

Reports

---

9-1981

## Monthly salinity data for the York River plotted by river mile by month

Frank J. Wojcik  
*Virginia Institute of Marine Science*

Follow this and additional works at: <https://scholarworks.wm.edu/reports>



Part of the [Environmental Monitoring Commons](#), and the [Fresh Water Studies Commons](#)

---

### Recommended Citation

Wojcik, F. J. (1981) Monthly salinity data for the York River plotted by river mile by month. Data report (Virginia Institute of Marine Science) ; no. 17.. Virginia Institute of Marine Science, College of William and Mary. <https://doi.org/10.21220/V58S3X>

This Report is brought to you for free and open access by W&M ScholarWorks. It has been accepted for inclusion in Reports by an authorized administrator of W&M ScholarWorks. For more information, please contact [scholarworks@wm.edu](mailto:scholarworks@wm.edu).

Rec'd  
12/18/81

Monthly Salinity Data for the York River  
Plotted by River Mile by Month

Frank J. Wojcik

Data Report 17

Virginia Institute of Marine Science  
School of Marine Science  
College of William and Mary  
Gloucester Point, Virginia 23062

September 1981

Monthly Salinity Data for the York River  
Plotted by River Mile by Month

Frank J. Wojcik

Data Report 17

Virginia Institute of Marine Science  
School of Marine Science  
College of William and Mary  
Gloucester Point, Virginia 23062

September 1981

## Table of Contents

	Page
List of Figures	iii
Acknowledgments	vi
Abstract	vii
Introduction	1
Graphs of Salinities	3

## List of Figures-York River Salinities

	<u>Description</u>	<u>Page Number</u>
Figure 1	January 1979 Surface Salinities	3
Figure 2	January 1979 Bottom Salinities	4
Figure 3	February 1979 Surface Salinities	5
Figure 4	February 1979 Bottom Salinities	6
Figure 5	March 1979 Surface Salinities	7
Figure 6	March 1979 Bottom Salinities	8
Figure 7	April 1979 Surface Salinities	9
Figure 8	April 1979 Bottom Salinities	10
Figure 9	May 1979 Surface Salinities	11
Figure 10	May 1979 Bottom Salinities	12
Figure 11	June 1979 Surface Salinities	13
Figure 12	June 1979 Bottom Salinities	14
Figure 13	July 1979 Surface Salinities	15
Figure 14	July 1979 Bottom Salinities	16
Figure 15	August 1979 Surface Salinities	17
Figure 16	August 1979 Bottom Salinities	18
Figure 17	September 1979 Surface Salinities	19
Figure 18	September 1979 Bottom Salinities	20
Figure 19	October 1979 Bottom Salinities	21
Figure 20	October 1979 Bottom Salinities	22
Figure 21	November 1979 Surface Salinities	23
Figure 22	November 1979 Bottom Salinities	24

	<u>Description</u>	<u>Page Number</u>
Figure 23	December 1979 Surface Salinities	25
Figure 24	December 1979 Bottom Salinities	26
Figure 25	January 1980 Surface Salinities	27
Figure 26	January 1980 Bottom Salinities	28
Figure 27	February 1980 Surface Salinities	29
Figure 28	February 1980 Bottom Salinities	30
Figure 29	March 1980 Surface Salinities	31
Figure 30	March 1980 Bottom Salinities	32
Figure 31	April 1980 Surface Salinities	33
Figure 32	April 1980 Bottom Salinities	34
Figure 33	May 1980 Surface Salinities	35
Figure 34	May 1980 Bottom Salinities	36
Figure 35	June 1980 Surface Salinities	37
Figure 36	June 1980 Bottom Salinities	38
Figure 37	July 1980 Surface Salinities	39
Figure 38	July 1980 Bottom Salinities	40
Figure 39	August 1980 Surface Salinities	41
Figure 40	August 1980 Bottom Salinities	42
Figure 41	September 1980 Surface Salinities	43
Figure 42	September 1980 Bottom Salinities	44
Figure 43	October 1980 Surface Salinities	45
Figure 44	October 1980 Bottom Salinities	46
Figure 45	November 1980 Surface Salinities	47
Figure 46	November 1980 Bottom Salinities	48

	<u>Description</u>	<u>Page Number</u>
Figure 47	December 1980 Surface Salinities	49
Figure 48	December 1980 Bottom Salinities	50
Figure 49	January 1980 Surface Salinities	51
Figure 50	January 1980 Bottom Salinities	52
Figure 51	February 1980 Surface Salinities	53
Figure 52	February 1980 Bottom Salinities	54
Figure 53	March 1981 Surface Salinities	55
Figure 54	March 1981 Bottom Salinities	56
Figure 55	April 1981 Surface Salinities	57
Figure 56	April 1981 Bottom Salinities	58
Figure 57	May 1981 Surface Salinities	59
Figure 58	May 1981 Bottom Salinities	60
Figure 59	June 1981 Surface Salinities	61
Figure 60	June 1981 Bottom Salinities	62
Figure 61	July 1981 Surface Salinities	63
Figure 62	July 1981 Bottom Salinities	64
Figure 63	August 1981 Surface Salinities	65
Figure 64	August 1981 Bottom Salinities	66

## Acknowledgments

I thank all of the people who have worked on the VIMS Small Fish Trawl Surveys, both staff and students, because without them the data used to prepare this report would not have been available.

Thanks are also due to Dr. David Evans for his assistance in developing the plotting routines used in this report.



## Abstract

This report presents graphs on the mean salinities yearly by five mile intervals upriver from the mouth of the York River, and these are overlaid with 25-year average data for the same month, along with the 95% confidence intervals.

## INTRODUCTION

A need for salinity data for Virginia waters, summarized so as to provide information on normal conditions has been needed for some time. However, it took the severe drought of 1980 with resulting high river salinities, and the possible effects on estuarine animal populations to force us to accomplish this purpose. Salinity data were available and needed only to be summarized by our computer to be output in a readily digestible form presented in this report.

Only salinity data collected as part of the hydro data collected during the VIMS Small Fish Trawl Surveys between 1956, and August of 1981 are included in this report. This data comprises a part of the VIMS Hydro File currently resident within our PRIME 750 computer. Preliminary to this report the required data was extracted from the larger file, was summarized using a user written Fortran program, and was stored in a smaller file for quick access. Data from this abbreviated were then used to compute the grand monthly mean for 25 years of data along with the variation associated with these mean (95% confidence limits) in increments of five river miles from the mouth of the York River. The resultant data was plotted by months on our Tektronics Graphics Terminal, and these 25 year means were then overlaid with appropriate monthly data for the current year so as to provide a quick visual comparison of current salinities to the mean data.

The salinity data presented in this report were collected in conjunction with the VIMS Small Fish Trawl Surveys, and as such their use may be more limited than had they been collected primarily for their hydrographic use. They were collected randomly throughout the tidal cycle. However the range of years over which they were collected should make up for their other deficiency.

The data was collected primarily from the channel, and as such should be more applicable to the channel areas than to the shoal areas.

This set of salinity data were chosen for this analysis as it does most closely follow the fish catches made at the same time, and it was collected by the Department of Ichthyology and Crustaceology at VIMS and limitations of the data is obvious to users in these disciplines.

Figure 1

YORK RIVER MEAN MONTHLY SALINITIES JANUARY SURFACE

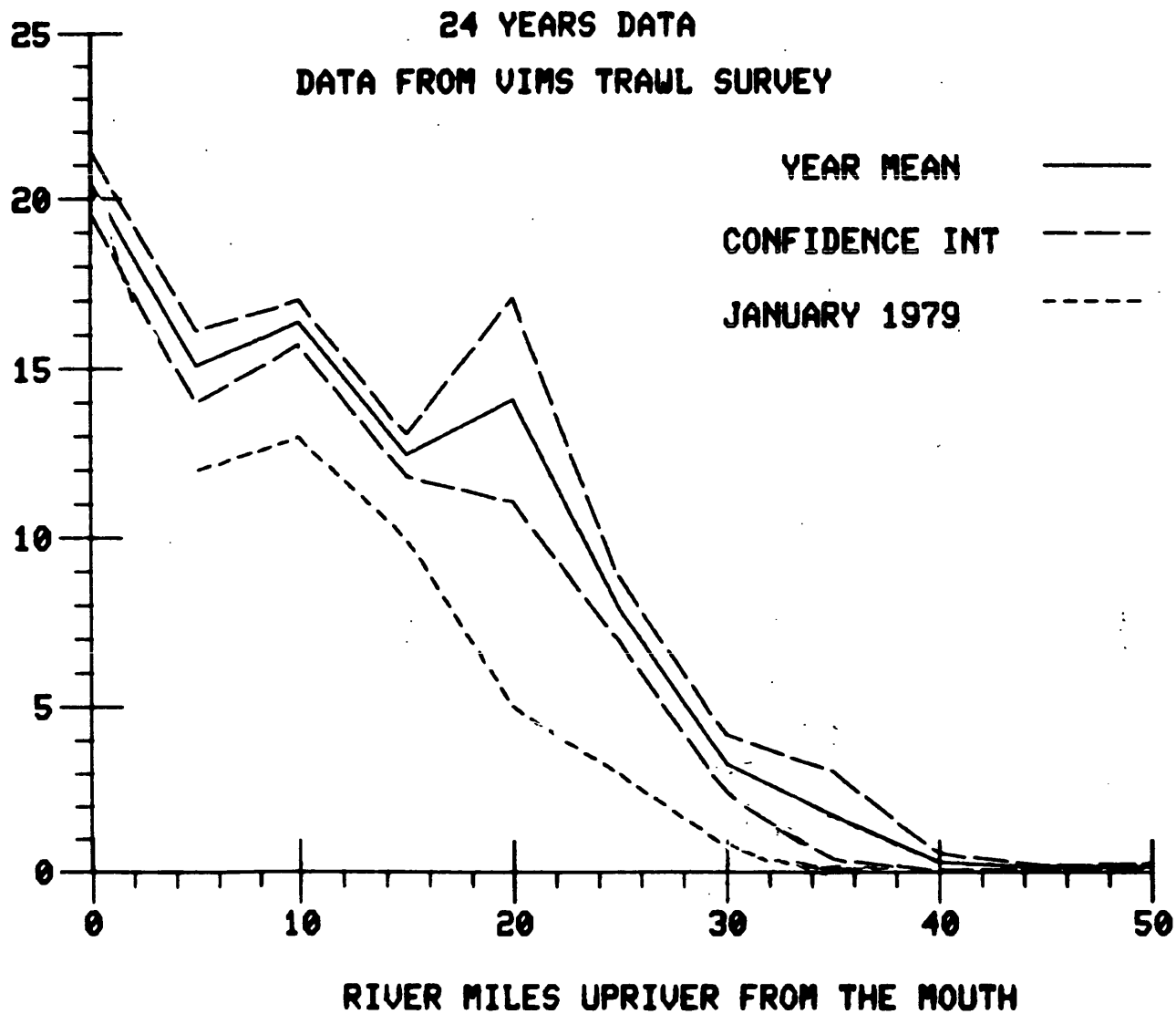


Figure 2

YORK RIVER MEAN MONTHLY SALINITIES JANUARY BOTTOM

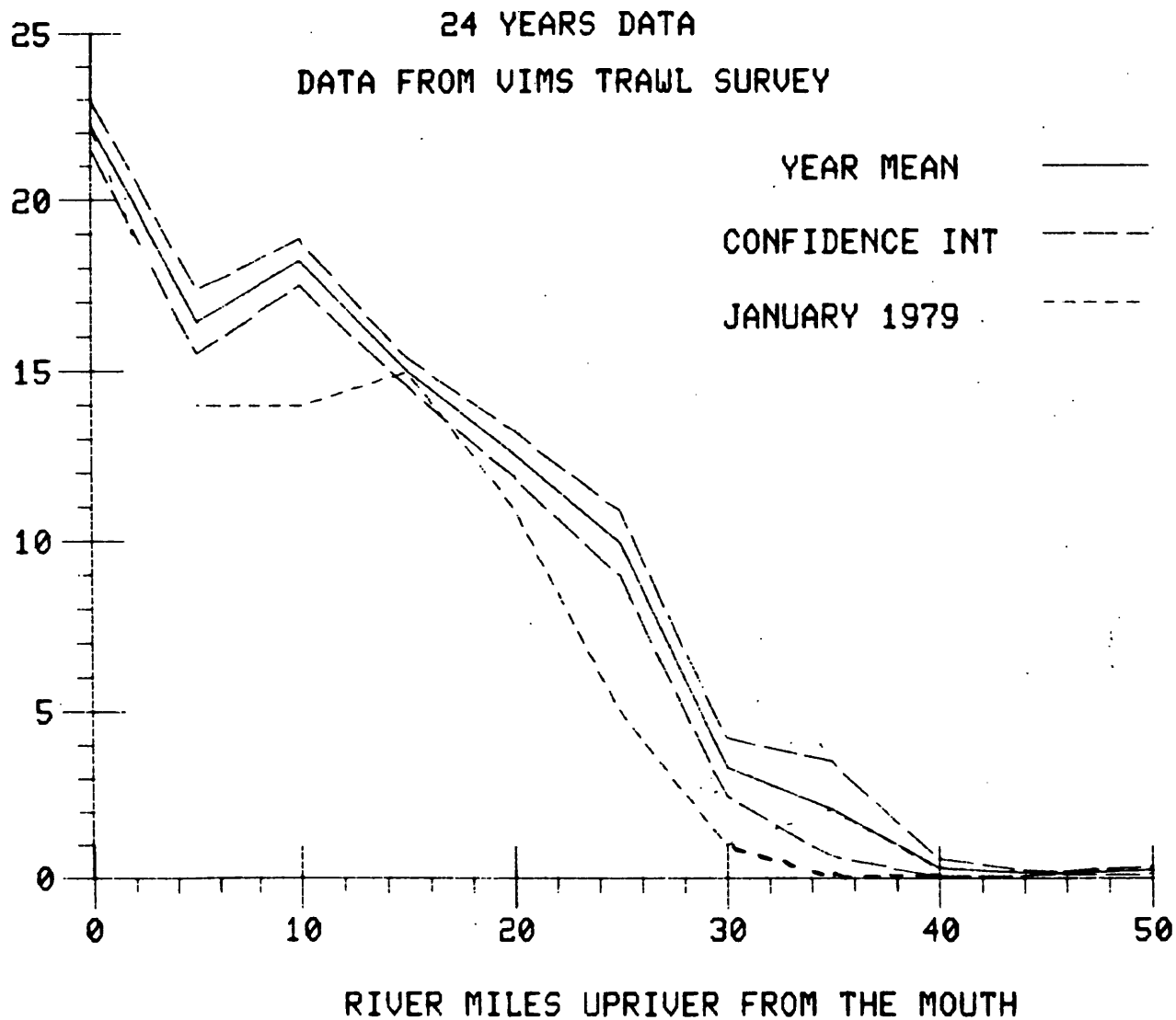


Figure 3

YORK RIVER MEAN MONTHLY SALINITIES FEBRUARY SURFACE

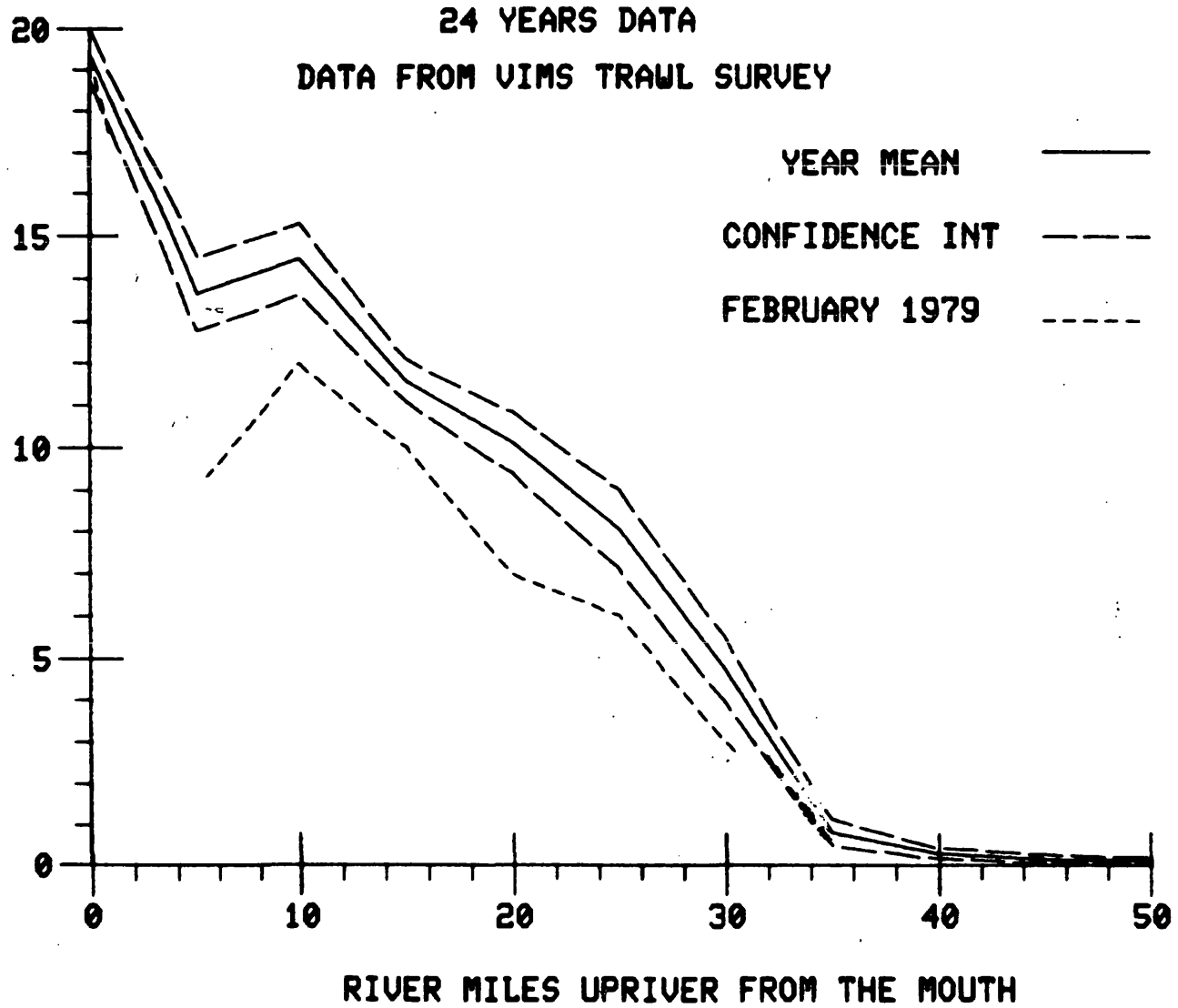


Figure 4

YORK RIVER MEAN MONTHLY SALINITIES FEBRUARY BOTTOM

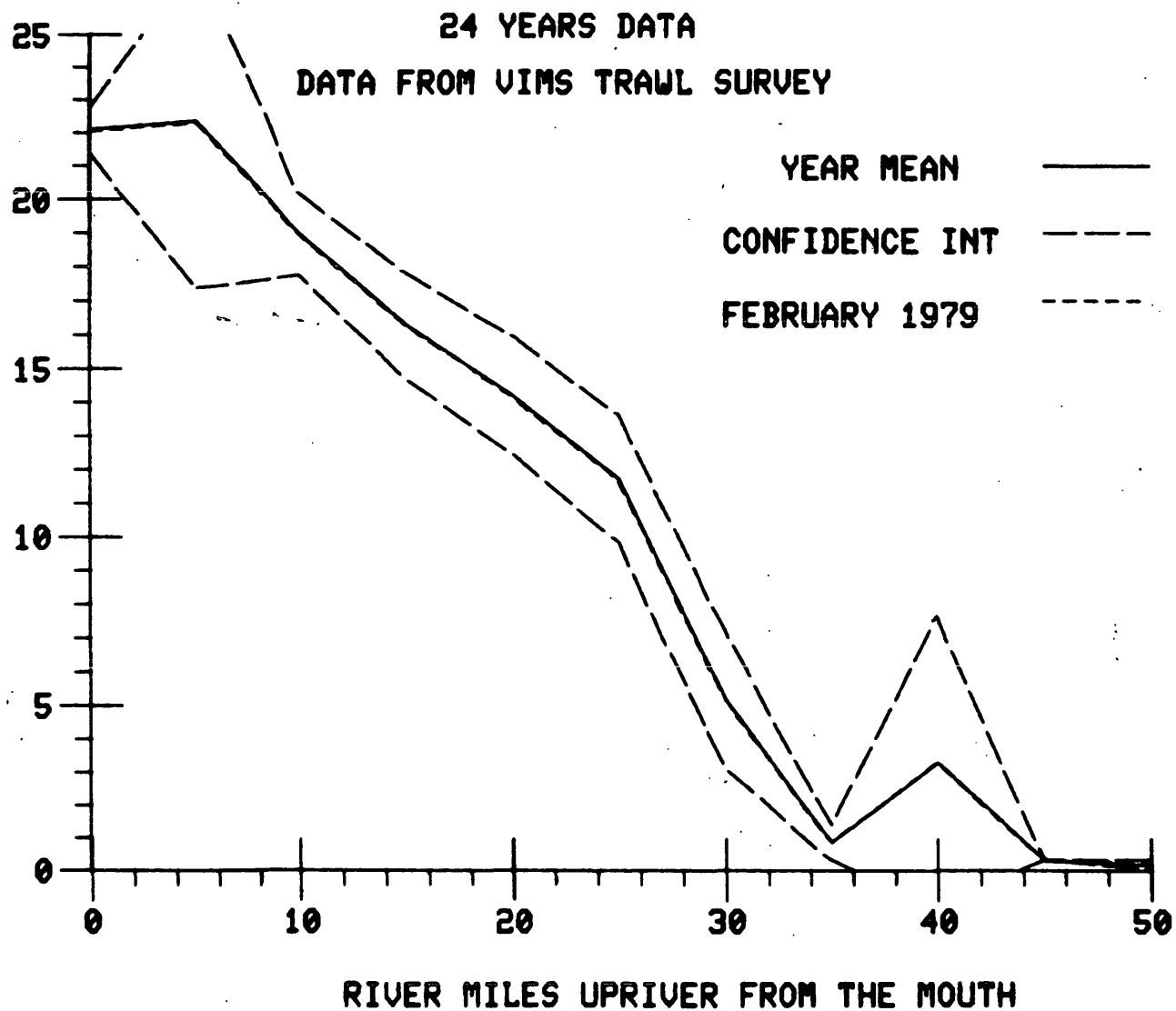


Figure 5

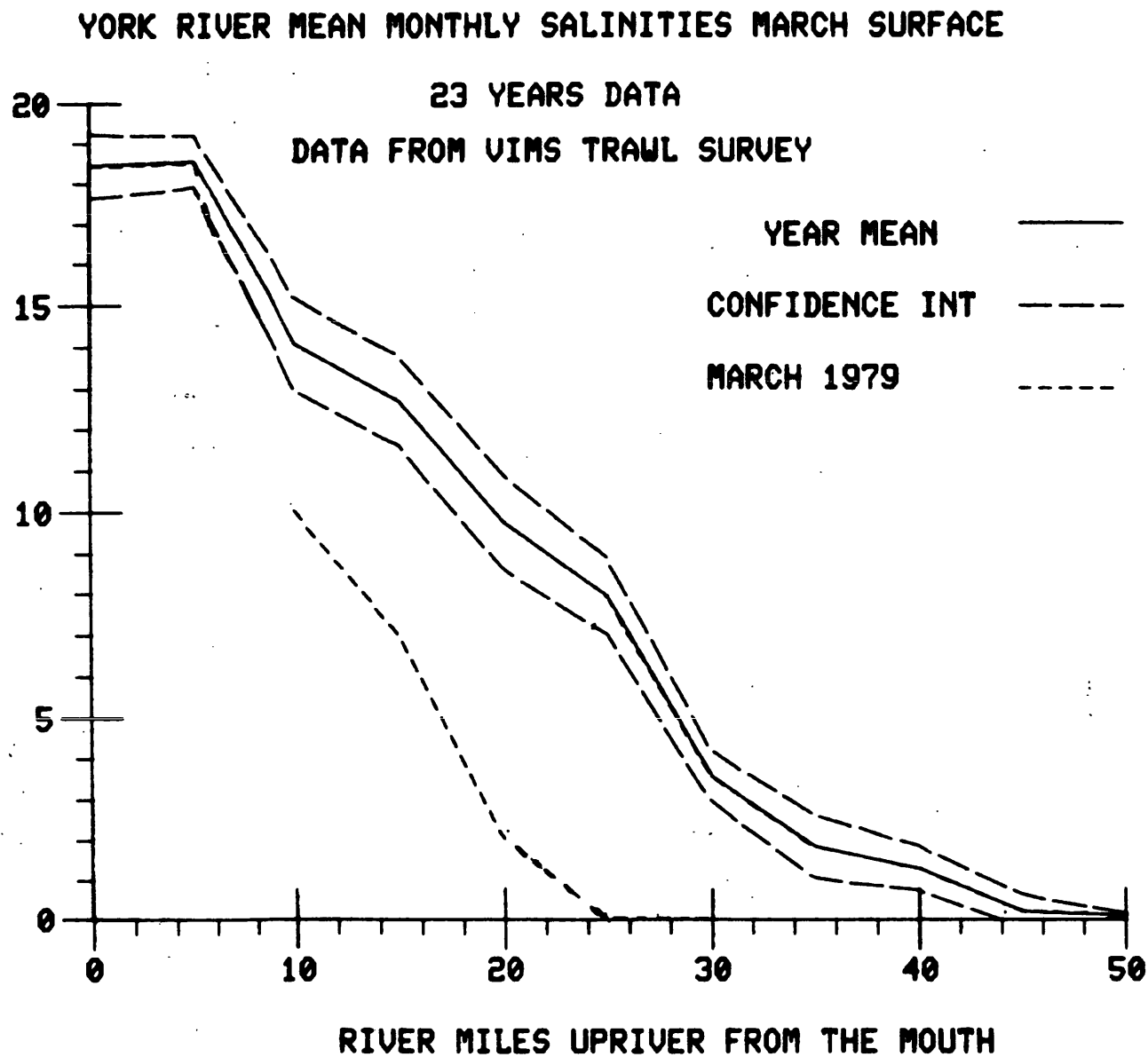




Figure 6

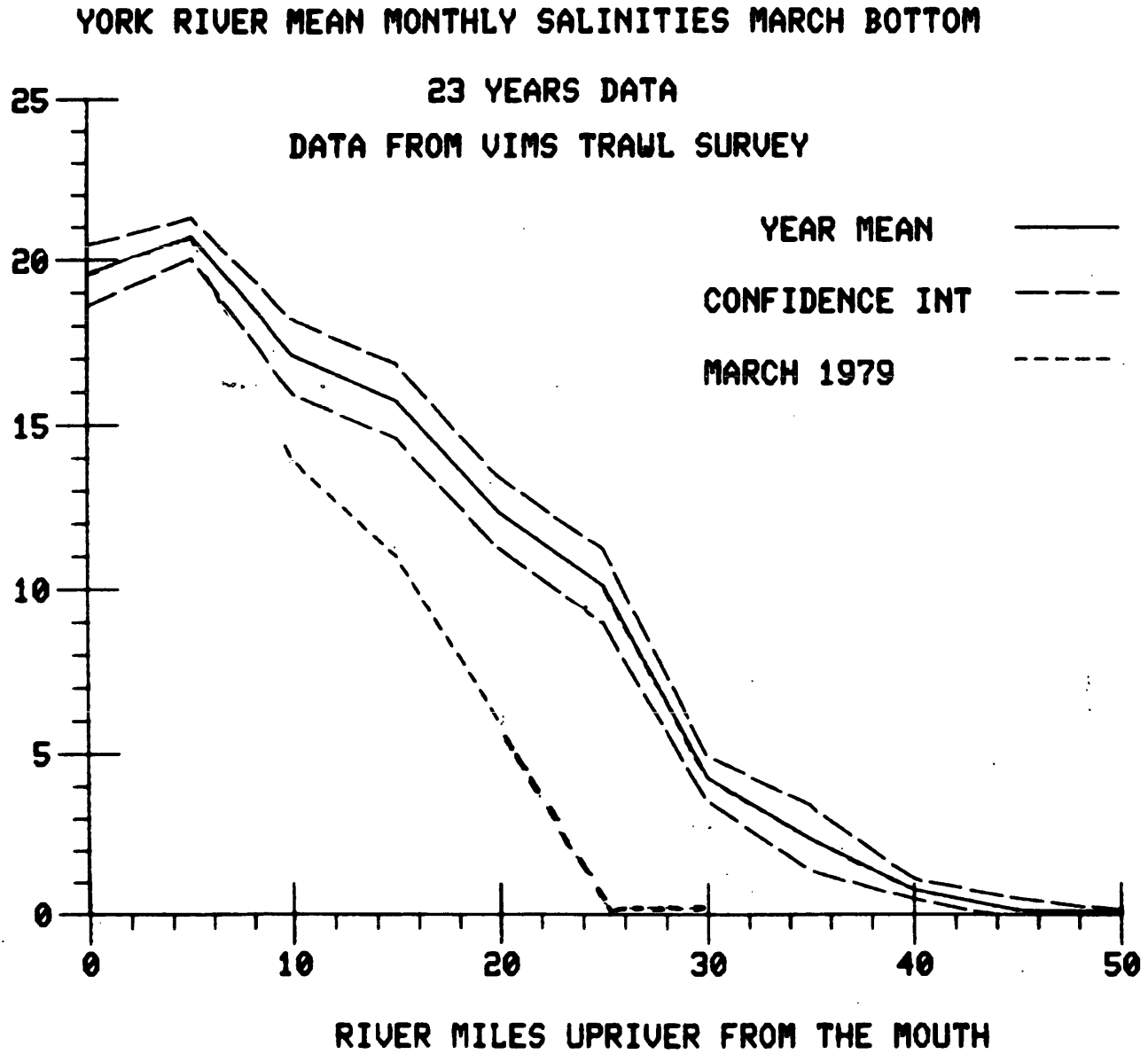


Figure 7

YORK RIVER MEAN MONTHLY SALINITIES APRIL SURFACE

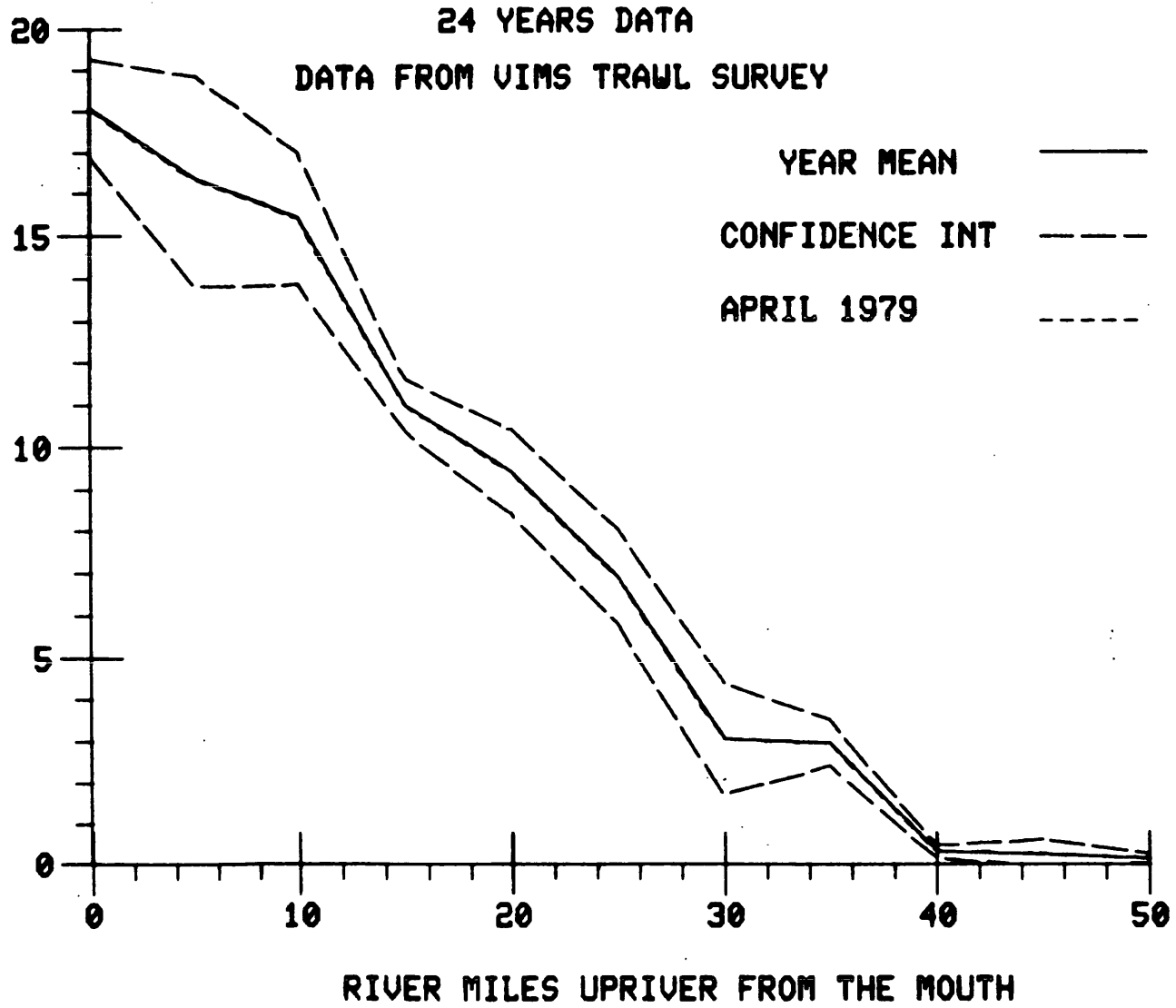


Figure 8

YORK RIVER MEAN MONTHLY SALINITIES APRIL BOTTOM

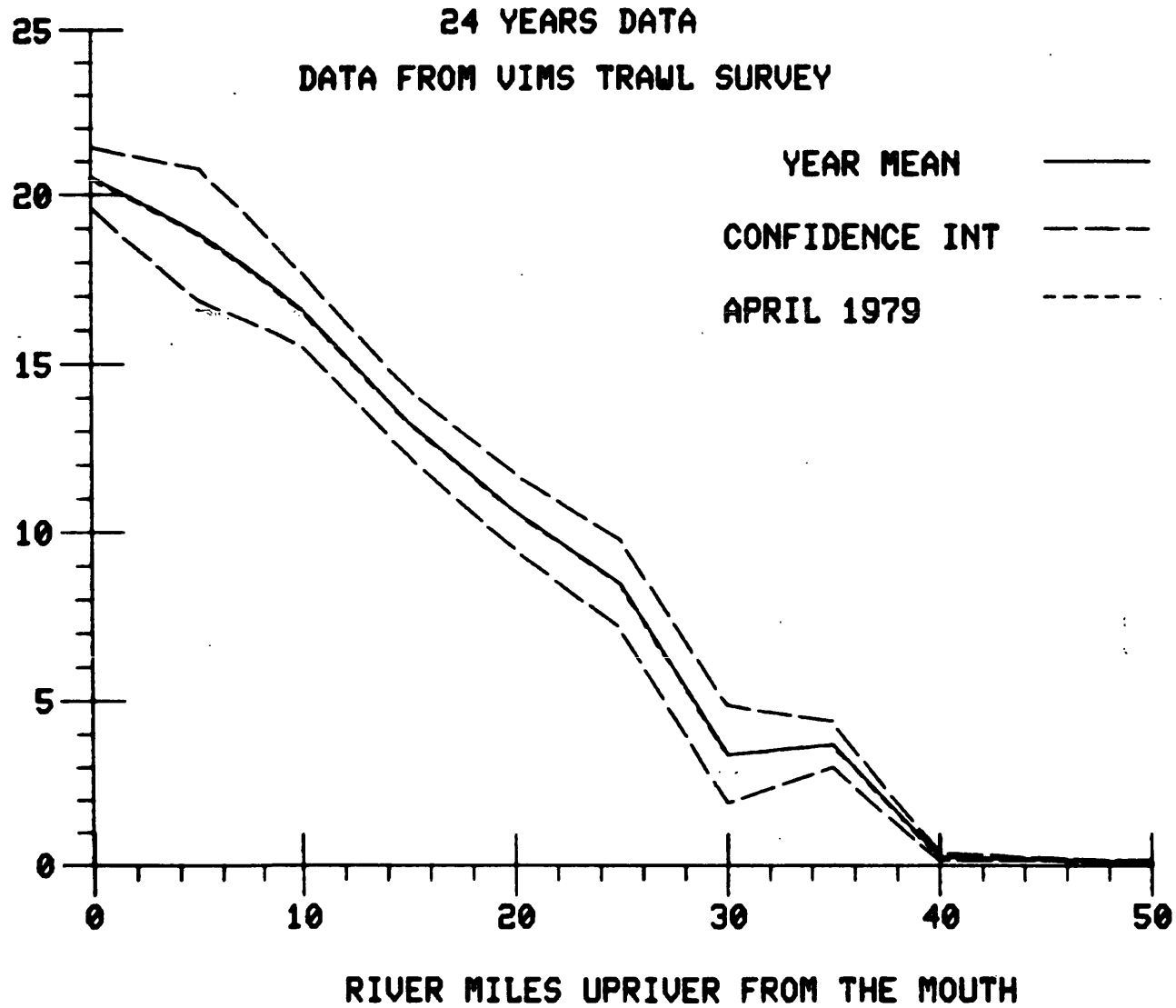


Figure 9

YORK RIVER MEAN MONTHLY SALINITIES MAY SURFACE

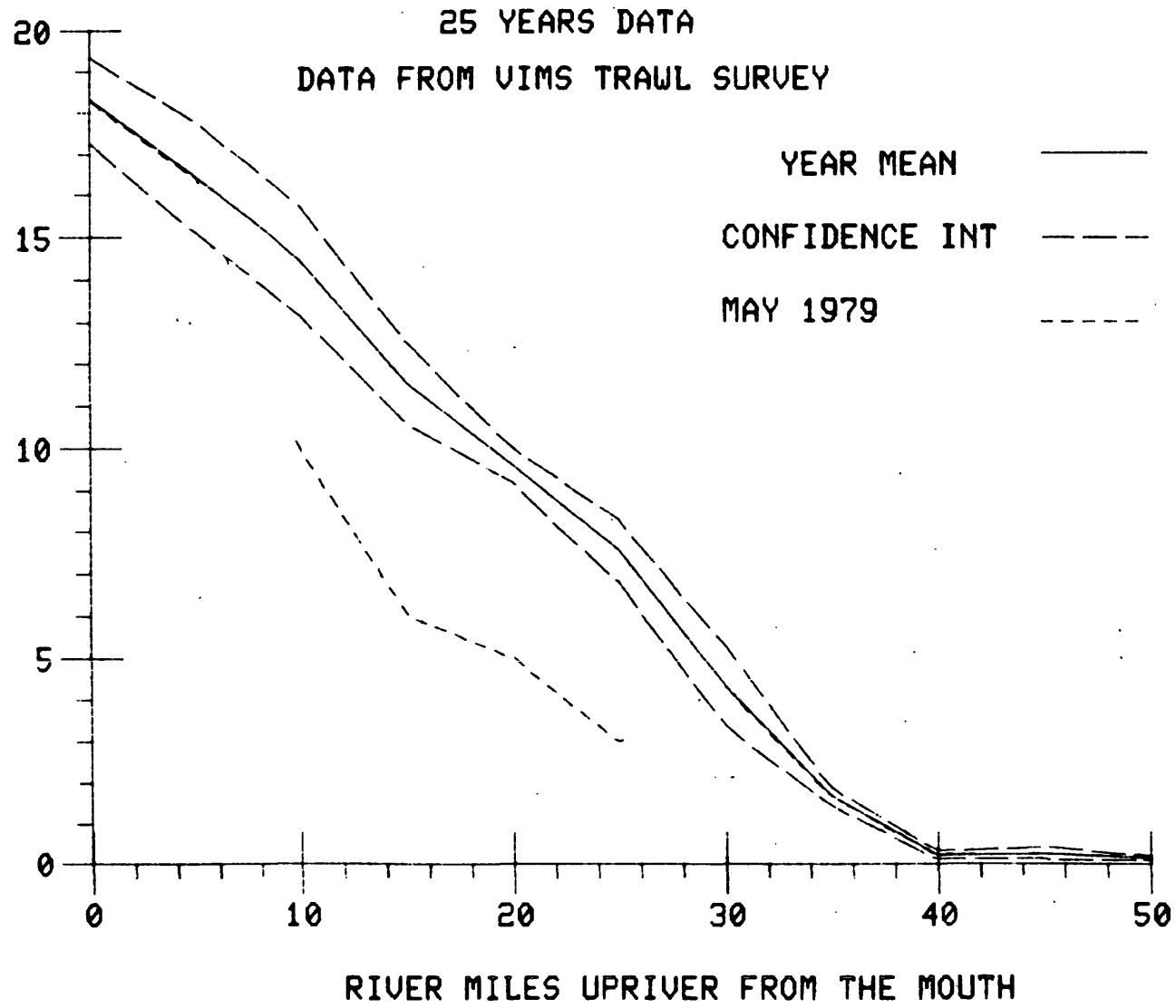


Figure 10

YORK RIVER MEAN MONTHLY SALINITIES MAY BOTTOM

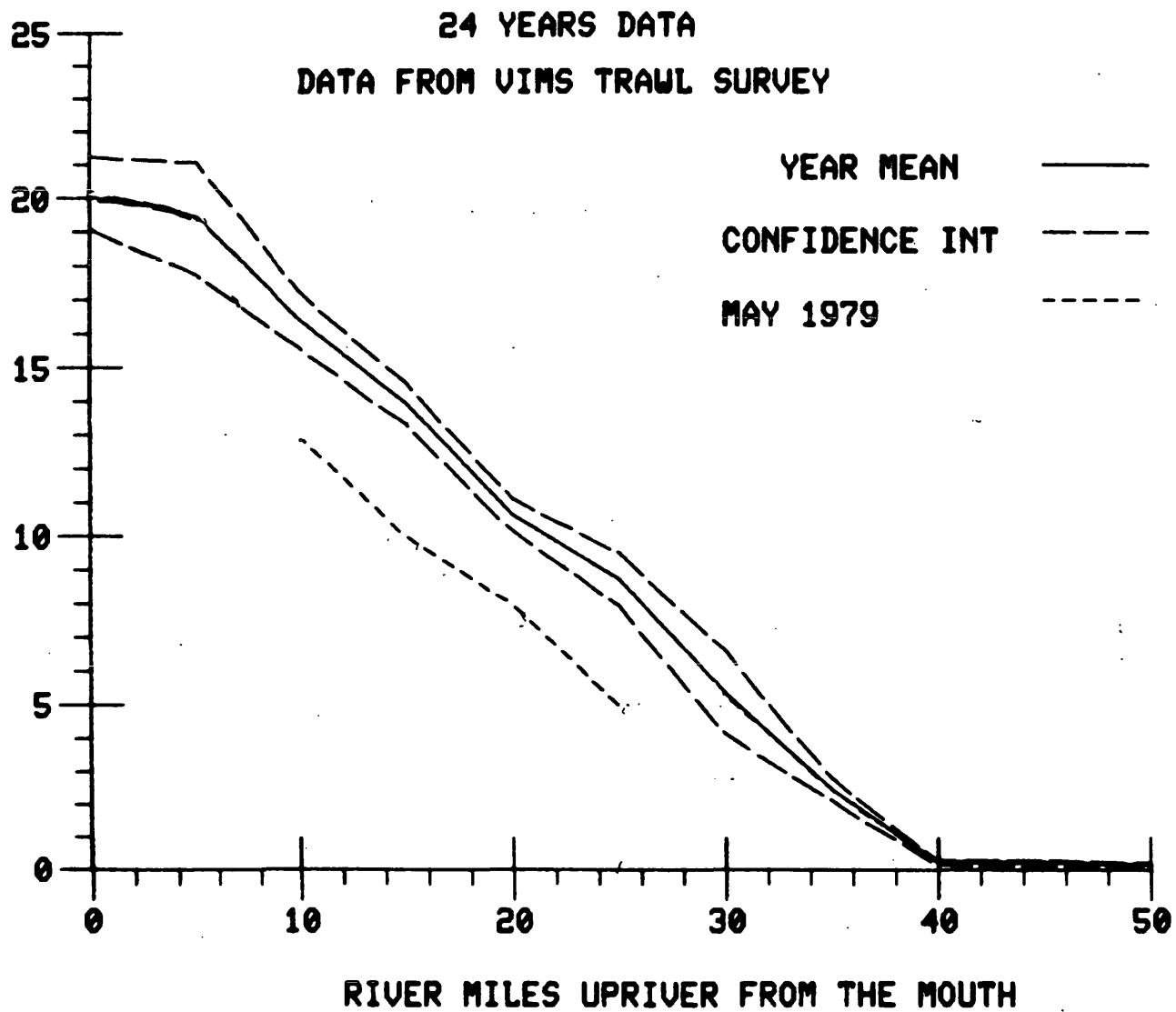


Figure 11

YORK RIVER MEAN MONTHLY SALINITIES JUNE SURFACE

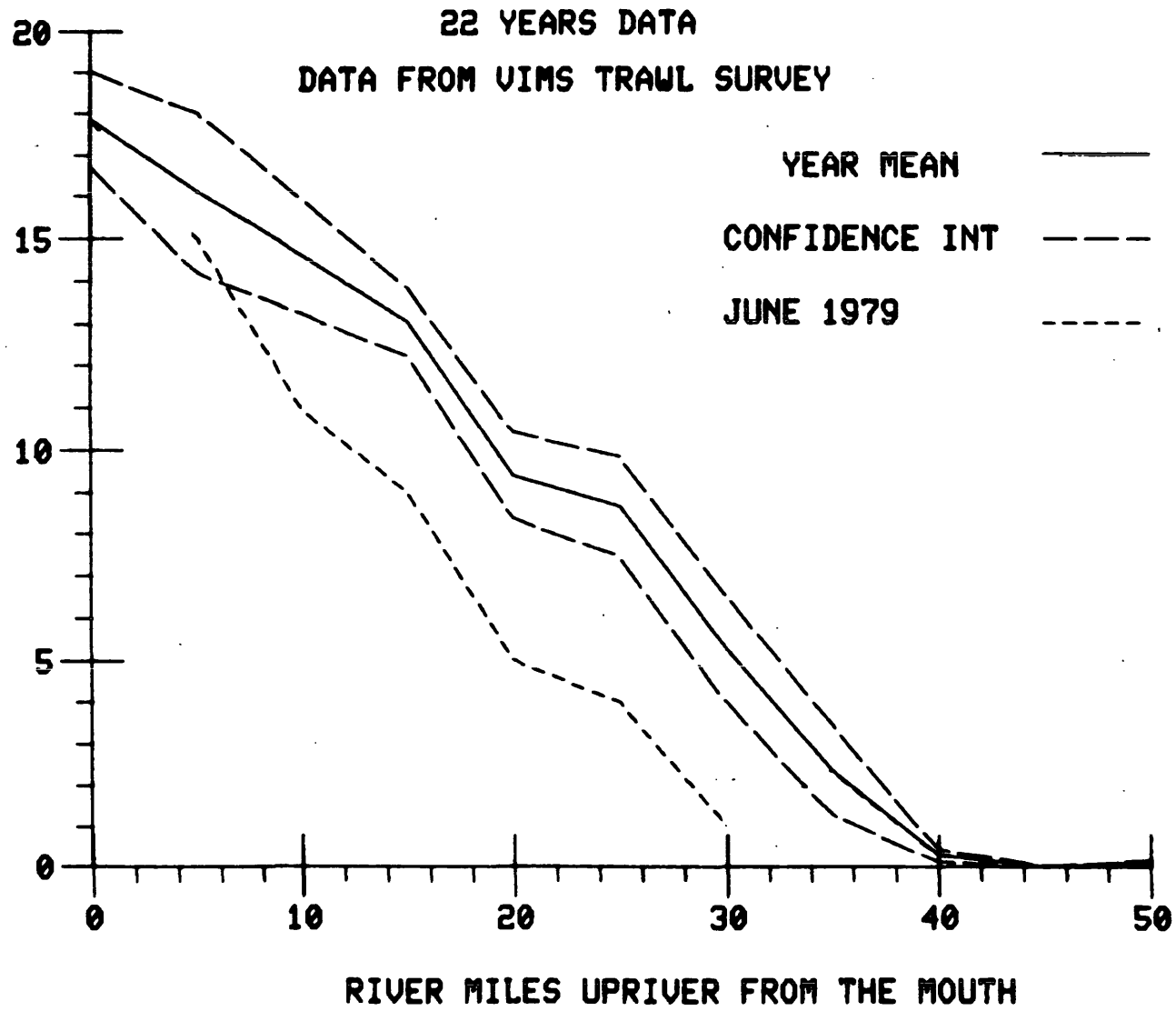


Figure 12

YORK RIVER MEAN MONTHLY SALINITIES JUNE BOTTOM

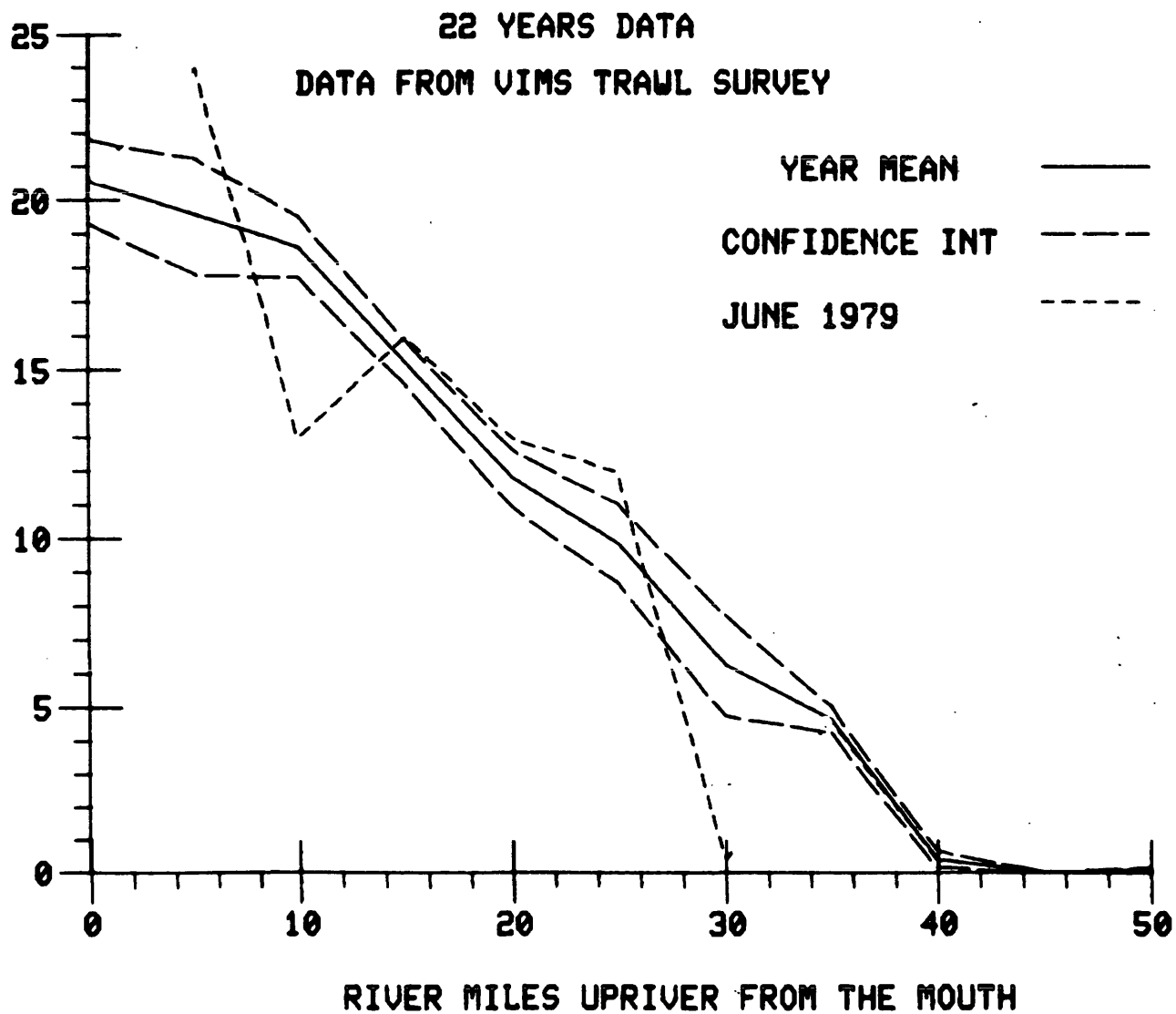


Figure 13

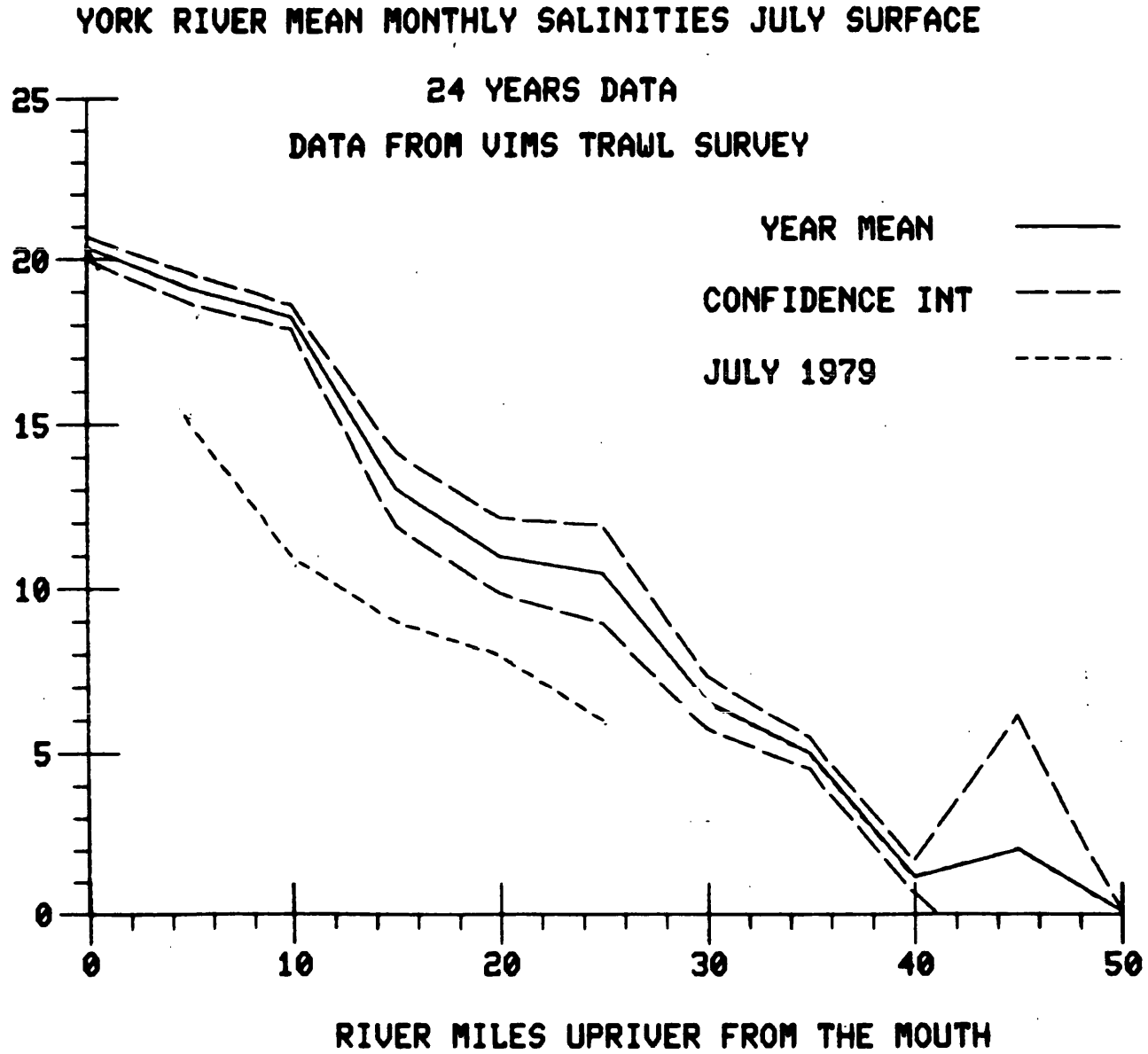




Figure 14

YORK RIVER MEAN MONTHLY SALINITIES JULY BOTTOM

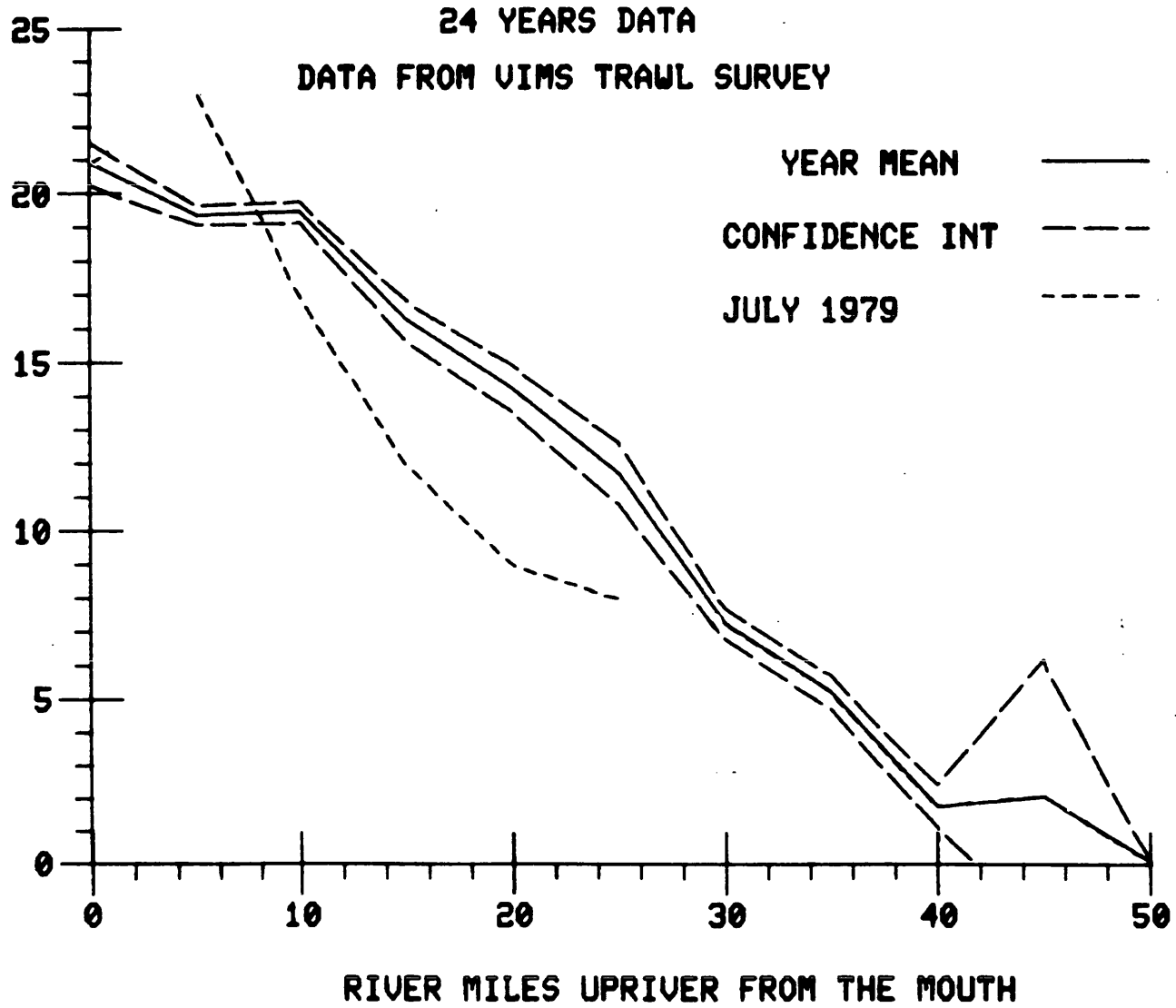


Figure 15

YORK RIVER MEAN MONTHLY SALINITIES AUGUST SURFACE

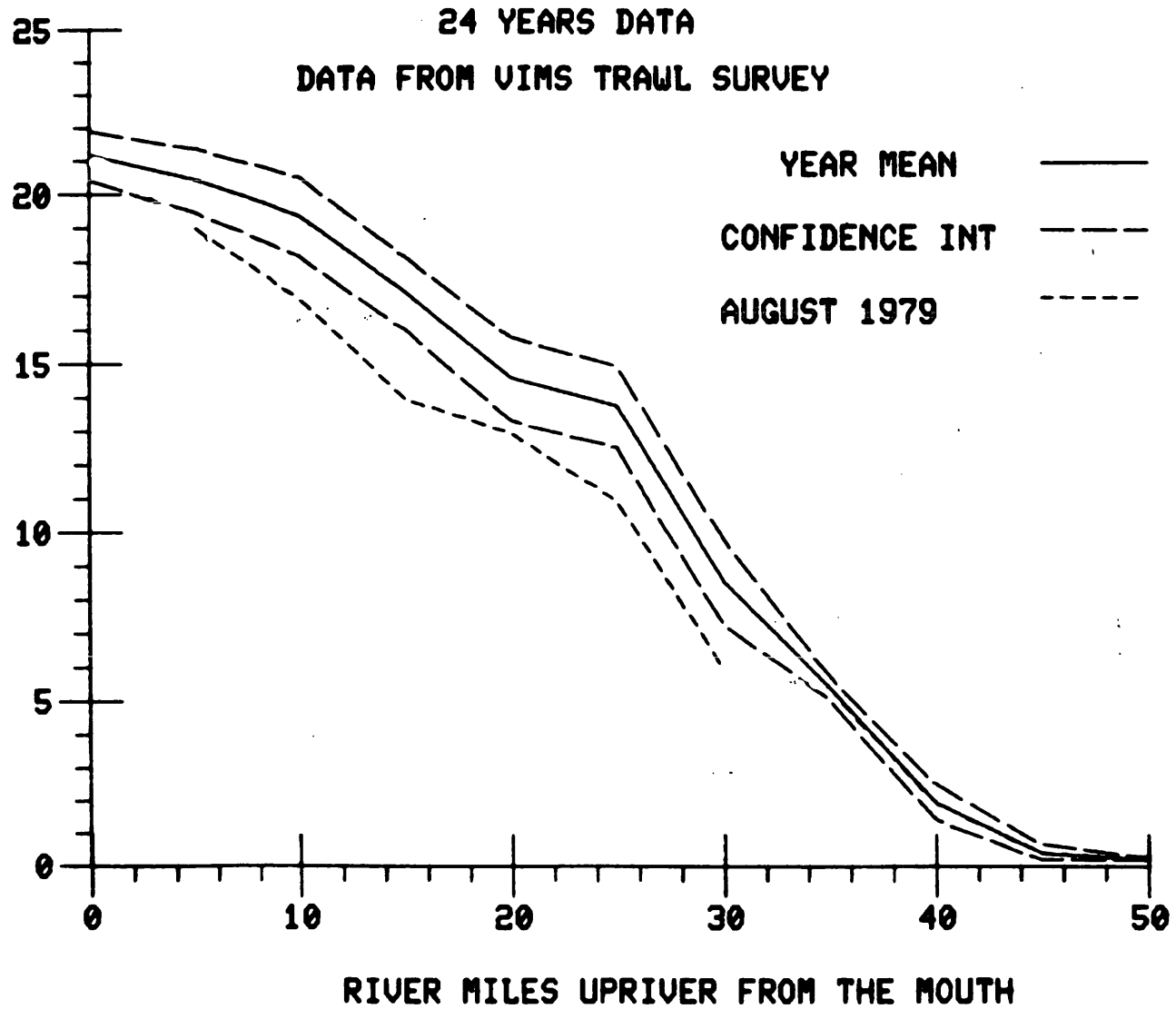


Figure 16

YORK RIVER MEAN MONTHLY SALINITIES AUGUST BOTTOM

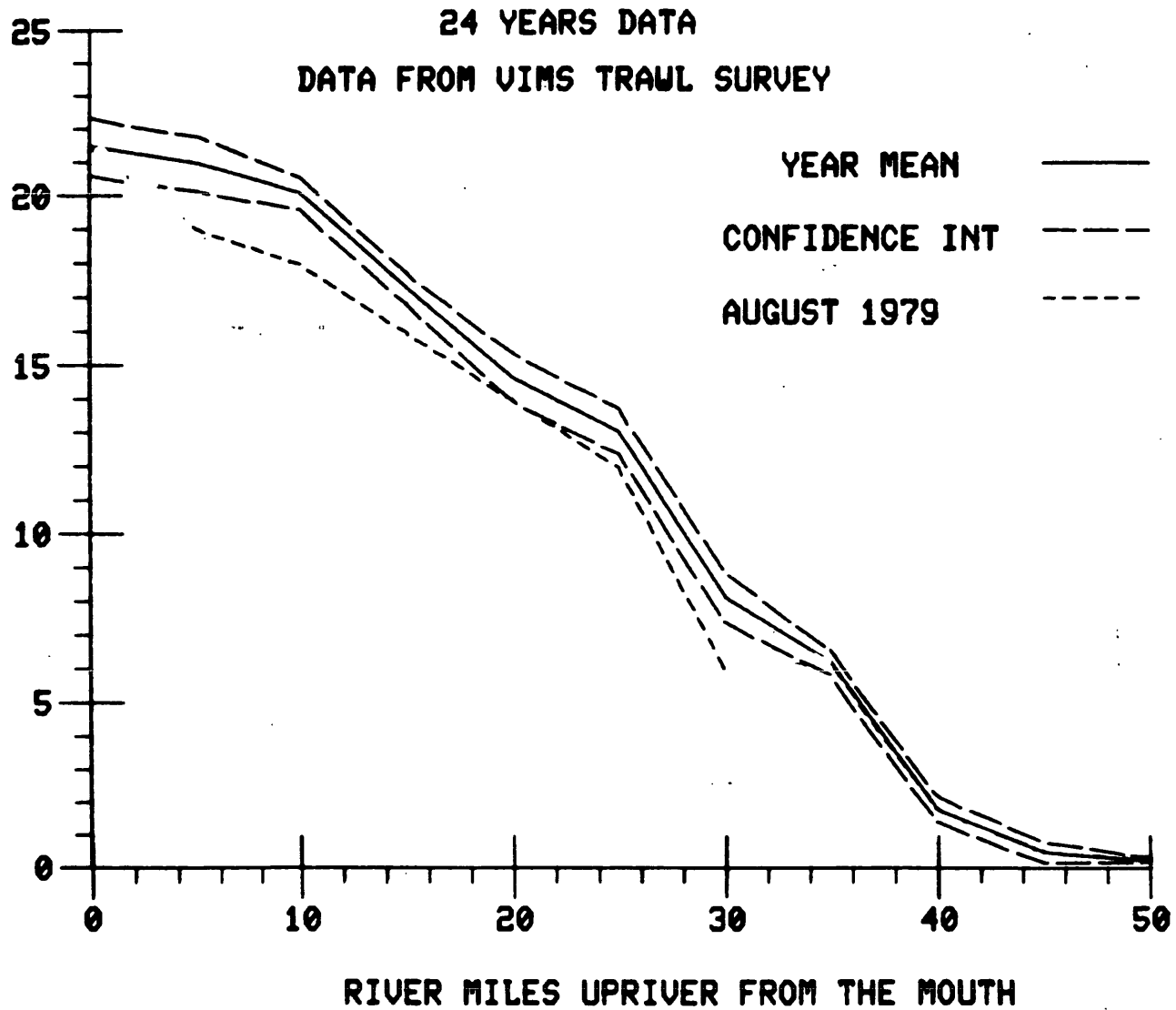


Figure 17

YORK RIVER MEAN MONTHLY SALINITIES SEPTEMBER **SURFACE**

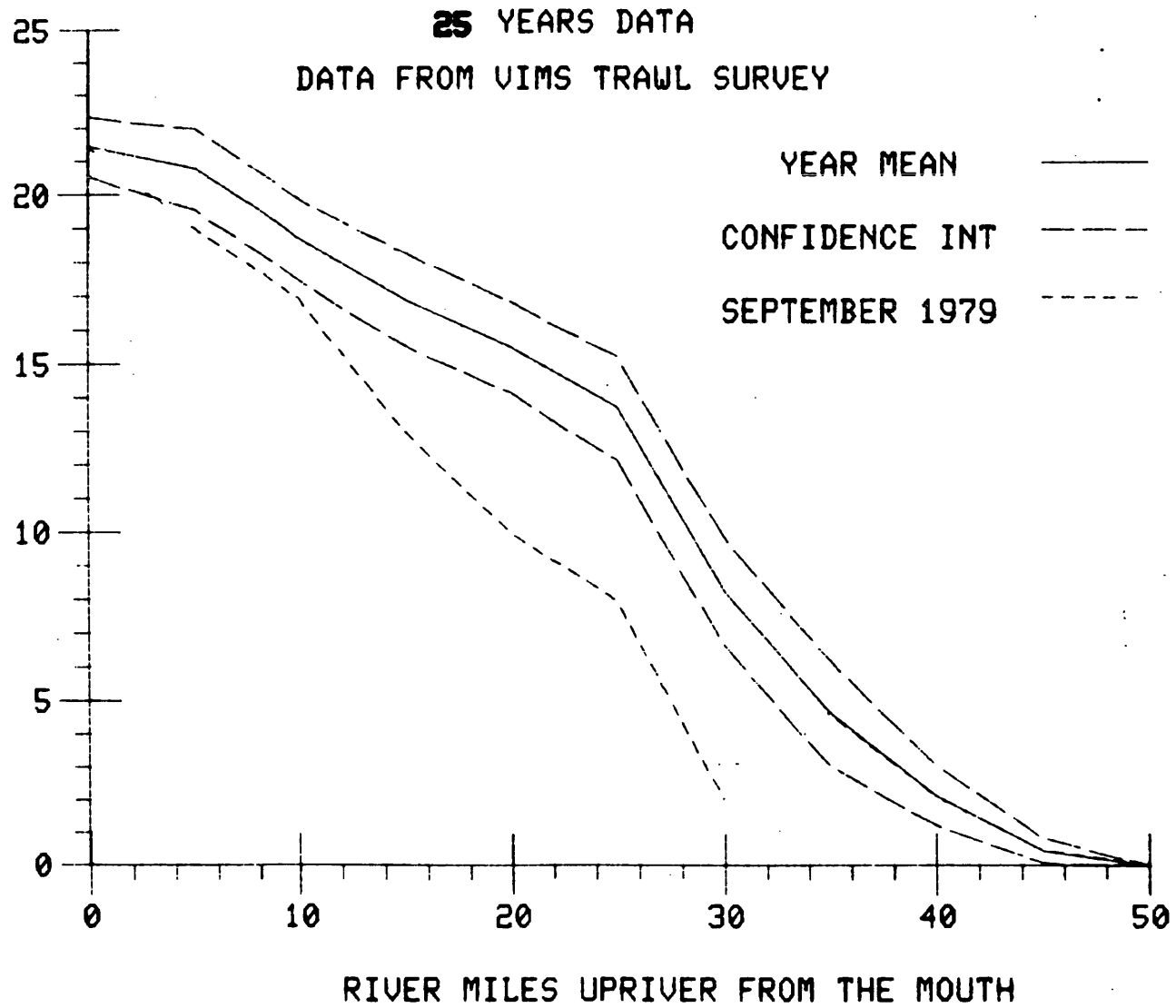


Figure 18

YORK RIVER MEAN MONTHLY SALINITIES SEPTEMBER BOTTOM

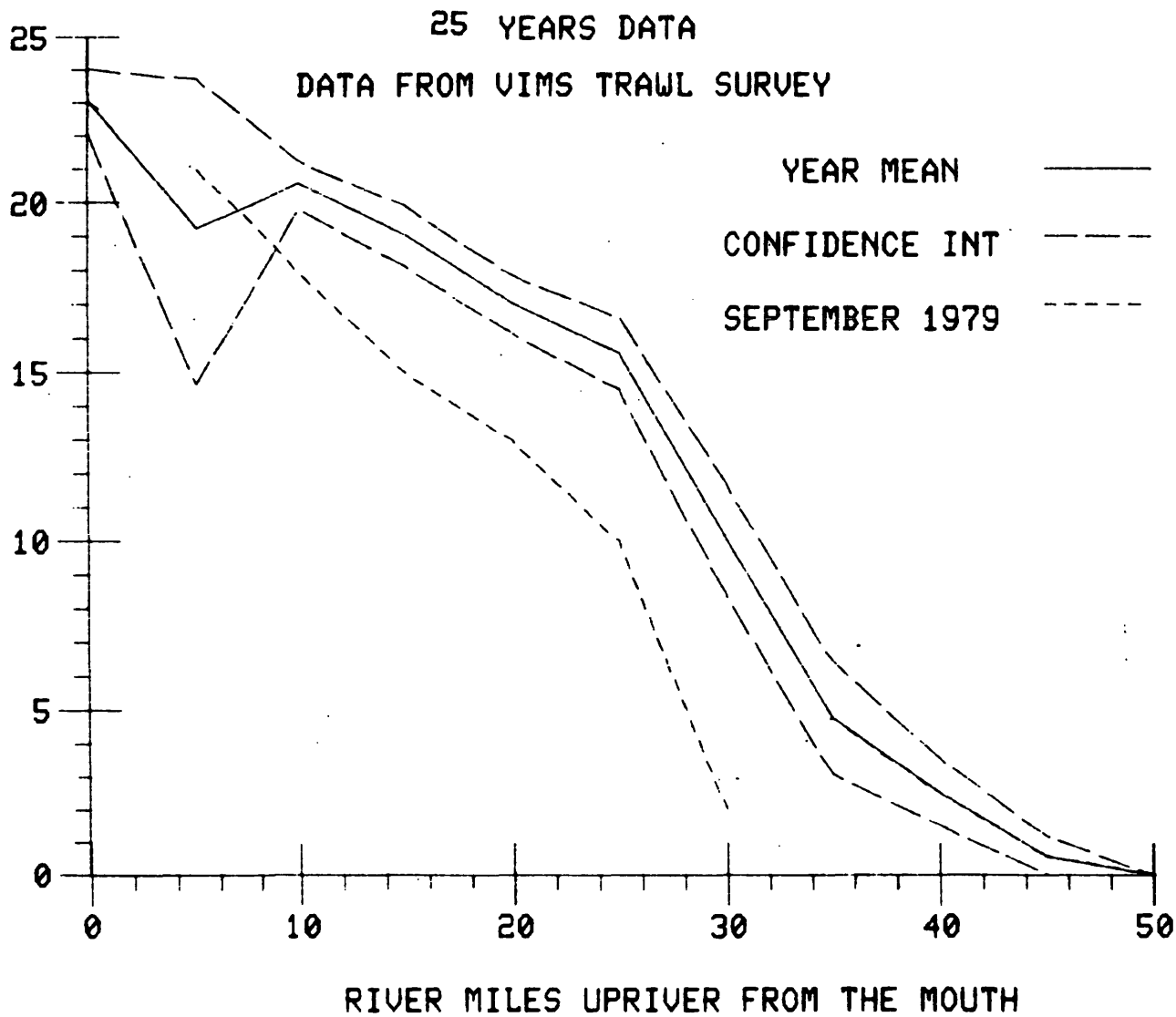


Figure 19

YORK RIVER MEAN MONTHLY SALINITIES OCTOBER SURFACE

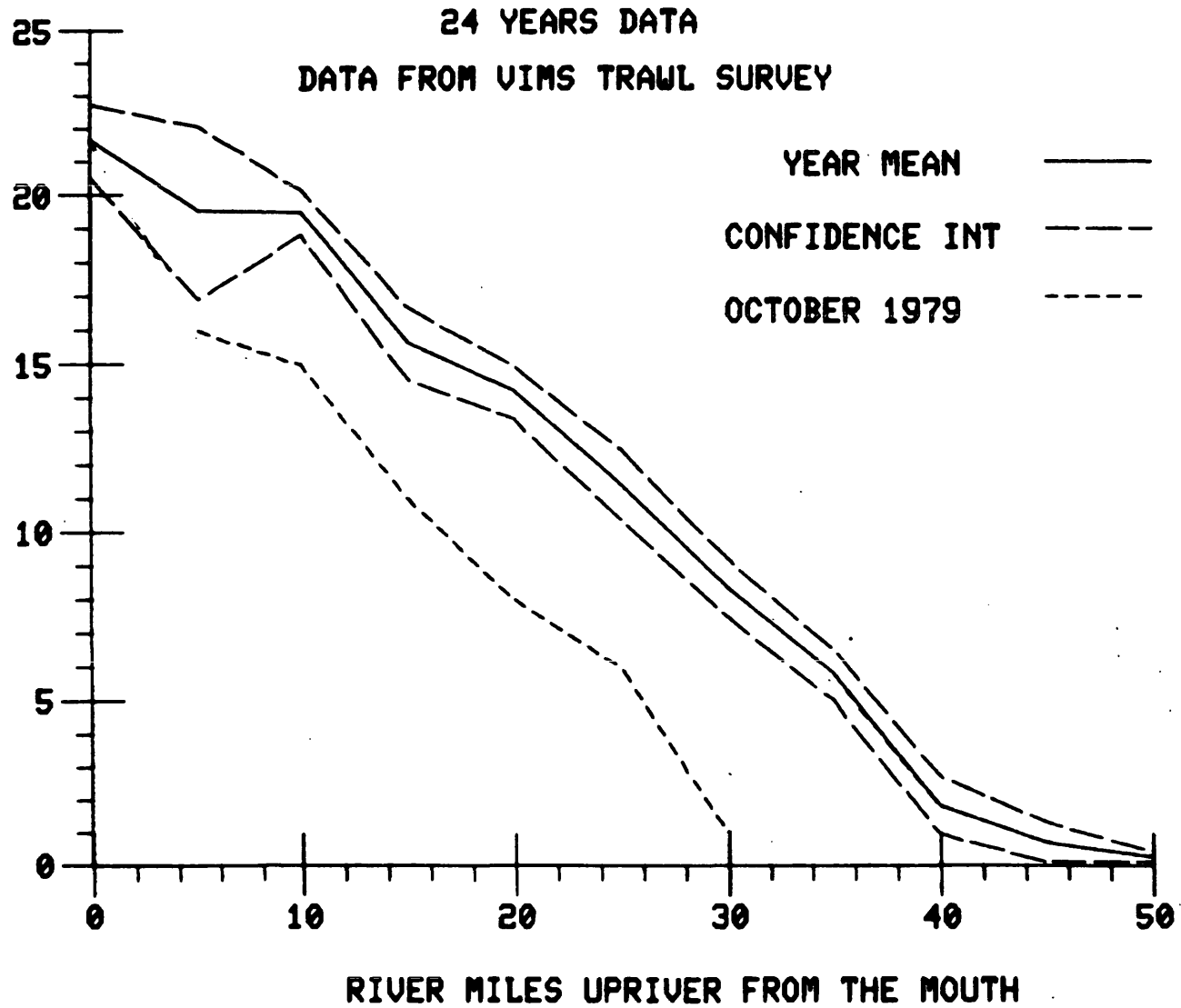


Figure 20

YORK RIVER MEAN MONTHLY SALINITIES OCTOBER BOTTOM

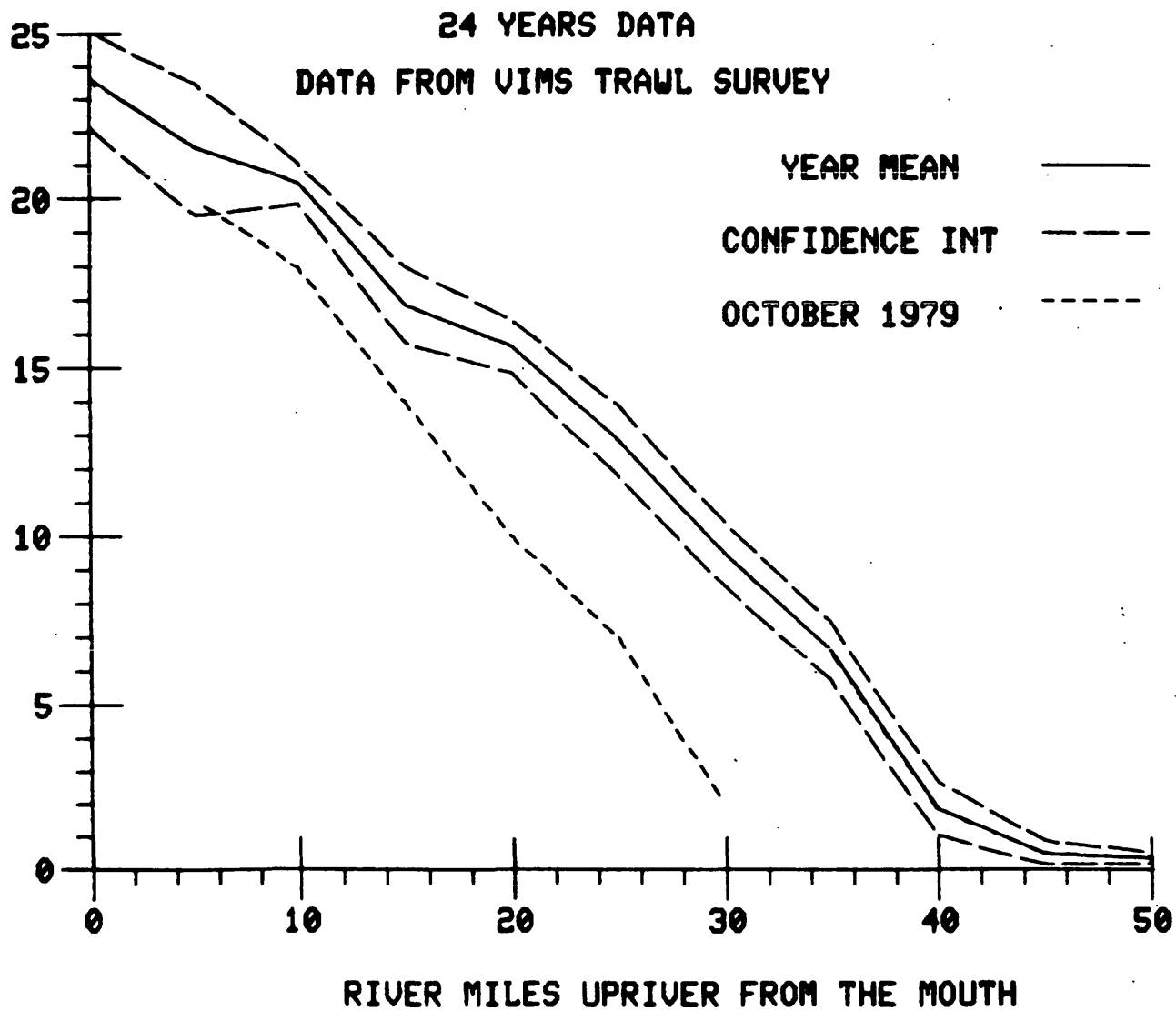


Figure 21

YORK RIVER MEAN MONTHLY SALINITIES NOVEMBER SURFACE

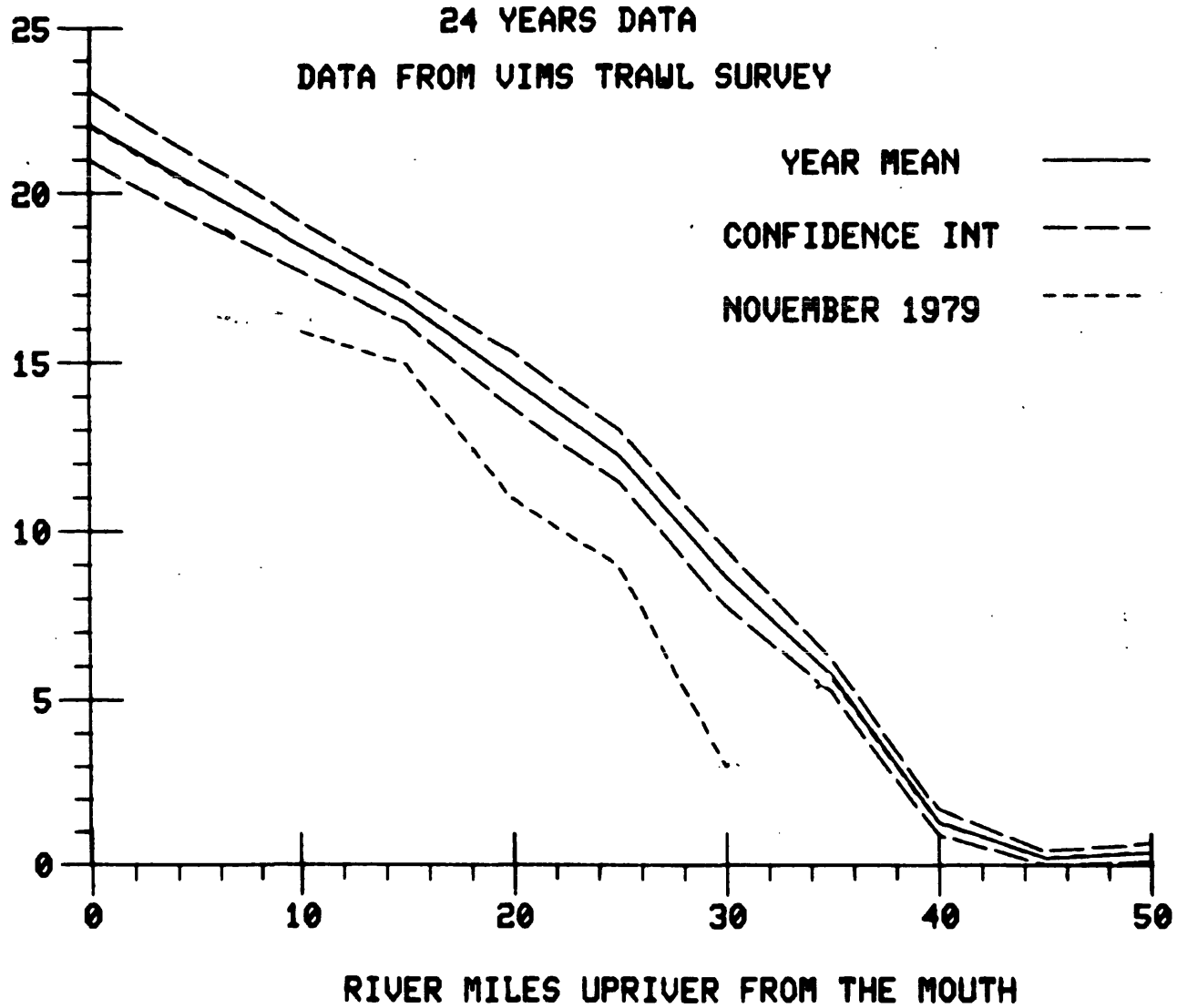




Figure 22

YORK RIVER MEAN MONTHLY SALINITIES NOVEMBER BOTTOM

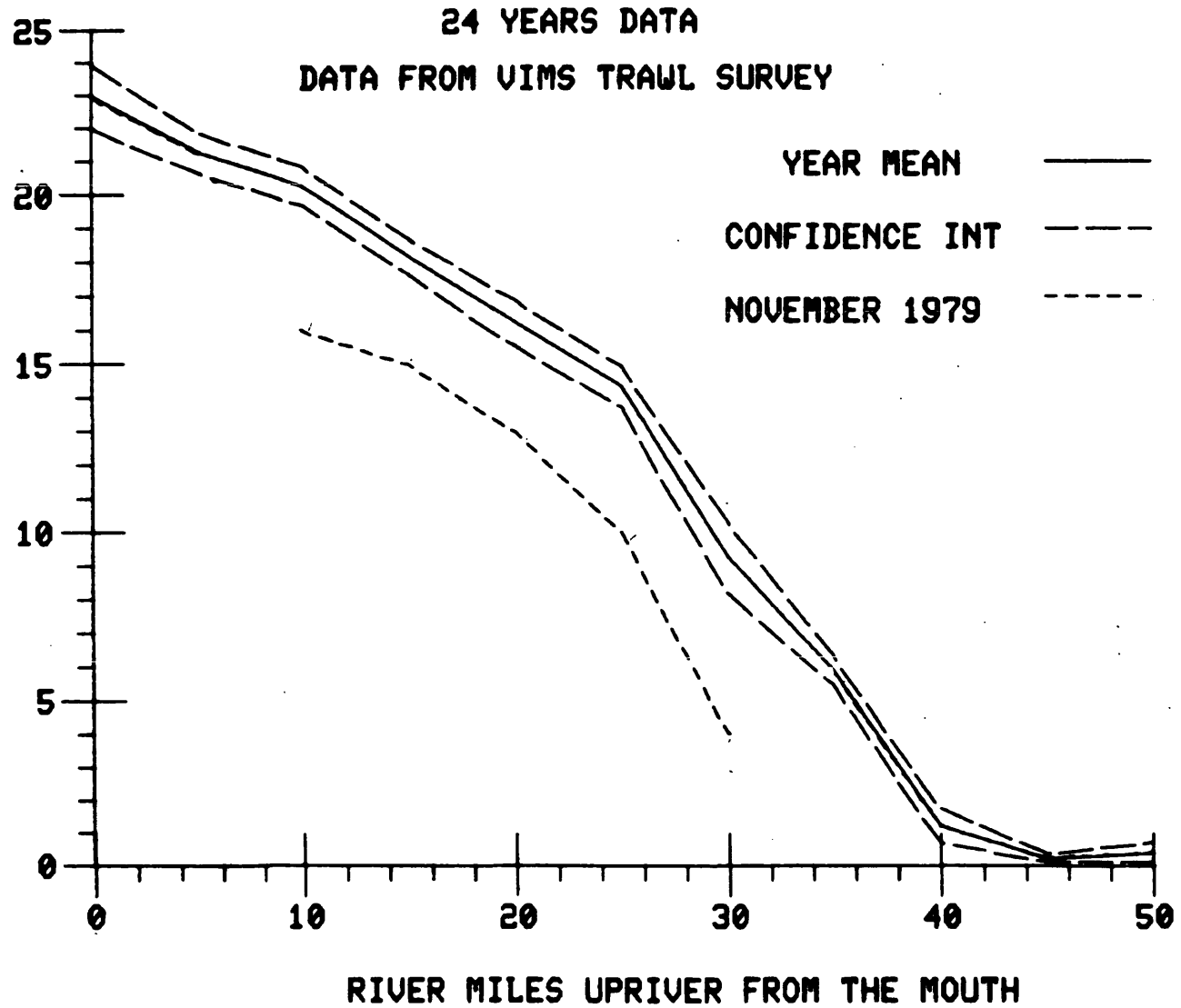


Figure 23

YORK RIVER MEAN MONTHLY SALINITIES DECEMBER SURFACE

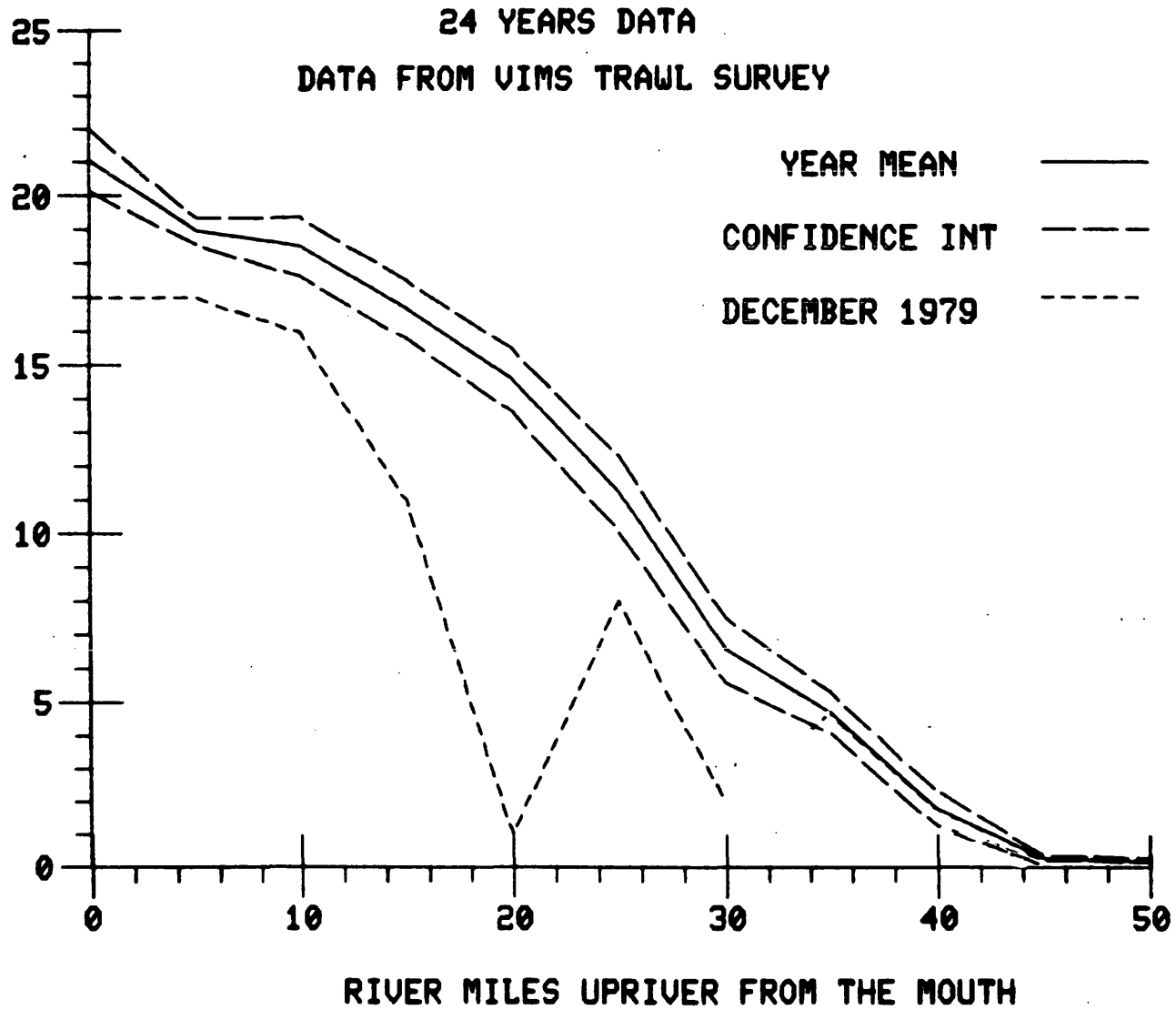


Figure 24

YORK RIVER MEAN MONTHLY SALINITIES DECEMBER BOTTOM

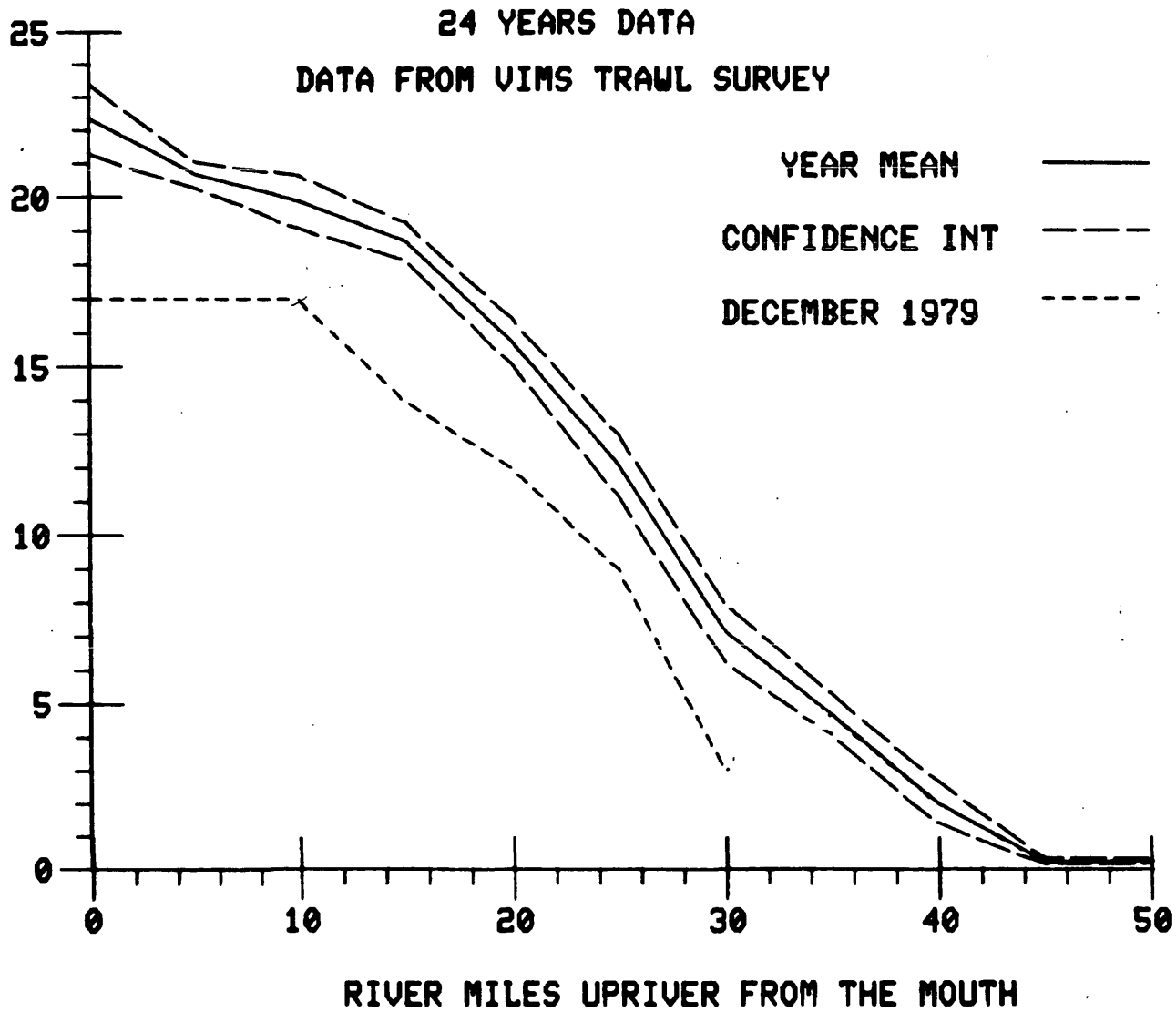


Figure 25

YORK RIVER MEAN MONTHLY SALINITIES JANUARY SURFACE

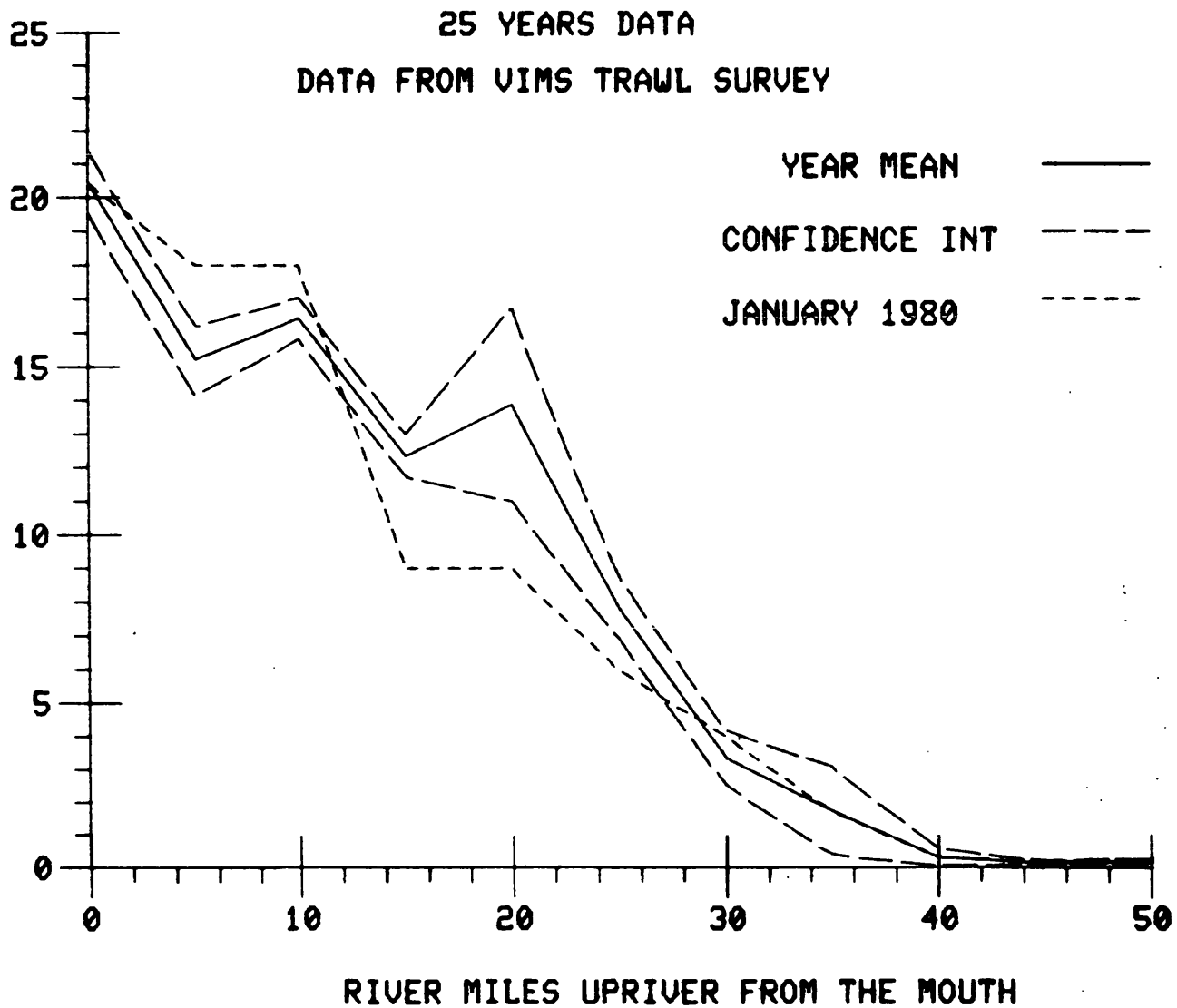


Figure 26

YORK RIVER MEAN MONTHLY SALINITIES JANUARY BOTTOM

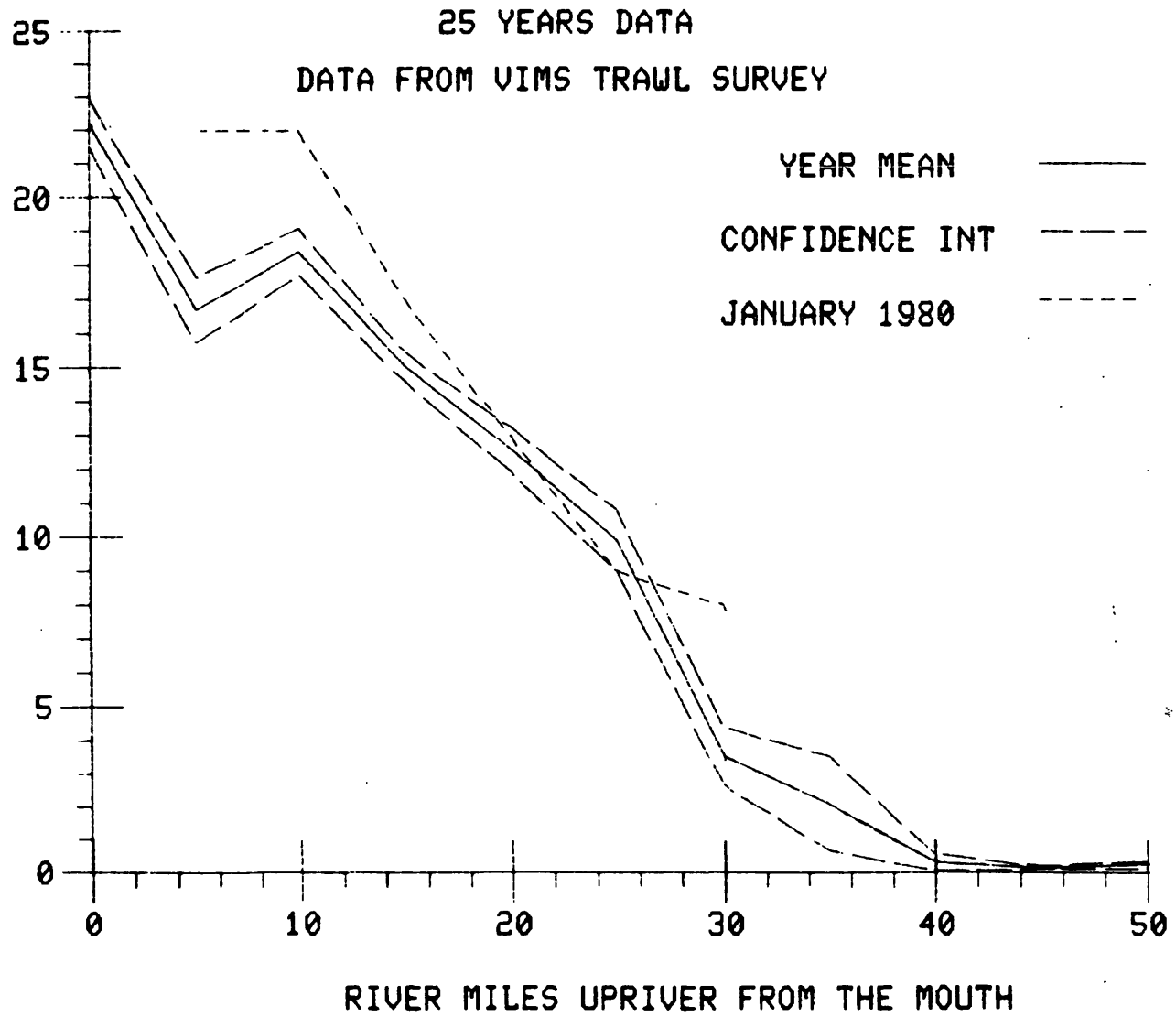


Figure 27

**YORK RIVER MEAN MONTHLY SALINITIES FEBRUARY SURFACE**

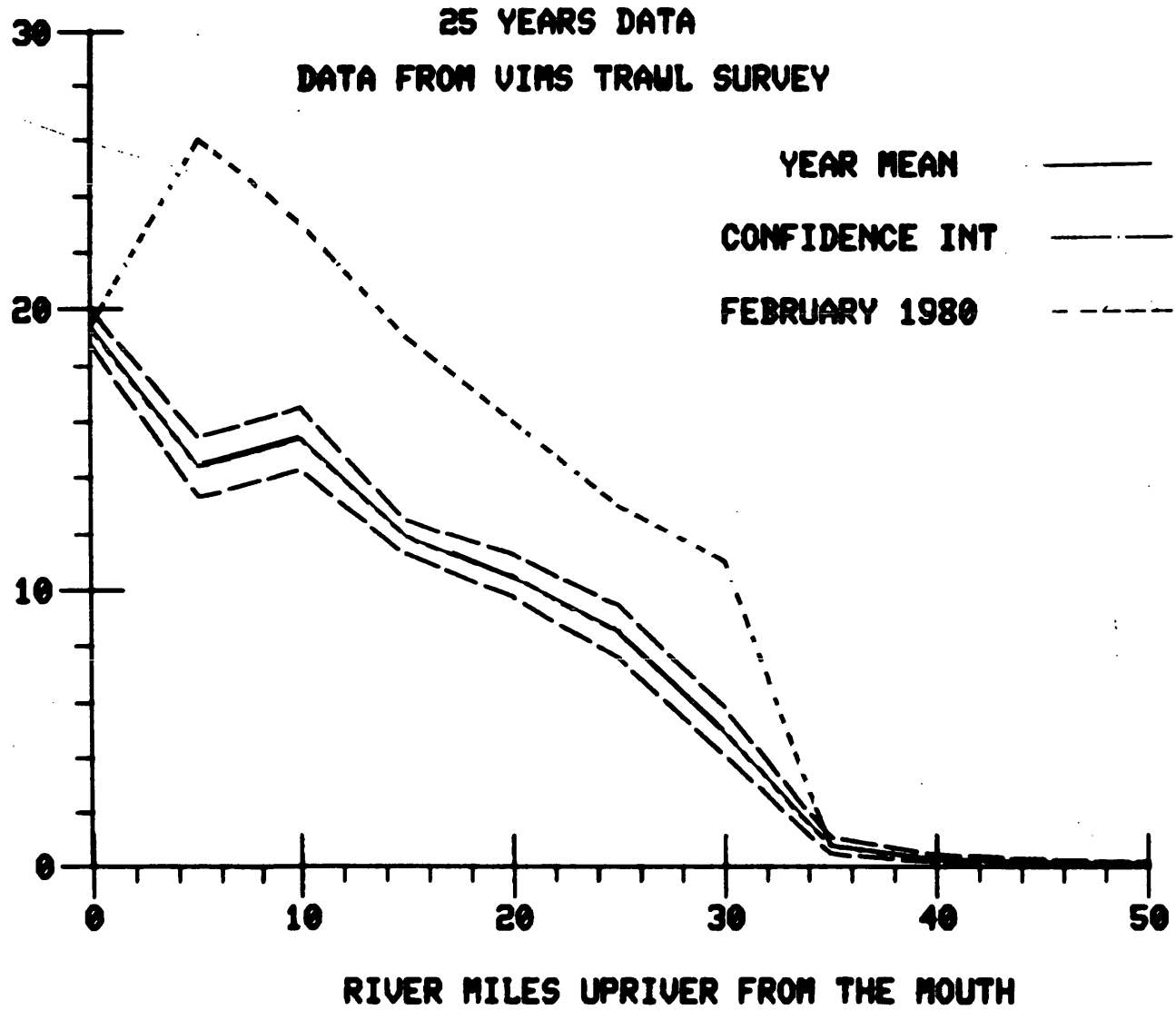


Figure 28

YORK RIVER MEAN MONTHLY SALINITIES FEBRUARY BOTTOM

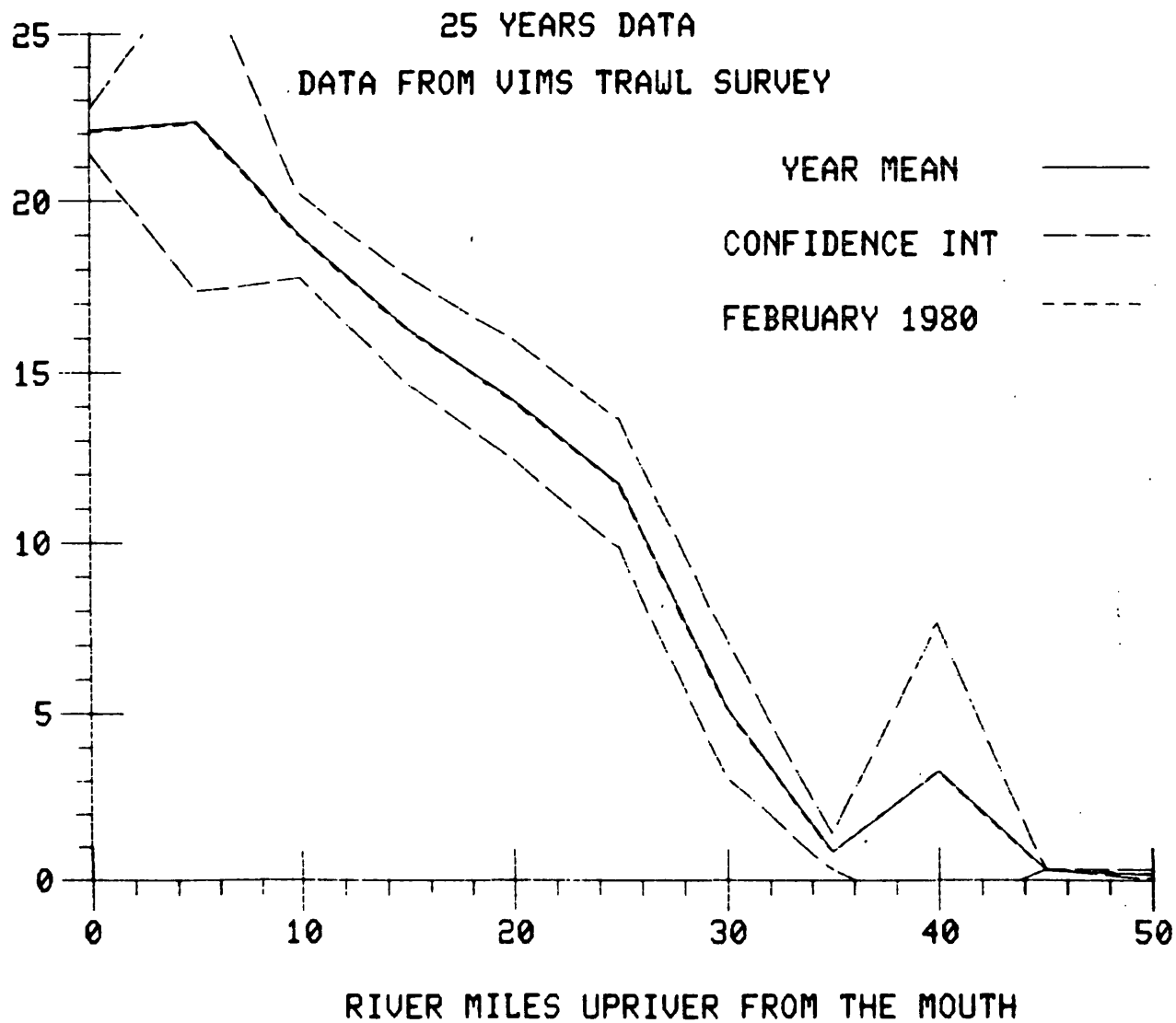


Figure 29

YORK RIVER MEAN MONTHLY SALINITIES MARCH SURFACE

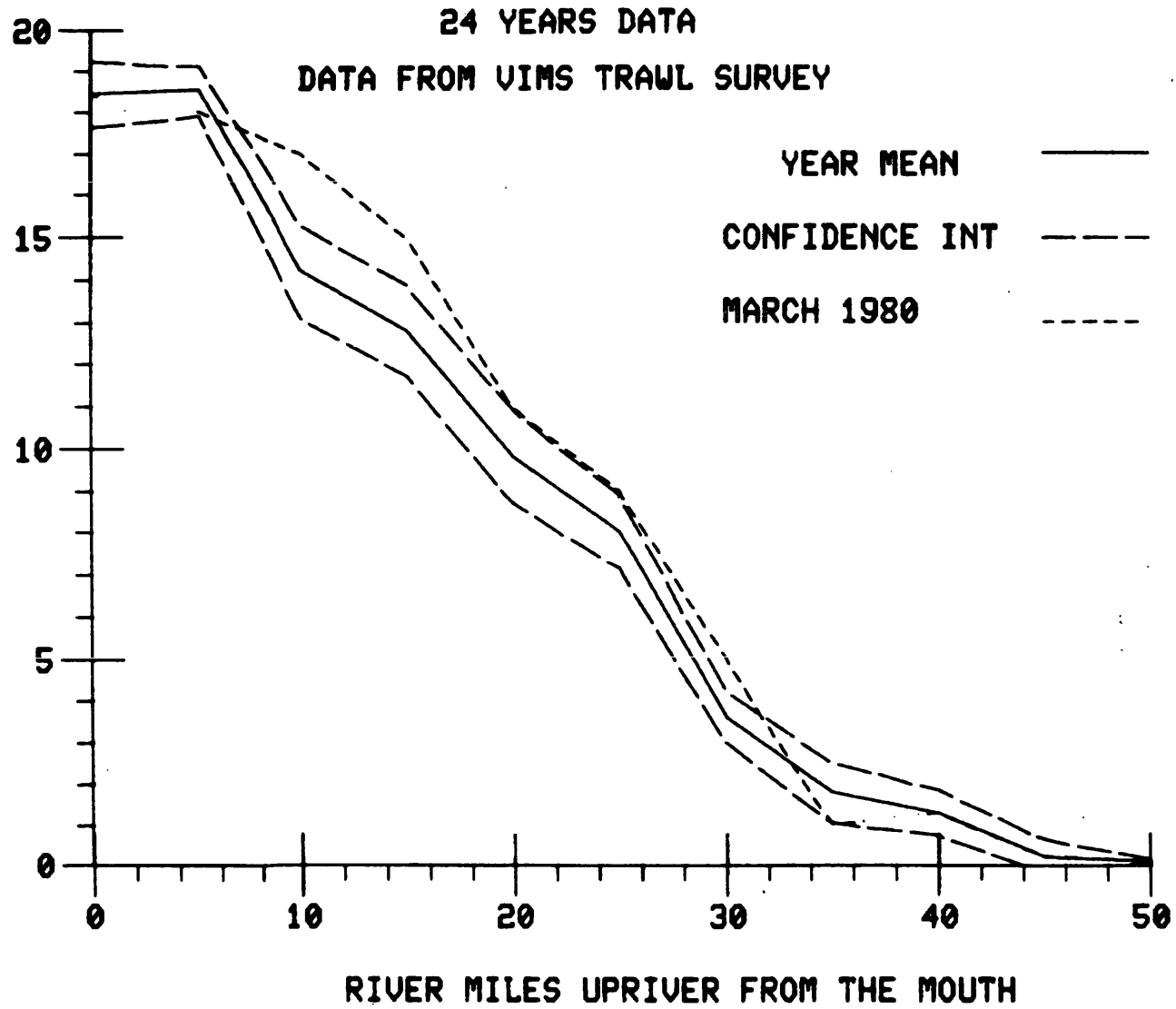




Figure 30

YORK RIVER MEAN MONTHLY SALINITIES MARCH BOTTOM

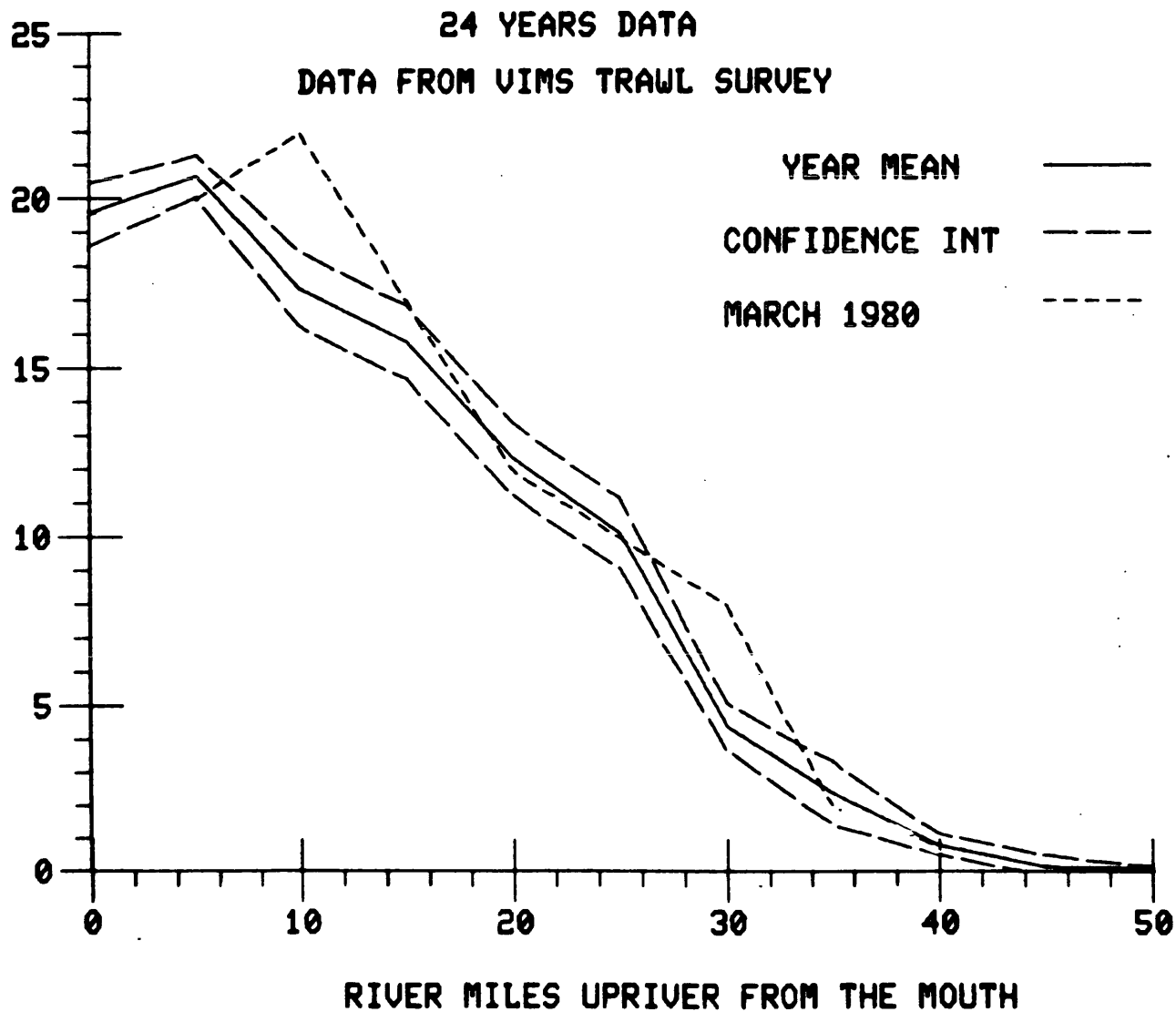


Figure 31

YORK RIVER MEAN MONTHLY SALINITIES APRIL SURFACE

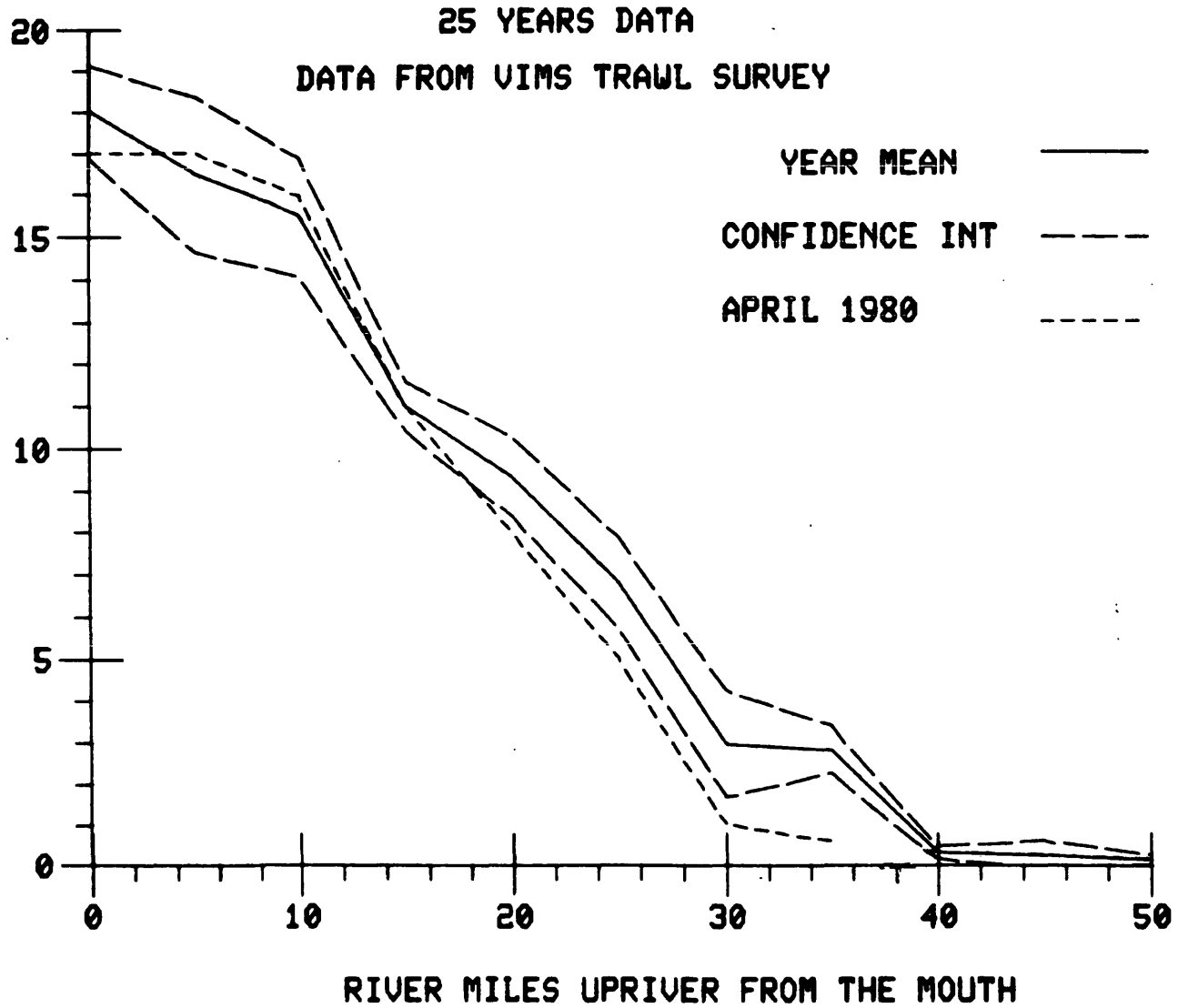


Figure 32

YORK RIVER MEAN MONTHLY SALINITIES APRIL BOTTOM

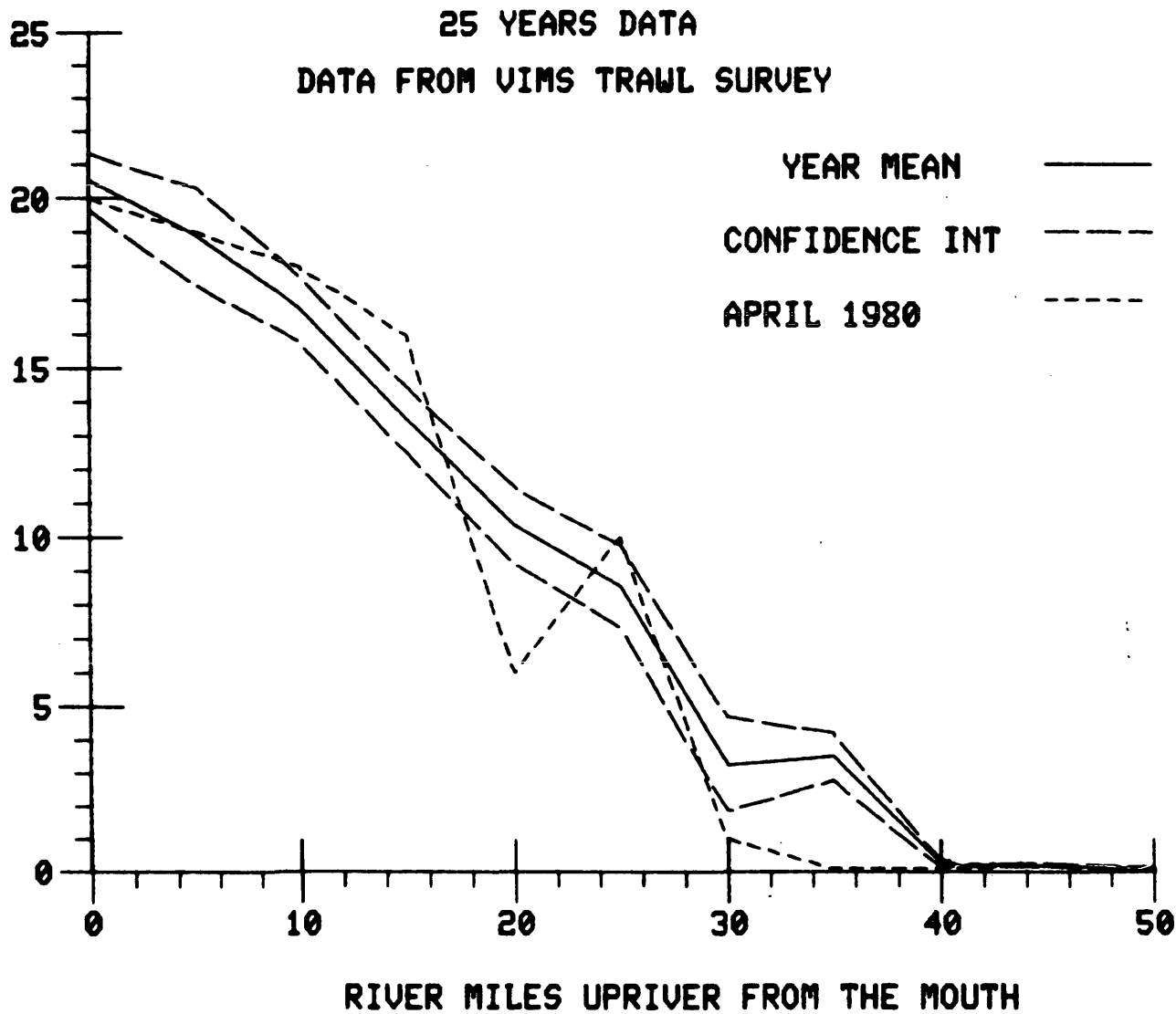


Figure 33

YORK RIVER MEAN MONTHLY SALINITIES MAY SURFACE

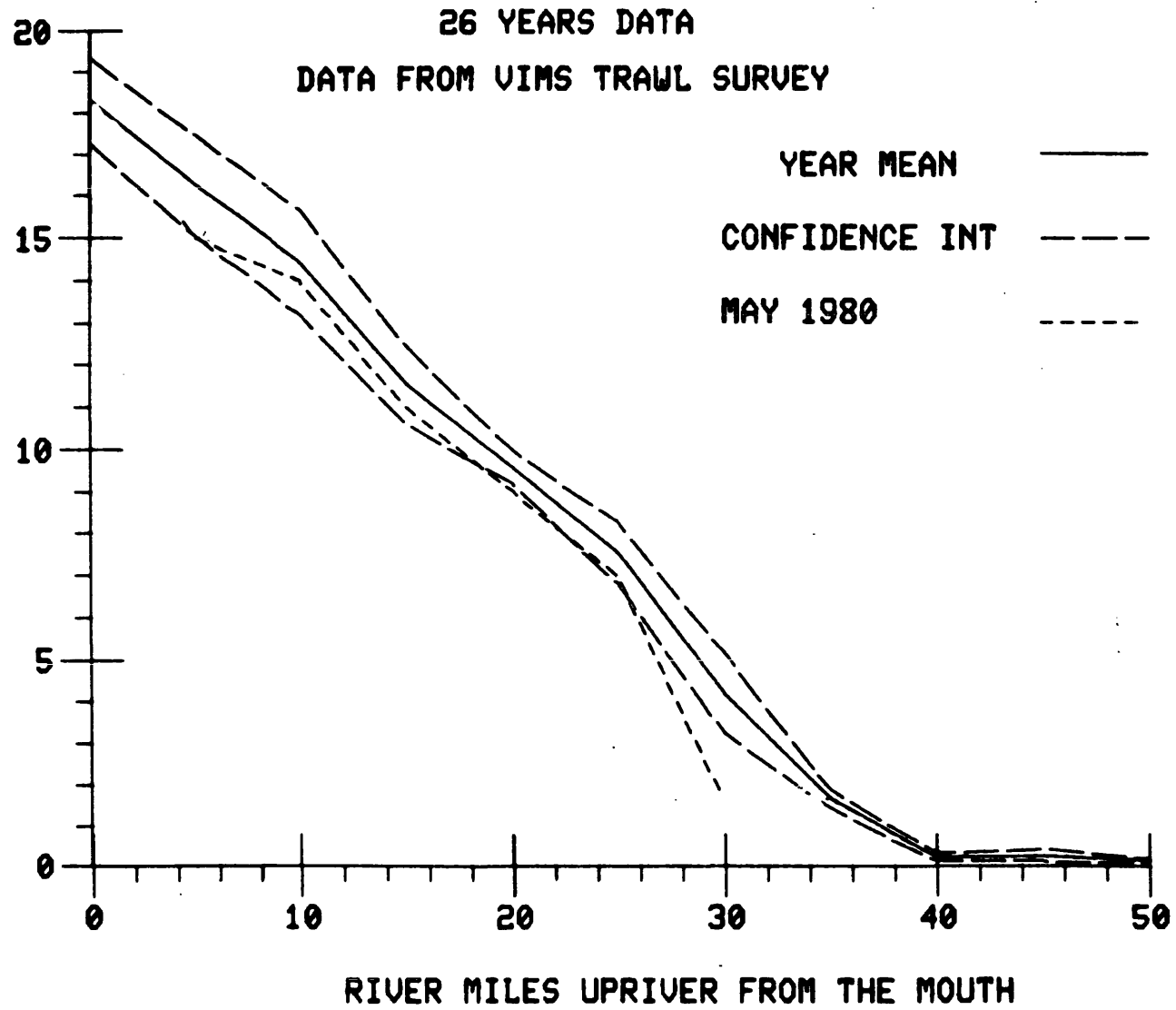


Figure 34

YORK RIVER MEAN MONTHLY SALINITIES MAY BOTTOM

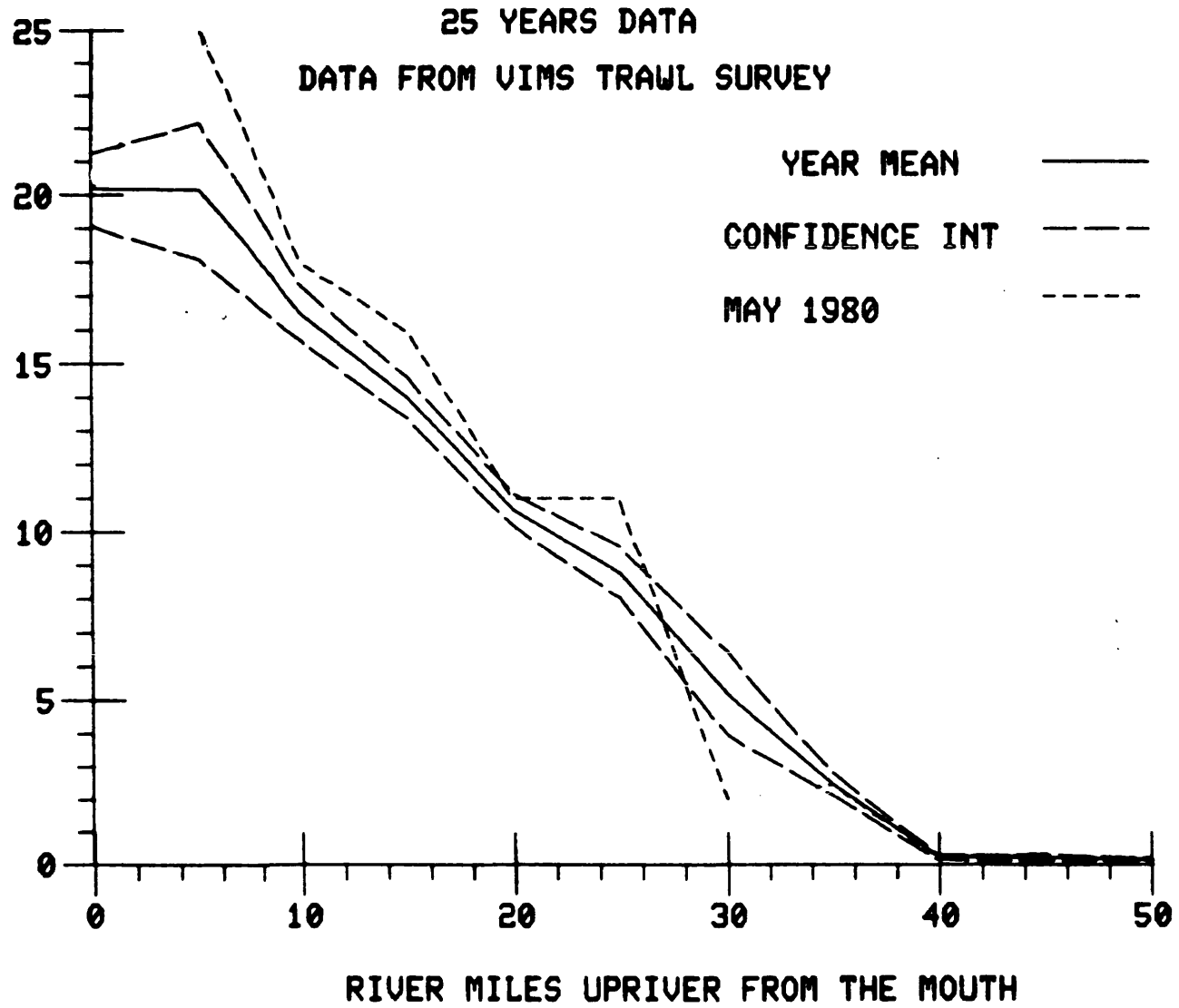


Figure 35

YORK RIVER MEAN MONTHLY SALINITIES JUNE SURFACE

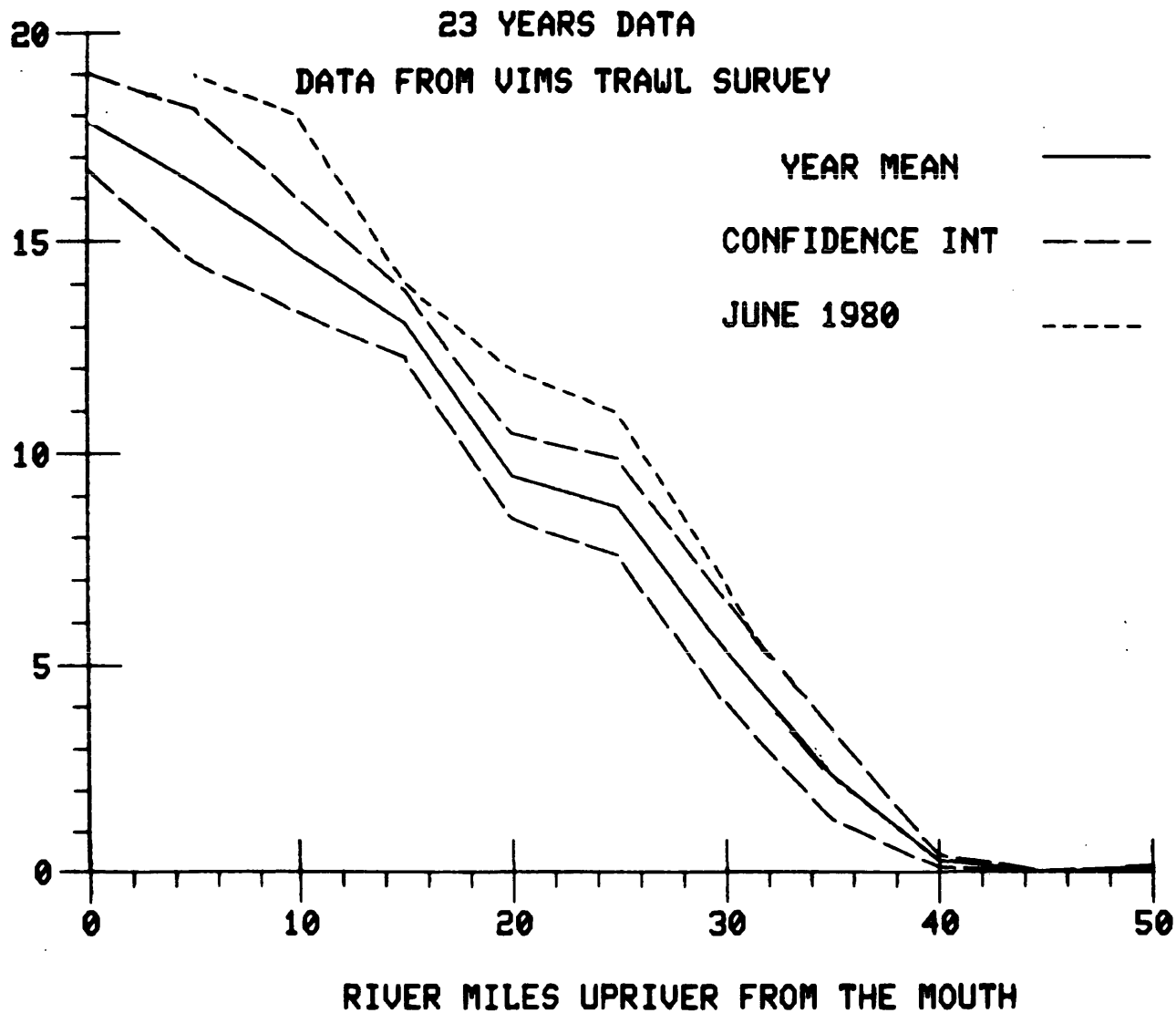


Figure 36

YORK RIVER MEAN MONTHLY SALINITIES JUNE BOTTOM

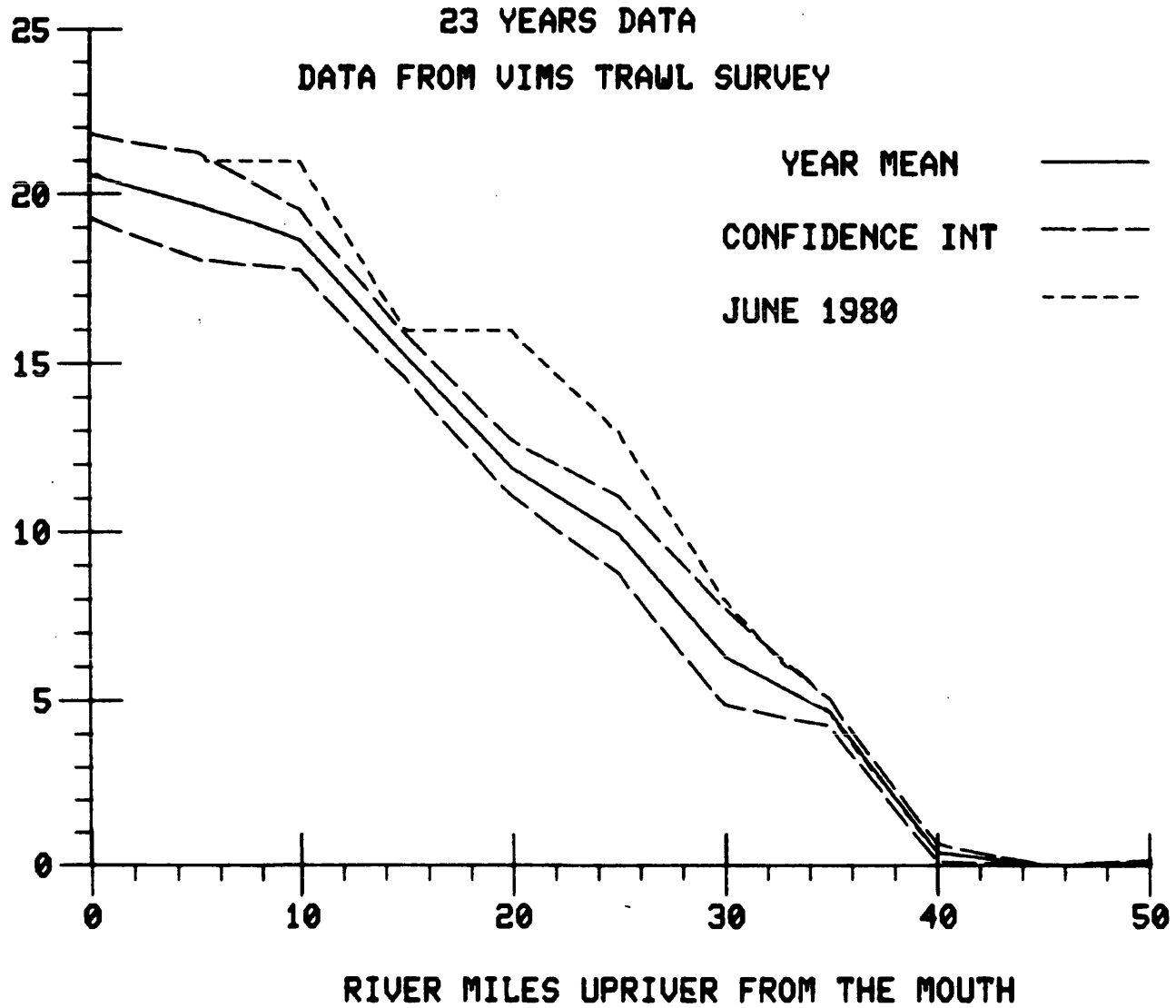


Figure 37

YORK RIVER MEAN MONTHLY SALINITIES JULY SURFACE

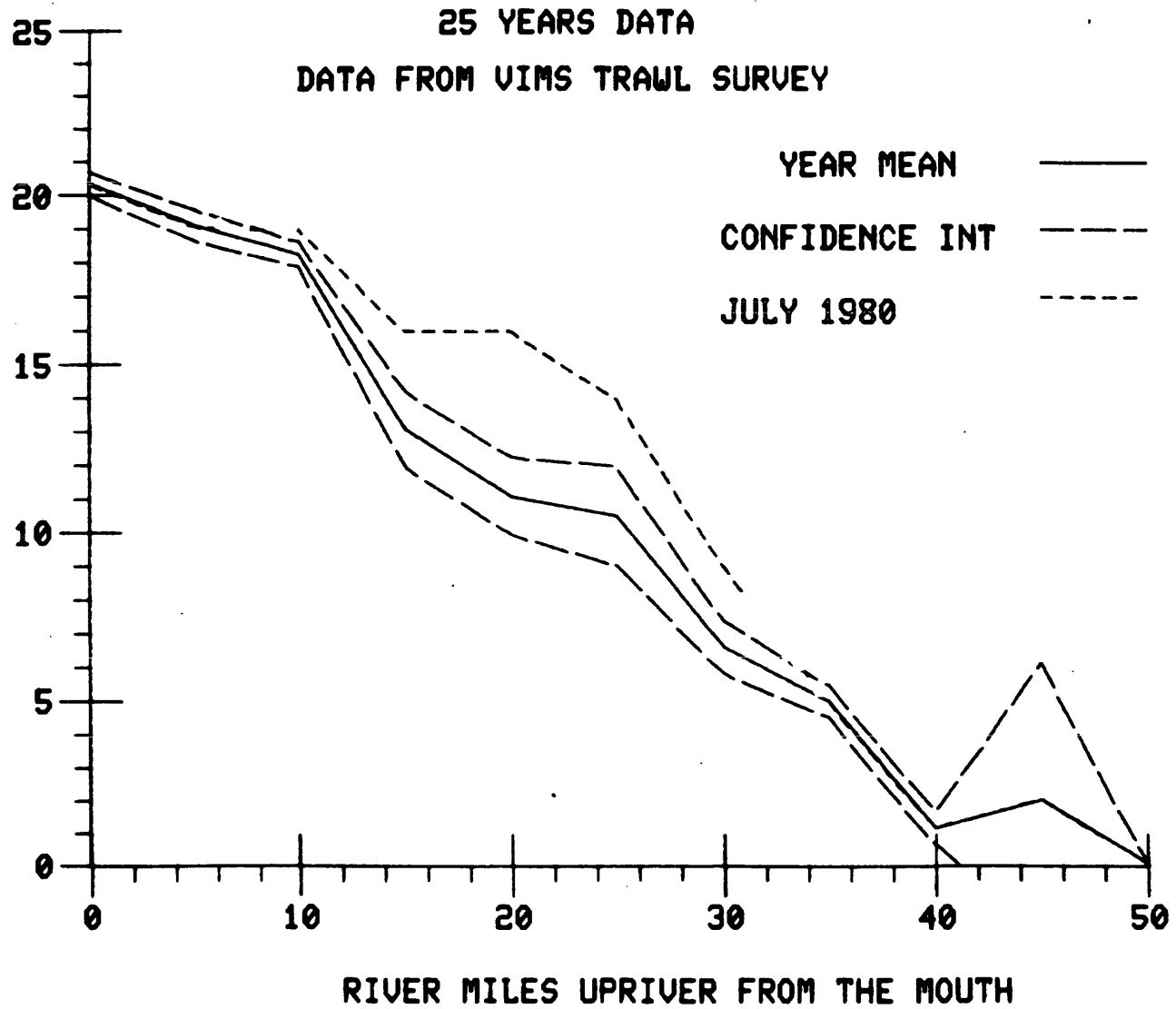




Figure 38

YORK RIVER MEAN MONTHLY SALINITIES JULY BOTTOM

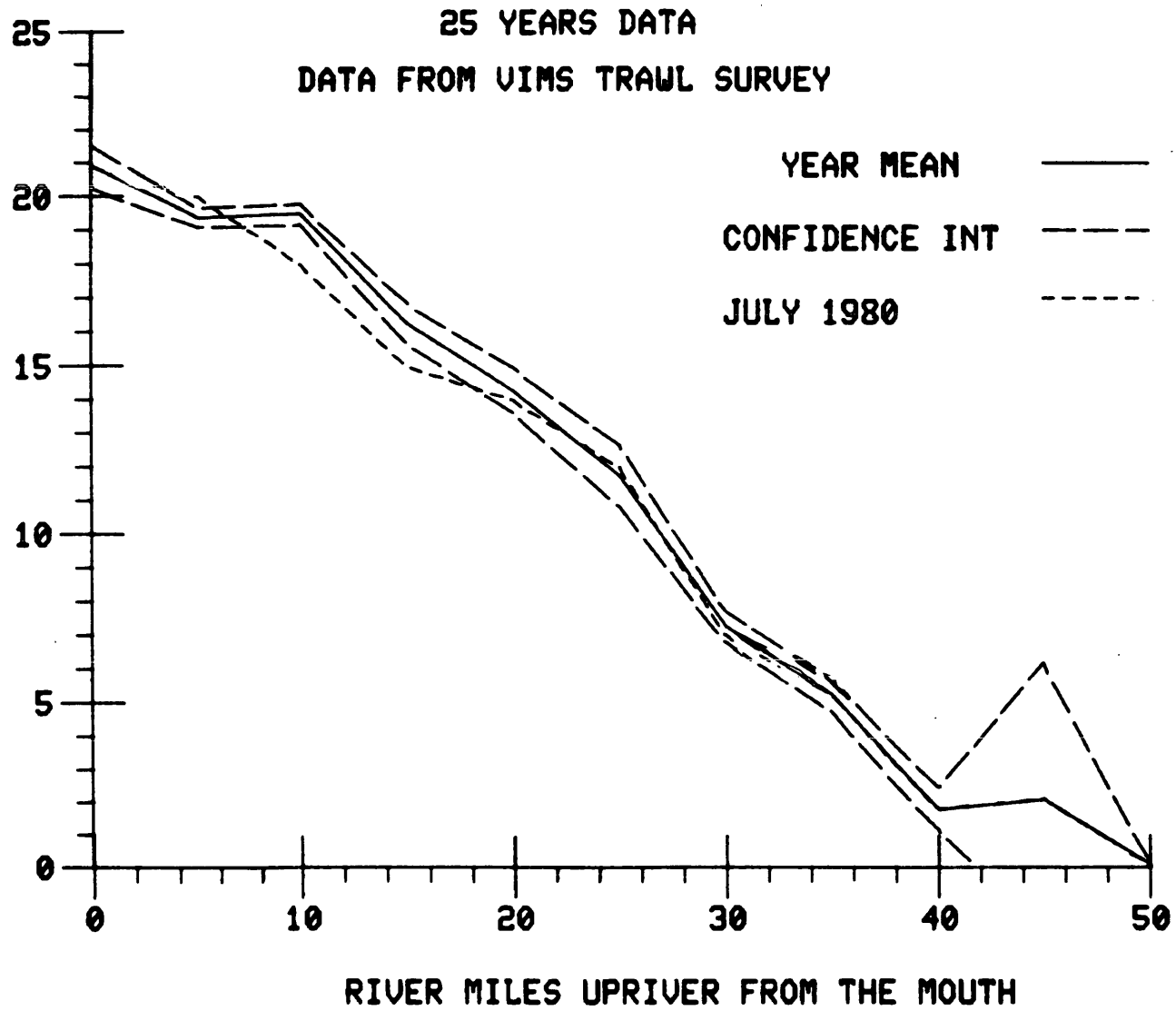


Figure 39

YORK RIVER MEAN MONTHLY SALINITIES AUGUST SURFACE

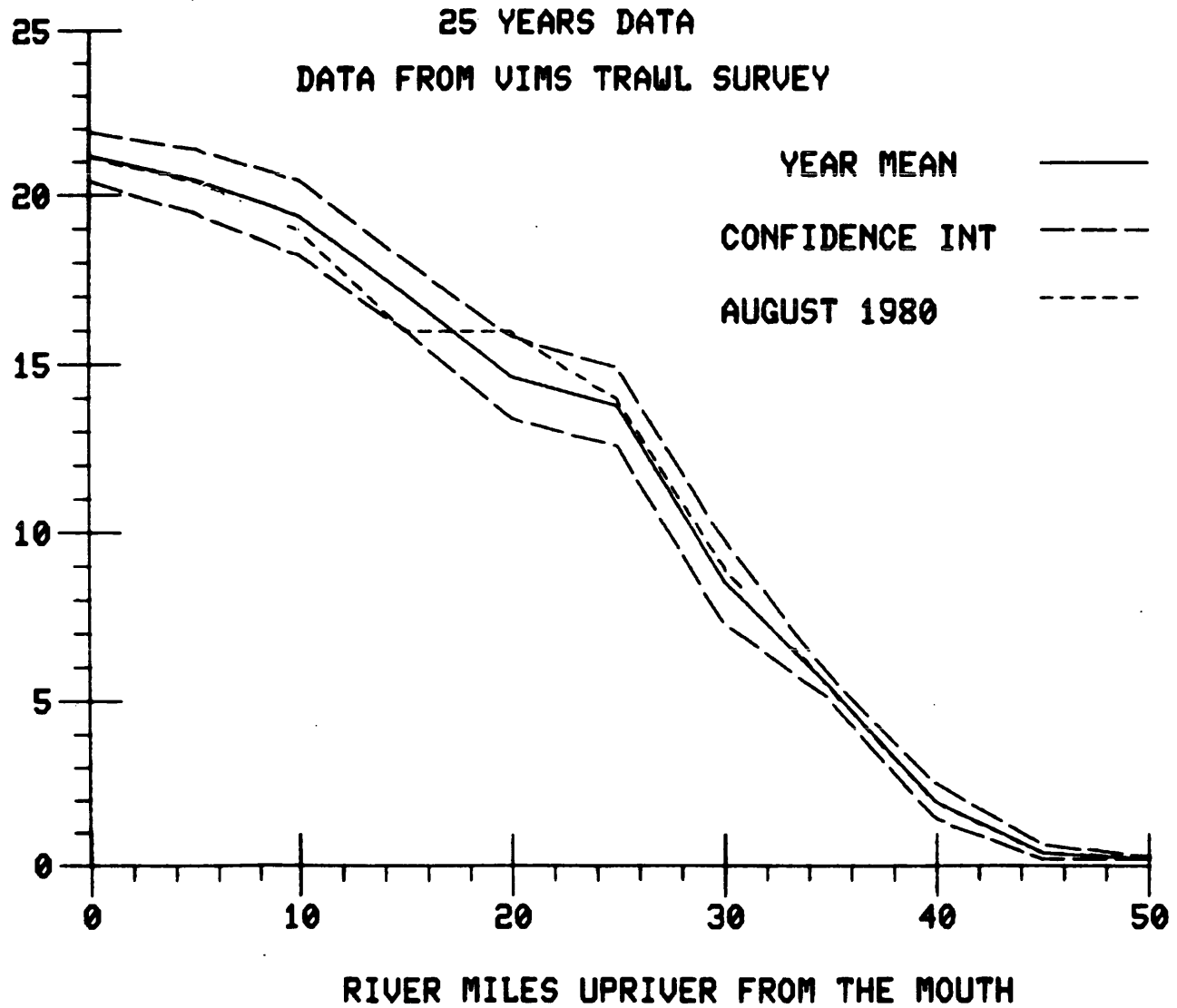


Figure 40

YORK RIVER MEAN MONTHLY SALINITIES AUGUST BOTTOM

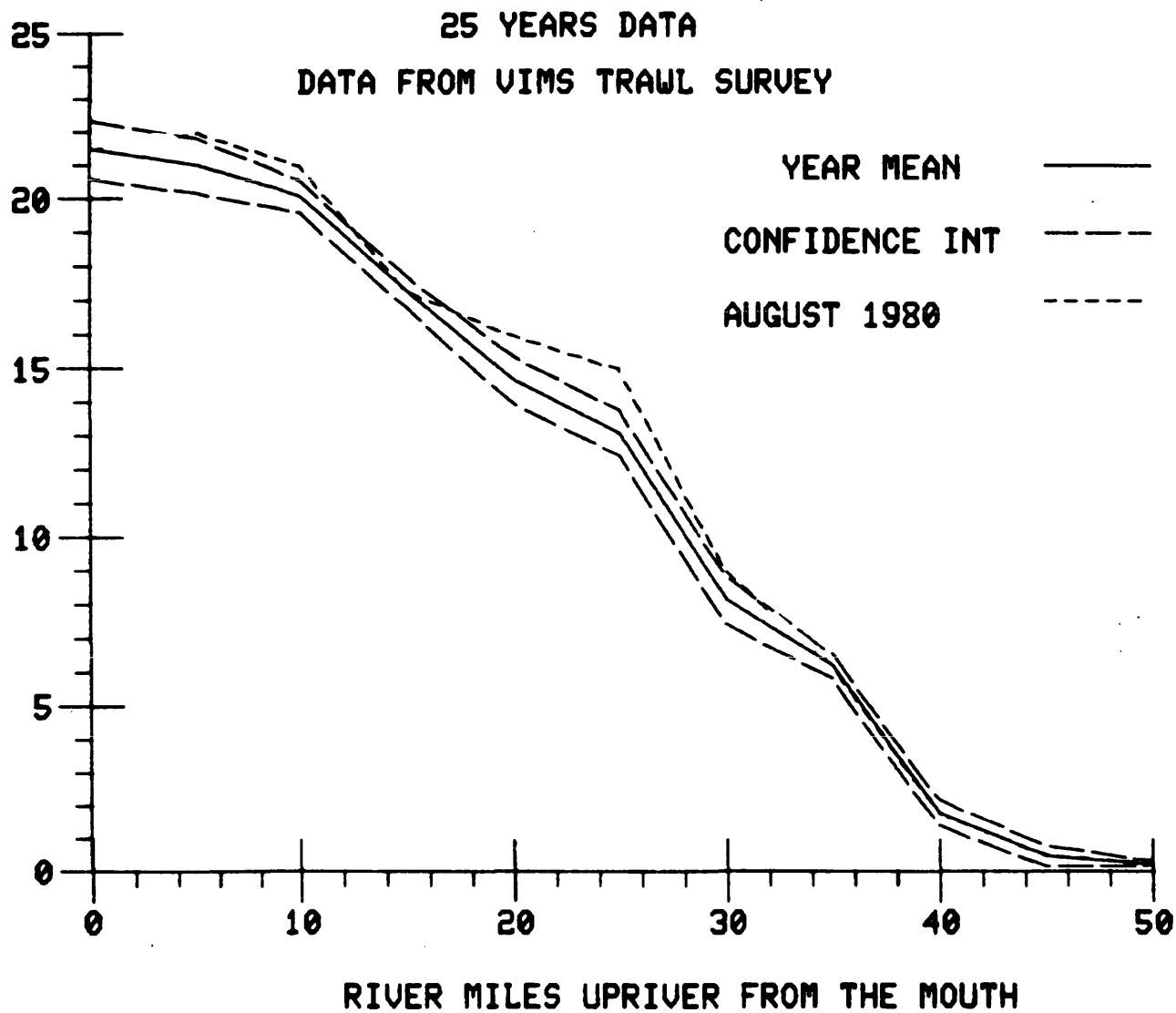


Figure 41

**YORK RIVER MEAN MONTHLY SALINITIES SEPTEMBER SURFACE**

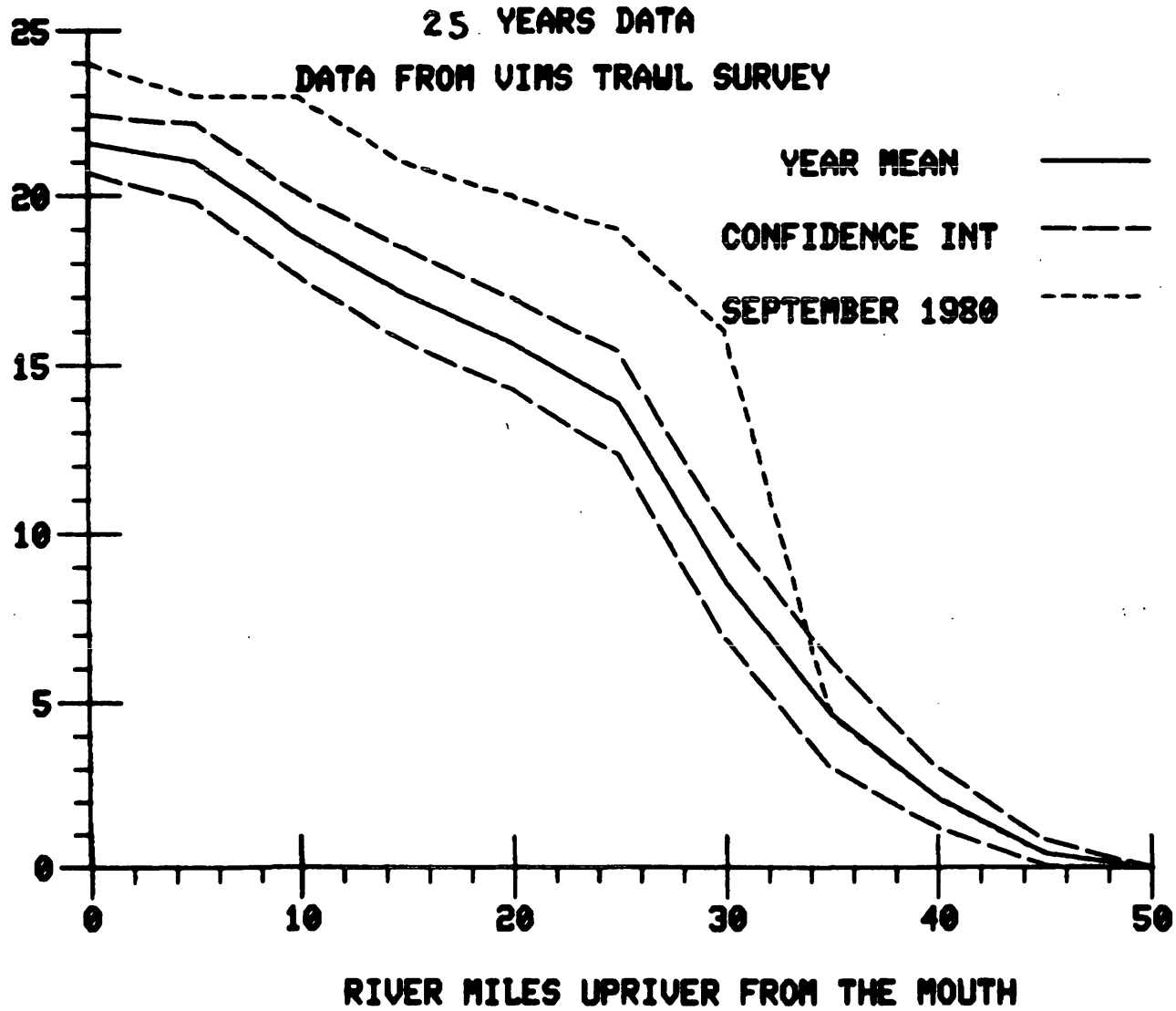


Figure 42

**YORK RIVER MEAN MONTHLY SALINITIES SEPTEMBER BOTTOM**

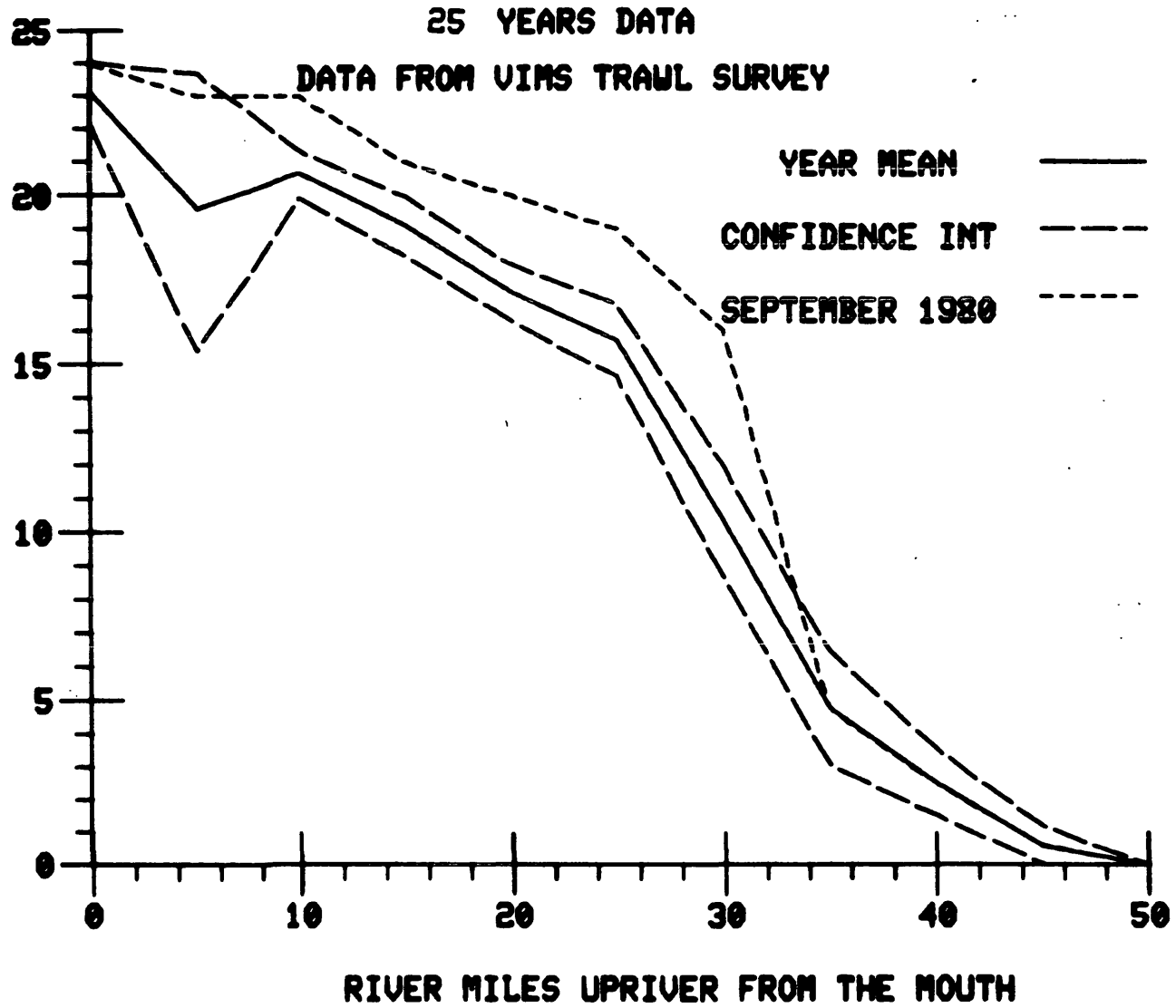


Figure 43

YORK RIVER MEAN MONTHLY SALINITIES OCTOBER SURFACE

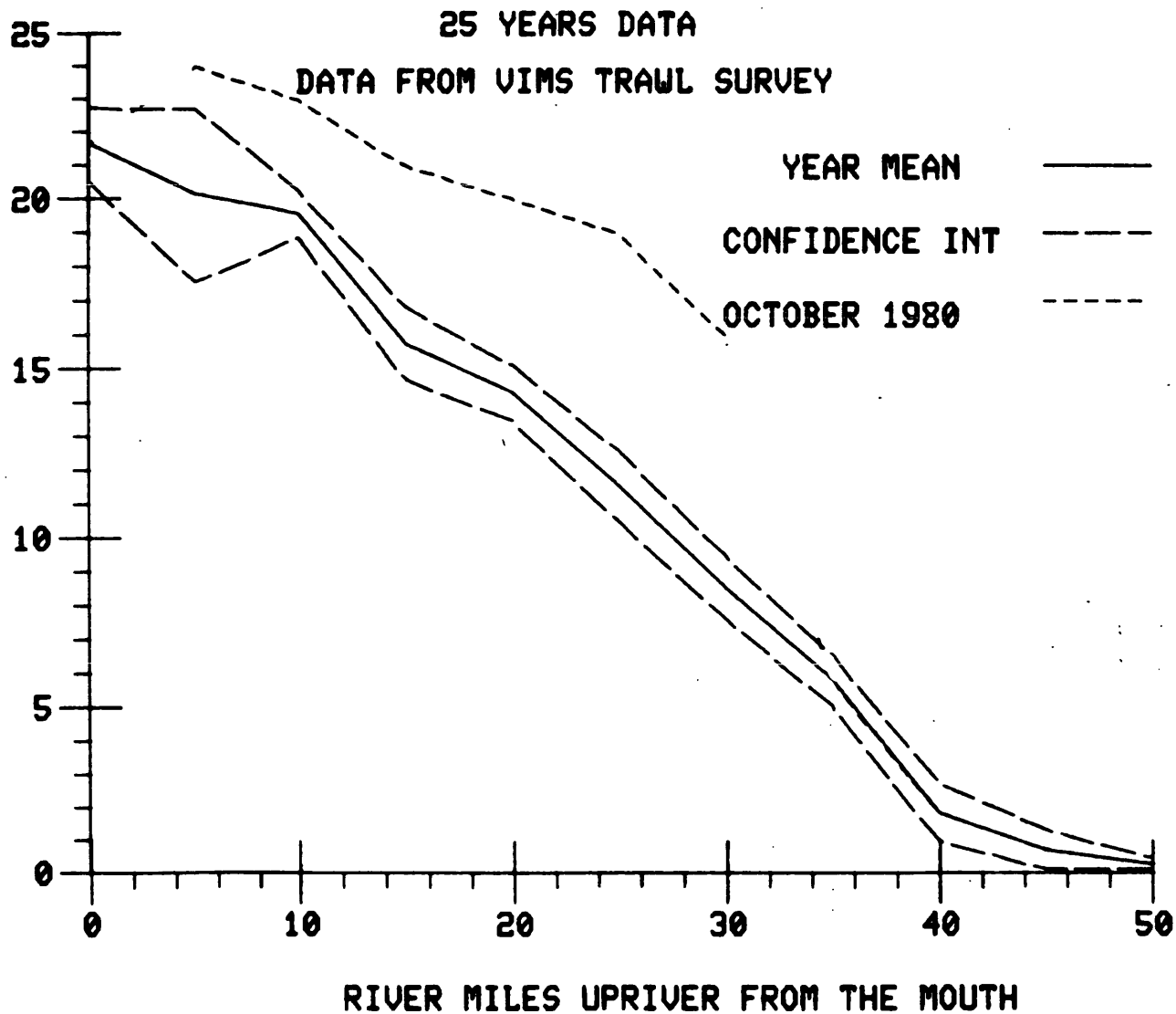


Figure 44

YORK RIVER MEAN MONTHLY SALINITIES OCTOBER BOTTOM

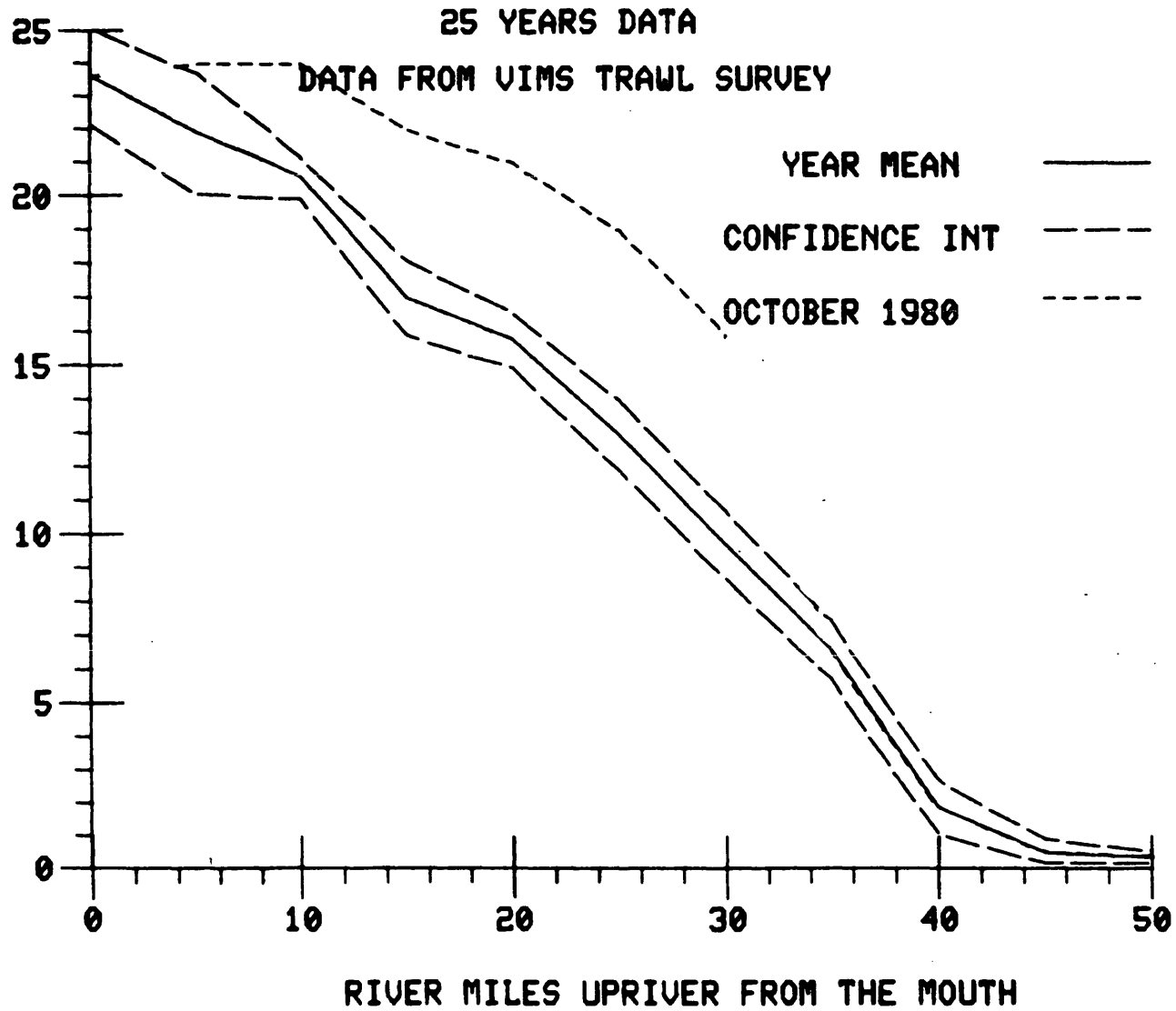


Figure 45

YORK RIVER MEAN MONTHLY SALINITIES NOVEMBER SURFACE

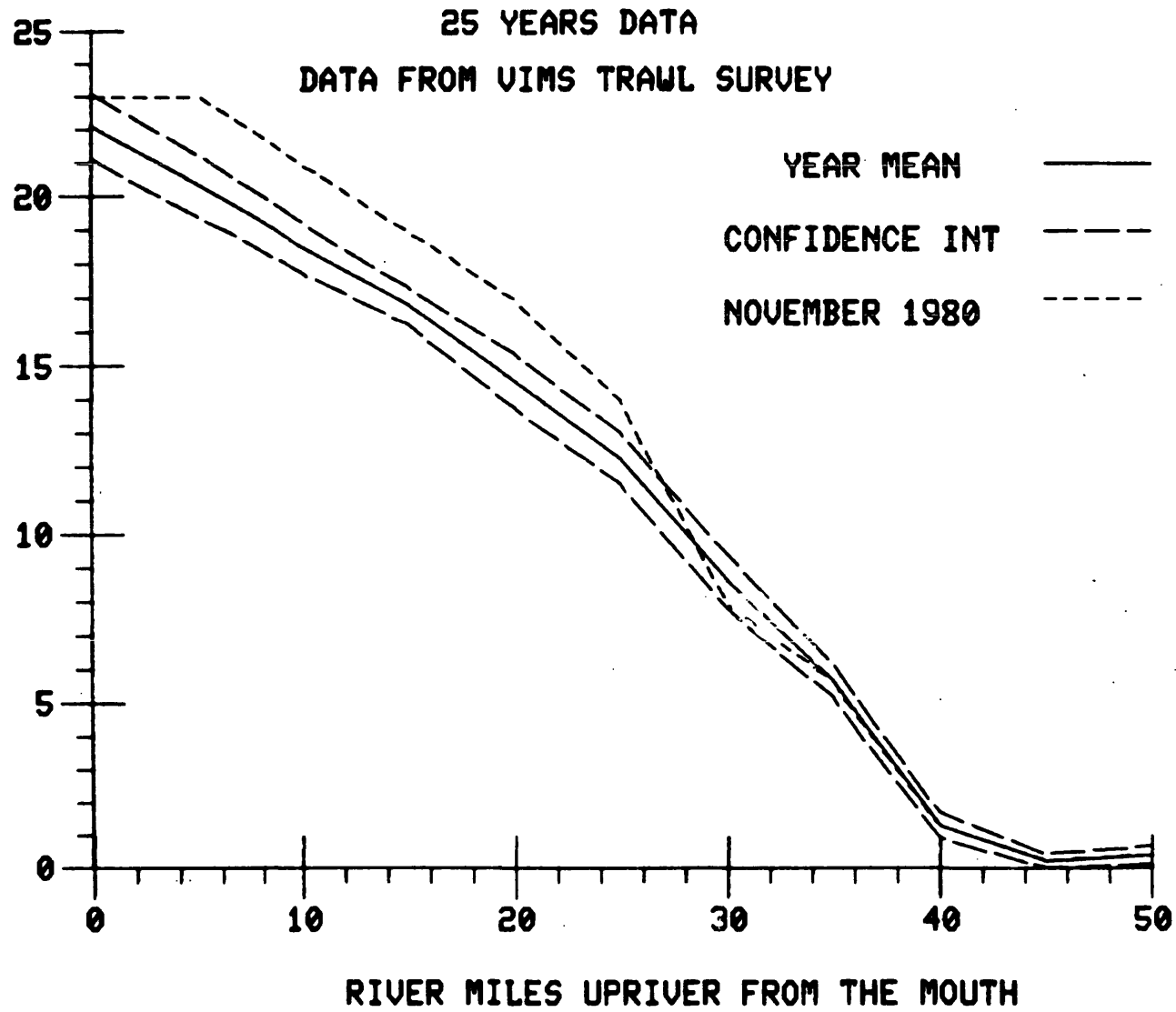




Figure 46

YORK RIVER MEAN MONTHLY SALINITIES NOVEMBER BOTTOM

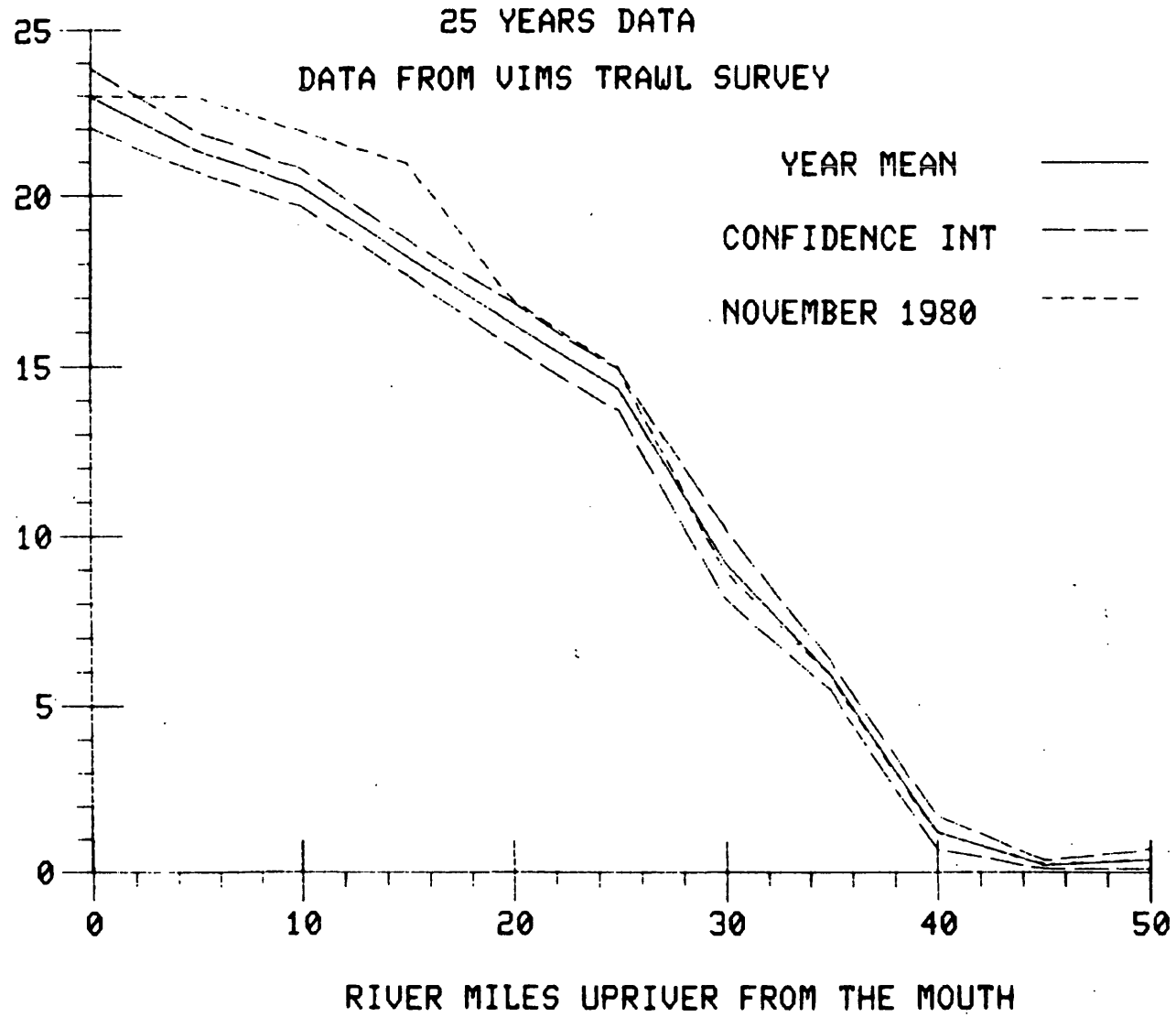


Figure 47

YORK RIVER MEAN MONTHLY SALINITIES DECEMBER SURFACE.

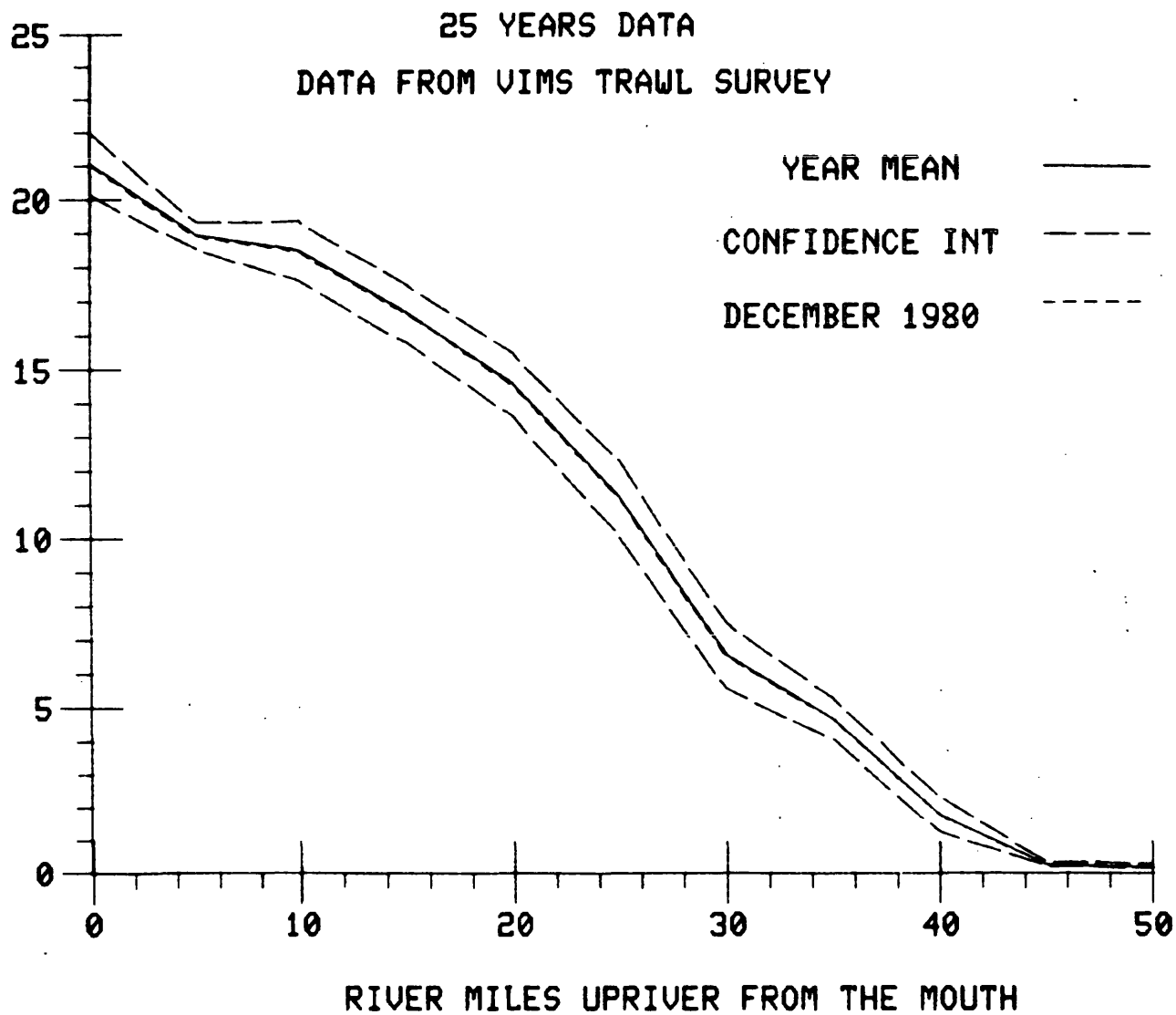


Figure 48

YORK RIVER MEAN MONTHLY SALINITIES DECEMBER BOTTOM

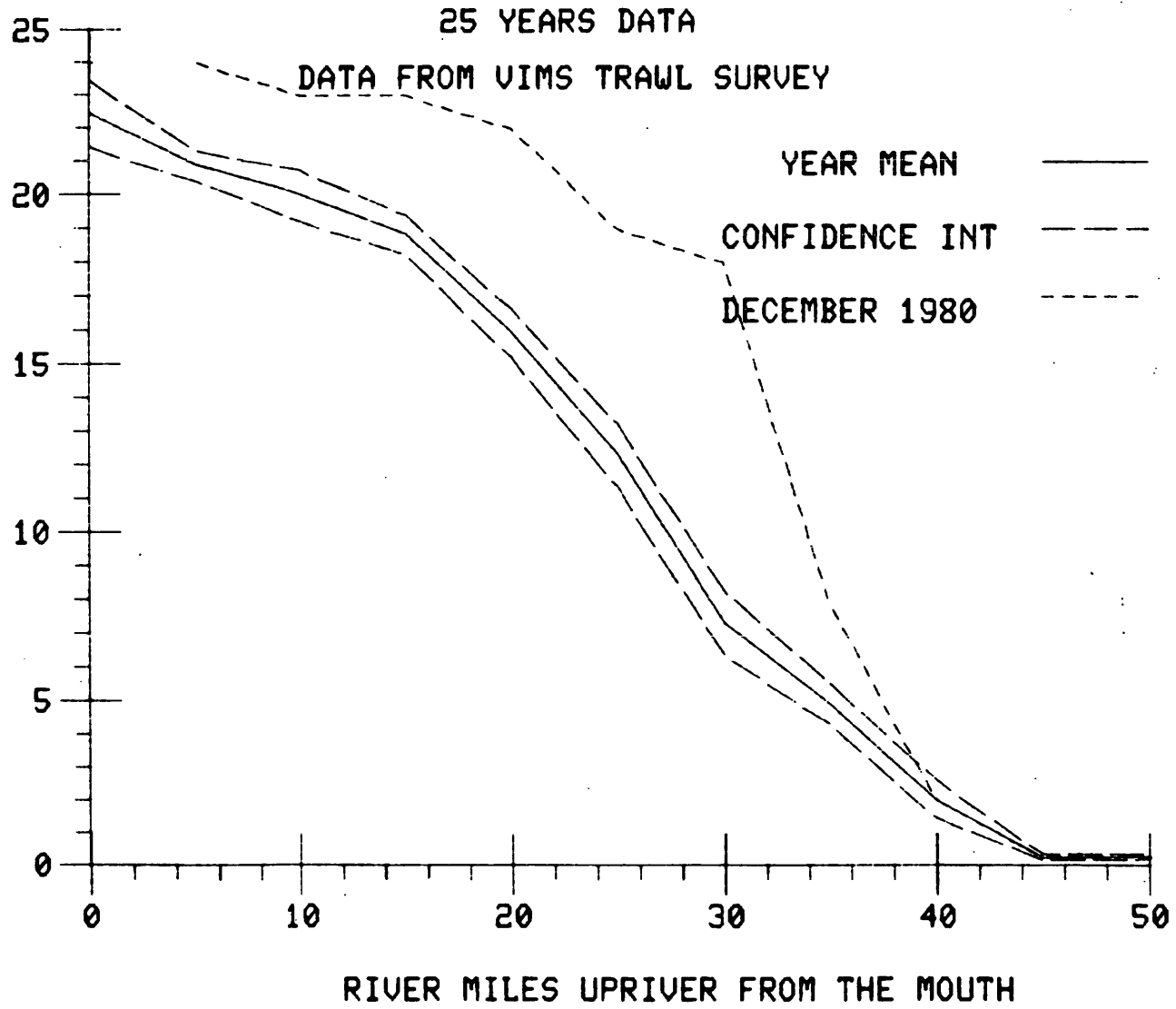


Figure 49

YORK RIVER MEAN MONTHLY SALINITIES JANUARY SURFACE

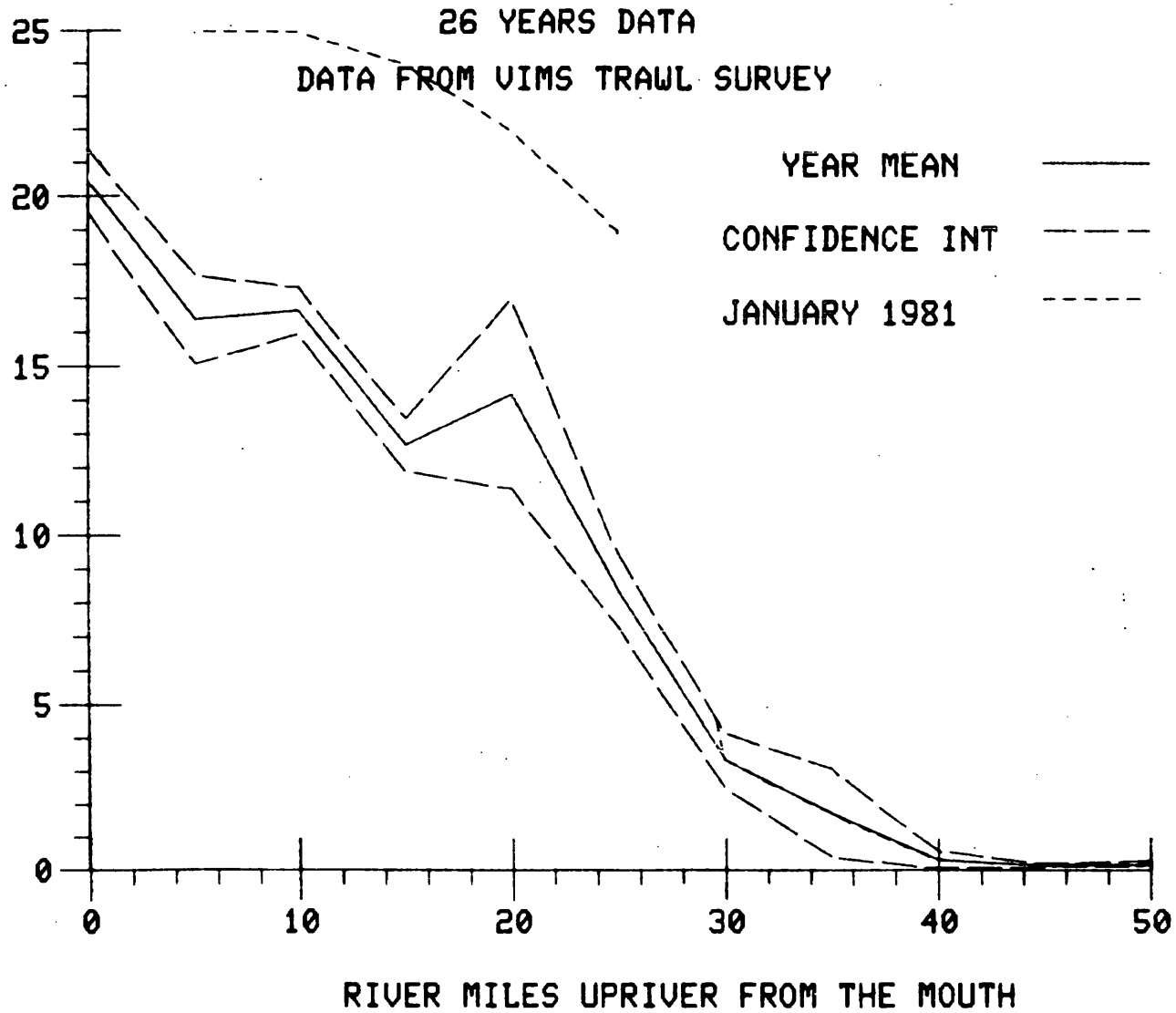


Figure 50

YORK RIVER MEAN MONTHLY SALINITIES JANUARY BOTTOM

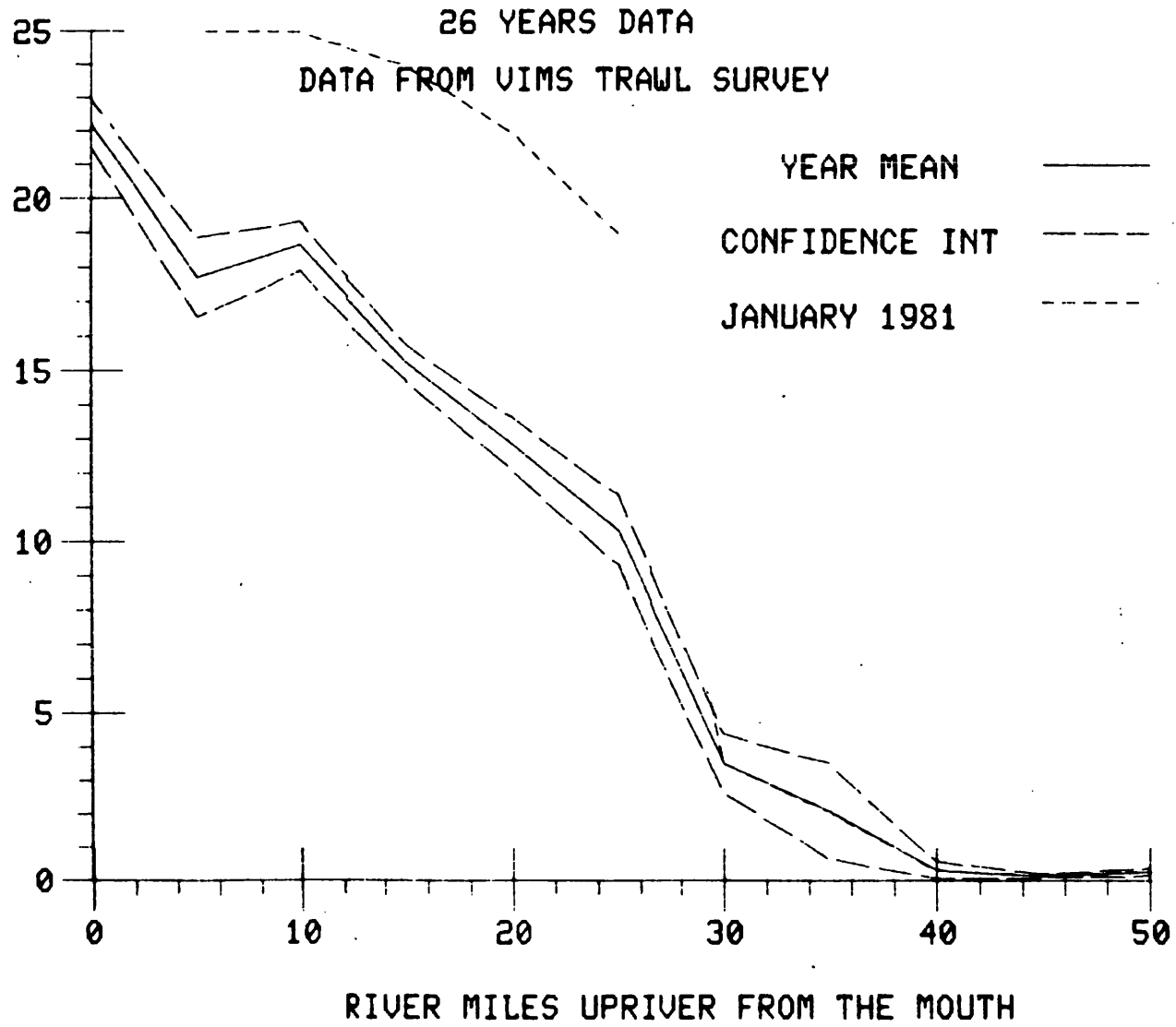


Figure 51

YORK RIVER MEAN MONTHLY SALINITIES FEBRUARY SURFACE

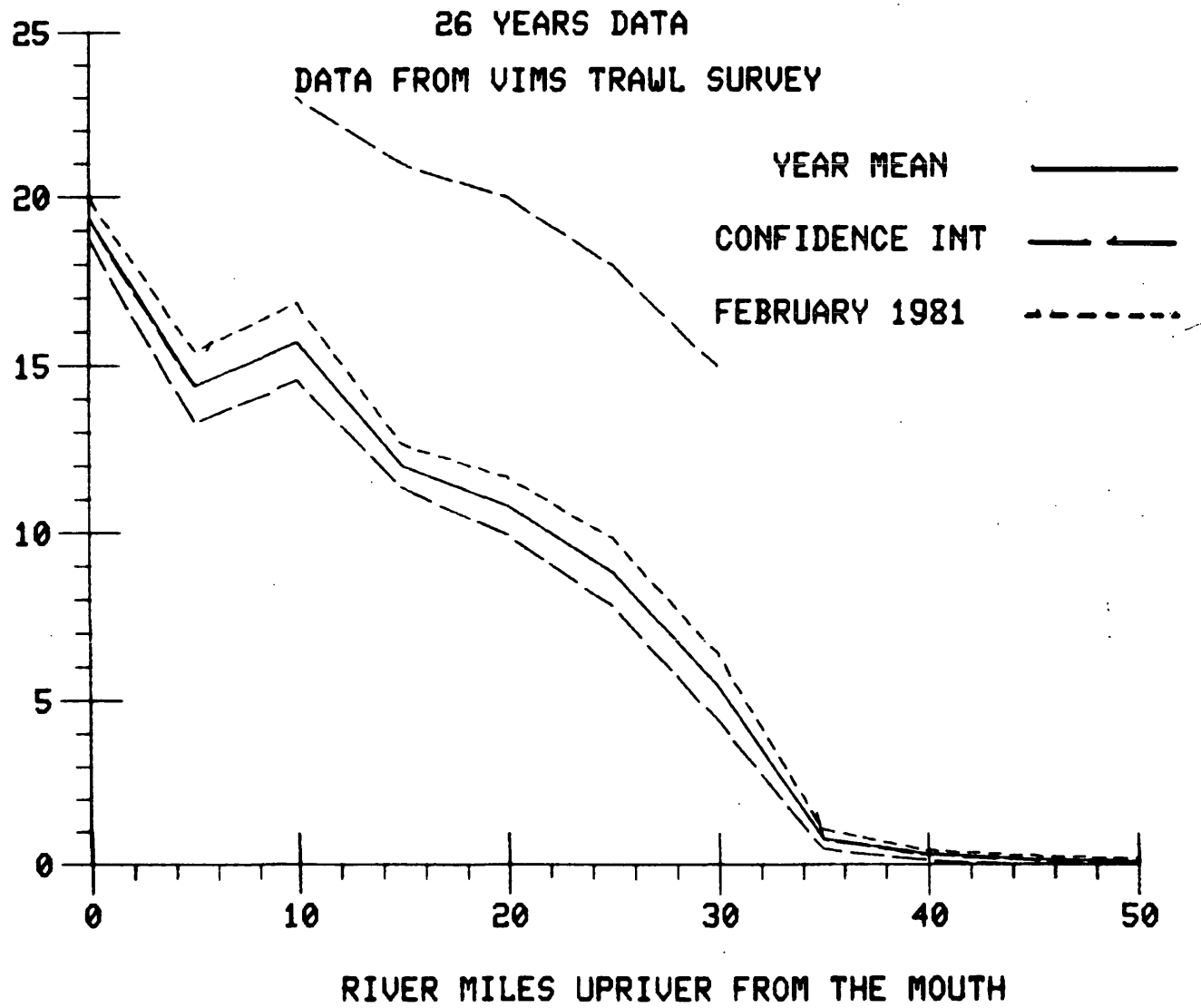


Figure 52

YORK RIVER MEAN MONTHLY SALINITIES FEBRUARY BOTTOM

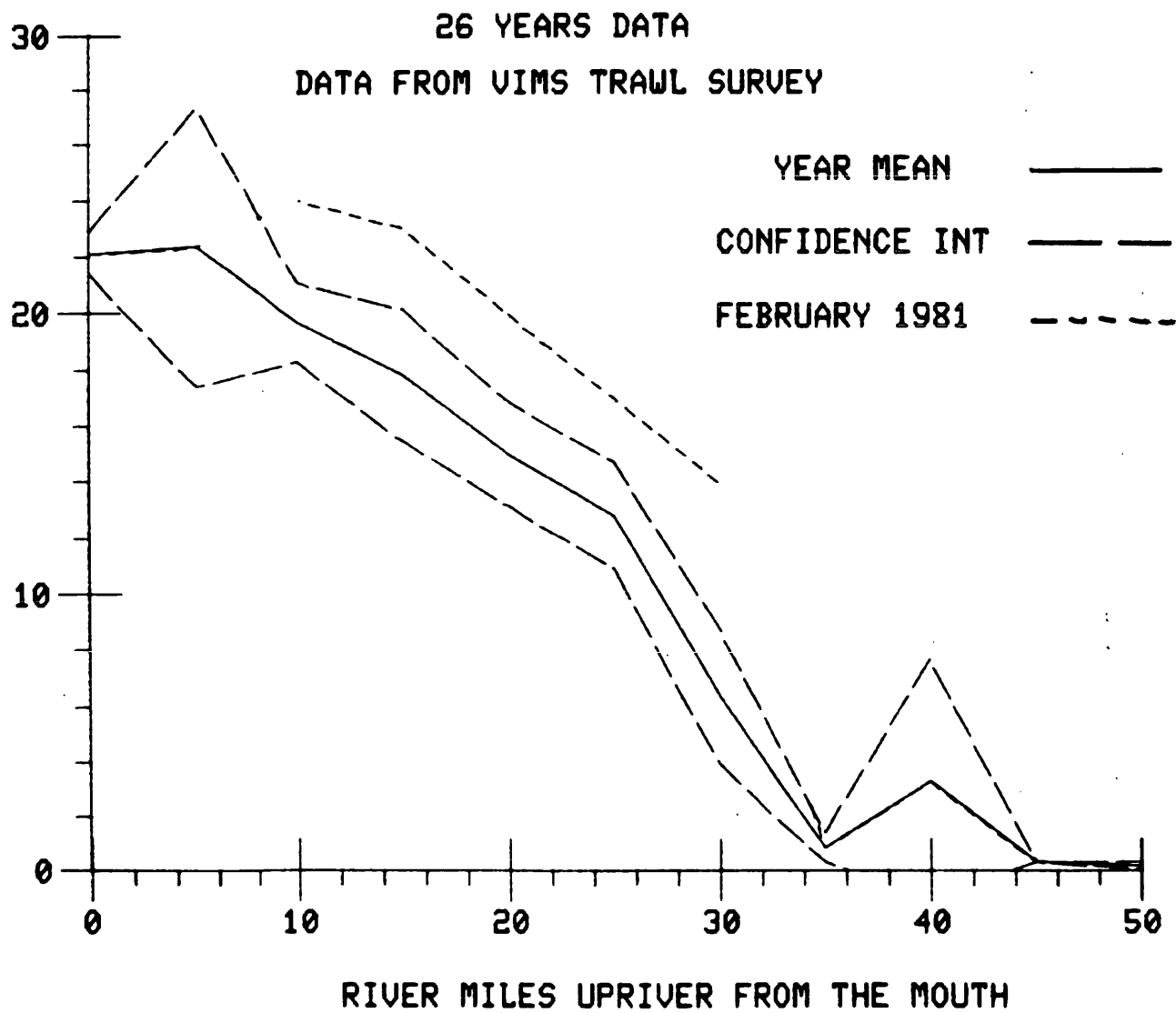


Figure 53

YORK RIVER MEAN MONTHLY SALINITIES MARCH SURFACE

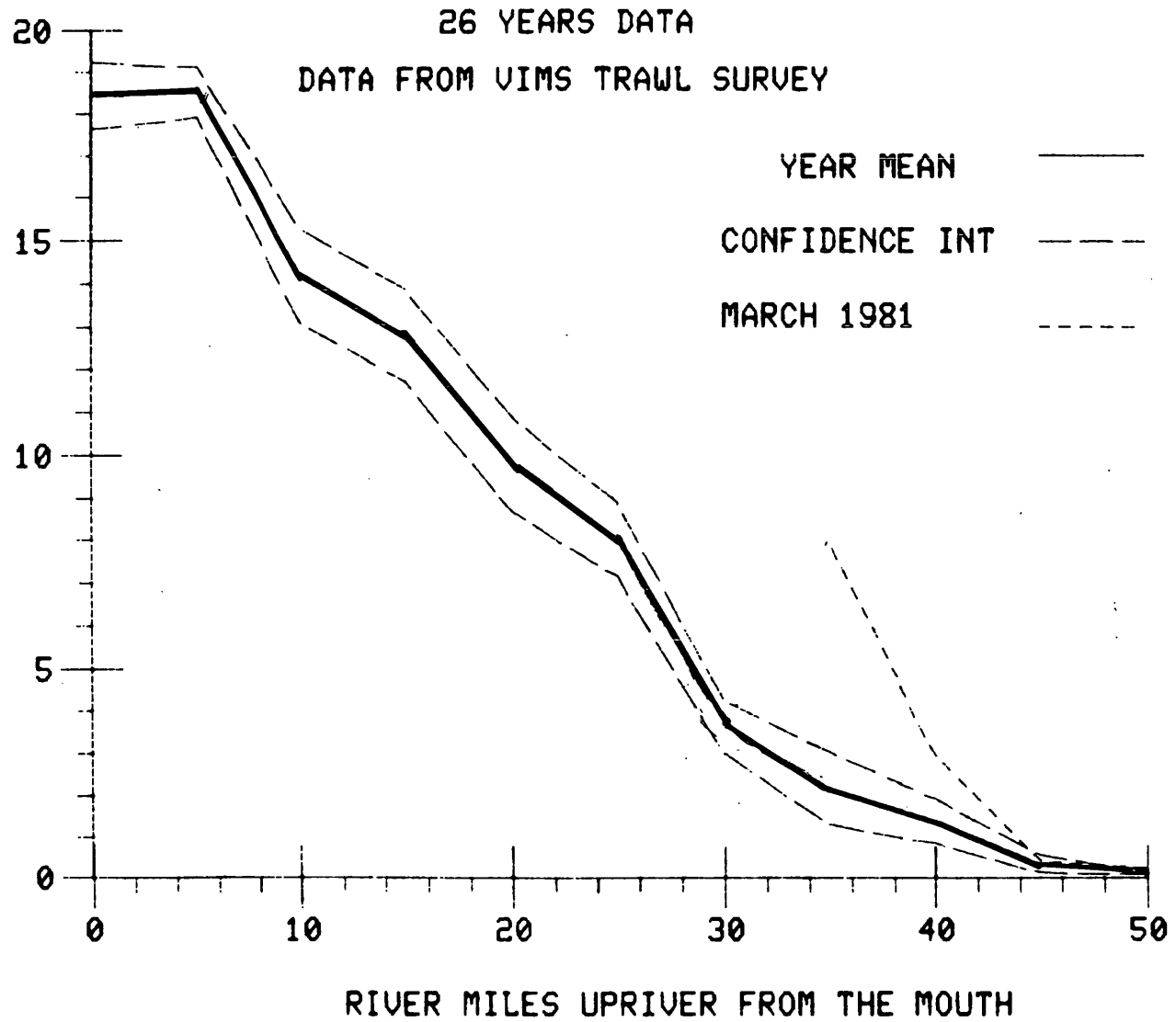




Figure 54

YORK RIVER MEAN MONTHLY SALINITIES MARCH BOTTOM

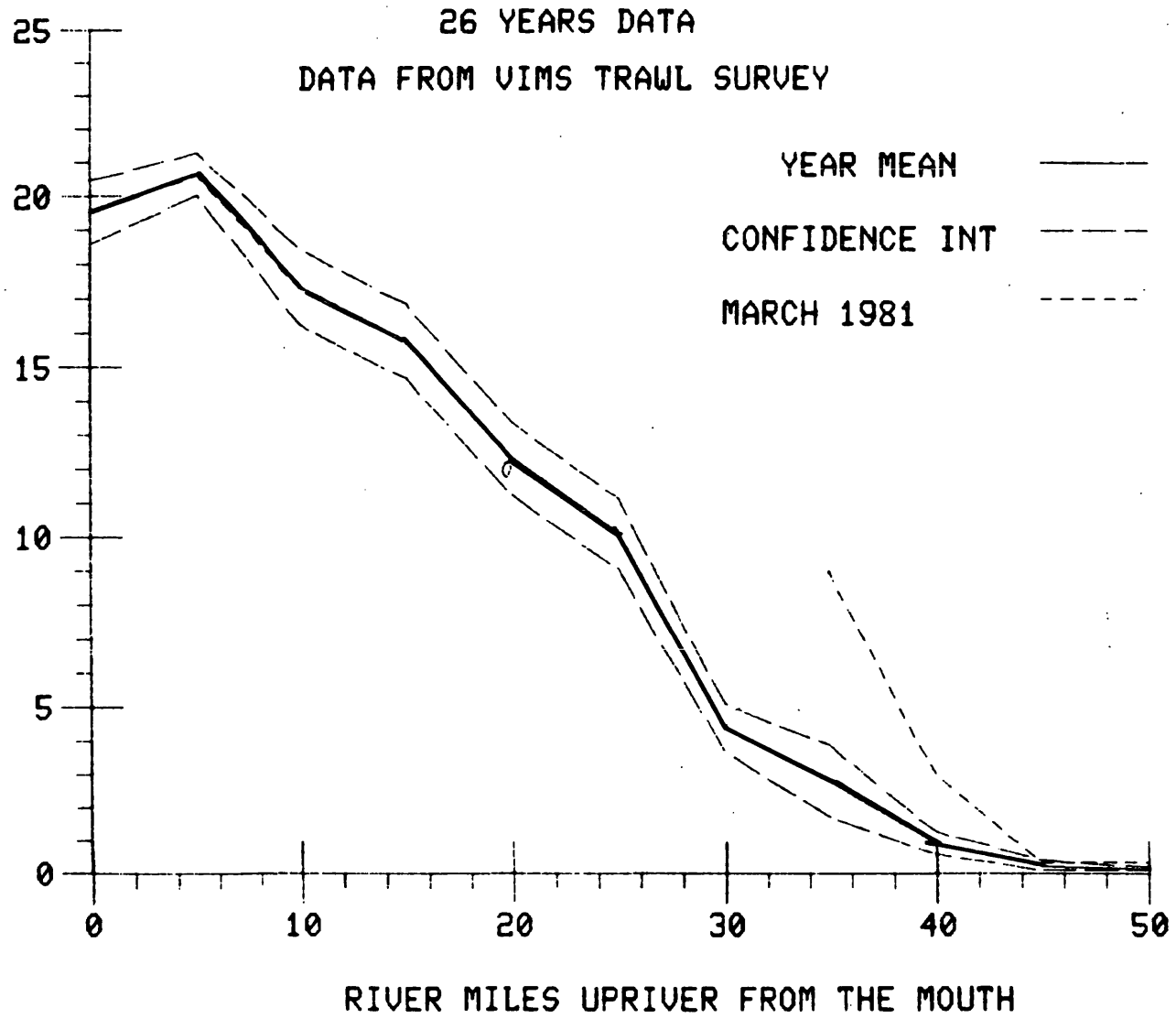


Figure 55

YORK RIVER MEAN MONTHLY SALINITIES APRIL SURFACE

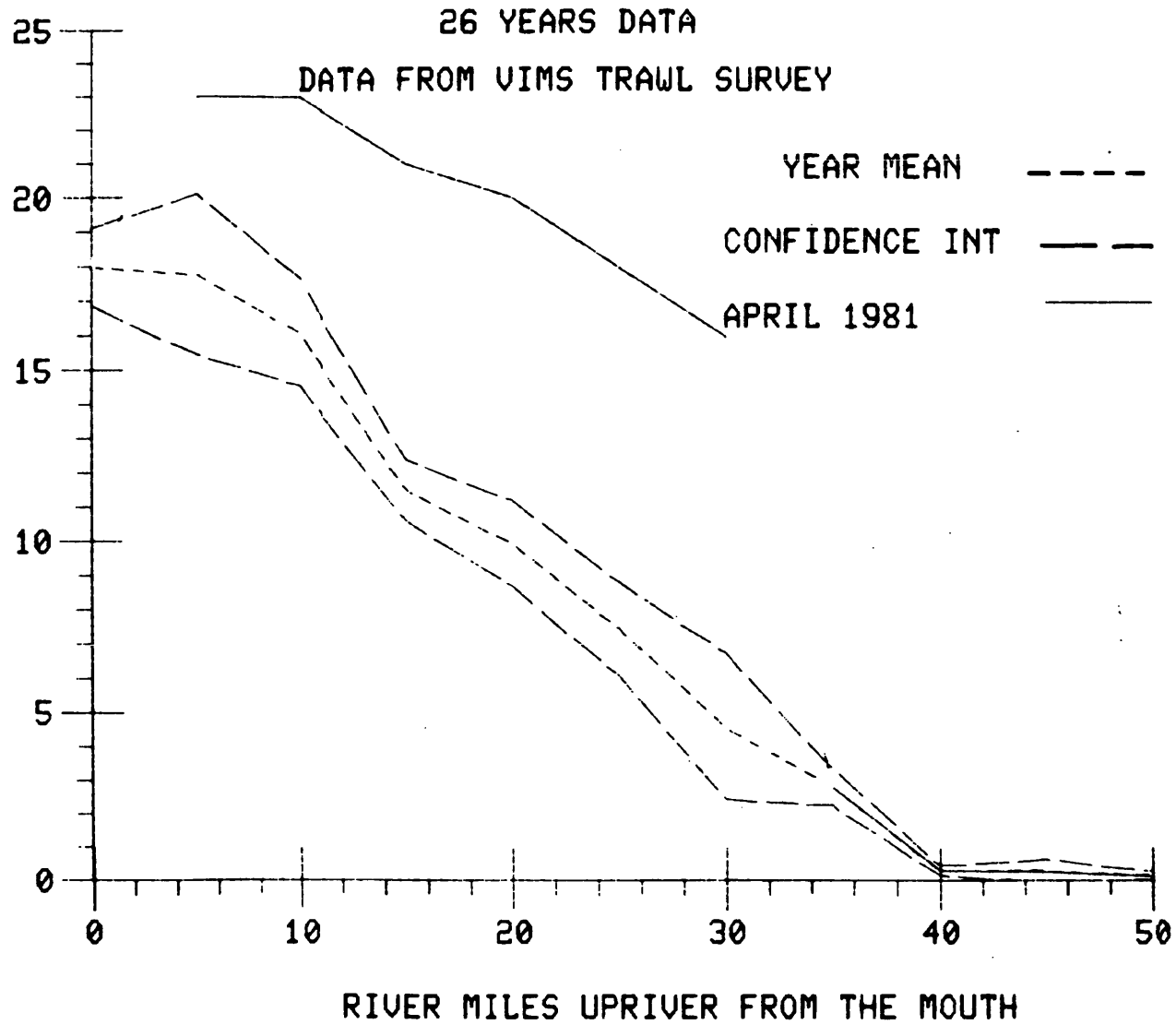


Figure 56

YORK RIVER MEAN MONTHLY SALINITIES APRIL BOTTOM

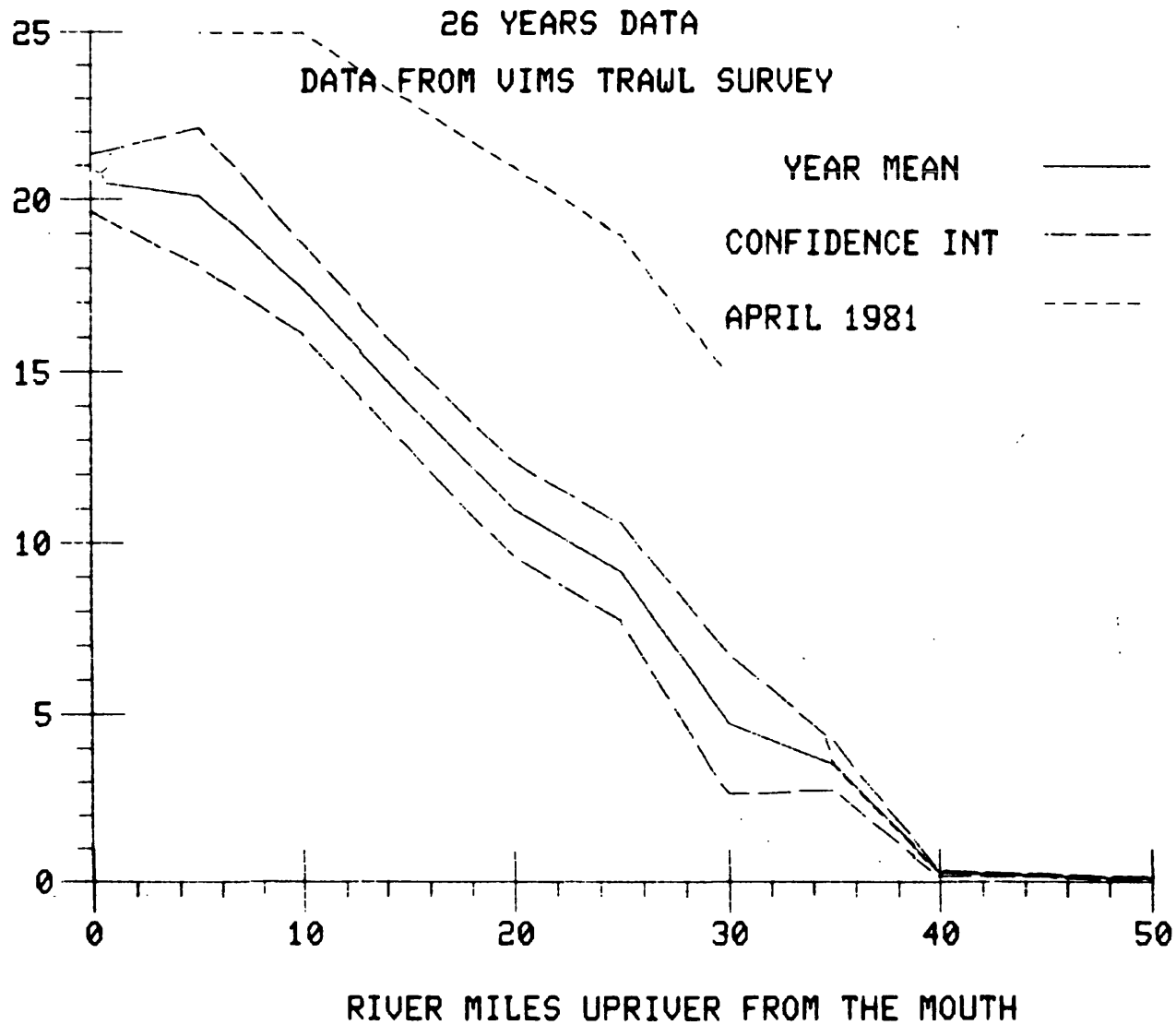


Figure 58

YORK RIVER MEAN MONTHLY SALINITIES MAY SURFACE

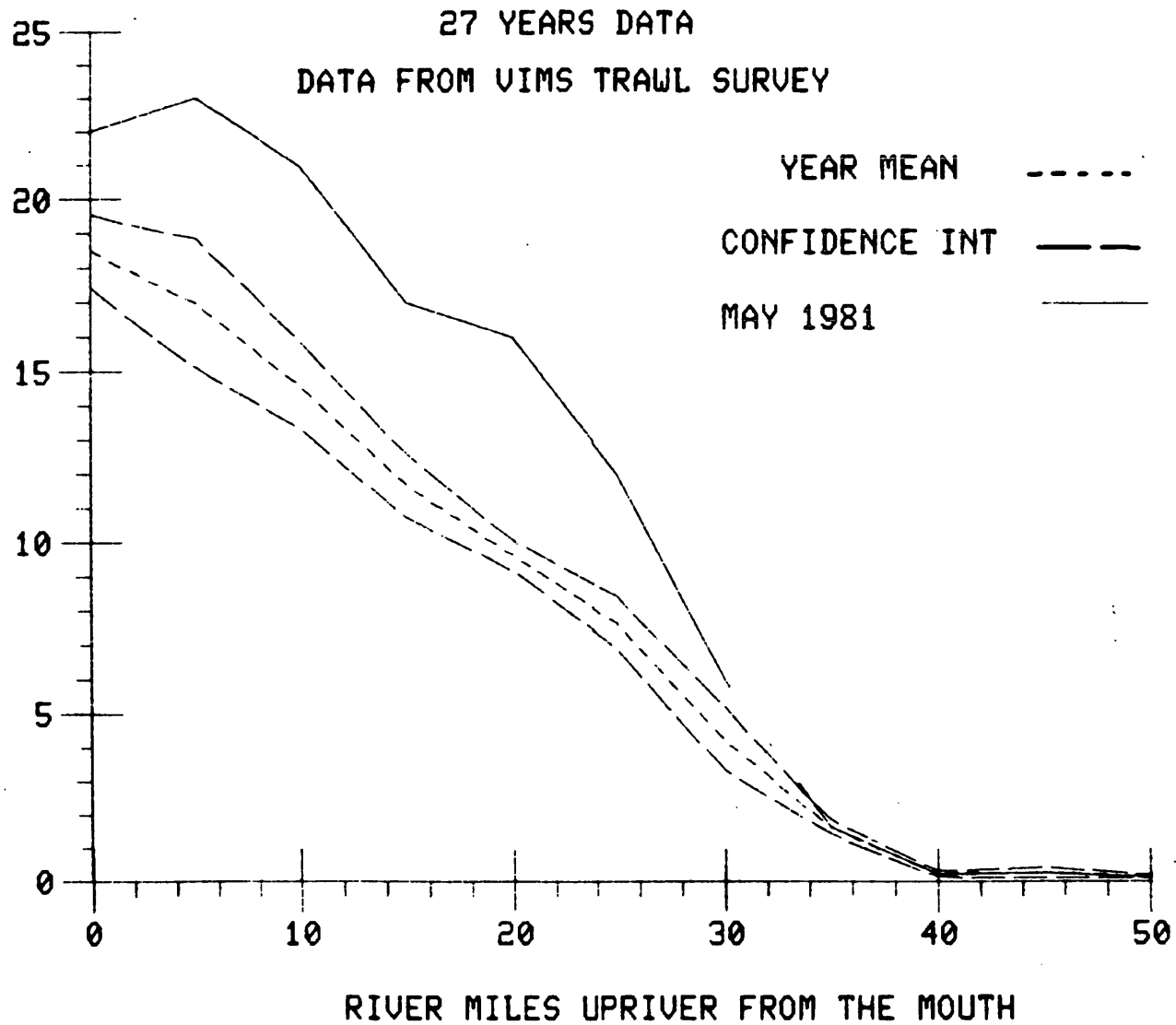


Figure 59

YORK RIVER MEAN MONTHLY SALINITIES MAY BOTTOM

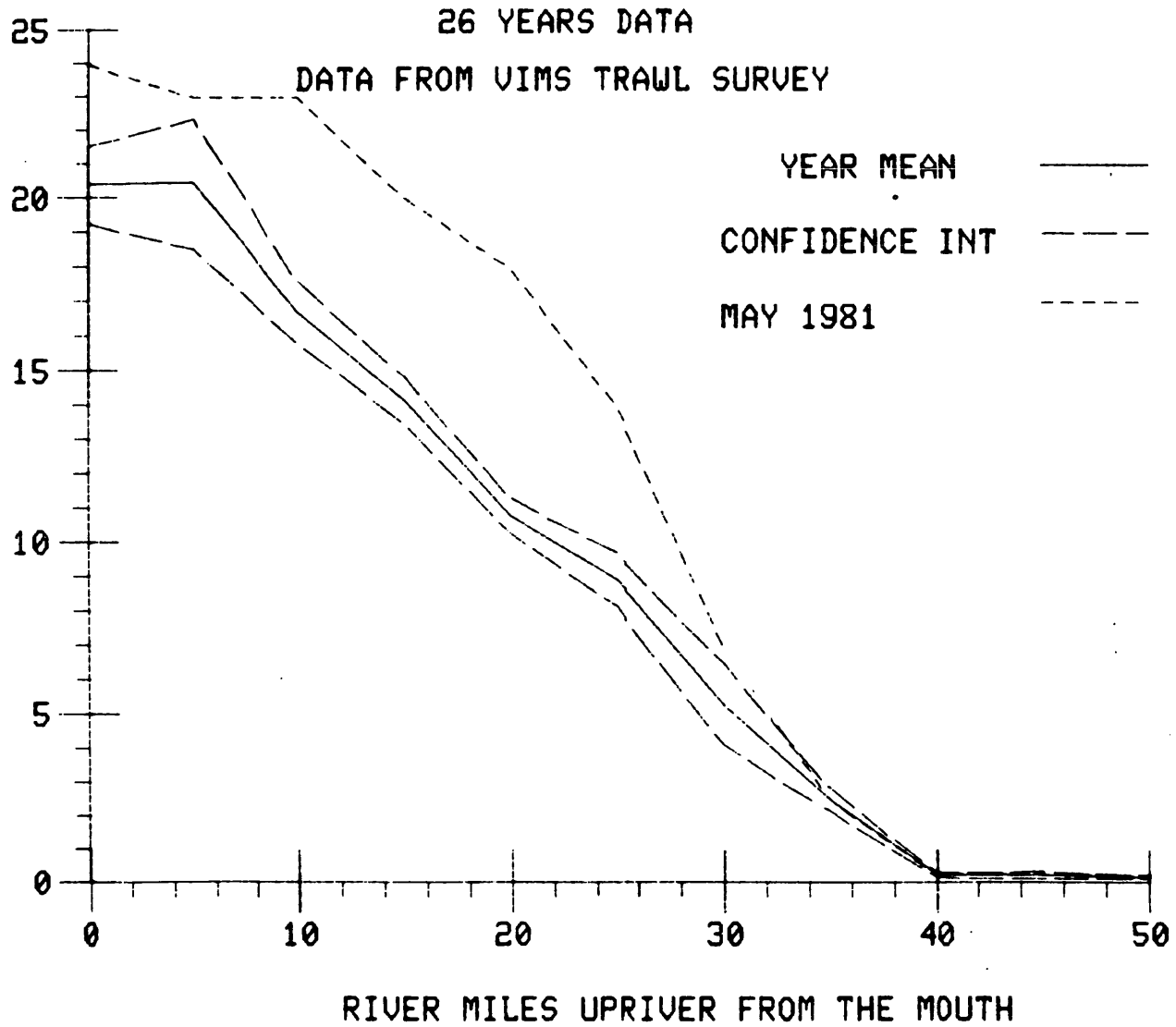


Figure 60

YORK RIVER MEAN MONTHLY SALINITIES JUNE SURFACE

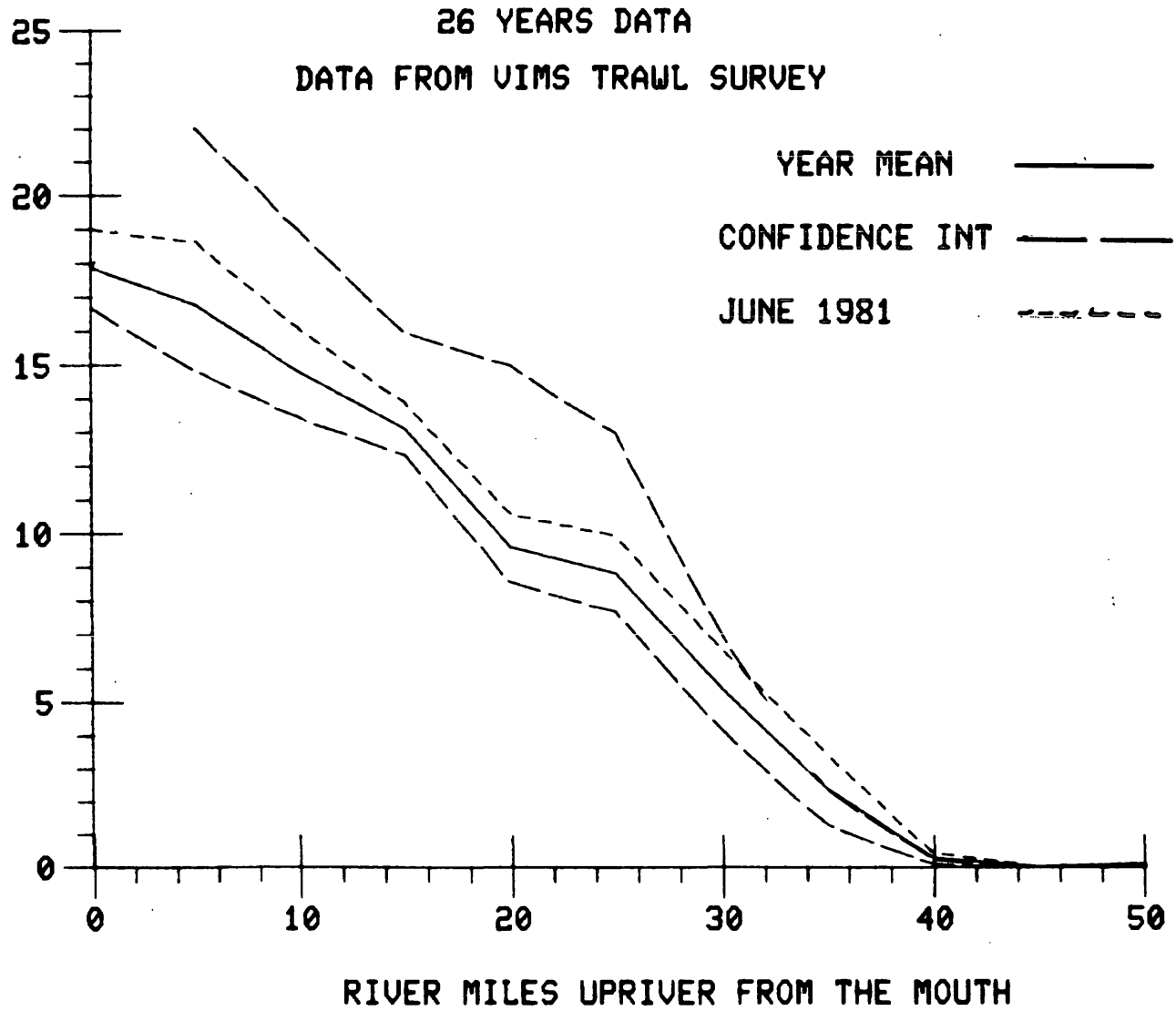


Figure 61

YORK RIVER MEAN MONTHLY SALINITIES JUNE BOTTOM

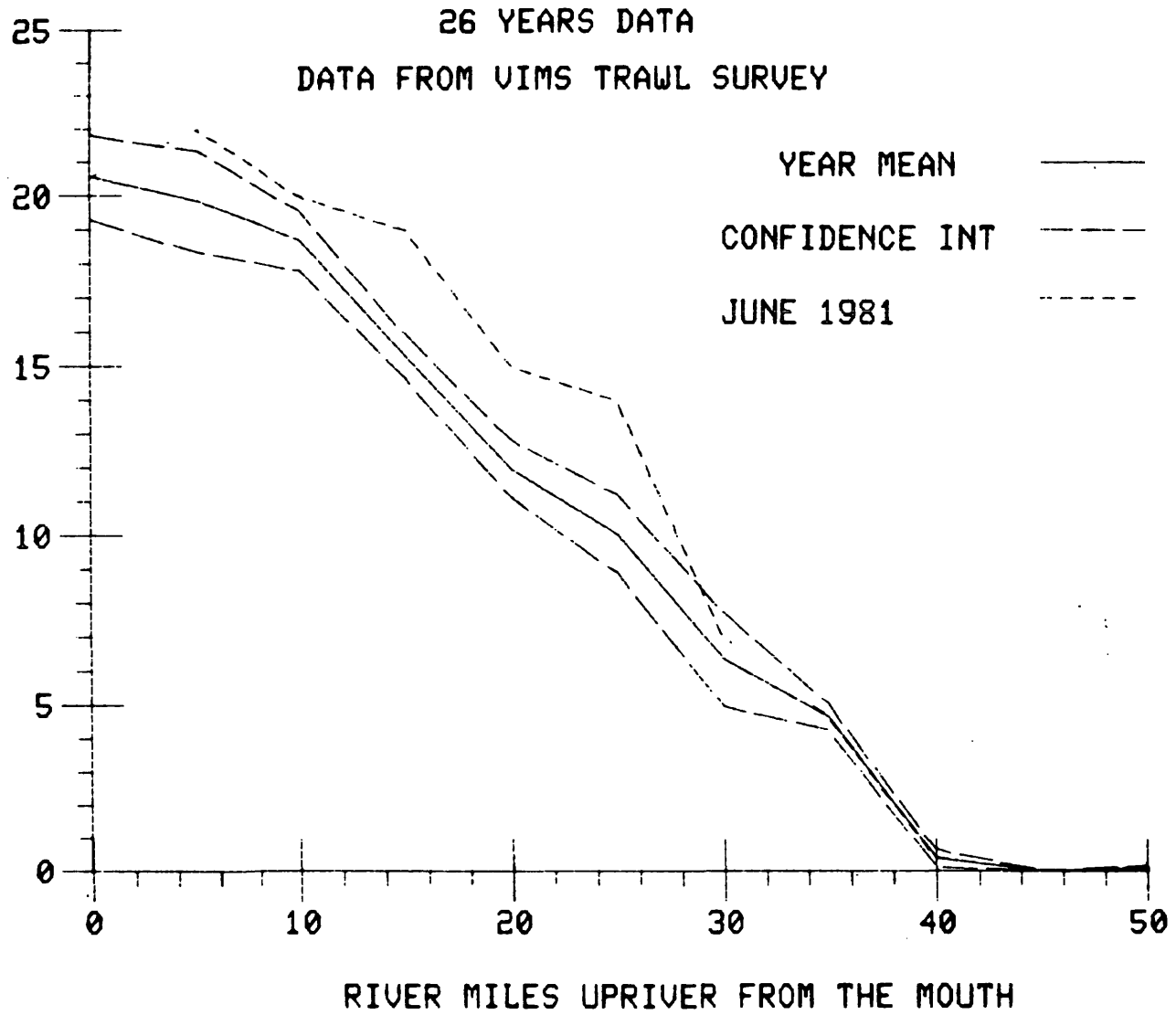


Figure 62

YORK RIVER MEAN MONTHLY SALINITIES JULY SURFACE

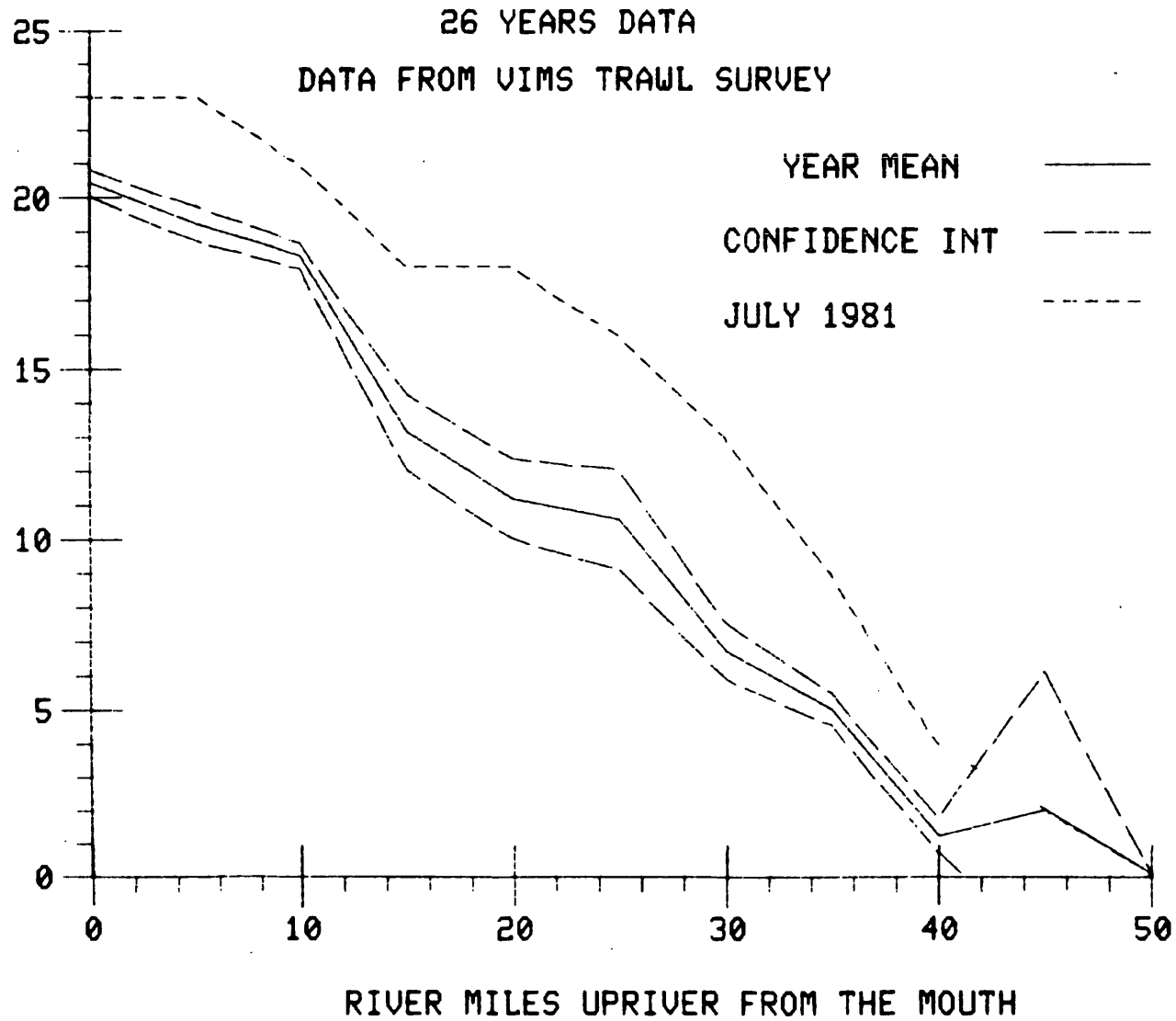




Figure 63

YORK RIVER MEAN MONTHLY SALINITIES JULY BOTTOM

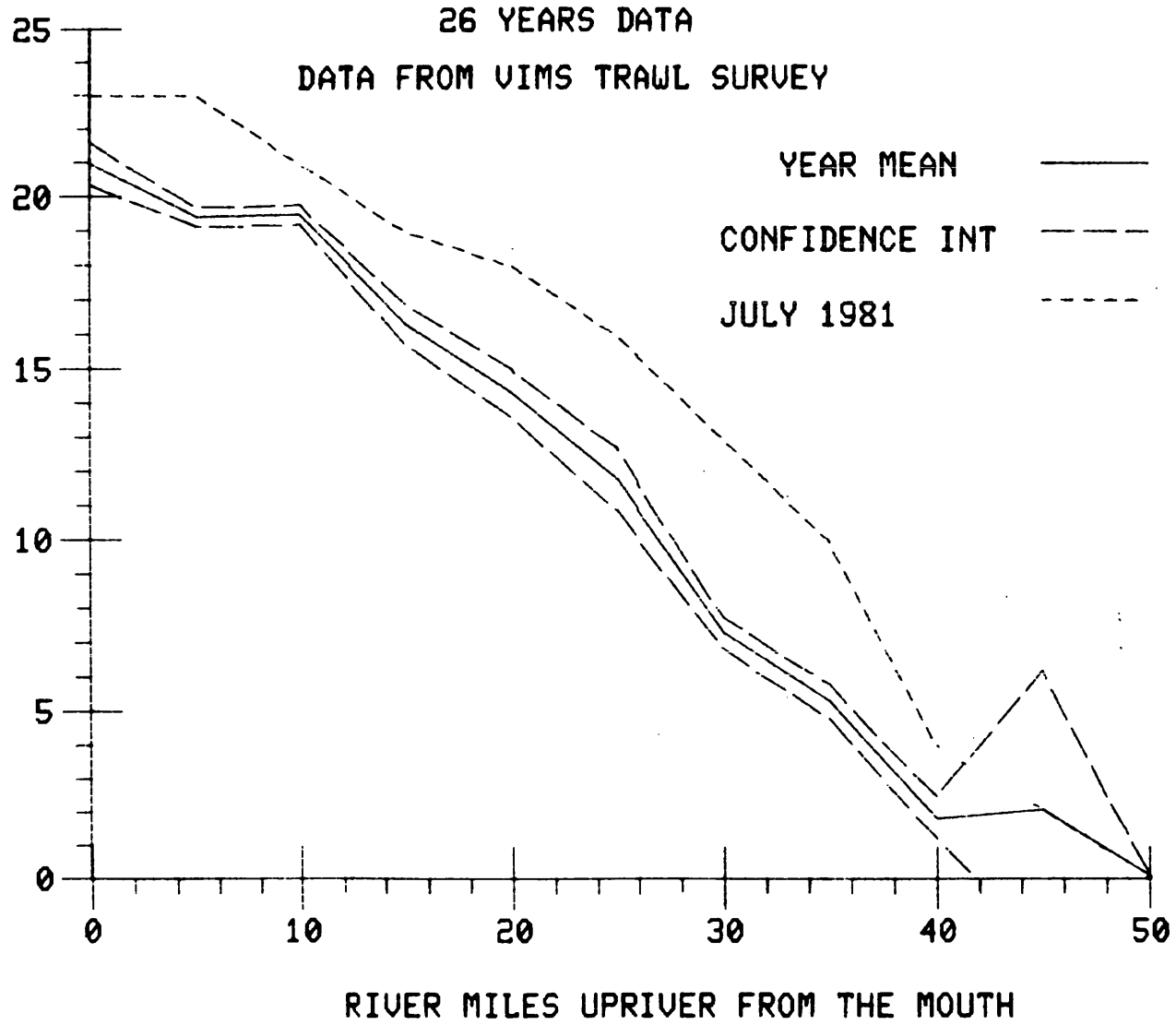


Figure 64

YORK RIVER MEAN MONTHLY SALINITIES AUGUST SURFACE

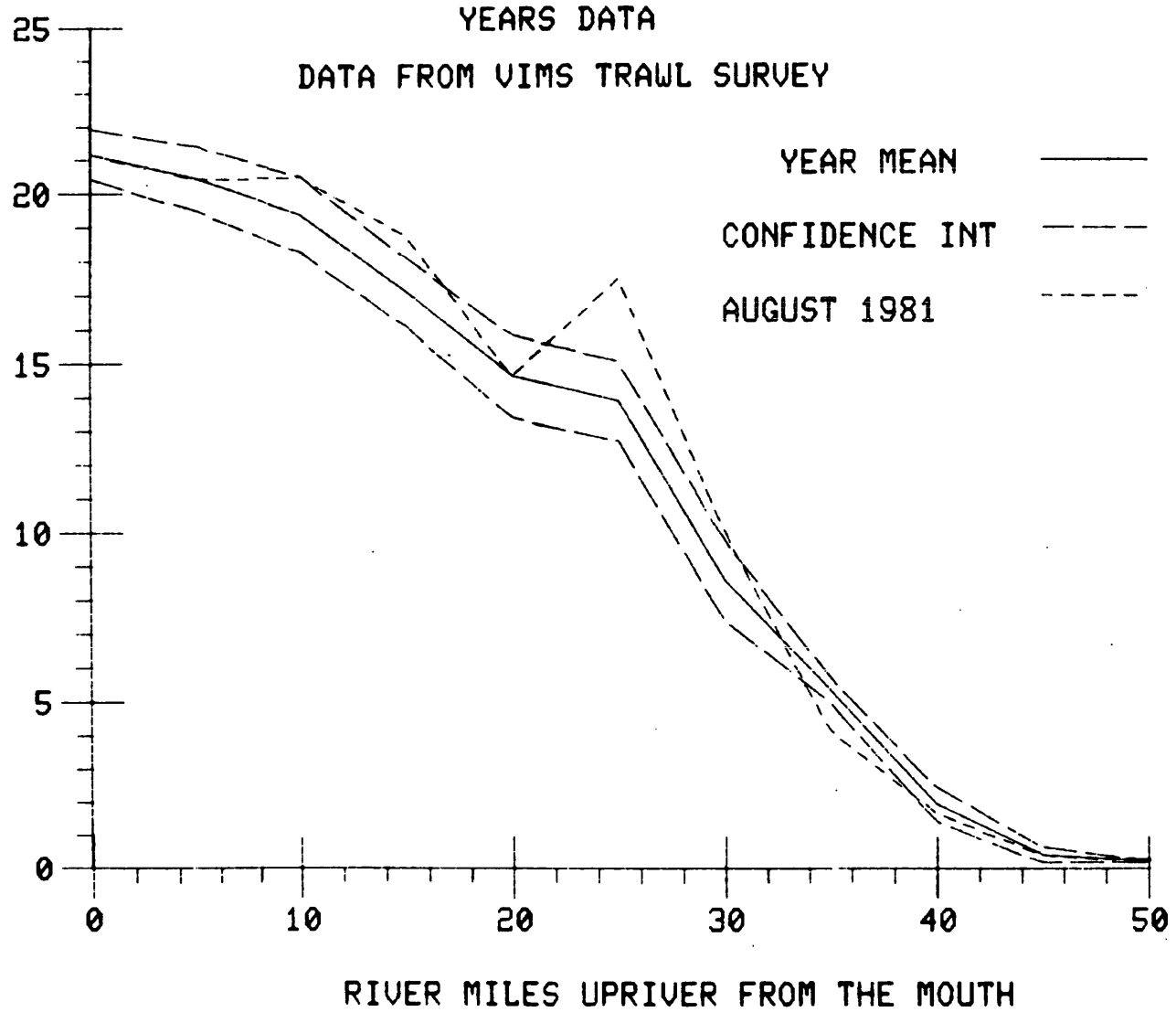


Figure 65

YORK RIVER MEAN MONTHLY SALINITIES AUGUST BOTTOM

