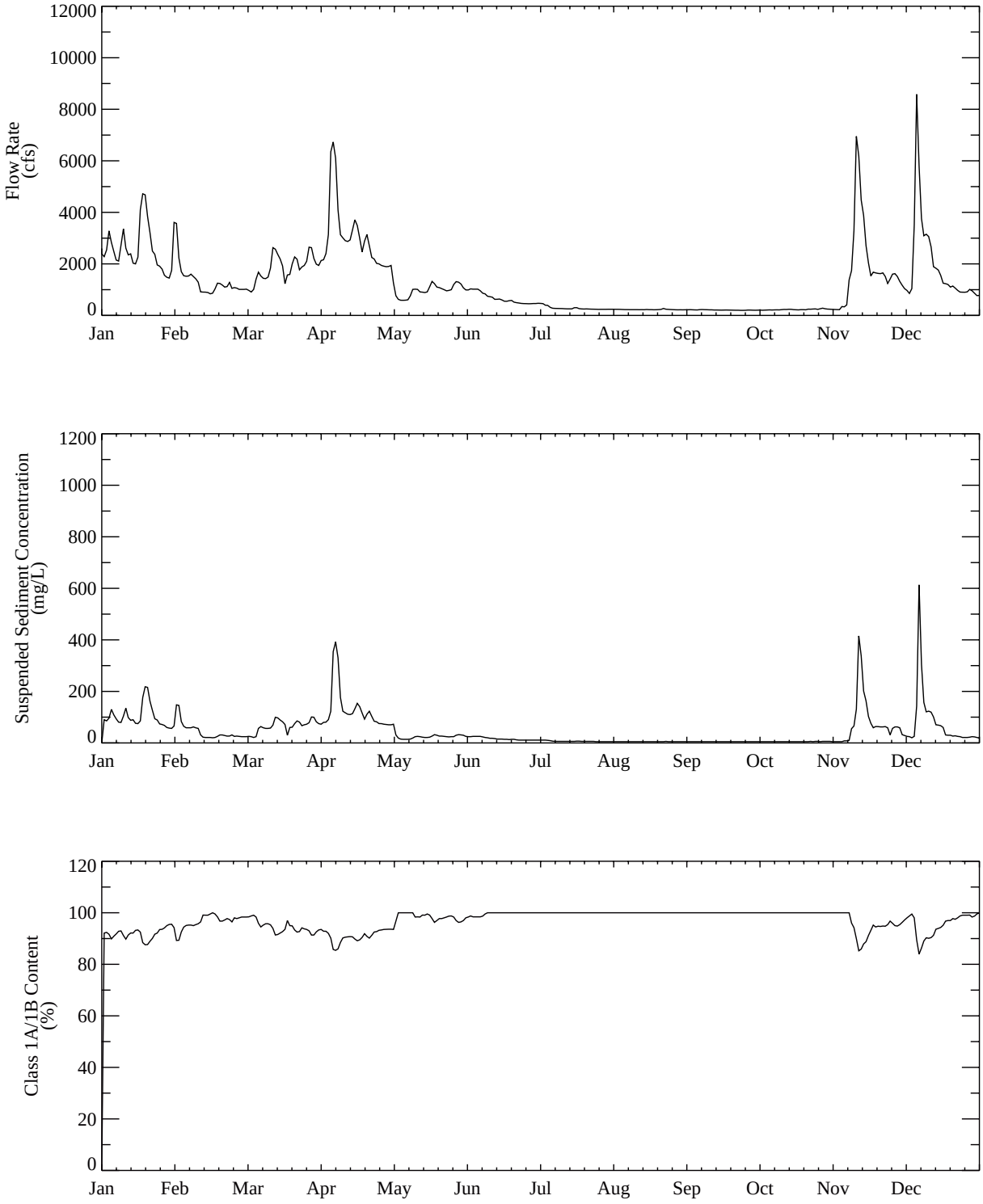
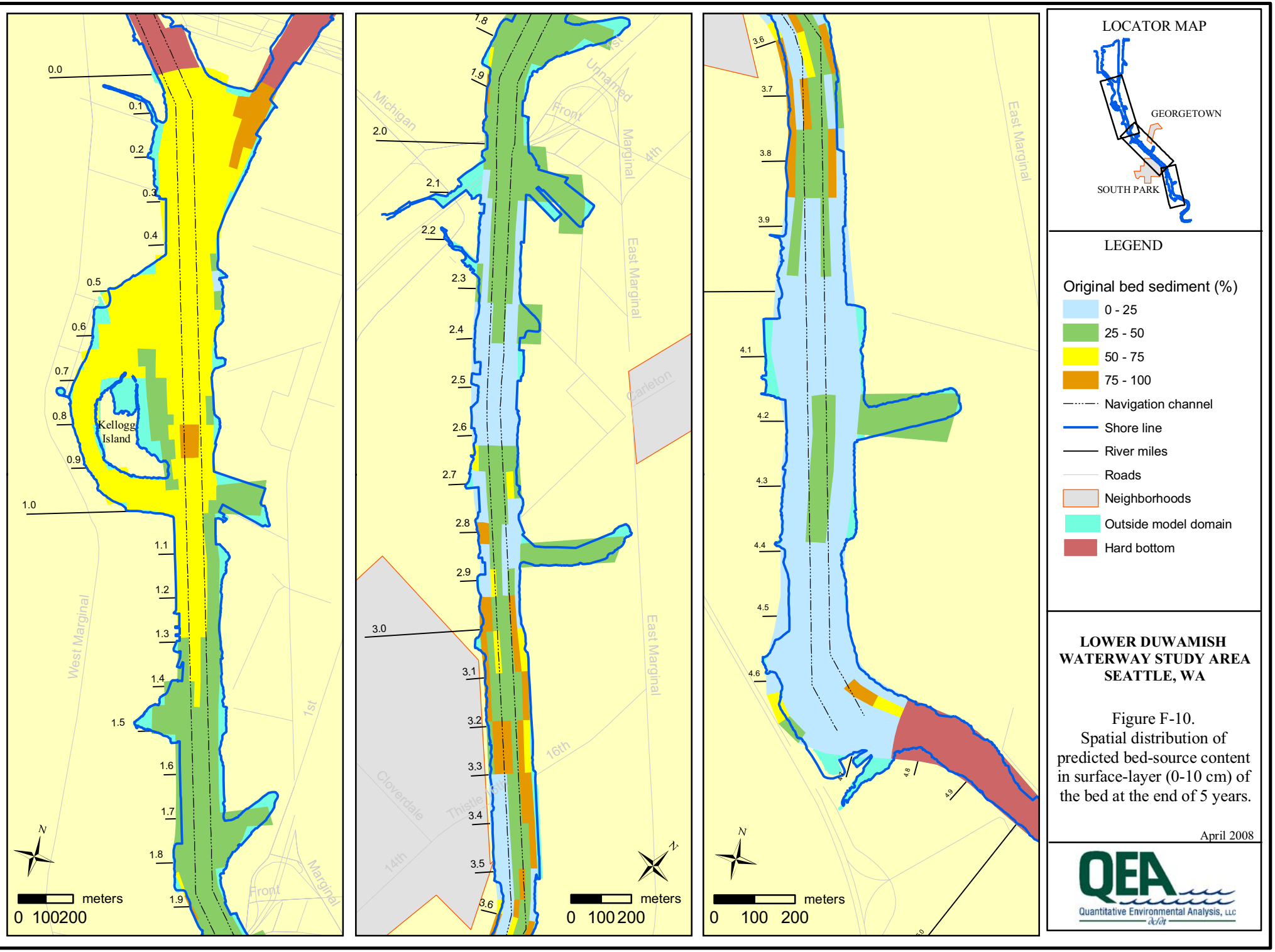


Figure F-9. Time series of flow rate, suspended sediment concentration, and class 1A/1B content at upstream boundary: 1989.



LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-10.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at the end of 5 years.

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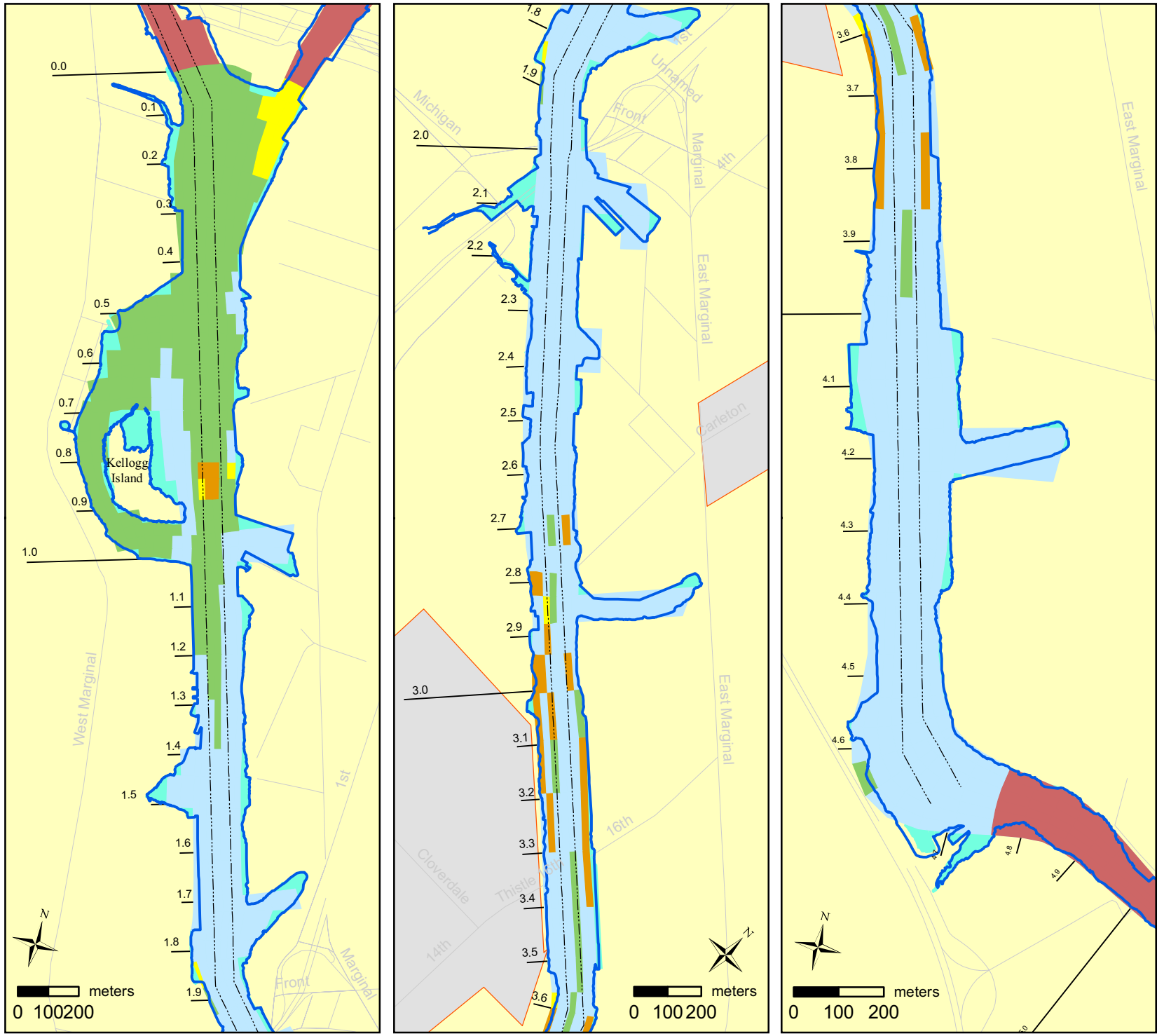
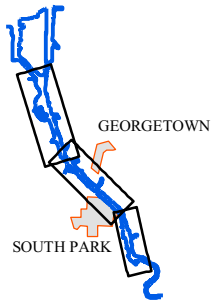


LOCATOR MAP



LEGEND

Original bed sediment (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-11.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at the end of 10 years.

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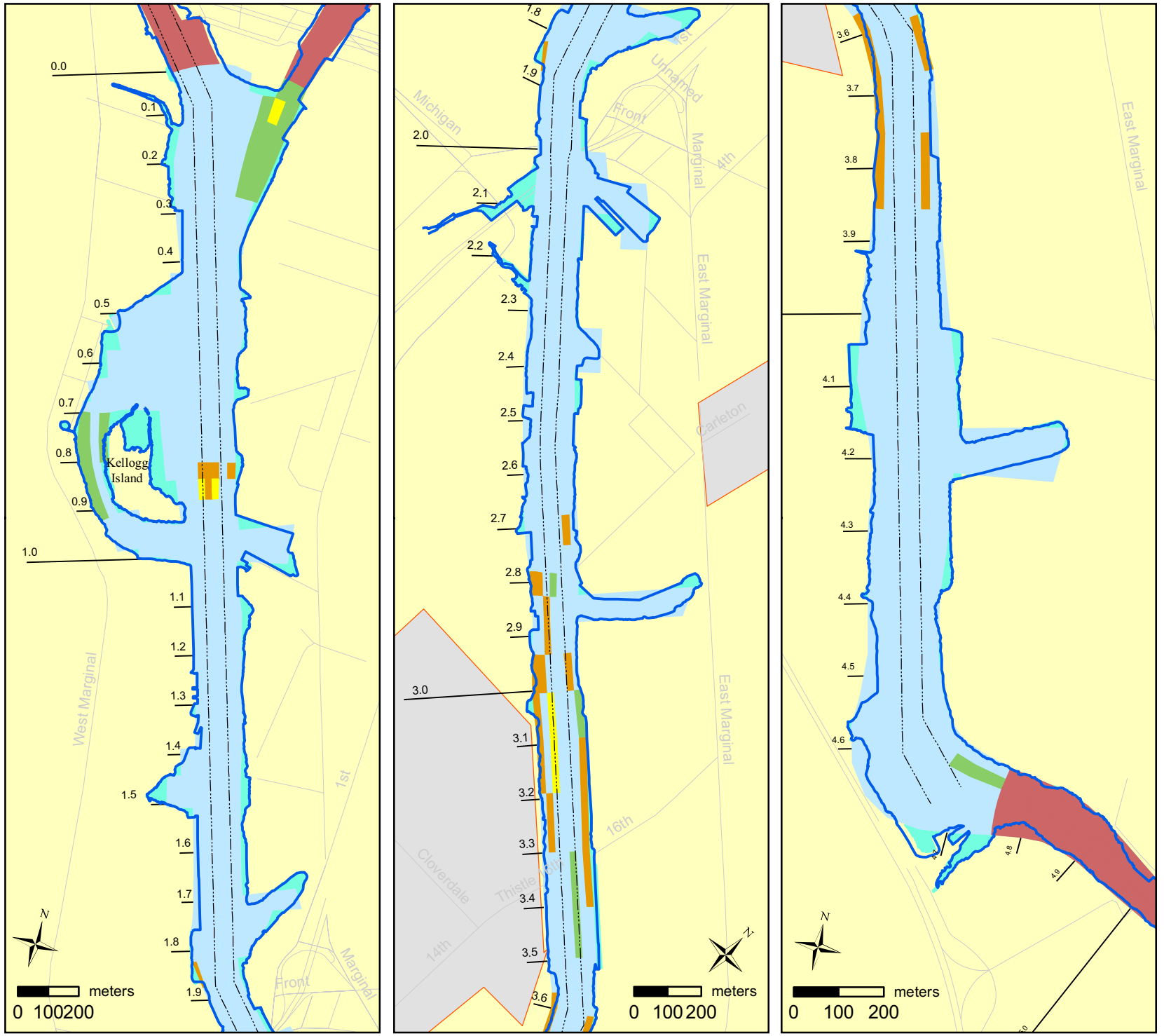
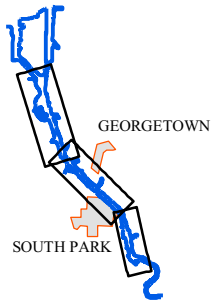


LOCATOR MAP



LEGEND

Original bed sediment (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-12.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at the end of 15 years.

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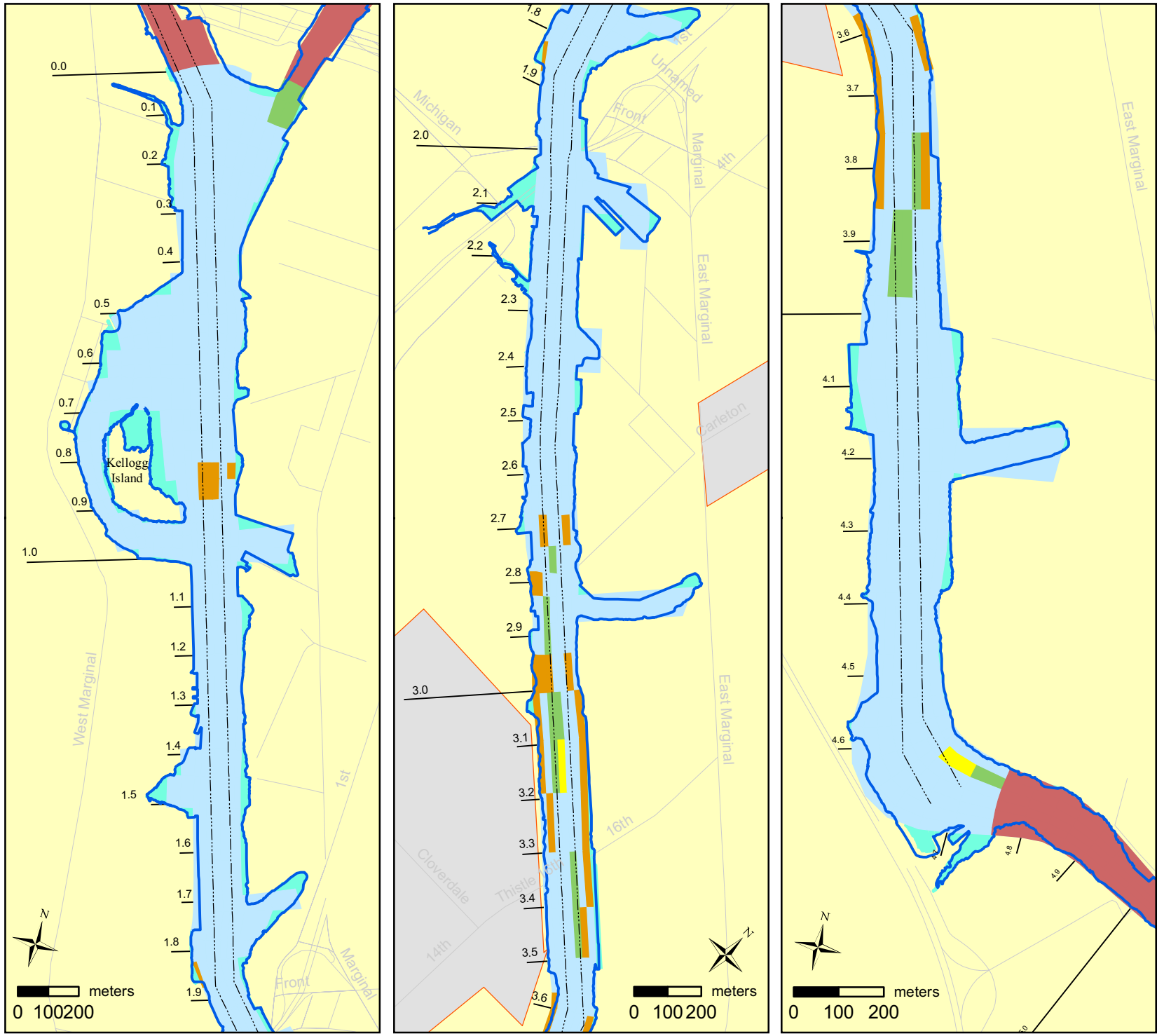

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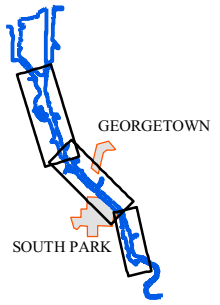

LEGEND

Original bed sediment (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-13.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at the end of 20 years.

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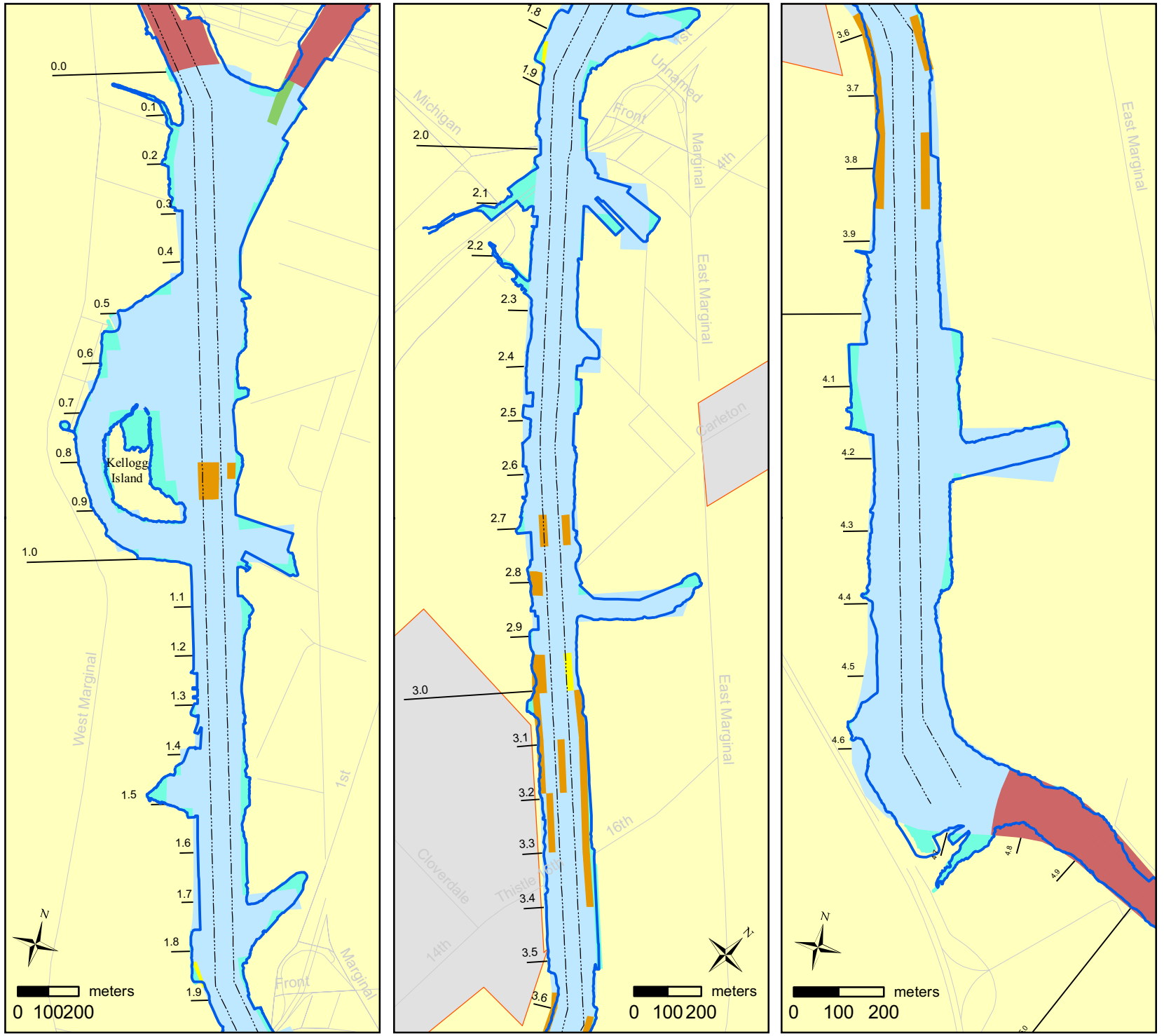
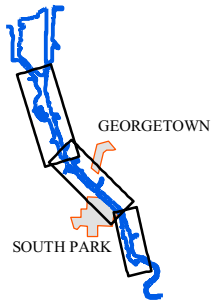


LOCATOR MAP



LEGEND

Original bed sediment (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-14.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at the end of 25 years.

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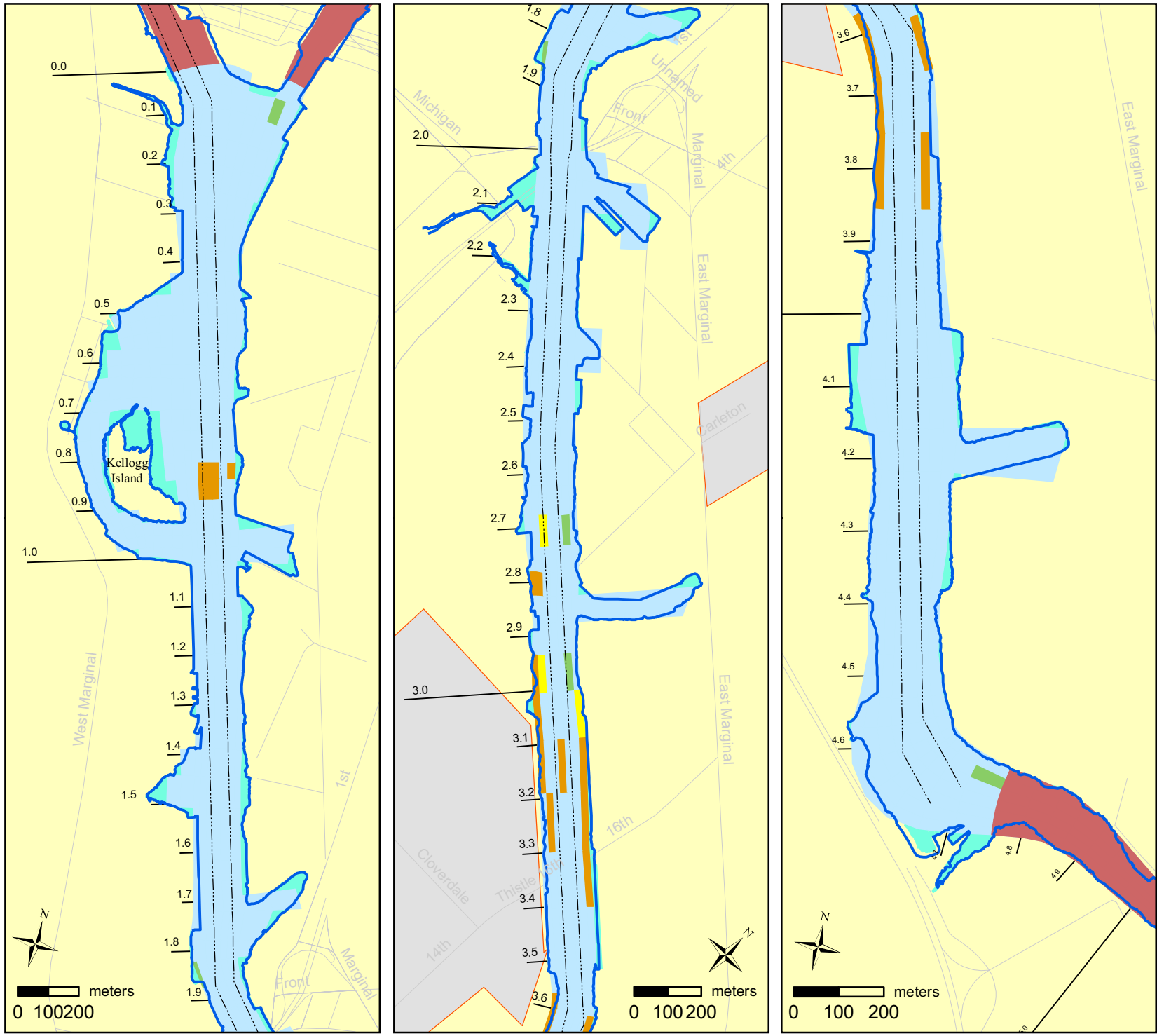

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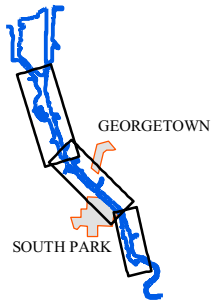

LEGEND

Original bed sediment (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-15.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at the end of 30 years.

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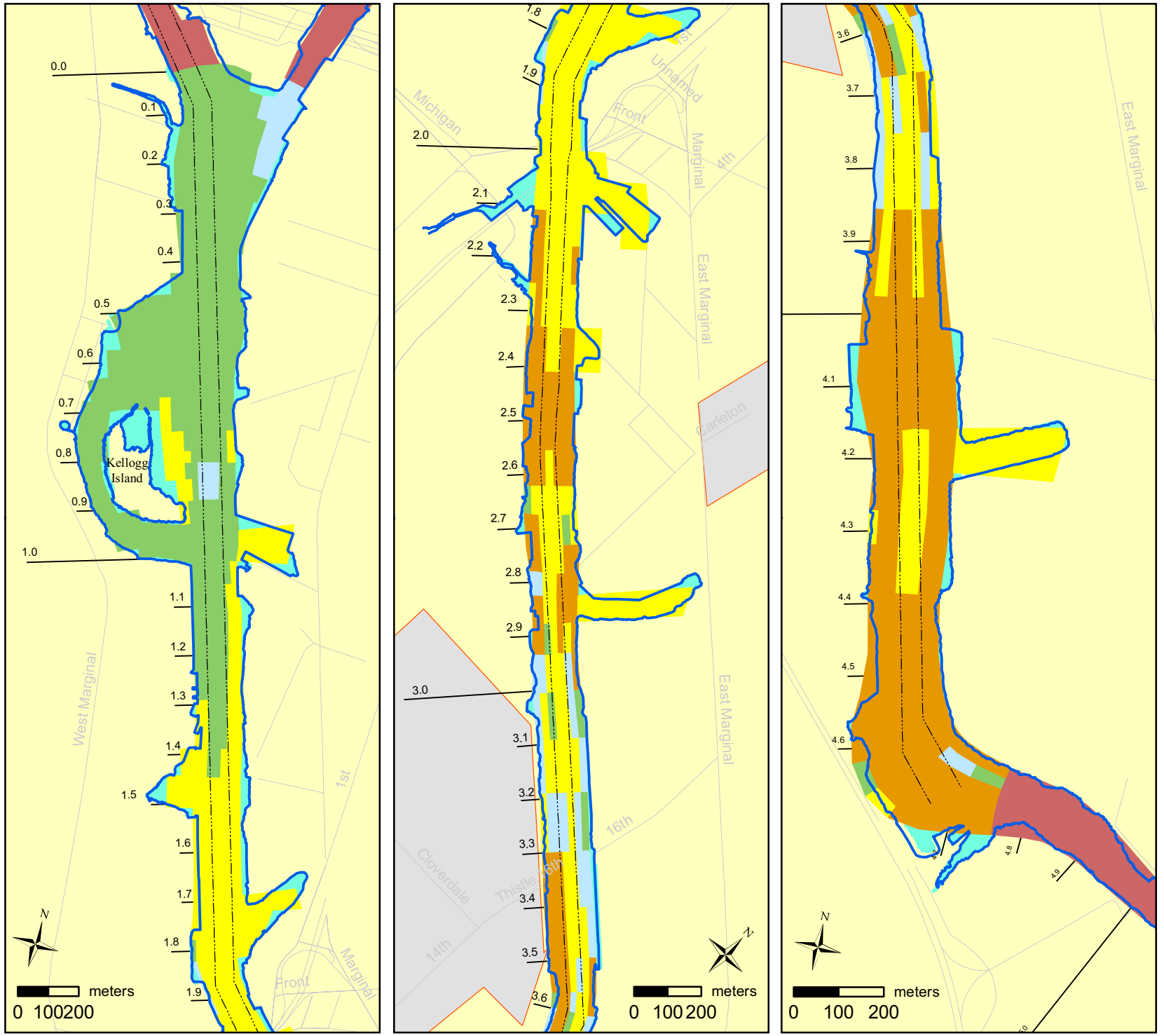
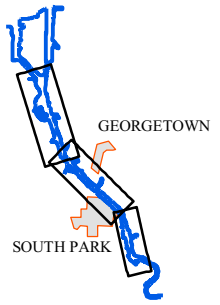


LOCATOR MAP



LEGEND

Upstream source content (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-16.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at the end of 5 years.

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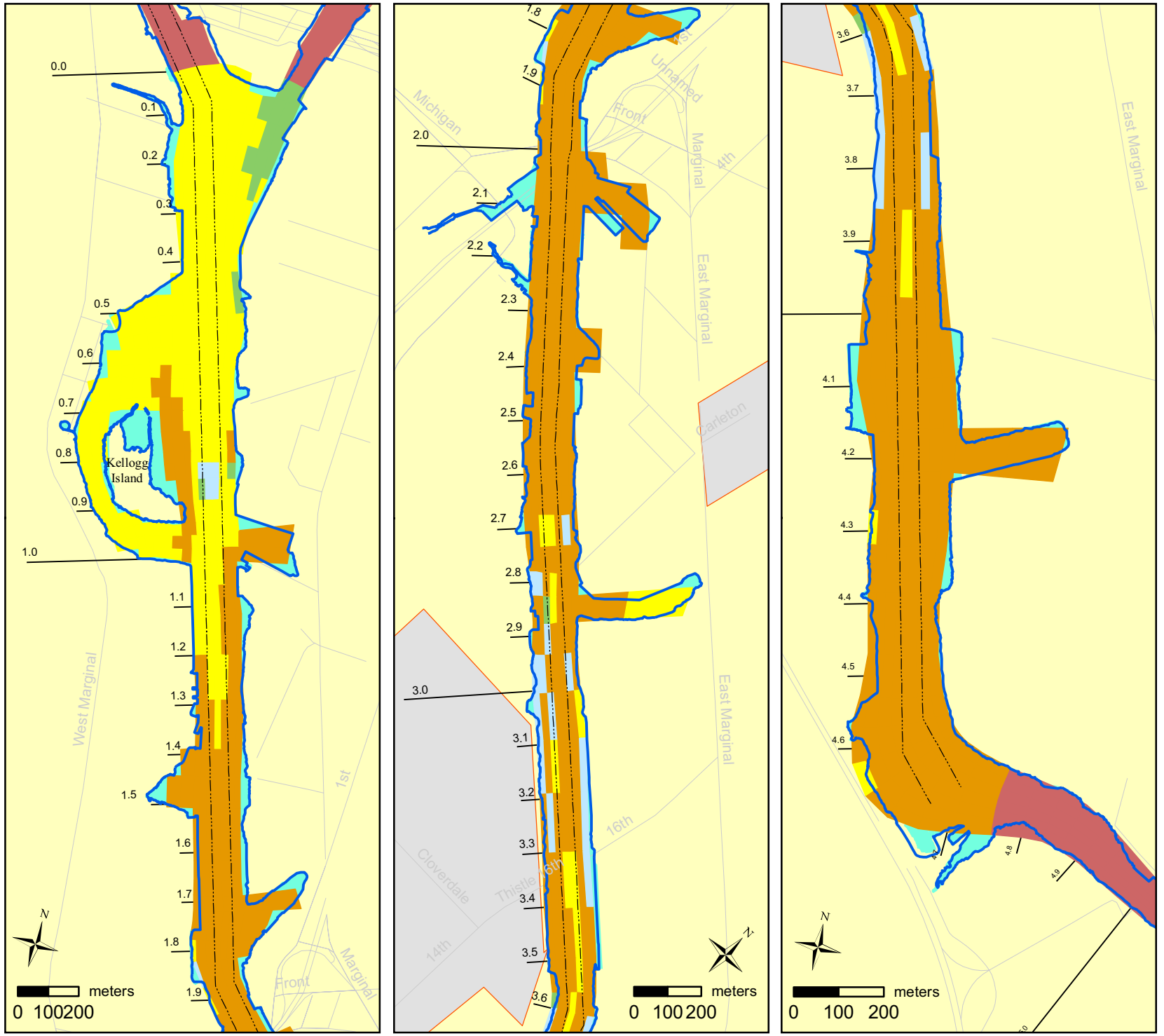

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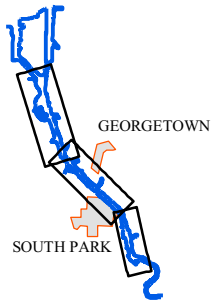

LEGEND

Upstream source content (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-17.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at the end of 10 years.

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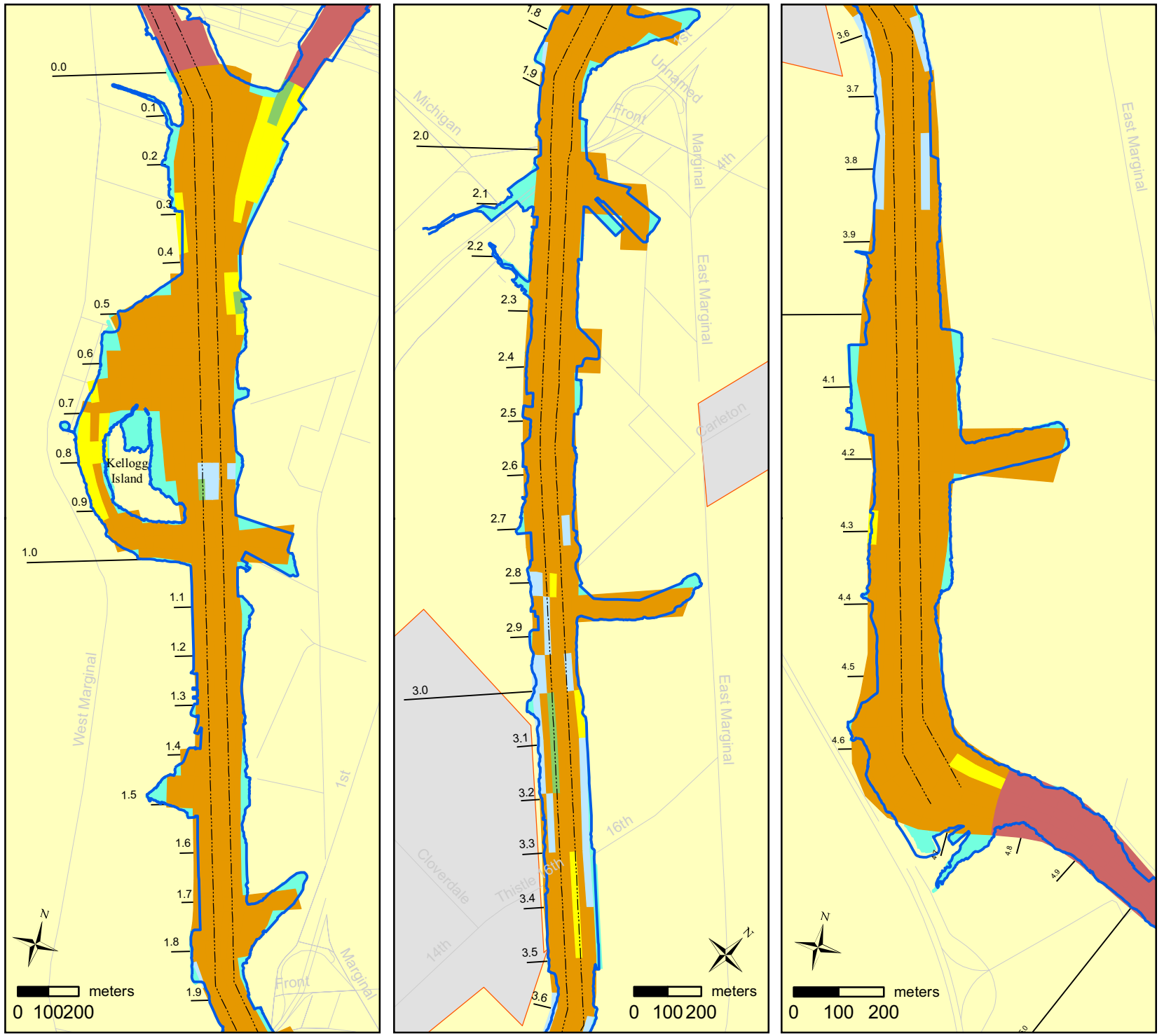

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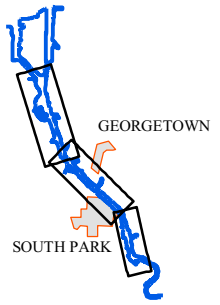

LEGEND

Upstream source content (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-18.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at the end of 15 years.

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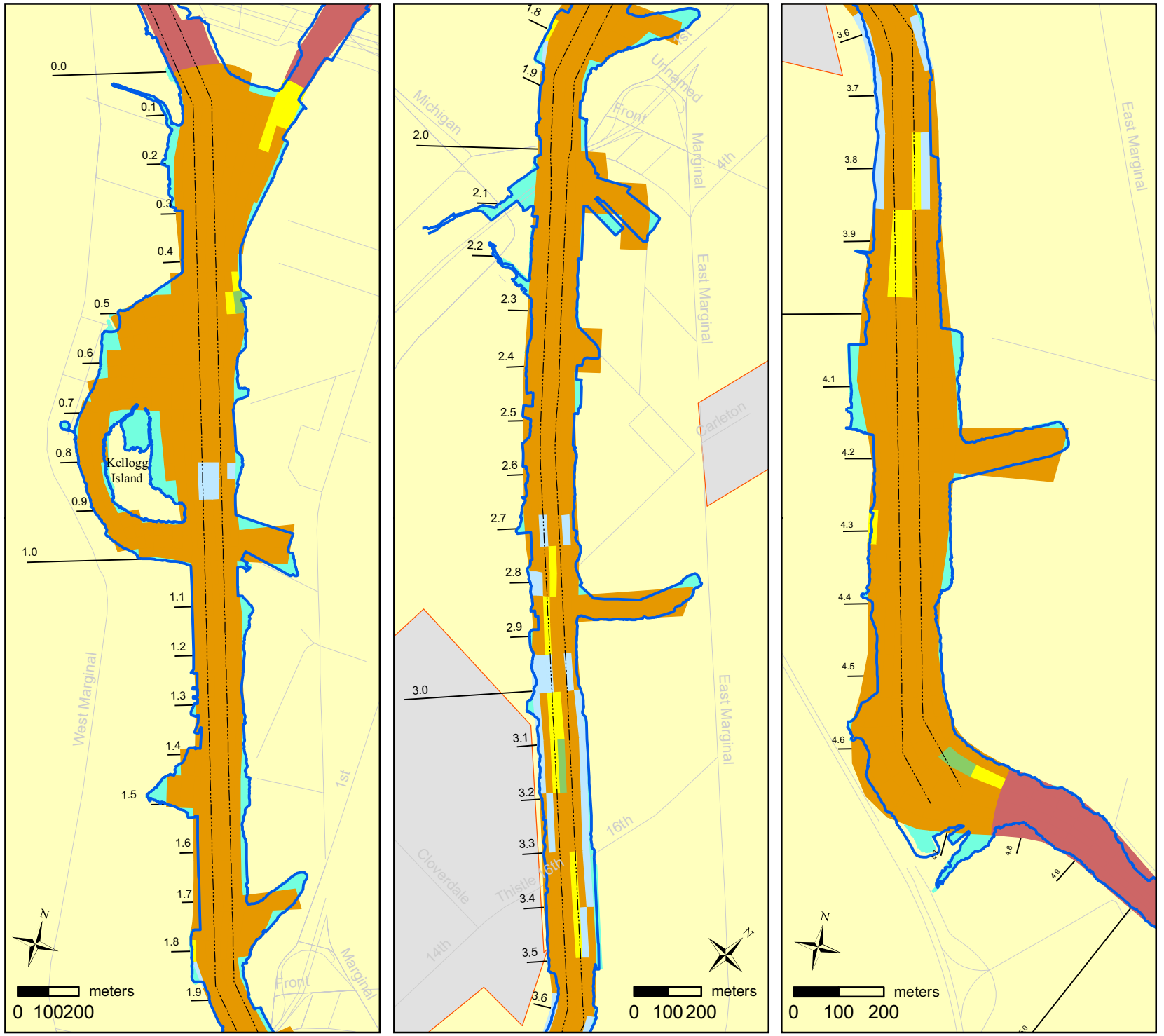

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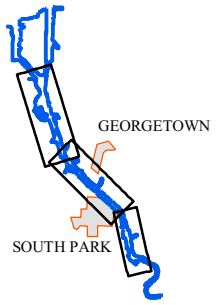

LEGEND

Upstream source content (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-19.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at the end of 20 years.

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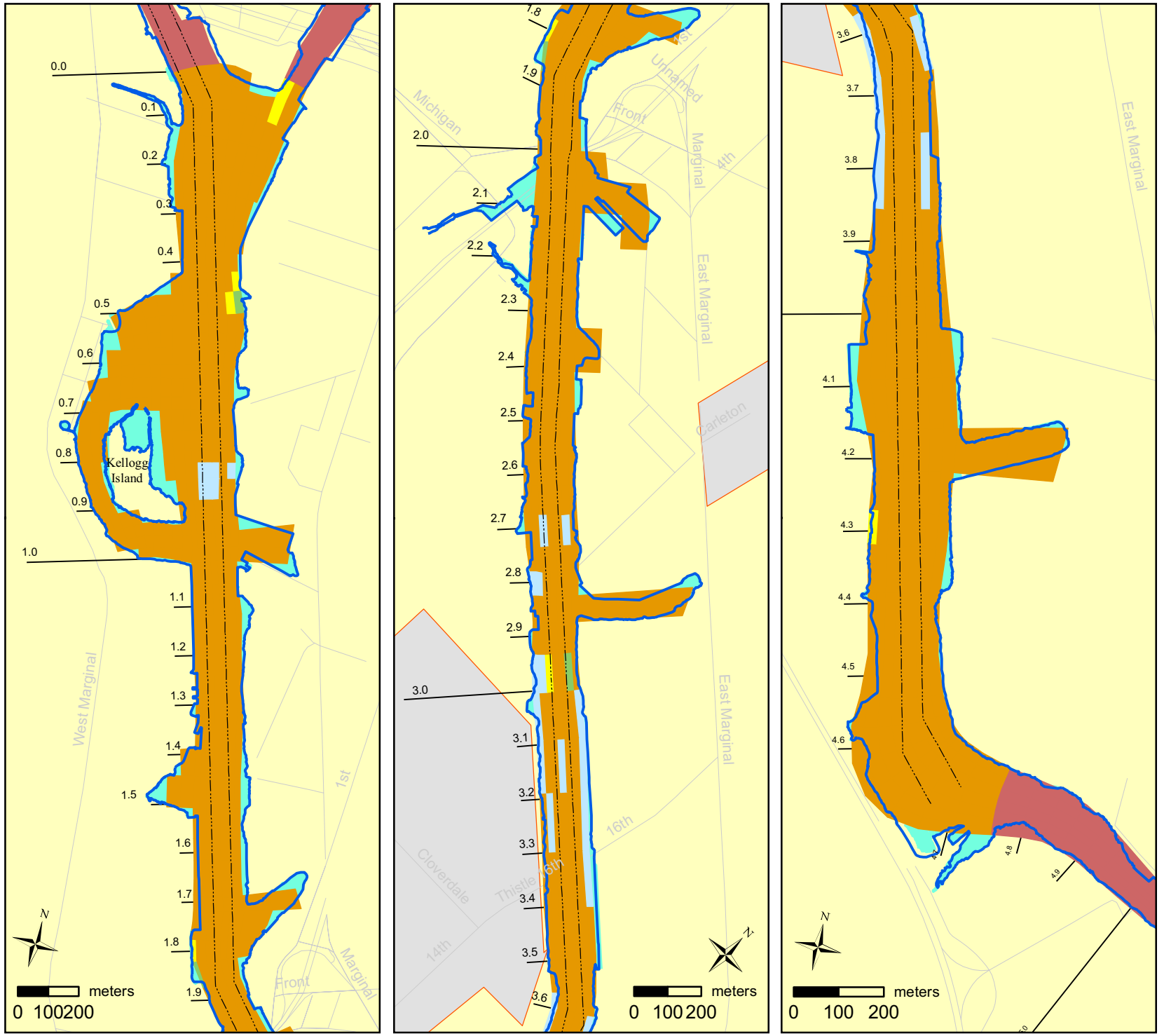
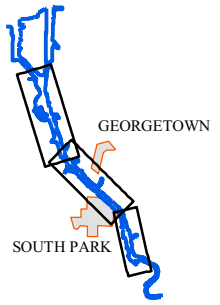


LOCATOR MAP



LEGEND

Upstream source content (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-20.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at the end of 25 years.

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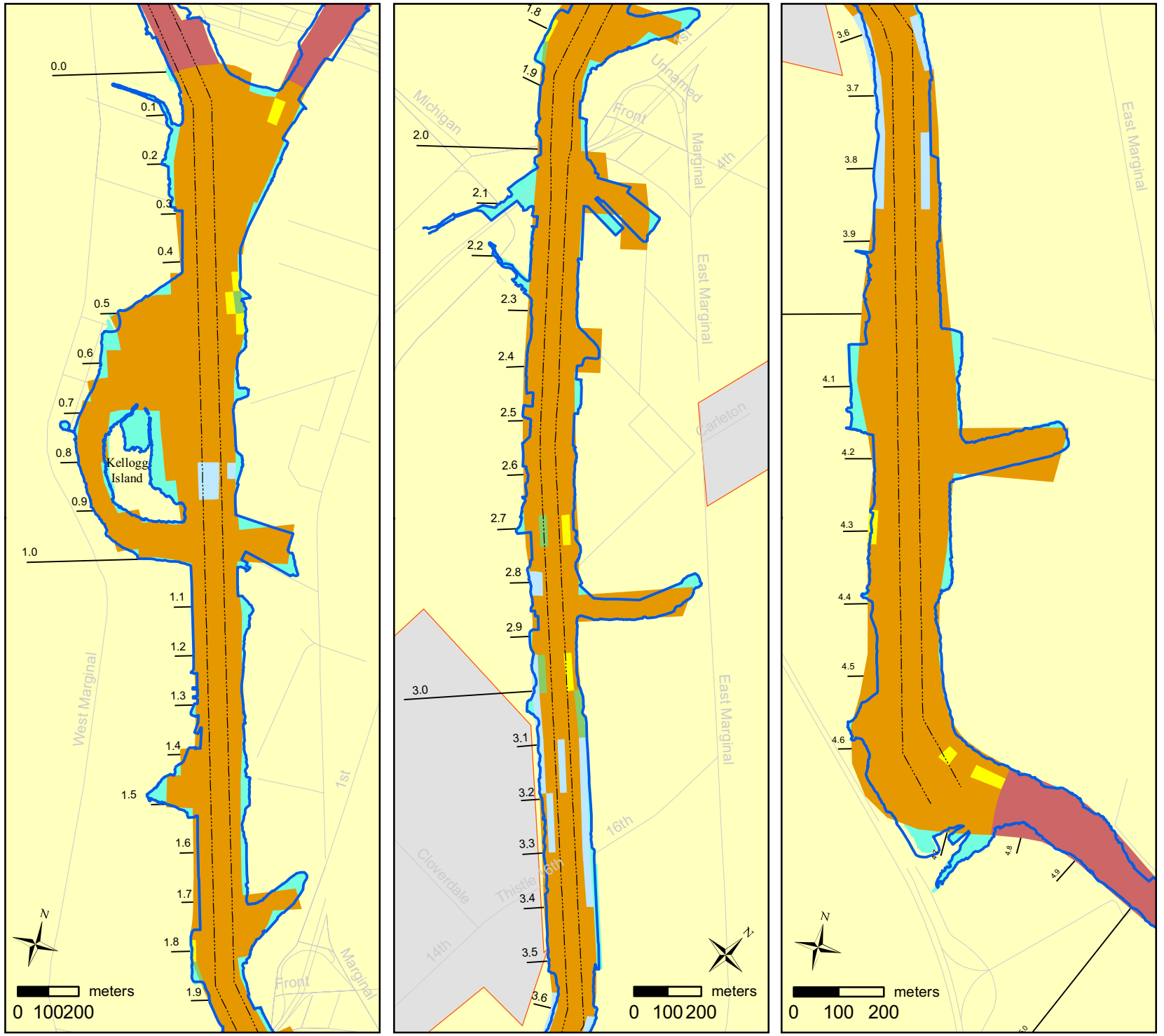

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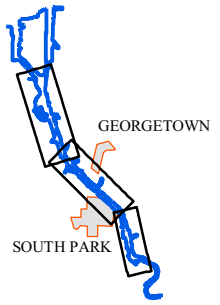

LEGEND

Upstream source content (%)

- 0 - 25
- 25 - 50
- 50 - 75
- 75 - 100
- Navigation channel
- Shore line
- River miles
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-21.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at the end of 30 years.

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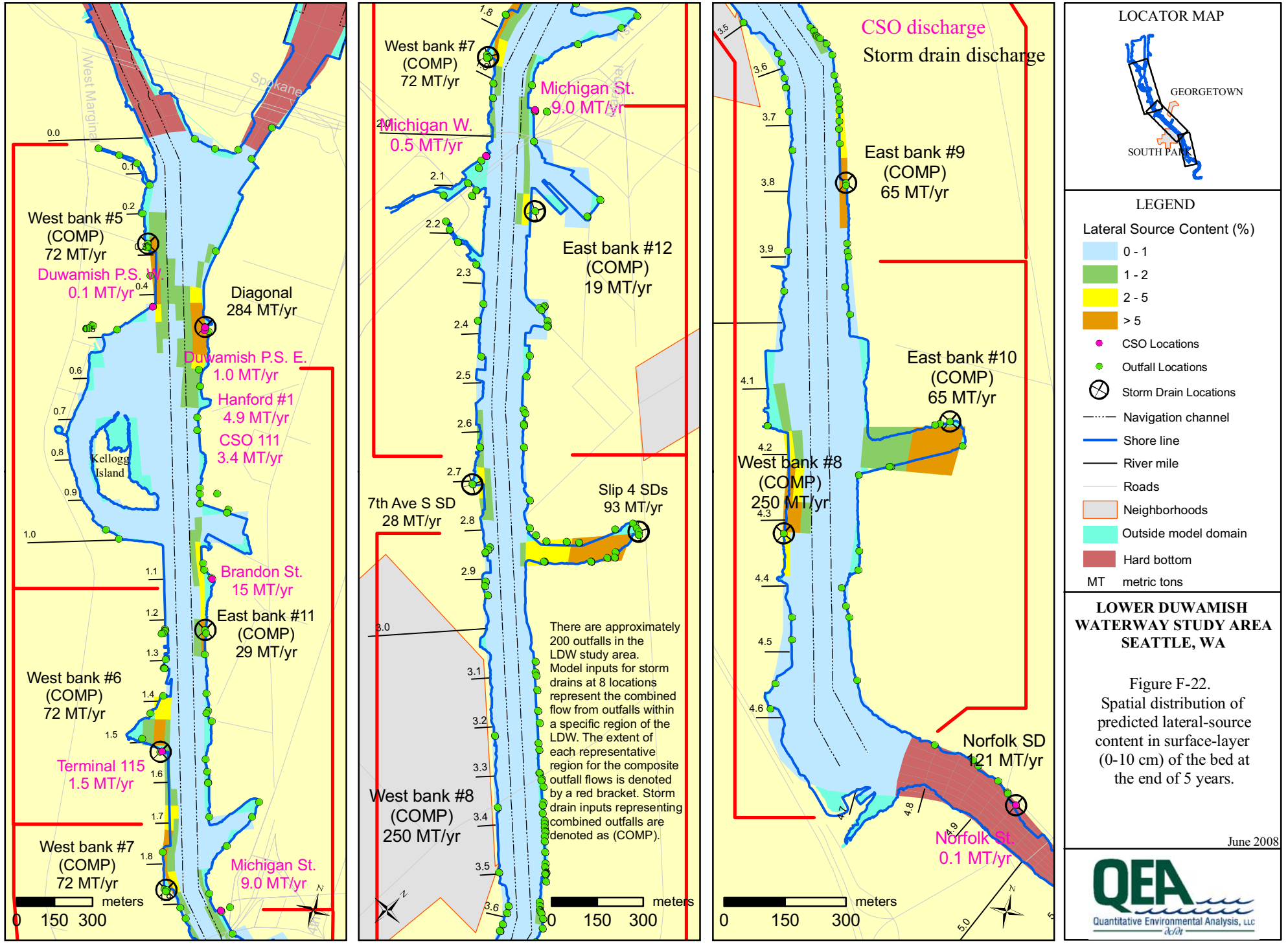

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-22.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 5 years.

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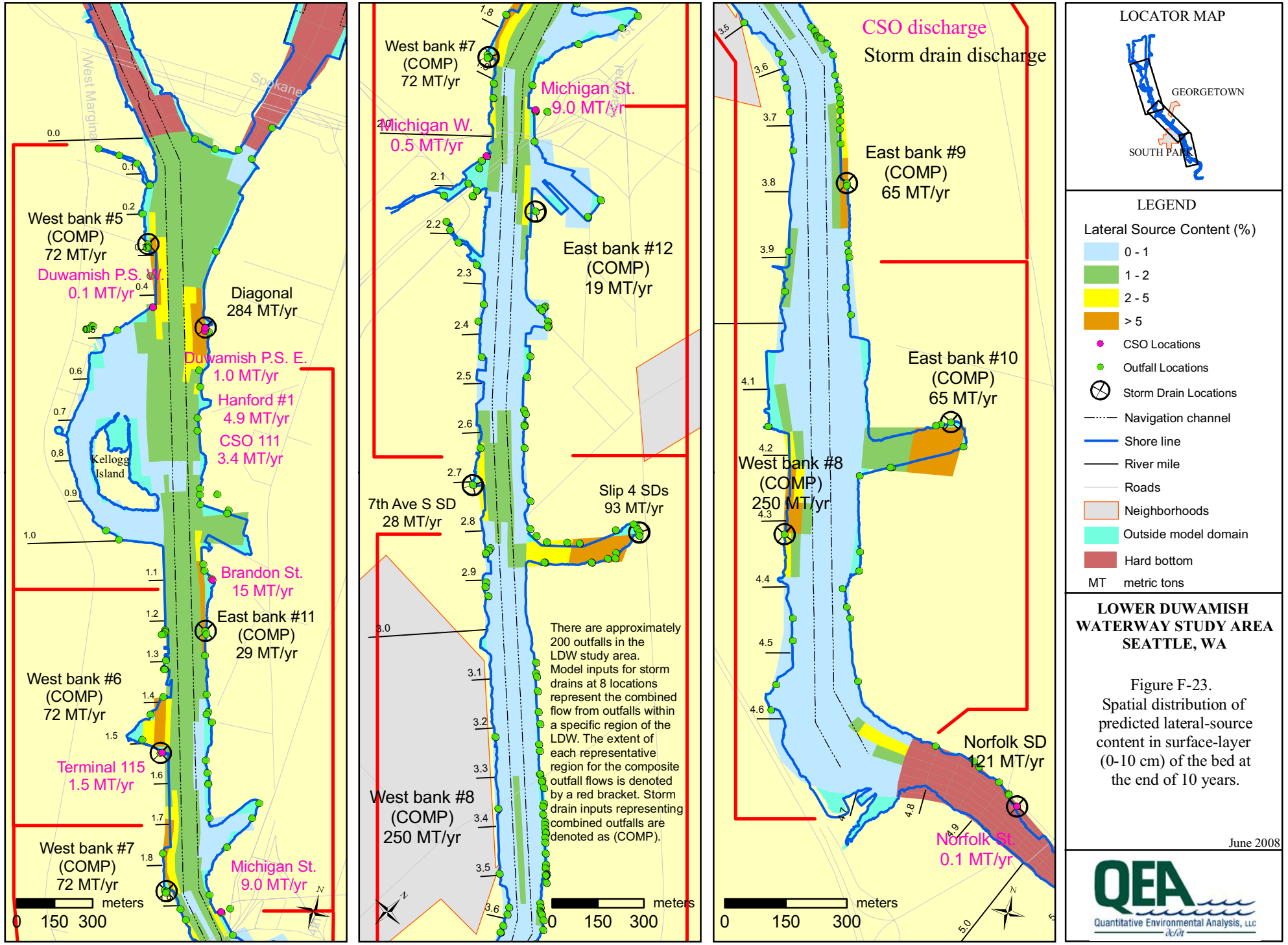


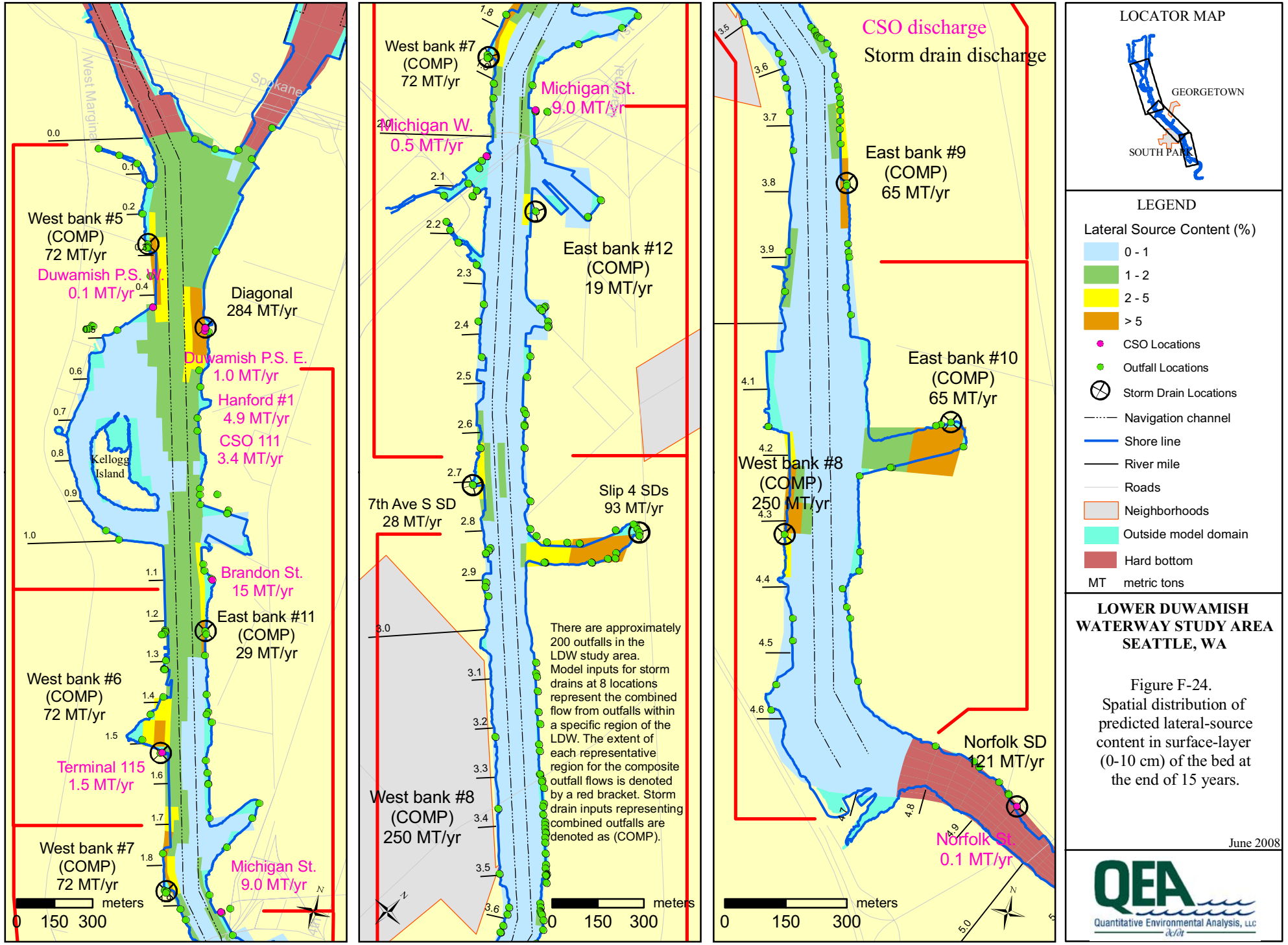
LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-23.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 10 years.

June 2008

Quantitative Environmental Analysis, LLC

FC - \\Gis_station\D_DRIVE\Private\RETIdw\GIS_plot\LatSourcePlot.mxd



LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-24.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 15 years.

June 2008

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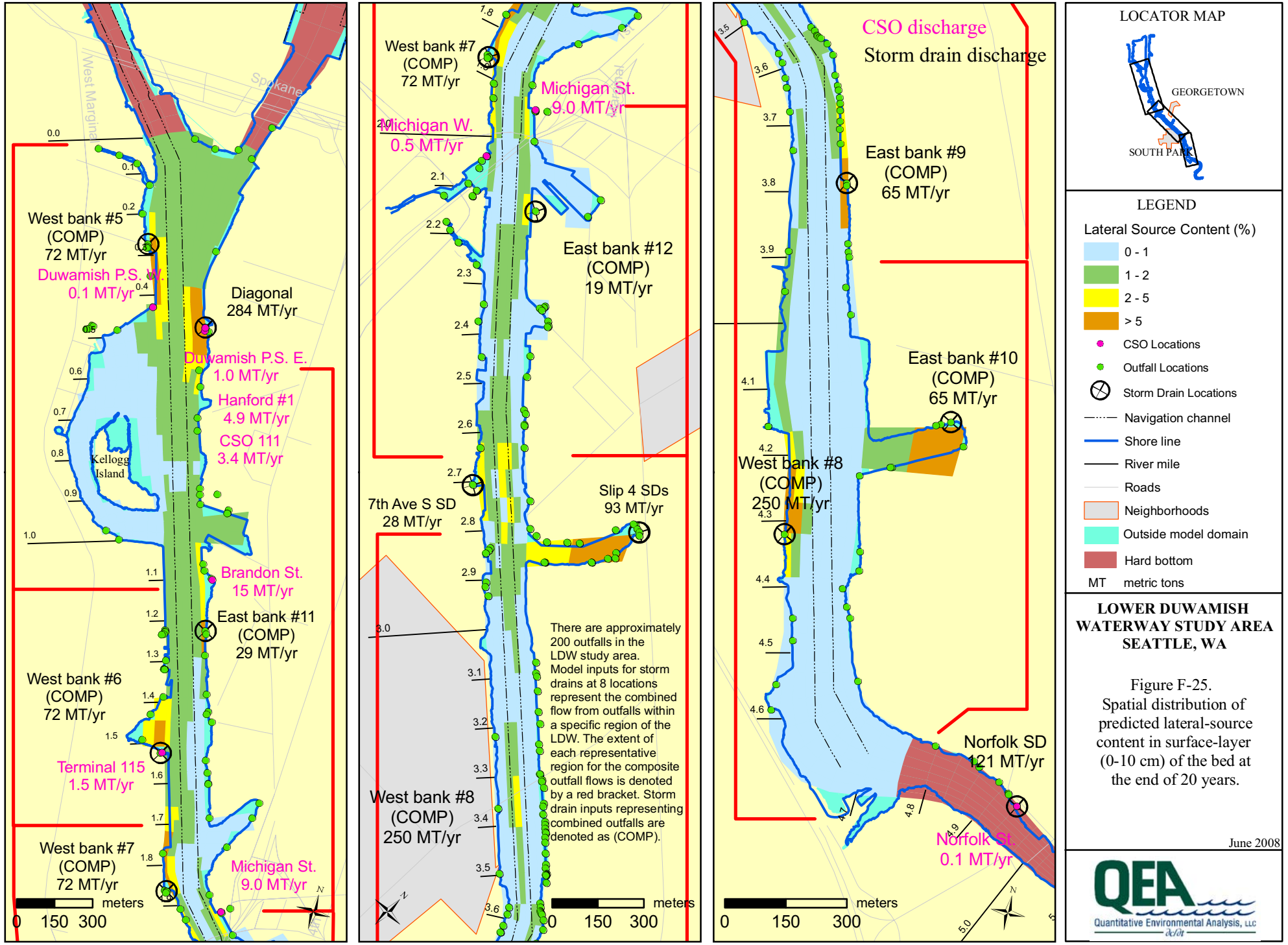

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-25.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 20 years.

June 2008

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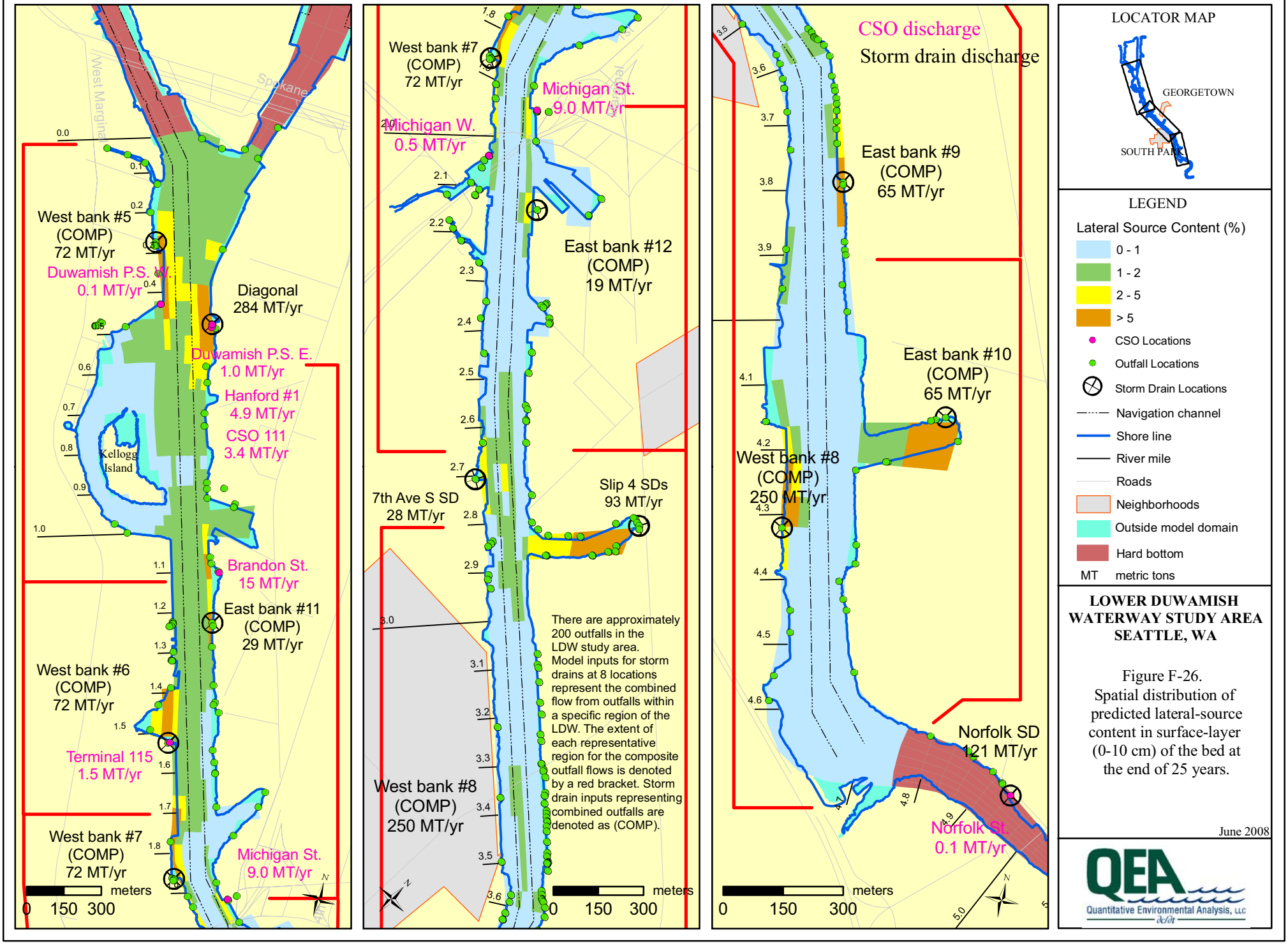

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-26.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 25 years.

June 2008

Quantitative Environmental Analysis, LLC

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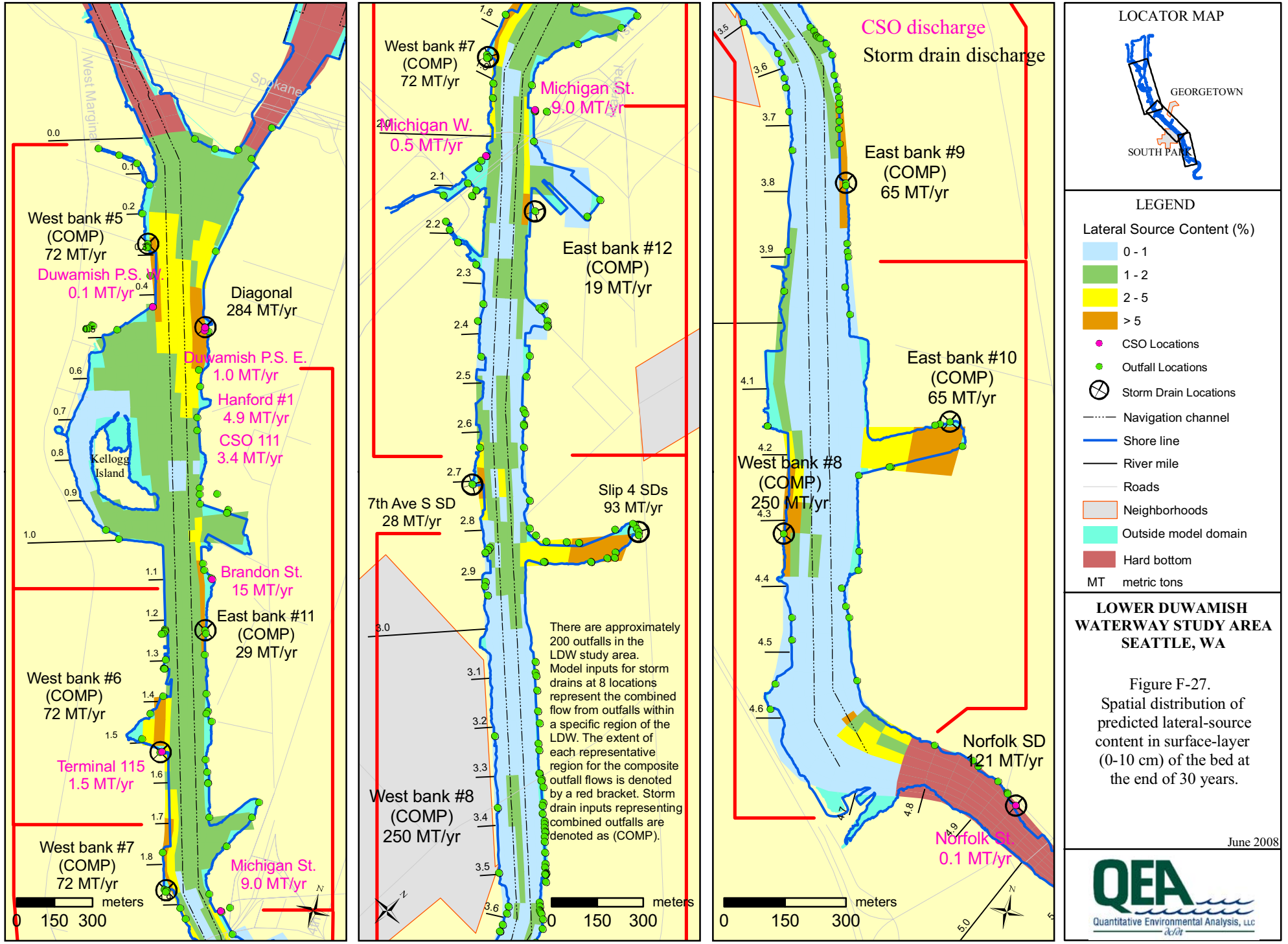

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-27.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 30 years.

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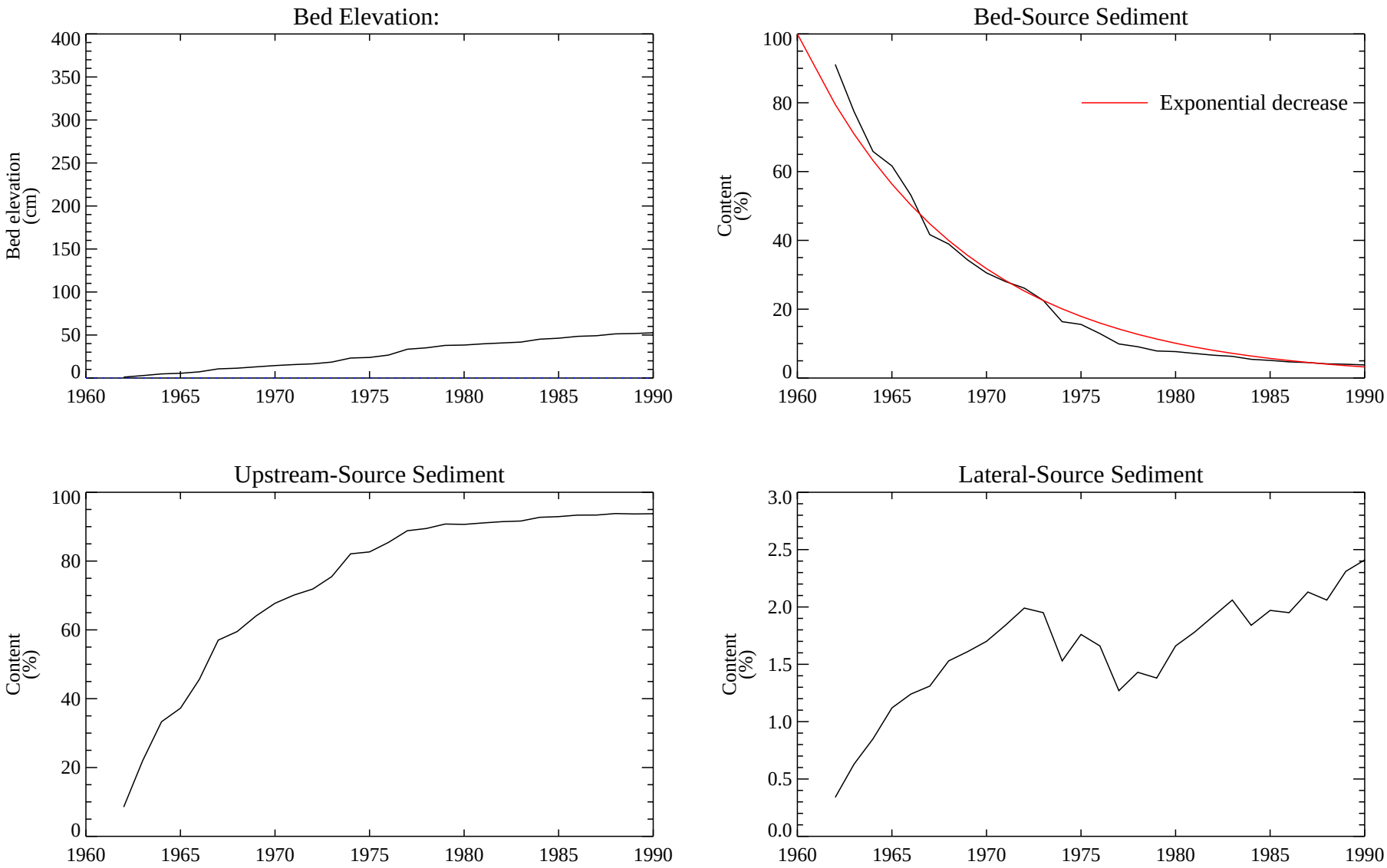


Figure F-28. Time history of predicted reach-average bed elevation and surface-layer composition during 30-year period: Reach 1.

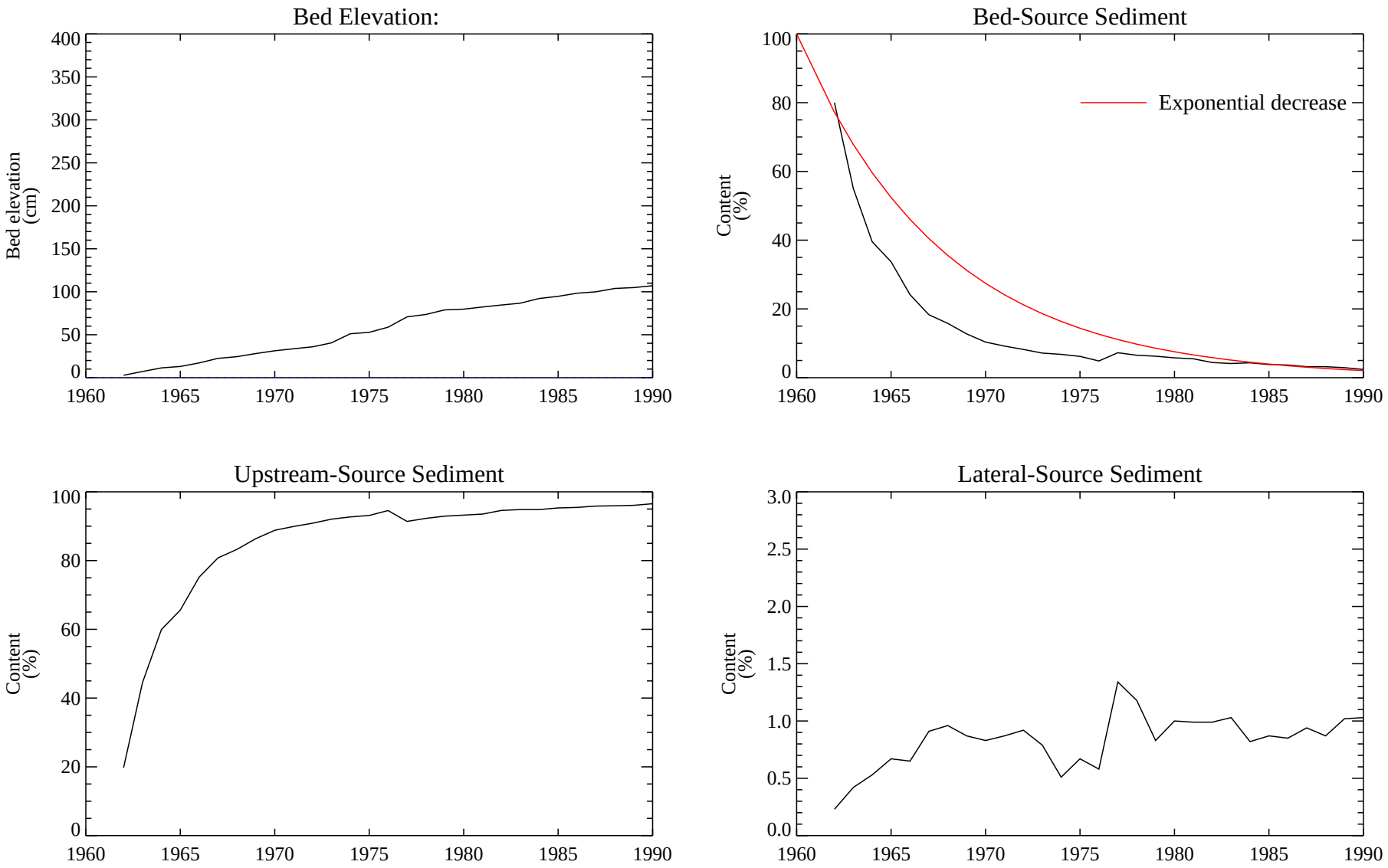


Figure F-29. Time history of predicted reach-average bed elevation and surface-layer composition during 30-year period: Reach 2A.

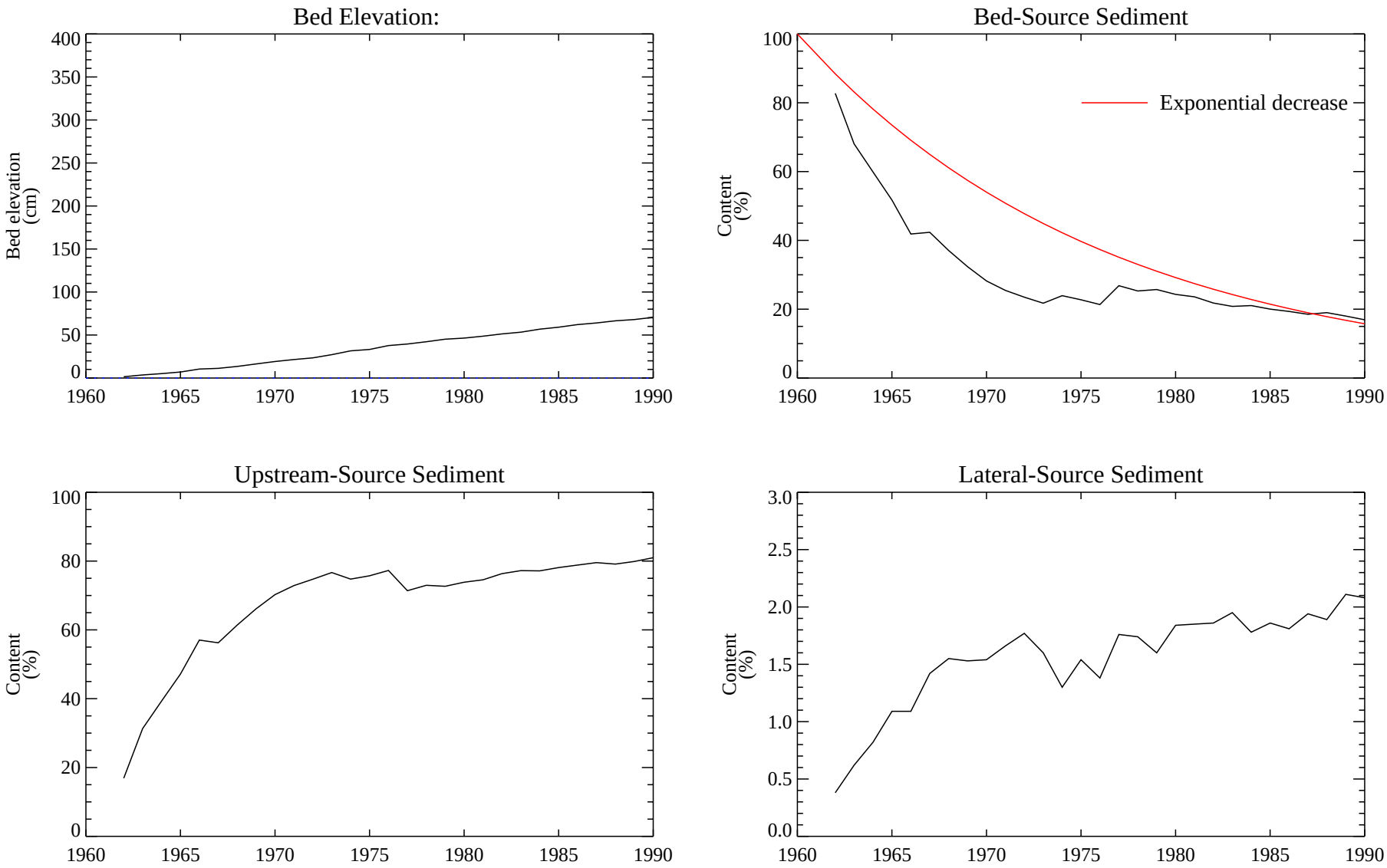


Figure F-30. Time history of predicted reach-average bed elevation and surface-layer composition during 30-year period: Reach 2B.

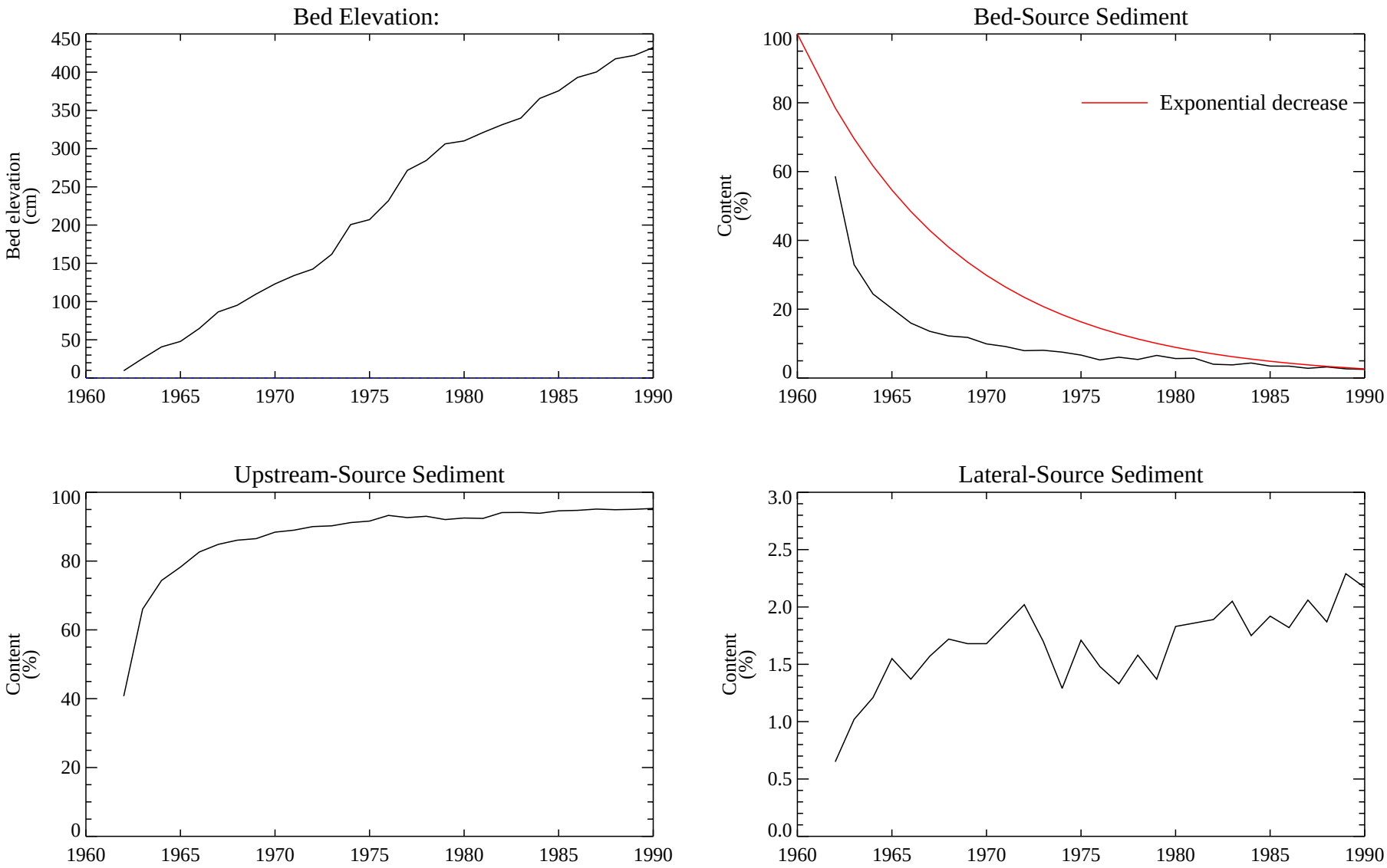
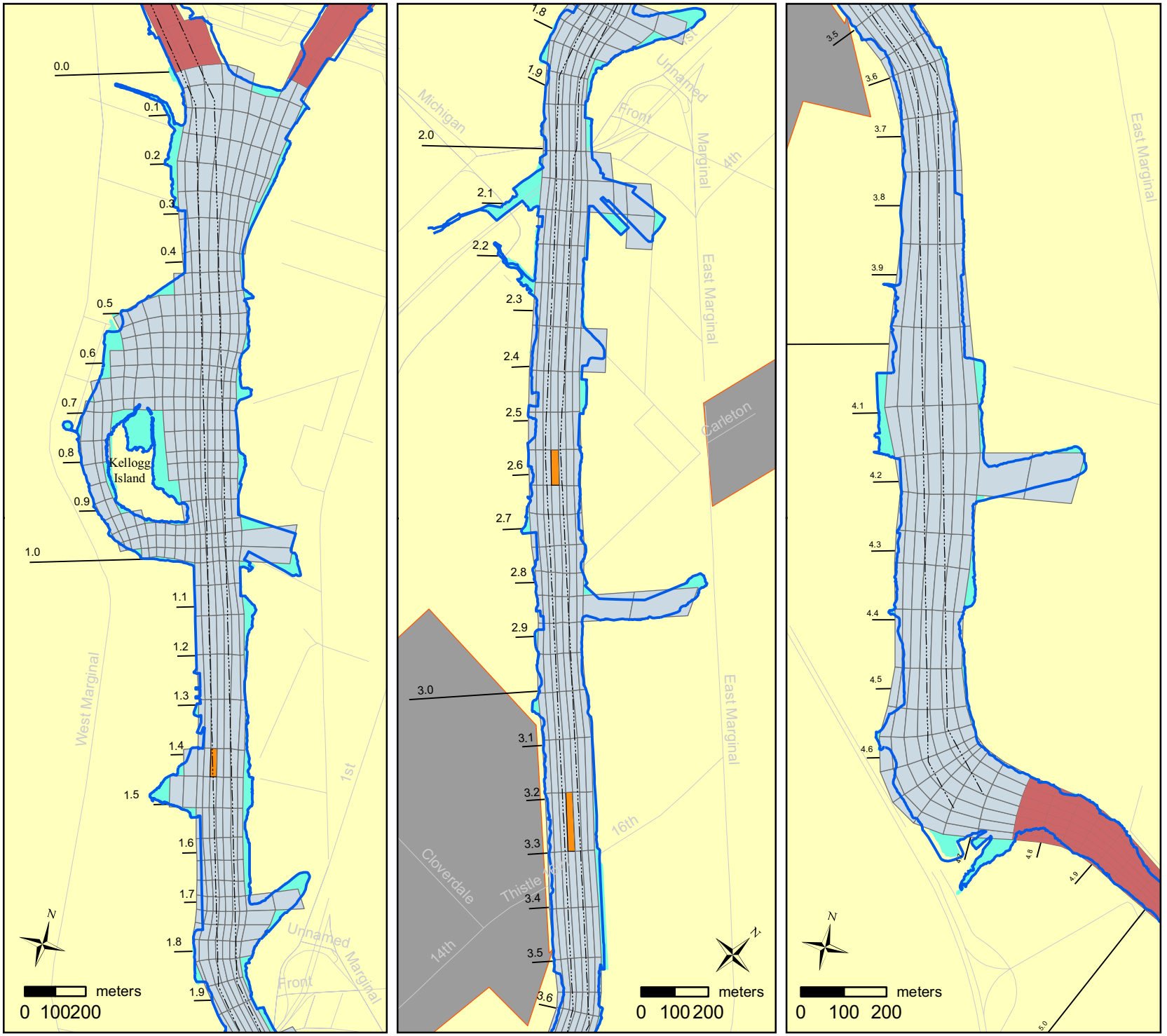
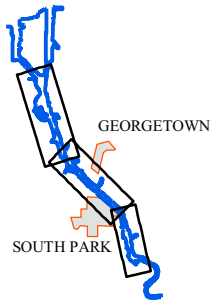


Figure F-31. Time history of predicted reach-average bed elevation and surface-layer composition during 30-year period: Reach 3.



LOCATOR MAP



LEGEND

- Navigation Channel
- Shore Line
- River Mile
- Roads
- Diagnostic analysis locations
- Numerical Grid
- Neighborhoods
- Outside model domain
- Hard bottom area

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-32.
Numerical grid with highlighted locations for diagnostic analysis in sediment transport modeling study.

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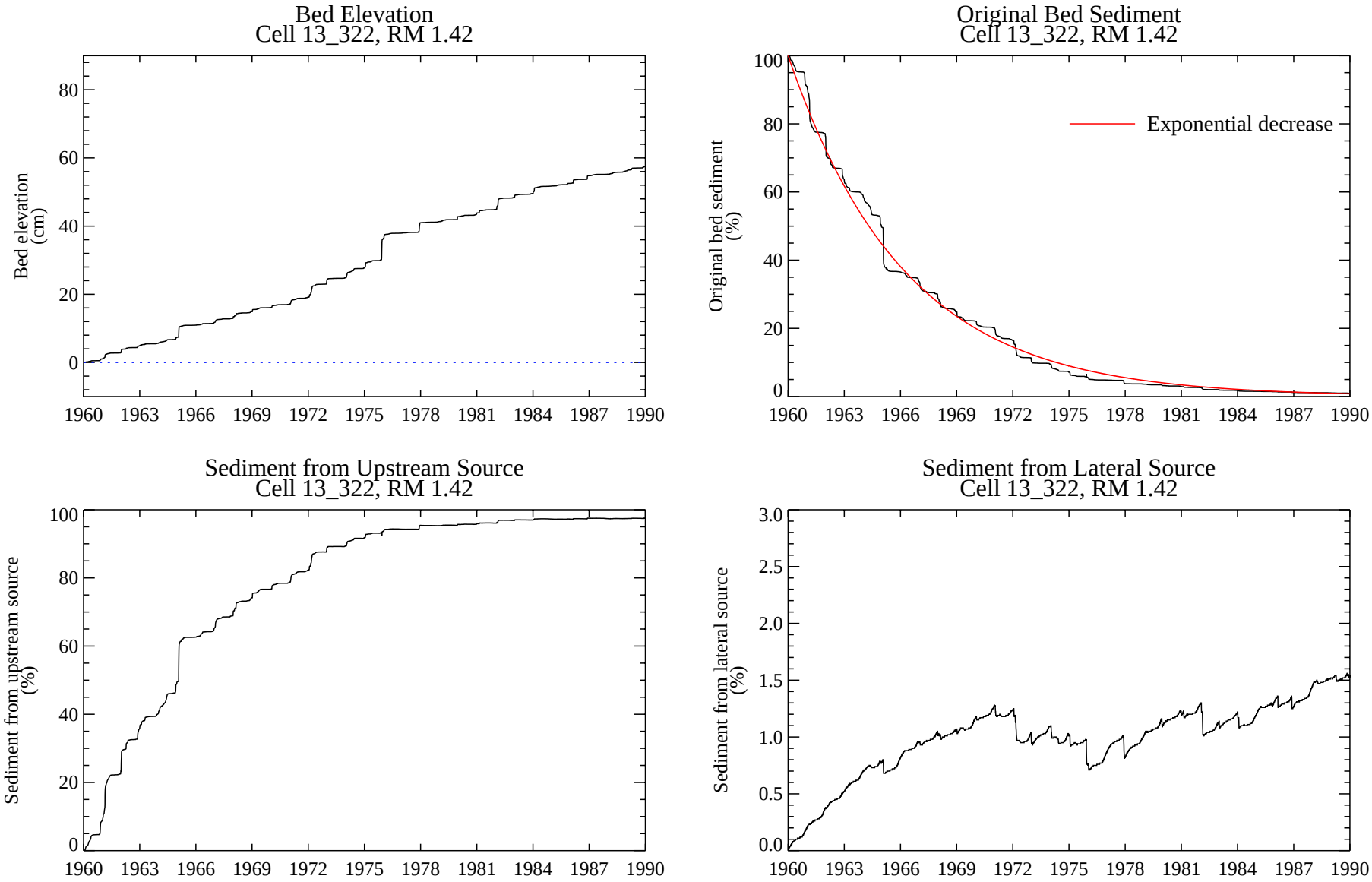


Figure F-33. Time history of predicted bed elevation and surface-layer composition at specific grid cell during 30-year period: RM 1.42.

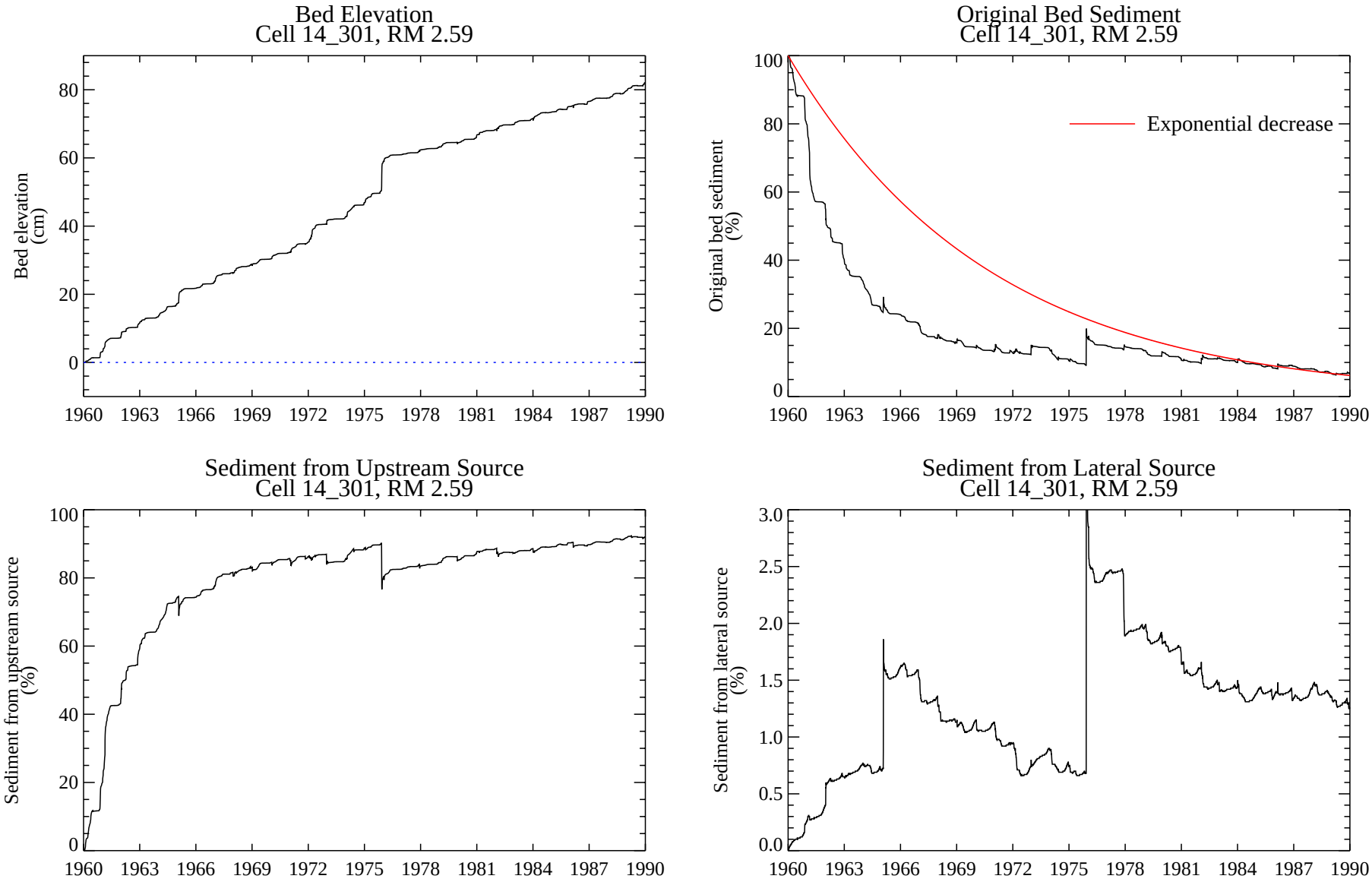


Figure F-34. Time history of predicted bed elevation and surface-layer composition at specific grid cell during 30-year period: RM 2.59.

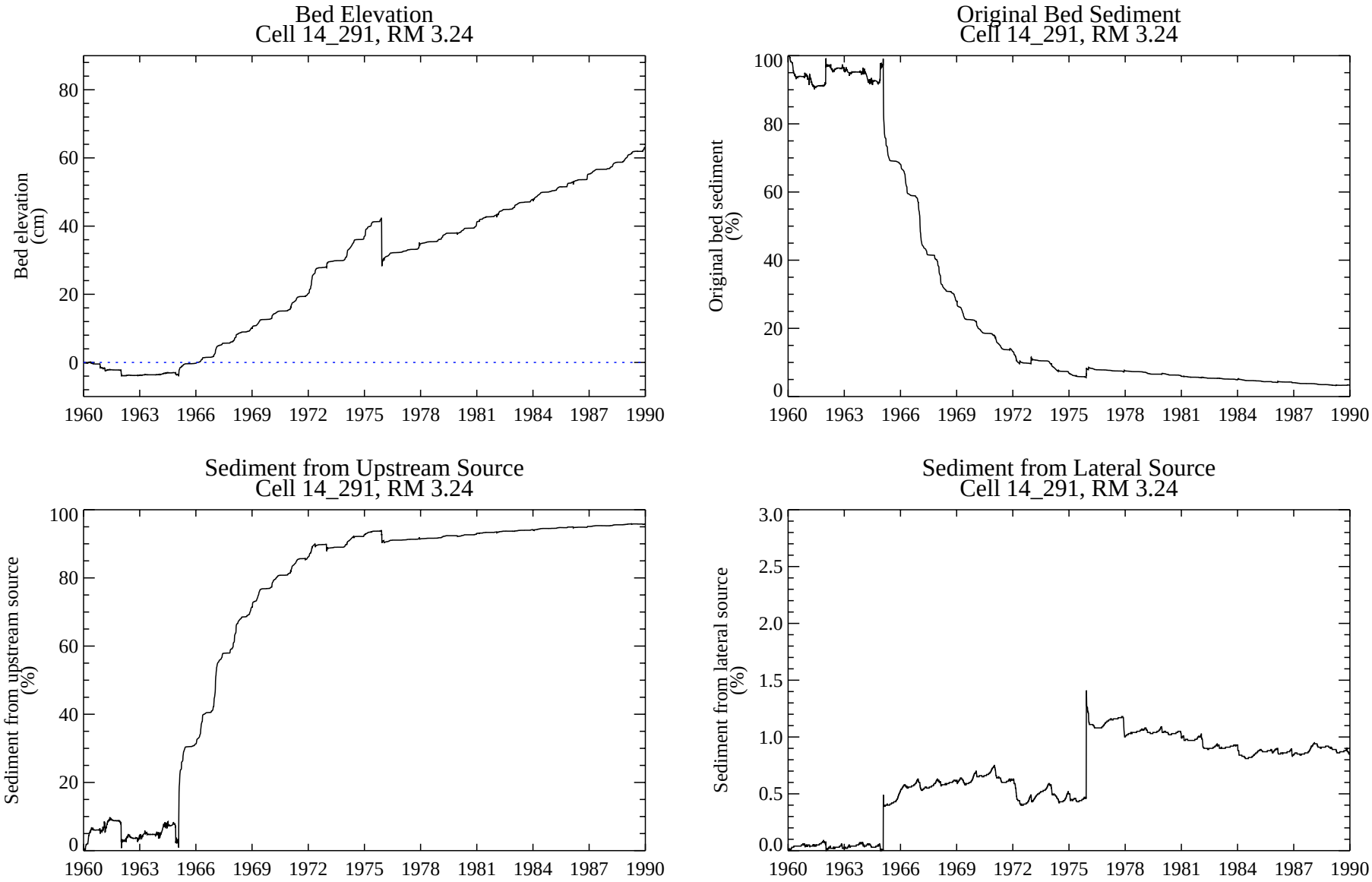


Figure F-35. Time history of predicted bed elevation and surface-layer composition at specific grid cell during 30-year period: RM 3.24.

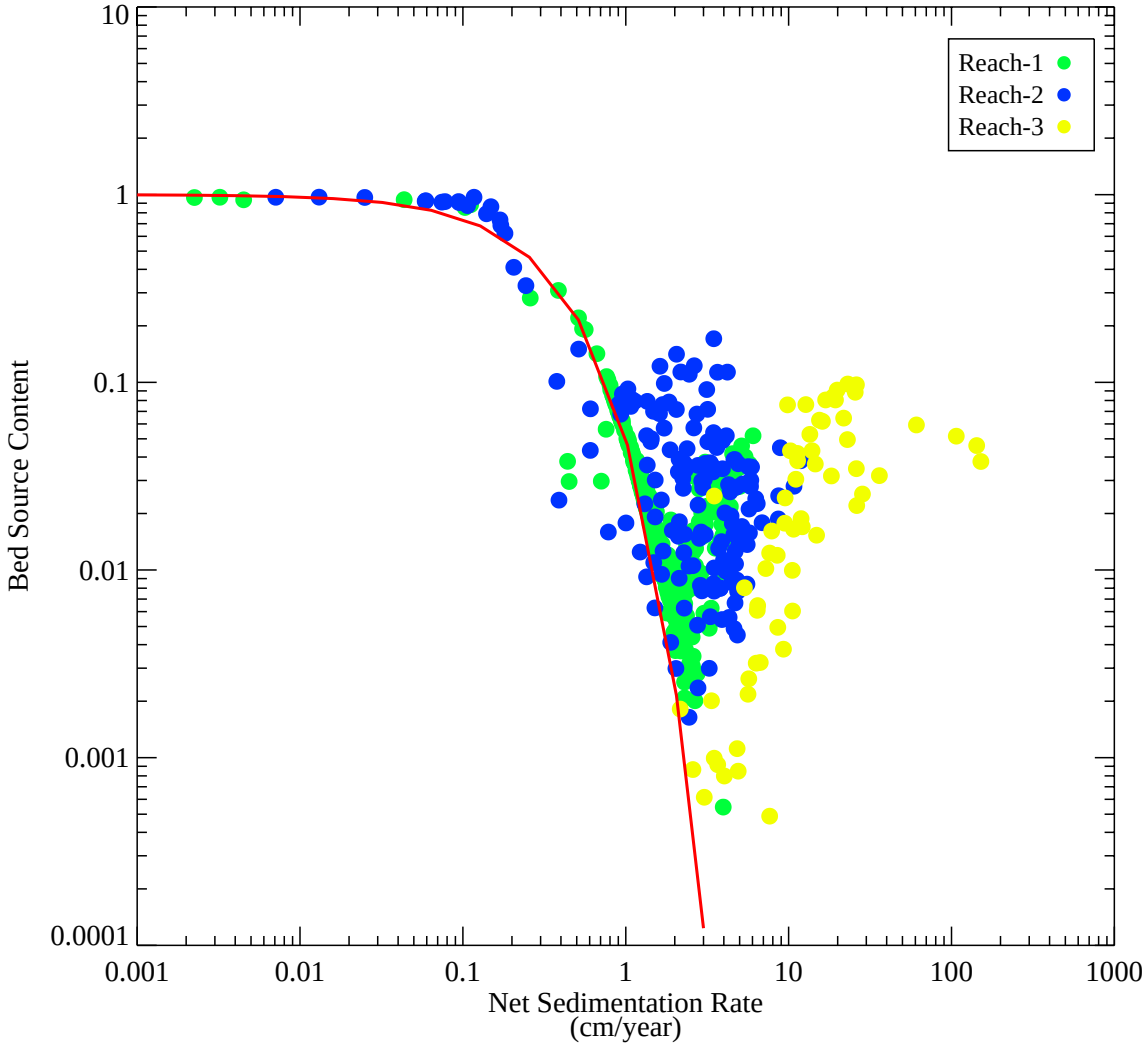


Figure F-36. Bed-source content in surface layer at end of 30-year period as a function of net sedimentation rate. Red line is theoretical relationship based on exponential decrease due to deposition.

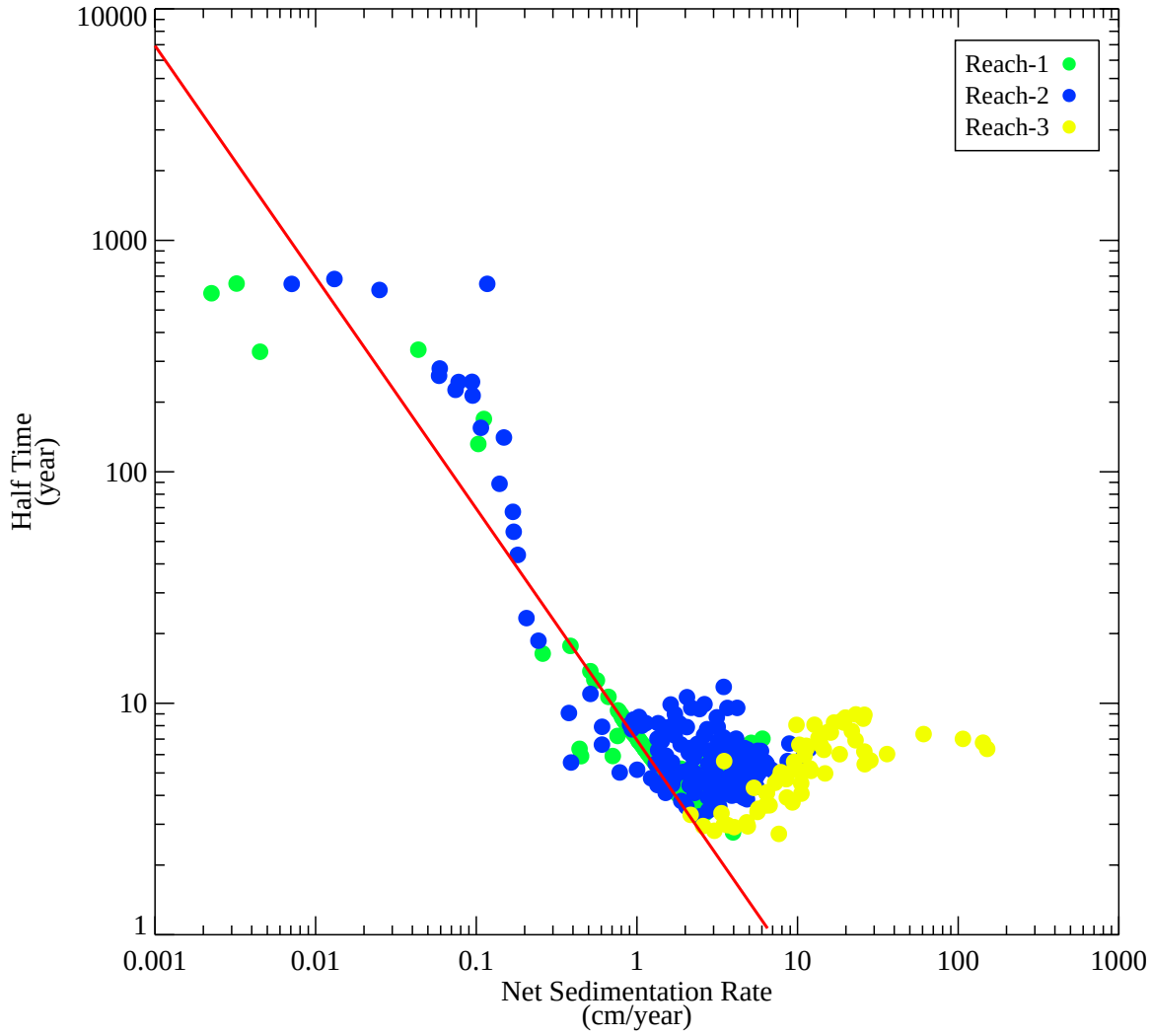
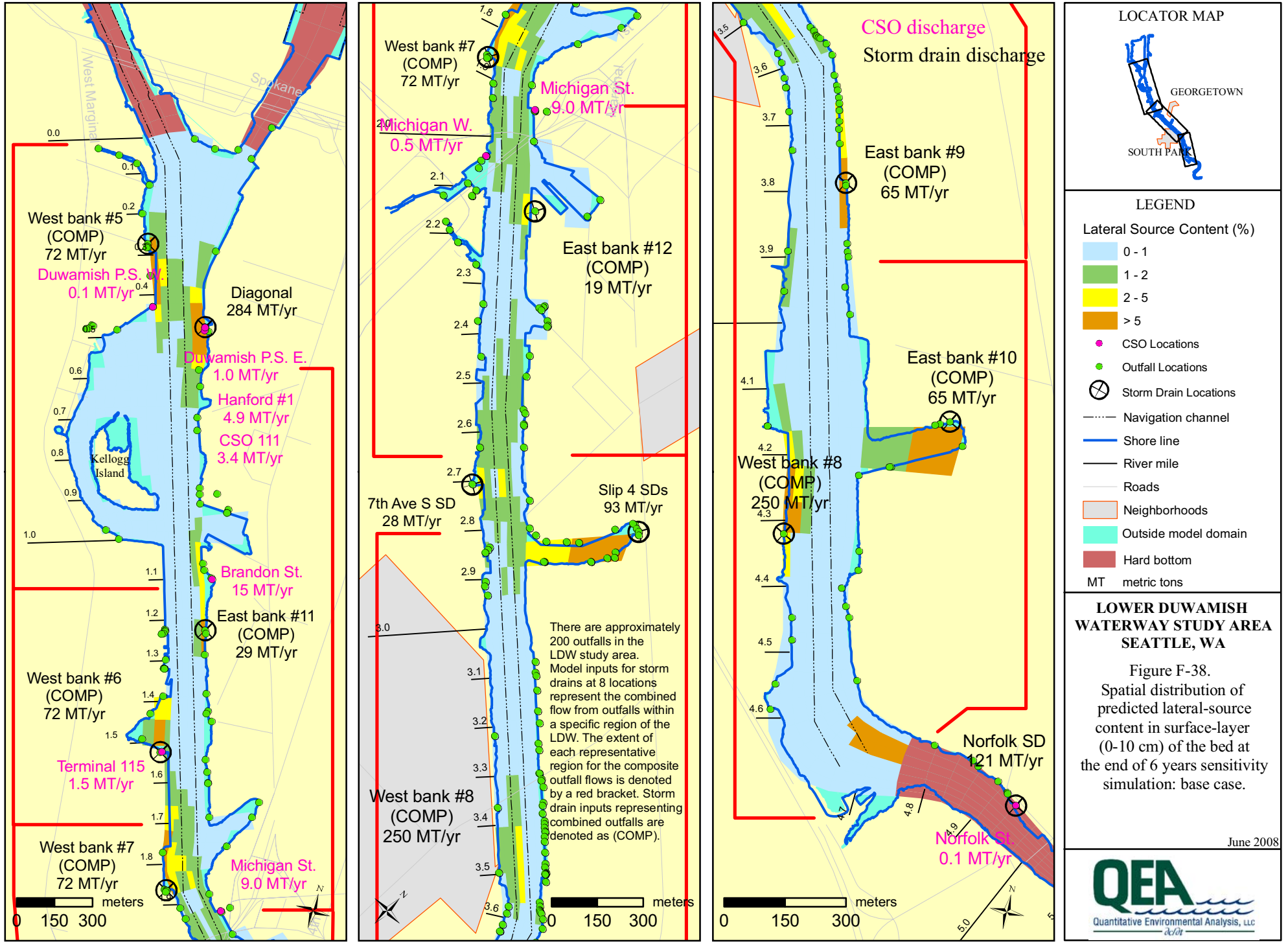


Figure F-37. Half-time of bed-source content in surface layer for 30-year period as a function of net sedimentation rate. Red line is theoretical relationship based on exponential decrease due to deposition.



LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-38.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: base case.

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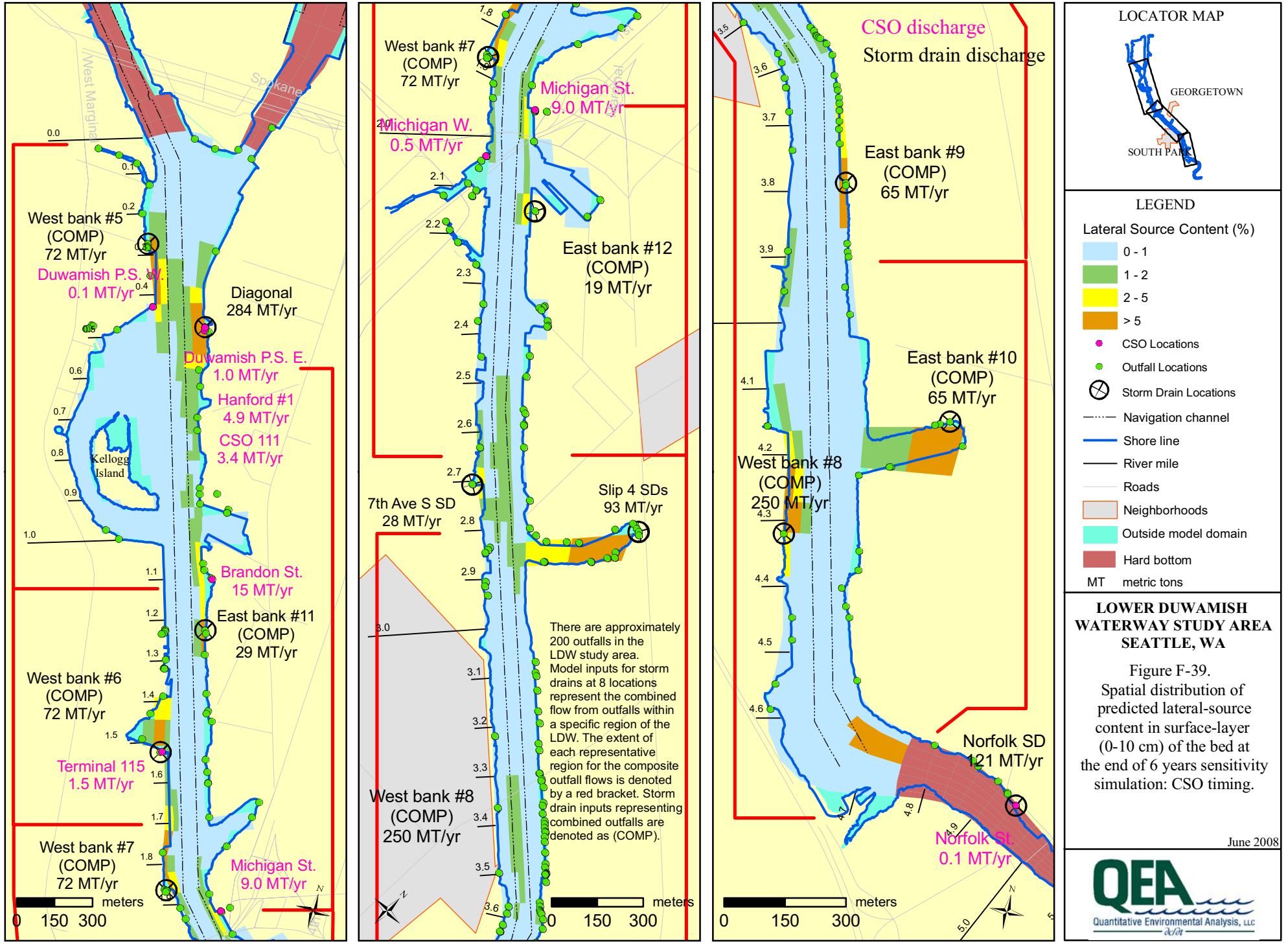

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Figure F-39.
Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: CSO timing.

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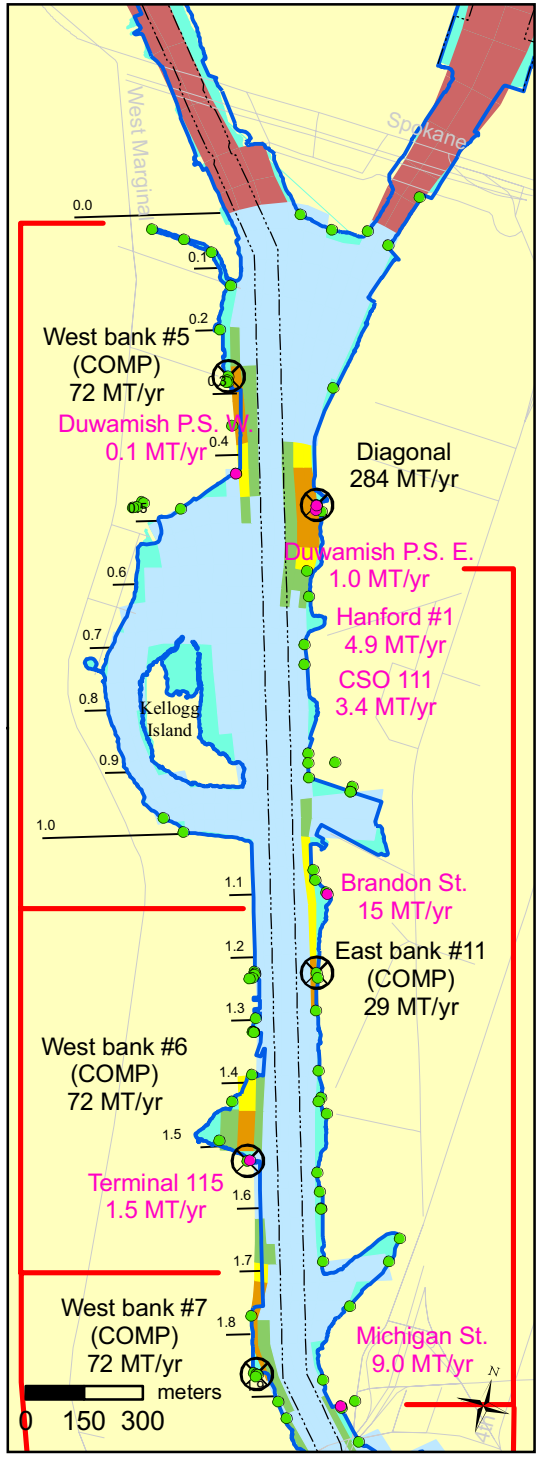

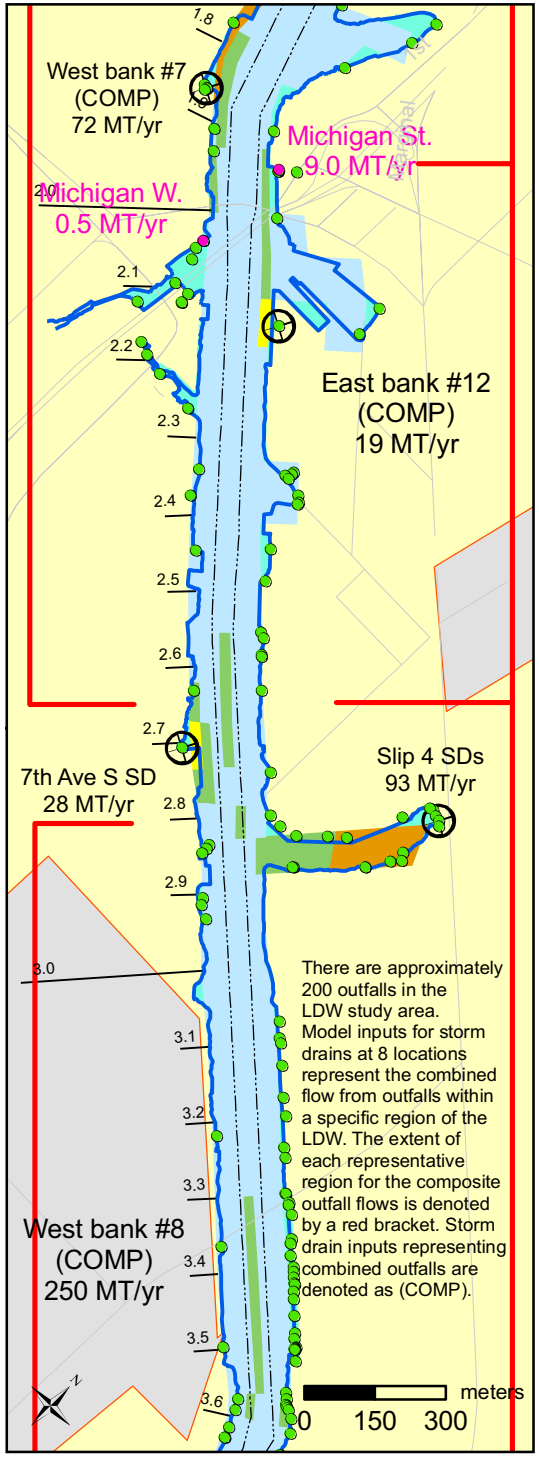

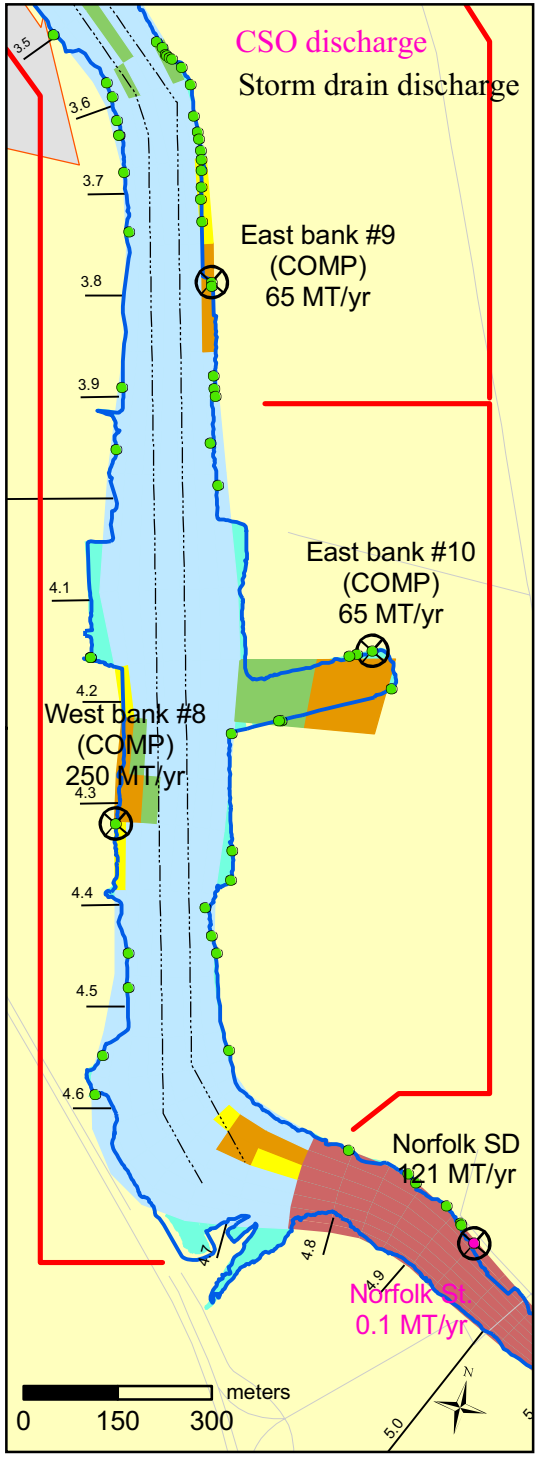

LOCATOR MAP

LEGEND

Lateral Source Content (%)

- 0 - 1
- 1 - 2
- 2 - 5
- > 5
- CSO Locations
- Outfall Locations
- Storm Drain Locations
- Navigation channel
- Shore line
- River mile
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

MT metric tons

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-40. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: lower-bound lateral sediment load.

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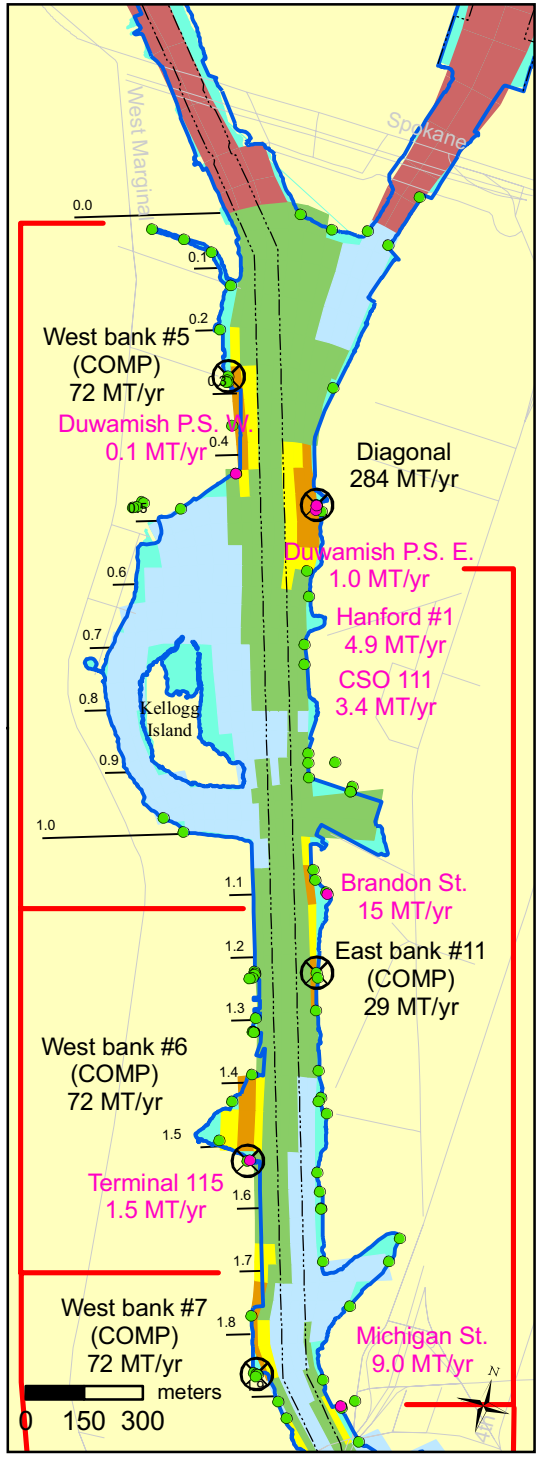

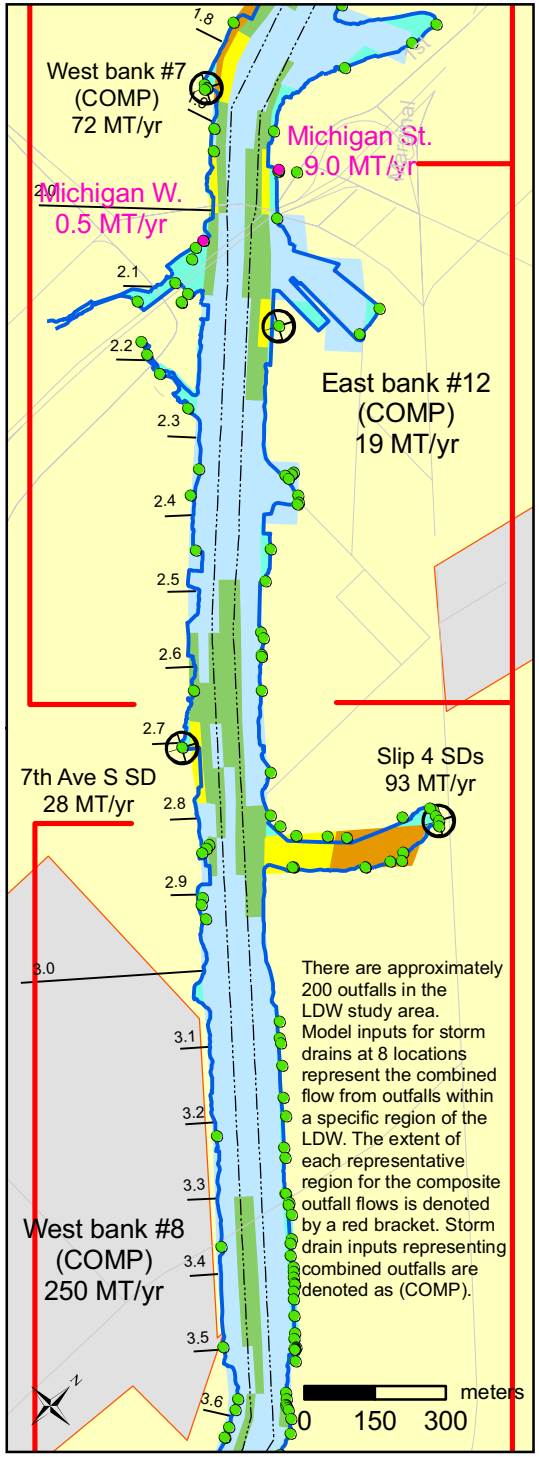

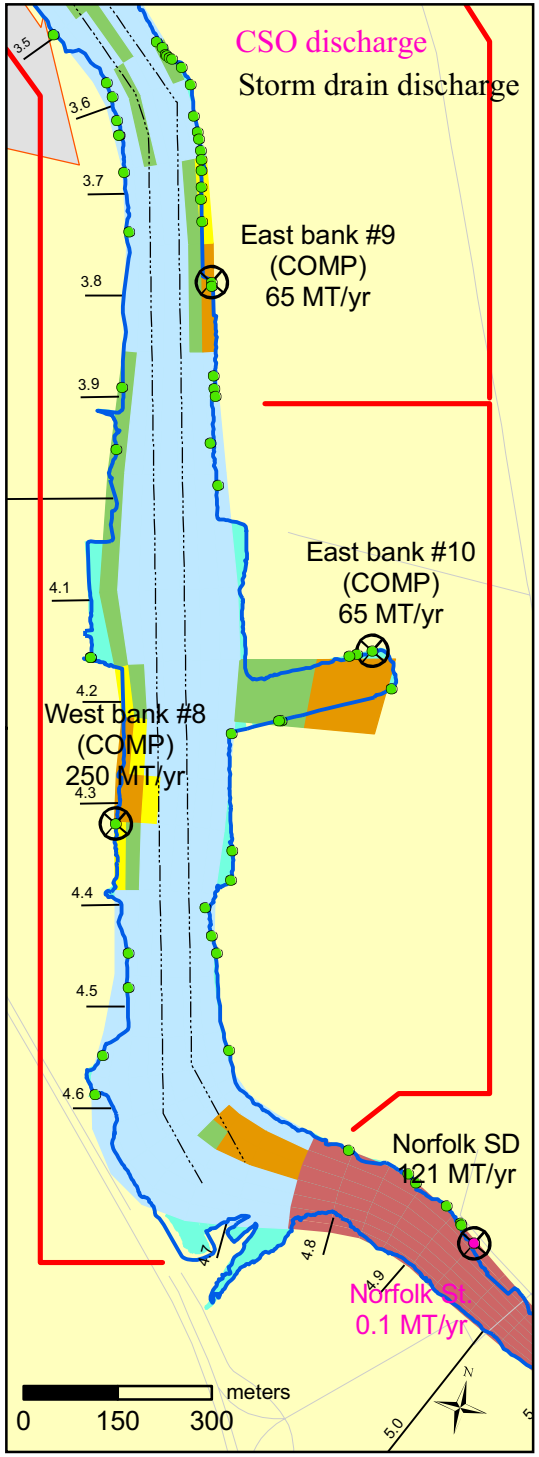

LOCATOR MAP

LEGEND

Lateral Source Content (%)

- 0 - 1
- 1 - 2
- 2 - 5
- > 5
- CSO Locations
- Outfall Locations
- Storm Drain Locations
- Navigation channel
- Shore line
- River mile
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

MT metric tons

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-41. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: upper-bound lateral sediment load.

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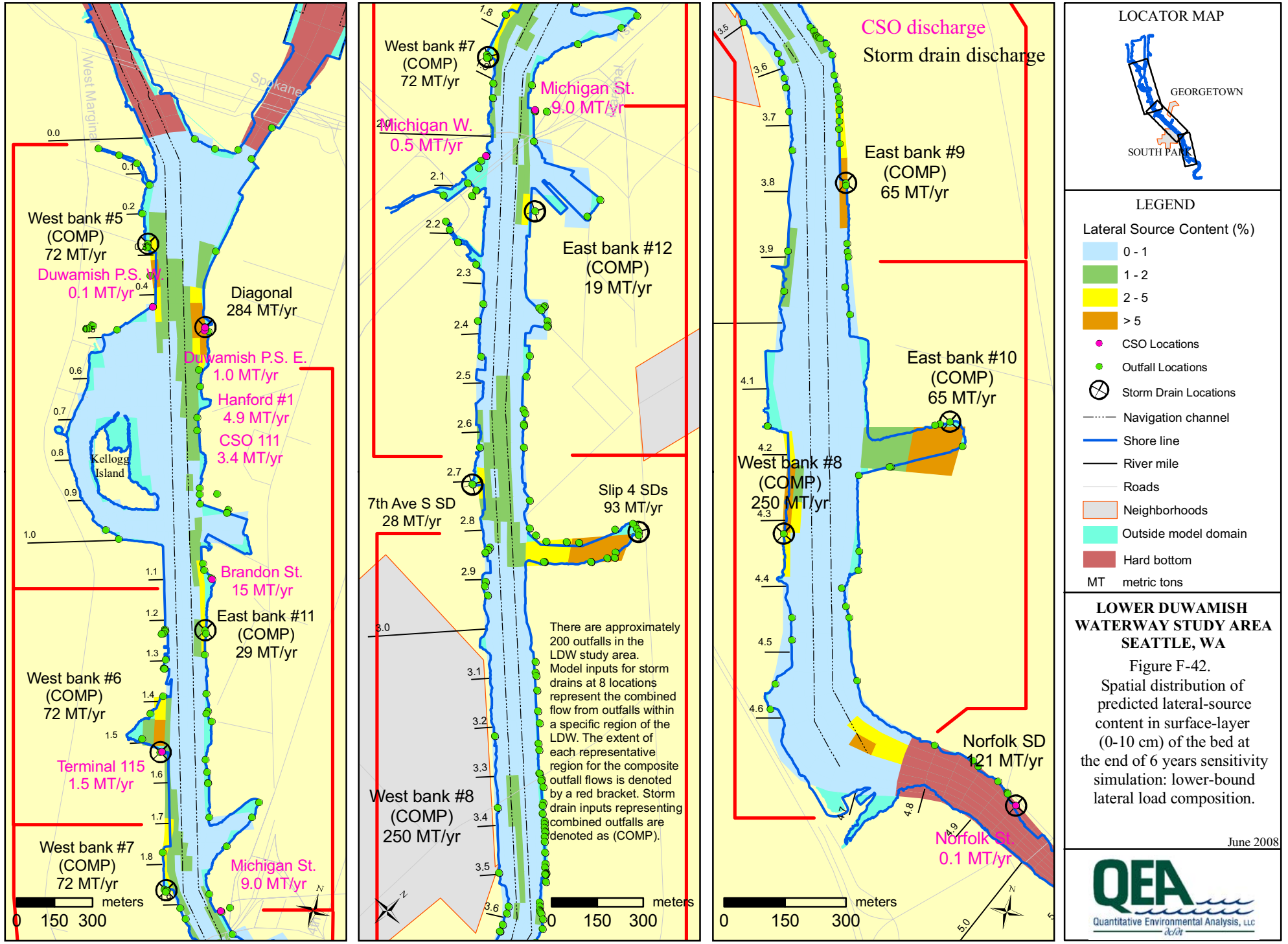

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-42. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: lower-bound lateral load composition.

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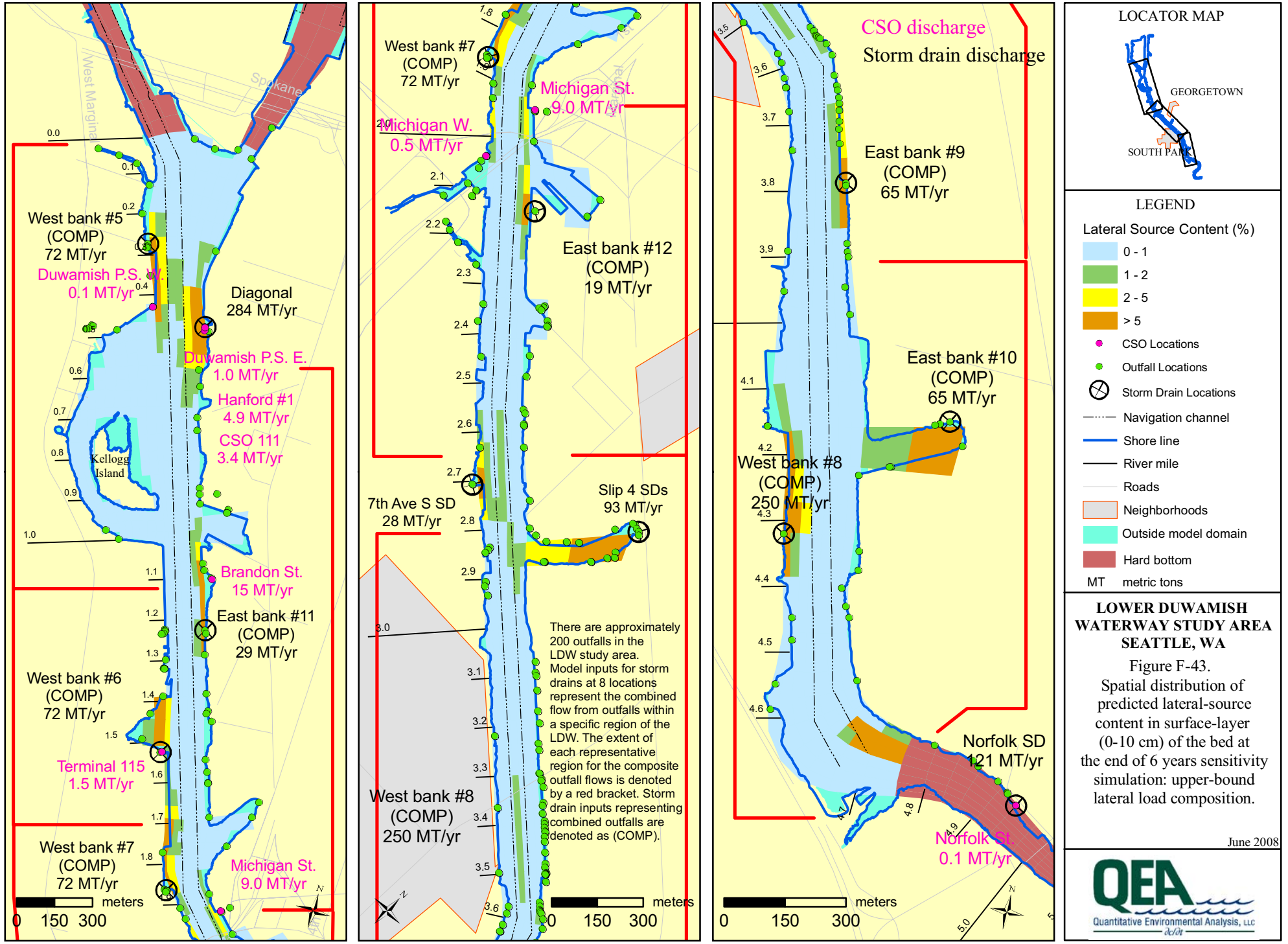

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Figure F-43. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: upper-bound lateral load composition.

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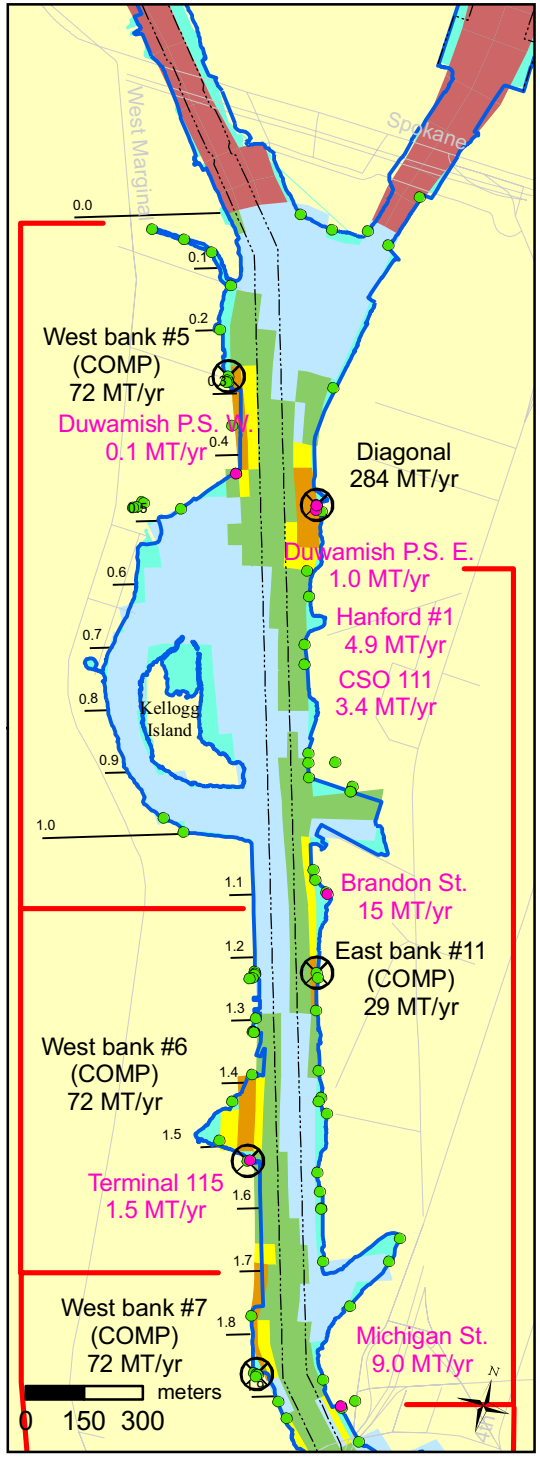

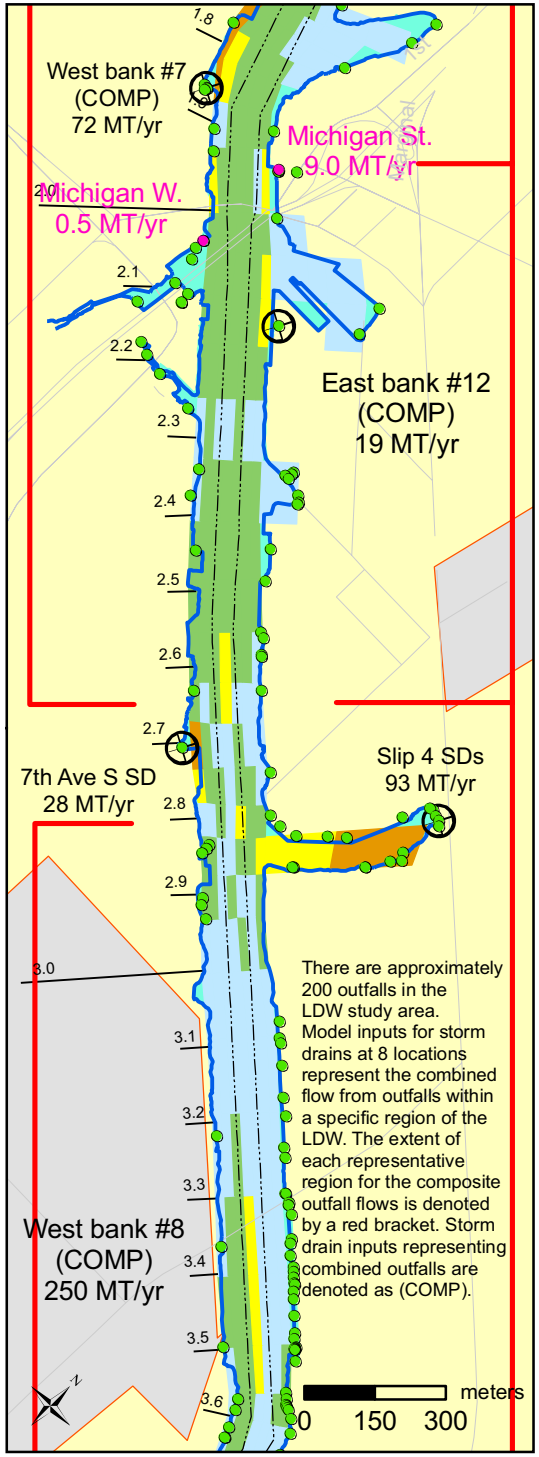

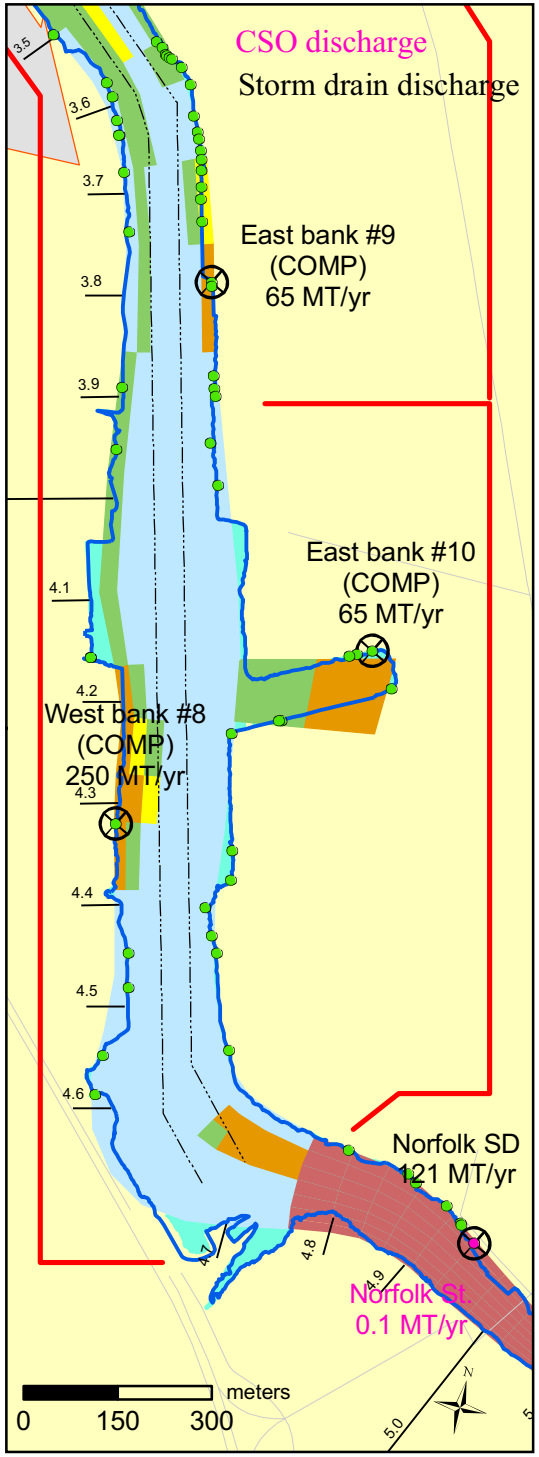

LOCATOR MAP

LEGEND

Lateral Source Content (%)

- 0 - 1
- 1 - 2
- 2 - 5
- > 5
- CSO Locations
- Outfall Locations
- Storm Drain Locations
- Navigation channel
- Shore line
- River mile
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

MT metric tons

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-44. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: lower-bound upstream sediment load.

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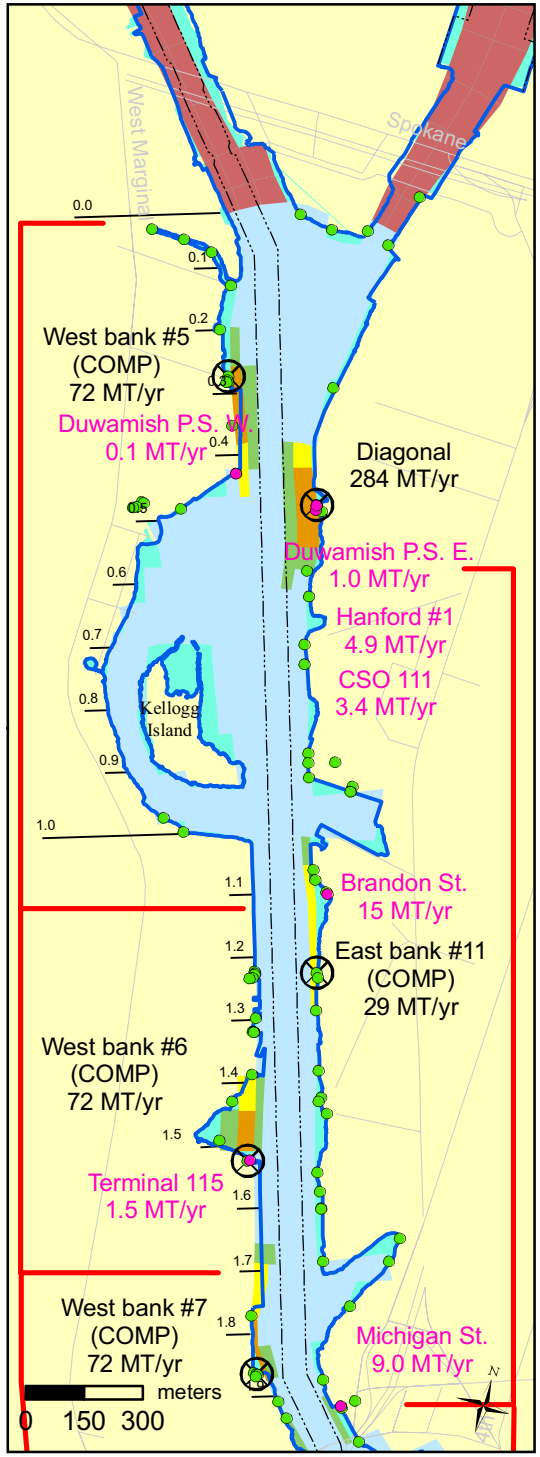
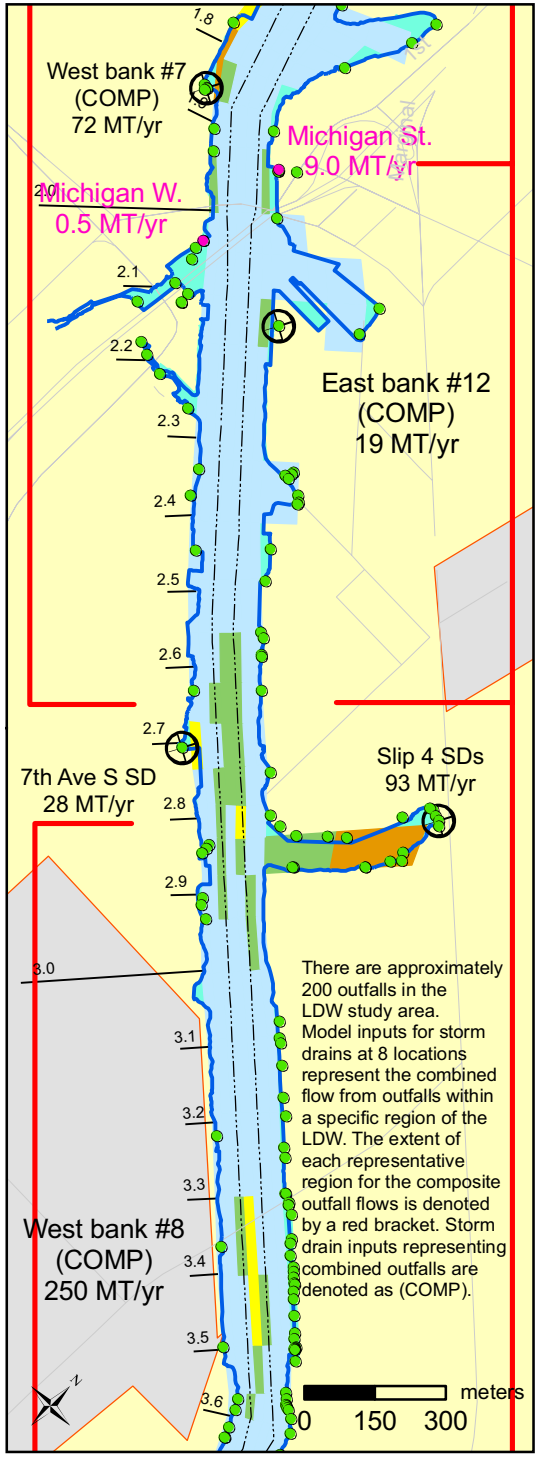
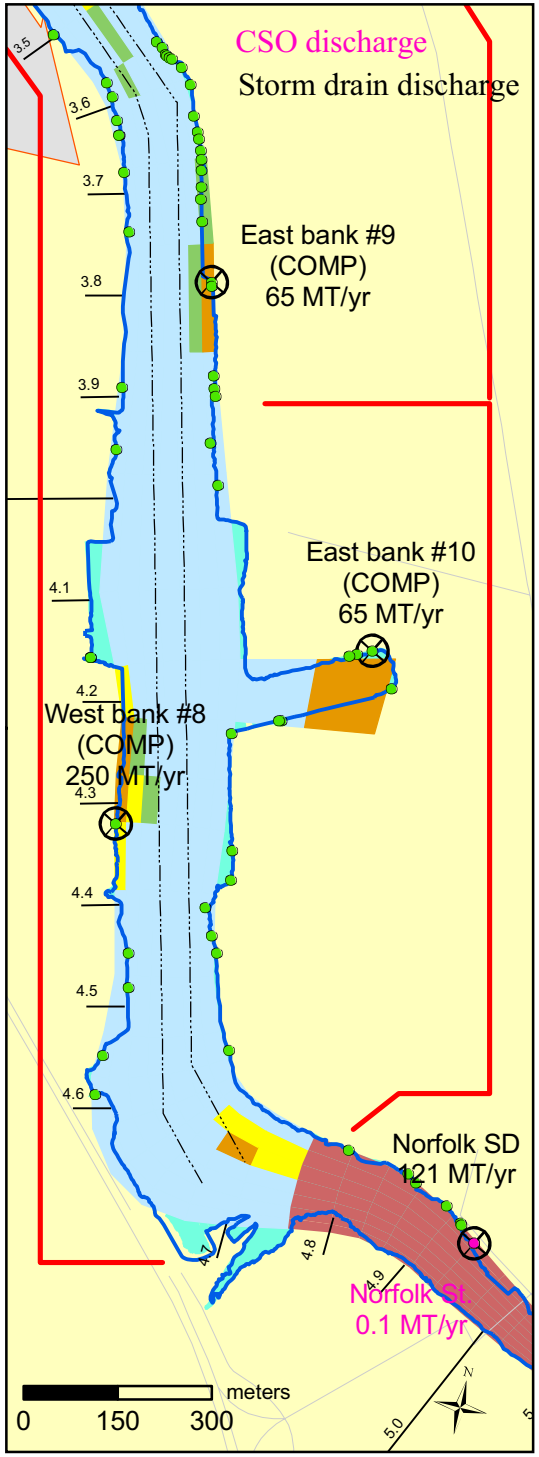
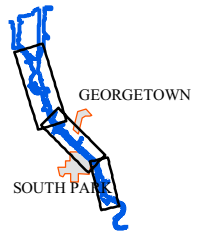






LOCATOR MAP



LEGEND

Lateral Source Content (%)

- 0 - 1
- 1 - 2
- 2 - 5
- > 5
- CSO Locations
- Outfall Locations
- Storm Drain Locations
- Navigation channel
- Shore line
- River mile
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom
- MT metric tons

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-45. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: upper-bound upstream sediment load.

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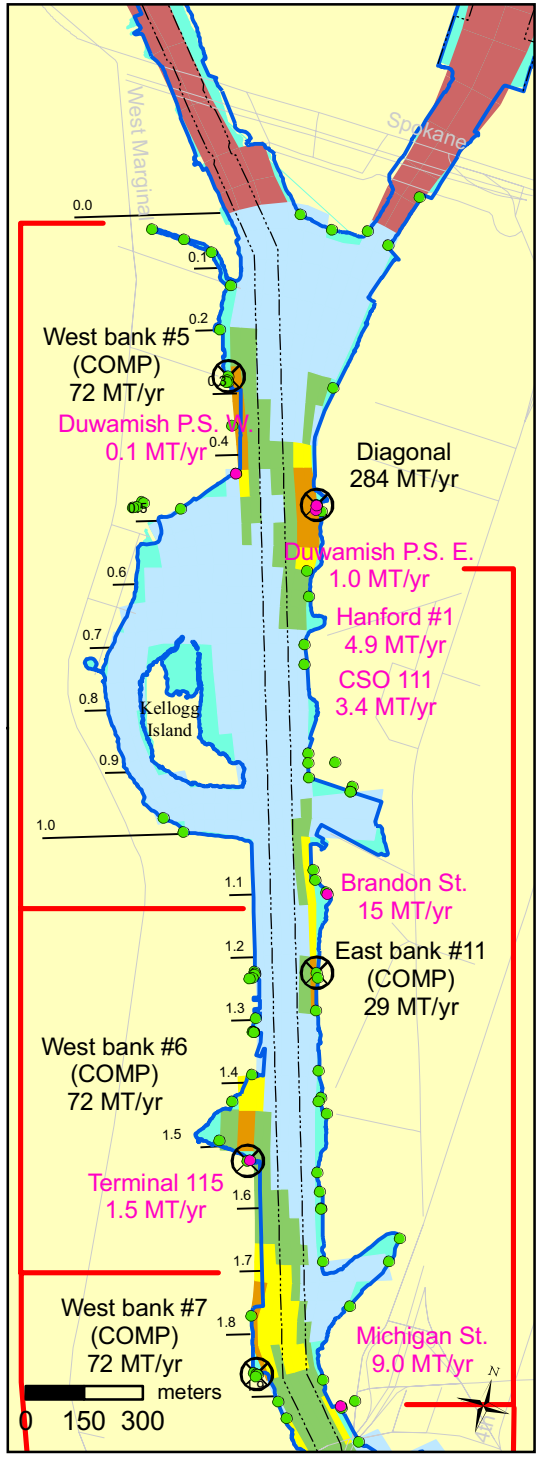
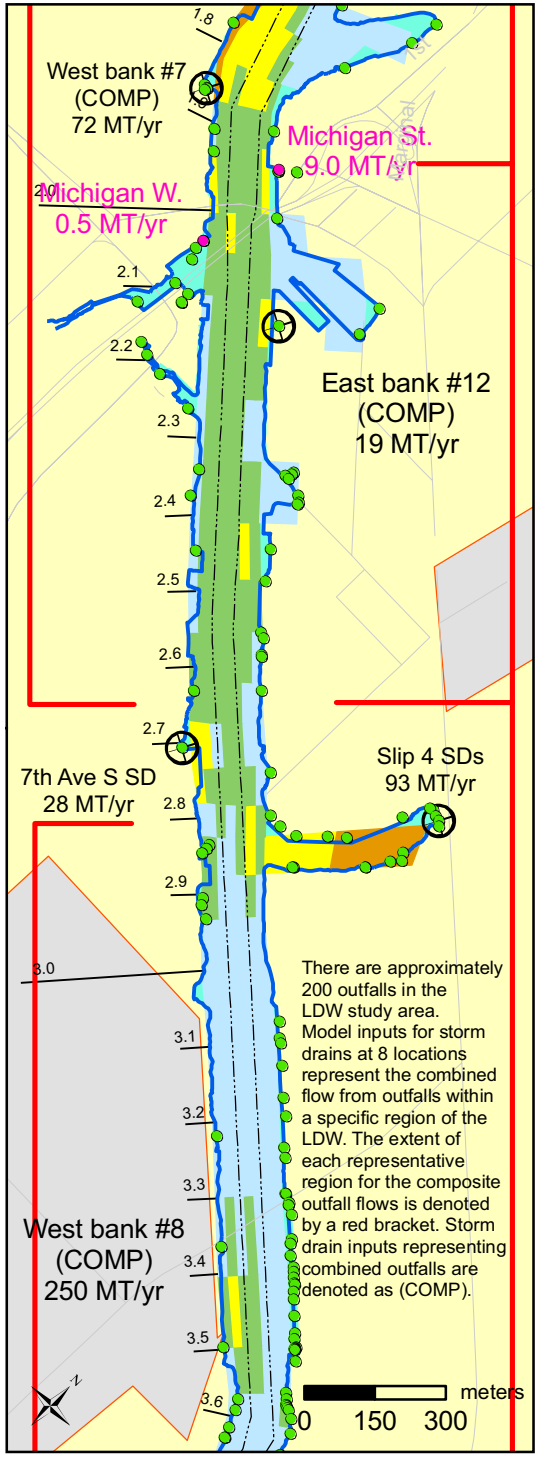
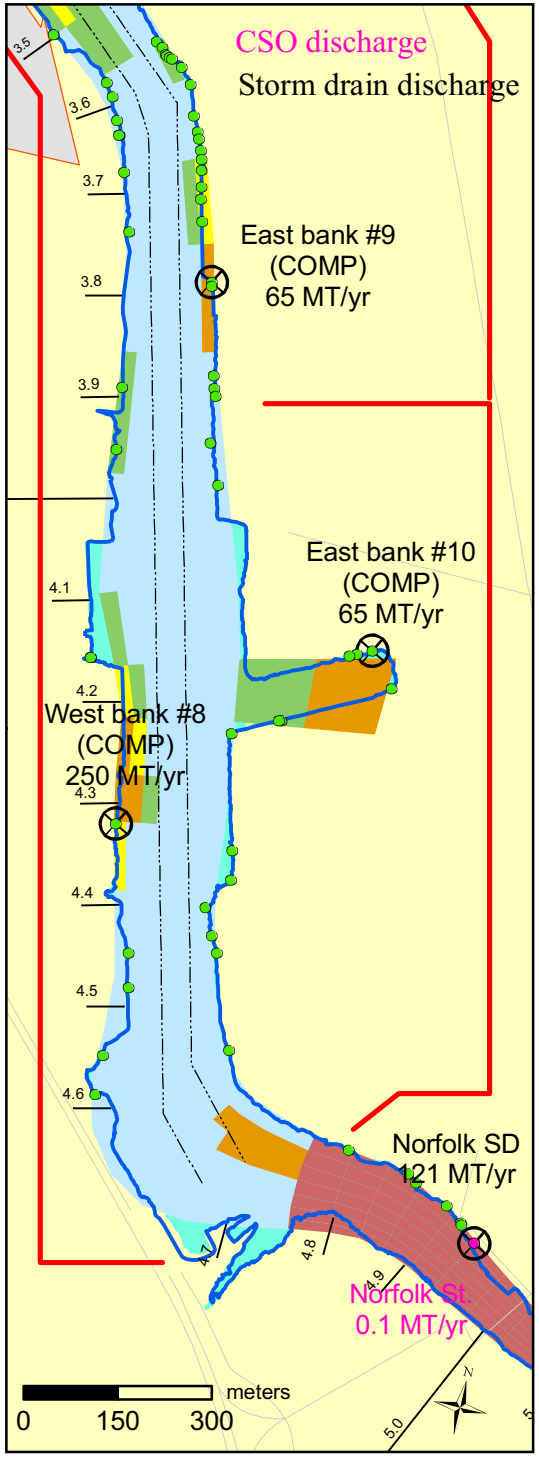
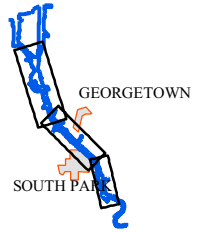




There are approximately 200 outfalls in the LDW study area. Model inputs for storm drains at 8 locations represent the combined flow from outfalls within a specific region of the LDW. The extent of each representative region for the composite outfall flows is denoted by a red bracket. Storm drain inputs representing combined outfalls are denoted as (COMP).





LEGEND

Lateral Source Content (%)

- 0 - 1
- 1 - 2
- 2 - 5
- > 5
- CSO Locations
- Outfall Locations
- Storm Drain Locations
- Navigation channel
- Shore line
- River mile
- Roads
- Neighborhoods
- Outside model domain
- Hard bottom

MT metric tons

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-46. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: lower-bound upstream sediment composition.

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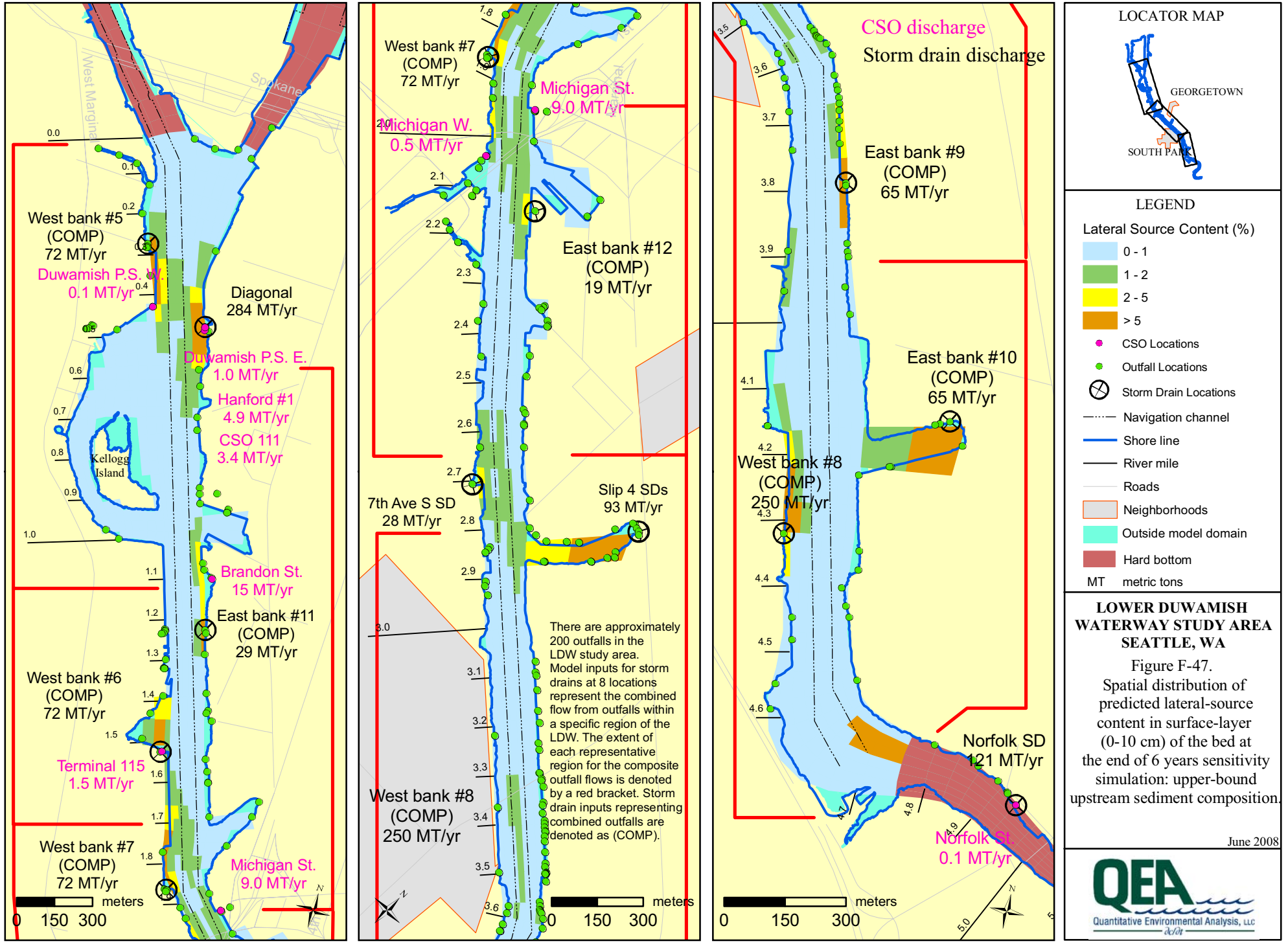

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-47. Spatial distribution of predicted lateral-source content in surface-layer (0-10 cm) of the bed at the end of 6 years sensitivity simulation: upper-bound upstream sediment composition.

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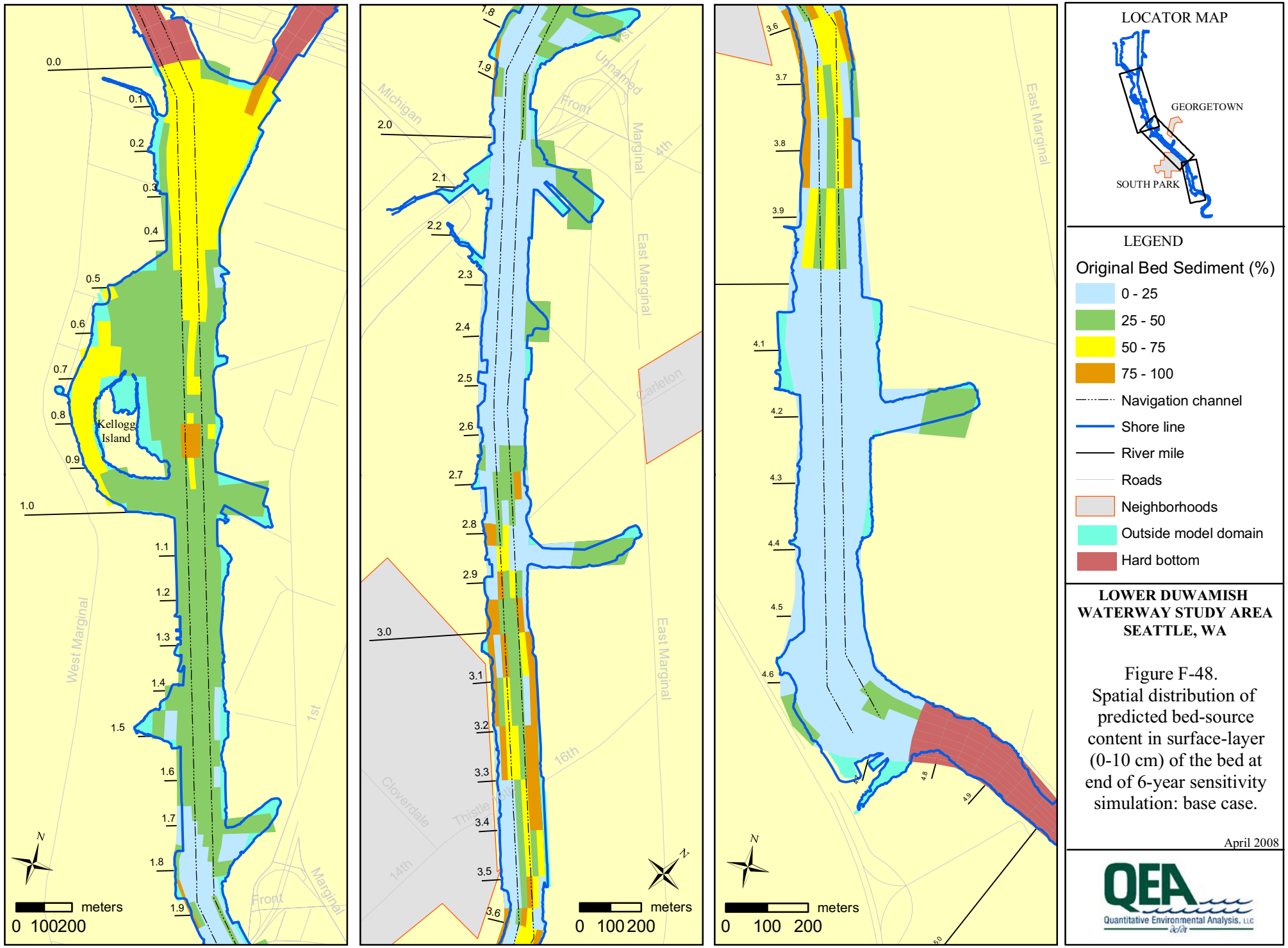

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-48. Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: base case.

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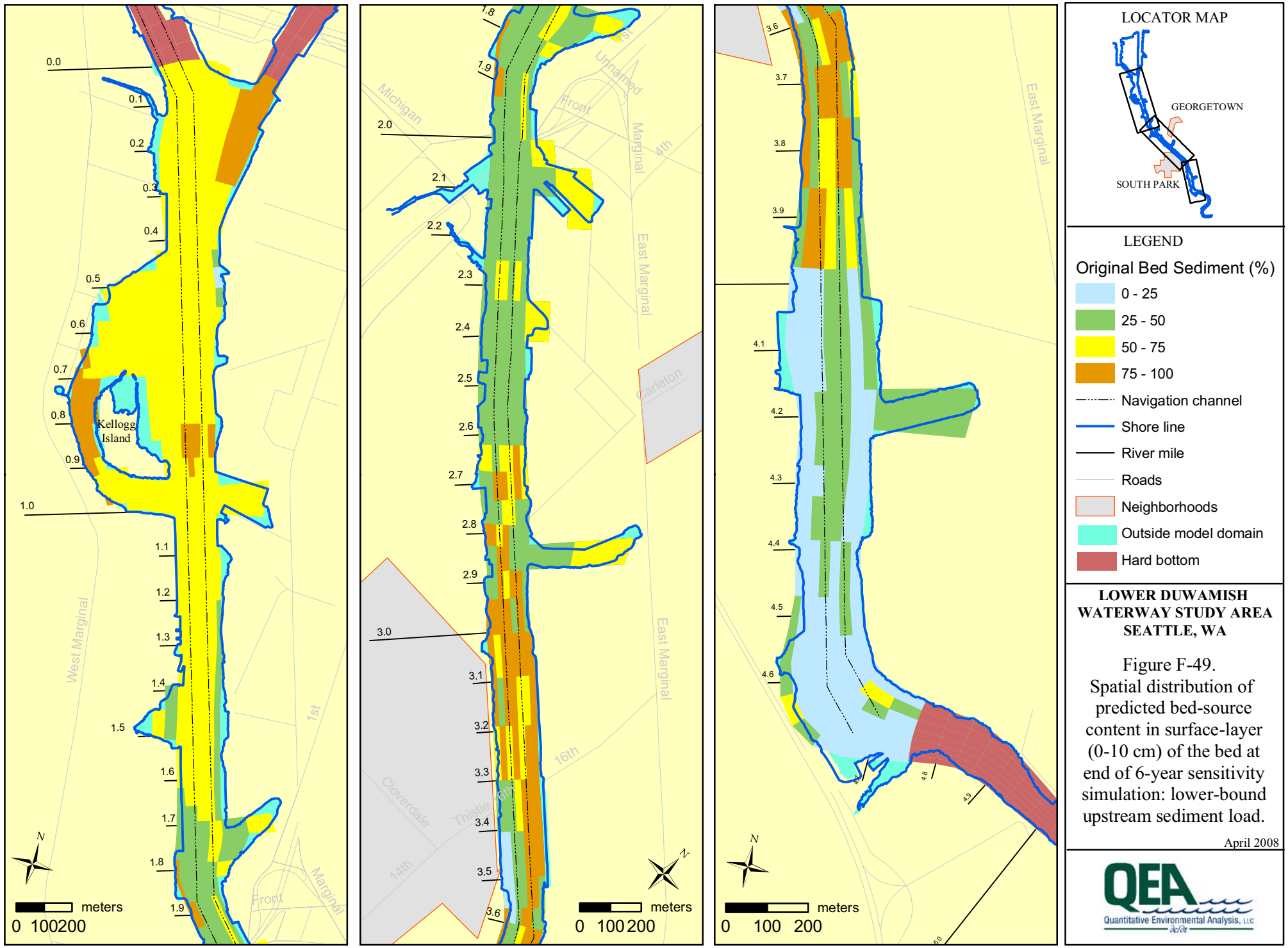

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-49.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: lower-bound upstream sediment load.

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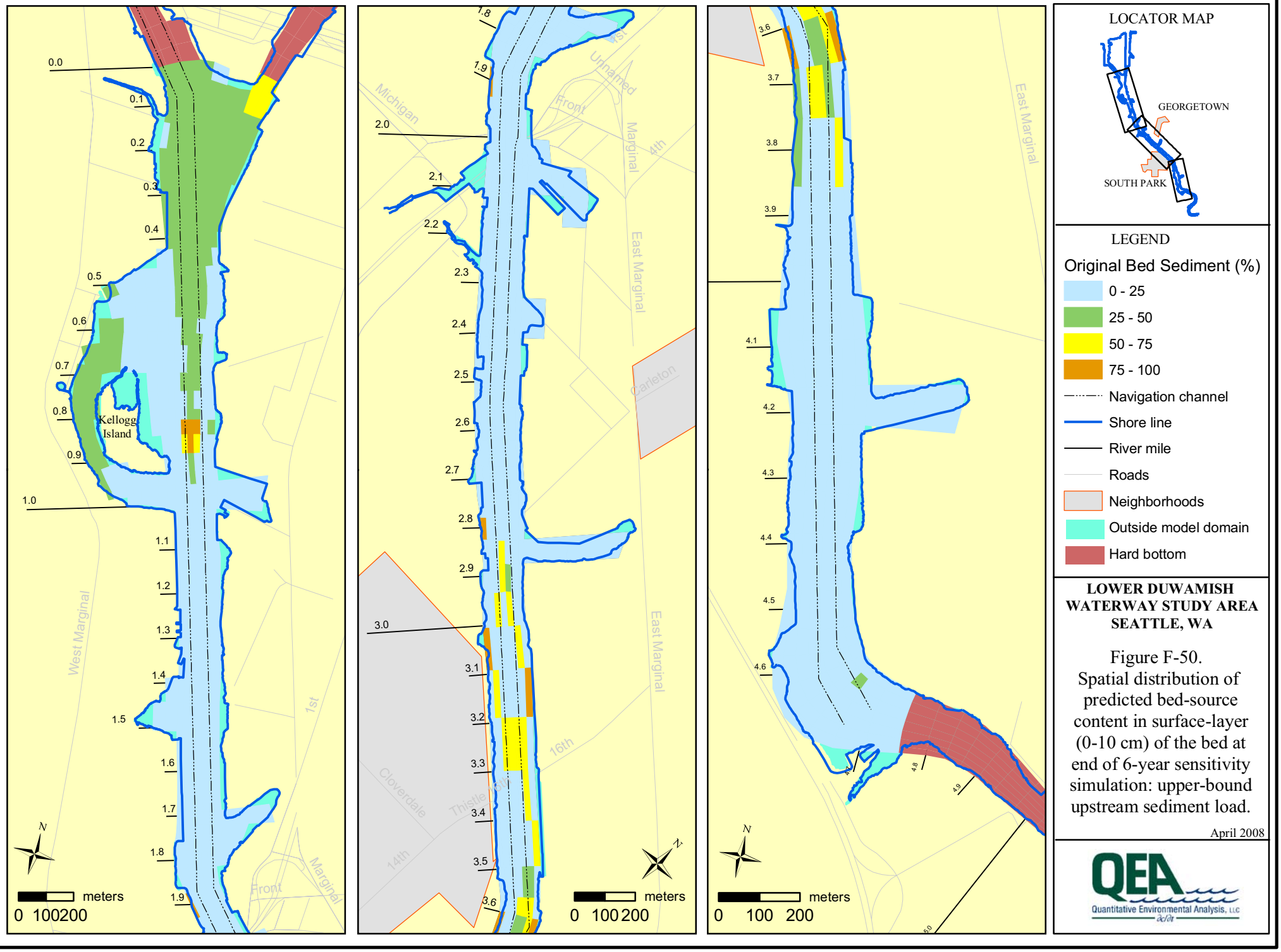

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-50. Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: upper-bound upstream sediment load.

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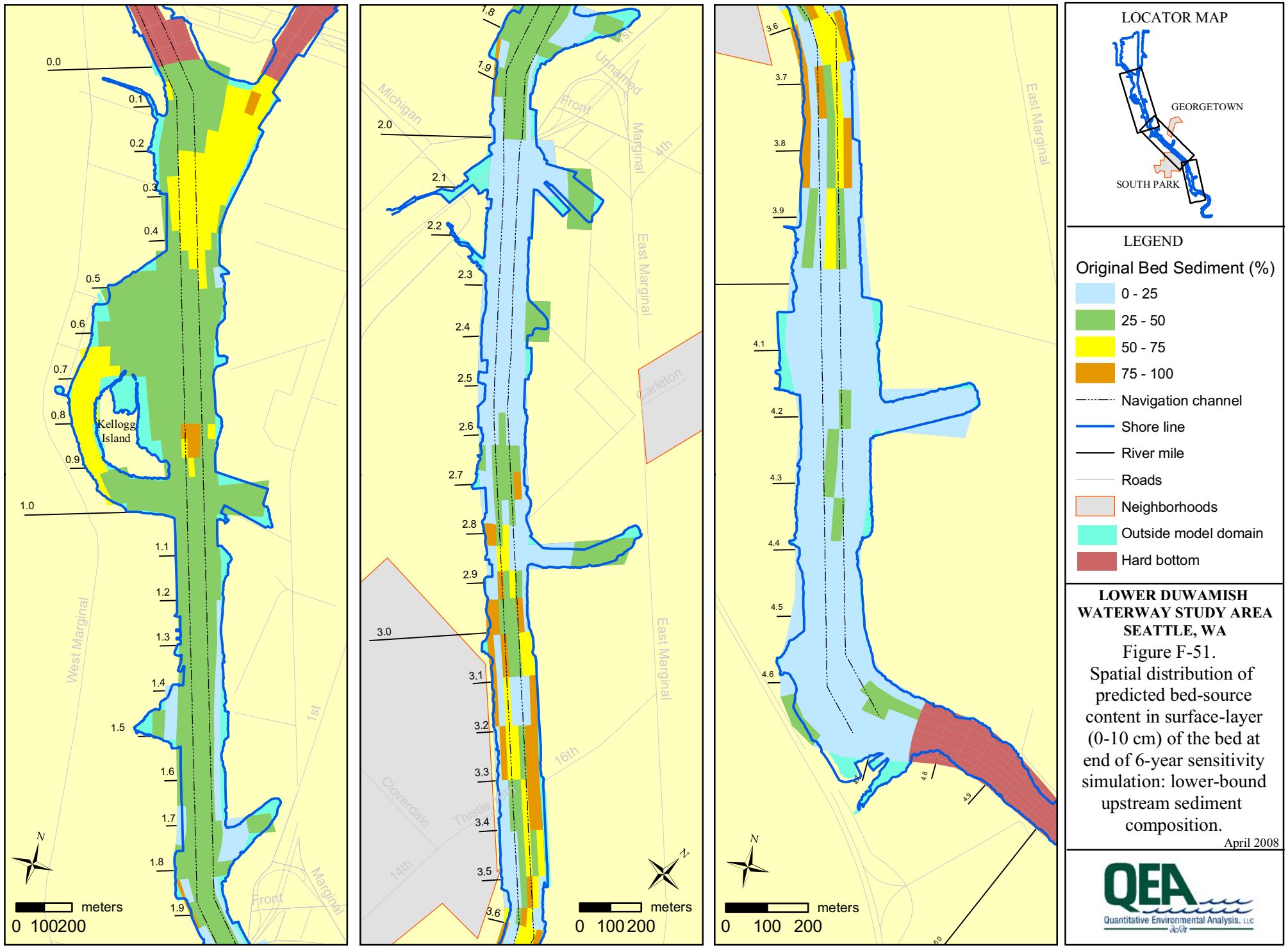

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-51.
Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: lower-bound upstream sediment composition.

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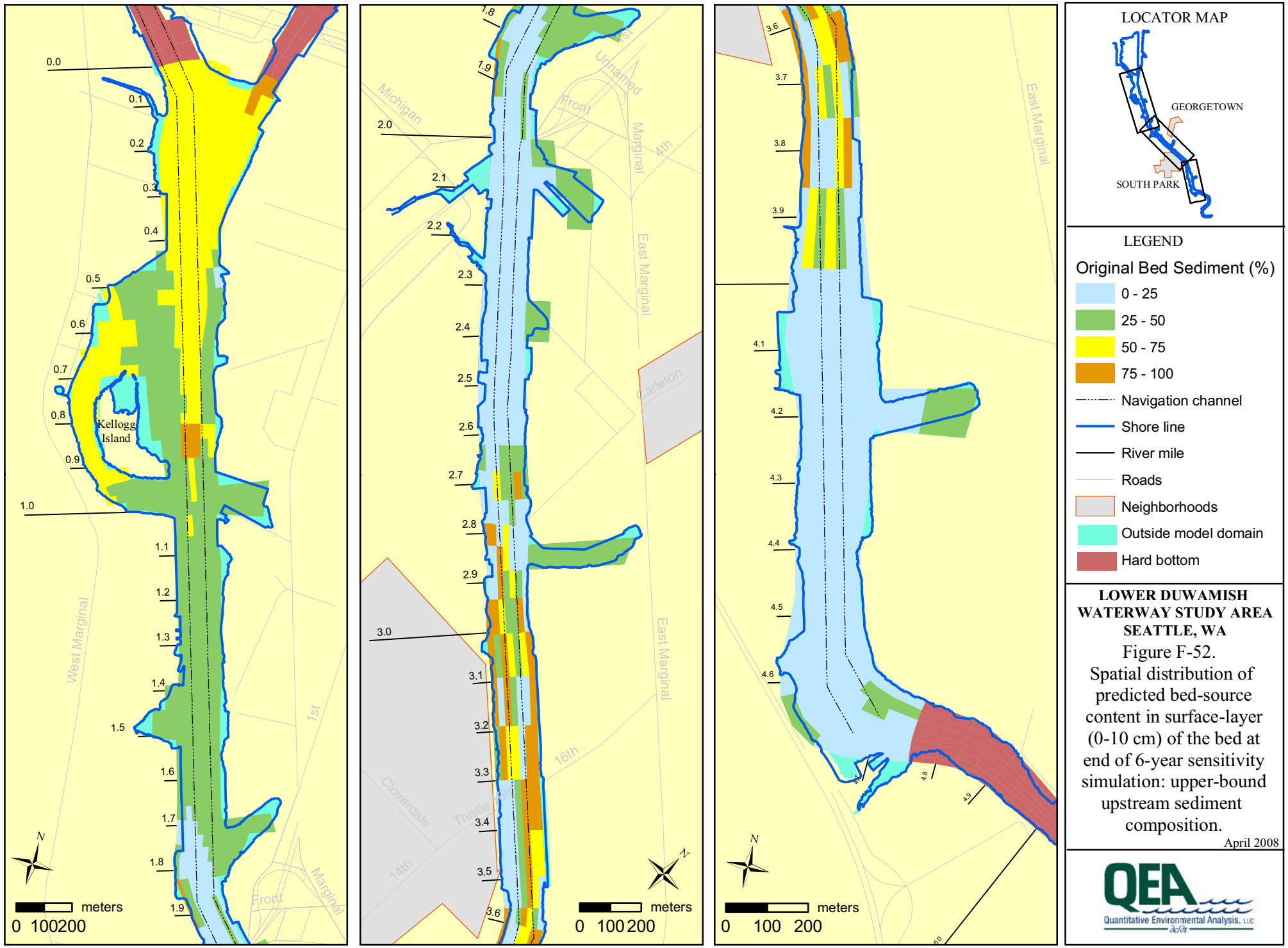

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-52. Spatial distribution of predicted bed-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: upper-bound upstream sediment composition.

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FC- \\Gis_station\D_DRIVE\Private\RETldw\GIS_plot\layout_bed_elv_chg_070205-1.mxd

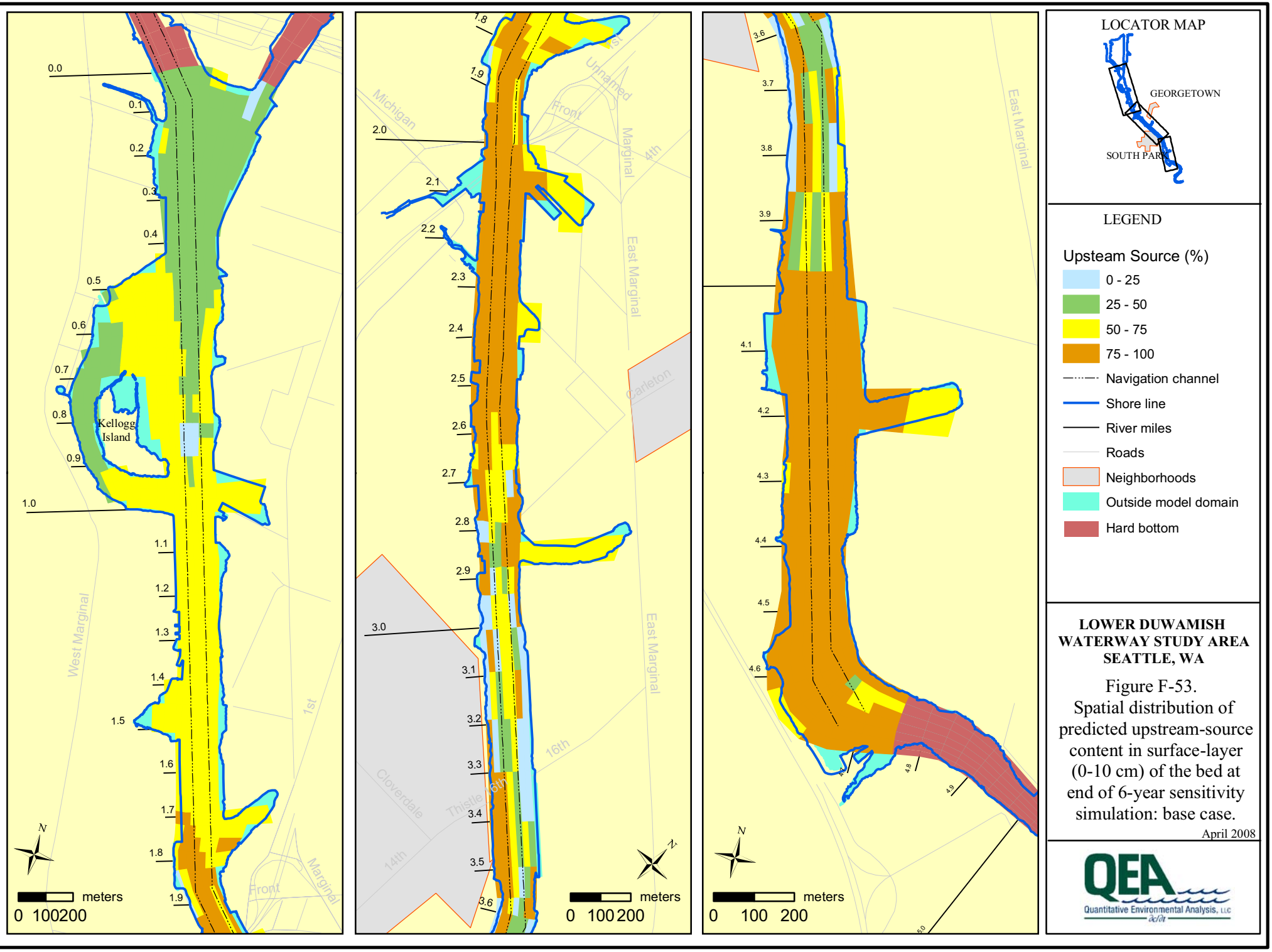

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Figure F-53. Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: base case.

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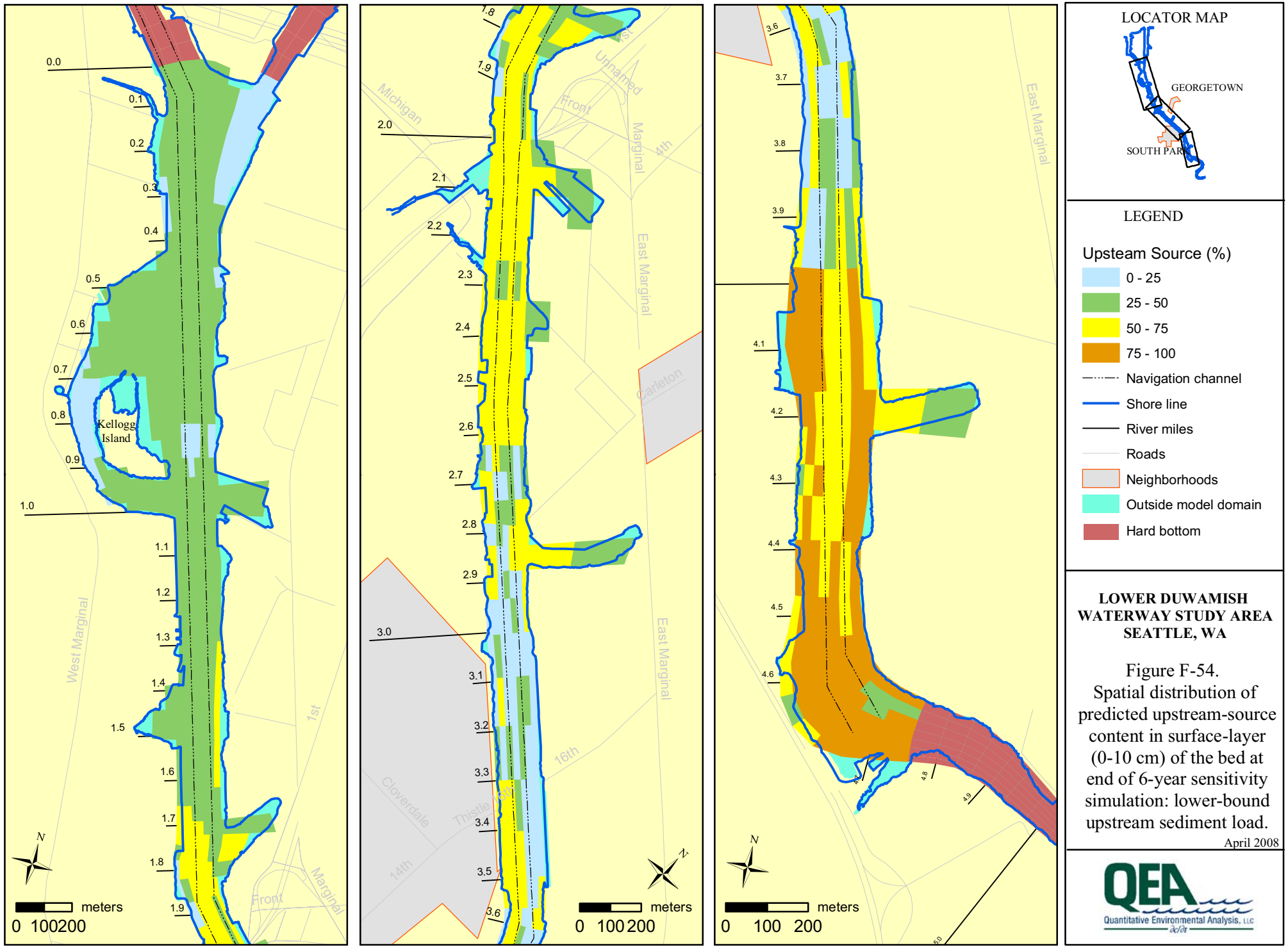

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Figure F-54.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: lower-bound upstream sediment load.

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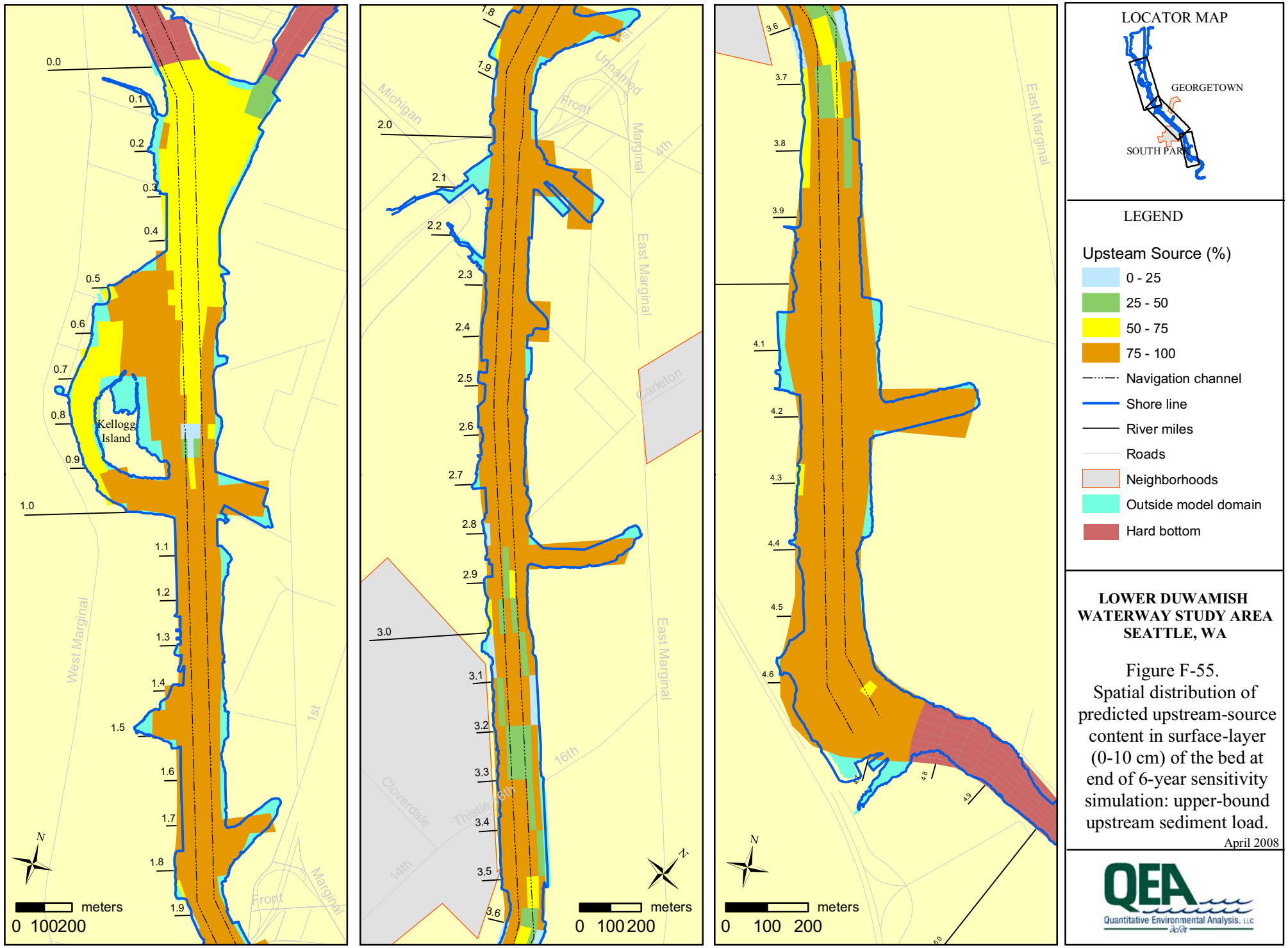

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Figure F-55. Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: upper-bound upstream sediment load.

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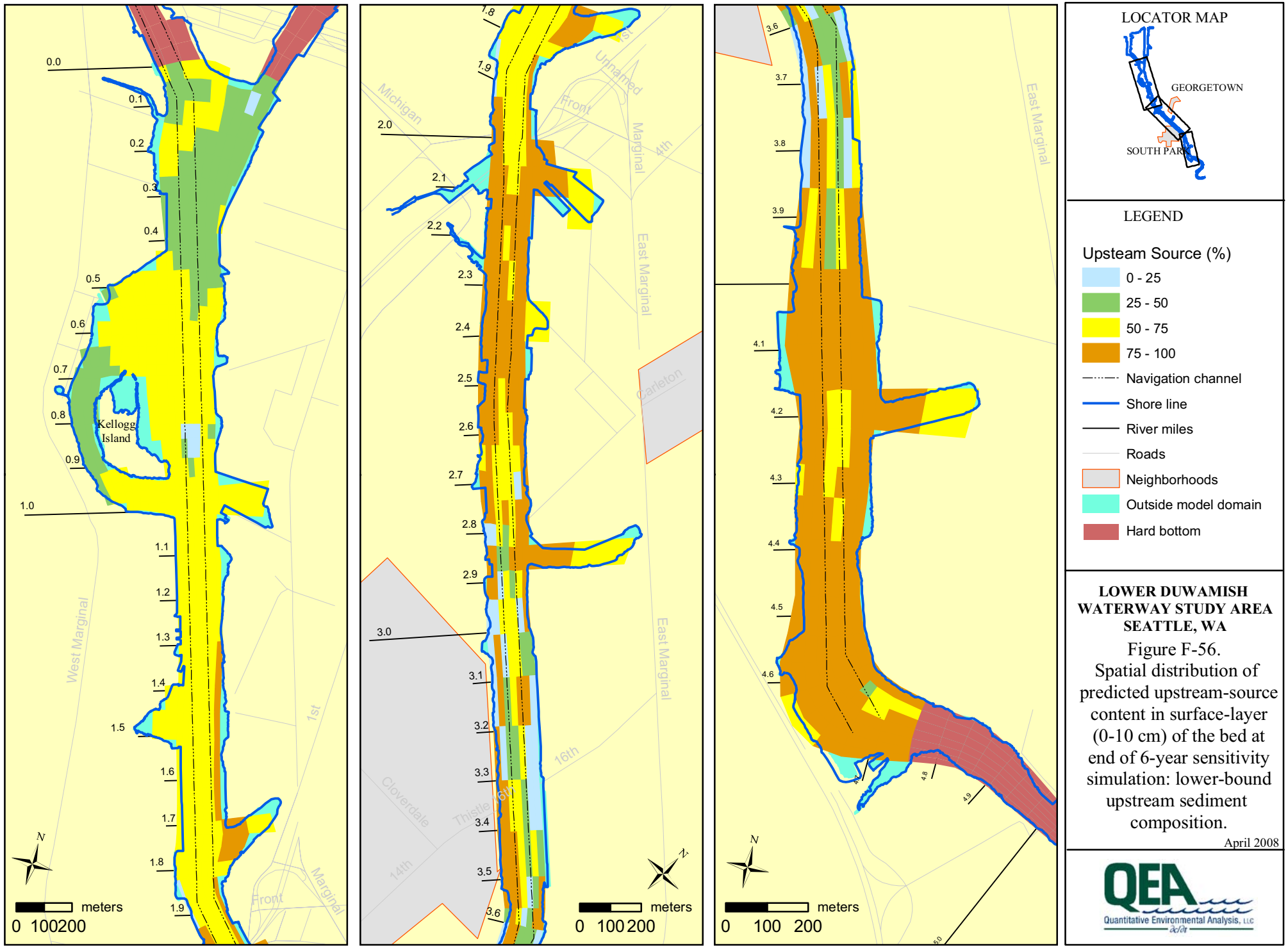

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-56.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: lower-bound upstream sediment composition.

April 2008

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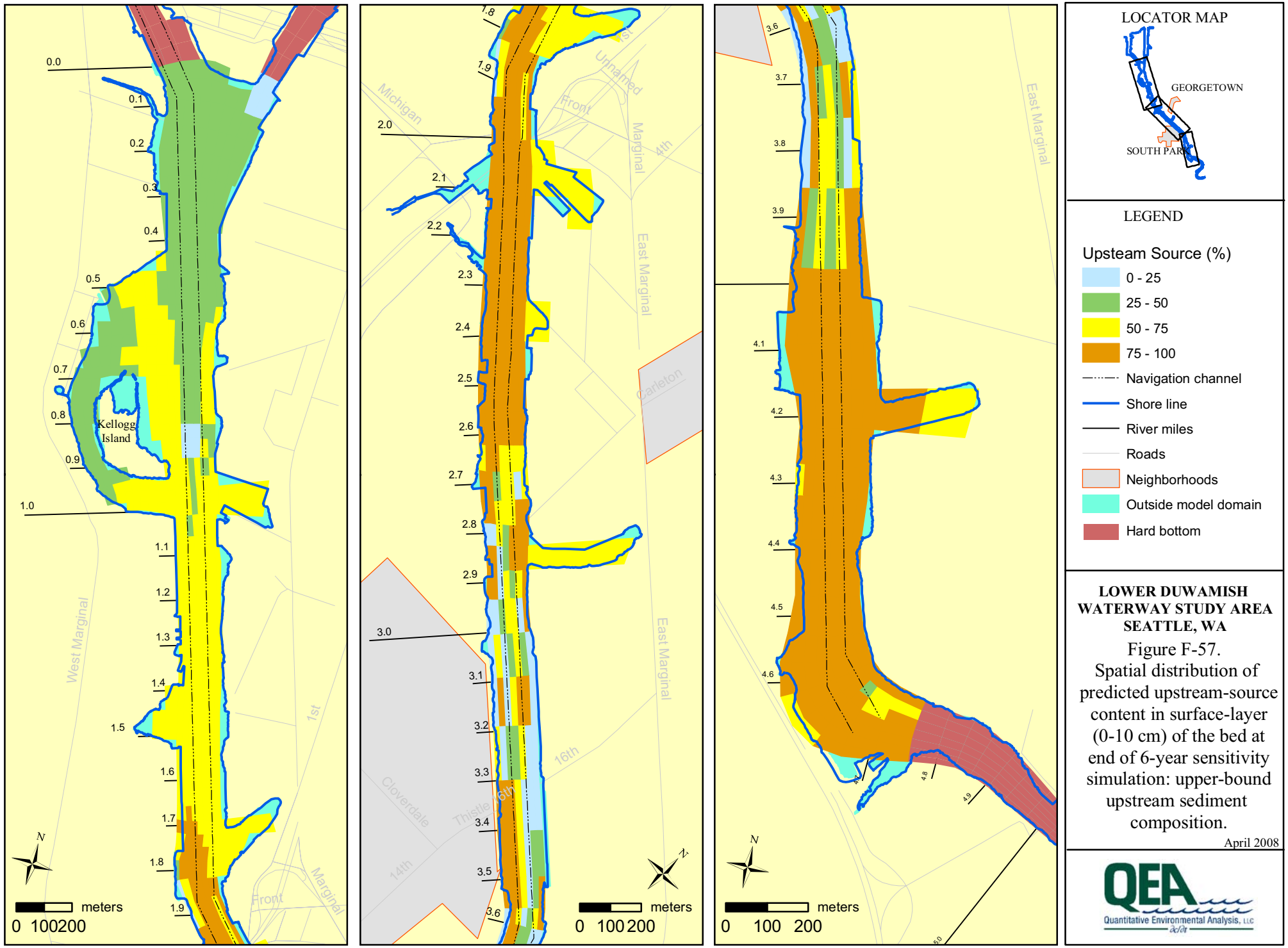

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-57.
Spatial distribution of predicted upstream-source content in surface-layer (0-10 cm) of the bed at end of 6-year sensitivity simulation: upper-bound upstream sediment composition.

April 2008

Quantitative Environmental Analysis, LLC

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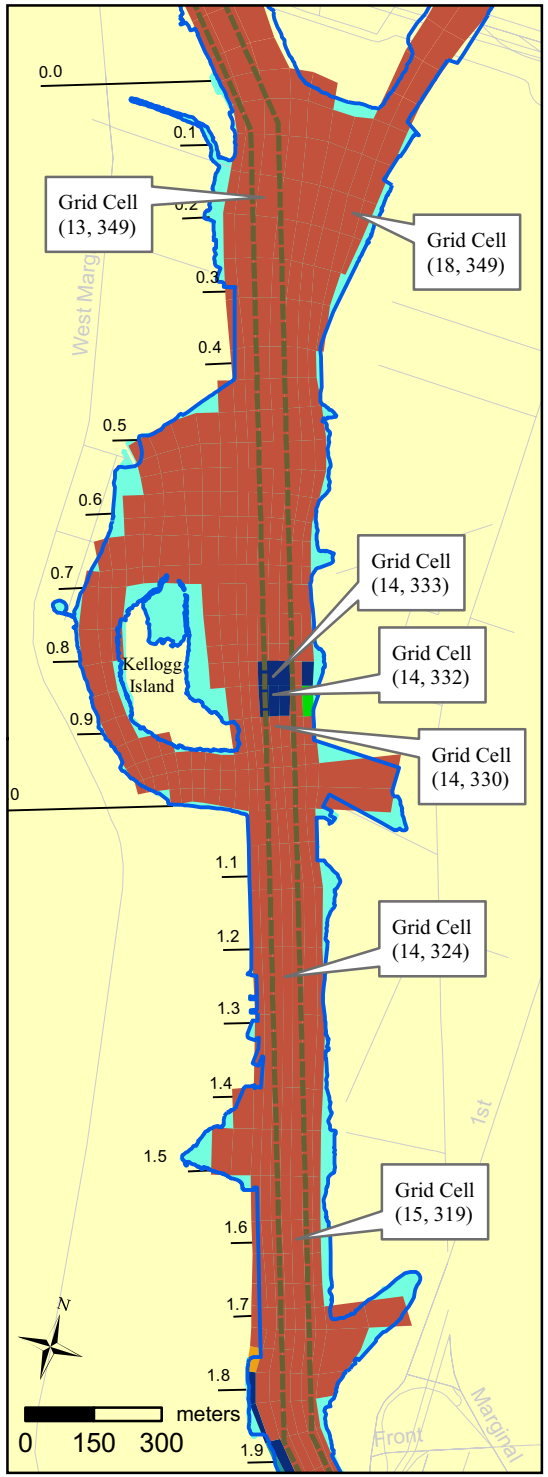
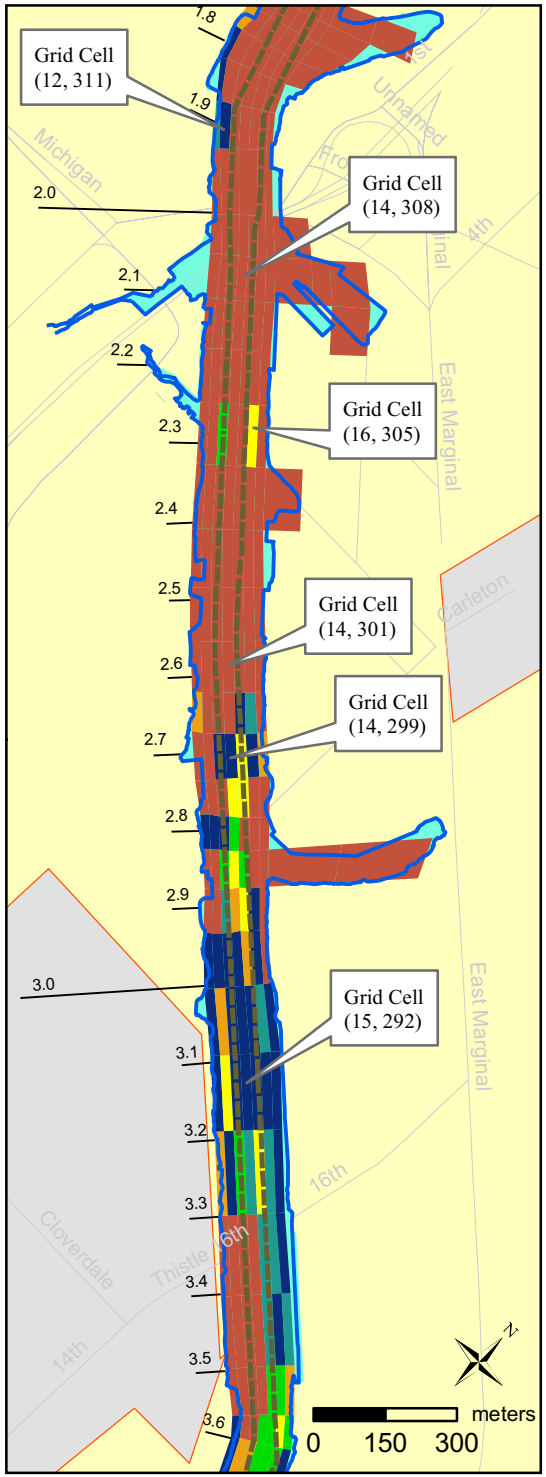
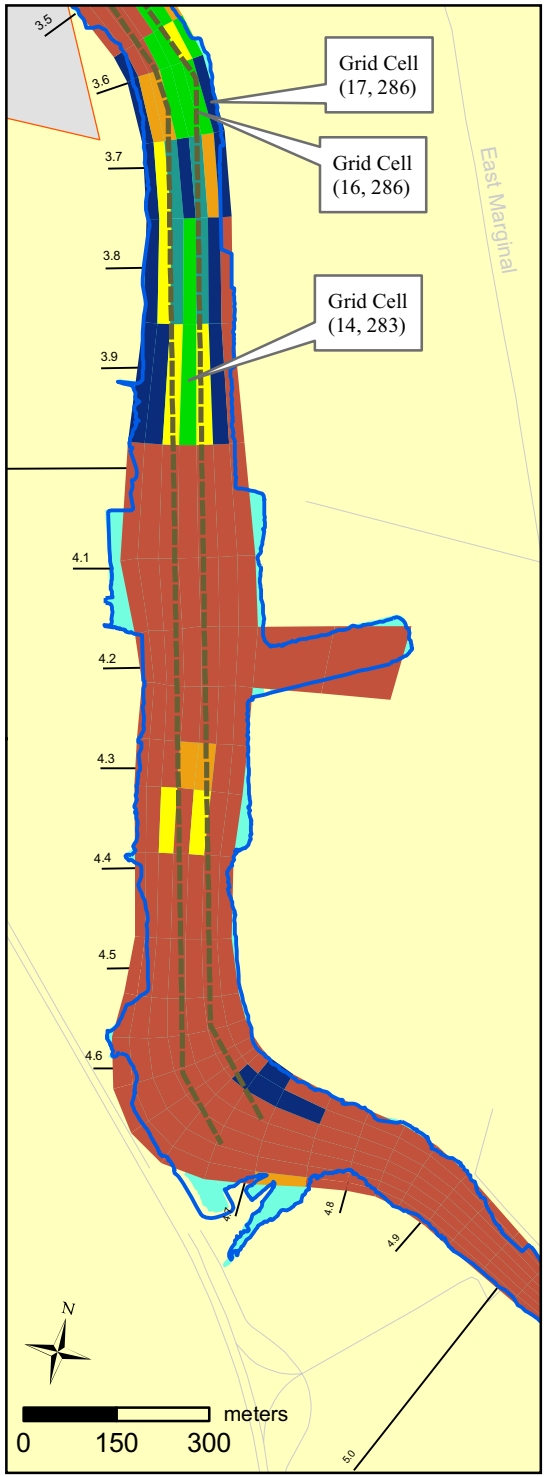
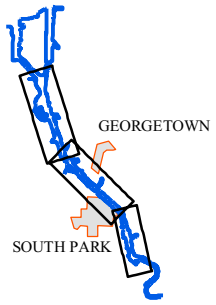






LOCATOR MAP



LEGEND

- New Navigation Channel
- Shore Line
- River Miles
- Roads
- Neighborhoods
- shore merge

Number of Year with Annual Net Erosion

- 1 Year
- 2 Years
- 3 Years
- 4 Years
- 5 - 19 Years
- Always Net Depositional

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-58. Predicted spatial distribution of bed elevation change during 30-year period with selected locations for temporal plots.

June 2008

QEA Quantitative Environmental Analysis, LLC

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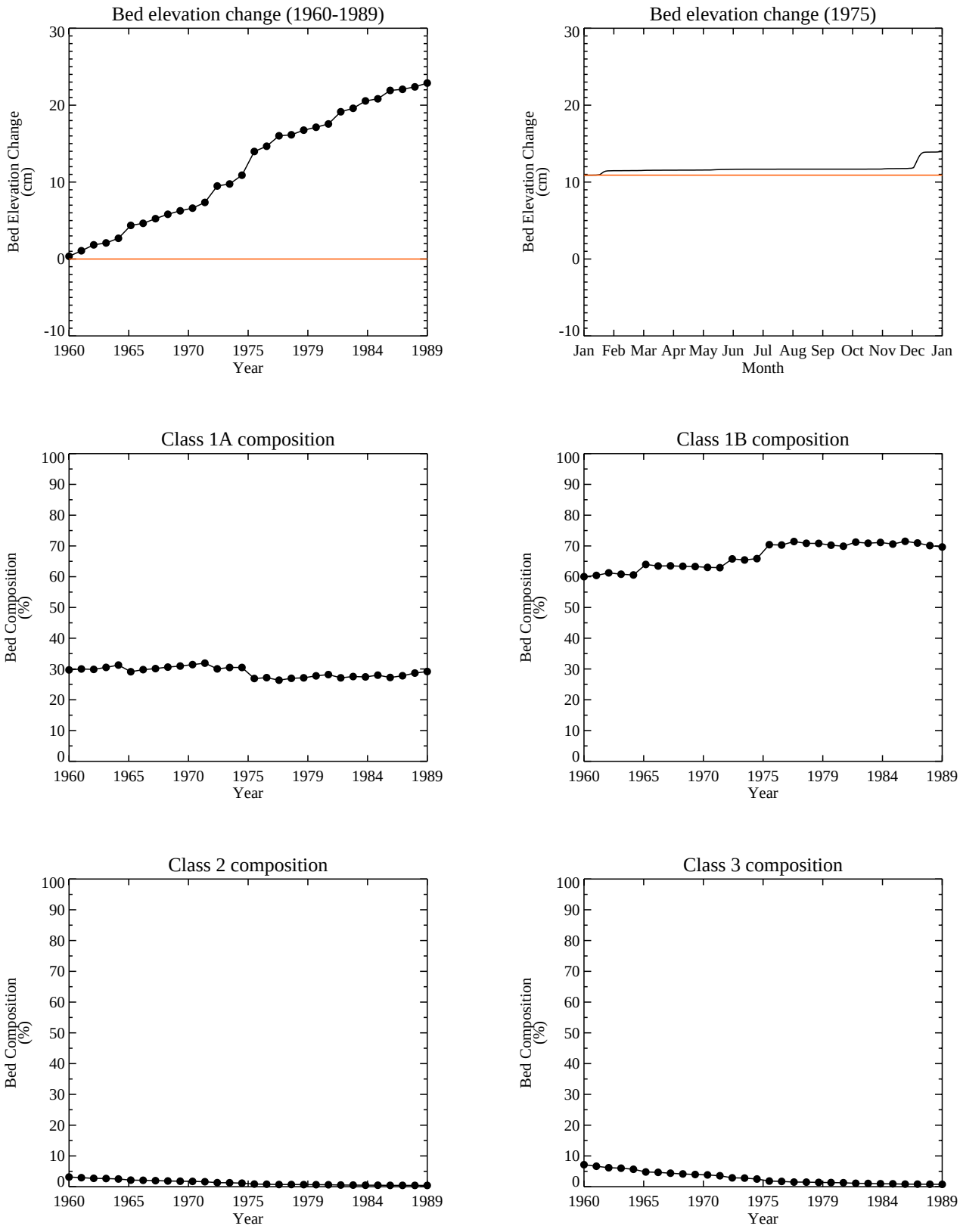

Figure F-59. Temporal variation of bed elevation change and bed composition at grid cell: (18, 349), RM 0.20, East Bench.

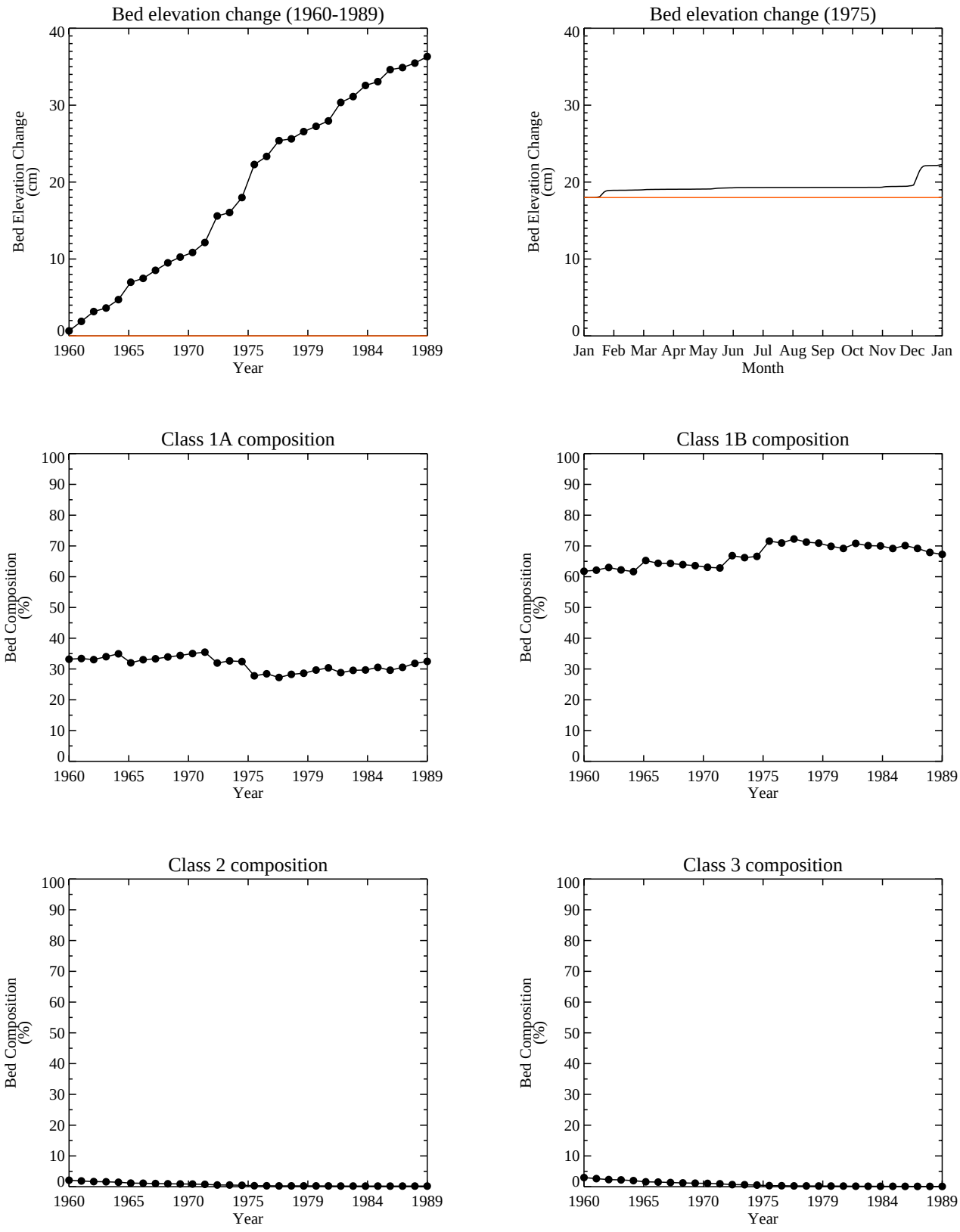

Figure F-60. Temporal variation of bed elevation change and bed composition at grid cell: (13, 349), RM 0.17, Navigation Channel.

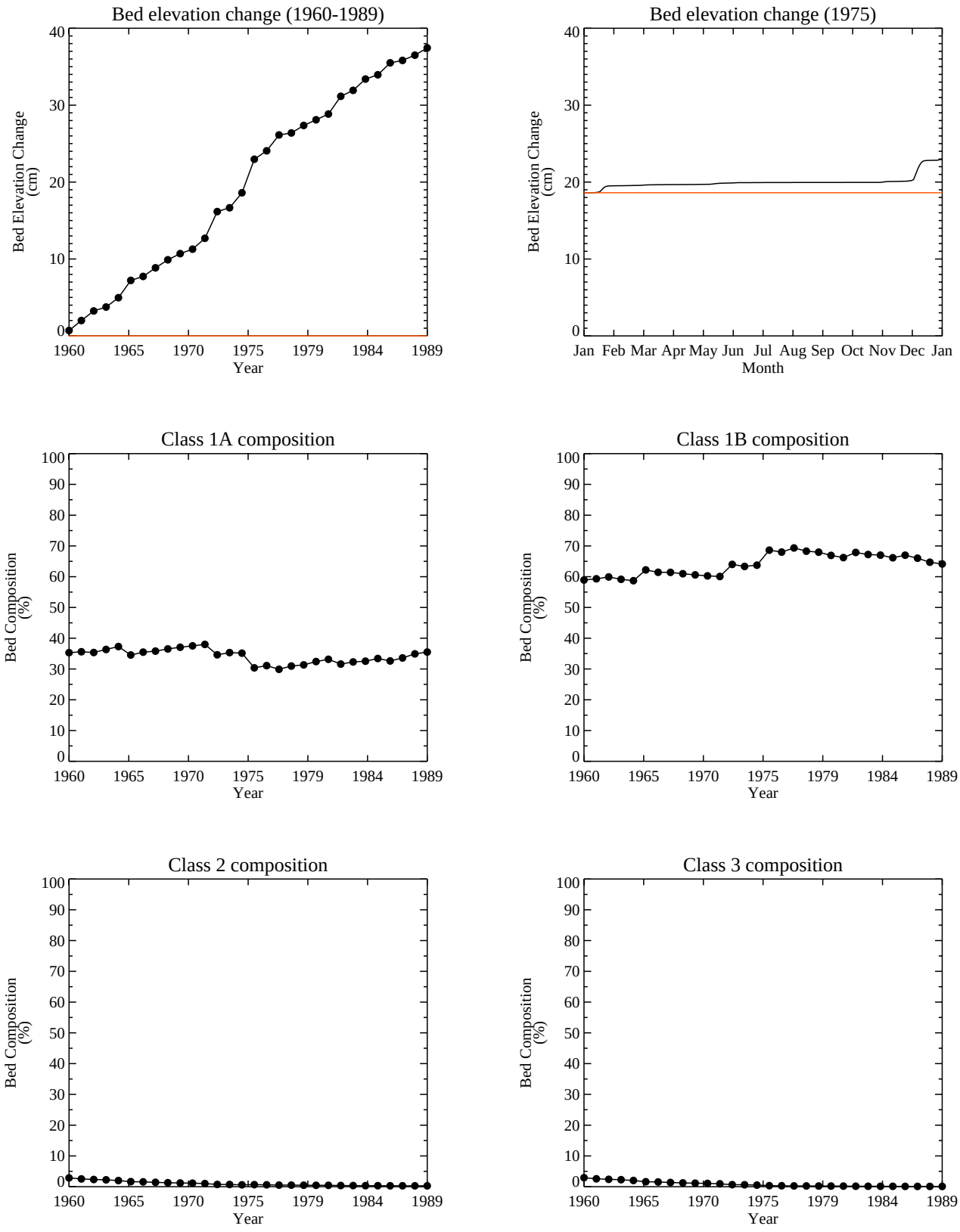

Figure F-61. Temporal variation of bed elevation change and bed composition at grid cell: (14, 330), RM 0.94, Navigation Channel.

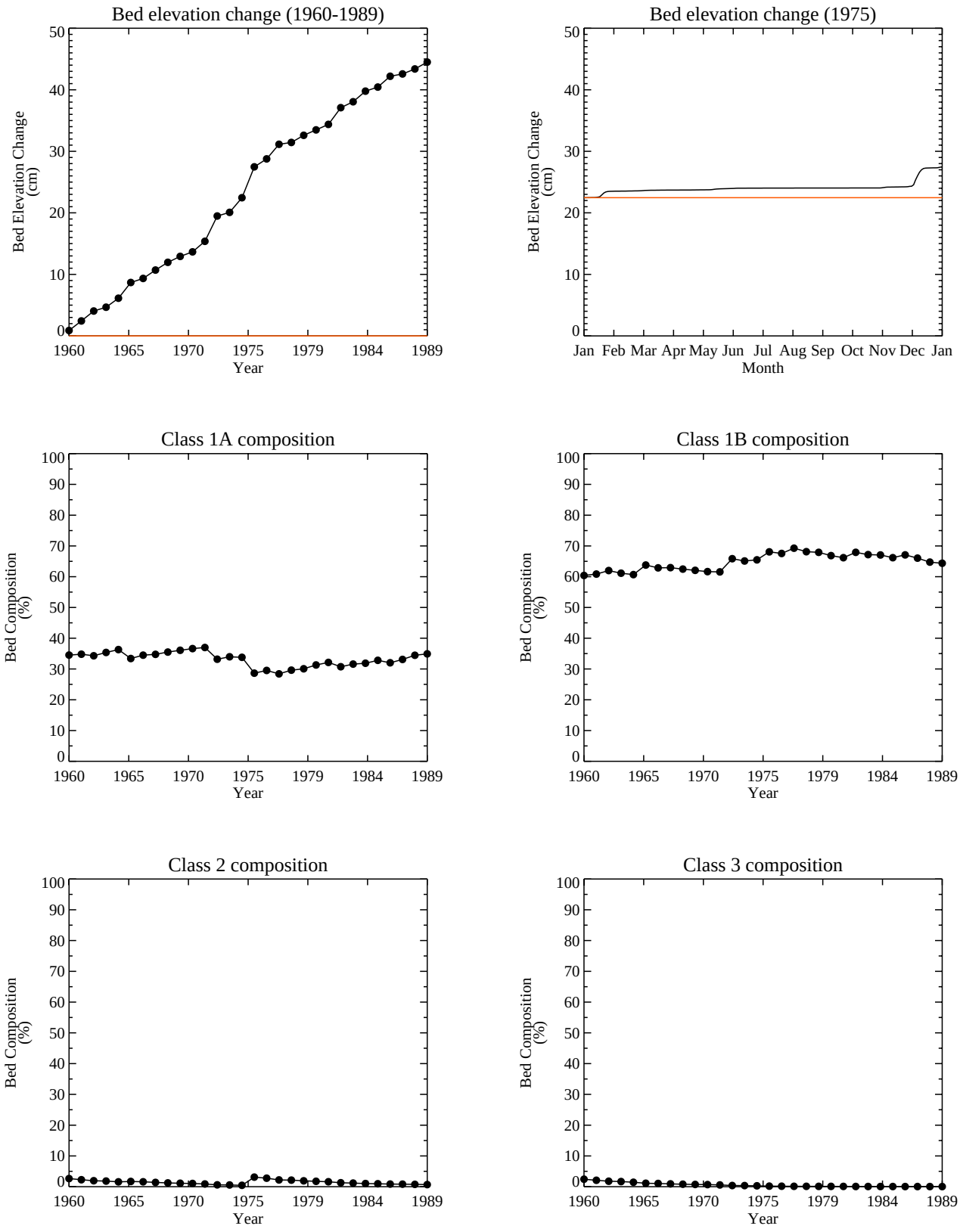

Figure F-62. Temporal variation of bed elevation change and bed composition at grid cell: (14, 324), RM 1.2, Navigation Channel.

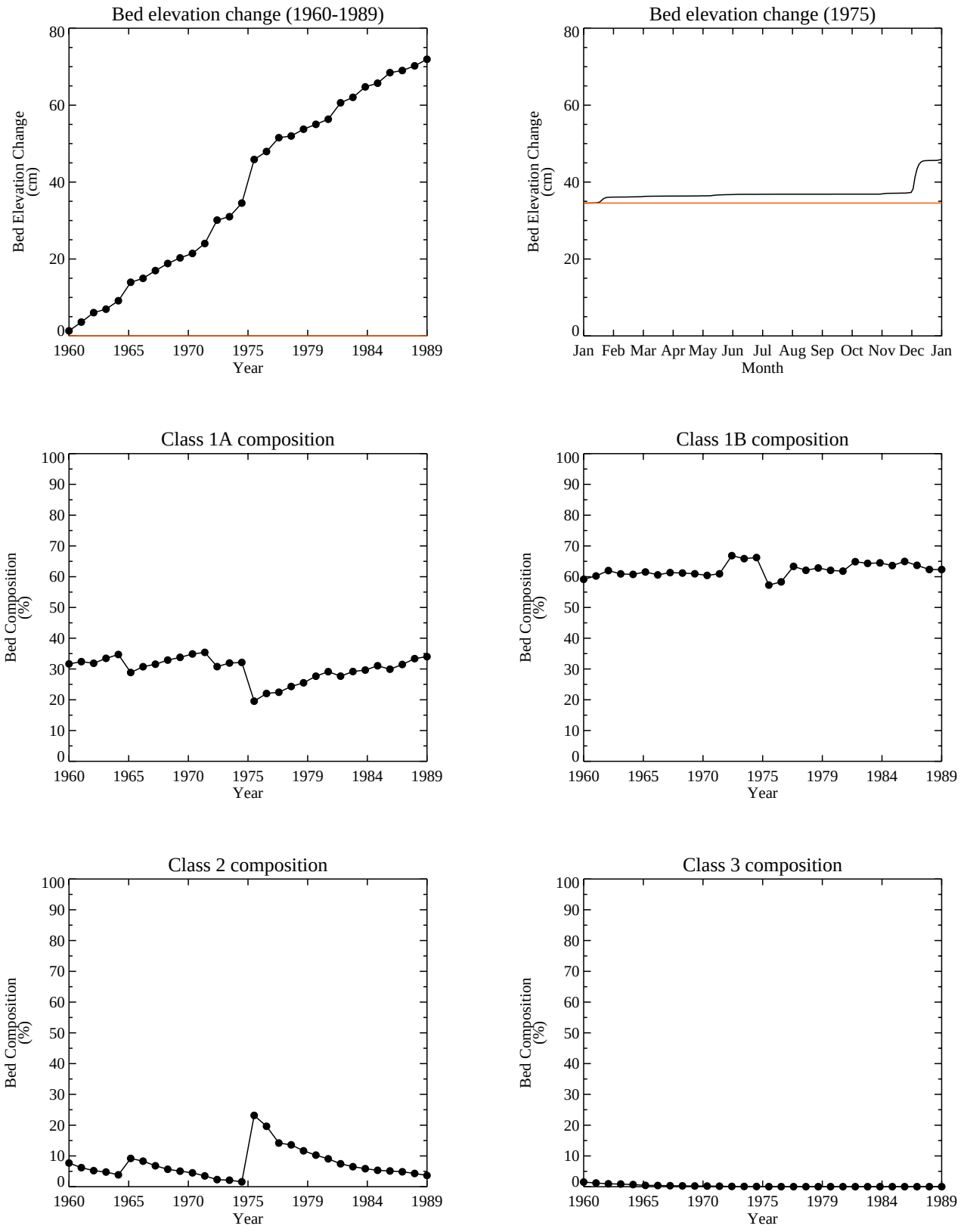

Figure F-63. Temporal variation of bed elevation change and bed composition at grid cell: (15, 319), RM 1.6, Navigation Channel.

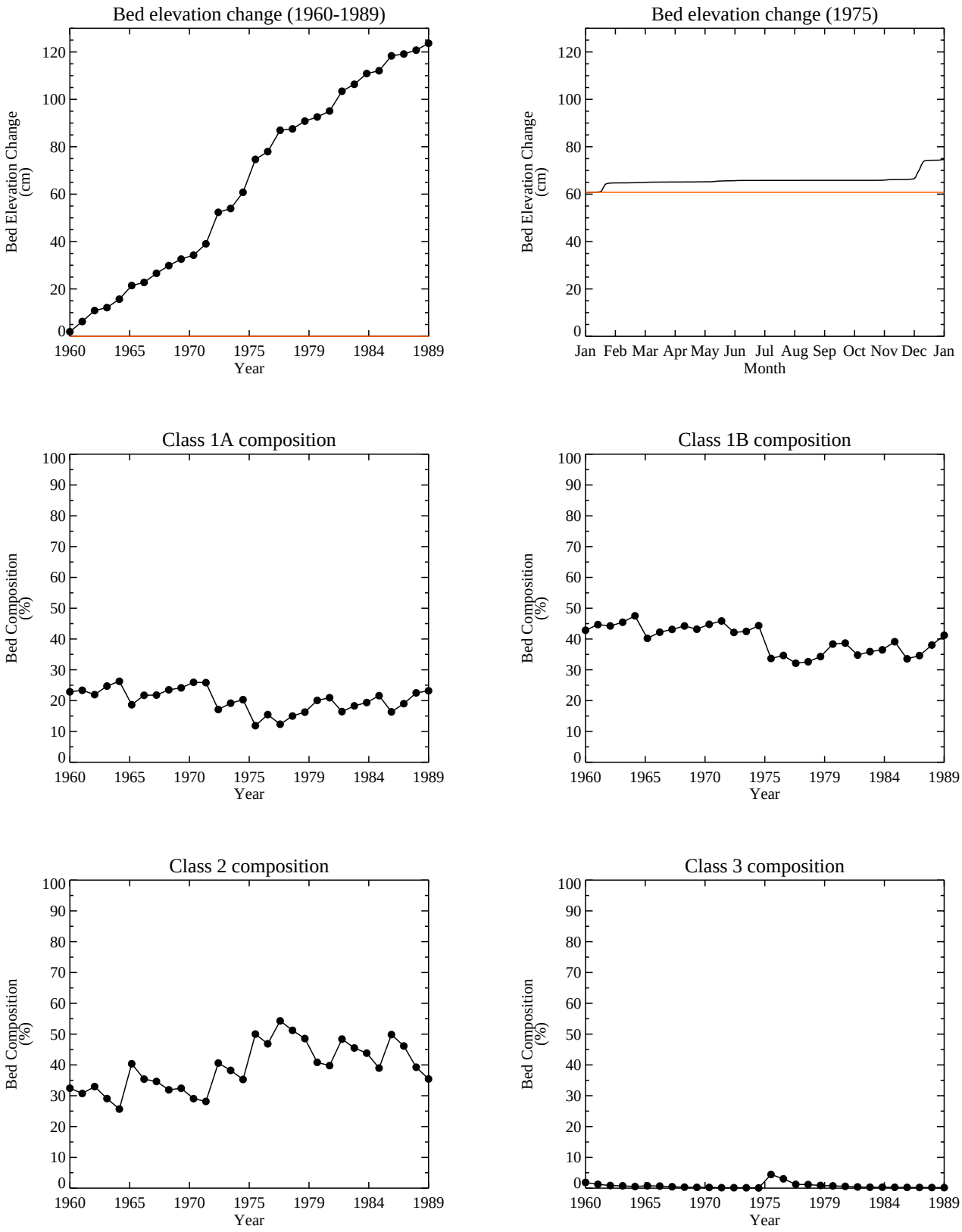

Figure F-64. Temporal variation of bed elevation change and bed composition at grid cell: (14, 308), RM 2.1, Navigation Channel.

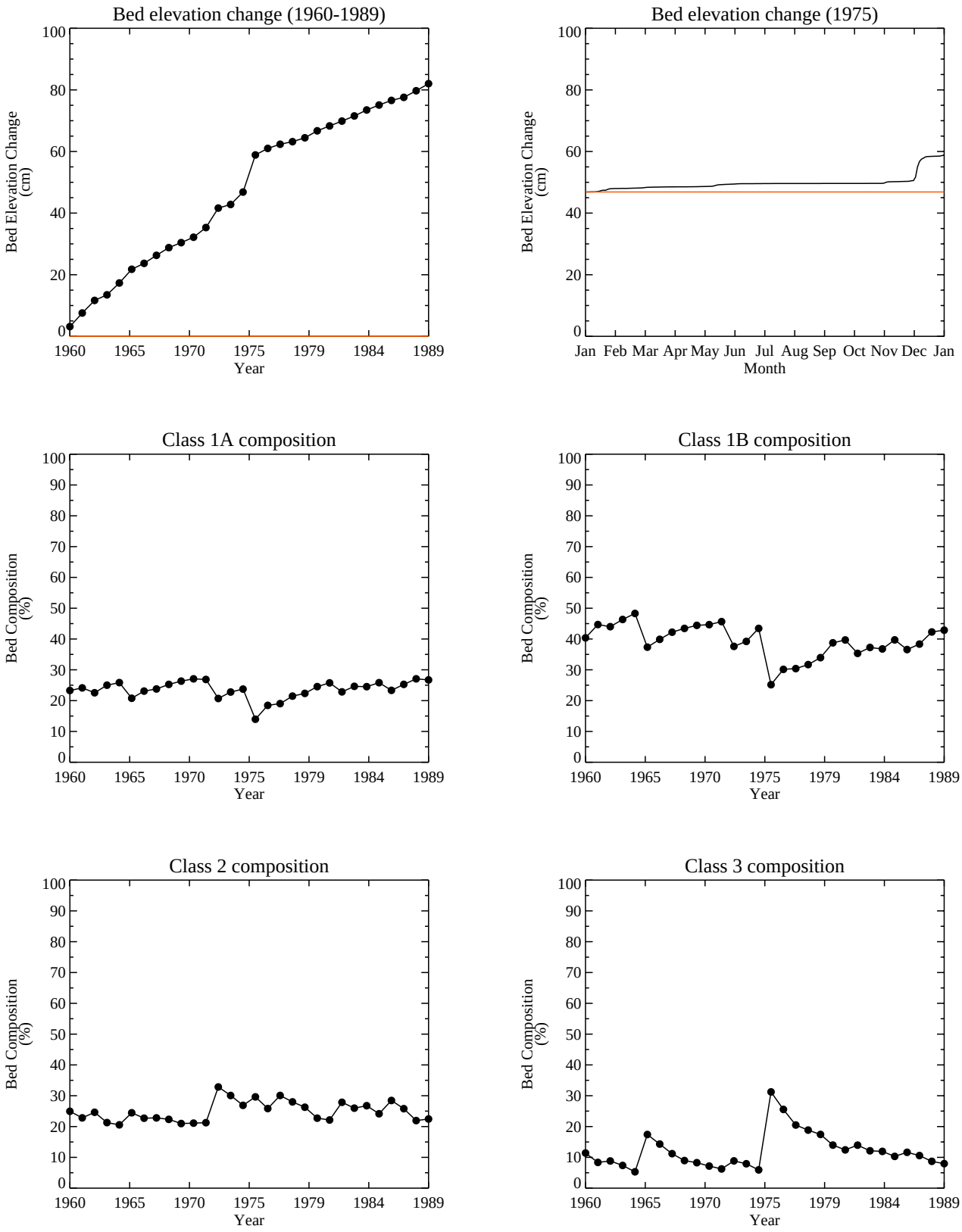

Figure F-65. Temporal variation of bed elevation change and bed composition at grid cell: (14, 301), RM 2.6, Navigation Channel.

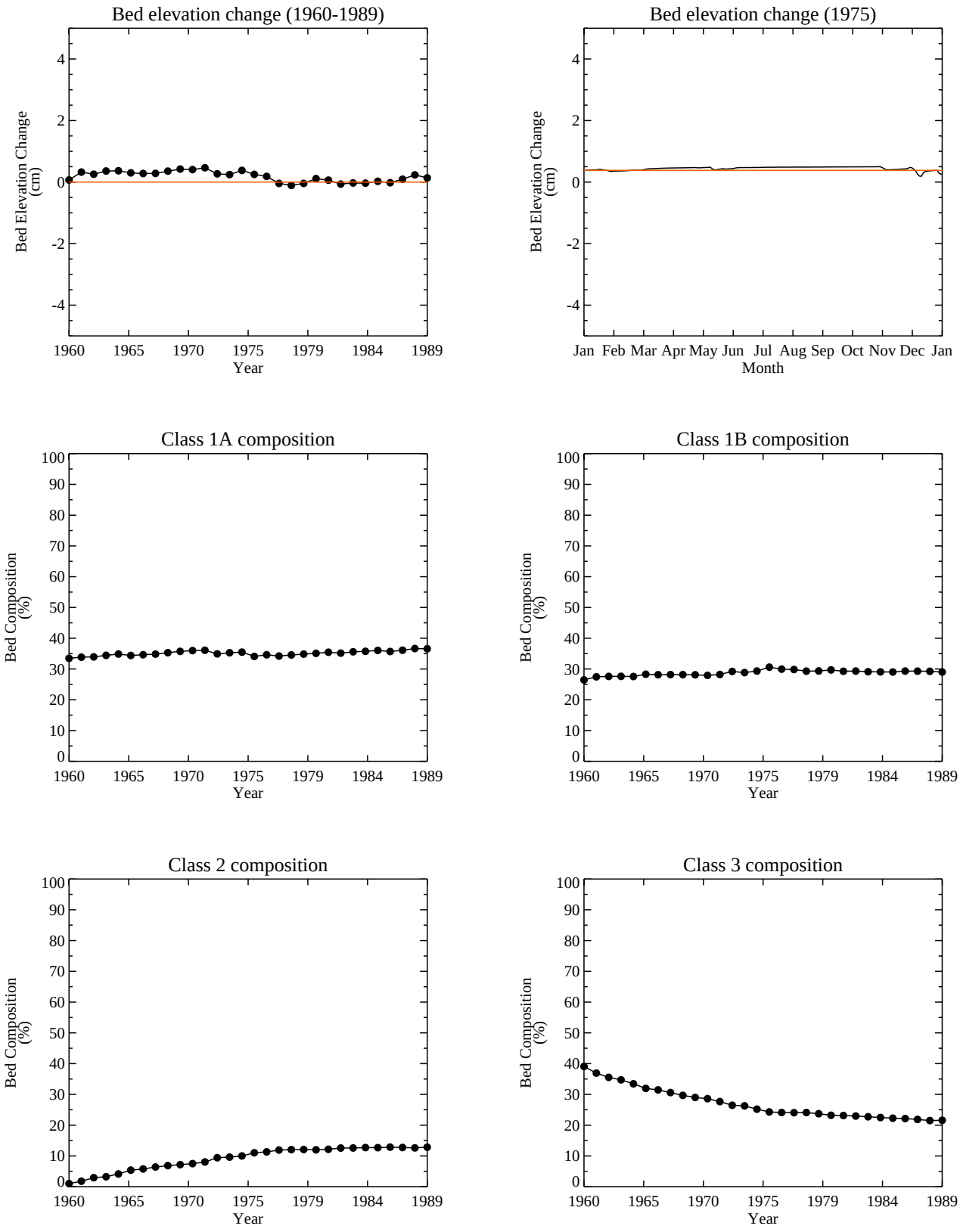

Figure F-66. Temporal variation of bed elevation change and bed composition at grid cell: (14, 332), RM 0.86, Navigation Channel.

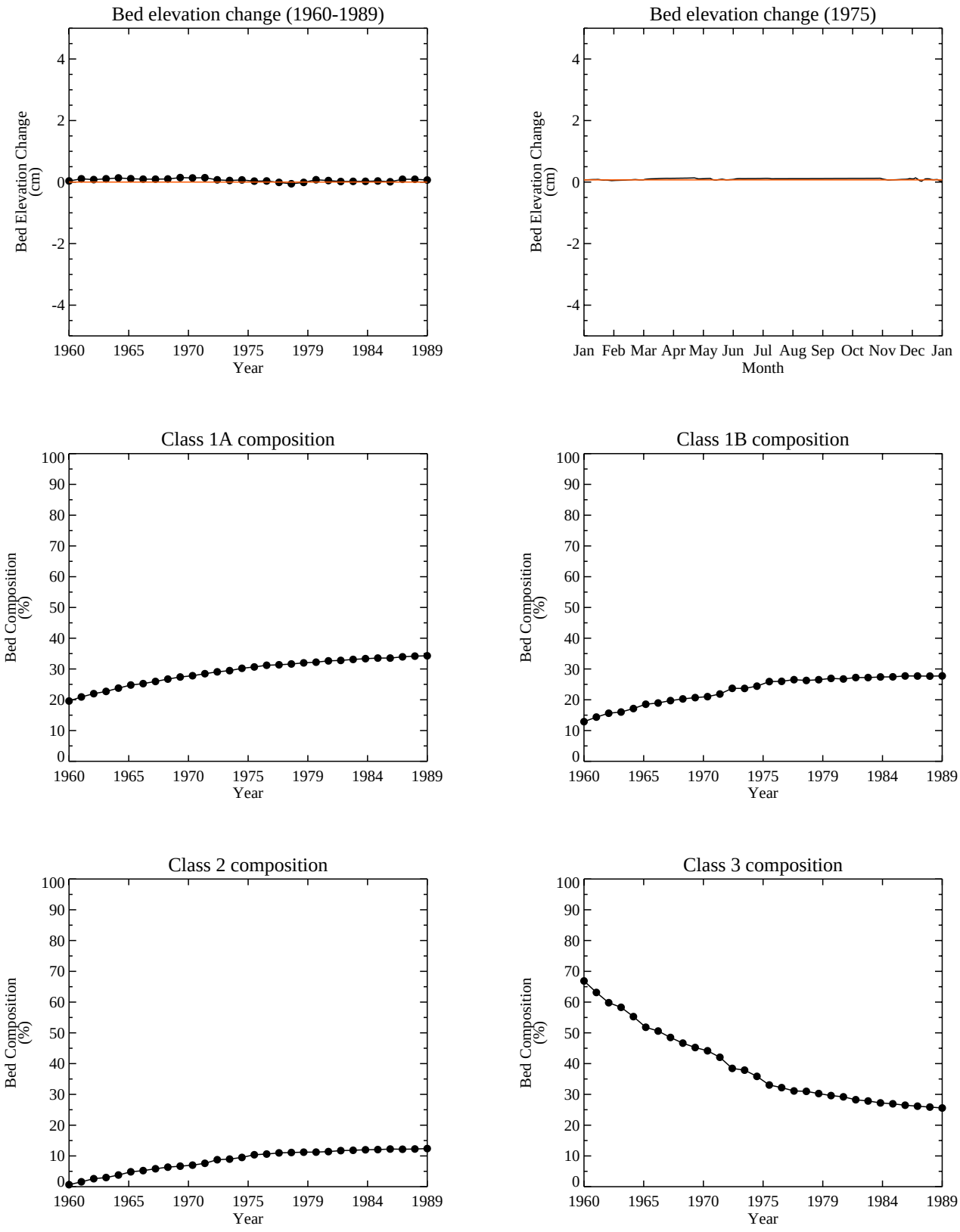

Figure F-67. Temporal variation of bed elevation change and bed composition at grid cell: (14, 333), RM 0.82, Navigation Channel.

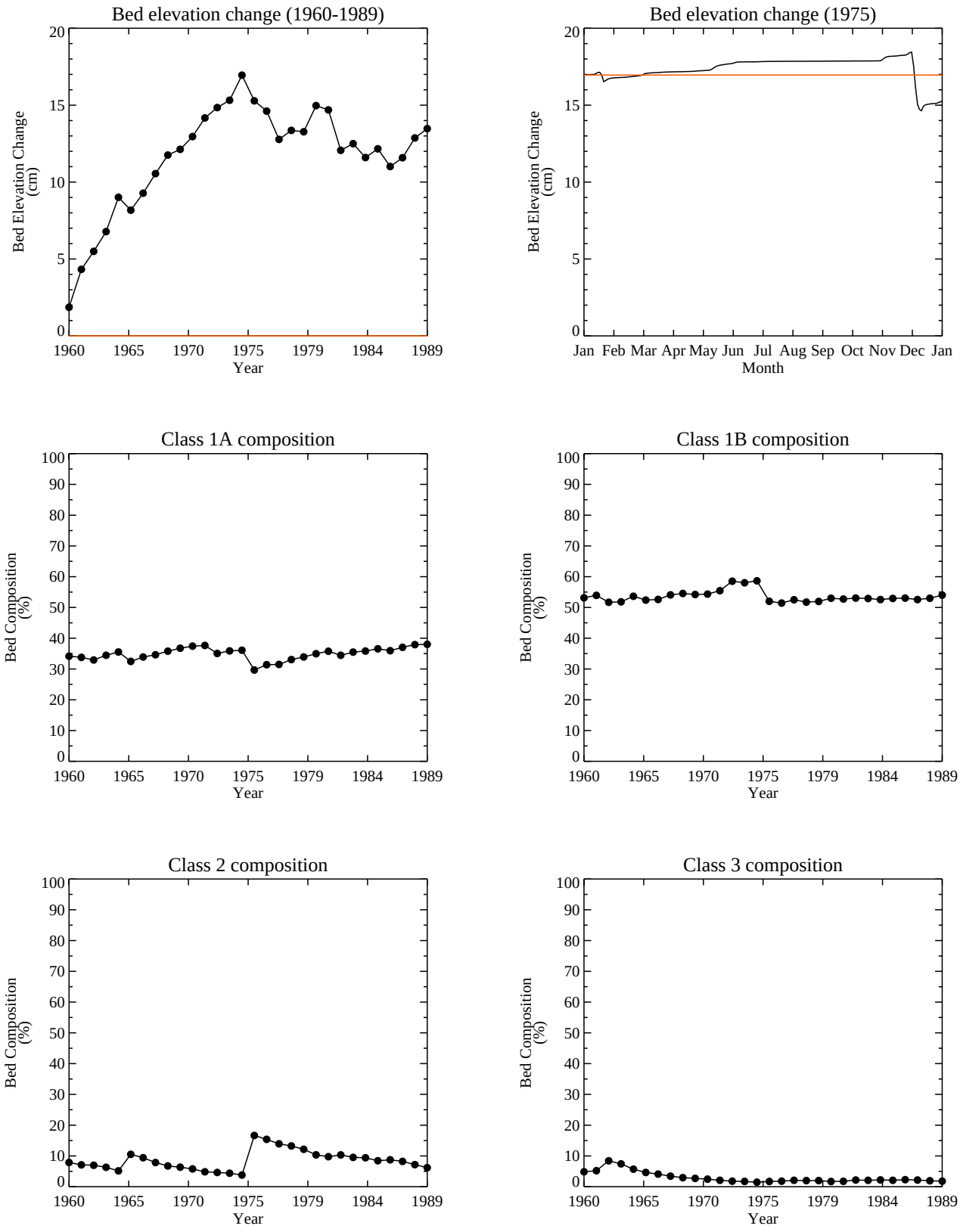

Figure F-68. Temporal variation of bed elevation change and bed composition at grid cell: (12, 311), RM 1.9, West Bench.

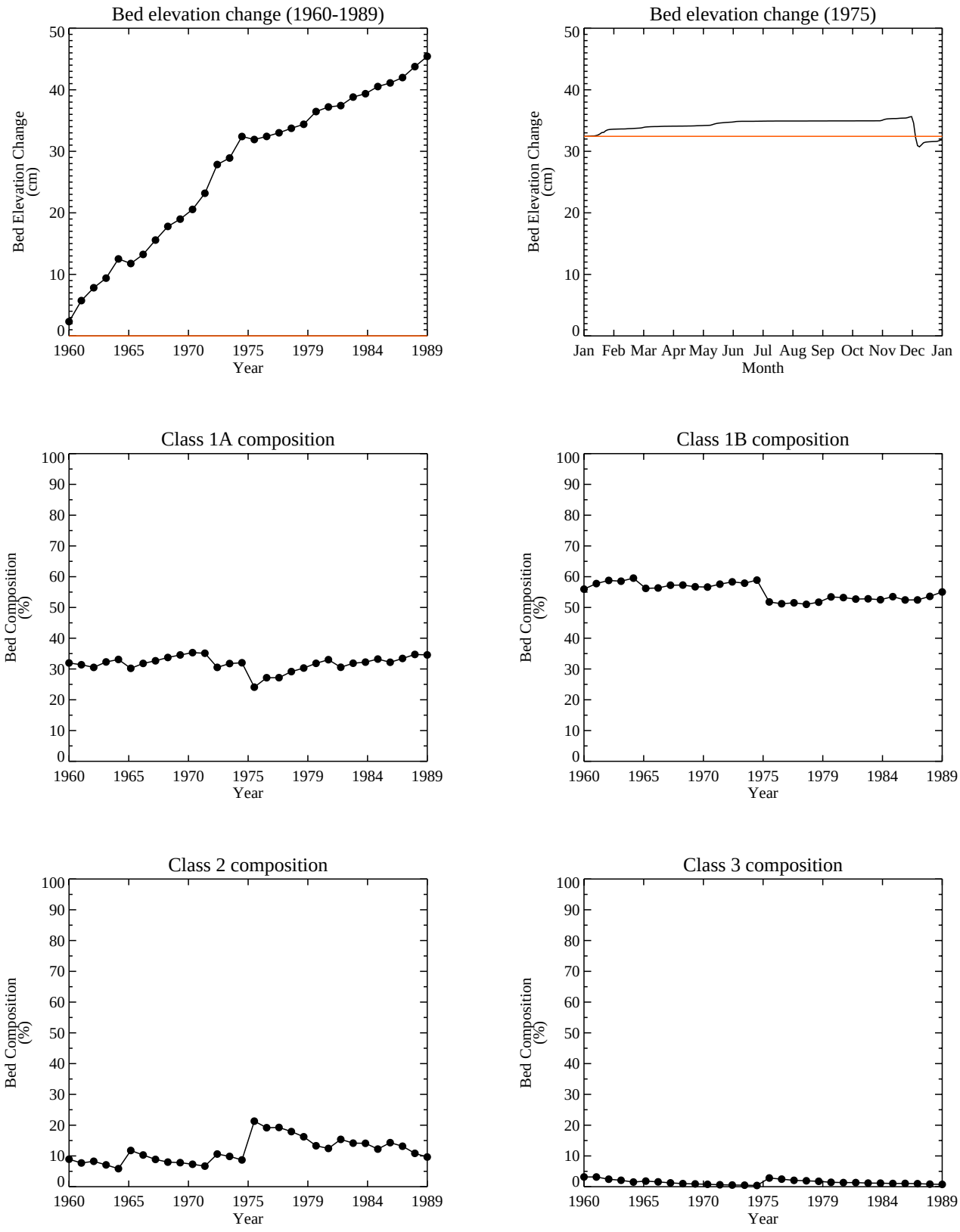

Figure F-69. Temporal variation of bed elevation change and bed composition at grid cell: (16, 305), RM 2.3, East Bench.

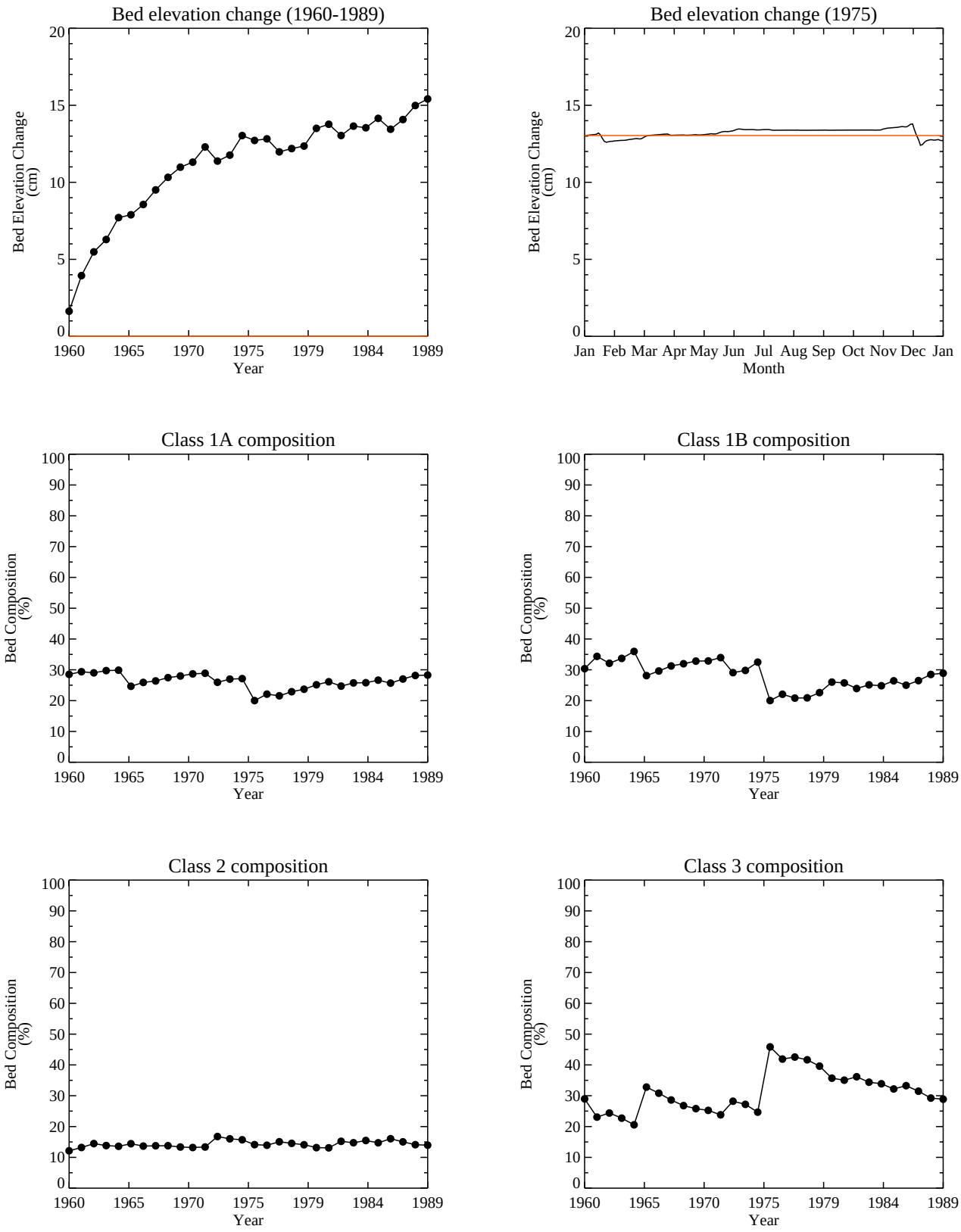

Figure F-70. Temporal variation of bed elevation change and bed composition at grid cell: (14, 299), RM 2.7, Navigation Channel.

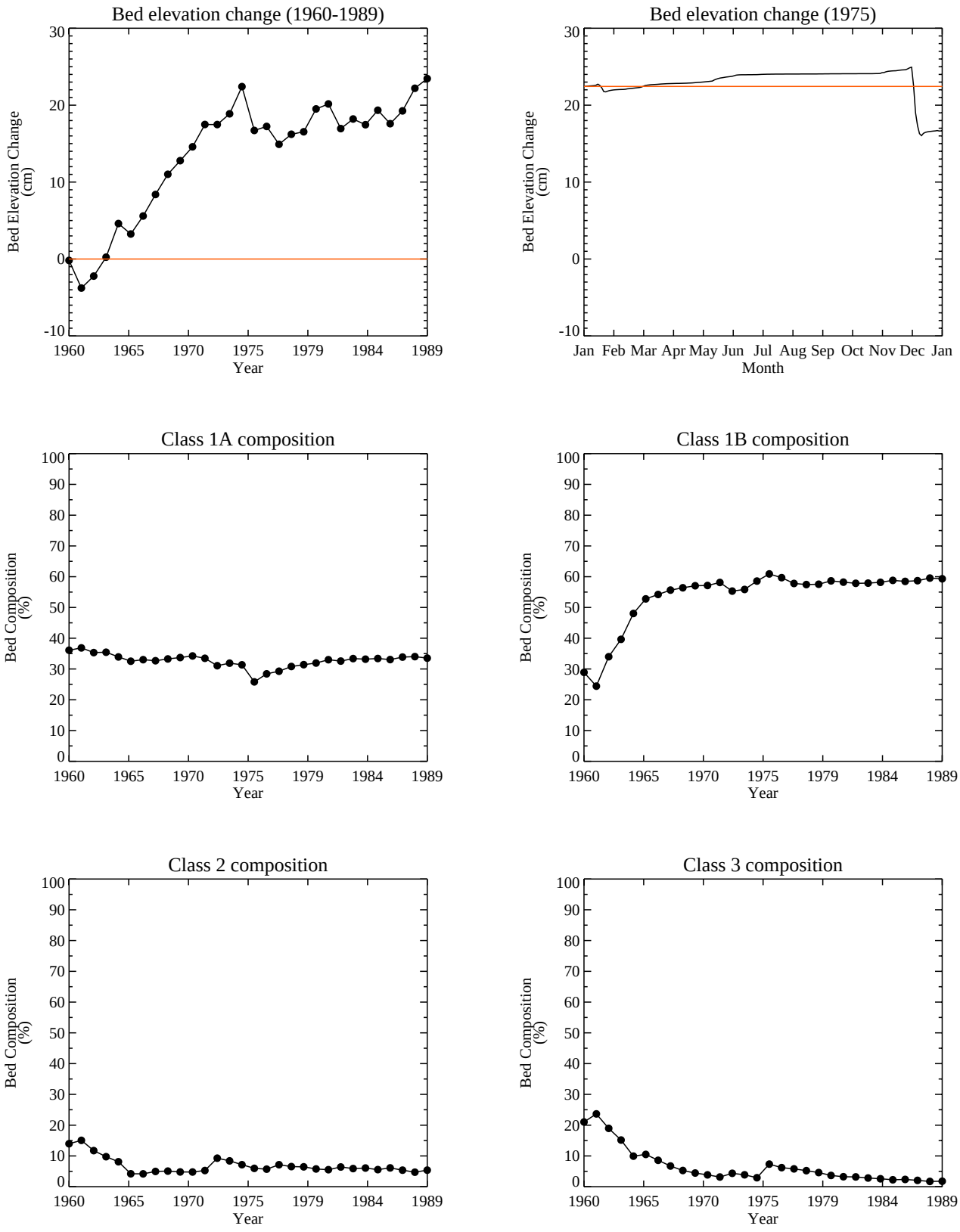

Figure F-71. Temporal variation of bed elevation change and bed composition at grid cell: (15, 292), RM 3.1, Navigation Channel.

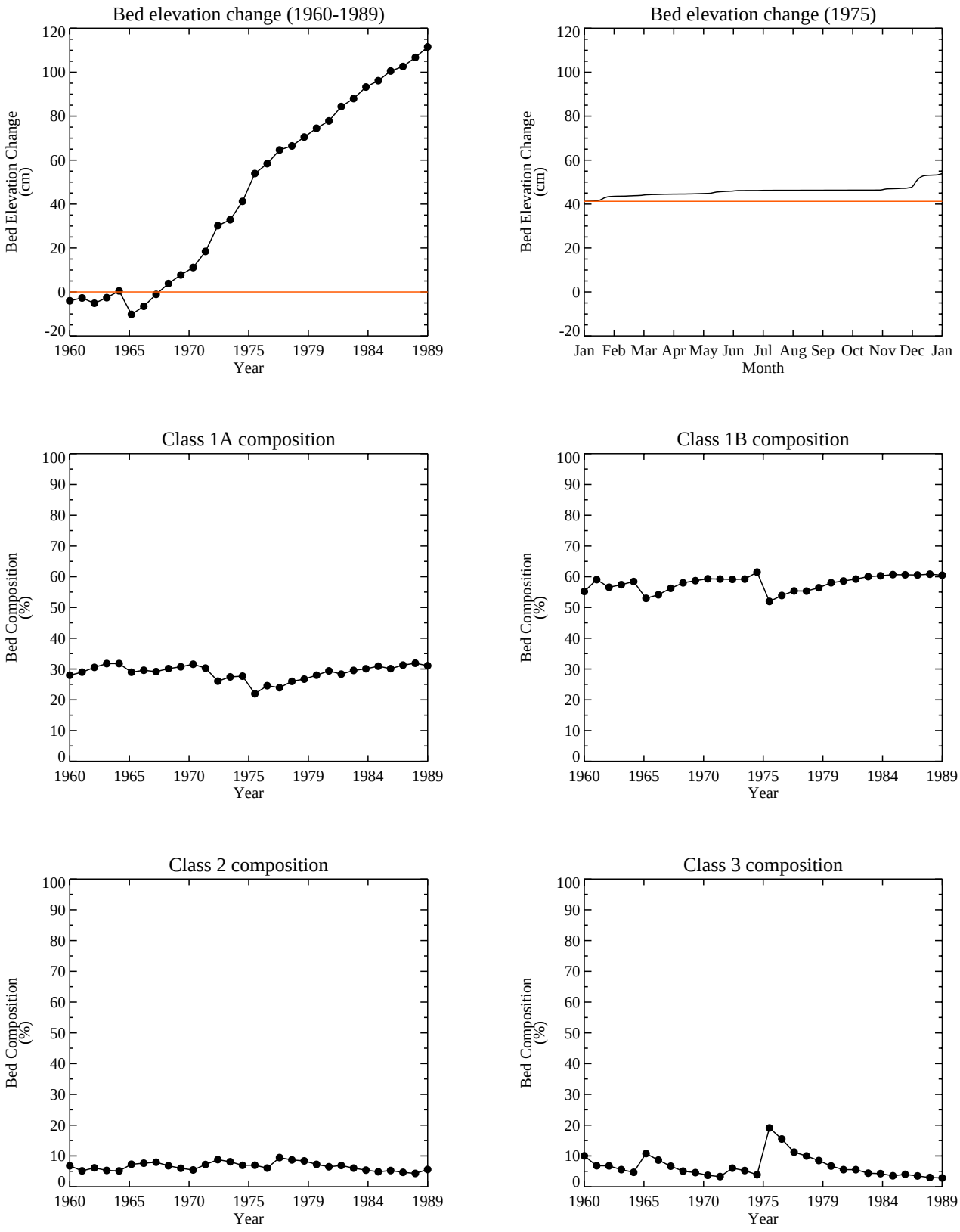

Figure F-72. Temporal variation of bed elevation change and bed composition at grid cell: (16, 286), RM 3.6, East Bench.

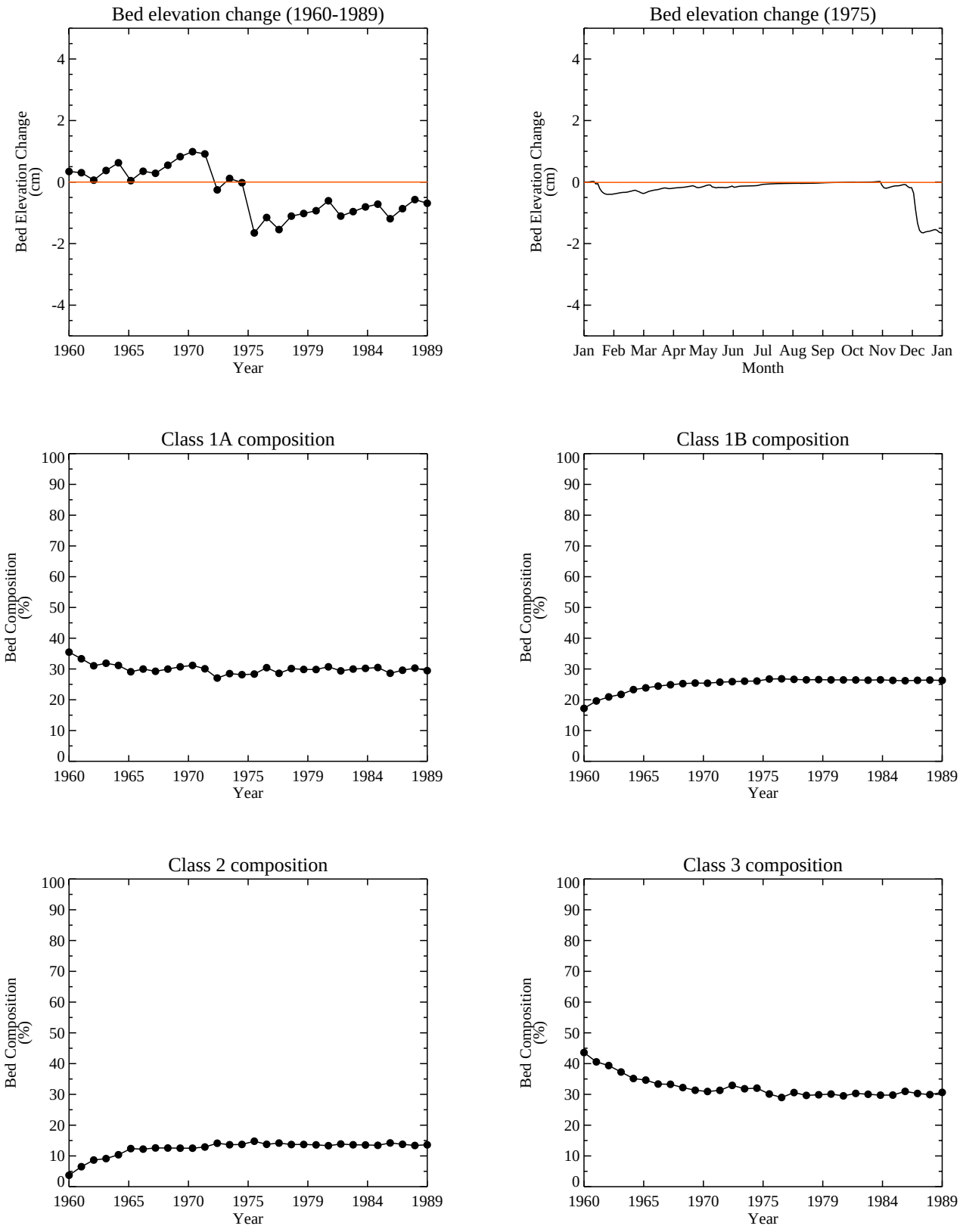

Figure F-73. Temporal variation of bed elevation change and bed composition at grid cell: (17, 286), RM 3.6, East Bench.

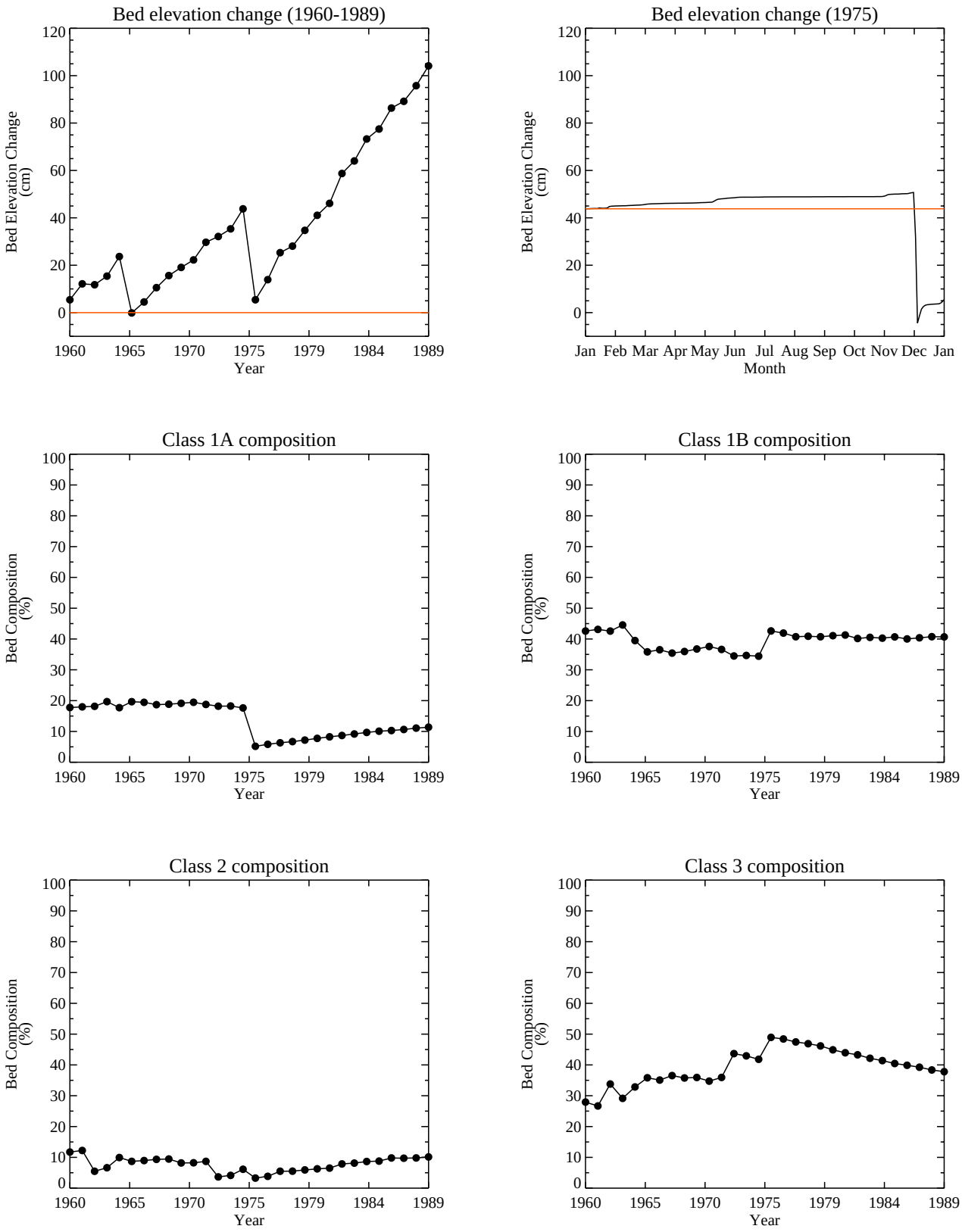

Figure F-74. Temporal variation of bed elevation change and bed composition at grid cell: (14, 283), RM 3.9, Navigation Channel.

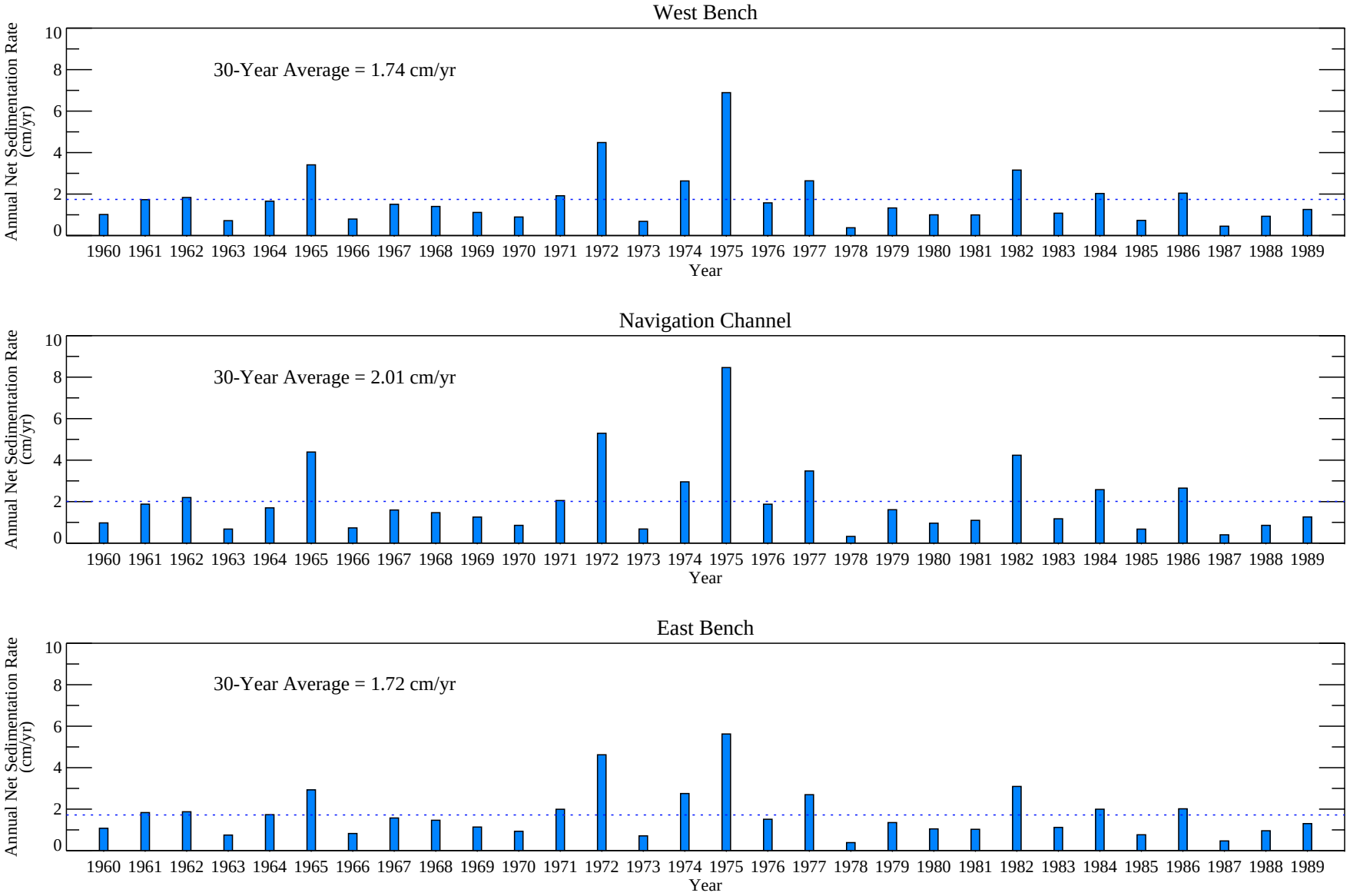

Figure F-75. Predicted annual sedimentation rate in Reach 1: 1960 - 1989.

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Fri Jun 13 16:24:25 2008

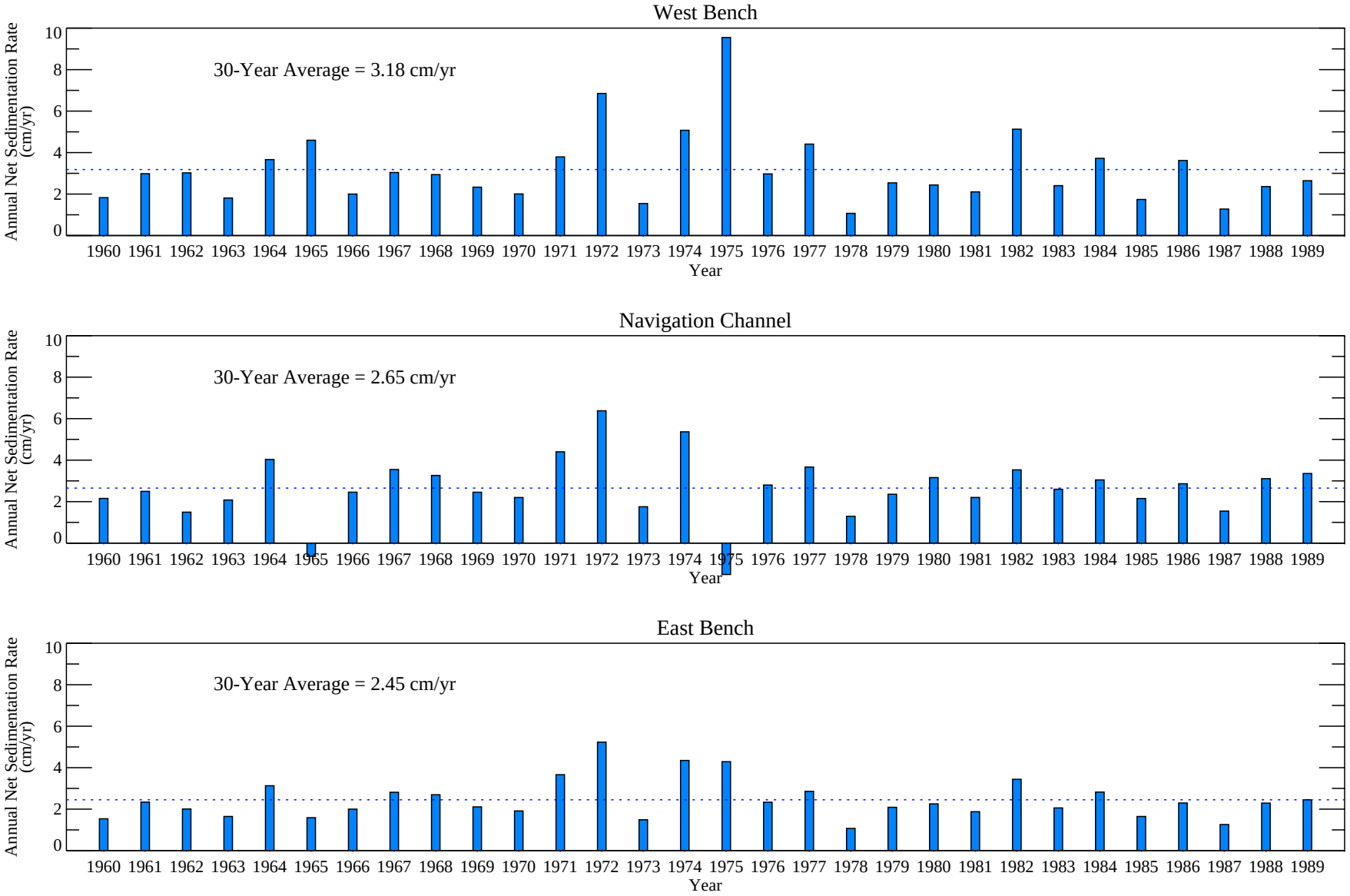


Figure F-76. Predicted annual sedimentation rate in Reach 2: 1960 - 1989.

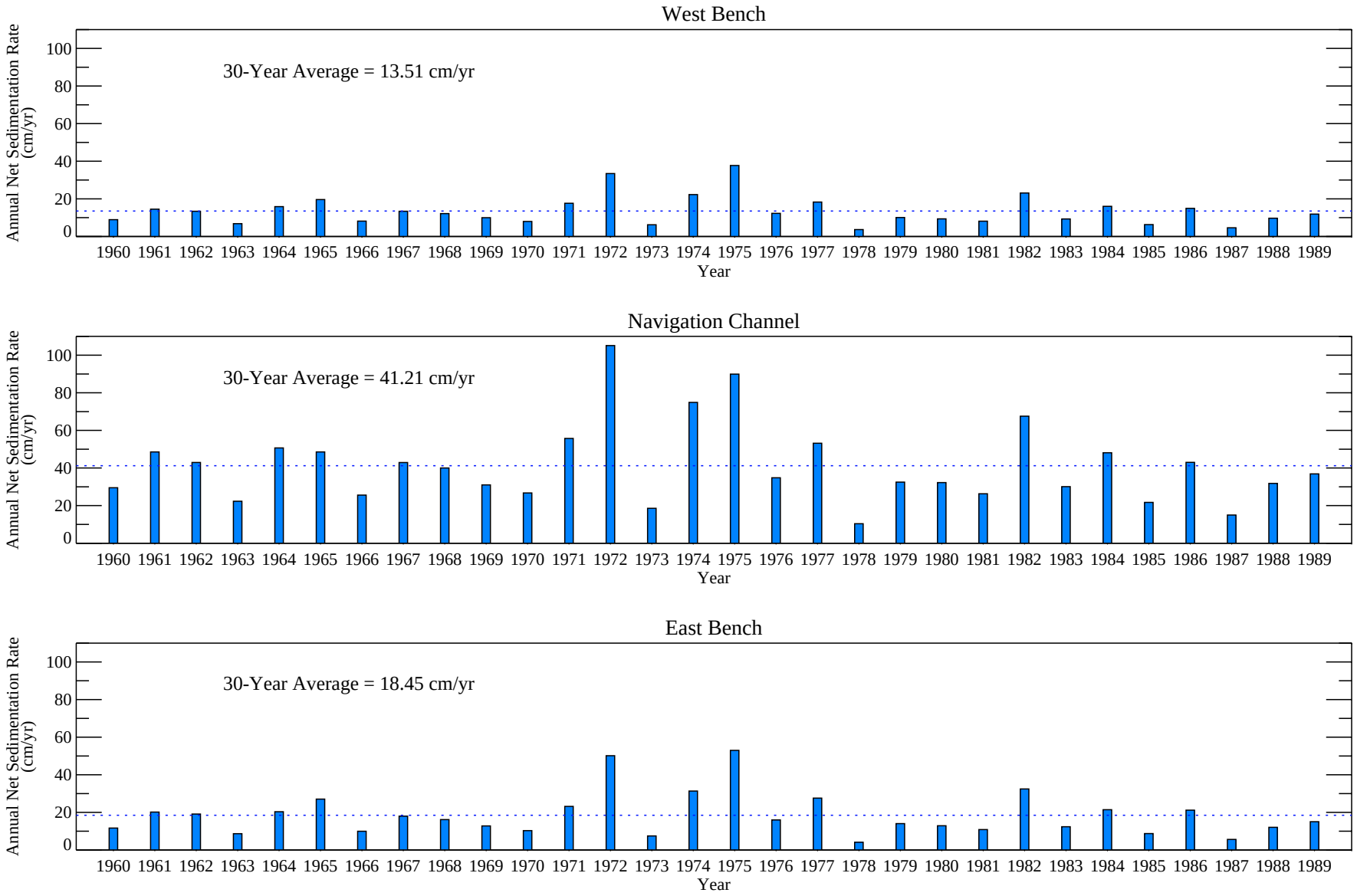


Figure F-77. Predicted annual sedimentation rate in Reach 3: 1960 - 1989.

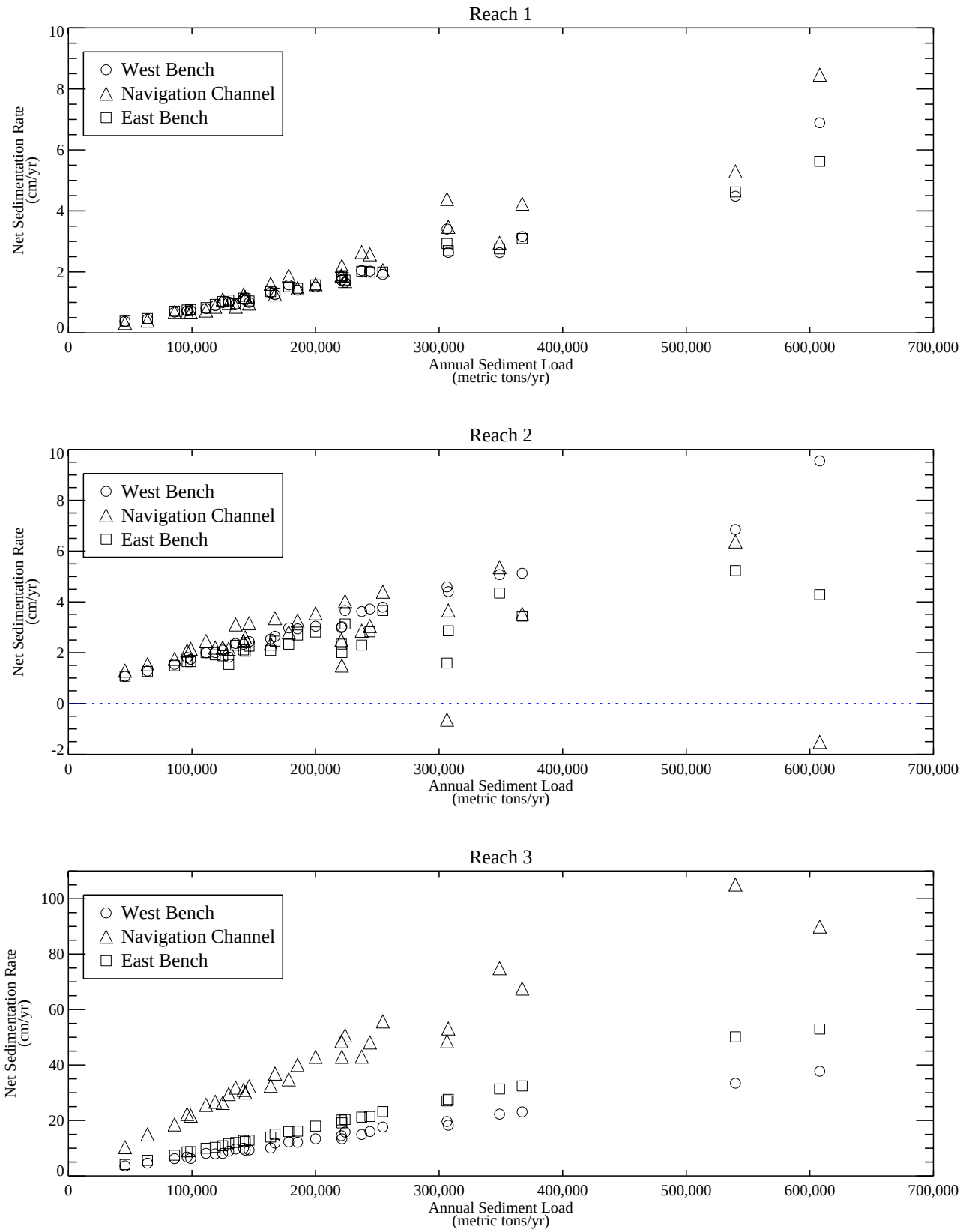


Figure F-78. Correlation between annual sediment load and net sedimentation rate.

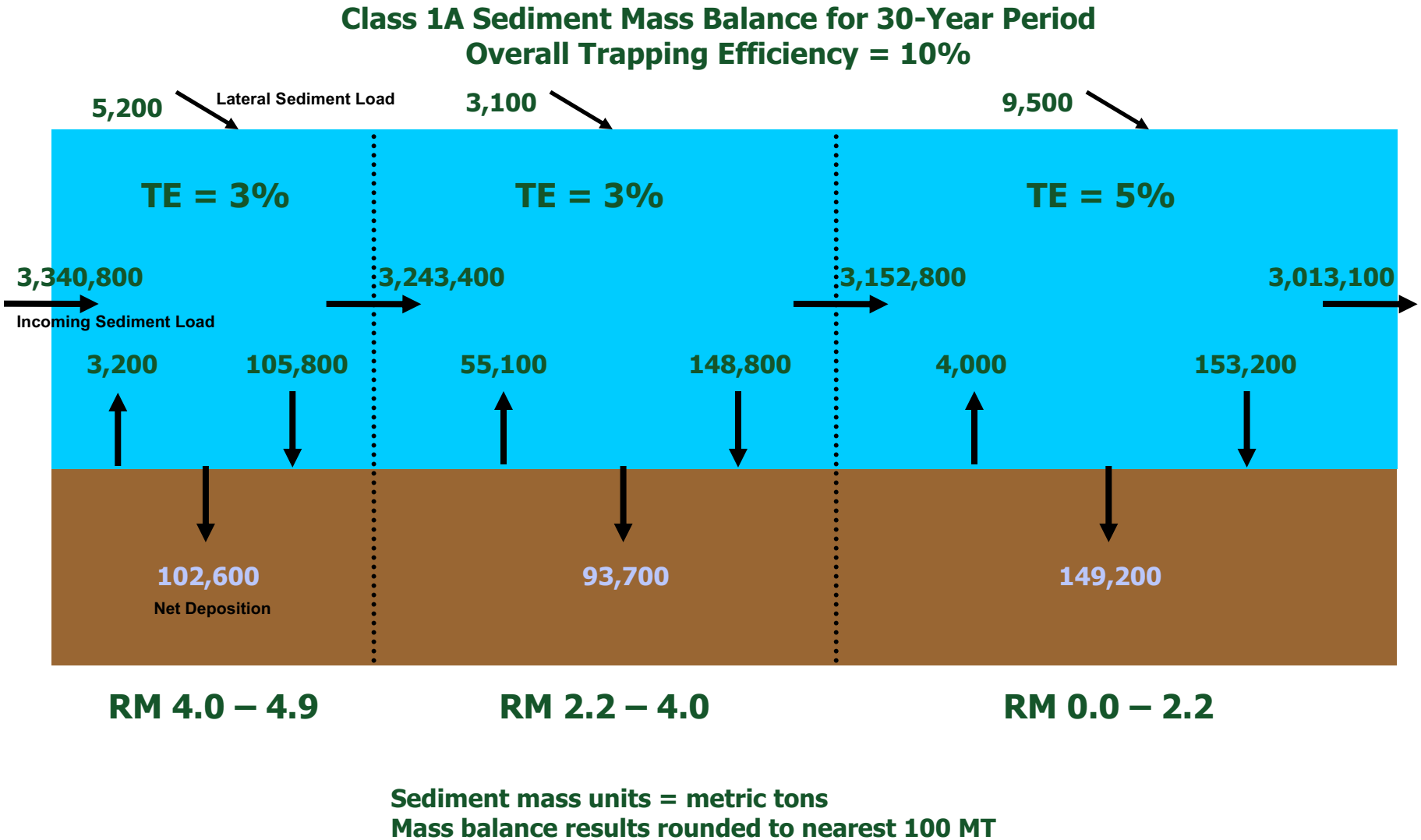


Figure F-79. Class 1A sediment mass balances for 30-year period. Trapping efficiency is percentage of incoming sediment load that is deposited within a reach.

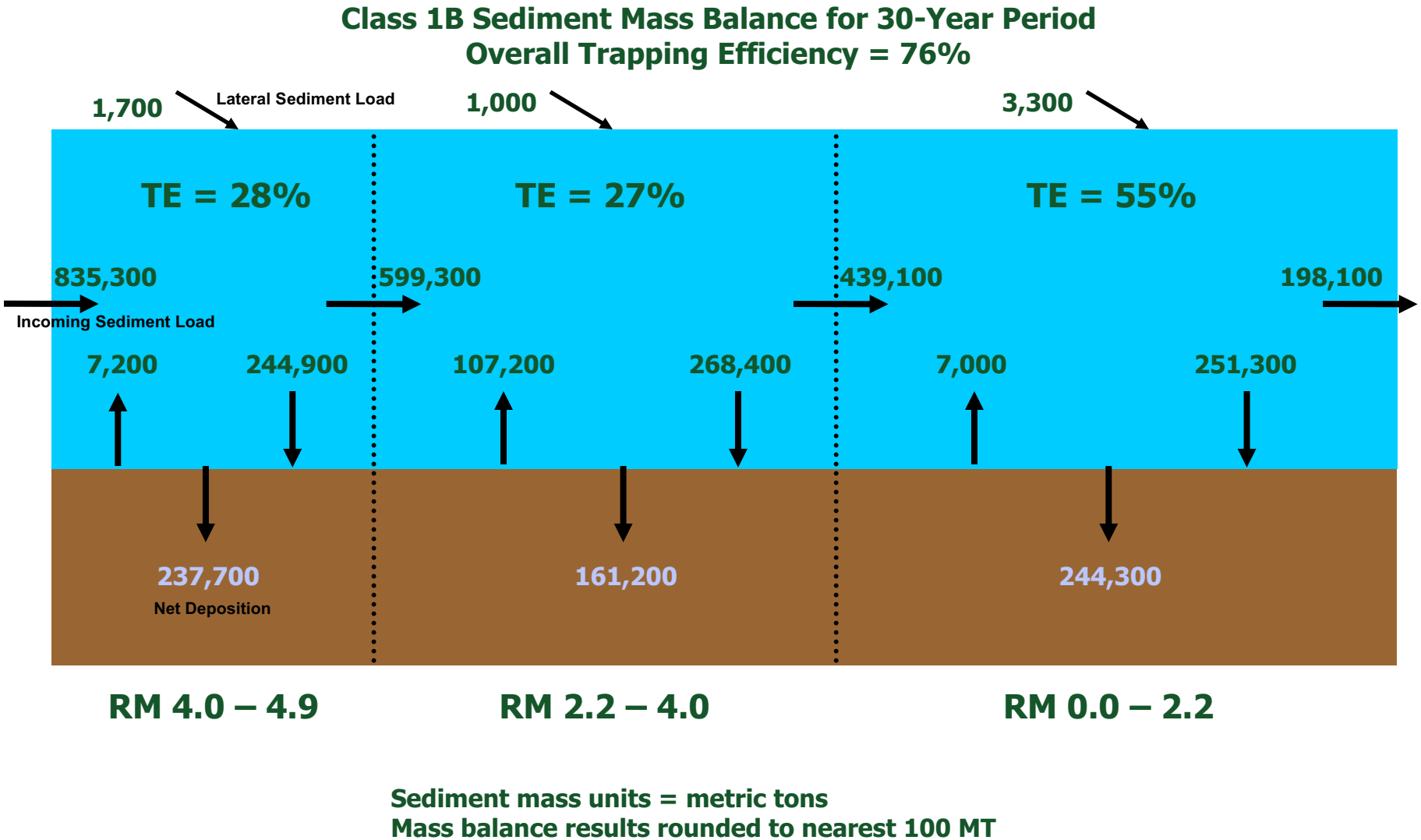


Figure F-80. Class 1B sediment mass balances for 30-year period. Trapping efficiency is percentage of incoming sediment load that is deposited within a reach.

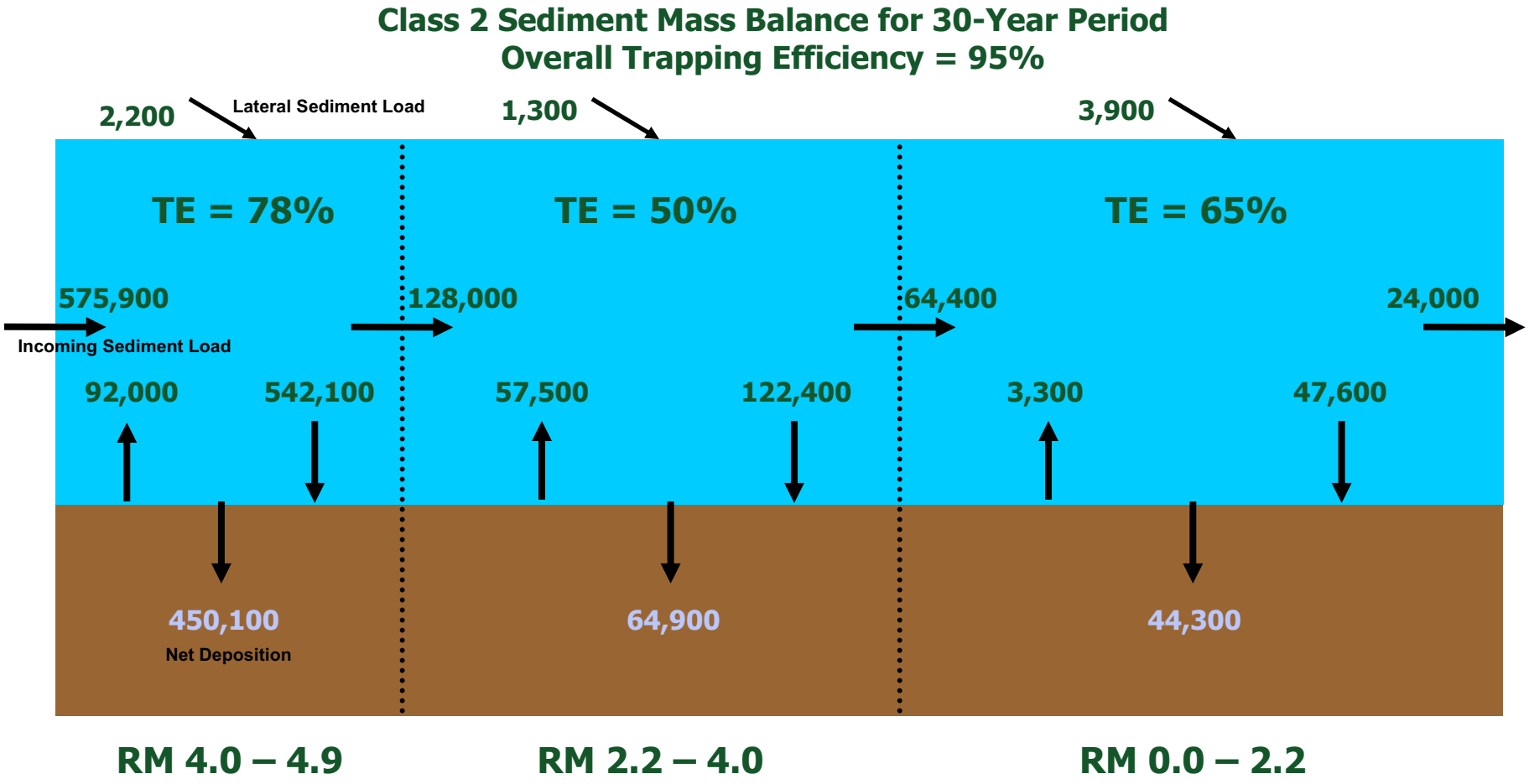


Figure F-81. Class 2 sediment mass balances for 30-year period. Trapping efficiency is percentage of incoming sediment load that is deposited within a reach.

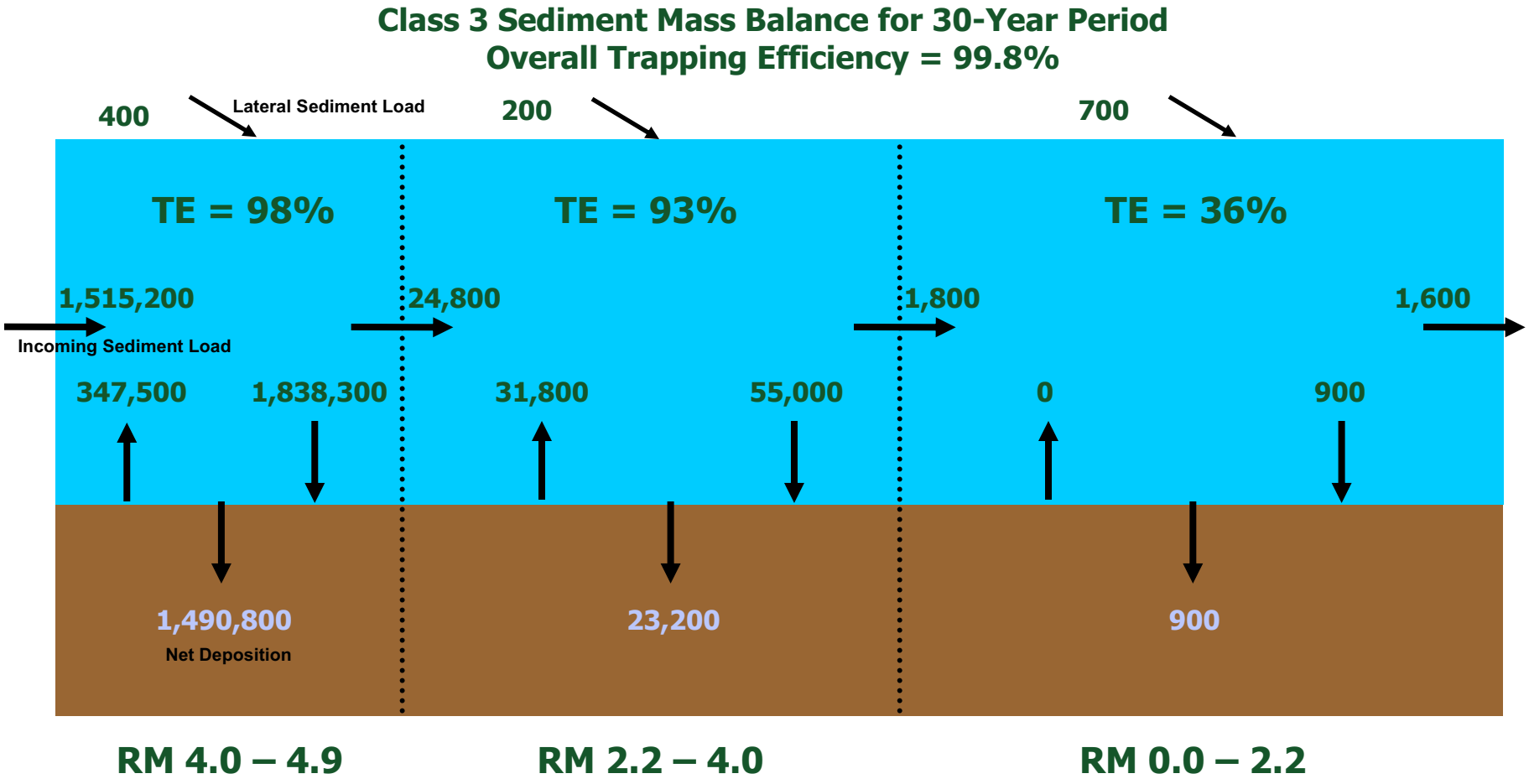
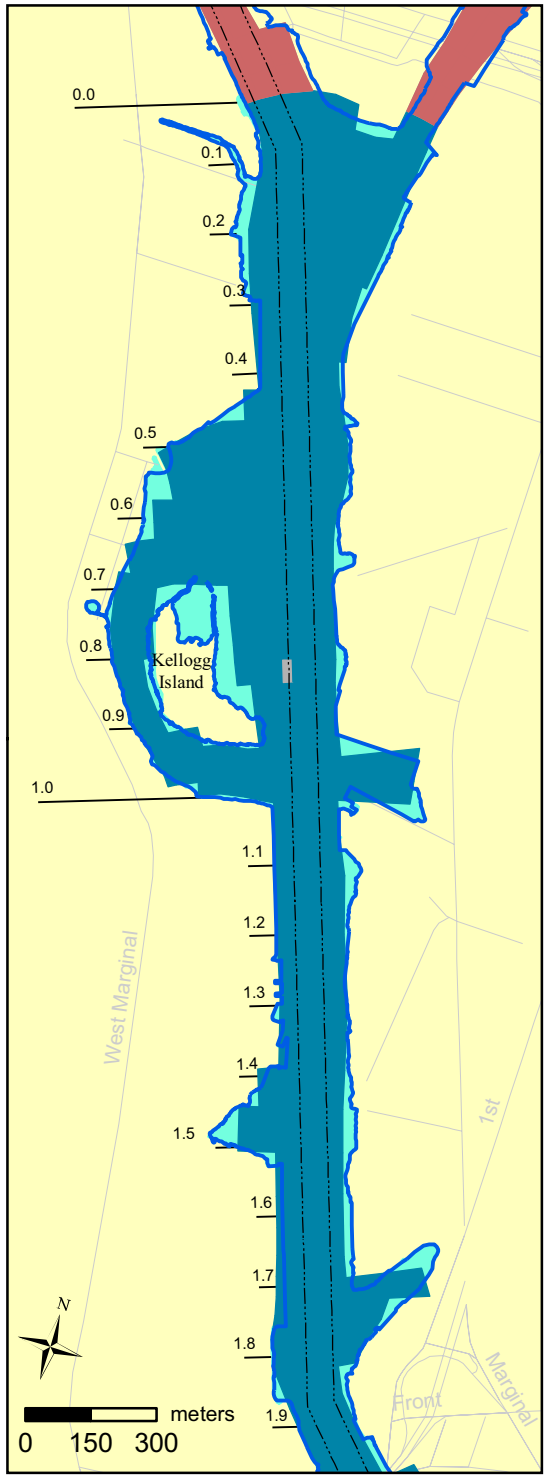
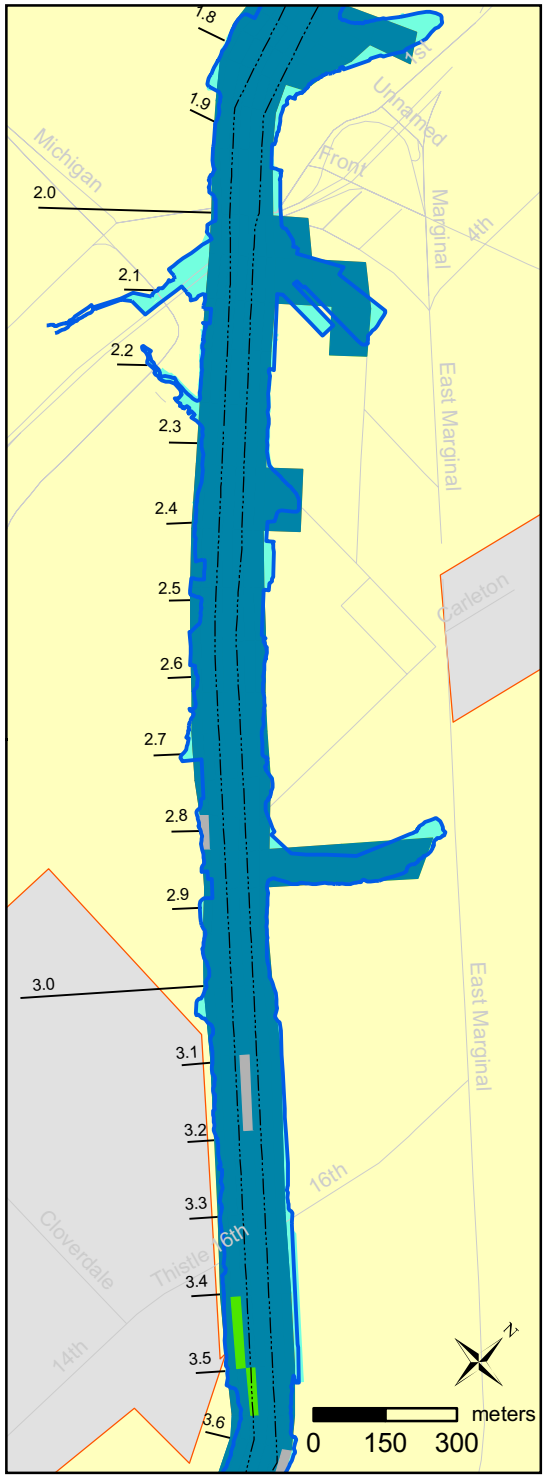
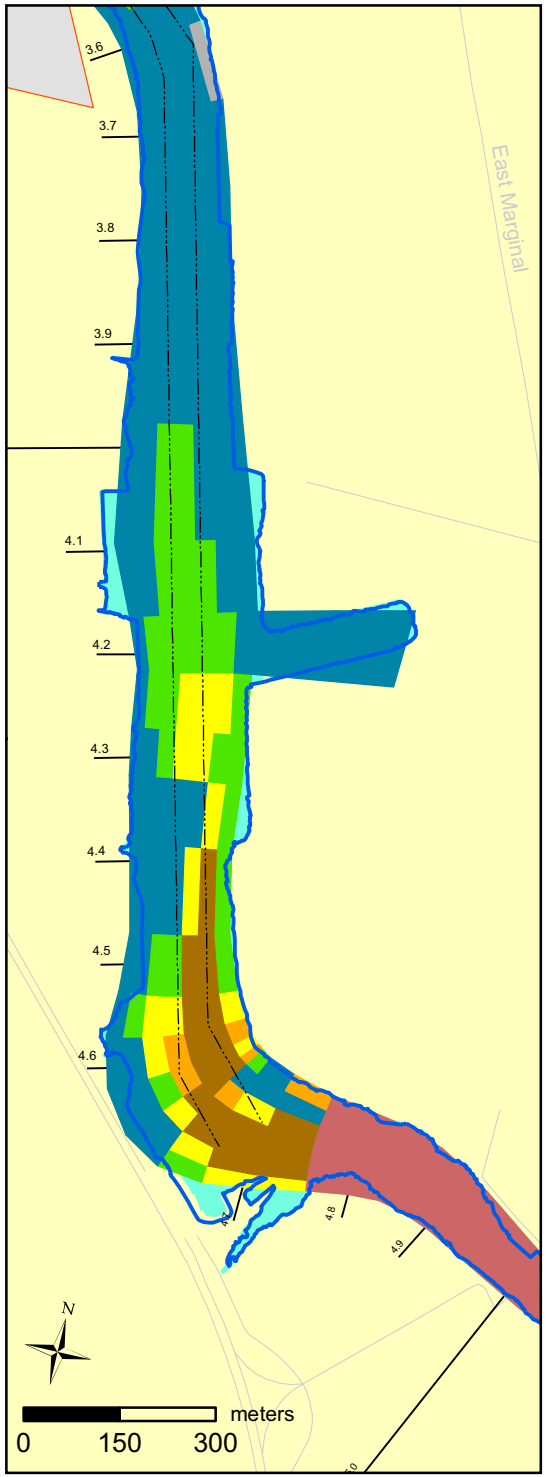
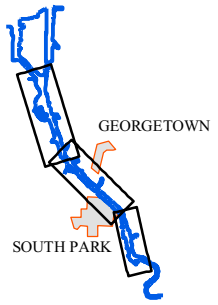


Figure F-82. Class 3 sediment mass balances for 30-year period. Trapping efficiency is percentage of incoming sediment load that is deposited within a reach.









LEGEND

- Navigation Channel
- Shore Line
- River Miles
- Roads
- Hard Bottom
- Neighborhoods
- Outside model domain

Model Predicted NSR (cm/yr)

- 0 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- 2.0 - 3.0
- > 3.0
- Net Erosion

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-83.
Spatial distribution of predicted net sedimentation rate (NSR) for 30-year period for area with high sedimentation rate.

June 2008

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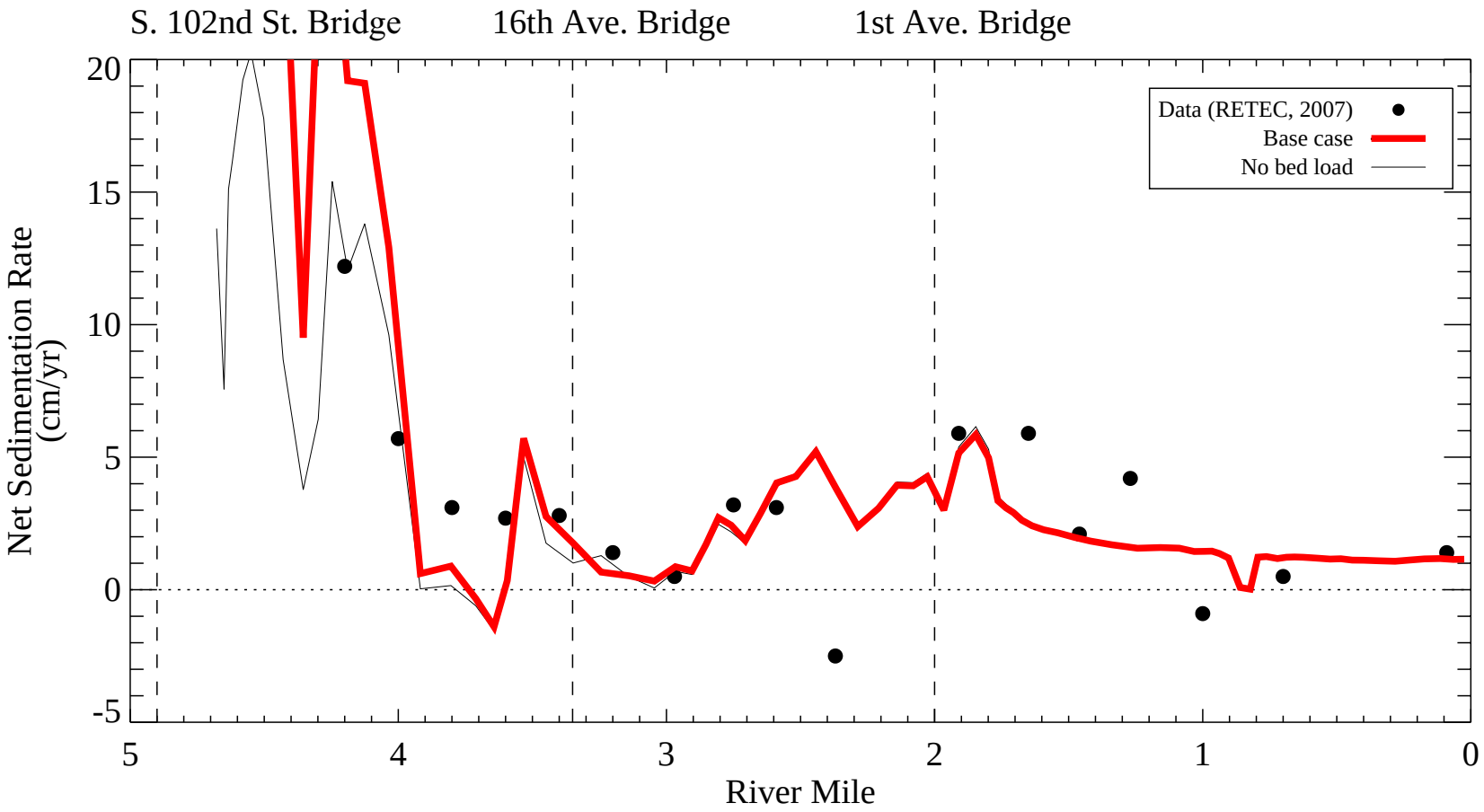

Figure F-84. Comparison of predicted net sedimentation rates for base-case and no-bed-load conditions during 6-year simulation period in the navigation channel.

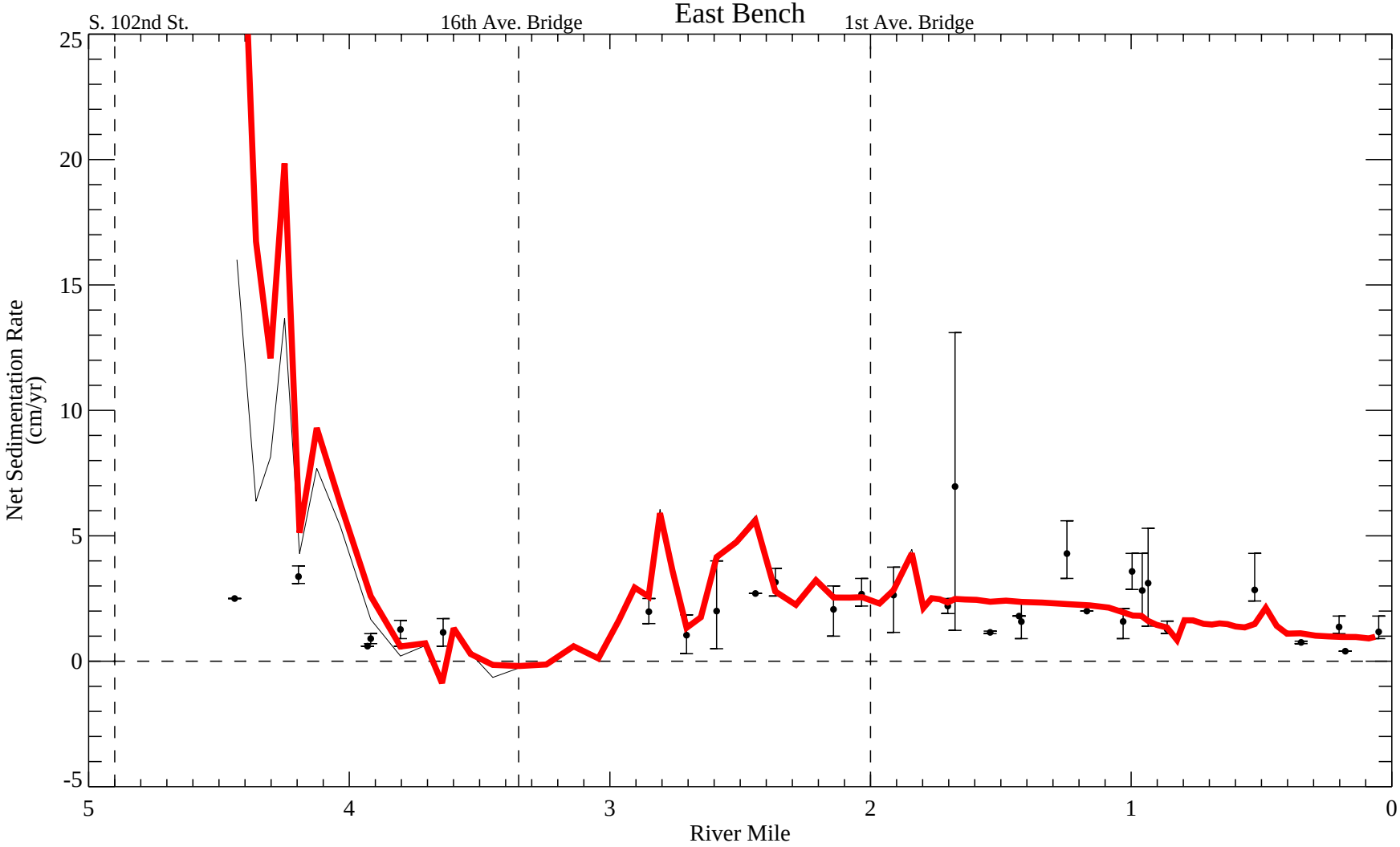

Figure F-85. Comparison of predicted net sedimentation rates for base-case and no-bed-load conditions during 6-year simulation period in the east bench.

Empirically-derived estimate
Base case
no bed load

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Fri Sep 19 10:58:44 2008

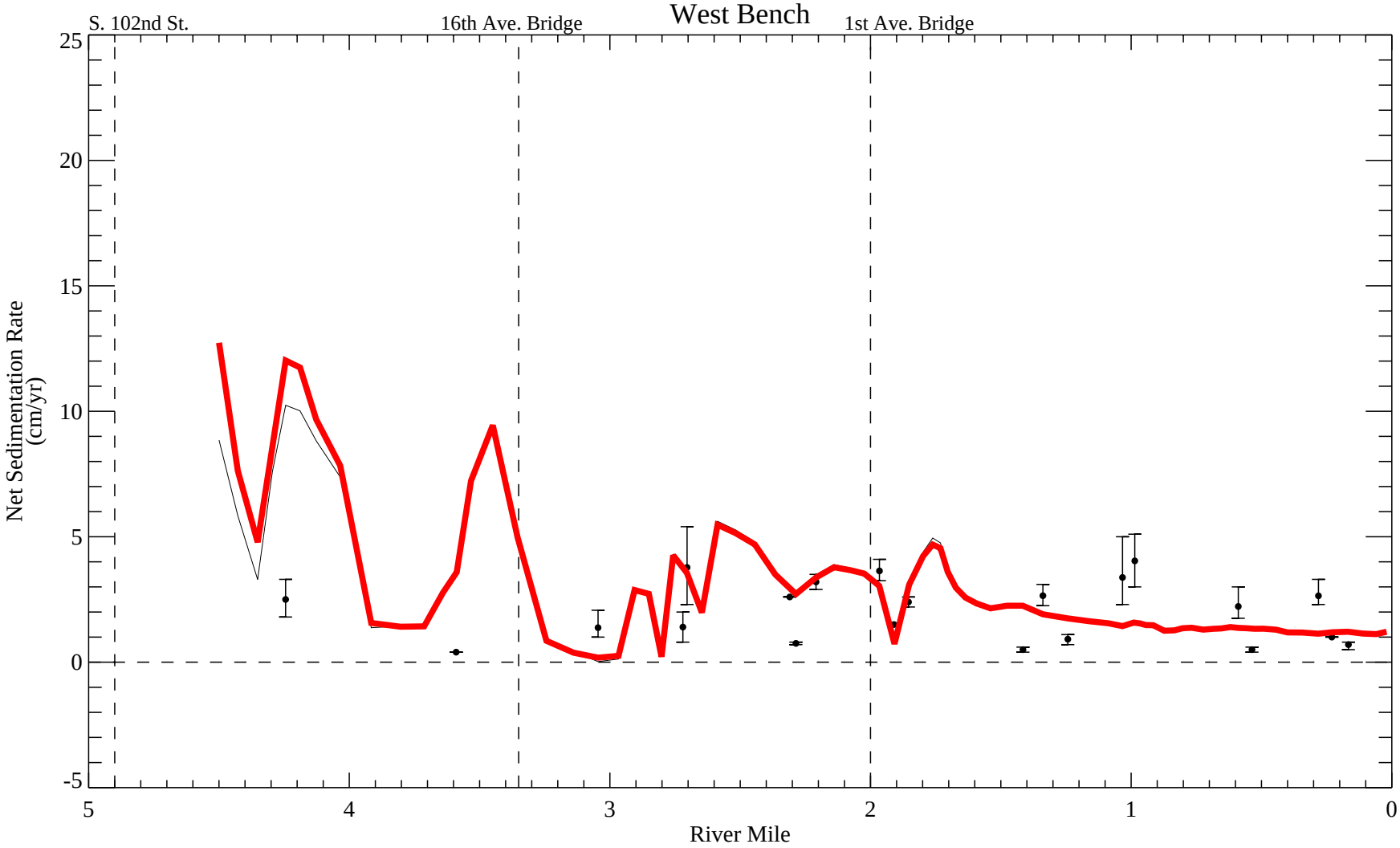

Figure F-86. Comparison of predicted net sedimentation rates for base-case and no-bed-load conditions during 6-year simulation period in the west bench.

Empirically-derived estimate
Base case
no bed load

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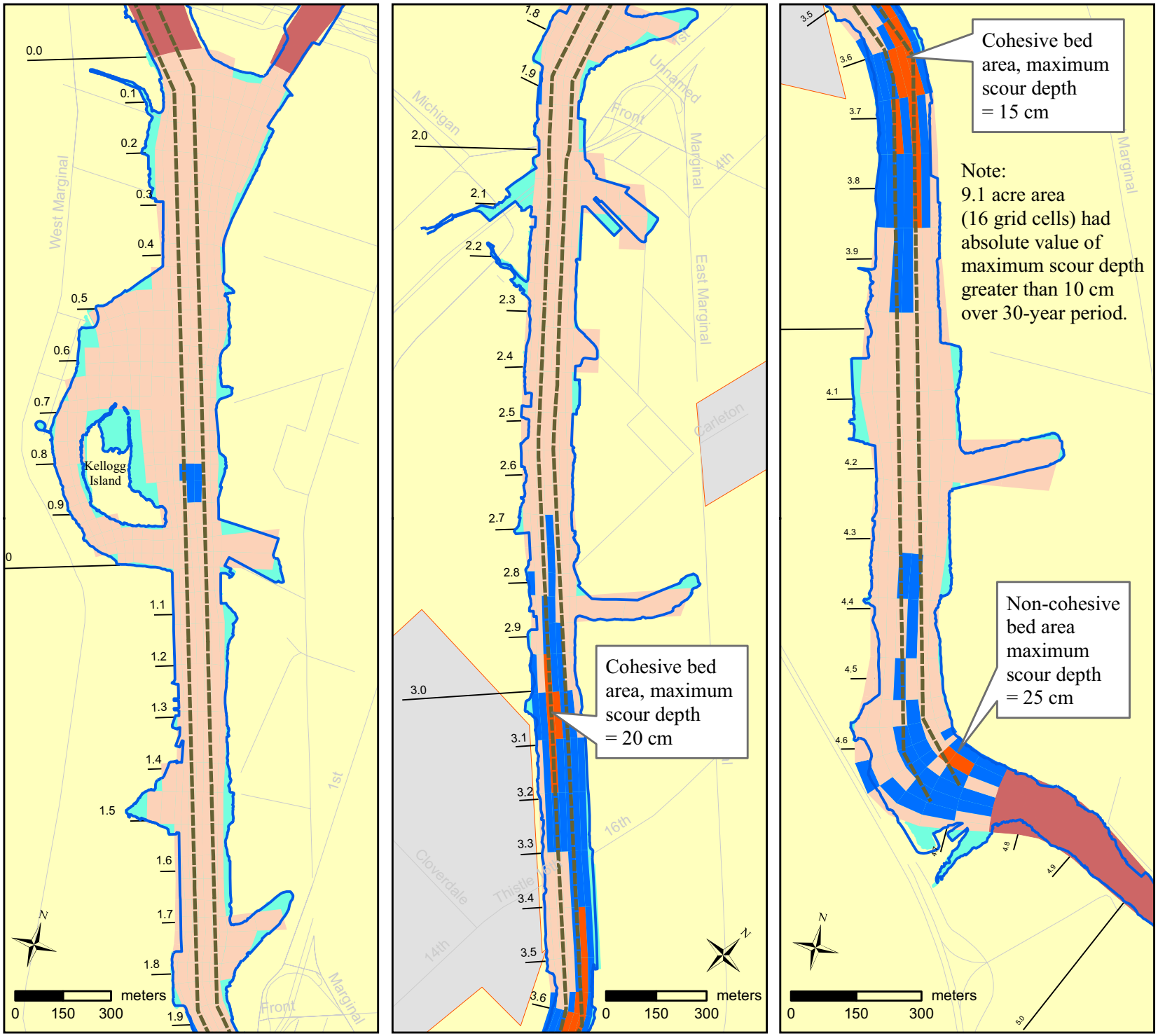
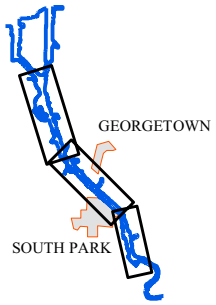
Fri Sep 19 10:59:12 2008



LOCATOR MAP



LEGEND

- Navigation Channel
- Shore Line
- River Miles
- Roads
- Neighborhoods
- Outside Model Domain
- Hard Bottom

Maximum Scour Depth

- Deeper than 10 cm
- 0 to 10 cm depth
- No scour below 0 cm level

0 cm refers to initial bed elevation at start of 30-yr period.

LOWER DUWAMISH WATERWAY STUDY AREA SEATTLE, WA

Figure F-87. Predicted spatial distribution of maximum scour depth during 30-year period.

September 2008

QEA Quantitative Environmental Analysis, LLC

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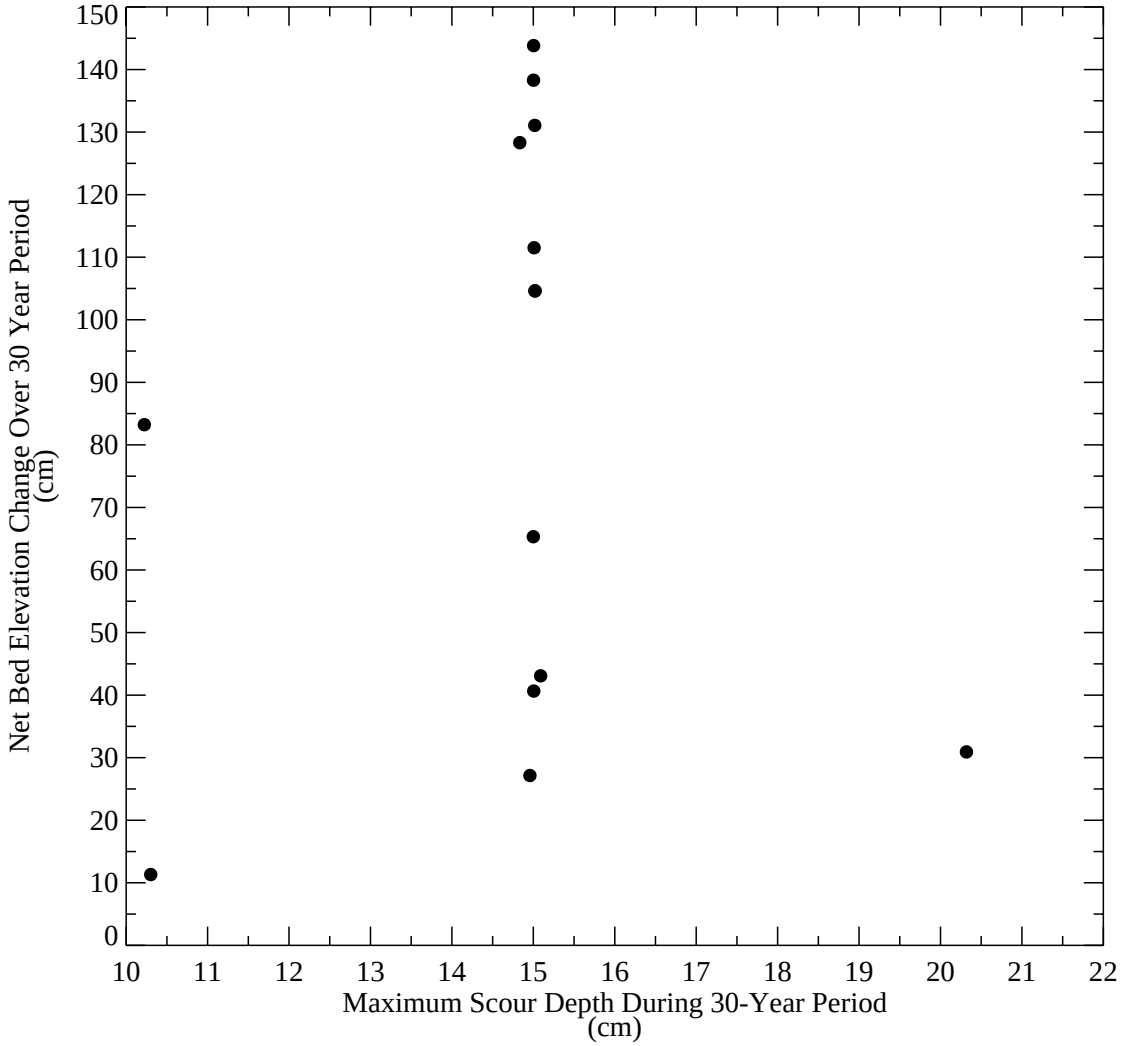
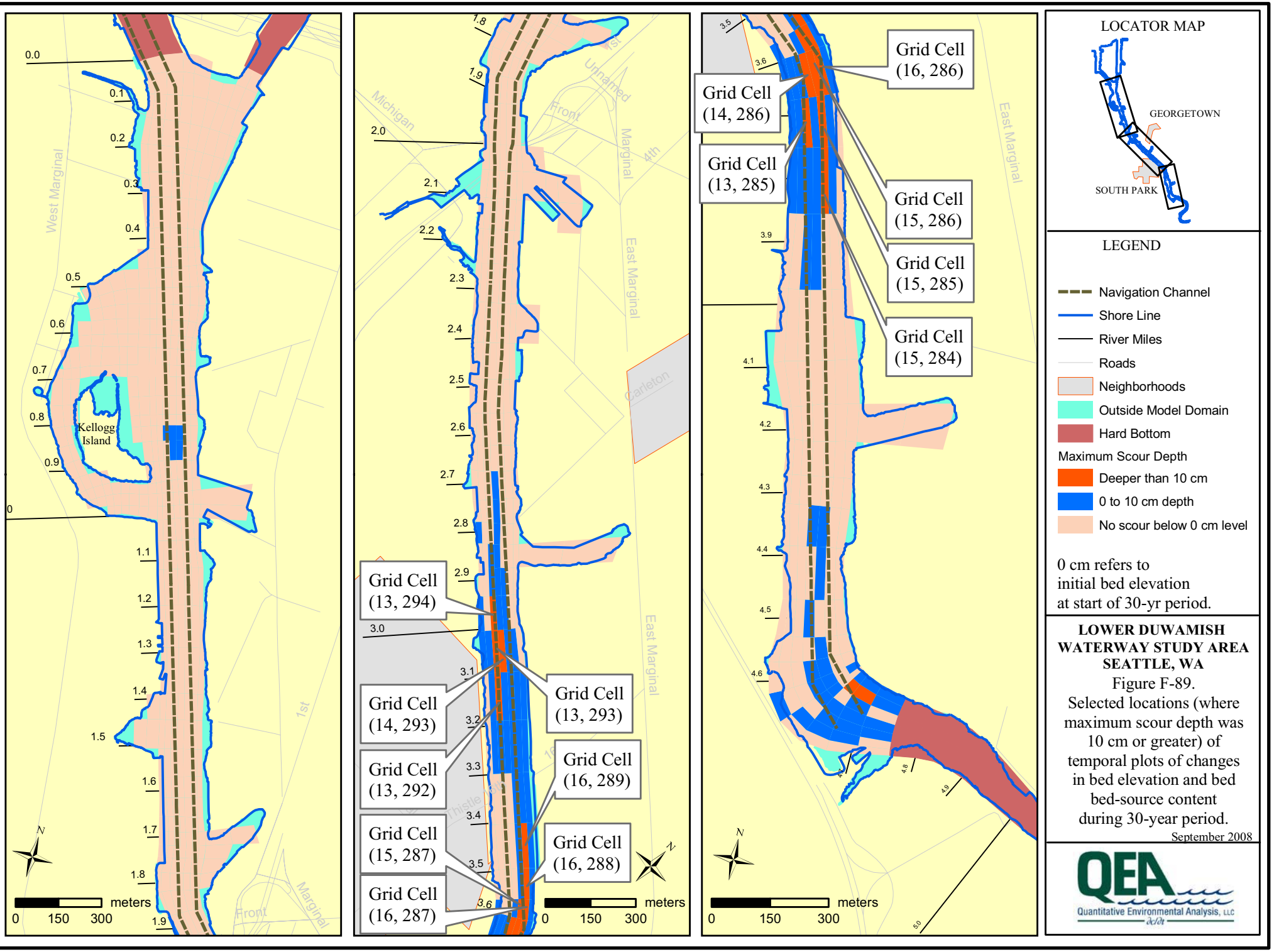


Figure F-88. Relationship between net bed elevation change over 30-year period and maximum scour depth during 30-year period at 14 grid cells in cohesive bed area where maximum scour depth was 10 cm or greater.



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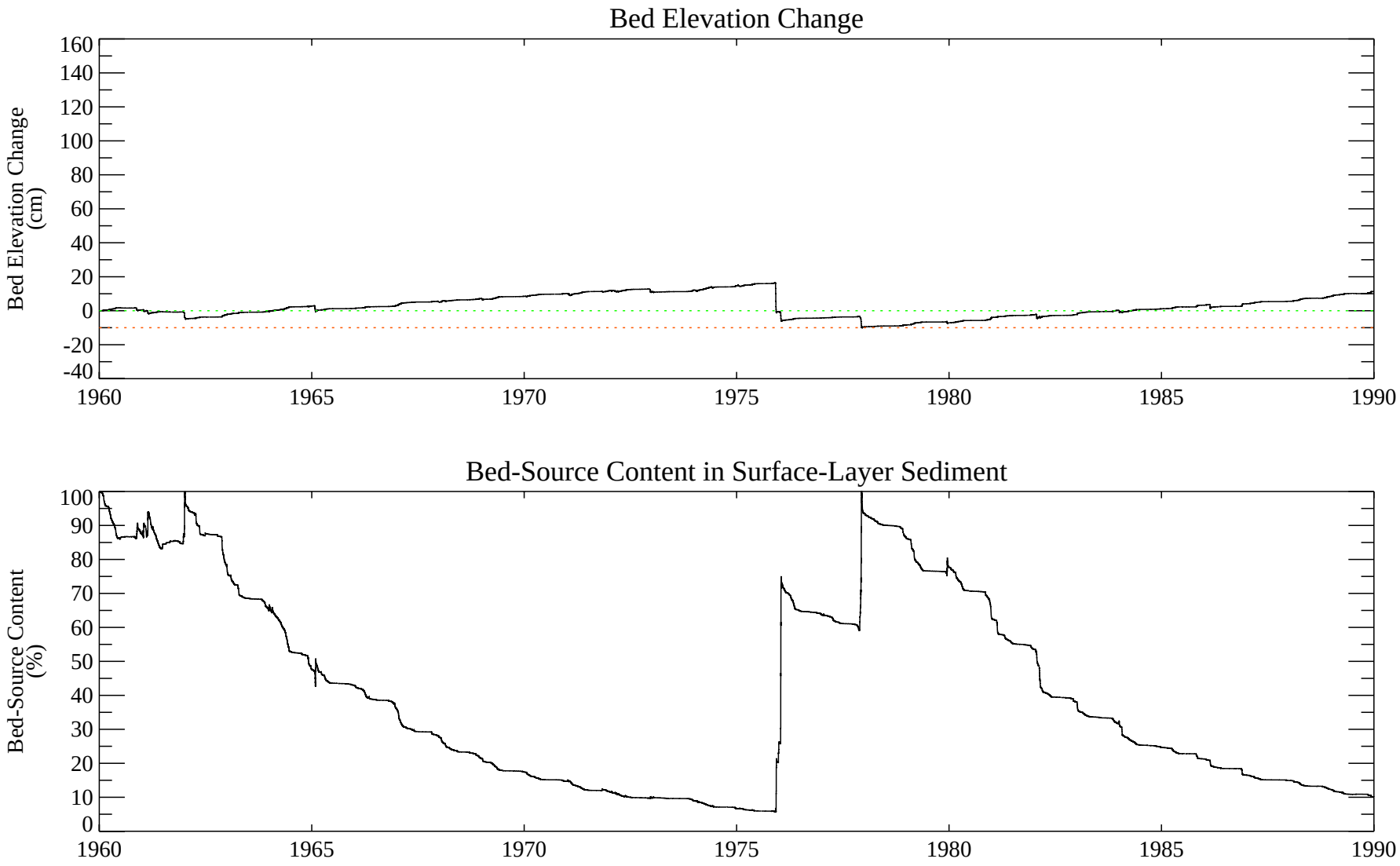

Figure F-90. Temporal variation of bed elevation change and bed-source content at grid cell: (13, 294), RM 3.0, West Bench.

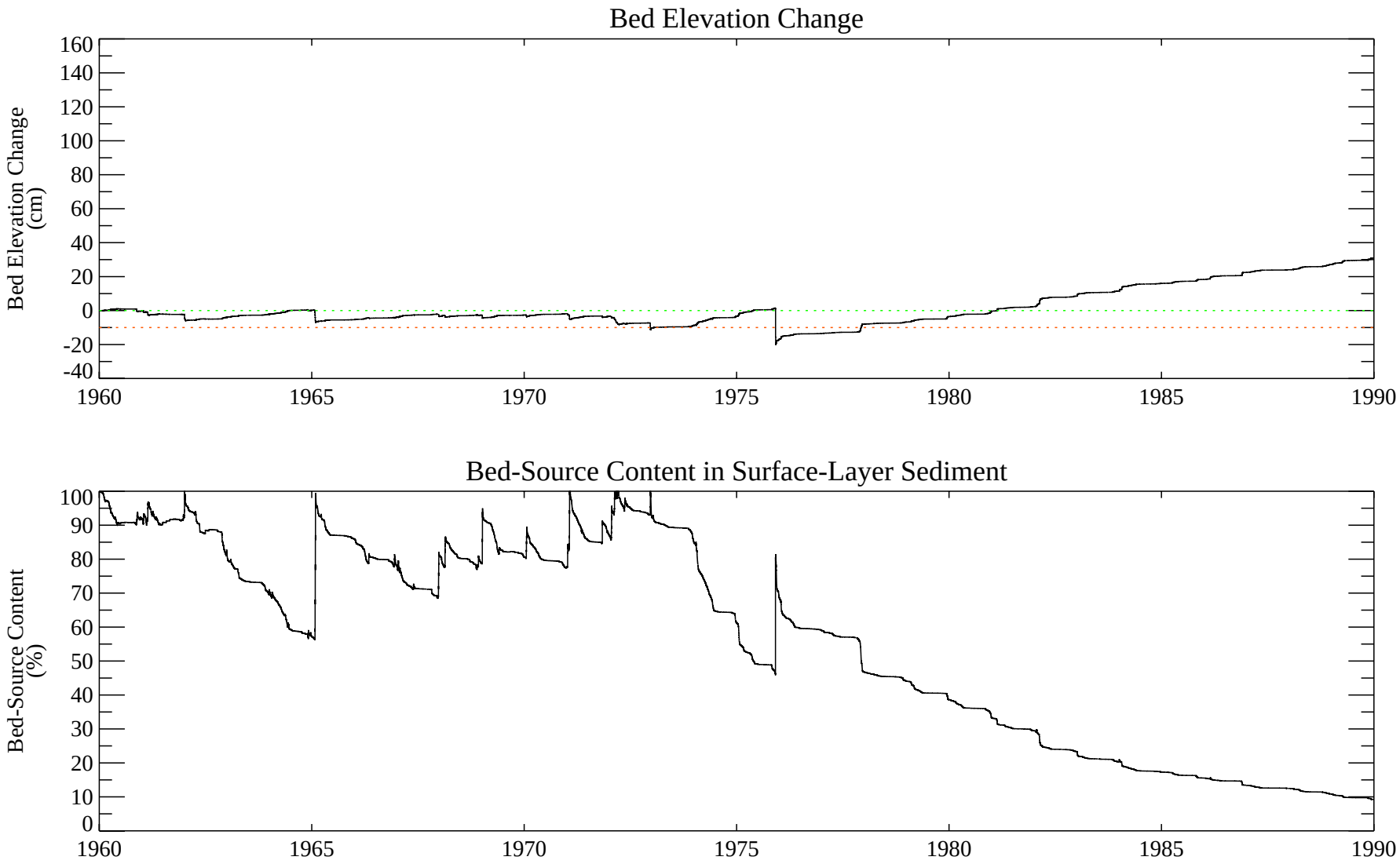

Figure F-91. Temporal variation of bed elevation change and bed-source content at grid cell: (13, 293), RM 3.0, West Bench.

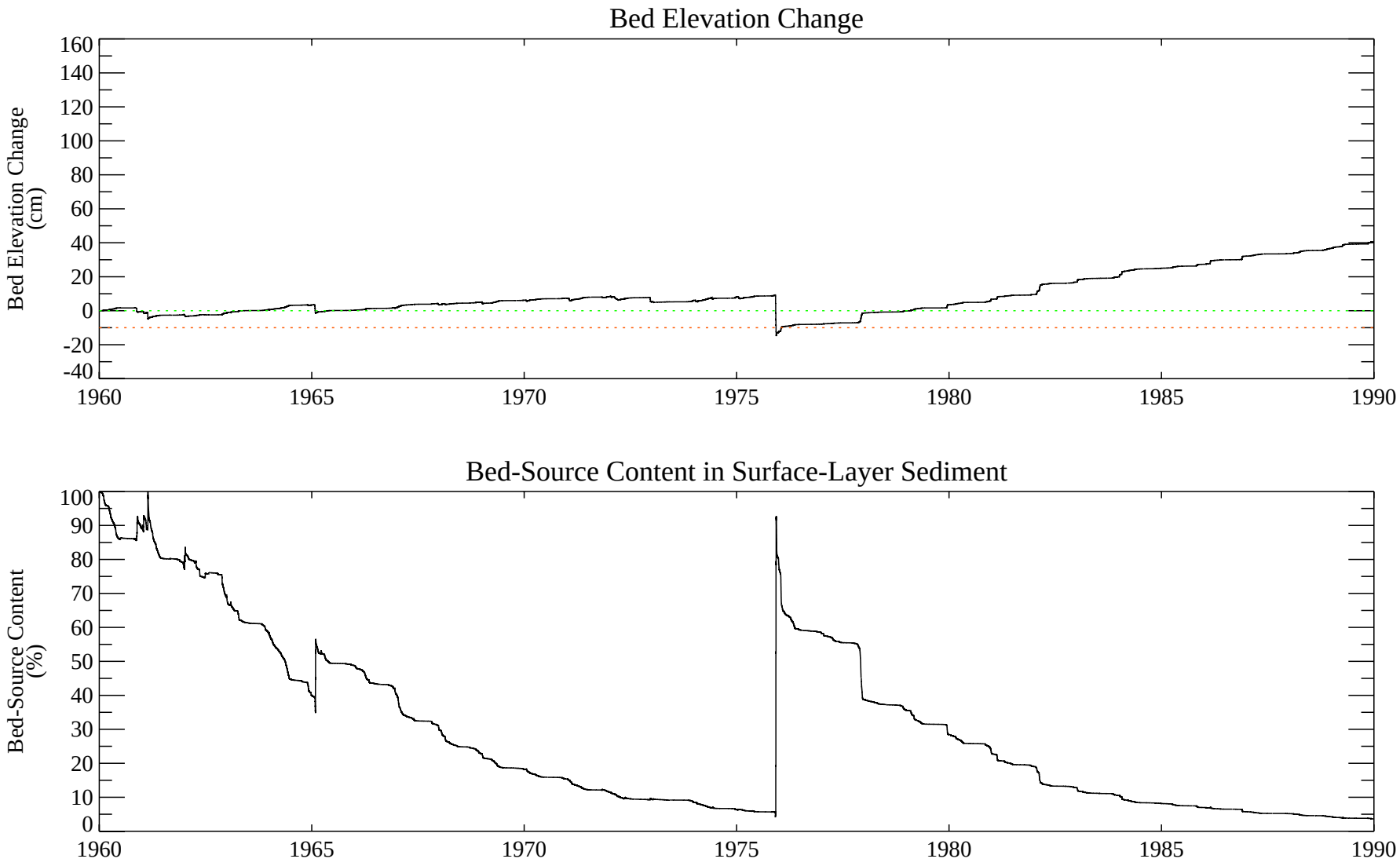

Figure F-92. Temporal variation of bed elevation change and bed-source content at grid cell: (14, 293), RM 3.0, Navigation Channel.

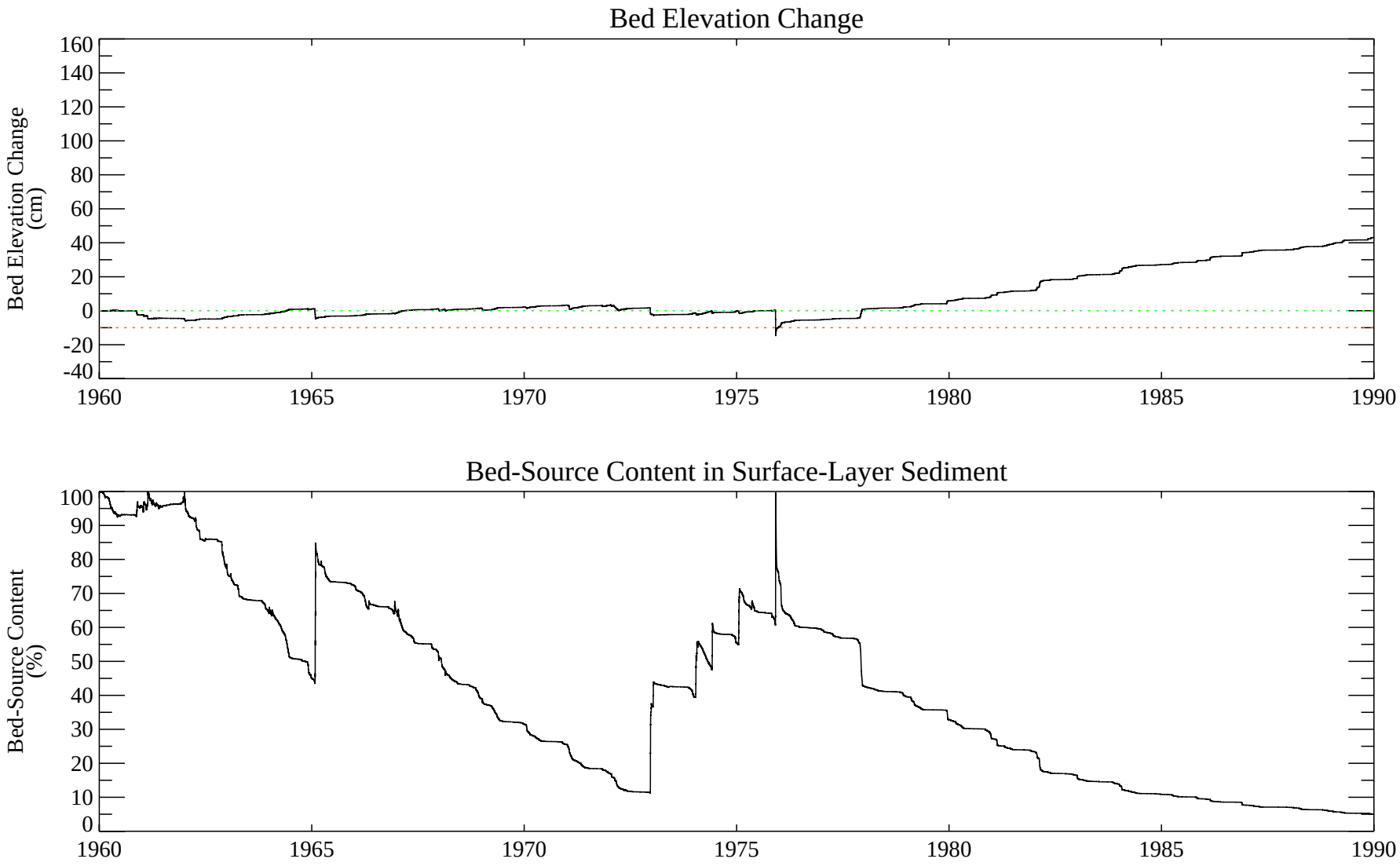

Figure F-93. Temporal variation of bed elevation change and bed-source content at grid cell: (13, 292), RM 3.1, West Bench.

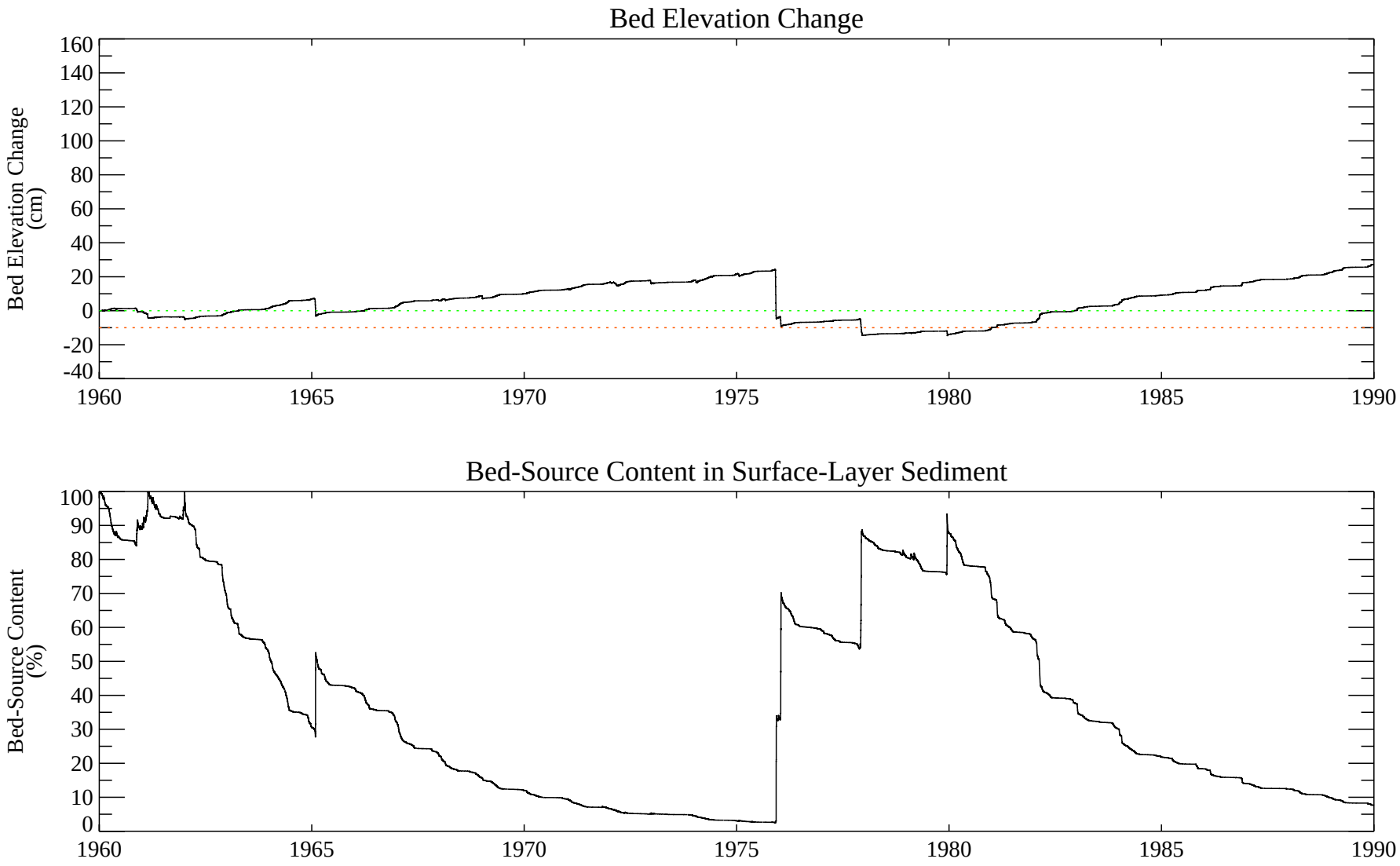

Figure F-94. Temporal variation of bed elevation change and bed-source content at grid cell: (16, 289), RM 3.4, East Bench.

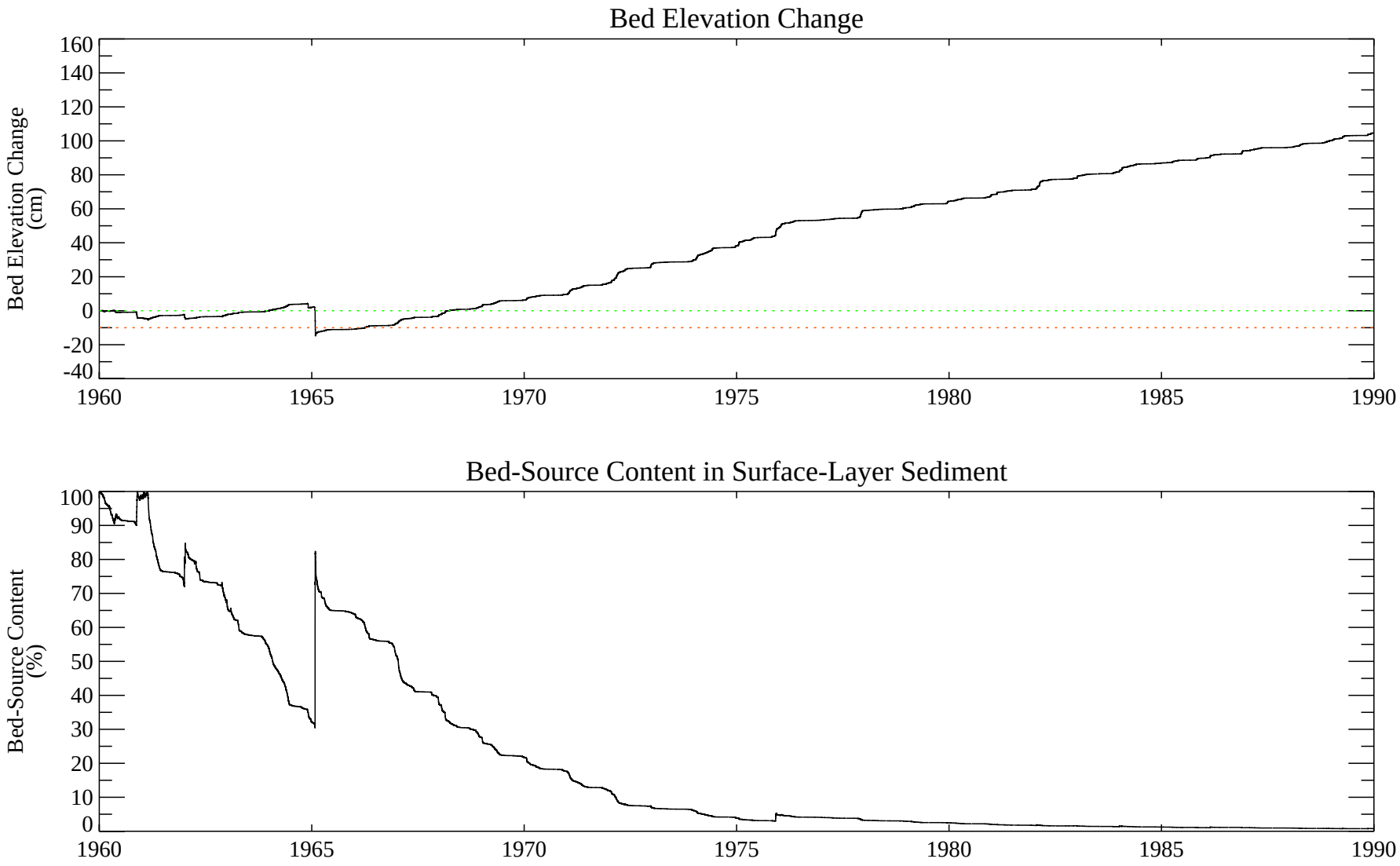

Figure F-95. Temporal variation of bed elevation change and bed-source content at grid cell: (16, 288), RM 3.5, East Bench.

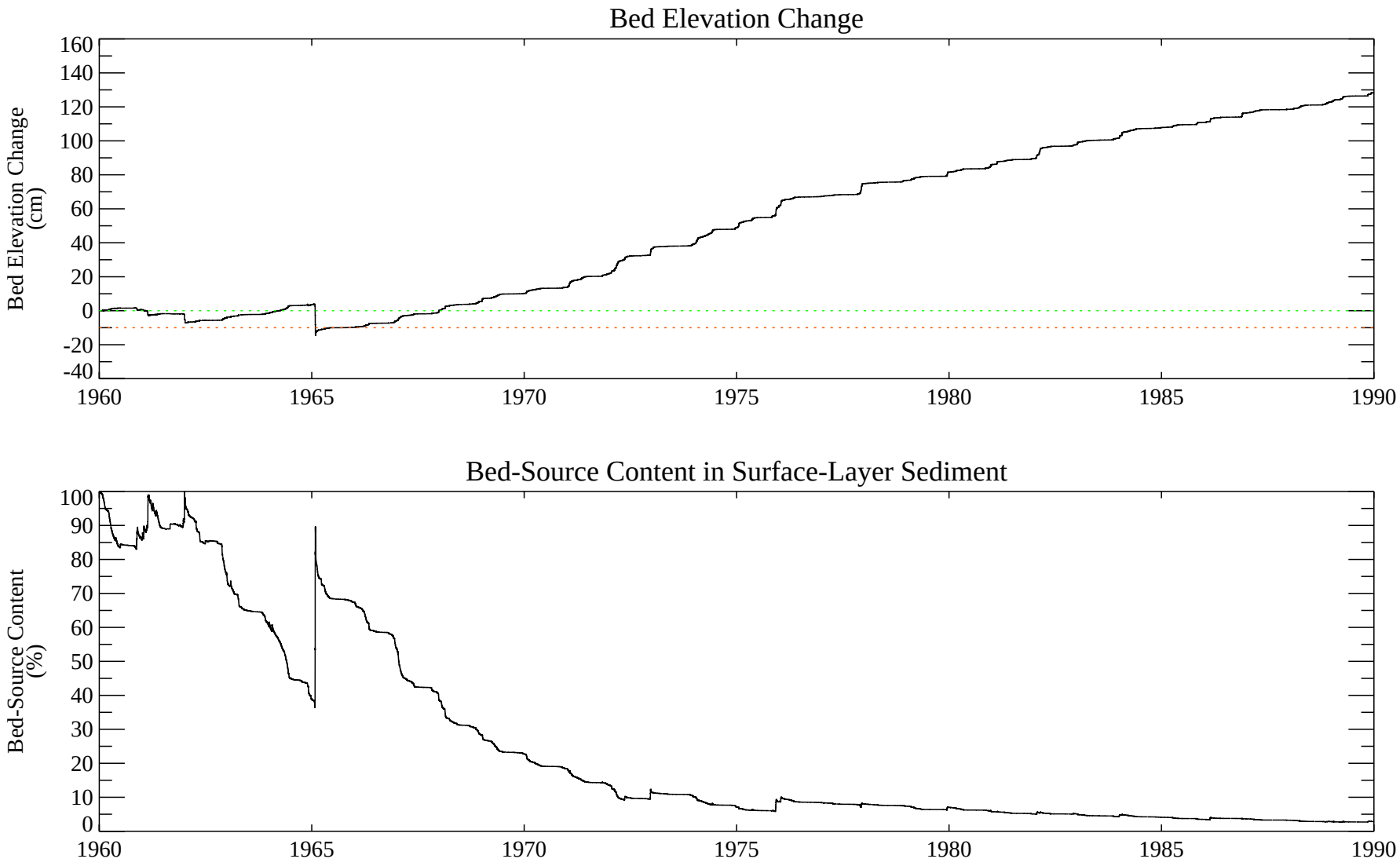

Figure F-96. Temporal variation of bed elevation change and bed-source content at grid cell: (15, 287), RM 3.6, Navigation Channel.

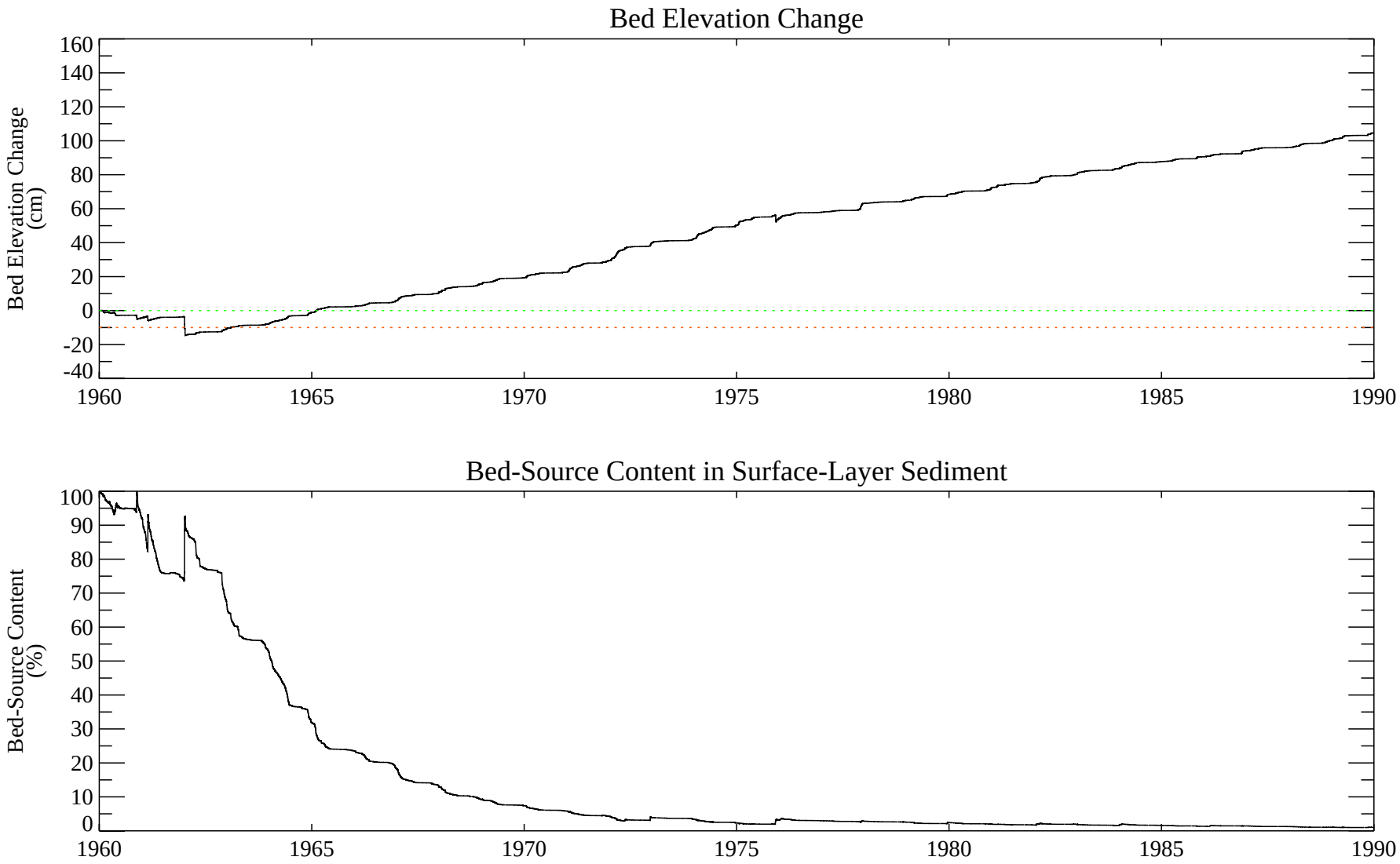

Figure F-97. Temporal variation of bed elevation change and bed-source content at grid cell: (16, 287), RM 3.6, East Bench.

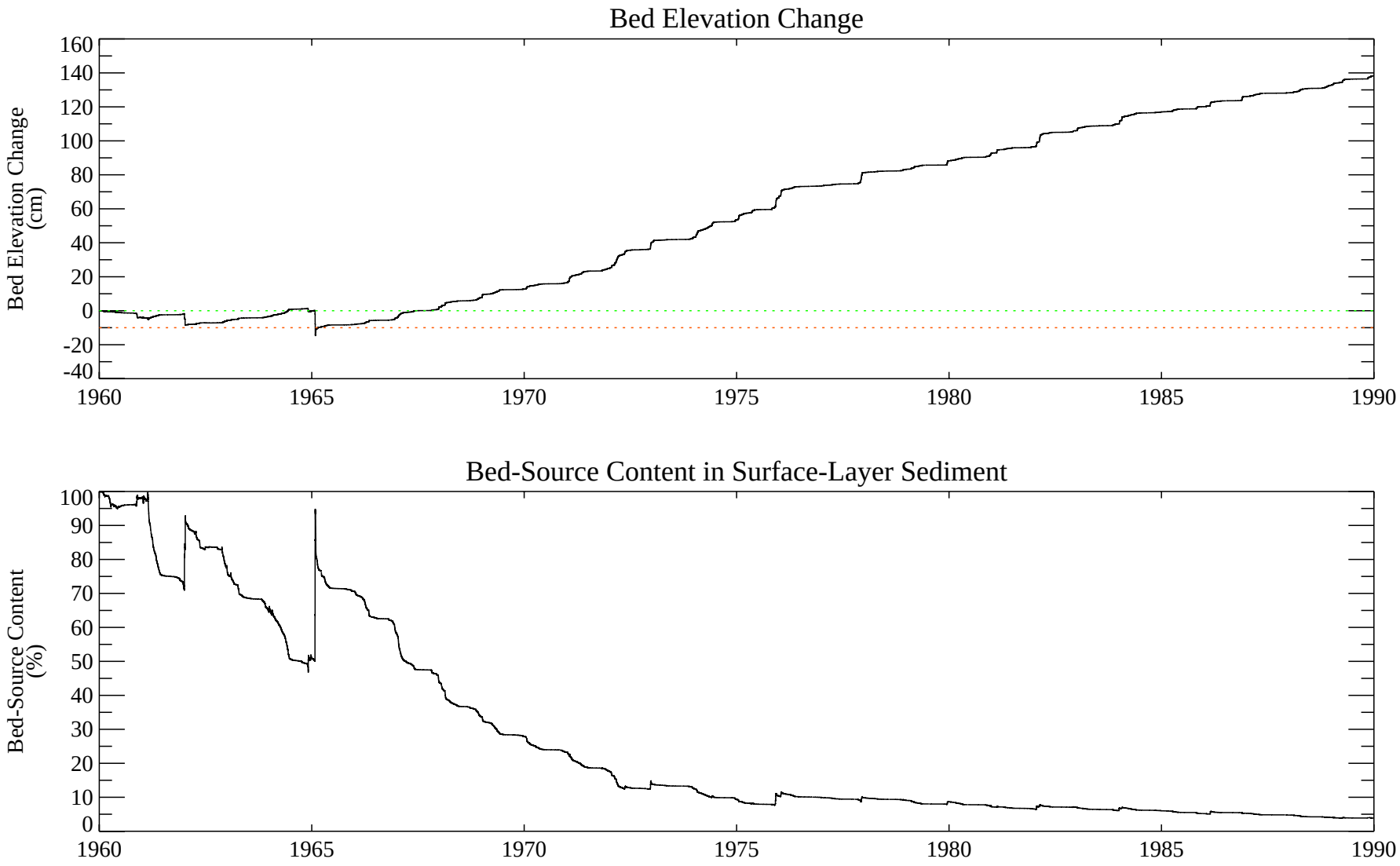

Figure F-98. Temporal variation of bed elevation change and bed-source content at grid cell: (14, 286), RM 3.6, Navigation Channel.

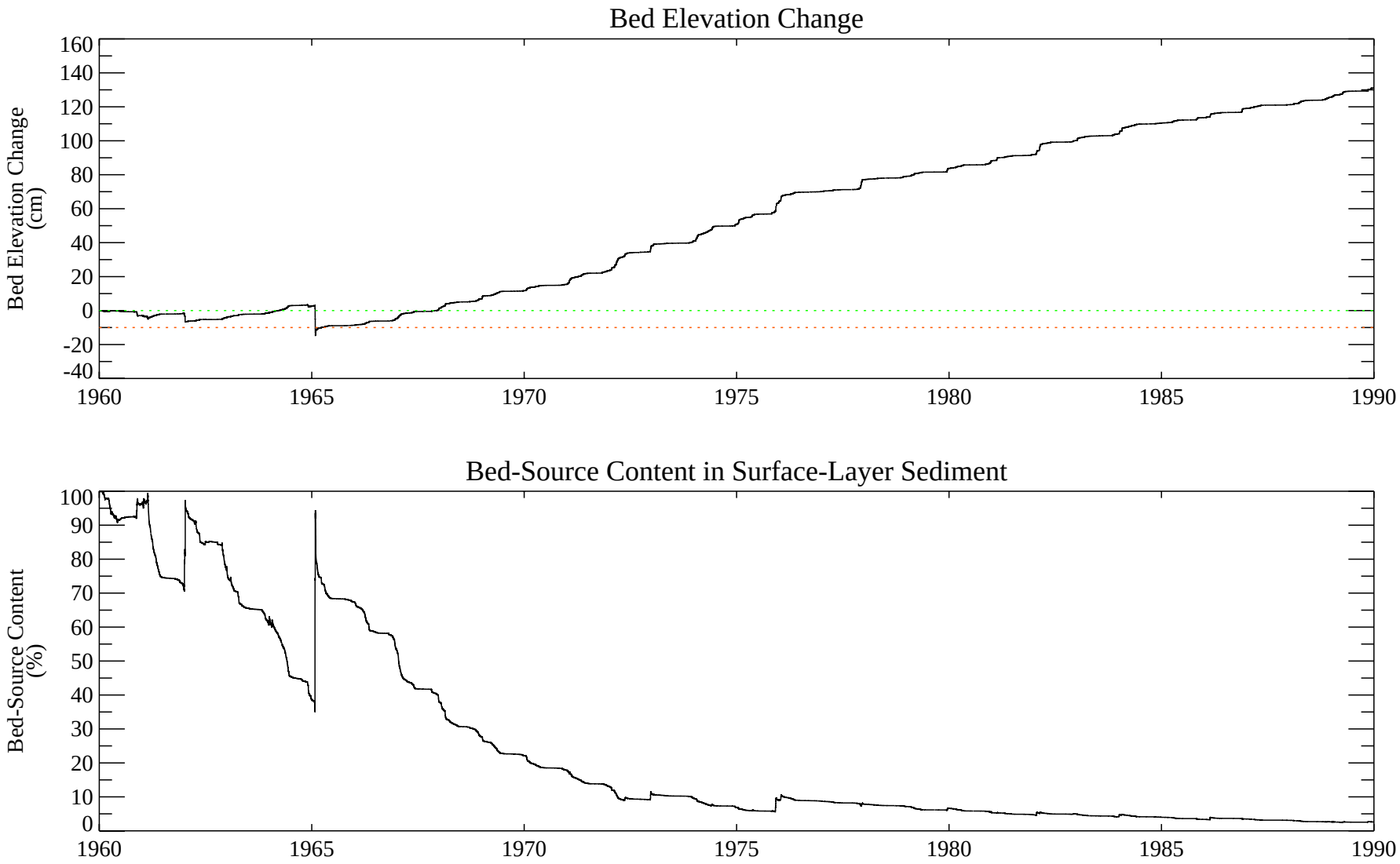

Figure F-99. Temporal variation of bed elevation change and bed-source content at grid cell: (15, 286), RM 3.6, Navigation Channel.

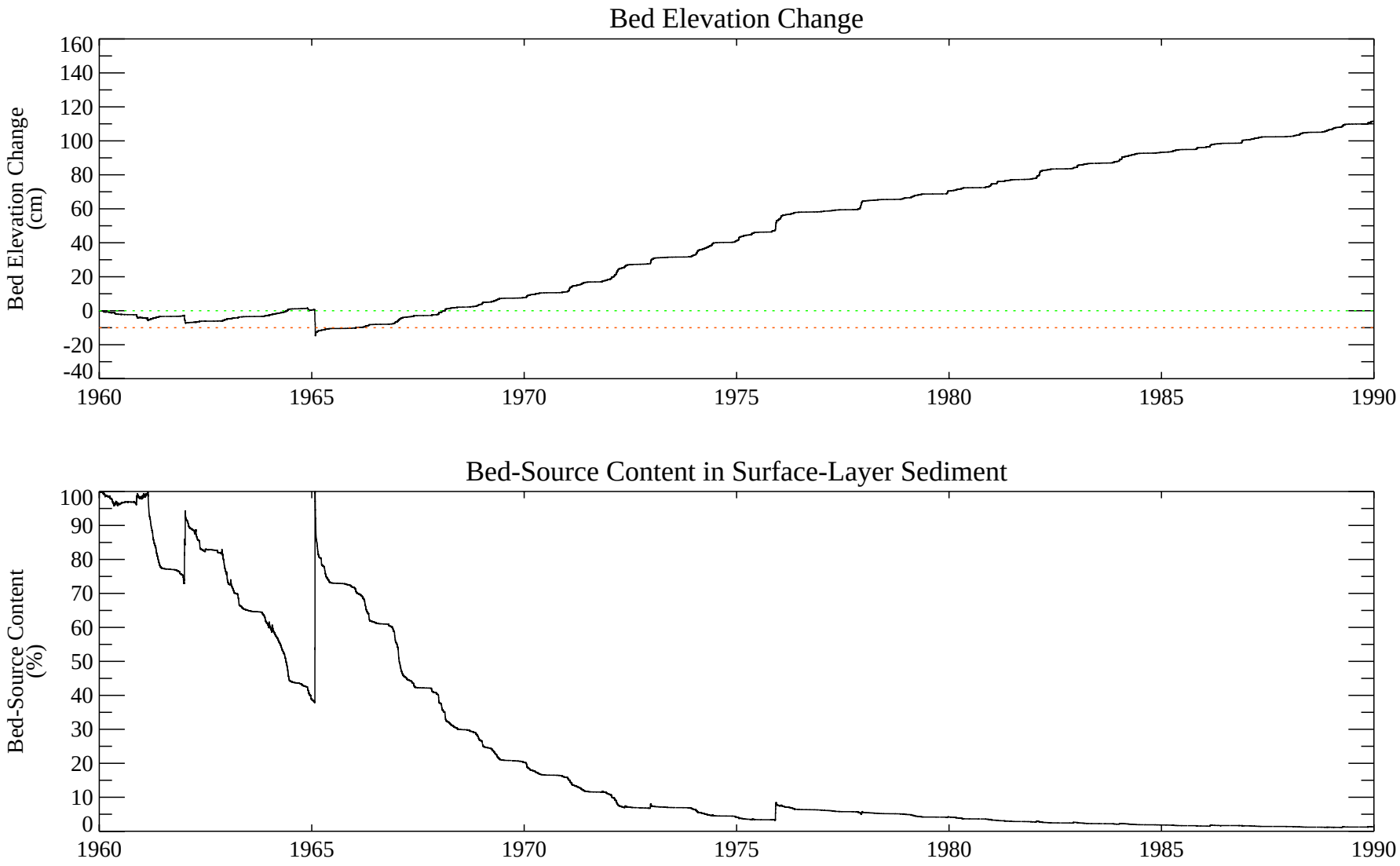

Figure F-100. Temporal variation of bed elevation change and bed-source content at grid cell: (16, 286), RM 3.6, East Bench.

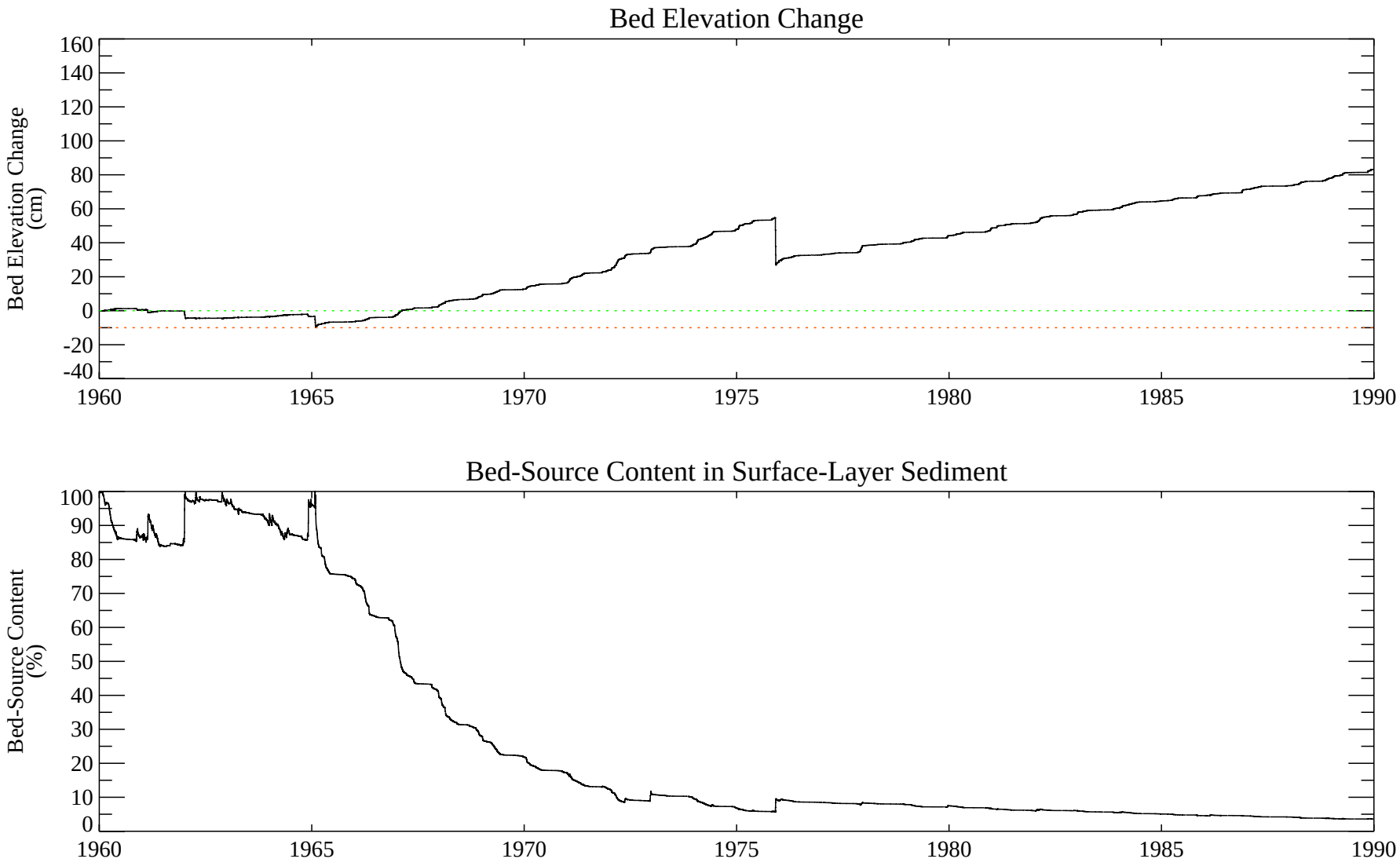

Figure F-101. Temporal variation of bed elevation change and bed-source content at grid cell: (13, 285), RM 3.7, Navigation Channel.

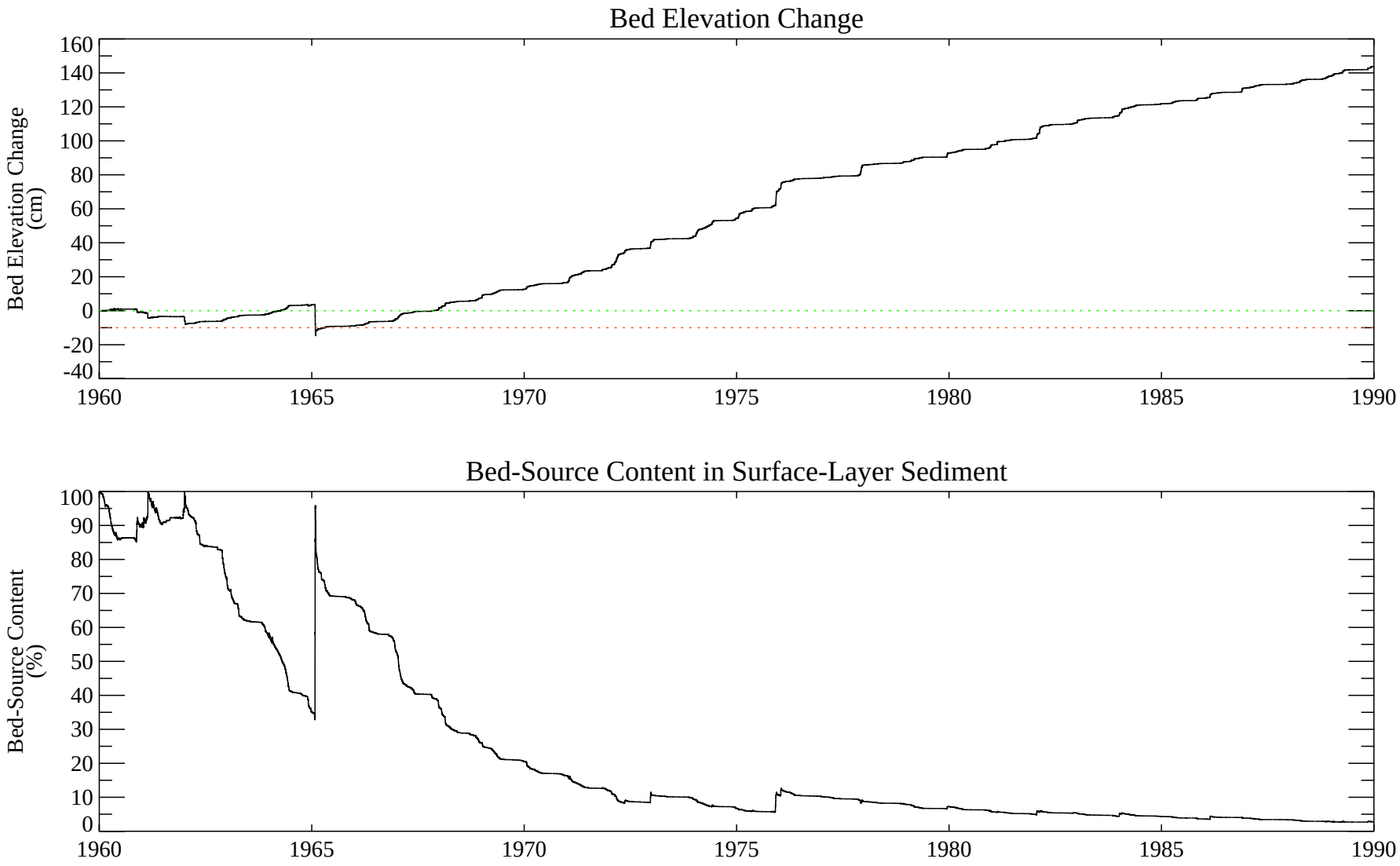

Figure F-102. Temporal variation of bed elevation change and bed-source content at grid cell: (15, 285), RM 3.7, East Bench.

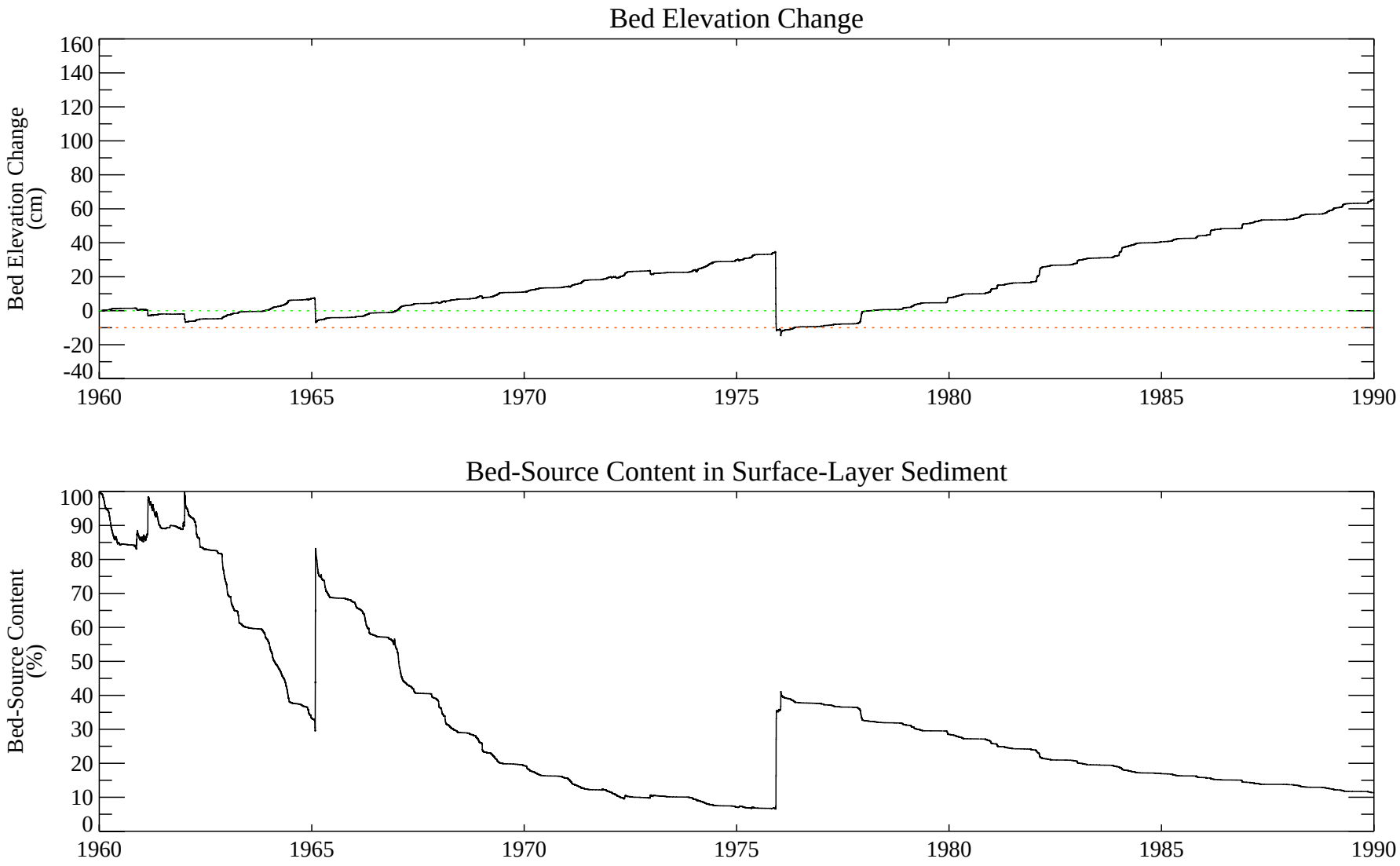

Figure F-103. Temporal variation of bed elevation change and bed-source content at grid cell: (15, 284), RM 3.8, East Bench.