






WEDGE-TAIL SHEARWATER (Puffinus pacificus): At-Sea Distribution and Abundance

The following maps represent all At-Sea observations made by personnel of the Pacific Ocean Biological Survey Program from February, 1963, through August, 1965.

Each square represents one days observation from the first through the fifteenth of the month, while each circle represents one days observation from the sixteenth through the thirty-first of each month.

Numbers refer to number of birds per observation hour (* = less than 0.5 birds per hour). On the average each hours observation represents ten linear ship miles of observation.

Color code:

	=	0	birds per hour
	=	*-10	" " "
	=	11-50	" " "
	=	51-100	" " "
<i>brown</i> 	=	100 +	" " "

A single black line, running from east to west represents the northward extension of the southern dark-phase population of this species.

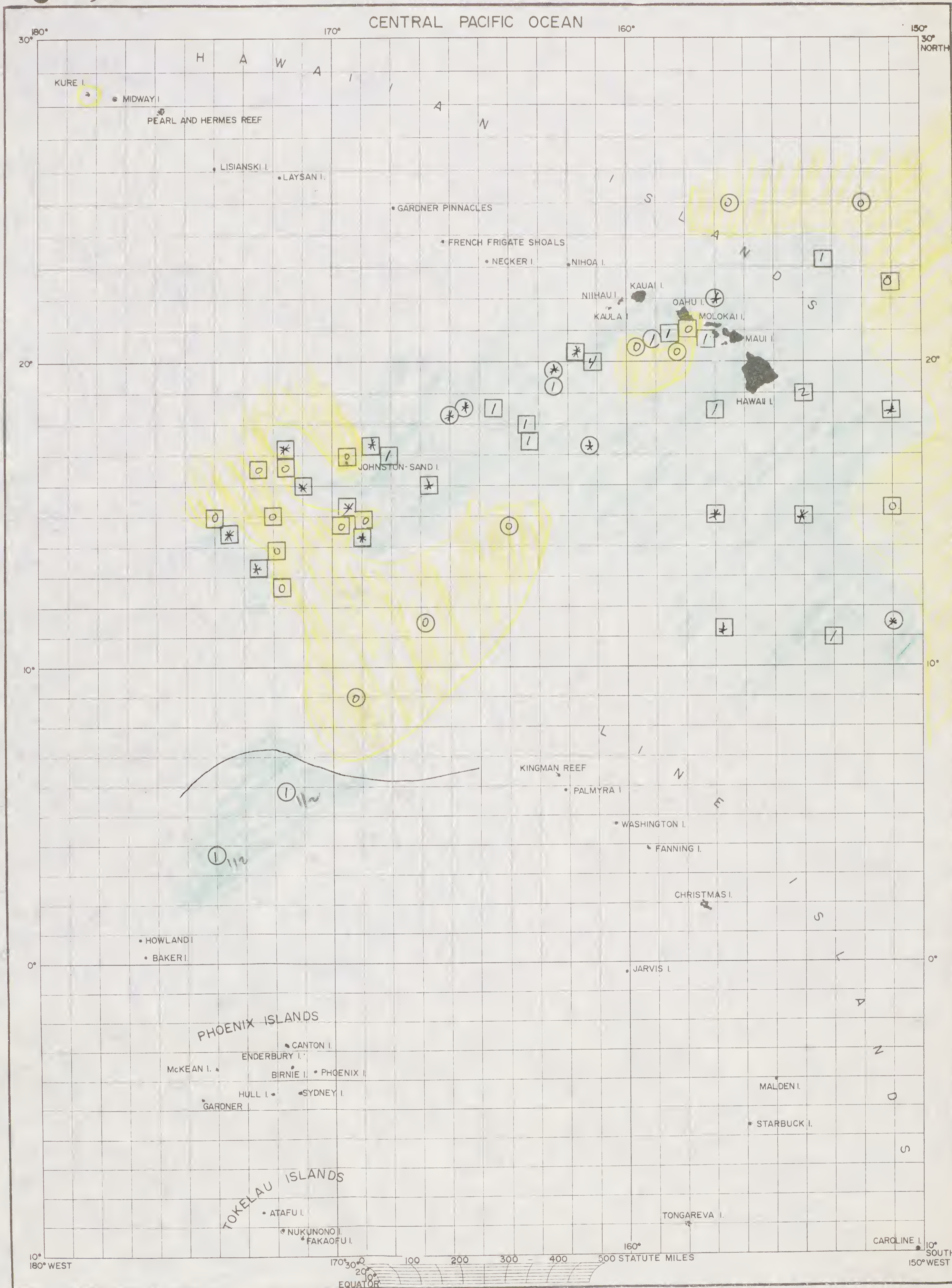
- ☐ = 1-15 January
- = 16-31 January
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

JANUARY

SI-MNH-38 (REV. 9-65)



- ☐ = 1-15 January
- = 16-31 January
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

JANUARY

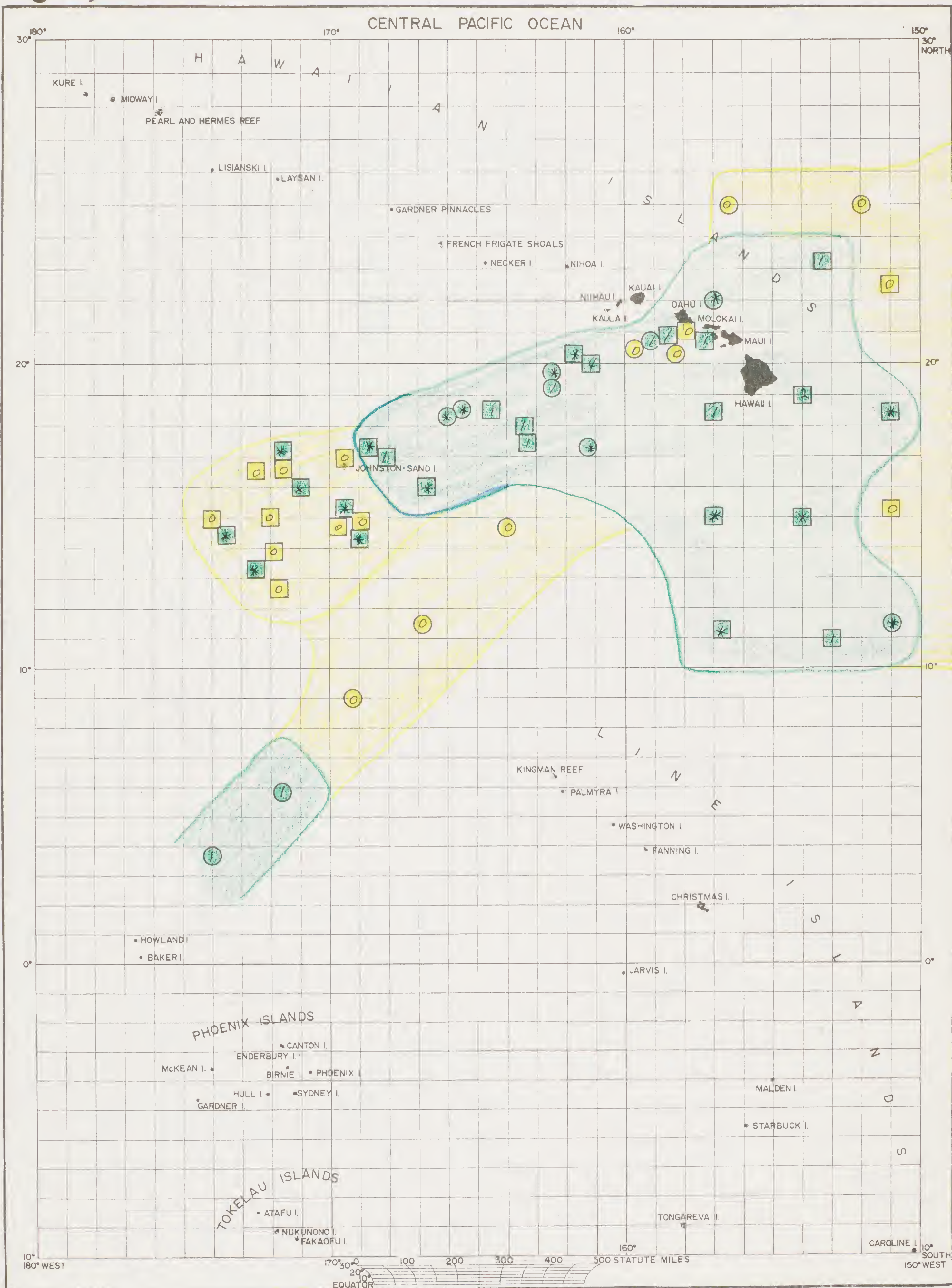
SI-MN-38 (REV. 9-65)



- ☐ = 1-15 January
- = 16-31 January
- = 0 birds
- ④ = 1-10 "
- (with 11-25) = 11-25 "
- (with 26-50) = 26-50 "
- (with 51-100) = 51-100 "
- (with 101-500) = 101-500 "
- (with 500+) = 500+ "

JANUARY

SI-MNH-38 (REV. 9-65)



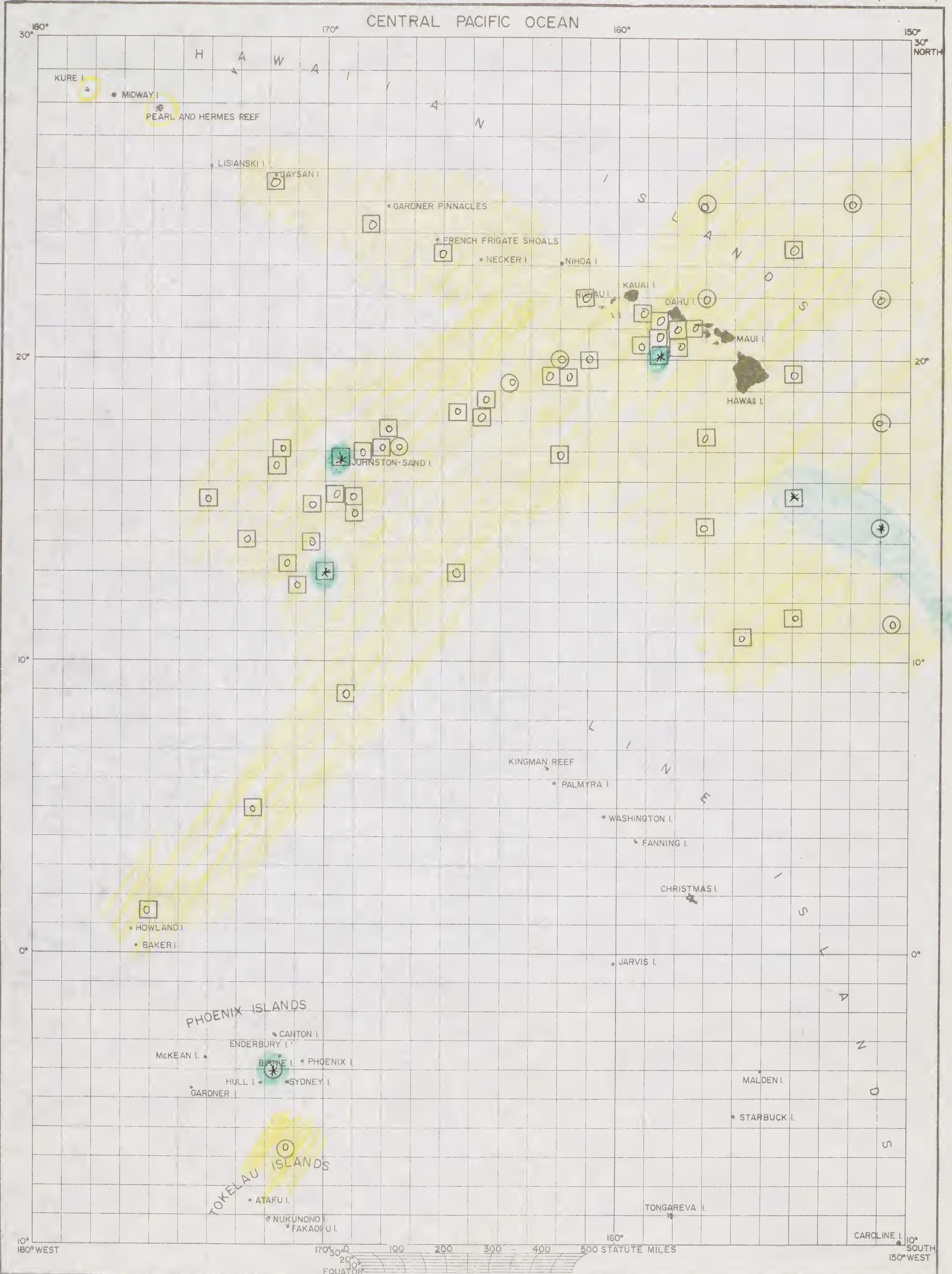
- ☐ = 1-15 February
- = 16-31 February
- ④ = 0 birds
- (small) = 1-10 "
- (medium) = 11-25 "
- (large) = 26-50 "
- (very large) = 51-100 "
- (small) = 101-500 "
- (large) = 500+ "

WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

FEBRUARY

SI-MNH-38 (REV. 9-85)



- ☐ = 1-15 February
- = 16-31 February
- ④ == 0 birds
- = 1-10 "
- = 11-25 "
- = 26-50 "
- = 51-100 "
- = 101-500 "
- = 500+ "

FEBRUARY

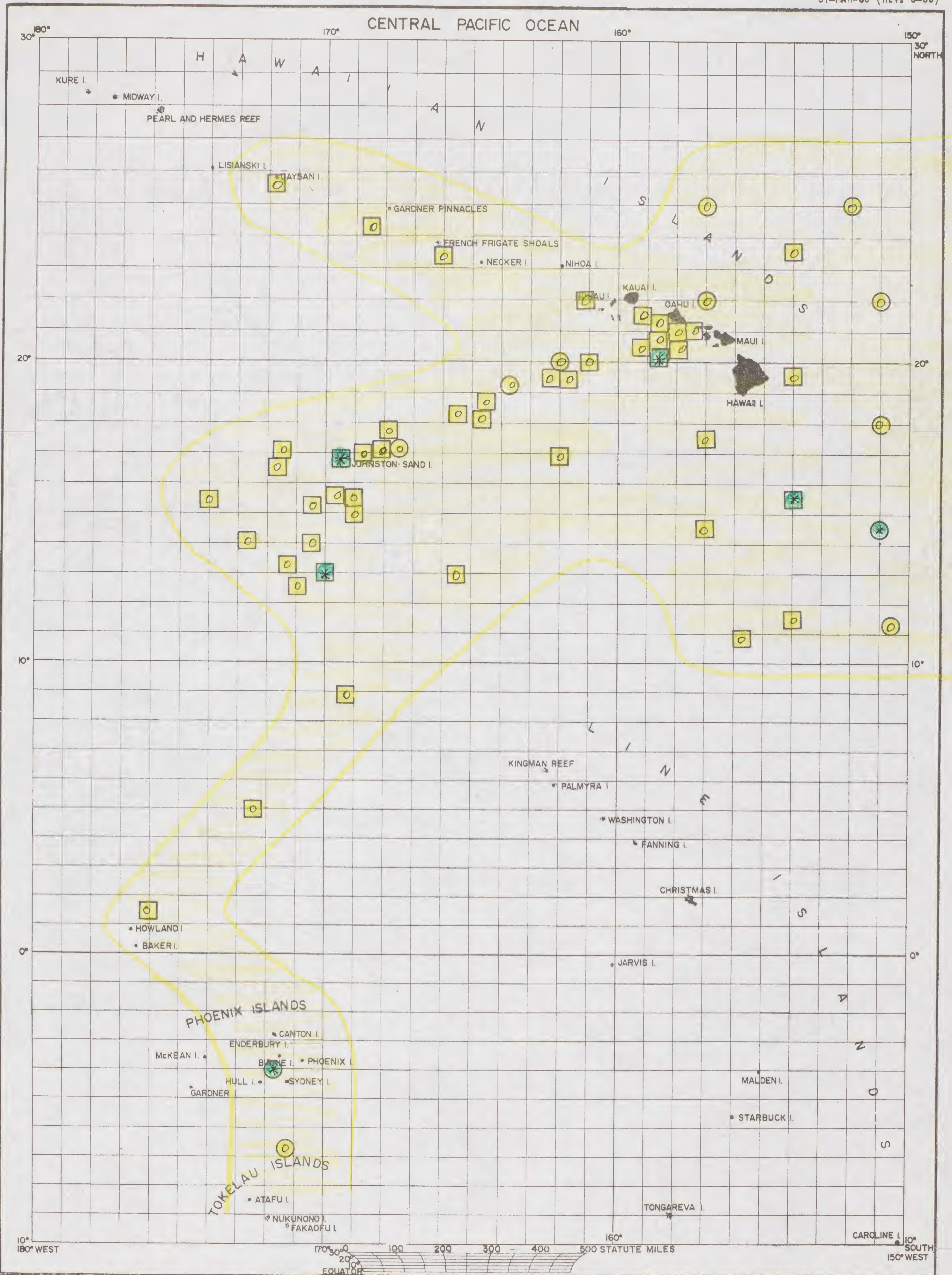
SI-MNH-38 (REV. 9-85)



- ☐ = 1-15 February
- = 16-31 February
- ④ = 0 birds
- (with 1 dot) = 1-10 "
- (with 2 dots) = 11-25 "
- (with 3 dots) = 26-50 "
- (with 4 dots) = 51-100 "
- (with 5 dots) = 101-500 "
- (with 6 dots) = 500+ "

FEBRUARY

SI-MNH-38 (REV. 9-85)



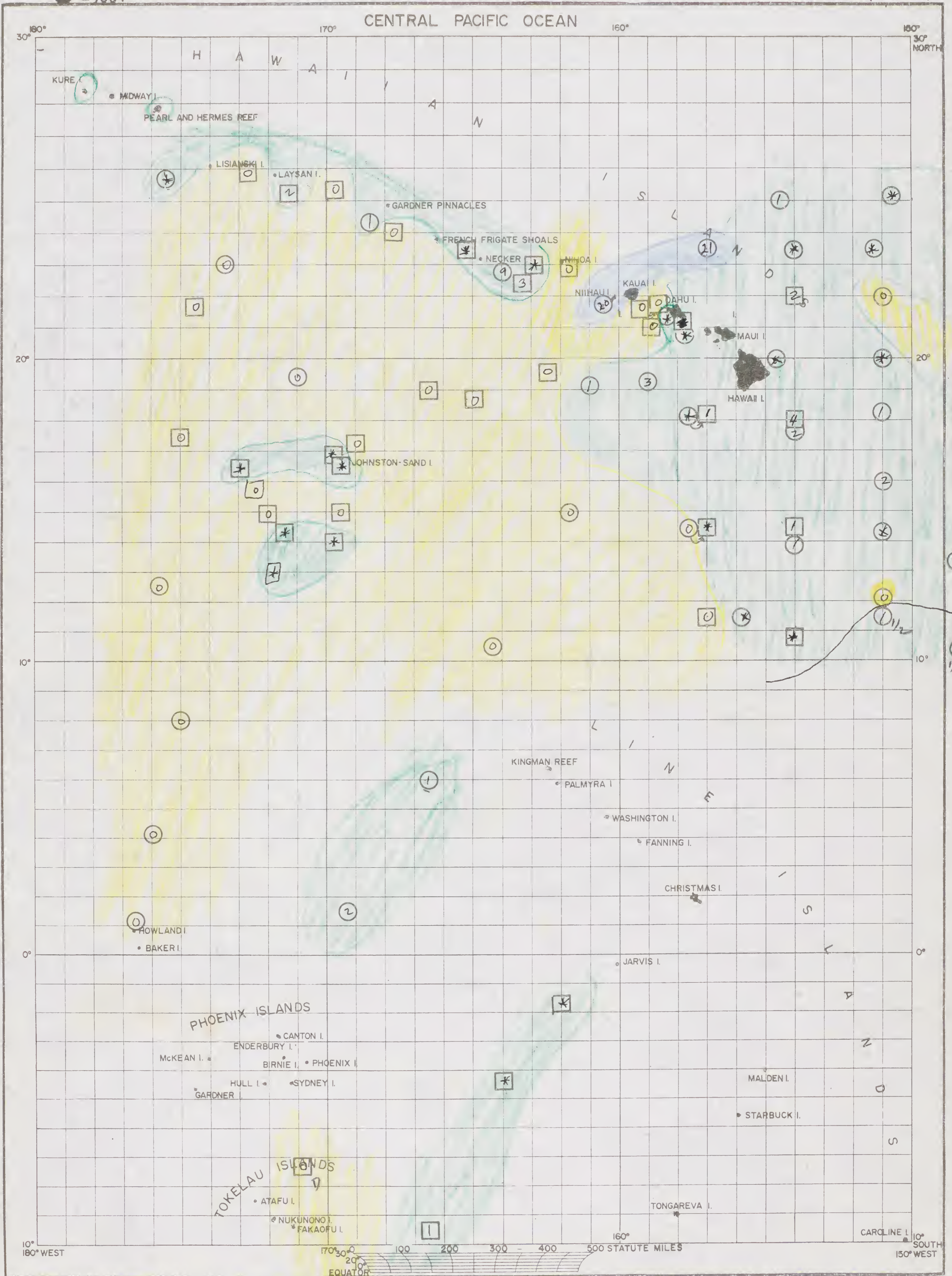
- ☐ = 1-15 March
- = 16-31 March
- ④ = 0 birds
- = 1-10 "
- = 11-25 "
- = 26-50 "
- = 51-100 "
- = 101-500 "
- = 500+ "

WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

MARCH

SI-MNM-38 (REV. 9-65)

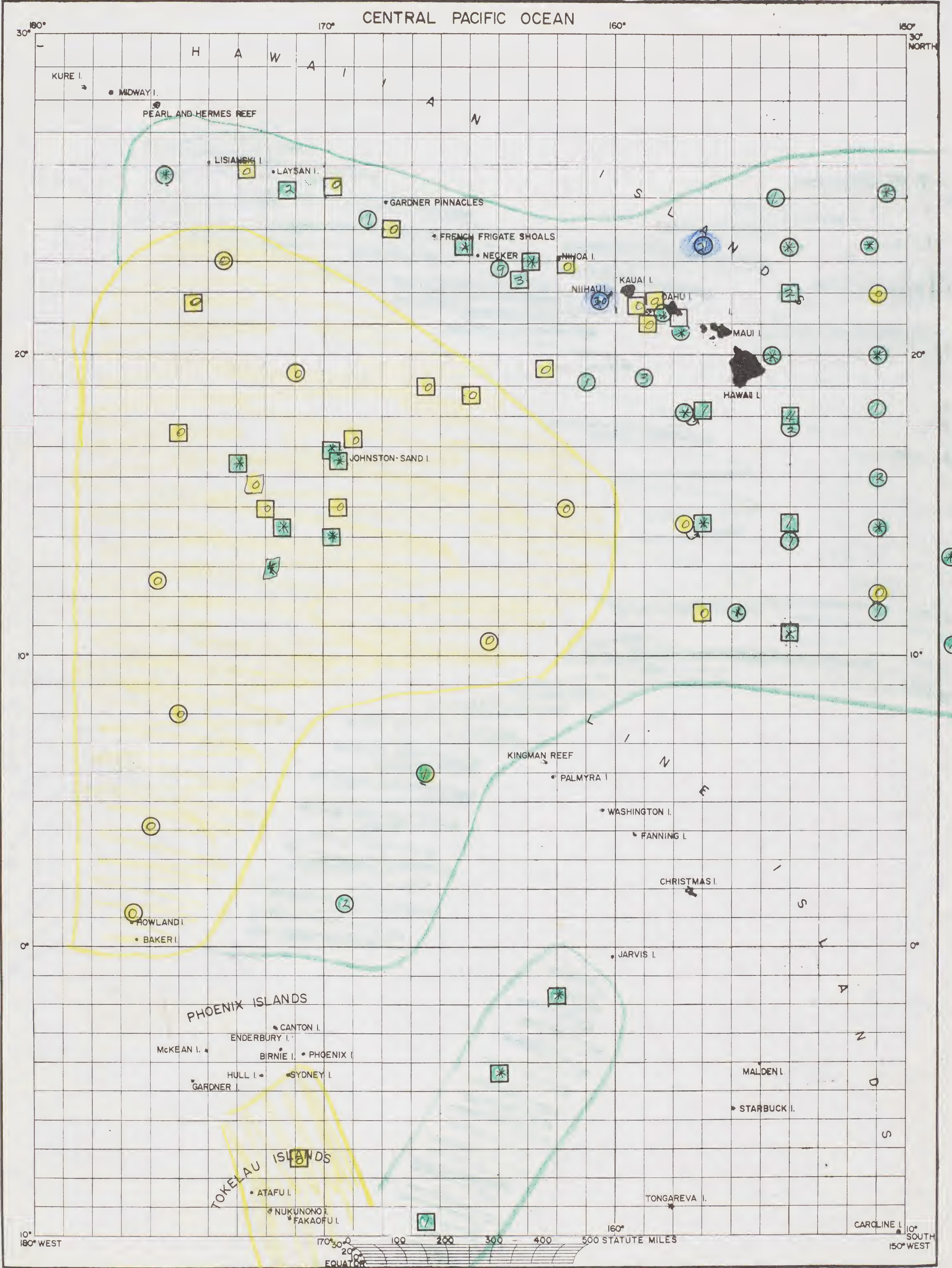


☐

- ☐ = 1-15 March
- = 16-31 March
- ④ = 0 birds
- = 1-10 "
- = 11-25 "
- = 26-50 "
- = 51-100 "
- = 101-500 "
- = 500+ "

MARCH

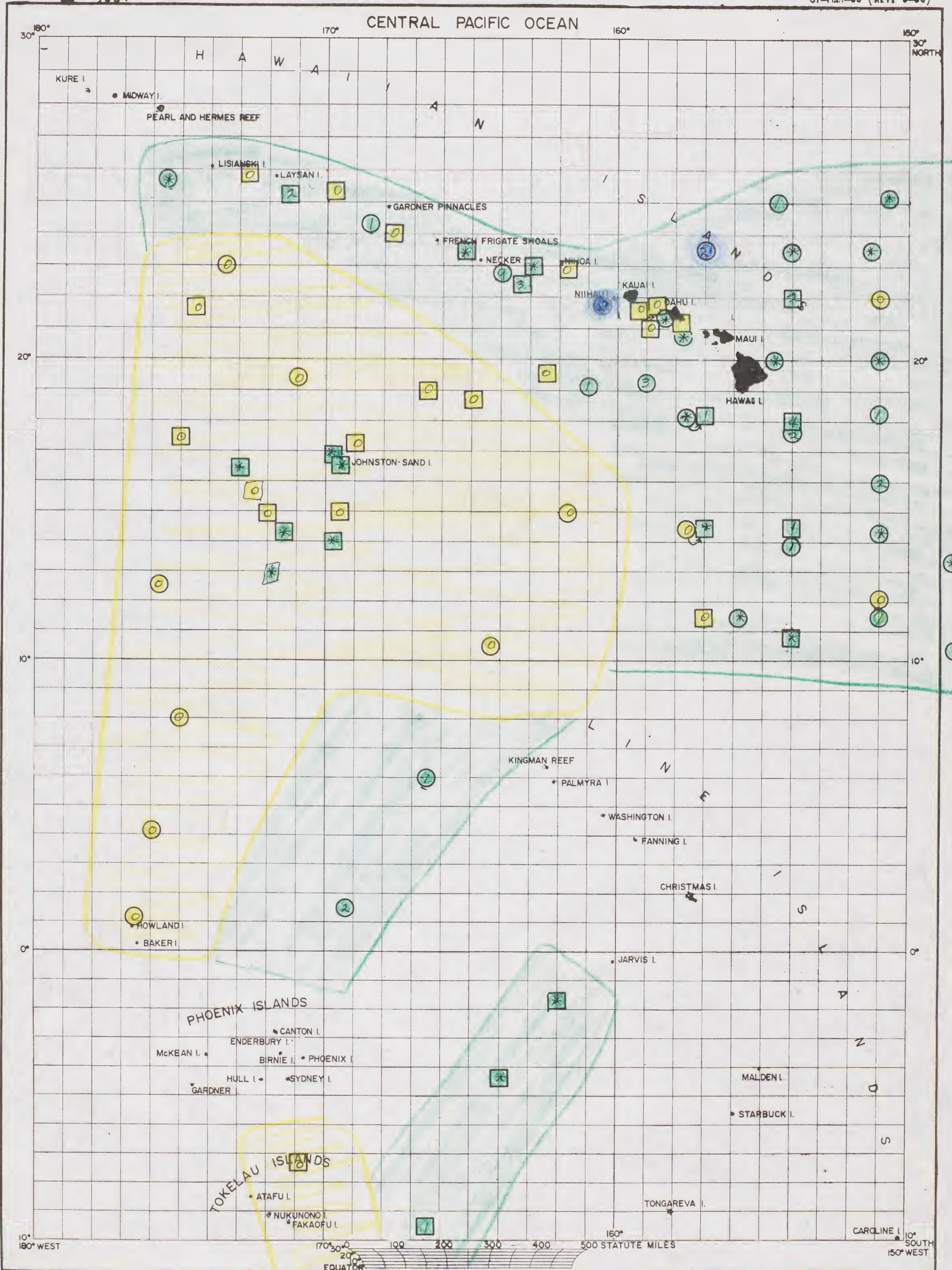
SI-MNH-38 (REV. 9-85)



- ☐ = 1-15 March
- ◯ = 16-31 March
- ④ = 0 birds
- ◯ = 1-10 "
- ◯ = 11-25 "
- ◯ = 26-50 "
- ◯ = 51-100 "
- = 101-500 "
- = 500+ "

MARCH

SI-MNH-38 (REV. 9-85)



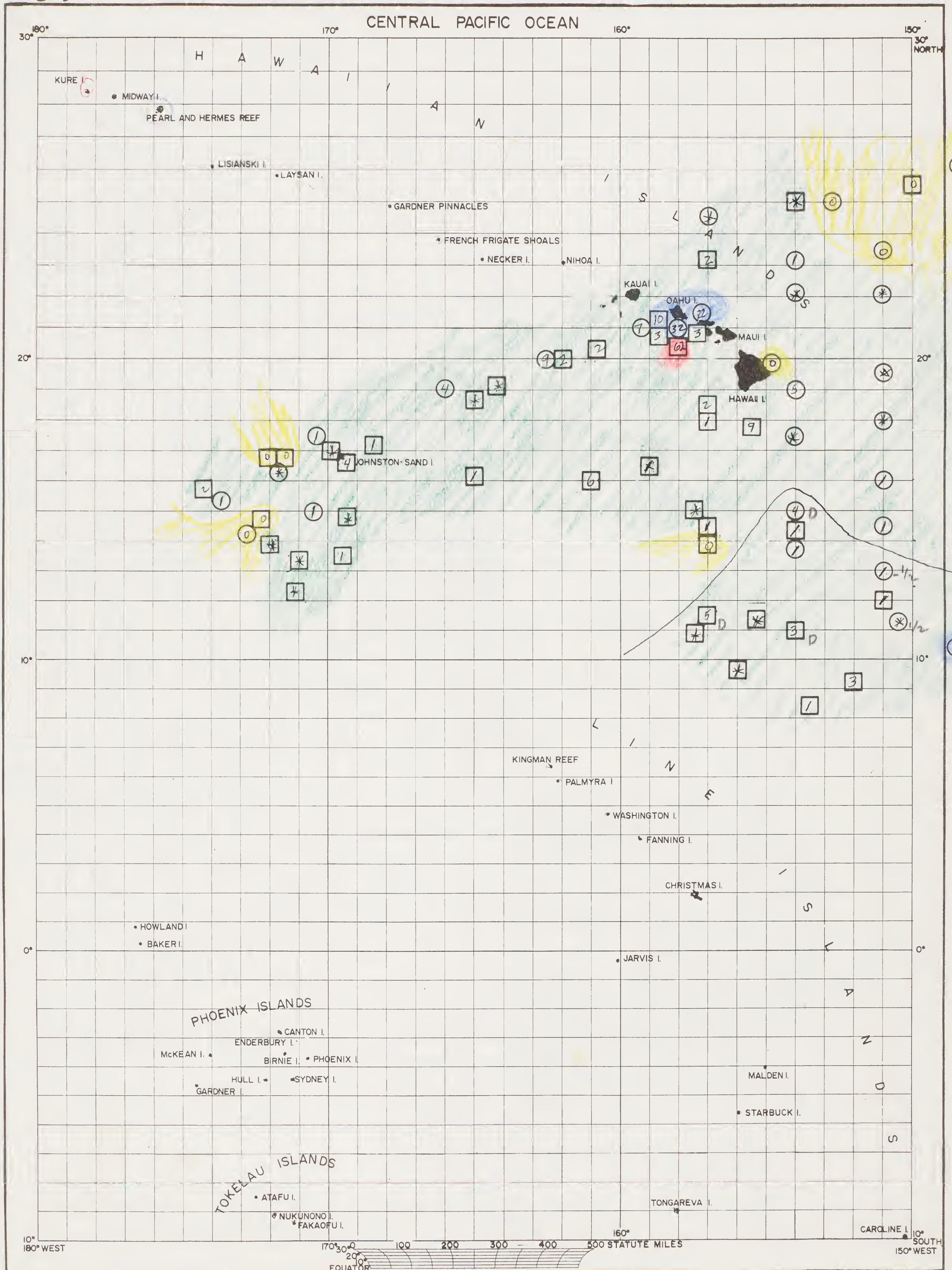
- ☐ = 1-15 April
- ◯ = 16-31 April
- ◯ = 0 birds
- ④ = 1-10 "
- ◯ = 11-25 "
- ◯ = 26-50 "
- ◯ = 50-100 "
- = 101-500 "
- = 500+ "

WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

APRIL

SI-MNH-38 (REV. 9-65)



- ☐ = 1-15 April
- = 16-31 April
- = 0 birds
- ④ = 1-10 "
- (with 11-25) = 11-25 "
- (with 26-50) = 26-50 "
- (with 50-100) = 50-100 "
- (with 101-500) = 101-500 "
- (with 500+) = 500+ "

APRIL

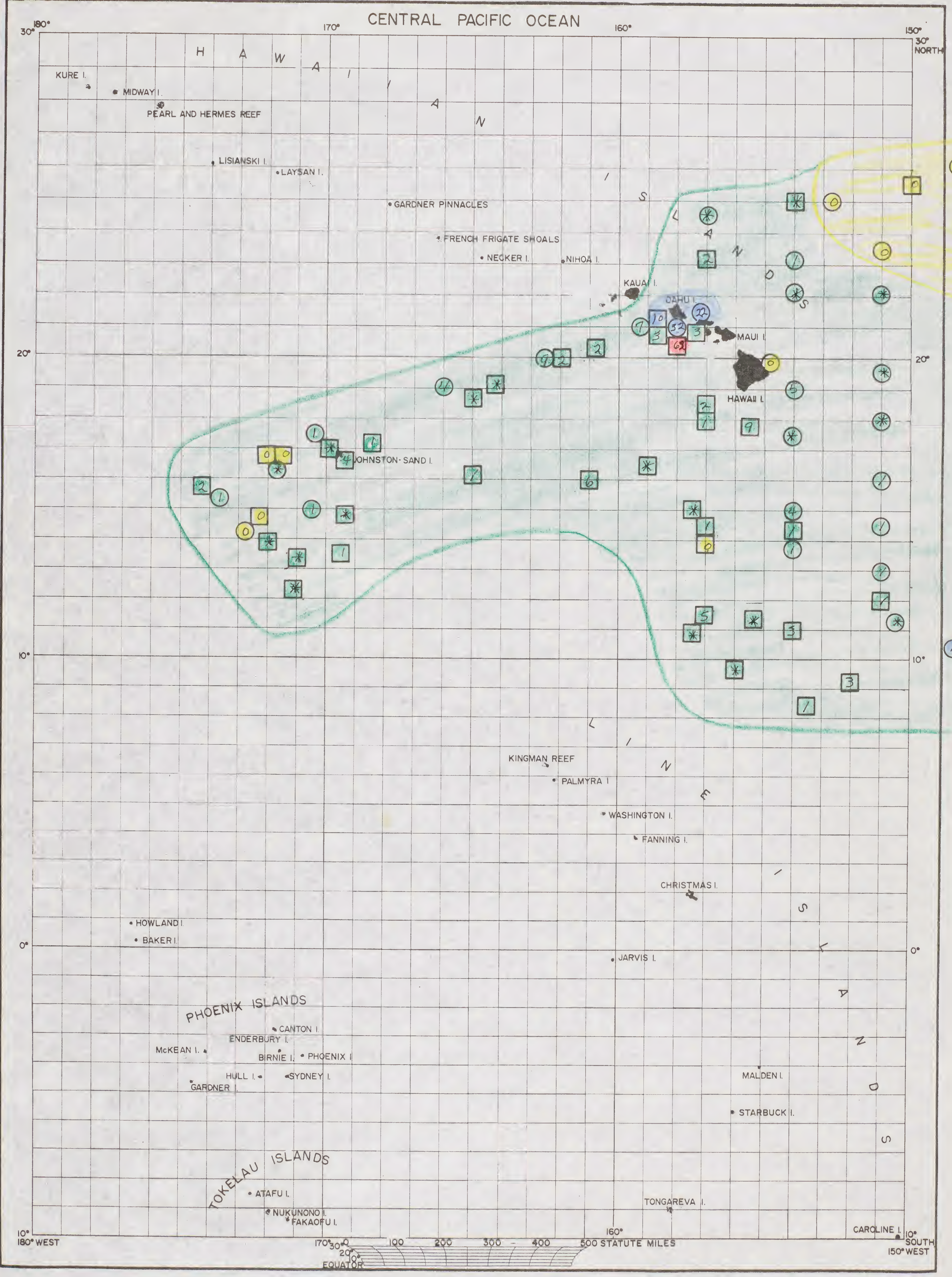
SI-MNH-38 (REV. 9-65)



- ☐ = 1-15 April
- = 16-31 April
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 50-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

APRIL

SI-MNH-38 (REV. 9-65)



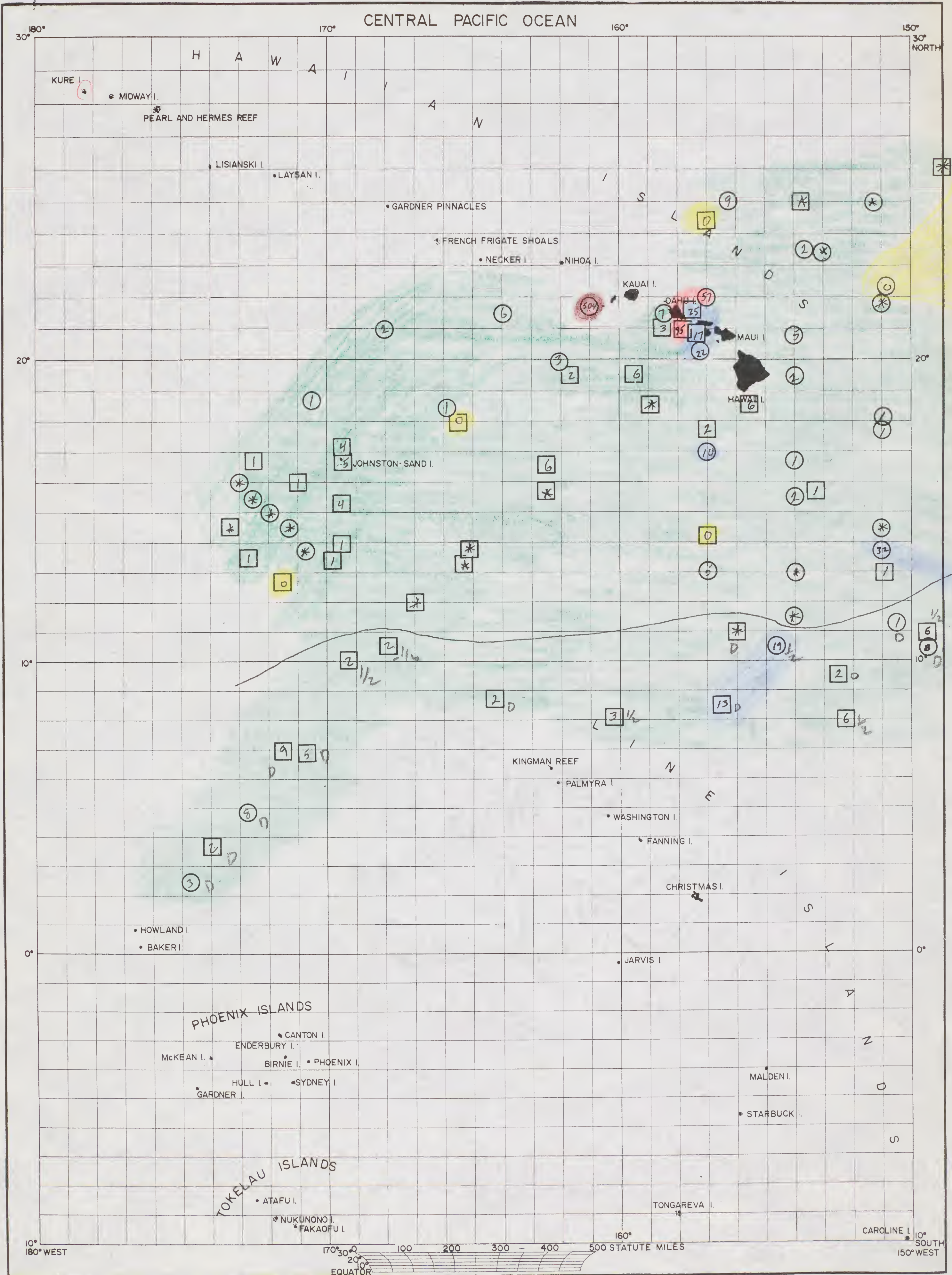
WEDGE-TAIL SHEARWATER (*puffinus pacificus*)

At-Sea Distribution and Abundance

- ☐ 1-15 May
- = 16-31 May
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- = 101-500 "
- (with horizontal lines) = 500+ "

MAY

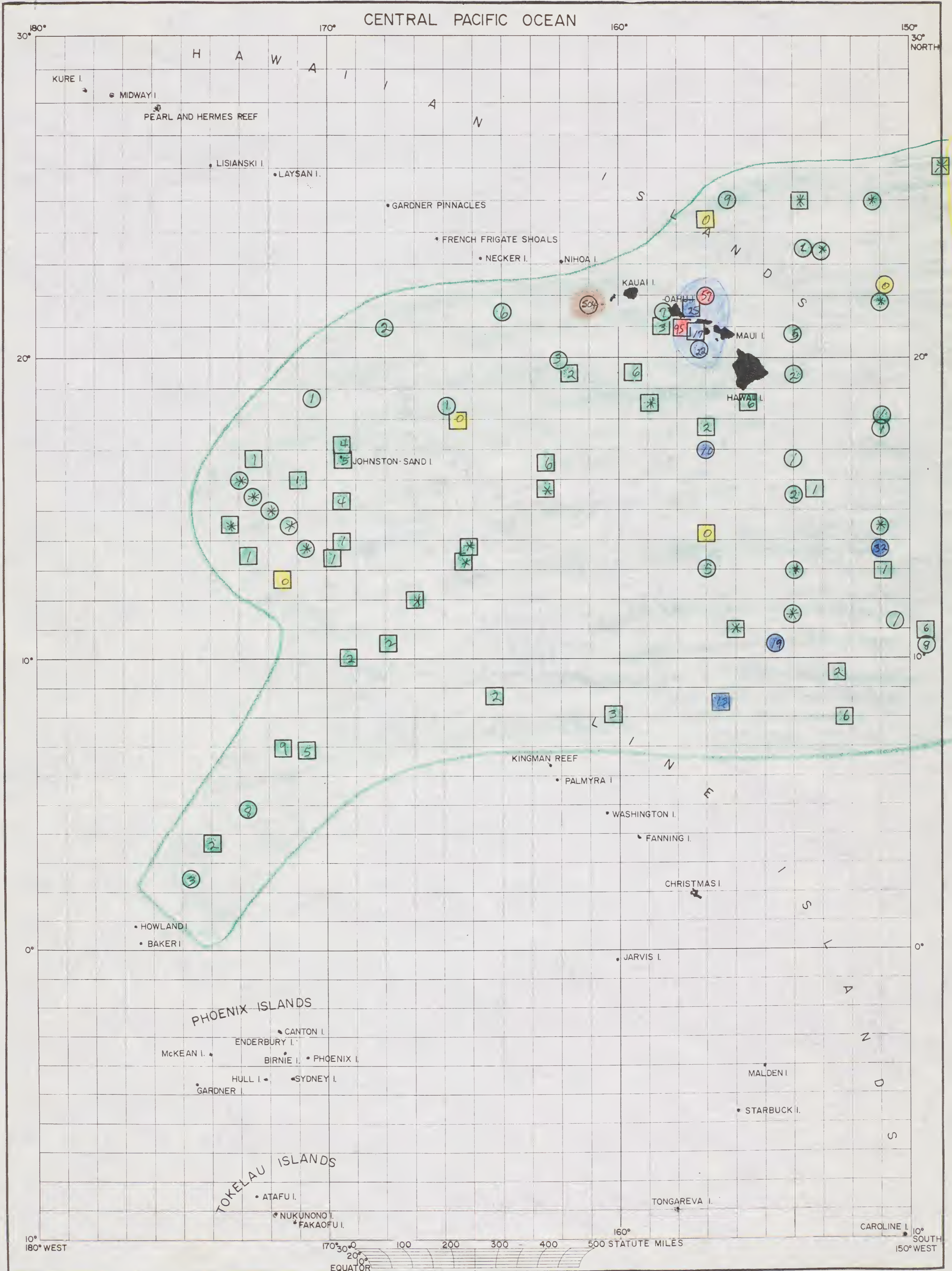
SI-MNH-38 (8-65)



- ☐ 1-15 May
- = 16-31 May
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- = 101-500 "
- (large) = 500+ "

MAY

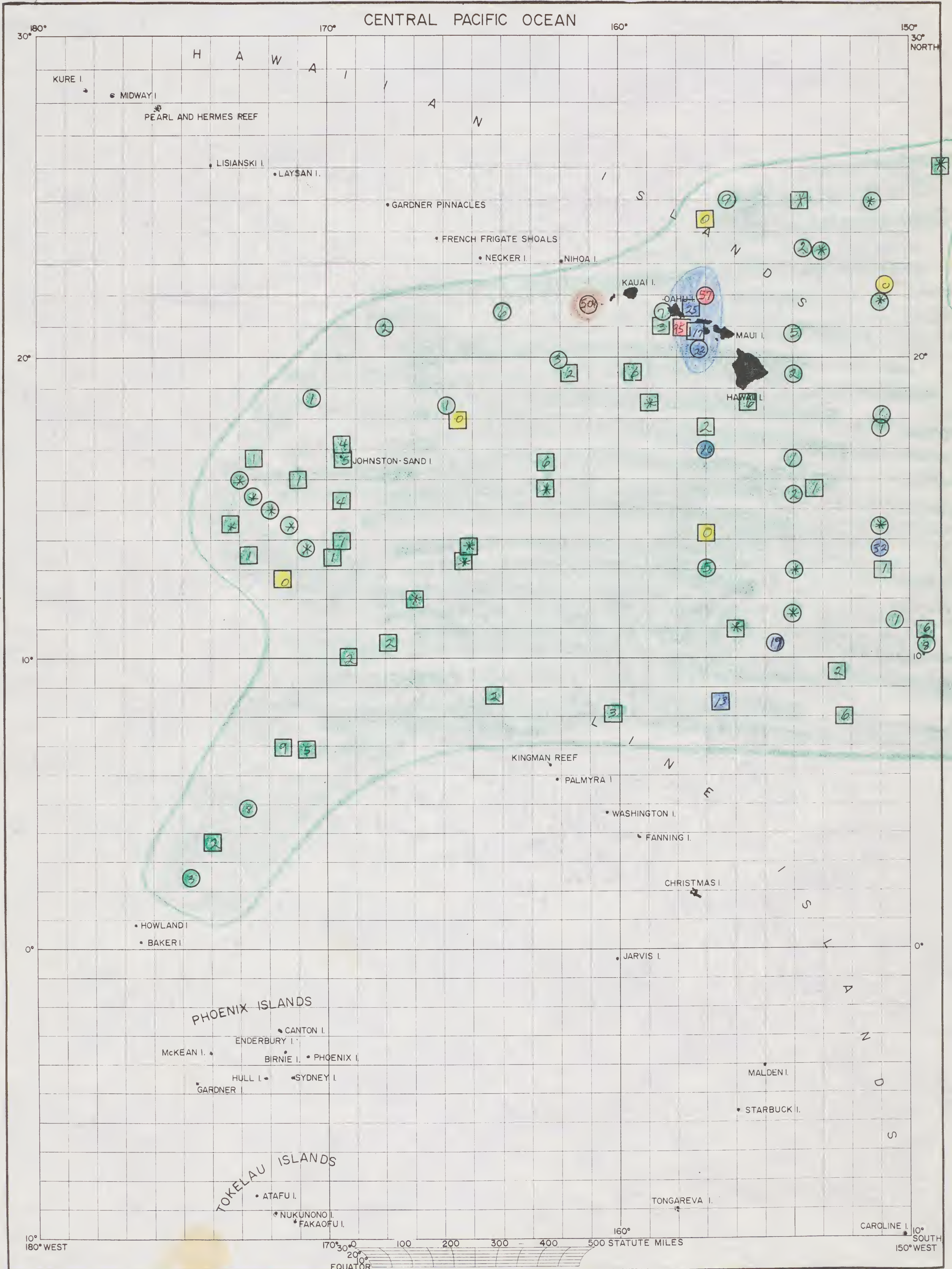
SI-MNH-38 (8-65)



- ☐ 1-15 May
- = 16-31 May
- = 0 birds
- ④ = 1-10 "
- (with 1-10) = 11-25 "
- (with 11-25) = 26-50 "
- (with 26-50) = 51-100 "
- (with 51-100) = 101-500 "
- (with 101-500) = 500+ "

MAY

SI-MNH-38 (8-65)



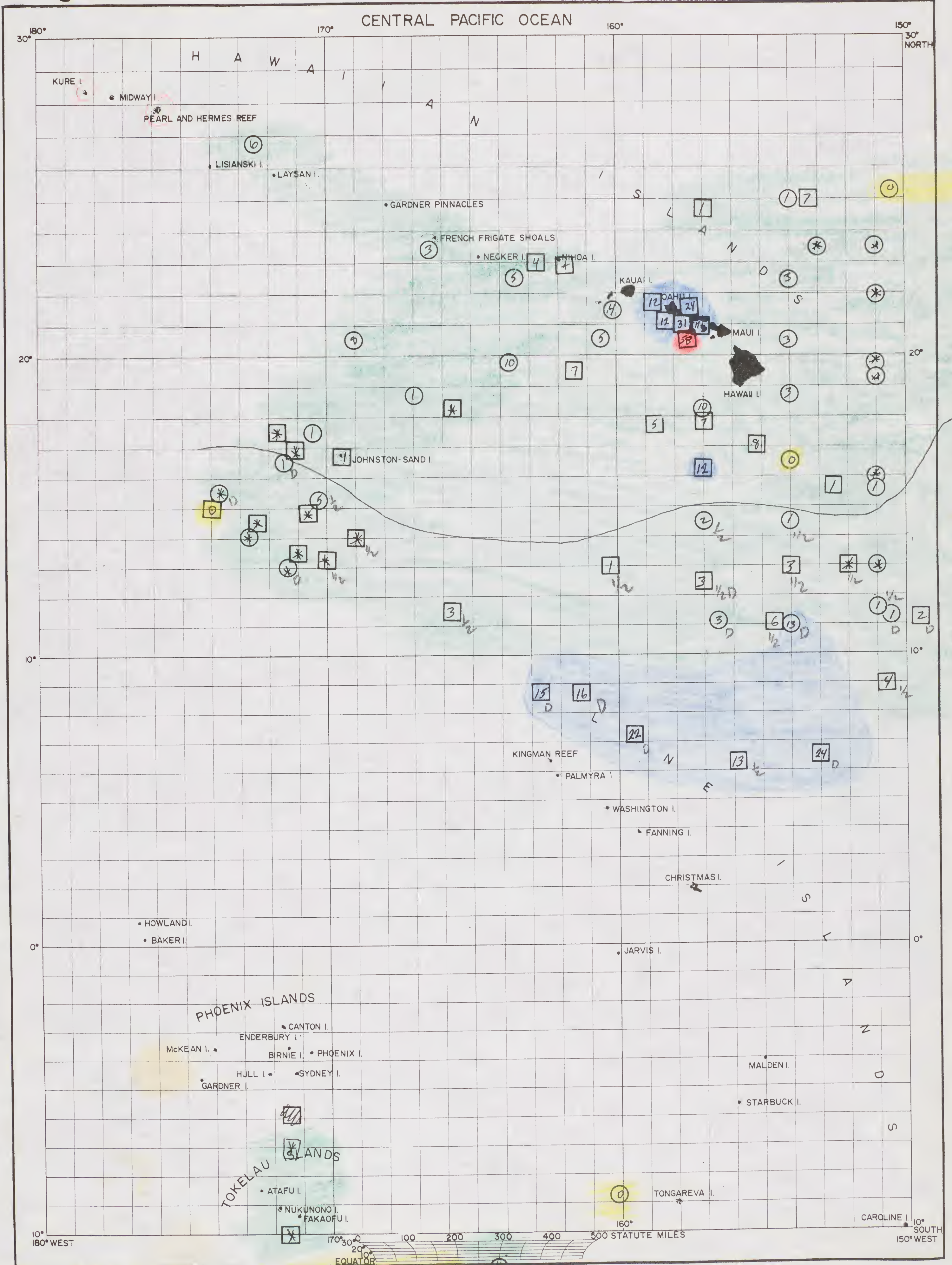
WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

- 1-15 June
- = 16-31 June
- = 0 birds
- ④ = 1-10 "
- ⊖ = 11-25 "
- ⊕ = 26-50 "
- ⊗ = 51-100 "
- = 101-500 "
- ⦿ = 500+ "

JUNE

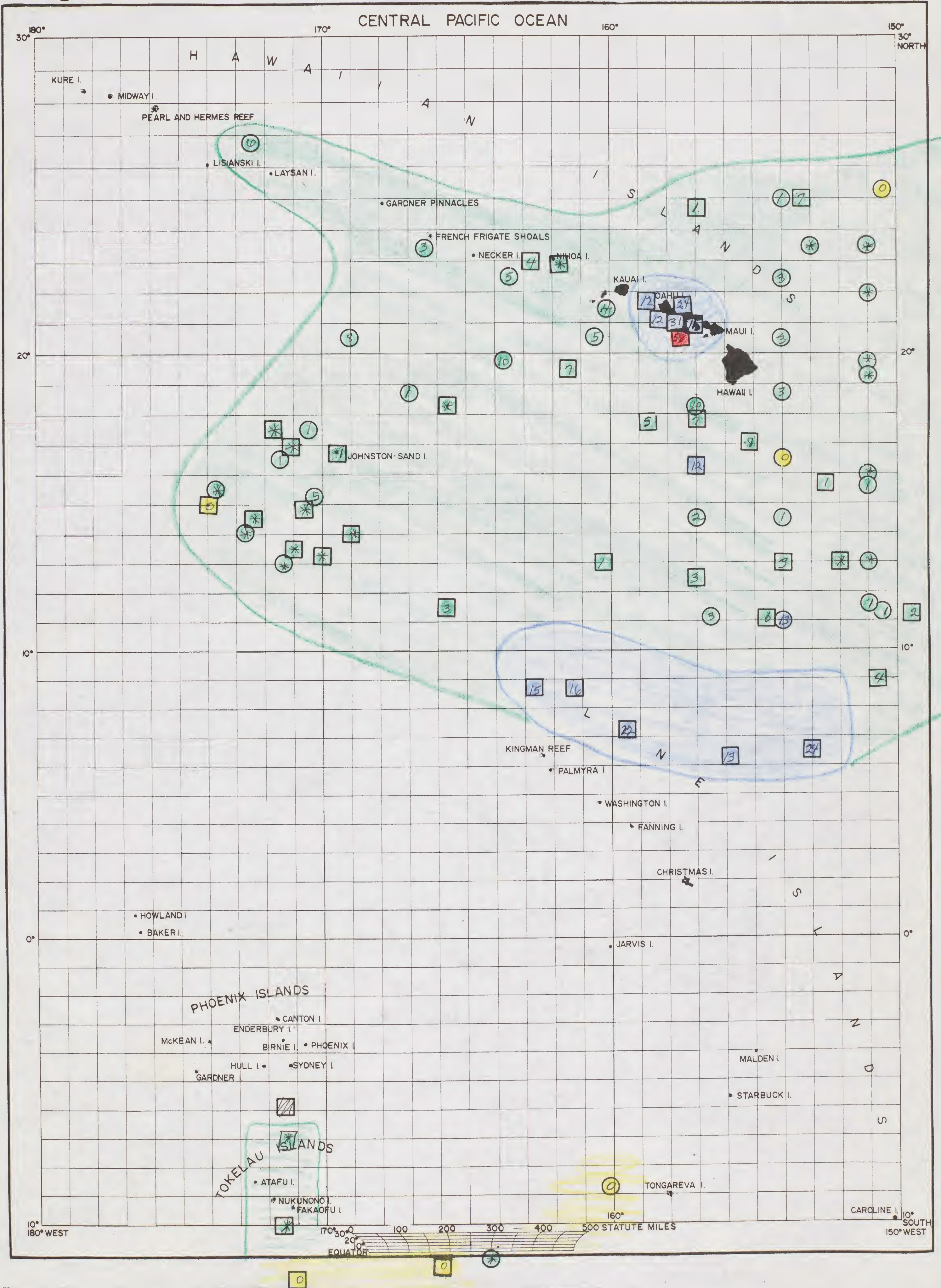
SI-MNH-38 (8-65)



- 1-15 June
- = 16-31 June
- = 0 birds
- ④ = 1-10 "
- (with 1-10) = 11-25 "
- (with 20-50) = 26-50 "
- (with 50-100) = 51-100 "
- (with 100-500) = 101-500 "
- (with 500+) = 500+ "

JUNE

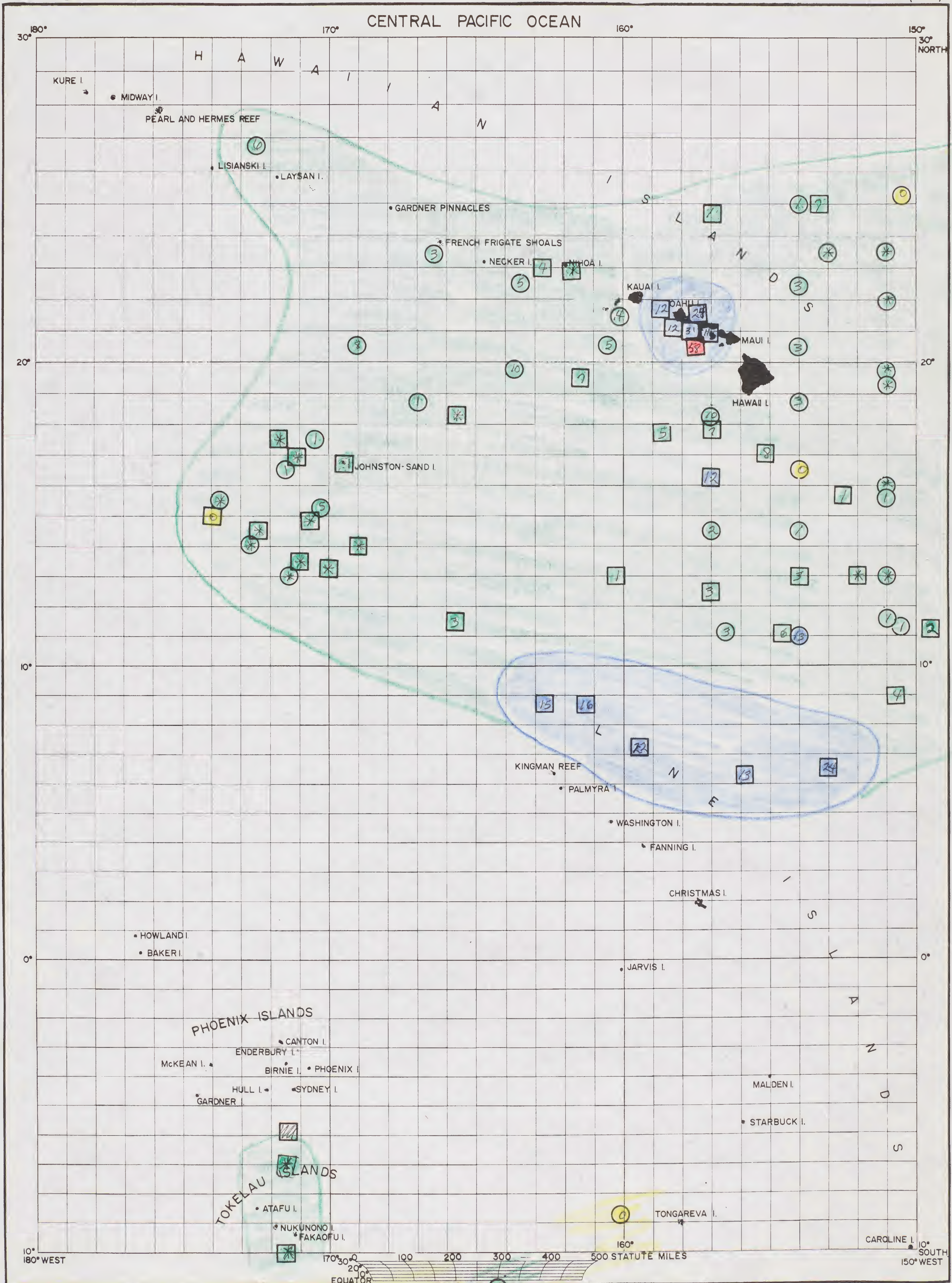
SI-MNH-38 (8-65)



- 1-15 June
- = 16-31 June
- = 0 birds
- ④ = 1-10 "
- (with 1-10) = 11-25 "
- (with 26-50) = 26-50 "
- (with 51-100) = 51-100 "
- (with 101-500) = 101-500 "
- (with 500+) = 500+ "

JUNE

SI-MNH-38 (8-65)



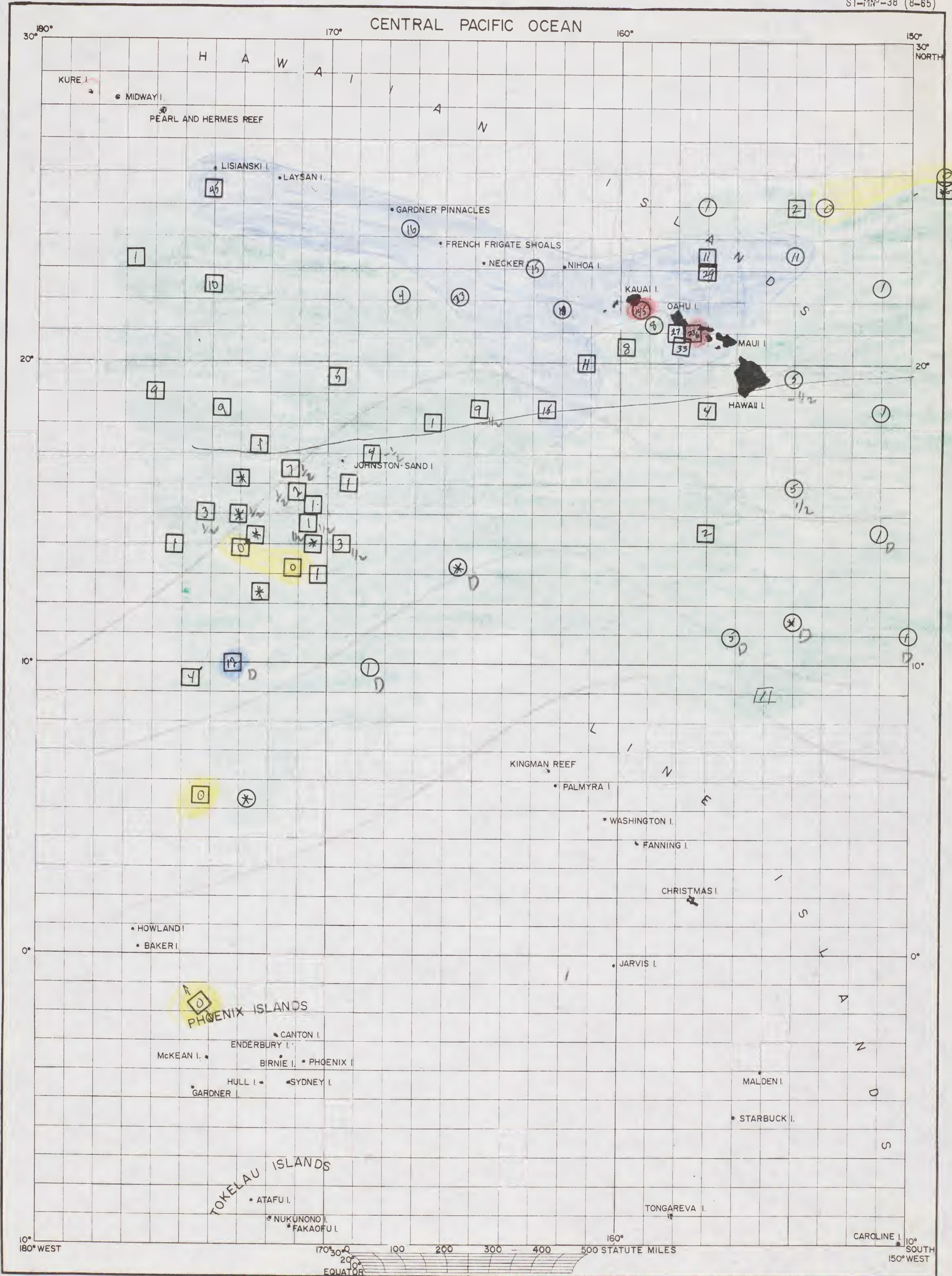
WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

- ☐ 1-15 July
- = 16-31 July
- = 0 birds
- ④ = 1-10 birds
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

JULY

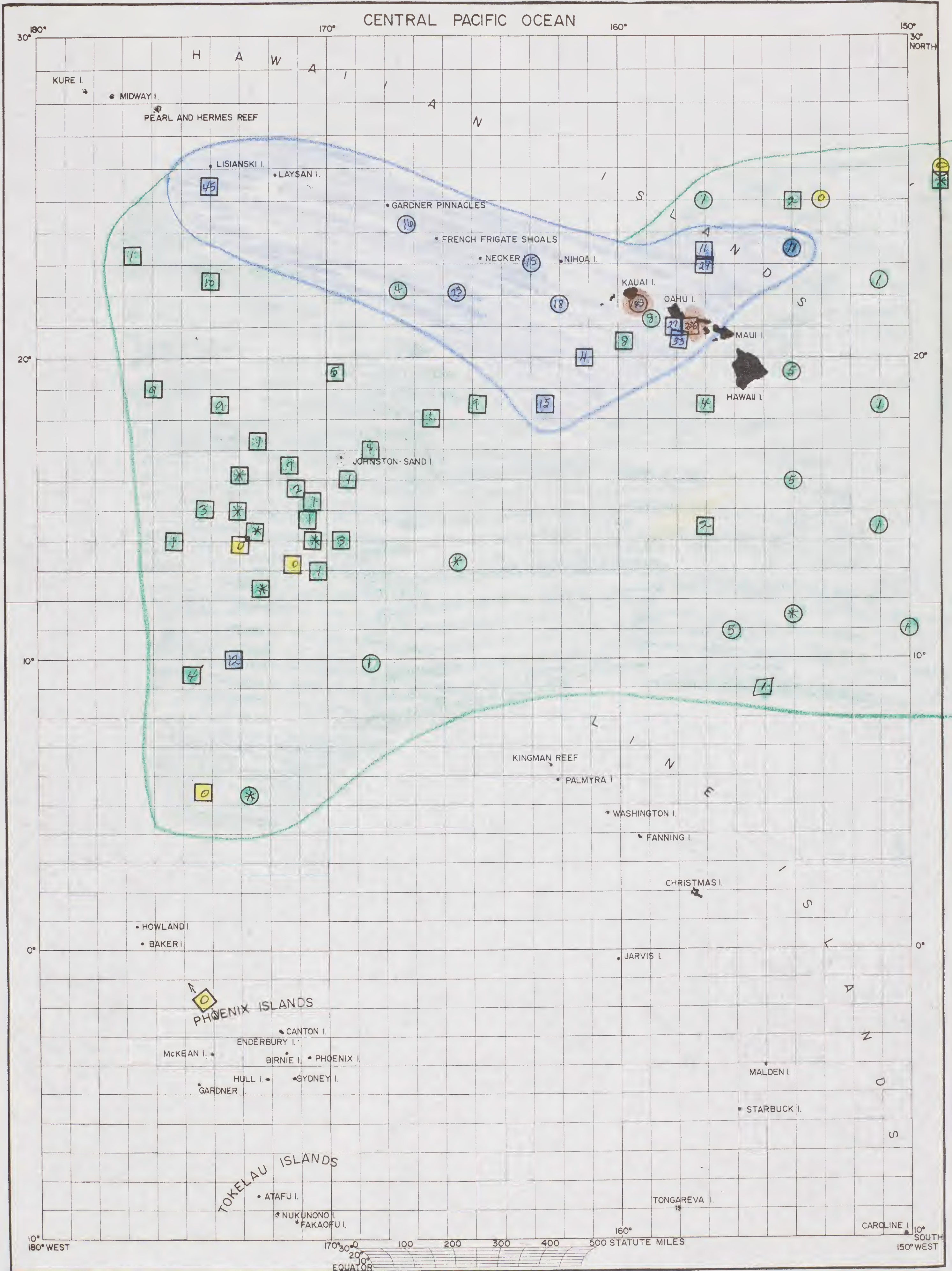
SI-MNH-38 (8-65)



- ☐ 1-15 July
- = 16-31 July
- = 0 birds
- ④ = 1-10 birds
- = 11-25 "
- = 26-50 "
- = 51-100 "
- = 101-500 "
- = 500+ "

JULY

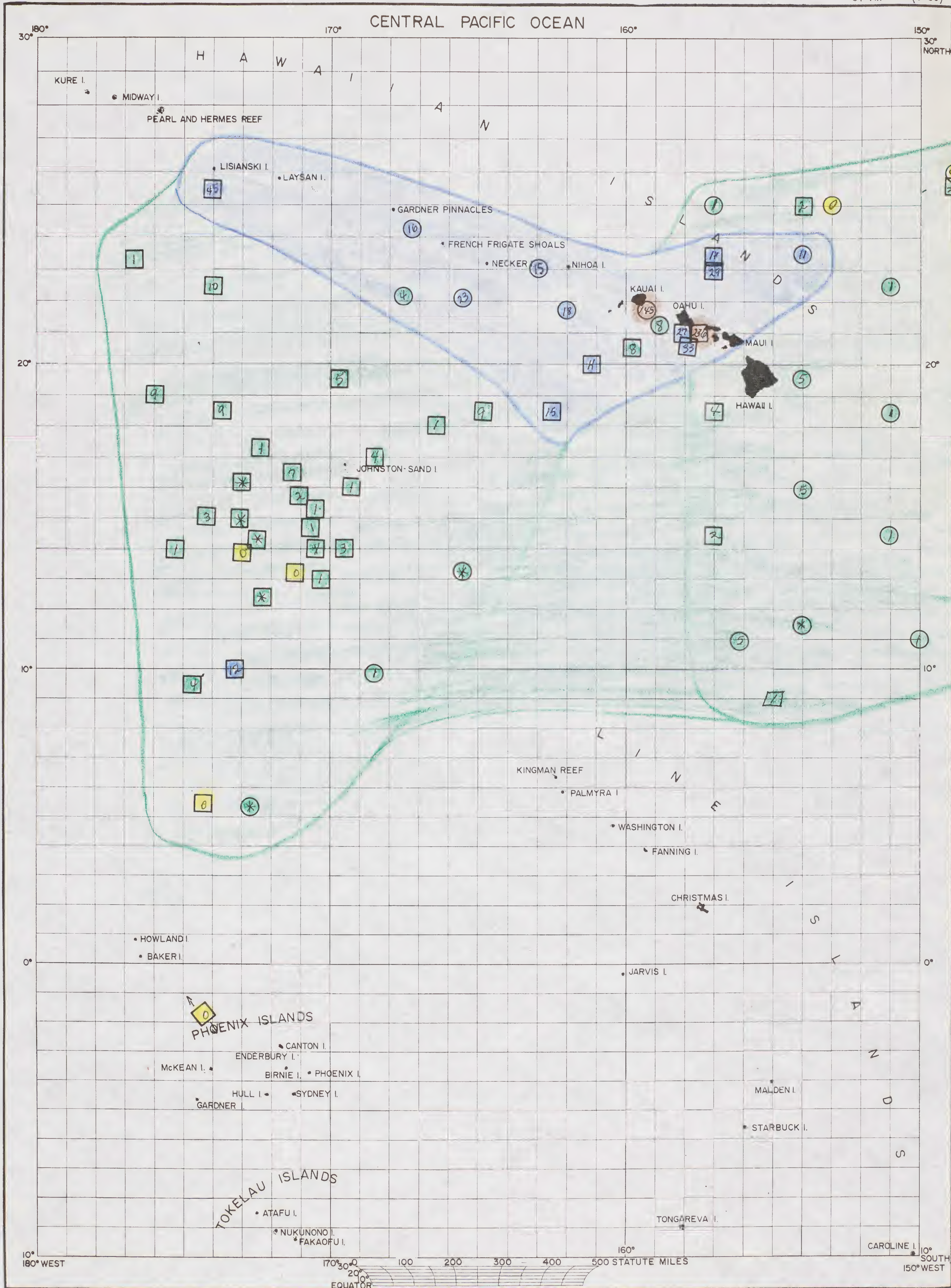
SI-MNP-38 (8-65)



- ☐ 1-15 July
- = 16-31 July
- = 0 birds
- ④ = 1-10 birds
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

JULY

SI-MN-38 (8-65)



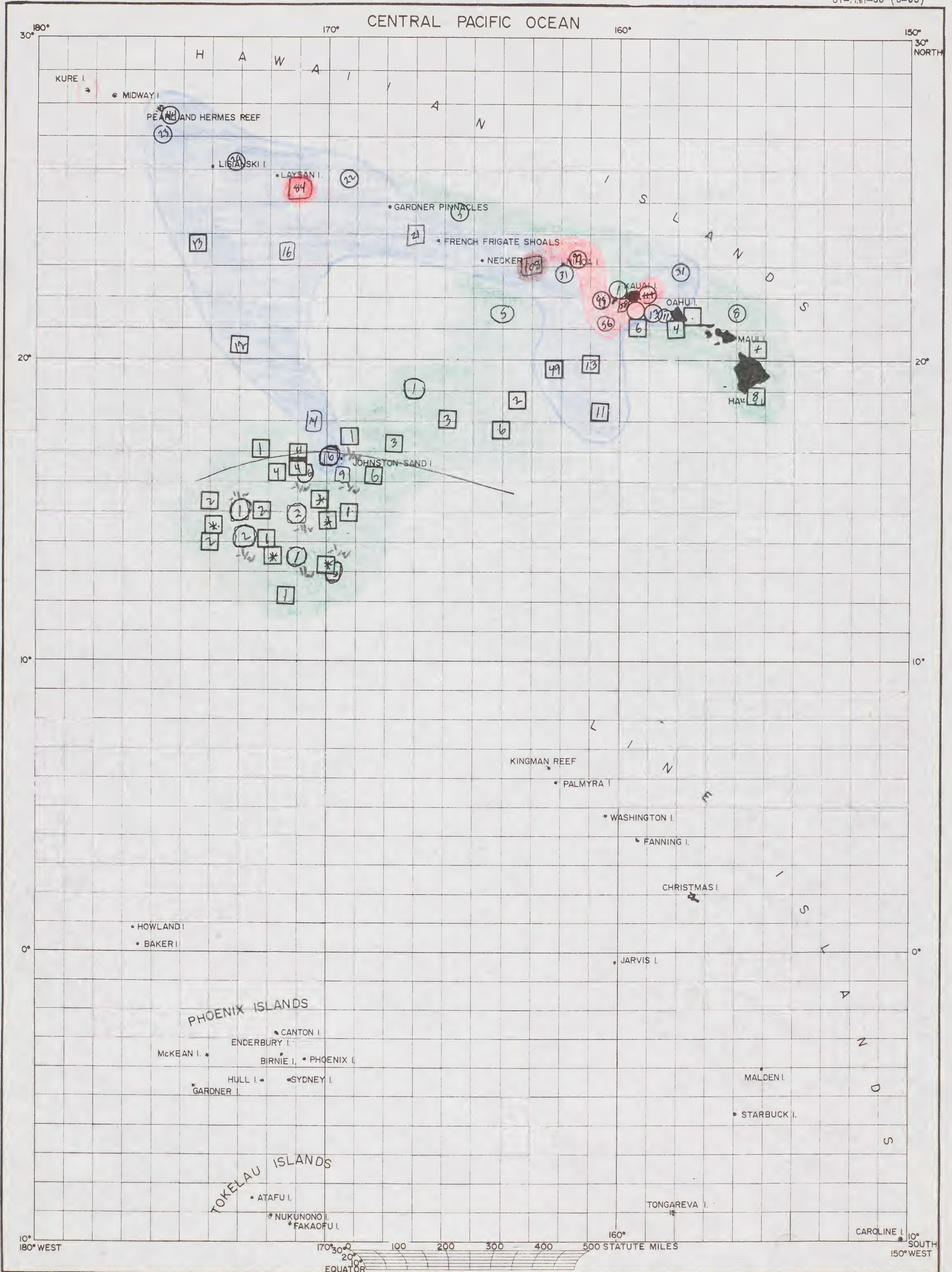
WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

- 1-15 August
- = 16-31 August
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

AUGUST

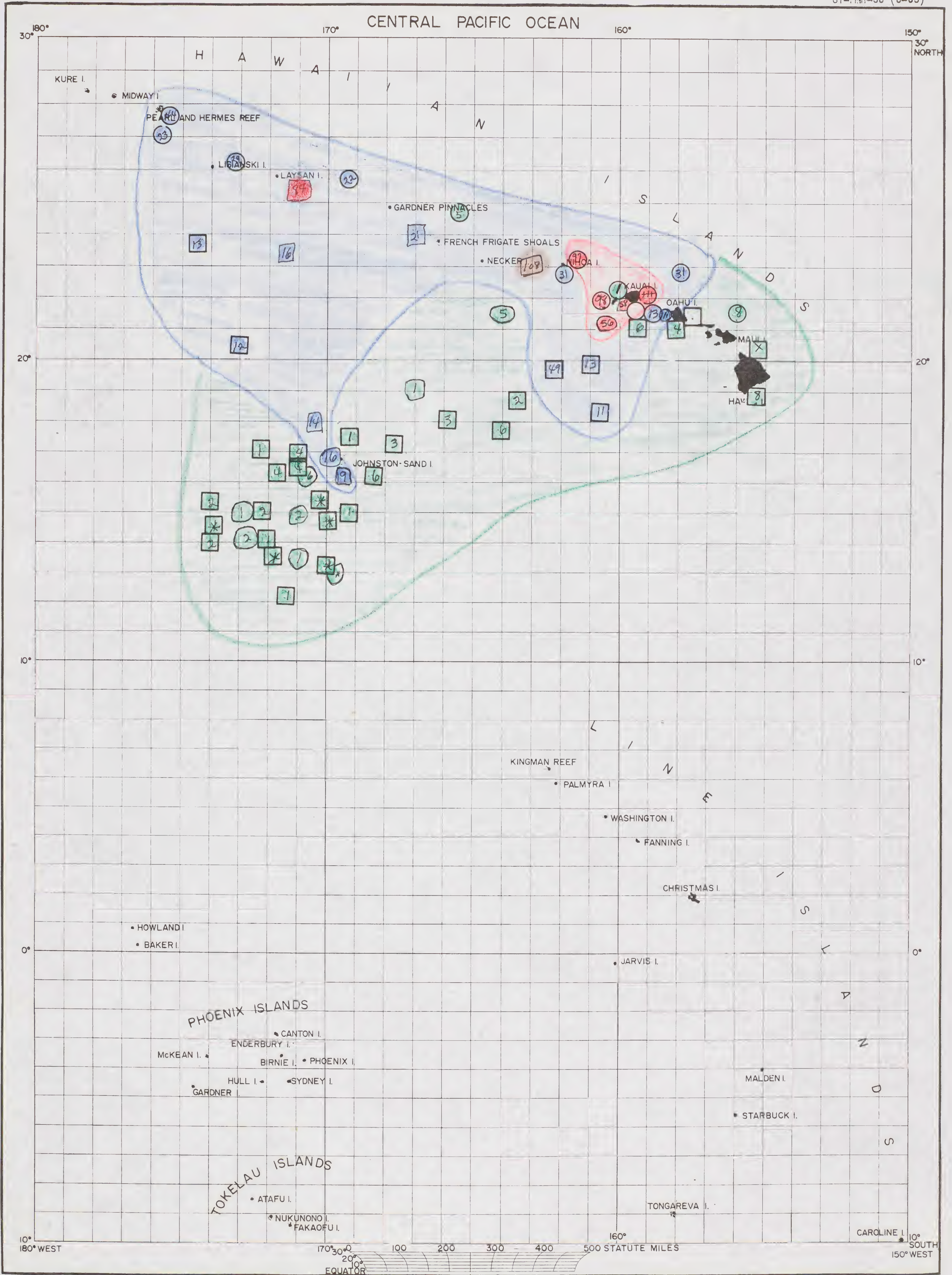
SI-MNH-38 (8-65)



- 1-15 August
- = 16-31 August
- = 0 birds
- ④ = 1-10 "
- (with 11-25) = 11-25 "
- (with 26-50) = 26-50 "
- (with 51-100) = 51-100 "
- (with 101-500) = 101-500 "
- (with 500+) = 500+ "

AUGUST

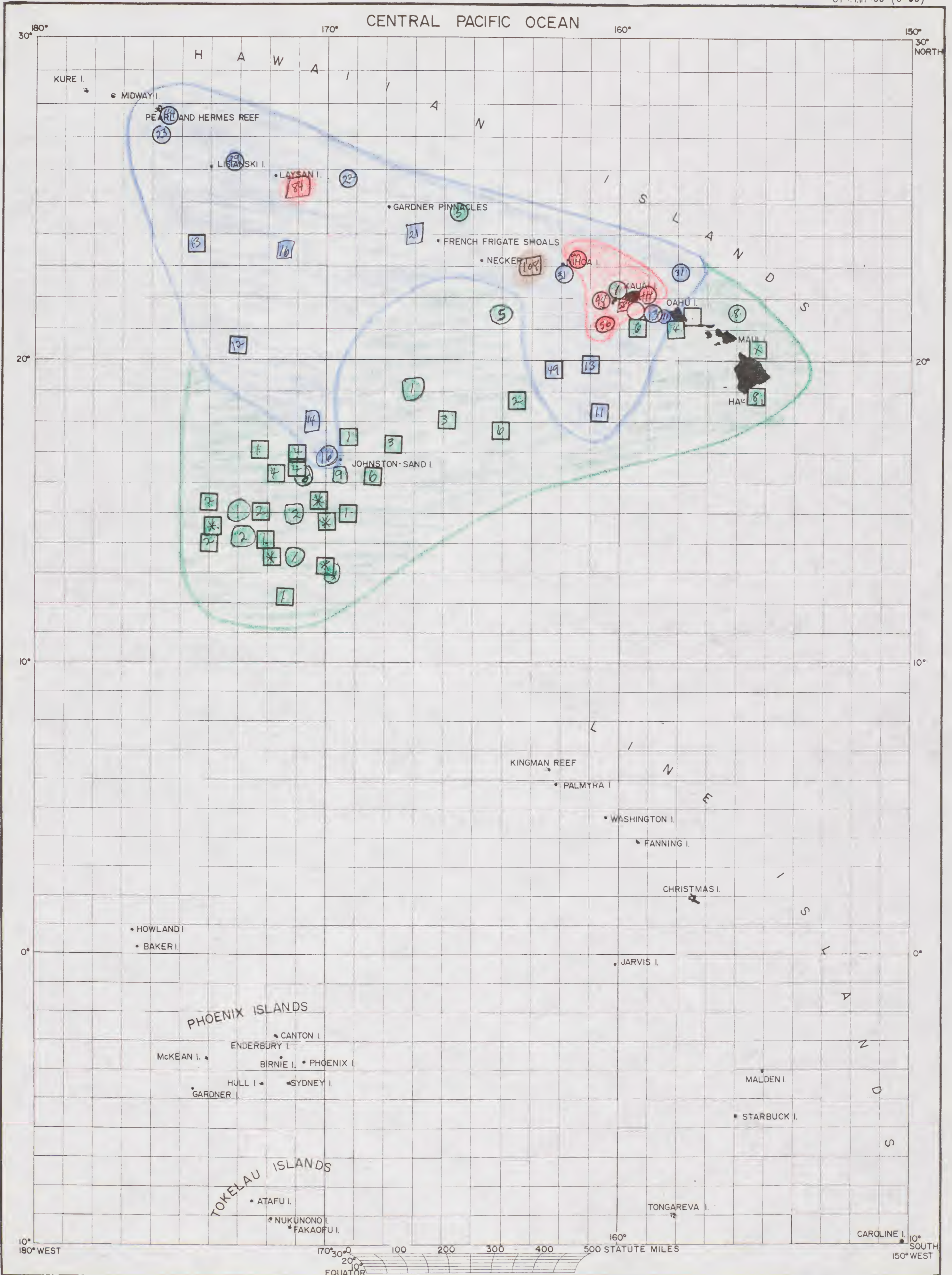
SI-MNH-38 (8-65)



- ☐ 1-15 August
- = 16-31 August
- = 0 birds
- ④ = 1-10 "
- (with 11-25) = 11-25 "
- (with 26-50) = 26-50 "
- (with 51-100) = 51-100 "
- (with 101-500) = 101-500 "
- (with 500+) = 500+ "

AUGUST

SI-MNH-38 (8-65)



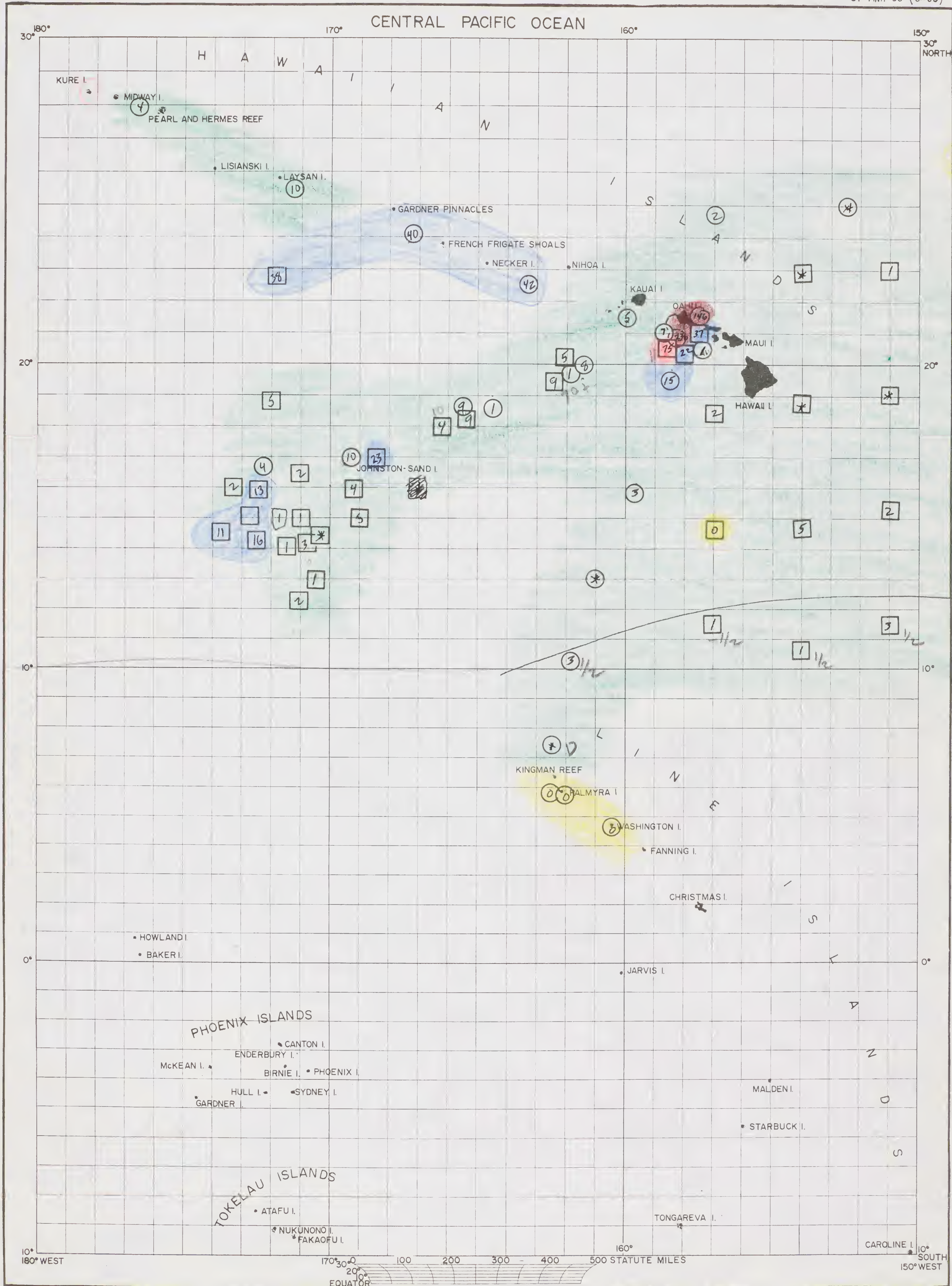
- ☐ 1-15 September
- = 16-31 September
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (solid black) = 101-500 "
- (solid black with dot) = 500+ "

WEDGE-TAIL SHEARWATER (*puffinus pacificus*)

At-Sea Distribution and Abundance

SEPTEMBER

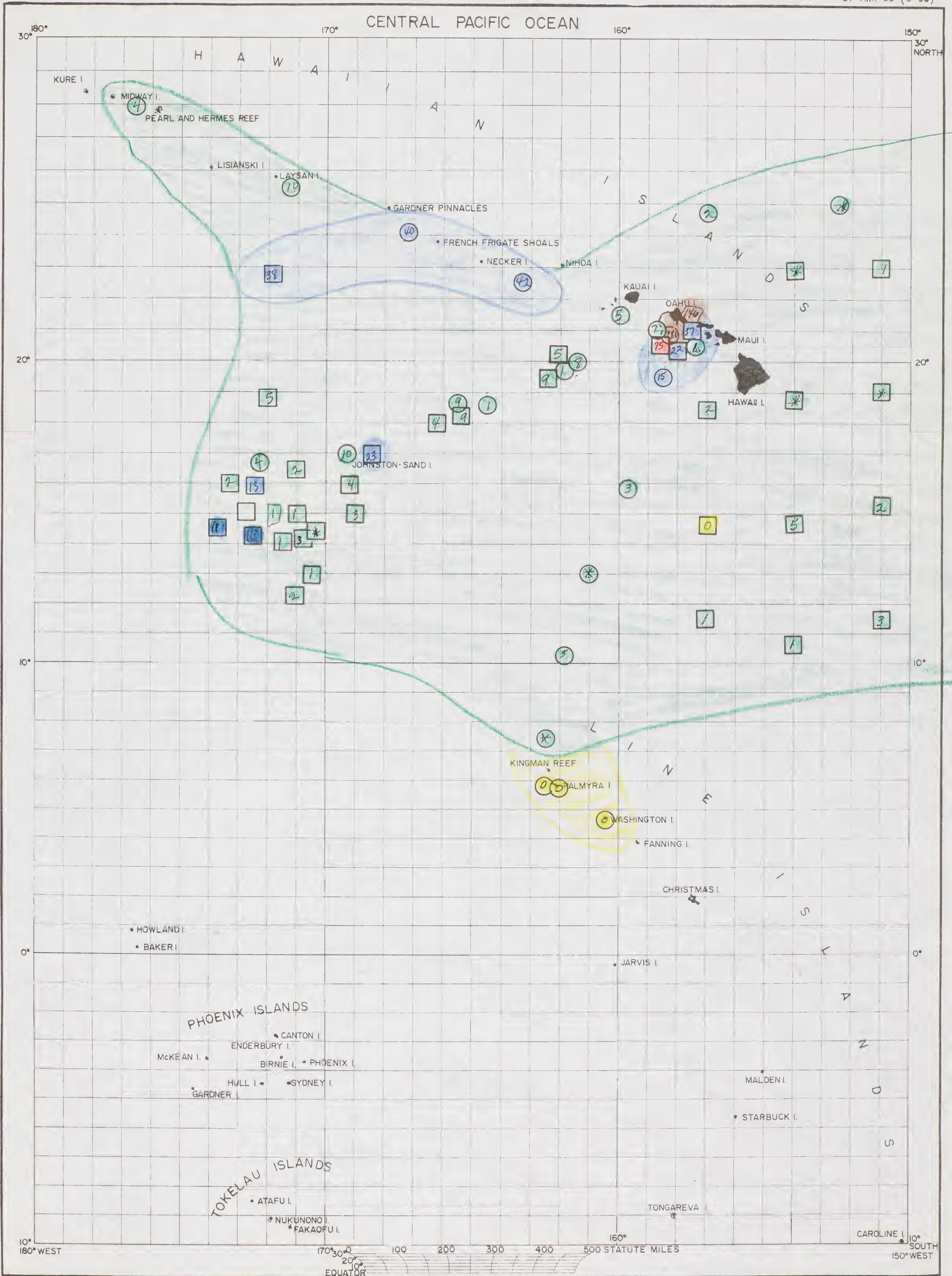
SI-MNH-38 (8-65)



- ☐ 1-15 September
- = 16-31 September
- = 0 birds
- ④ = 1-10 "
- ⊖ = 11-25 "
- ⊕ = 26-50 "
- ⊗ = 51-100 "
- = 101-500 "
- ⦿ = 500+ "

SEPTEMBER

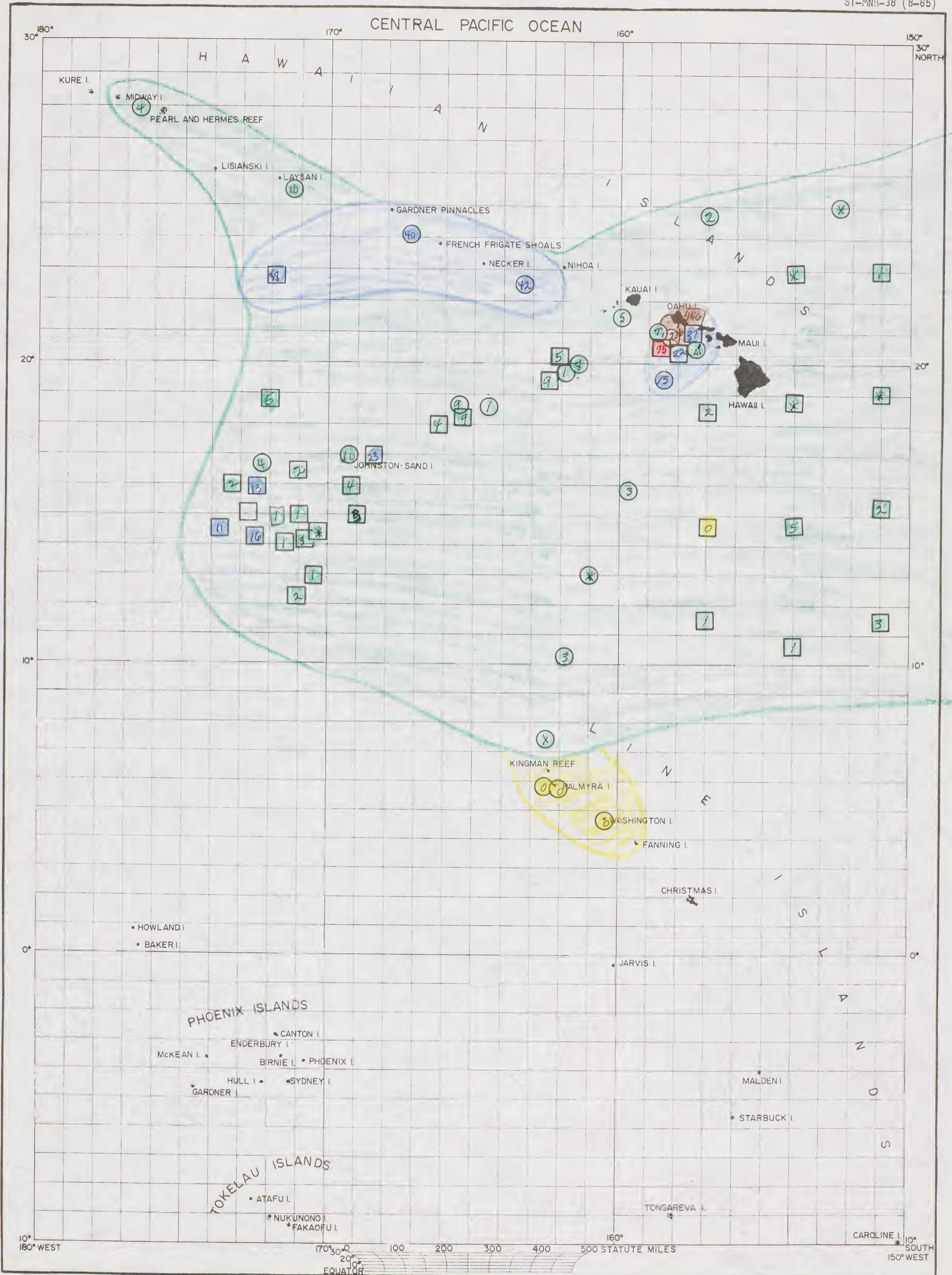
SI-MNH-38 (8-65)



- ☐ 1-15 September
- = 16-31 September
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (solid black) = 101-500 "
- (solid black with cross) = 500+ "

SEPTEMBER

SI-MNH-38 (8-65)



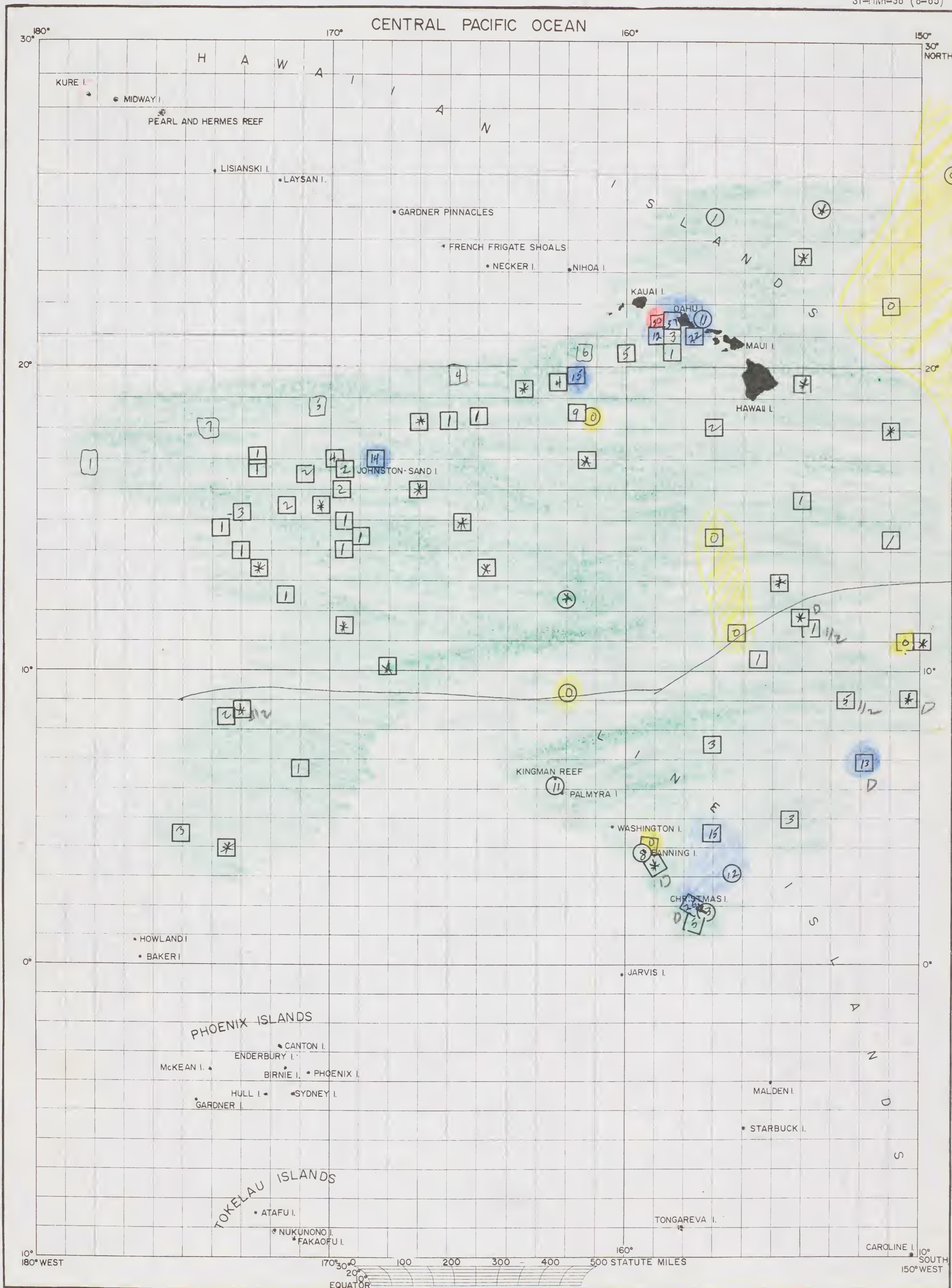
WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

- 1-15 October
- = 16-31 October
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (solid black) = 101-500 "
- (with radiating lines) = 500+ "

OCTOBER

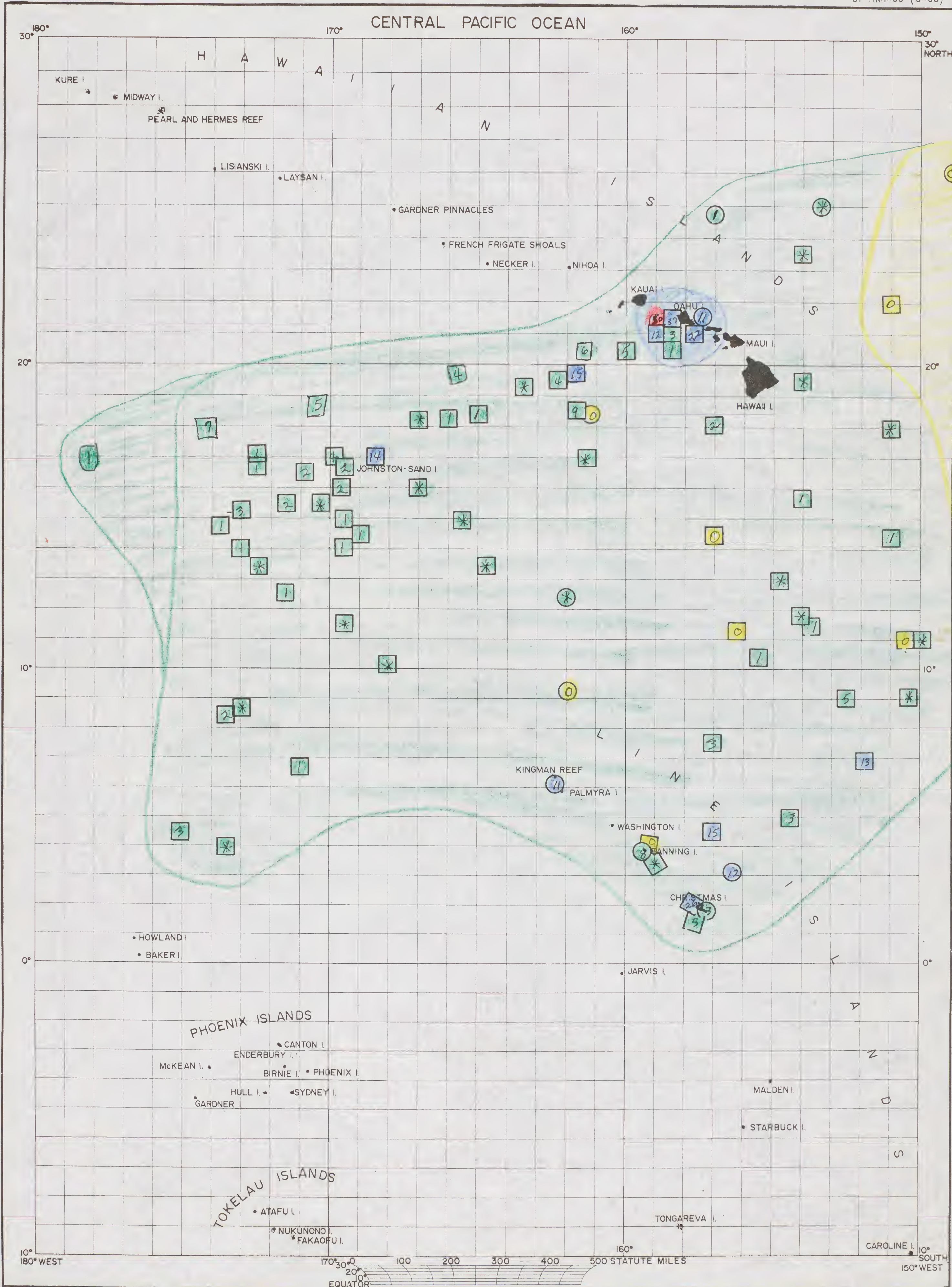
SI-MNH-38 (8-65)



- 1-15 October
- = 16-31 October
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- = 101-500 "
- (large) = 500+ "

OCTOBER

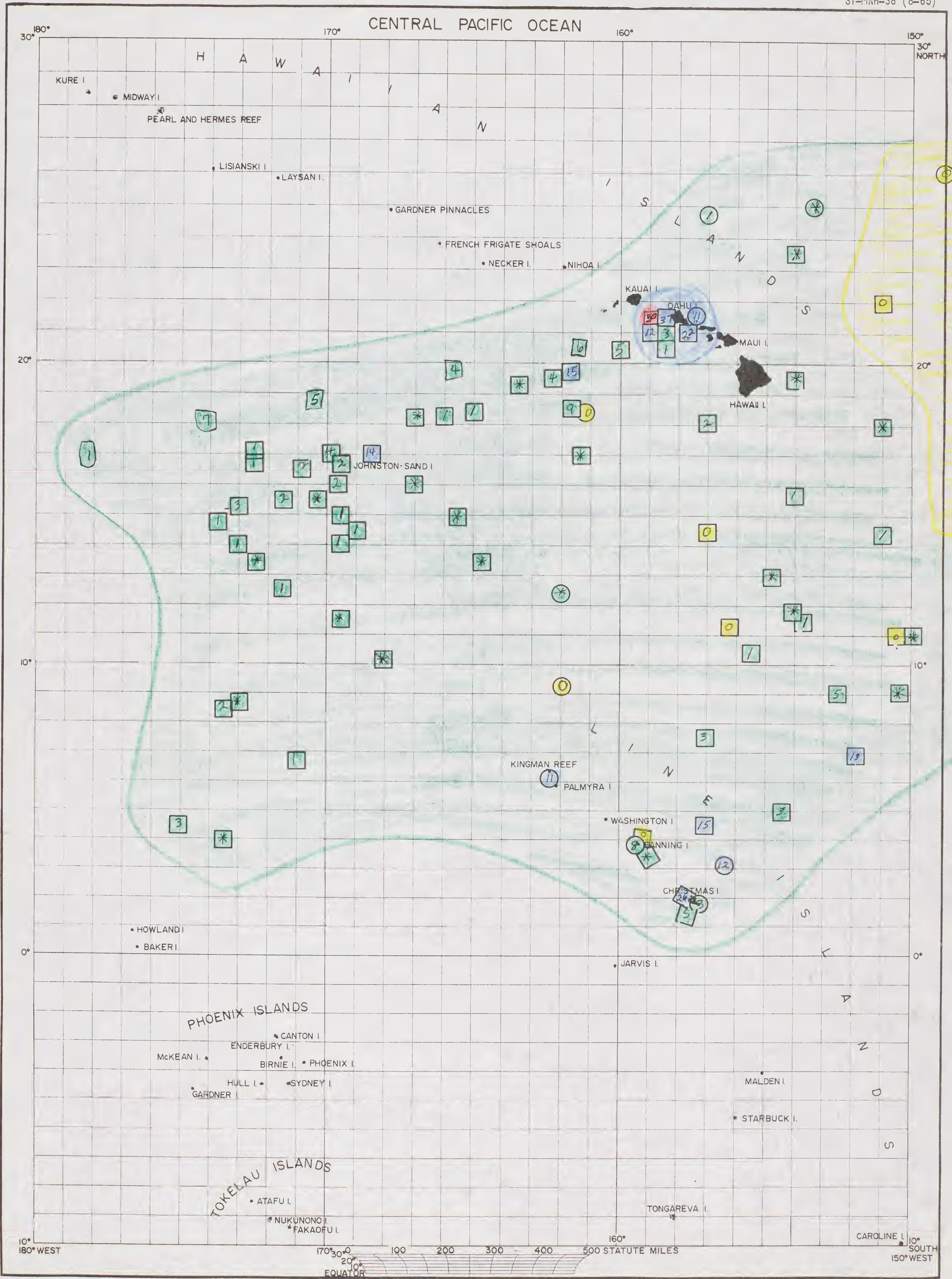
SI-MNH-38 (8-65)



- 1-15 October
- = 16-31 October
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (solid black) = 101-500 "
- (with dots) = 500+ "

OCTOBER

SI-MNH-38 (8-65)



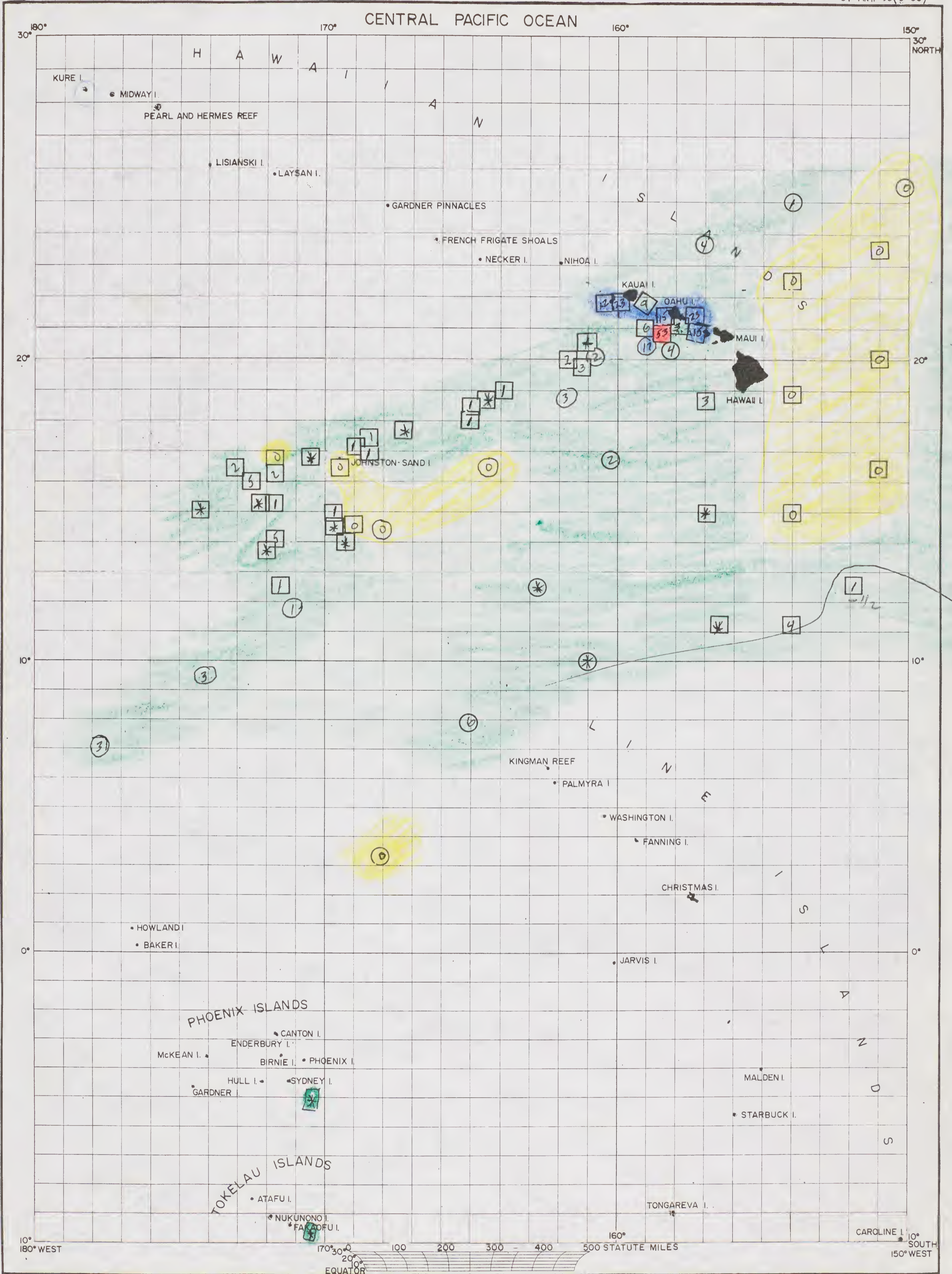
- ☐ 1-15 November
- = 16-31 November
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- = 101-500 "
- (with horizontal lines) = 500+ "

WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

NOVEMBER

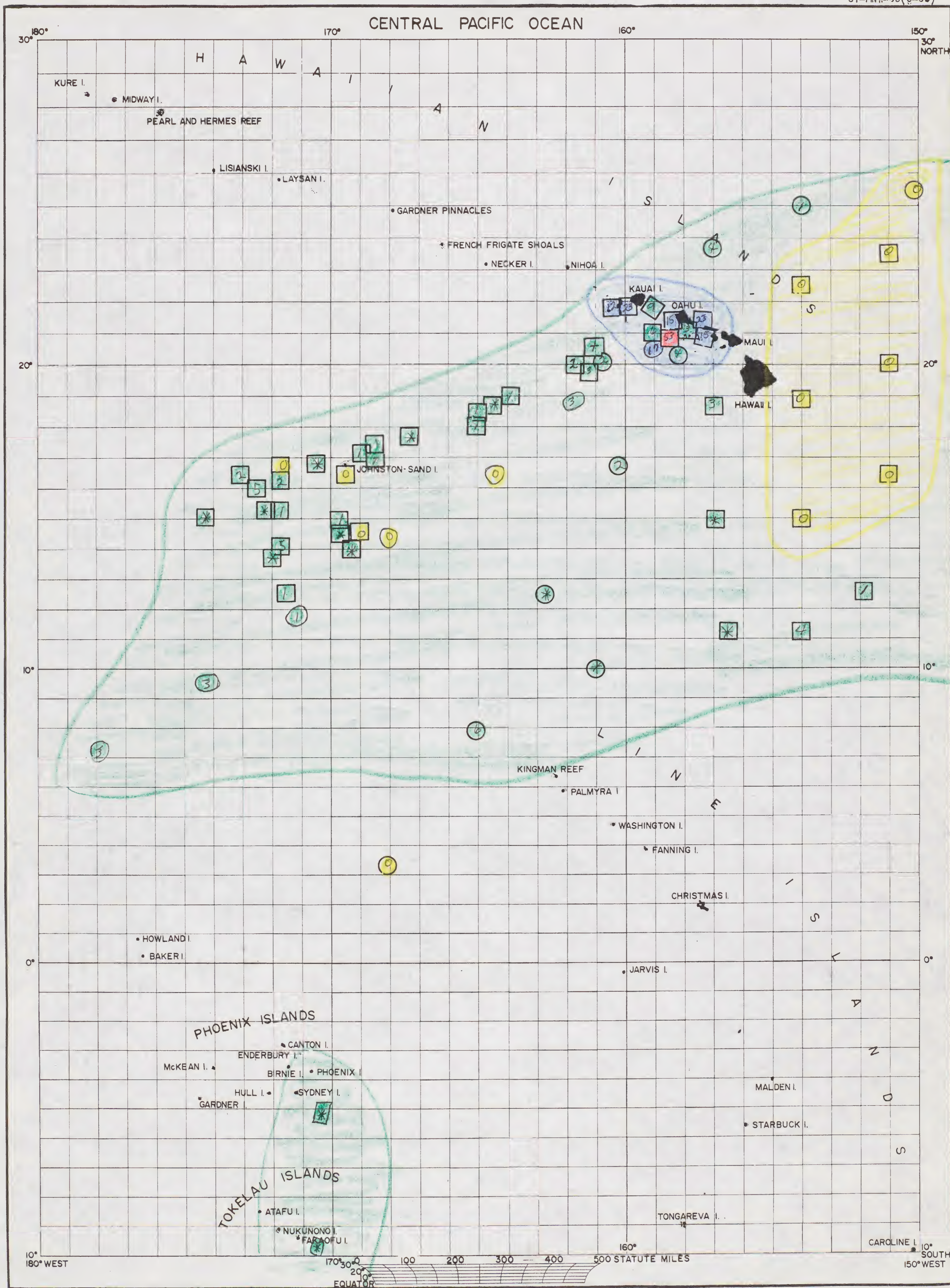
SI-MNH-38(8-55)



- 1-15 November
- = 16-31 November
- = 0 birds
- ④ = 1-10 "
- (with 11) = 11-25 "
- (with 26) = 26-50 "
- (with 51) = 51-100 "
- (with 101) = 101-500 "
- (with 500) = 500+ "

NOVEMBER

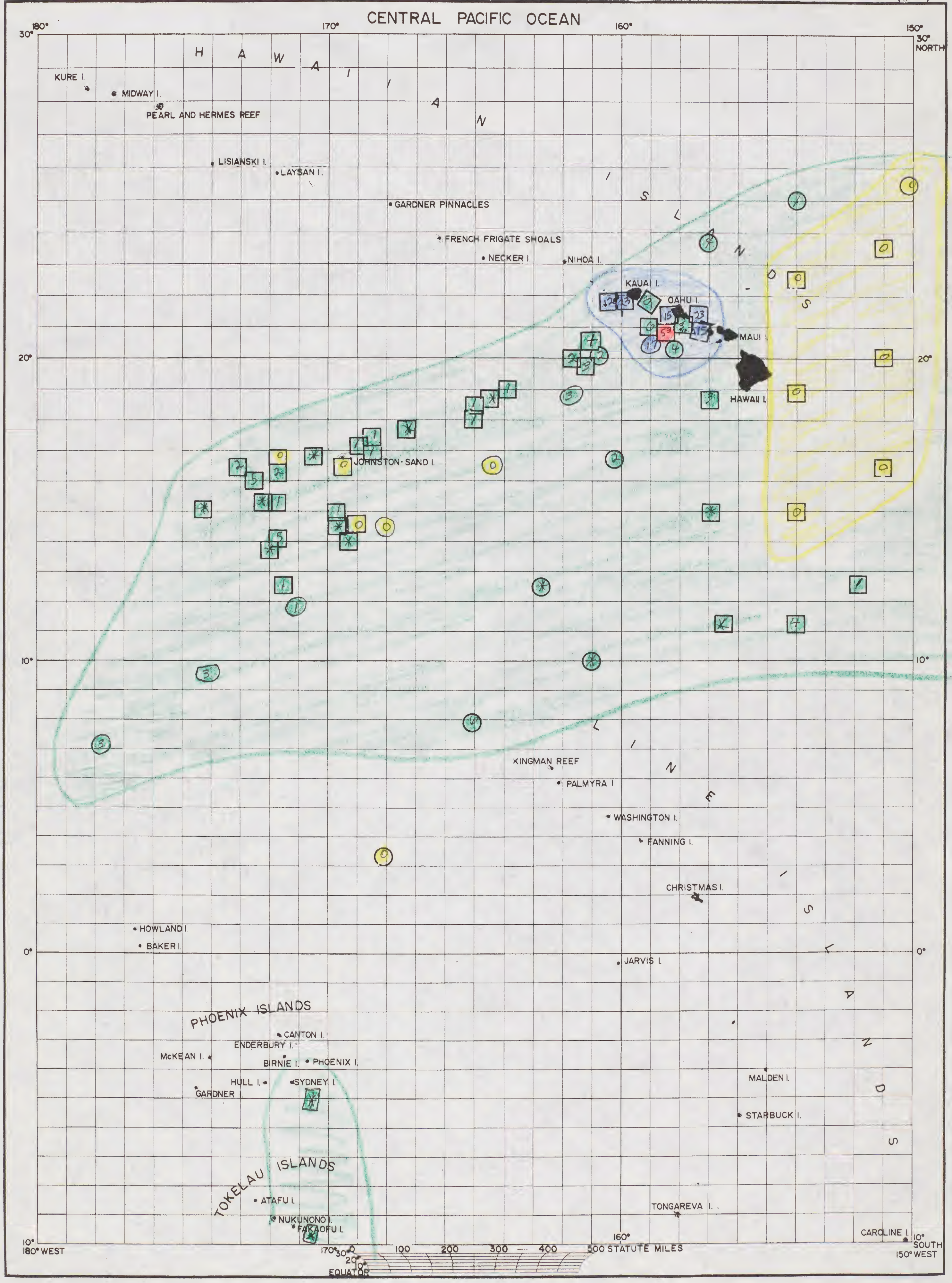
SI-MNH-38(8-55)



- 1-15 November
- = 16-31 November
- = 0 birds
- ④ = 1-10 "
- (with 11-25) = 11-25 "
- (with 26-50) = 26-50 "
- (with 51-100) = 51-100 "
- (with 101-500) = 101-500 "
- (with 500+) = 500+ "

NOVEMBER

SI-MNH-38(8-55)



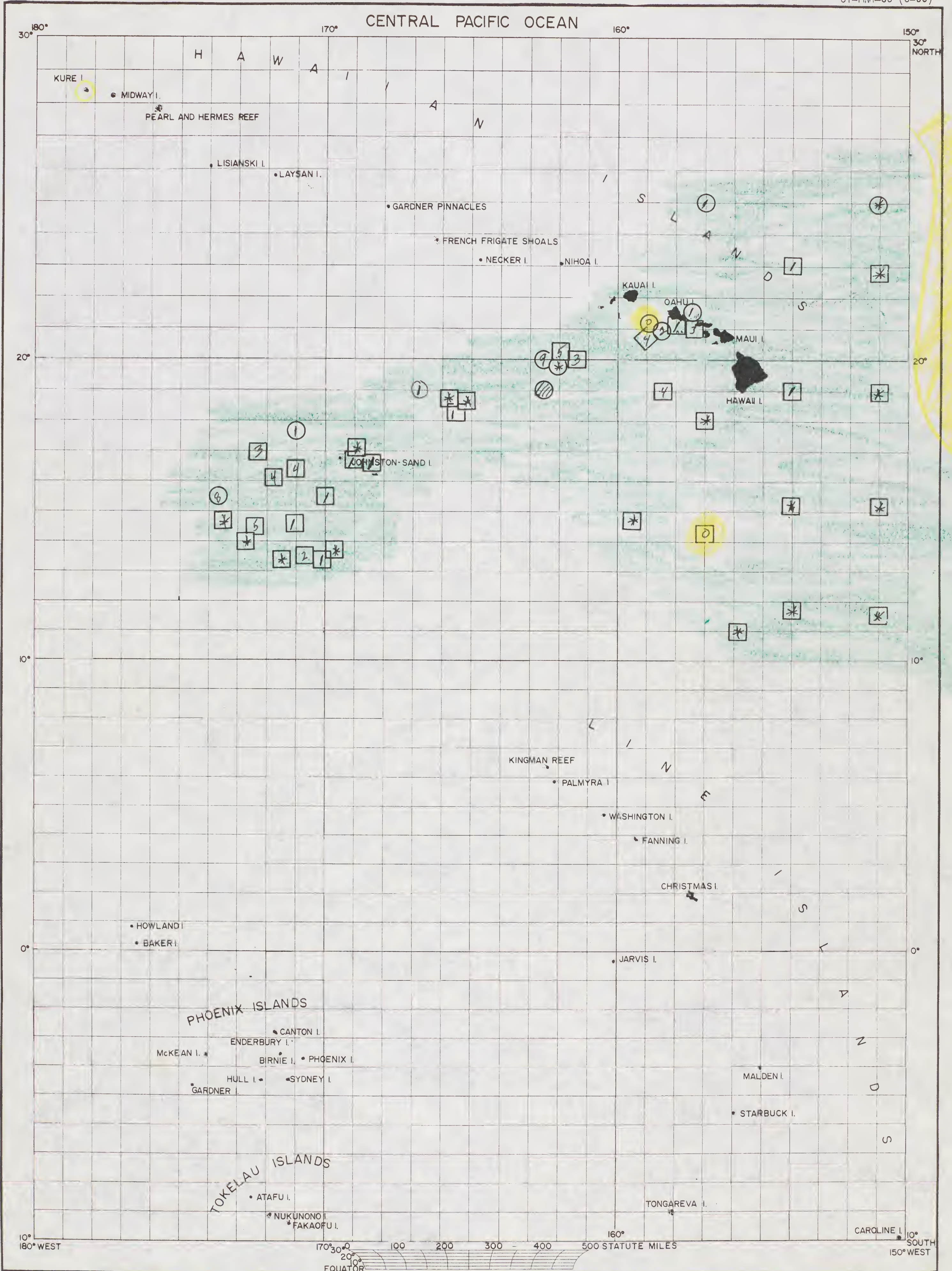
WEDGE-TAIL SHEARWATER (*Puffinus pacificus*)

At-Sea Distribution and Abundance

- 1-15 December
- = 16-31 December
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- (with diagonal lines) = 101-500 "
- (solid black) = 500+ "

DECEMBER

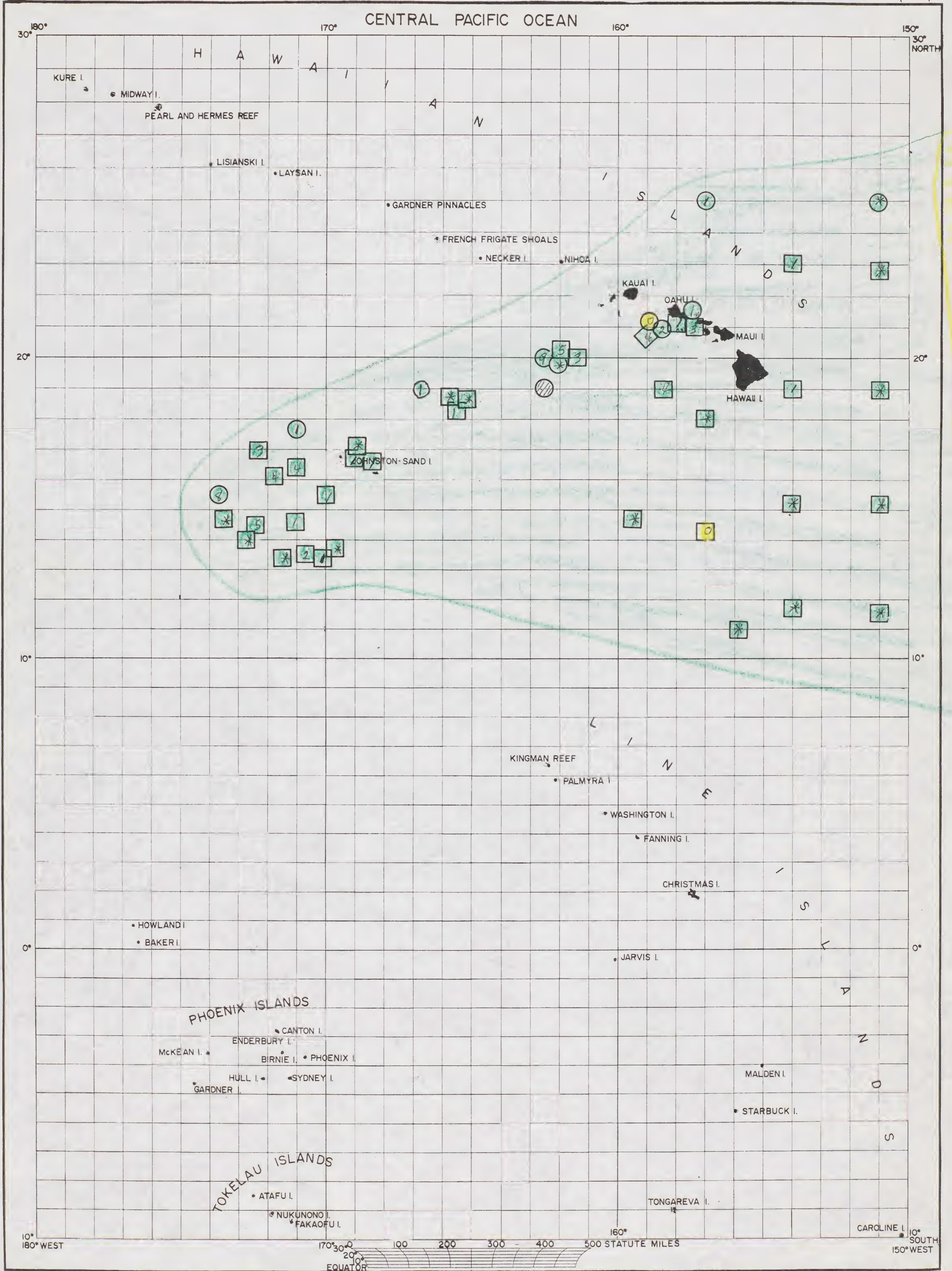
SI-MNH-38 (8-65)



- 1-15 December
- = 16-31 December
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- = 101-500 "
- (with horizontal lines) = 500+ "

DECEMBER

SI-MNH-38 (8-65)



- ☐ 1-15 December
- = 16-31 December
- = 0 birds
- ④ = 1-10 "
- (with horizontal lines) = 11-25 "
- (with vertical lines) = 26-50 "
- (with diagonal lines) = 51-100 "
- = 101-500 "
- (large) = 500+ "

DECEMBER

SI-MNH-38 (8-65)

