Species i Synodus sechurae

i				(*************************************	N														
	Date		Net No.						Len	gth	(en)	:					C.Weight	
1									19	20	21	- 22	23	-24	25	26	of S.	of S.	
	'88	7/29	II 145	FL	2	2	4	5	6	4	6	5	3	2	1		40	2.5(kg)	
	ana di Santa																		

Species + Illex sp.

÷.,		Specie	s : Illex	t sp.	·		st st		ente Second			• 		•			
Date		Net No	M/M				- ¹ .5	Len	sth	(cm)	·····				No.	ľ.Veight
				1	2	3.	4	5	6	-7	8	9	10	11	12	of S.	of S.
88	9/7	11 21	4 ML					2	10	22	14	2		1	1	50	0.7(kg)
				[.									а. 19. – 1	1	T		

Species : Epinophelus nigritus

Date N	let No.	M/H						gth	_	· · .	· · · · · · · · · · · · · · · · · · ·					F.Veight
			50	55	60	65	70	75	80	85	90	95	100	105	of S.	of S.
'88 6/30 II	62	TL		2 3 1	1	3	1	11	14	16	5	- 4	9		65	689 (kg)
																1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

-35-

T. Weight	of S.	4.3 (kg)	4.5	2.2	2.0	3.3	3.9	2.8	2.0	2.4	0.9	0:8	1.9		2.4	0.9	1.7	0.7	2.0	3.7	2.1				2.1	2.4		1.9	
No.	ືທ່	0								50	18	16	53		50	28	35	3		ន	50	ខ្ល	23	50	50	50	50	20	
N.	1s							- 	1				 										-						
	38															 										- - -		_	
	8	┢┯╸															_							_	 				
	33 34	+											 		-														
	32 3	+					 .				 :		 									1				• •			
	31	<u>+</u>		i														: : ::						·				: 	
	8	–															· · ·												I.
	8 29	+			-											<u>-</u> -	-							_					e National
	27 28											-		}	 				Ņ			لنب							
	26 13	<u></u>			[,										-													
	25	f	-									 		 										- 1	-				
	<u>}</u>	3.2					1 9	v -4			_									5			3			-			
C ED)	22 23	+			3			2		Ļ	 				****					60	0		r~1		-	3	┢		·
Length (1.		5 LA	[m	4	5	2	ω		~						}		<u>}</u>		8			2	2	~	ഹ		~	in the second
len	50	6	19	~	7	00	12	0	9	5			-		2		3			6	ŝ		2	m		Ļ.		2	
	}	~	╆╼╾	~	ω		. 15	╆╼	 	2	–	2	-4	<u>}</u>	6		2			10-	4	 	8	<u> </u>	1	5			
	7 1 18	1	18.110	۱.		13 20	+	1	5 12	┨		1: 6	15 8	<u> </u>	13 10	–	13 8			2	11 6		8	07. 0	01 2			2	
	16 17	+	┟──	+	<u> </u>	[[~	┣	4	14 15	5 IS	\vdash		17 11	-{	0	 	+	~	11	~	12 1		4	6	¢	5	5	17	
	151		}	╆	6	 	·			ເກ		†			6			9	15		2	~1	ŝ	~	~	00	13	4	
	141	2	ഗ	4	~		2		2				6		~	6	<u> </u>	13	જ	┫┈┈	3	[100 	Į		1-	10	1.	+	.
	113	+	101			 			-	-	-		╞╾	-	$\frac{1}{1}$	8	<u>_</u>	12	2	$\left\{ - \right\}$		3	4	' 	-		12	-	
	11 12		-	╞			$\left\{ -\right\}$				<u> </u>	-		+	+		-	-		-	┤┈		+-			+			
	101	-f	┟╌	┢	+		+	+	$\left \right $	┢╴		+	$\left \right $	+	$\left \right $	+-	+	+	<u>}</u>	+		 	+			+			1
<u> </u>	0										T	T	1									~			Ţ]
	[«			-		}			-		-		-		-				 	<u> </u>				<u> </u>	<u> </u>	+			
		 دير	=	1	=		=	=			=	=	=		Ē			•	-	:	=	-	=		1	-	T.	.	
NA + NA	14 10.	68	86	87	60	105	201		125	196	218	290	510	1	11 52		201	231	235	253	276	226	282	283	286	080	300 800	314	
	Date	11/10	17/ 5			> - -		19	21 62		-	11			5/18	2/2	7/14	01/0	0/11	0720	9/24		0/25	~	0//06	3	06/0	8/30	
Ľ	<u> </u>	1.87	1		1_					1_	ěž.	5]	1		1 X			1_]]	1	1	<u> </u>	<u> </u>		1	1_	<u>]</u>	
														•		36		. •				•							.'

.

T. Weight	of S.	_	7.0		2.8	-		2.3		8.3	2.5	7.2	5.6		4.0	5.9	7.1	1.4	1.5	1.9	1.3	1.1	1.7	1.7	2.7	3.6	4.6	2.6	· ·		T.Weight	of S.	
No	of S.	5	- TT	88	50	48	50	50	50	22	14	50	. 50		50	50	50	20	52	50	50	50.	13	50	50	48	50	20			No.	of S.	
-	8																													;		36	Ĩ
	8	ار <u>م</u>											·		- -																	35	
	2						L			2									_						: 							34	
	8			-		-				2																		1				33	
	8						<u> </u>			9			: : 																			32	
	31					<u>`</u>	 			1																						3	L
	8							-		2 3		<u>`</u>																	-	• •		30	
	81		4						<u> </u>	3	r-4				. 		2															53	
	2 28	~	2		ļi			-	<u> </u>	~		0			2			-								. 						28	
: .	26 27		2						 			8										╞										3 27	
	25	5	L						<u>·</u>			4			2		3															5 26	
	24 2	r-4	3								2	3			2	-									-	-		-				4 25	
	3	2	~	-	 .		-	-	***1		2	4				╞	2						3	<u> </u>				-				23 24	
<u> </u>	2					-			-		2	6		-		2	2				-						2				-	22 2	
ц С С	2		4	2					2		m	4		-	m	∞	∞				<u>.</u>		י. ניט	2	4		ŝ				B	21 2	
Length			2	12					4	 		∞	!	<u>}</u>	10	10	~	_				: •			5	<u>ل</u> ا	∞				sth.	20	
Len	19				ŝ	ŝ			~		1	5 IS			~	1	12								LS :	<u>ما</u>	14				Length	19	ļ
	13				10	·		ß	17.			m			, - 1	<u>о</u>	4				-	 	<u> </u>	3	3	∞						18	ļ
	11			R	14	80	100	4	7			4			3	80				5 L	2			2	ŝ	12	4	8				17	
	10	• . •		ω	8	18	8	12	4				8					9	4	9		 1	,	es.	4	10	2	8		-		16	Ì
	12				~	12	2	15					10			-		3	ŝ	11	4				4	ы	3	12				15	Ī
	14				-1	2	14	Ø					20		ŝ			6	10	15	07			S	ഹ	2		6				14	
	13		-			- '	∞	2	· ·		,	. 	11		5			3	~	2	<u>۲</u> -	m		07				3				13	
	12			· · ·			~						-1		8		 	14	m	4		20		100	G							12	
	=		7				. . .							-	2			11	16	2		2		۲-	- 2	_				.is	ŀ	11	ļ
e 1944	10		9	-]	 									 	3	မ	-2	ഹ	15]	2						rosti		10	
н 	6		14														, 		ŝ		N		[albi		6	
	00		11					-																						tus		×	I
	[r-		1												L,			·				·					-			iono.		0	
M/W		Ъ	11	11	$\cdot R^{2}$	<i>N</i> -	1	11.	<i>u</i>	. 11	. 11	"	"		6	:	F	*	Ŧ	:	:	:	:	-		=	:			. Pr	M/M		
Net no.		8	39	43	48	56	58	80	110	130	210	214	238 -		ເດ ·	44	64	74	- 62	-80	92	107	137	201	211	258	259	275		Species : Prionotus albirostris	Net no.		
N		8	14	15	16	17	п	4	16	1/7	24	"	31		6/14 II	27	6/30	2	ŝ		7/5	15	7/28	 ي	9	21		9/24		ŝ	X		ł
Date		/11 28.				н.		12/		.88 1/					88 6/	/9	6/	7/2	7/3	*	12	16	/2	6	/6	6	2	6	·		Date		
		لينت	ابــــــا		ا					ت_ت	ن ـــــ	.		•	لــــــــــــــــــــــــــــــــــــ	- 3	7 -			•J	• • •	• • • • •	فيرجونهما	•	•	•	•	· i			د		1
· •	•••									Š.						5	•																

		50 13 0(ke)		(2.3	-+	56 11.8	•	•	Ī	T. Vei	of S.	20 5.5 (kg)		8 2.9				No.	of S		87 2.7		50 0.98		35 1.1		1 3.0		64 1.8			44 1.2		2	50 1.5	50 4.5
		45 44								- 1	6 45 47	·	 	.: 					1 32 33																	
·		76 76						•			3 44 45								29 30 31																	
		04 - 85 -									1 42 43	 					1		82																	
		20						÷			9 40 41					•			25 26 27	:																
	1	<u>- -</u>	+ + C	7	-+		• . •				7 38 39	1							23 24 2						2		2						1. 1.			4
		32 33 34	3 7								35 36 37								21 22 2						2 4								1.			
		30 31 3 5 31 5 5	+-			6 1					33 34 2	2 1						(cm)	19 20						+		2 1			[1 3			
		10 10 28 3	-+-		_	13 8				(cm)	31 32	3 4		2			÷.	Length	17 18		1						6 2			2 1	2 3	1 1	2 2	1 - E	1	1
	censth	2 2 2	╋			5 17				Length	29 30	ю - -		- 2 -					15 16		1 1				2		6 1	1	11	4	1 3	1 3		2	9 0	۰ د
		24 63 0 0	+								27. 28	 							13 14	1	5.4	1	4		3 2		. 7 5		3 2	1	3 2	2 4		1 1	7 5	(
		57 F				1					25 26						•		11 12	6.6	17 20	21 9	22 13	-18 10	ມ ນ	14 13	15 15	12 8	12 15	10 11		6 1	11	ļ.	13 7	•
		17 07				2			-		23 24	<u>+</u>					• .		9 10	6 6	10 19	19	10	3 15	3 4	18	1 2 2	3	3 15	1 10		·	+	2		
00+									namensis		21 22			-+			G		7 8	2	216	1	 						 							
5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2111000	16 17							setta par		19 20				' 		us siern		15 16					0		 								 	6 	
. Ulteronalogoring totrochthalmus	W/W N/W	- - -		1		TL			Species : Cyclopsetta panamensis	W/W	- 18		1	Ē	1		: Pontinus sierns					"		"		TL	=				5					
č	Species Net No.		130	337		11 274			Species	Net No. M/M	2	120	2	11 36			Snor oc	Not No [N/N	2	69	20	124	270	. 273	347	11 15	1 ·				f \ { 4		-		-	-
	Date		88 1/ 7	2/27		11 82 9/24 II	1			0+0	הסרם	2 1 2	00	00 2 /0E	00 00			D=+ =	200	87 11/10	19/ 7	21	. 28 . 2/10		3/ 2	88 6/15		6/28	7/2	7/18	NT / 2		0/10	AT	11/0	9/ FS

We ight	Ś	2.1(kg)			. ·	1 	Weight	S.	6.8 (kg)	6	3	5		1		· .	3	· · ·			·	ght	S	(Kg.	
. ie	of	તં						2.1	- ·	1.1	8.6	26.5	1.3	2						÷		I.Weight	of S.	9 . 5	
No.	of S.	- 67					9	of S.	29	15	33	- 02	40	43		57	50	÷-				No.	of S.	96	
ļ.	ន្រ្ត				11 - -	din di secondo di	 	8						<u>.</u>	2 2	·	·					_	38	 	
	34					1112 113 113		37		•						- 						-	37 :		
	R			a da Te	 			36	· : :				1. <u>1</u>	 - -	-								36		
	3	1.						35															35	· .	
- 3. -	5							34				ю											34		
	8					: .		33	· ·									• •					33		
	67				۰ ۱			3			i	4			,					•			32		
	প্র	5. 1. ji						55			1							-					31		
	27					х 15 с. ж.		30				_∞							:				30		
. - -	প্ন				÷	n sei Eine	· .	29				[l.		53		
	25					: 1		28	ŝ		2	∞					а. 1						28		
	2							27			1137 213												27		
	ន							8	ဖ	2	6	ຊ	. ·										26		
	ន	-			• • •	l Solit Politi) E	5				Ľ.				 							52		
ਸ਼ੂਹ 	5						\sim	24	j∞	~	വ	8	Ĺ	 	ļ		ļ					EU U	24	 	
Length	8				;	5 11 - 1 2	Length	33		Ŀ			ļ	<u></u> 1	 	ļ						Length	ន		
ي ت	61	·			•••		Ľ	ង	တ		22	2	ļ	-	 			:				Le.	ន	~	<u> </u>
•	18	4						5						8									5	2	
	11	<u>۲</u>						ເ ເ		[N]	4	14		1-4			 						20	17	
1.1	16							19		L		 	. 			1							19	15	
	12	14			•.	•		18		2		~				2							18	13	
	14	3 17			-		[.]	117						3									17	8 10	
a Ag	13	7 18						5 116			- -1	ន		9 0		2							5 16	ļ.	
	1 12	1.	-		•		· ·	4 15		<u> .</u>		m	ŝ	12 (/ . 	2	4	н 1. н					4 15	<u> </u>	
	11 0	5 11	· · · .					13 14			Ľ	8	17	7 1		m							13 14		-
:	9 10		· .	· · · ·	•	٩ ٩		⊢			M	~	11 1	3			22 11				uda		12 1		
	8				• •	gnif		11 12		- 		12	9	ŝ		11	6	h.,			lica		11 1		
	6					s S		10 1		╞					,	21 1	2				macu		10 1		
	6					thia		1 6				-				13 2					lon		[] 6		-
	L	: 3				leman		l _	نيم				-	 	<u> </u>	<u> </u>					faenu		I _		-
I/M		Ц					N	:	 G	٩.	11	*	"			ਛ	F	•.				Ŵ		(1_	
Net No. M/M		II 40				Species : Hemanthias signifer	Net No. M/M		78	86	113	121	274	286		61	290		:		Species : Haemulon maculicauda	Net No. M/M	e N	133	
Ne		П				Spé	Net					<u> </u>				=	1		•		Sp	Ne	•	<u> </u>	_
		6/26						чę	2/ 7	∞	17	ສ	2/11	13		6/30 11	9/26		ي بو					1/7	
Date	. i 2 i	88					Date		87 12/				88			88						Date		88	
· .			•			. 1 <u>4</u> :			<i>م. ز. ب</i>	.			 ,	•••	-	3	9 -	-				•			**

•	딾		(kg)]	
	.Weight	S 4				
	<u>, , , , , , , , , , , , , , , , , , , </u>		9.5			
	•	of S. of S.	96 90		·	
:	<u>8</u>					
· .		38				
	•	37		_		
		36				
		35			_	
		3				
. •		34	· 			
		33				
		32				
		31				
		30				
		29		÷		
		28				
		27				
		26				· · ·
:	~	25				
	Length (.cm	24				
	EP (R				
	eng	2	2 2		ļ	
		21 2				
		5	10			
		20	117			
		19	15			
1		9 10 11 12 13 14 15 16 17 18	8 10 13			
		17	2			
		16	8			
		ы. Б				
		4				
		~	ļ			
da			<u>:</u>		 	
cau		12	 		 	
cul		H				
EII (10				· · · · ·
ulor		07				
aen		<u>i</u>	 	-		
эт ••	N.		ן ר			
ries	2		ŝ		[·	
Species : Haemulon maculicauda	Net No. M/M	•	133			
	F		~]	 .	• • •
			88 1/ 7		. * ·	
	Date		88			
.'	L	~~~~	1	I	ļ	J

.

r Vaiaht	s.	3 (kg)				4	4			T. Weight	s 4	15.0(kg)	25.0	0	13.8		11.0	22.0	31.0			T. Weight	of S.	23.0(kg)	6.0	11.0		
r. L		2.3		1.3	· .	3	સં		5			+				-	أمغيت					É		· · ·				
	of S.	6	73	21	. 1	8	53				of S	53	27	27	33		3	36	\$			No.	of S	50	∞	22		
NON						 			•	No.			ŀ			_						Ž	<u> </u>	12	 	 		
Ì	36			ŝ				.			67						··· . 	-					6 4					
	35			 							88					·		pc.	''i				8 4			: 		
	34										62 62			. 2		•		ED					47					
	33			2							54		-					6					\$		e :			
	1 1										63			_			-			· ·			45			2.1		
	32			2							82	+	4			-			2			. *	44					
	31										61 6	1		 -	<u></u>				2				43			<u>ندين.</u> ا		
	g											1-1		2				~	3									
	62				· ·	ļ					8	<u> </u>	<u> </u>			_					1.1		42					.
l	28					4		••			53	ł	Ŀ					4			· ·		5					
	27	[~					8		4	0		÷		~	~	÷ .			\$				L	
	56	2				m	~				5		ŀ						~		,† ÷ ,		ន្ល					
	25					3	2		1		56		4	4				3	4	· .	•		ĸ					
	24										22							3	~				E.					
						m	i							G			-	2	4			~	ŝ	5	2	- <u></u> 		
E	23	- 1					2			6 0	53	1										B	35		r-i			
1.	. 91	2					2			th th	2	<u> </u>	1			\neg		2	-	111	:	th (34 3		~			
I aneth (ā									Length	52								_		* . *	Length	┞}	2 				
-	"ณ					2				·	5	1			· 	_		~					8					
	6 1		-			~	9				50				3				\sim	•	· .		R	3				
	18	~	1		, i						49								~	e e e e e	.*	.*	31	ŝ		2		
	21		1			3	4				48	ഹ	3	~	Ξ		é		4			-	g	4		ŝ]
	91		2				2				47			_1	1				[•		_	ي. ي		2 2		
		2	11							Į	46	6		3	의		5		3	•		· .		Ħ		ŝ		
	12		16							l	45				-		~							~				
	14	4	12 1			-						6			20	_	3					 		4		-		
Į	E E							-			44								_				8					
	12		- 22								43	i		_					~		lej e			∞				
			- 2						÷		42	4~			~						, vi	. ·	ا ست	ŝ				
Species Synoous Sciuliceps Net No. M/M	2	13	2						tus		41									· ·	ensi		ន	:				
	67	11						•	ខ្យាម		40]				มอนธ		2	5				
	ω	7							, Ju		39										d S		51	1				
3	~	4							e lus		38				_		-1	-			lasy		ন্থ	· • • • • :				
		<u>د</u>				$\left \right\rangle$			/ust		<u>.</u>			-							oma(-		<u>:</u> ר,				
Ì		٢٢	"	11		ਛੋ	2	•	•••	Ê		ר. 1 ג	2	<i>n</i>	1		리	ŧ '	r		<u>م</u>	M/W		ר בי	n.	=		
Net No. M/M		34	101	223		58	2	÷	Species : Mustelus lunulatus	Net No. M/M		39	78	83	187		26	3	65		Species : Pomadasys panamensis	Net No. M/M			198			1
Net			ž	2		II 2			Spec	Net			~~	30	30			S)	ဖ	ute di A	Spec	/et		130	ñ	211		
F		3		ģ			8					4	3	S	9		8 11	80	2			-			18	24	$\left \right $	
4		12/	"	1/26		6/29	6/30			0		.87 11/14	12/		1/16		6/18	6/28	6/30					17		$ ^{\sim}$		
Date		83		88		88			÷	Date		20			88		88					Date		.88 1/ 7				
•	<u>-</u> -4	J		I	••••					b a	•••	4 .	<u>ب</u> ــــ					<u> </u>		۰.	te se e	к		-	للمنت	ا ـــــــــ		1
															-40	، + ا					· · · ·							

.Weight	of S.	1.5 (kg)	2.8	1.2		2.2	1.7	2.8	1.2	2.8	14	2.8	53 2.4	1.7	1.6	1 5		· .	L. Weight	of S.	11.0(kg)		e.				Neight	of S	$\beta 1 (kg)$
E	of S.	35	42	31	÷	2	50	88 -	33	87	50	20	53	50	50	33				in	51						ļ£:	s.	<u>†</u>
No	of		42					1.11										· .	2	цо Го							N N	°.	
	ы			- 3.		1														33								150	h
	2												 -							88									┢
	8						 -					<u> </u>								37								0 145	┞
	8	-							·	 			-															5 140	╞
	}																			36	-							135	╞
÷	8				4. 	<u> </u>														33								130	 _
	8							11 - 11 				. 			 					34	<u> </u>	-				. *		125	
	8		: 																	33								120	l
	প্র										•									8		ļ		1				115	ļ
	27		14						2	· .										31				•				011	Ì
	32																-			8			 · .					105 1	
	গ্ন							<u> </u>							<u> </u>					প্ল		<u>}</u>							
	24	-											-	-	<u> </u>					83								95 100	
			-			╞			- 77					 							8						-		ł
	8											<u> </u>	<u> </u>	-	·	ļ				127								06	ł
() ਸ਼ੁਹ	8													ļ	 				-	58		 	 					85	ł
	1				ļ							:			L				ž								ž		
Length	ຊ									Ŀ			· .				 !		ير +	24							<u>ک</u> †	35	
٦	12															~			anoth	្ពុន	14						4 40000		
	87					بي										2				ส	0	Γ	ľ		•			85	
:	2		2			2	-	6	2	-		1			1	4				21	3		1					60	
	10	2	ъ	2		4	-	3	2	m		3	4	[2	7				8	-							55	+
· ;	5	S	4	4		2	m	5	2	00	ŝ	പ	ŝ	0		4				6			-					50	4
]4	9	11	ි ර	<u> </u>	6	6	0	6	2	6		13	10	10	4				18]								45 6	4
	┝	12	2	G		4	16	13	G	- 2	18	m	<u>}</u>	1	15	-				1 1								40 4	-
	2 13	<u> </u>	, 6	2		4		l÷-	در	₽				Г 6	1					1								- .	4
	2		: 	-		{·	18		14	12	<u> </u>	+	17	 						136			ļ					35	ł
	F	-	4	4	. <u>.</u>	¥ ~ .4 	2	2	<u>م</u> ا	တ		မာ	5	4	5					15		 	 					3	4
	10		, .					8	3	∞	ŝ	~	[2						14		 						25	-1
	6					တ		17	1	∞	ິດ		<u> </u>	 	~					13	<u> </u>							8	
	8			· .		19		8	1	10	ė				m			1 4 6 4		12						-	LXa(12	
	2					G)				4								ي. پ	0							-	C a	9	
	9		 2 y j					1				-						, act	2000	10	Γ						e n	2	
Net No. M/M		F L	11	<i>""</i> "		ੇ ਕ	3		 F:	Ŧ	I			- - -	с.	:		Snaniae : Domadaeve hoaniati	N/N	<u></u>	11					4	Species : brotula clarkae		
Net No.			26			<u> </u>	22		÷	160	23	28	229	234	304	305 -			Net No N		6	 					Species :		
Net				347		6/16 II 19			3	J			3		х. С. 1	3(; ; ,	SP02	Nat Nat							ć	Sper No+	2	
		219	1	3/ 2		3/16	6/17	7/2.	7/3	8/1:	6/6	01/6	1	11/6	9/28	:	•				8								
Date		87 12/ 7		.88		*88													Date		.87 11						Da t o	2	
L		[ع]			ليبيه			Ļ		لننا	ليتما	l		L	I	<u> </u>		· .			1	L	L .:	l			Ľ		1
۰.				· · ·												4	1												

Recording Data of Trawling Research Survey by Nisshinmaru No.201. 1987

	3		.8 10-04.1	.4 85-48.2	15-55	65	-4 10-05.4	.8 85-49.0	16-25	51	30	3.4	330	300			50 BC	I.S.				29.2 29.2		≠	7.0 12			
	67	Nov. 9	4 10-02.8	85-47	14-47	69	5 10-01.4	85-47.5 85-46.8	15-17	72	30	3.0		~ 	10	al Normal	BC	SE					×	z	80			
	ŝ	~	9-59.4	8 85-46.7	13-32	83	2 10-00.5	5 85-47.	15-02	84	30	3.0	140	400	13	Normal	Ü	MS		1016	.5 31.0			2	7.5		 	
	ŝ	z		85-44.8	11-46	104	9-56.2	85-44.0 85-45.5	12-46	101	30	3.0	330	200		I Normal	BC	SE	ŝ	1017	3	7 29.1	X	ź	ন্		 	
	3	z	9-55.9	85-45.0	10-18	8	9-54-6	85-44.(10-48	28	30	3.2	140	400		Normal	: 8: 1	SE	2	1018	32.0	8	*	NN	ळ ज			
	3	Nov. 9	9-49.7	85-33.5	07-45	78	8-49.7	85-35.0	08-15	92	30	3.0	280	350		Normal	S	ΝN		1017	28 5	28.6	W		8 8 9	1990. 1990. 		
	8	Nov 8	9-46.4	85-36.0	15-43	104	9-45.5	85-35.2	16-13	105	30	3.0	135	450		Normal	BC	SW		1015	30.0	28.3	¥		8.2			
	3	Nov. 8	2	85-28.4	13-30	121	9-44.2	85-29.5	14-00	115	30	3.0	325	500		Normal	BC	S	2	1016	30.0	29.2			19.0			
	3		4	0	11-30	63	9-48.5	85-28.5	12-00	59	30	3.0	85	350	14		U U	Sec. 1	2	1017	30.0	29.2	X	and a second	109.4			
	3	Nov. 8 N		85-29.6	10-15 1		9-47.4	85-30.8	10-45	87	30	3.0	315	450		Normal	BC	S .	4	1019	29.5	29.0			4.6			
	3	Nov.8 N	9-43.7	85-25.5 8	08-50 1		9-44.5	85-27.0 8	09-20 1	88	30	3.2		450		Normal	ည္အ	N	T	1018	31.0	28.8	X		4.7		 	
	~	Nov. 8 N	9-44.2	85-22.7 8	07-29 0	62	5	<u>ب</u> ا	07-59 0	62	30	3.1	305	350		Norna]	8			1016	28.5	28.8	W		72.4		 	
	e S	Nov.7 No		85-19.4 85	15-45 07	60	9-43.3 9-45	85-20.5 85-24	16-15 01	58	30	3.2	315	350	14	Normal	່ ເ	S		1016	31.0	29.2	N v		14.9		 	
	3	Nov.7 No	9-38.4 9	85-19.1 85	14-20 15	88	9-39:0 9		14-50 16	1	30	3.0	290	450	15	Normal	69	S	m	1016 1	30.0	29.2	X		2.2		 	
			9-36.9 9-	85-14.2 85		68	9-38:0 9	85-15.3 85-20.5	1	1	30	3.2	320		12	Normal N			6	1017 1					15.6		 	_
, --	(m	7 Nov. 7	0		8 12-54	85	Ø	85-09.9 85-	8 13-24			-					8		2		0	0	M				 	
	m	.7 Nov.7	3.0 9-31	0.7 85-08.4	9 10-38	, 				1		3.4	290			Void				9 1019	0 31	 			0		 	
	с.	Nov.7	(N) 9-33.	(W) 85-10:7	5T) 09-29	12 (m)	(N) 9-32.9	(N) 85-09.1	5T) 08-59			<u>~</u>	120	(п) 280	E	Void	A	z		(mb) 1019	(°C) 31.0			SE	(kg) 0			
	Survey Area	Survey Date	on lat.	long.	Time of Start (LST)	of Start	on lat.	long	inish (L	1.0	15	speed (k	15	[State of Haul	Meather	Wind Direction	Wind Force	sure	10.0	1 0	Bottom materials	Current Direction		Remarks		

2 2 2 1	2 2 2 Nov.11 Nov.11 Nov.11 10-20.5 10-24.2 85-57.5 85-56.2 10-31 11-49 11-49 11-49 72 72 70 12-19 10-22.2 10-25.6 85-56.2 11-21 11-01 12-19 30 30 30 30 30 30 345 3.2 2.9 355 400 350 10 12	2 8 Nov.11 10-20.5 2 85-57.5 2 85-57.5 10-31 72 72 75 75 30 30 32 345 30 400 10 10 10 11-01		2 2 Nov.10 Nov.10 10-09.1 15-37 15-37 15-37 15-37 15-37 30 90 90 90 90 90 90 333 330 330 500 500 10 10 10 10 10 10 10 10 10 10 10 10 1	2 Nov. 10 10-11.0 85-53.1 14-10 14-10 14-40 71 71 71 71 71 71 71 71 71 71 71 71 71	2 Nov.10 10-10.0 85-52.7 75 12-33 85-83.2 75 75 75 75 72 30 3.0 350 350	2 v 10 v 10 v 10 v 10 0-59 0-59 0-59 1-29 95 95 95 33 400 14 14	2 10-10 10-10-10-10-10-10-10-10-10-10-10-10-10-1	2 2 2 2 2 10-100 Nov 10 10-04:5 10-04:5 10-04:7 10-04:7 10-04:7 10-04:7 10-04:7 10-04:7 10-04:7 10-04:0 10.0000000000000000000000000000000000	2 2 2 2 2 2 2 100 Nov Nov Nov <thn< th=""></thn<>
2 Nov-11 No 85-59.1 86 85-59.1 86 13-15 11 13-15 11 13-35 10-26.4 13-35 3.0 3.0 3.0 140 140 140 500 500 9 9 84 84 84 84 84 84 84 84 84 84 84 84 84	2 85.56.0 585.56.0 585.56.0 11-49 11-49 10-25.6 85-56.2 70 12-19 12-20 1	2 85-57. 10-20. 10-20. 10-20. 10-22. 10-22. 30 30 30 345 345 10 10		2 Nov. 10 85-53.1 85-53.1 90 90 90 90 90 30 30 330 500	2 Nov 10 10-11.(85-53,1 14-10 14-40 14-40 14-40 71 71 71 71 71 71 71 71 71 71 71 71 71	2 Nov. 10 10-10.0 85-52.7 85-52.7 75 12-33 12-33 12-33 12-33 13-03 330 330 330 350		2 Nov. 1 10-10 10-10 10-55 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-00 10-10 10 10-10 10 10-10 10 10-10 10 10-10 10 10 10-10 10 10 10 10 10 10 10 10 10 10 10 10 1	2 2 Nov. 10 Nov. 1 Nov. 10 Nov. 1 85-52.3 85-54 85-52.3 85-54 08-44 11-2 85-52.4 85-52 10-06 10-06 10-60 10-60 10-60 11-2 08-44 11-2 3. - 3. - 3. - 170	2 2 2 2 2 Nov.10 Nov.10 Nov.1 Nov.1 10-06.1 10-04.5 10-10 85-50.8 85-52.3 85-54 07-15 08-38 10-6 10-04.5 10-04.5 10-6 84 125 87 10-04.9 10-04.7 10-6 85-549 85-52.4 85-55 80 125 95 80 125 95 30 6 30 31.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 32.2 - 3. 33.2 - 3. 32.2 - 3. <
Nov-11 No 10-27.4 10 85-59.1 86 13-15 11 13-15 11 13-15 11 13-50 84 84 84 84 84 84 140 500 500 9 84 84 84 84 84 84 84 84 84 84 84 84 84	Nov.11 5 10-24.2 5 85+56.0 11-49 2 10-25.6 9 85-56.2 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-19 12-10 12-10 12-12 12-22 1	Nov.11 4 10-20. 2 85-57. 10-31 72 8 10-22. 1 11-01 75 30 30 3.2 345 345 10 10		Nov.10 10-09.1 15-37 15-37 10-10.2 90 90 30 3.0 3.0 500 10-10.2 15-54.1 30 3.0 500	Nov 10 10-11.(85-53,1 14-10 14-40 71 30 30 30 30 400 400	Nov.10 10-10:0 85-52.7 12-33 12-33 12-33 85-83.2 85-83.2 13-03 13-03 330 330 330 350	0 9 - 0 0 0 4	Nov.1 10-10 10-5 10-5 10-5 85-53 85-53 85-53 3 3 3 3 11-2 170 170 170	Nov. 10 Nov. 1 10-04.5 10-10 85-52.3 85-54 08-38 10-5 08-38 10-64 125 87 125 87 125 85-53 125 85-53 125 95 125 95 6 30 500 400 500 400	e Nov.10 Nov.10
110-27.4 10 85-59.1 86 13-15 11 88 88 10-26.4 13-35 13-35 3.0 3.0 3.0 500 500 9 9 84 84 140 140 500 84 84 84 84 84 84 84 84 84 84 84 84 84	5 10-24.2 5 85-56.0 11-49 2 10-25.6 9 85-56.2 9 85-56.2 12-19 12-19 2.9 355 355 355 355	4 10-20. 2 85-57. 10-31 72 8 10-22. 1 85-57. 30 30 3.2 3.45 3.45 3.45		10-09. 15-53.3 15-37 15-37 15-37 10-10.2 90 90 30 330 330 330 330 330	10-11. (85-53.1 14-10 72 10-09. 7 72 10-09. 72 10-09. 72 30 30 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2	10-10.0 85-52.7 85-52.7 75 75 76 75 10-11.3 10-11.3 10-11.3 13-03 30 330 350		10-10-10-10-10-10-10-10-10-10-10-10-10-1	10-04:5 10-10 85-52.3 85-52 08-38 10-6 125 85 10-04:7 10-6 10-04:7 10-9 10-125 85 125 95 125 95 500 400 500 400	10-06.1 10-04.5 10-10 85-50.8 85-52.3 85-55 07-15 08-38 10-6 84 125 8 10-04.9 10-04.7 10-0 85-49.9 85-52.4 85-55 95-49.9 85-52.4 85-55 80 125 95 80 125 95 30 6 30 31.2 - 3 32.2 - 3 32.2 - 3 32.2 - 3 32.2 - 3 32.2 - 3 32.2 - 3 32.2 - 3
85-50.1 86 13-15 11 88 88 10-26.4 85-58.1 84 84 13-35 30 33 30 33 140 140 500 500 9 80 86 80	5 85-56.0 11-49 2 10-25 6 9 85-56.2 9 85-56.2 12-19 12-19 2.9 355 355 355 355	2 85-57 10-31 72 8 10-22 1 85-57 75 75 30 36 345 345 460 400		85-53.3 15-37 90 90 90 90 90 30 330 330 330 500	85-53;) 14-10 72 10-09: 7 85-52. 1 14-40 71 71 71 71 71 71 71 71 71 71 71 71 71	85-52.7 12-33 75 75 10-11.3 85-83.2 85-83.2 13-03 72 30 330 330 350		85-54 10-5 87 10-09 85-53 85-53 85-53 85-53 35 35 35 35 37 170 170	85-52.3 85-52.3 85-54 08-38 10-5 125 10-09 12-52.4 85-53 85-52.4 85-53 85-52.4 85-53 95 11-2 125 95 125 33 6 30 500 400 500 400	85-50.8 85-52.3 85-54 07-15 08-38 10-5 84 125 87 10-04.9 10-04 7 85-49.9 85-52.4 85-53 85-49.9 85-52.4 85-53 87-49.9 85-52.4 85-53 87-49.9 85-52.4 85-53 80 125 95 30 6 30 31.2 - 3 32.2 - 3 450 500 400
13-15 88 88 84 10-26.4 85-58.1 13-35 13-35 13-35 30 3.0 13-35 3.0 13-35 84 84 84 84 84 84 84 84 84 84 84 84 84					14-10 72 10-09.7 85-52.1 14-40 71 71 71 30 30 400 400	12-33 75 10-11.3 85-83.2 85-83.2 72 72 30 30 330 350 350		10-59 87 85-53.8 85-53.8 95 95 30 33.4 170 170 170	08-38 10-56 125 87 10-04.7 10-09 85-52.4 85-53 08-44 11-29 08-44 11-29 125 95 125 95 125 30 500 400 500 400	07-15 08-38 10-55 84 125 87 84 125 87 85-49 9 85-52 4 85-53 85-49 9 85-52 4 85-53 87 08 44 11-25 95 80 125 95 95 32 30 6 30 3 4 31.2 - 3 4 170 450 500 400 400 400
88 10-26:4 85-58:1 13-35 30 30 3.0 3.0 500 500 9 8 8 8 8 4 8 4 500 500 8 8 8 8 8 4 8 4 8 4 8 4 8 8 4 8 4 8 4					72 10-09.7 85-52.1 14-40 71 71 30 30 3.2 145 400	75 10-11.3 85-83.2 13-03 13-03 330 330 330 330		87 10-09 85-53 85-53 30 30 30 170 170 170	125 87 10-04:7/10-09 85-52:4 85-53 08-44 11-22 125 95 125 30 500 400 500 400	84 125 87 10-04.9 10-04.7 10-09 85-49.9 85-52.4 85-53 07-45 08-44 11-2 80 125 95 30 6 30 31.2 - 3.4 450 500 400 450 500 400
10-26:4 85-58.1 13:35 84 84 30 3.0 13.0 140 140 140 500 9 9 80 80 80 80 80 80					10-09.7 85-52.1 14-40 71 71 30 3.2 3.2 145 400	10-11.3 85-83.2 13-03 72 30 3.0 330 350		10-09. 85-53. 11-22 95 95 30 33.4 170 170	10-04.7 10-09. 85-52.4 85-53. 08-44 11-29 08-44 11-29 125 95 125 95 6 30 6 30 7.4 170 500 400 500 400	(N) $10-04.9$ $10-04.7$ $10-09.0$ $10-11.3$ $10-09.7$ (W) $85-49.9$ $85-52.4$ $85-53.8$ $85-83.2$ $85-52.1$ (W) $85-49.9$ $85-52.4$ $85-53.8$ $85-83.2$ $85-52.1$ (W) $85-49.9$ $85-52.4$ $85-53.8$ $85-83.2$ $85-52.1$ (M) 800 125 95 72 71 (m) 300 125 95 72 71 (min) 30 30 30 30 30 (ot) 3.2 3.4 3.0 3.2 3.2 (m) 450 500 400 3.2 400
85-58.1 13:35 84 30 3.0 140 140 500 500 9 9 Normal			┝╾╍┅╉╍╸╼┠╼┈╌┠╶╌┉╂┉╸╌┠╌╌╍╁━╍╍╆╍		85-52.1 14-40 71 30 3.2 145 400	85-83.2 13-03 72 30 330 350	∞	85-53. 11-29 95 30 3.4 170 400 400	85-52.4 85-53. 08-44 11-22 125 95 6 30 6 30 7.4 170 500 400	(W) 85-52.4 85-53.8 85-52.1 ST) 07-45 08-44 11-29 13-03 14-40 (m) 80 125 95 72 71 (m) 30 125 95 72 71 (in) 30 125 95 30 30 (in) 30 30 30 30 30 (in) 30 6 30 30 30 (m) 450 500 400 350 400
			┝╾┫╾┨╶╢╖┨┉┨╼╍┠╸		14-40 71 30 30 3.2 145 400	13-03 72 30 330 350		11-29 95 3.4 170 400	08-44 11-29 125 95 6 30 3040 500 400	07-45 08-44 11-29 80 125 95 30 6 30 31,2 - 3,4 31,2 - 3,4 450 500 400
			21 17	90 330 500 10	71 30 3.2 145 400	72 30 330 350		95 30 3.4 170 400 400		125 6 - 500 4
			21 F1	30 330 500	30 3.2 145 400	30 330 350		30 3.4 170 400		2 66 500 - 1 500 - 4
			21 12	3.0	3.2 145 400	3.0 330 350		3.4 170 400		2 - 1 500 4
	355 350 12	345	155	330	145	330	1	170		\$00
	350	400	200	200	400	350		400		500
	12	- C		-				-	71	*
		2		2	=				- F	14
	Norma]	Normal	Normail	Norma.	NOrma !	Void		Void	Tear Void	
-	в	8	8	8	BC	υ		BC		
NE	NE	N	NB	5	N	z		z		N
4	4	ណ្	ß	5	4	ы N		2	3 2	
1015 1014	1016	1017	1017	1014	1015	10.16		1017	1017 1017	
31.0 30.0	33.0		30.0	30.0	31.0	31.5	10	31.	31.0 31.	31
-	28.8		28.4	29.3	29.0	29.0		29.	29.0 29.	
W .	H		М	Ж	ĸ		1			M .
							····		NN	AN AN
5.4	7 3.9				18.0	0,		0	21.8 0	æ.
			:							
			···· · •··							
	31.0 5.4	33.0 ¥ 28.8 0 3.9 × 28.8 0	30.5 33.0 28.8 29.0 28.8 2.7 3.9 2.7 3.9	30.0 30.5 33.0 28.4 29.0 28.8 M H 2.7 3.9 37.1 2.7 3.9	30.0 30.0 30.5 33.0 29.3 28.4 29.0 28.8 M M 2.7 3.9 22.0 37.1 2.7 3.9	30.0 30.0 30.5 33.0 29.3 28.4 29.0 28.8 H H H 2.7 3.9 22.0 37.1 2.7 3.9	31.0 30.0 30.0 30.5 33.0 29.0 29.3 28.4 29.0 28.8 M M M H 29.0 28.8 18.0 22.0 37.1 2.7 3.9	5 31.5 31.0 30.0 30.0 30.5 33.0 1 29.0 29.0 29.3 28.4 28.8 8.8 M M M M M M M 0 18.0 22.0 37.1 2.7 3.9	31.5 31.5 31.0 30.0 30.0 30.5 33.0 29.1 29.0 29.0 29.3 28.4 29.0 28.8 8 0 29.0 29.3 28.4 29.0 28.8 9 M M M M M M 9 0 18.0 29.3 28.4 29.0 28.8 9 M M M M M M 9 0 18.0 22.0 37.1 2.7 3.9	31.0 31.5 31.0 30.0 30.0 30.5 33.0 29.0 29.1 29.0 29.0 29.3 28.4 28.8 NW M M M M M M NW 0 0 18.0 29.3 28.4 29.0 28.8 21.8 0 0 18.0 29.3 37.1 2.7 3.9

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1987

1 1	 6	H	Nov. 16	10-51.8	86-11.2	11-29	182	10-52.0	86-12.9	11-59	187	8	3.4	290	600	11	Normal	ß	ENE	<u> </u>	1016	30.0	28.2			12.5	4	میں مندو خونہ اور		
1 1	2	I	Nov.16	10-50.5		+	162	10-48.9	86-09.5	10-48	172	30	3.4	210	600	12	Normal.	BC	ENE	5	1016	29.0				31.3				
1 1	ン オ ⁴	I	Nov.16	10-48		08-55	135		86-04.0	09-25	136	30		305	500	11	Norma I	BC	ENE	5	1017	27.0	28.3					:. 	··· ·	
1 1	4 0		Nov.16	10-49.	1 N		120		86-01.5	08-11	130	30	3.2	190	500	12	Normal.	BC	ENE	5	1015	28.5	4.					<u>.</u>		
1 1	*	I	Nov.15			17-45	108			L	102	30	3.2		450		Normal	3	ENE	5	1015	29.0		H		5				
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>04</td> <td>I</td> <td>Nov.15</td> <td>10-46.</td> <td></td> <td>14-27</td> <td>195</td> <td>•</td> <td></td> <td>14~57</td> <td>200</td> <td>30</td> <td>3.2</td> <td>200</td> <td>600</td> <td>10</td> <td>Normal</td> <td>BC</td> <td>NNE</td> <td>5</td> <td>1014</td> <td>29.0</td> <td></td> <td>N.</td> <td></td> <td></td> <td></td> <td></td> <td>- - -</td> <td>:,</td>	04	I	Nov.15	10-46.		14-27	195	•		14~57	200	30	3.2	200	600	10	Normal	BC	NNE	5	1014	29.0		N.					- - -	:,
1 1		,	Nov.15	10-45.	86-07.7	13-10	181	10-46.		13-40	181	30	3.2	330	600	12	Normal	BC	NNE	6	1015	30.0	27.5	, W		6				
1 1	r t	м	Nov.15			11-48	160			12-18	168	30	3.0	195	500	14	Normal	BC	NNE	5	1016	30.0	27.4	X				4.4 5.		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 10-47.0 100-49.6 10-55.1 10-55.8 85-56.7 85-56.7 8 85-57.8 8 8 8 100 10-44.7 10 87 94 100 99 90 104 112 12 12 12 10-45.2 10-46.4 100 99 90 104 112 12 12 10-45.2 10-46.4 100 99 90 104 112 10 10 12 12 12 12 12 12 12 12 12 12	7 #	I.	Nov.15		86-01	10-08	140	10-45.	86-01.8	10-38	143	30	3.0	340	500	15	Normal	BC	NE	വ	1017	31 0	27.3	H						
1 1	1 r	1	Nov.15			08-48	126	10-43.		09-18	129	30	3.0	190	500	8	Norma I	BC	NE	4	1017	29.0	27.2	¥.				· · · ·		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 10-47.0 10-49.6 10-49.6 10-59.8 11-00 8 10-47.0 10-49.6 10-49.6 10-58.6 10-59.8 11-00 10-47.0 10-47.0 10-49.6 10-58.6 11-00 10-58.6 87 94 100 99 90 104 87 94 100 99 90 104 17-14 08-16 11-15 12-02 13-48 16-3 87 94 100 99 90 104 17-44 08-46 11-15 12-32 14-18 17-0 92 91 97 98 85 108 100 92 30		1	Nov.15	10-44	85-57	07-34	112			08-04	103	30	3.8	355.	450	15	Norma I	BC	NE	4	1016	28.0	27.0			16				-
1 1 1 1 1 1 1 1 1 1 10-47.0 10-49.6 10-47.0 10-49.6 10-55.1 85-54.7 85-56.7 85-58.4 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 92 91 97 30 30 30 30 30 30 1017 1018 1017 115 1017 1018 12 12 13 135 28.6 30.5 28.5 28.0 30.5 28.5 28.0 30.5 28.5 28.0 30.5 28.5 28.0 30.5 28.6 28.5 21.3 </td <td>> #</td> <td>1</td> <td></td> <td>11-00</td> <td>85-59.6</td> <td>16-33</td> <td>104</td> <td>10-58.7</td> <td>86-00.9</td> <td>17-03</td> <td>108</td> <td>30</td> <td></td> <td>225</td> <td>400</td> <td>15</td> <td>Norma I</td> <td>C</td> <td>NE</td> <td>4</td> <td>1015</td> <td></td> <td></td> <td>М</td> <td>-</td> <td>46.0</td> <td></td> <td></td> <td></td> <td></td>	> #	1		11-00	85-59.6	16-33	104	10-58.7	86-00.9	17-03	108	30		225	400	15	Norma I	C	NE	4	1015			М	-	46.0				
1 1 1 1 1 1 1 1 1 1 10-47.0 10-49.6 10-47.0 10-49.6 10-55.1 85-54.7 85-56.7 85-58.4 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 87 94 100 92 91 97 30 30 30 30 30 30 1017 1018 1017 115 1017 1018 12 12 13 135 28.6 30.5 28.5 28.0 30.5 28.5 28.0 30.5 28.5 28.0 30.5 28.5 28.0 30.5 28.6 28.5 21.3 </td <td>2</td> <td>-1</td> <td>Nov.14</td> <td>10-59.8</td> <td></td> <td>13-48</td> <td>06</td> <td>10-59.7</td> <td>85-52.0</td> <td>14-18</td> <td>85</td> <td>30</td> <td>3.6</td> <td>95</td> <td>400</td> <td>15</td> <td>Normal</td> <td>C</td> <td>NE</td> <td>3</td> <td>1016</td> <td>30.0</td> <td>26.2</td> <td>H.</td> <td></td> <td>146.9</td> <td></td> <td></td> <td></td> <td></td>	2	-1	Nov.14	10-59.8		13-48	06	10-59.7	85-52.0	14-18	85	30	3.6	95	400	15	Normal	C	NE	3	1016	30.0	26.2	H.		146.9				
1 1 1 1 1 1 1 10-47.0 10-47.6 10-47.0 10-47.6 10-49.6 85-54.7 85-56.7 87 94 17-14 08-16 87 94 10-45.2 10-48.4 87 94 10-45.2 10-48.4 85-55.0 85-55.3 17-44 08-46 92 91 92 91 30 30 317-44 08-46 92 91 32 30 33 30 34 12 12 125 12 125 Normal Normal N N 8 26.8 28.5 28.0 28.5 28.0 28.5 28.0 28.5 28.0 8 1017 1017 23.5	2			10-58.6	85-57.2	12-02	66	11-00.1	85-56.4	12-32	86	30	3.4	30	400	13	Norma I	J.	NE	S	1017	29.0	27.1	, K		36.3			 	
1 1 1 10-47.0 10-47.0 10-47.0 85-54.7 10-47.0 17-14 17-14 17-44 17-44.7 17-45.2 30 33.3 30 17-45.2 32.4 17-44.6 32.4 185 23.4 10 400 12 10 12 10 23.4 10 25.5 26.8 12 28.5 26.5 28.5 26.5 28.5 26.5 28.5 105 26.5 105 26.5 26.5 26.5 26.5 26.5 105 26.5 105 26.5 105 27.6 105 26.5 105 27.5 26.5 26.5	5		Nov.14		85-58.4	10-45	100		85-58.3	11-15	- 97	30	2.8	ъ	400	13	Normal	Ĵ	NE	5	1018	30.5	27.0	H.		21.3				
	3		Nov.14	10-49.6		08-16	94	10-48.4	85-55.3	08-46	16	30	3.2	125	400	12	<u> </u>	0	N	4	1017	28.0	26.8			23.5				
	3		Nov.13		85-54.7	17-14	87.		85-55.0		55	30	3.4	185	400	12	Normal	, second	뜆	3	-	28.5	26.8	H.		44.6				میں یہ رہ ب
		1 1	vey Date]at.	long.		Start	[lat. (N)	Jong (N)	1	.	Time	ng speed (knot)	ng Direction				her	Direction	d Force			ace Water Temp (°C)	om materials	sut Direction	l Catches (kg)				

89			Nov. 19	10-40.	86-07-8	07-55	185	10-39.9	86-09.0	08-25	198	30	3.0	235	- 200	10	Norma]	BC	NE	5	1017	30.0	28.8	Ж	ΝŅ	14.2	.	
2.9		-	Nov. 18	10-40.0	86-04.9	16-00	158	10-41.8	86-05.4	16-30	165	30	3.4	345	600	·	Normal	BC	NE	S	1015	32.0	29.1		NN	34.1		
99		7	Nov. 18	10-48.8 10-40.0 10-40.	86-02.3 86-03.5 86-04.9	14-50	150	10-39.1	86-03.7	15-20	140	30	3.4	190	600	11.	Normal -	BC	NE	ស	1015	30.0	29.0			27.1		
65		-	Nov. 18	10-39.2	86-02.3	13-43	149	10-41.0	86-03.0	14-13	149	30	4.0	340	500	2	Normal	BC	NE	ភ្	1015	30.5	29.1			14.8		
64	-	1	Nov.18	10-42.3	86-00.8	12-14	127	10-40.9	86-01.0	12-44	127	8	3.0	190	480	6	Normal	IJ	NE	ഹ	1017	29.5	29.0			6.8		
63		7	Nov. 18	10-56.3 10-41.0 10-39.3 10-41.0	85-58.6	11-03	120	10-42.2	85-59.9	11-33	120	30 30	3.4	315	450	П	Normal	BC	NE	ŝ	1018	30:0	29.0	, X		20.9		
62			Nov.18	10-39.3	85-54.3	01-60	87	10-41-3	85-54.0	06-40	87	30	4.0	5	400		Norma 1	BC	NE	4	1018	31.0	28.5		NN	2.9		
61		, 1	Nov. 18	10-41.0	86-29.0 85-52.0	00-80	81	10-39.6	85-52.3	08-30	81	8	2.8	195	400	13	Norma !	BC	NE	4	1016	29:5	28.5		NN	8.5	<u>-</u>	
60		, , ,	Nov. 17	10-56.3	86-29.0	14-54	188		1	15-00	188	e	1	}	002		Void	в	NNE	3	1014	30,0	28.2			7.4		· · · · · · · · · · · · · · · · · · ·
59		-	Nov. 17:	10-55.0	86-21.0	13-13	190	10-54 4	86-22.8	13-43	190	30	3.4	250	680	o	Norma !	BC	NNE	4	1015	31.5	28.0	X		18.1		 - -
80			Nov 17	10-56.5 10-55.0	86-15.8	11-55	182	10-55.5	86-18.6	12-25	189	30	3.4	250	600	11	Normal	BC	BNN	 C	1015	30.2	28.1	×		14.0		
57	- 1 -	~~1	Nov:17	1.	86-10.0	10-17	175	10-54.2	86-11.8	10-47	178	30	3.4	285	600	10	Norma)	- 8	Ę	ى ى	1016	30.0	28.3	×		45.4		
20		-1	Nov. 17	(N) 10-52.0 10-50.5 10-50.2 10-56.4 10-55.5 10-53	(4) 86-15.4 86-19.0 86-23.6 86-03.2 86-06.0 86-10	08-48	148	10-54.2	86-05.2	09-18	145	30.	2.8	150	470	11	Noprmal	BC	NE	ى م	1015	28.8	28.2	x	ΝŅ	26.0		
រះ		-1	Nov. 16 Nov. 17 Nov. 17	10-56.4	86-03.2	07-42	127	10-56.2	86-04.6	08-12	139	30	2.8	1	500	11	Normal	В	ENE	ي ما	1017	28.0	28.2	×	MN	53.7		
25	· .	1	Nov.16	10-50.2	86-23.6	14-50	196		86-25.3	15-20	195	30	3.4	270	200	14	Normal	BC	NNE	4	1014	28.3	27.8	×		43.1		 •
ទួ		1	Nov . 16	10-50.5	86-19.0	13-42	197	(N) 10-51.3 10-50.5 10-50.2	86-20.7	14-12	198	30	3.4	270	002	00	Normal	BC	NNE	3	1015	30.0	27.9			485.6		
52		1-	Nov. 16	10-52.0	86-15.4	12-36 13-42	190	10-51.3	86-16.7	13-06	197	30	3.4	250	600	12	Normal.	BC	NNE	4	1015	28.8	27.8			377.9		
				· _	g (V)	(LST)	E		(f)	(LST)	h (m)	(min)		- uo	(m)	(¹¹)					re (mb)	e (°C)	emp (°C)	ls	ìon	(kg)		
Series No. of Net		Survey Area	Survey Date	osition lat.	of Start long.	ime of Start)epth of Start	osition lat.	of Finish long	fime of Finish	epth of Finish	owing Time	[owing speed (knot)	owing Direction	ength of Warp	ling Spread	tate of Haul	leather	ind Direction	Wind Force	tmosph.Pressure	Air Temperature	urface WaterTemp	ottom materials	urrent Direction	otal Catches	emarks	
a A		Ing.	ها	lő.	of	12	e D	ő	οĮ	1. L	Dei	ړ. ۲	uceu	<u>ද</u> 4:	l-ml.	13	St.	we.		X	Att	Air		ŝ	3	<u>e</u>	Ket	

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1987

Series No. of Net	D 0	2	•	•••••													
urvey Area			~~									1	1	1	-1		r-1
	Nov. 19	9 Nov. 19	Nov. 19	Nov.19	Dec.3	Dec.3	Dec.3	Dec.3	Dec.3 I	Dec.3 D	Dec.4 [Dec.4 D	Dec.4	Dec.4	Dec. 5	Dec. 5	Dec. 5
on lat.	(N) 10-40.9	9 10-40.8	10-39.7	10-40.5 10-32.1	10-32.1	10-36.3	10-35.3	10-37.4	10-35.1		0-58.8]	0-59.8	0-59.8	0-57.7		0-38.0	10-37.5
	(1) 86-09.5	.5 86-16.2	86-23.9	86-16.3 86-23.9 86-27.7	85-51.4	85-47.5	85-47.0	85-51.2	85-52.8 8	85-57.3 8	86-08.6	86-13.6 8	86-18.7	86-21.2 8	85-58.91	86-02.6	86-05.0
art	(LST) 09-12	2 11-37	13-53	15-35	09-28	11-00	12-08	13-41	14-43	16-20	08-41	10-07	11-29	13-00	07-54	10-40	12-02
n of Start	(m) 201	218	258	344	66	- 67	66	78	81	94	141	151	171	185	111	125	135
]at:	(N) 10-41	(N) 10-41.7 10-41.7	10-41.1	1	10-33.3	10-35.2	10-36.9	10-36.0	10-34.5	10-37.4 10-58.6		10-59.8	11-00.1		10-38.3	10-36.7	10-37.1
n long	(h) 86-10	86-10.5 86-17.2	85-25.4	1	85-50.3	85-48.9	85-47.7	85-51.6	85-53.6	85-56.8 8	86-10.1	86-15.3	86-20.0	86-24.7	85-59.0	86-04-0	86-06.6
1.2		2 12-07	14-23	15-00	09-58	11-30	12-38	14-11	15-05	11-50	09-12	10-37	11-59	13-38	08-24	11-10	12-32
n af Finish		208	255		60	12	99	80	84	76	148	159	175	185	107	119	141
E			30	വ	30	30	30	30	22	30	30 30	30	30	30	30	8	R
	<u> </u>				3.0	3.2	3.2	3.2	3.0	3.3	3.0	3.2	3.1	3.2	3.0	3.4	3.2
		310	315	3	40	230	10	195	230	20	260	270	280	275	180	220	260
1	(m) 700	200	800		300	300	280	280	380	400	500	500	580	009	400	400	480
	(ii)	13	12		13	12	11	12	12	13	10	0		8	6	G	တ
	Norma 1	I Normal	Normal		Normal	Norma I	Normal	Normal	Norma I	Normal	Normal	Normal	Norma I	Norma I	Normal	Normal	Normal
eather	BC	1-	BC	BC	rA	æ	8	8	BC	BC	BC	BC	BC	BC	BC	BC	ပ္ထ
lind Direction	ШX	Ϋ́Ε	NE	ЭN	NE	NE	NE	N	N	NE	NB	NE	NE	КЕ	Ж.	RE	Æ
Wind Force	22		വ	4	2		2	2	1	4	ç	G	S	S	20	9	9
Atmosph Pressure (mb)	Ē	1016	1014	1014	1020	1020	1020	1019	1018	1018	1020	1021	1021	1017	1019	1020	1019
Air Temperature (°	12.	3 30.0	31.0	30.0	29.0	31.5	32.0	32.0	32.0	30.5	29.0	29.5	28.5	28.0	27.0	27.5	29.0
1 9				28.4	28.6	29.5	29.5	29.4	29.3	29.0	28.7	28.8	28.6	28.6	28.4	28-2	28.8
Sottom mater	1.2			¢.	4S						N	*	, H	M			
meant Direction	NN	UN.								NN	NN	NN	NN	NN			
Lance and course	1	72.1	7 47 8	C	121	18.5	31.9	35.8	34.9	75.7	91.4	414.3	216.3	328.0	72.8	3.0	2.9
2007	1	5												and the second second			
lewarks								<u>.</u>	<u></u>								۔ بر منبعد
									<u>.</u>			ч. 11.					

| | | Dec.8 Dec.8 Dec.9 | 10-57.5 10-58.6 10-31.1 | 86-32.4 86-04.3 86-12.2 | 15-10 08-36 | 121 | 57.1 | 14 | ö |

 |

 |

 |

 |
 | []

 | Normal
 | [· |

 |
 | 1018
 |
 | |
 |
 | | , |
 | |
|---------------------|-------------|-------------------|---|---|---|---|---|---|---
--
--

--

--

--

--

--

--
---|--
--

--

---|---
---|---|---|
| | | Dec.8 | 10-57.5 | T
Ci | - | 1 48- | S. | 86-0 | 15-40 | 127

 | 30

 | 3.2

 | 190

 | 480
 | 6

 | Normal
 | BC | æ

 | 3
 | 1015
 | 33.0
 | 28.7 |
 |
 | 66.8 | |
 | , . |
| | | c. 8 | 1.1 | 86-3 | 15-58 | 180 | 10-57:2 | 86-30.7 | 16-28 | 181

 | 30

 | 3.2

 | 18

 | 600
 | 11

 | Normal .
 | 0 |

 | 1
 | 1015
 | 31.0
 | |
 |
 | 20.4 |
 | <u></u> .
 | |
| | H, | De | 10-5404 10-57.5 | 86-32.5 | 14-37 | 188 | 10-55.8 | 86-32.7 | 15-07 | 181

 | 30

 | 3.0

 | 355

 | 600
 |

 | Normal
 | BC |

 | 1
 | 1015
 | 34.0
 | 29.4 | ×
 |
 | 29.3 | <u></u> | i
 | |
| | | Dec.8 | 10-52.1 | 86-33.3 | 12-47 | 204 | 10-51:1 | 86-32.4 | 13-17 | 205

 | 30

 | 3.2

 | 140

 | 680
 |

 | Norma I
 | BC | 1

 | 1
 | 1016
 | 31.5
 | 28.9 |
 | -
 | 55.0 | , |
 | |
| | -4 | Dec. 7 | 10-44.7 | 86-19.2 | 16-05 | 213 | 10-44.4 | 86-17.6 | 16-35 | 213

 | 30

 | 3.2

 | 100

 | 700
 |

 | Norma]
 | В | ŝ

 | ŝ
 | 1019
 | 28.5
 | 28.7 | М
 |
 | 31.6 | |
 | |
| | | Dec. 7 | 10-45.6 | \$ 86-18.7 | 11-02 | 207 | 10-46.5 | 86-20.0 | 11-32 | 206

 | 30

 | 3.2

 | 305

 | 200
 |

 | Normal
 | в | ЯË

 | 3
 | 1019
 | 28.5
 | 28.1 | М
 | NNN
 | 226.7 | |
 | -
-
- |
| | | Dec. 7 | 0 1046.4 | 0 86-15.2 | 09-22 | 210 | 2 10-47 7 |) 86-16.4 | 09-52 | 206

 | 30

 | 3.4

 | 320

 | 200
 | თ

 | Normal
 | 8 | X

 |
 | 1019
 | 30.0
 | 28.8 | М
 |
 | 1002.9 | |
 | |
| | 1 | Dec. 7 | 010-45.(| 0 86-12.(| 1.07-57 | 209 | 3 10-46.2 | 0 86-13.(| | 208

 | 30

 | 3.6

 | 330

 | 680
 | 10

 | normal
 | 2 | z

 |
 | 1018
 | 30.0
 | 28.5 | X
 |
 | | |
 | |
| | 1 | Dec. 6 | 2 10-35.(| 2 86-11.(| | 206 | | 3 86-12. (| | 223

 | 30

 | 3.2

 | 325

 | 2002
 | 13.

 | ormal
 | 60
100 | Υ.

 | 6
 | 1017
 | 34.0
 | 28.8 | М
 | AN
 | 76. |

 |
 | |
| | | Dec.6 | 3/10-31 | 9 86-10. | L | 156 | 0 10-32.9 | 5 86-10. | | 178

 | 30.

 | 4.0

 | 345

 | 600
 | ∞

 | Normal
 | 8 | NE

 | 9
 | 1018
 | 31.0
 | 28.7 | æ
 | ÅΝ
 | |
 |
 | |
| | | Dec.6 | 10-32 | | | 107 | 5 10-32.0 | 4 86-05.4 | 12-1 | 109

 | 30

 | 3.2

 | 255

 | 400
 | 10

 | Normal
 | 8 | NE

 | ю
:
 | 1020
 | 28 0
 | 28.2 | W
 | NN S
 | 10. | |
 | |
| | | | 4 10-33. | 6 86-01. | | 102 | 8 10-32. | 0 86-02.4 | | 105

 | 30

 | 3.4

 | 245

 | 400
 | 5

 | Normal
 | 8 | RE

 | 9
 | 1020
 | 30.0
 | 28.5 | Ж
 |
 | ۍ.
م | |
 | |
| | rind | | 2 10-31. | 1 85-58. | | 1 ···· | 5 10-30. | 4 86-00.4 | · · · | 94

 | 30

 | <u> </u>

 | 245

 | 380
 | ∞

 | Norma 1
 | m | NE

 | 9
 | 1019
 | 27.0
 | 28.3 | м
 | NN
 | 20. | |
 | |
| | | Dec.6 | 4 10-30. | 2 85-58. | 08-06 | 88 | 2 10-31 | 8 85-59. | | 92

 | 30

 |

 | 340

 | 340
 | 14

 |
 | BC | NE

 | မ
 | 1018
 | 28.0
 | 28.6 |
 | AN
 | 0 | |
 | |
|

 | -1 | Dec. 5 | 4 10-35. | 1 86-09. | | 155 | 0 10-35 | 5 86-10. | | 195

 | 8

 | Ŀ

 | 260

 | 580
 | · .

 | Normal
 | BC | æ

 | 9
 | 1016
 |
 | |
 |
 | 208 | | <u></u>
 | |
| | | Dec 5 |) 10-36. |) 86-09. |) 13-45 |) 172 |) 10-36. |) 86-10. | |) 193

 | 30

 | 3.2

 | 255

 |) 580
 | 8

 | Normal
 | BC | B

 | ۍ
۲
 | 1017
 |
 | |
 |
 | 135 | |
 | |
| | survey Area | | lat. | | ime of Start (LST | | osition lat. (N | long | |

 |

 | owing speed (knot

 | owing Direction

 | ength of Warp (m
 |

 | state of Haul
 | leather | 'ind Direction

 | Nind Force
 | 1
 |
 | urface WaterTemp(°C | ottom
 | Jurrent Direction
 | | enarks |
 | |
| | | | 1 1 | I I | I I | I I | I I | I I I I I I I bec.5 bec.6 bec.6 bec.6 bec.6 bec.5 bec.6 bec.6 bec.6 bec.6 bec.6 bec.6 bec.6 bec.7 bec.6 bec.6 bec.6 bec.7 bec.6 bec.6 bec.6 | 1
Dec. 6
.3 10-31.2
8 13-54
13-54
156
10-32.9 | Survey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Nurvey Area 1 <th< td=""><td>Survey Area 1 1 1 1 1 1
1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area I <t< td=""><td>Nurvey Area. I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1
1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<></td></t<></td></th<></td></th<></td></th<></td></th<></td></th<> | Survey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Nurvey Area 1 <th< td=""><td>Survey Area 1
 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area I <t< td=""><td>Nurvey Area. I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1
 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<></td></t<></td></th<></td></th<></td></th<></td></th<> | Survey Area 1 <th< td=""><td>Nurvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1
 1 <t< td=""><td>Nurvey Area I <t< td=""><td>Nurvey Area. I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1
 1 1 1 1 1 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<></td></t<></td></th<></td></th<></td></th<> | Nurvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area I <t< td=""><td>Nurvey Area. I
 I I I I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<></td></t<></td></th<></td></th<> | Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area I <t< td=""><td>Nurvey Area. I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I
I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<></td></t<></td></th<> | Survey Area 1 <t< td=""><td>Nurvey Area I
 I <t< td=""><td>Nurvey Area. I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I
 I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<></td></t<> | Nurvey Area I <t< td=""><td>Nurvey Area. I <</td><td>Nurvey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I
 I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<></td></t<> | Nurvey Area. I < | Nurvey Area 1
 1 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1
 1 1 1 1 1 1 1 1 1 1 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<></td></t<> | Survey Area 1 <t< td=""><td>Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1
1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<></td></t<> | Survey Area 1 <t< td=""><td>Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 1 1 1 1 1 1
 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<></td></t<> | Survey Area I <th< td=""><td>Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<></td></th<> | Burvey Area 1 <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<></td></th<> | Survey Area 1 <th< td=""><td>Survey Area 1
 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<></td></th<> | Survey Area 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1<< td=""><td>Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1
1 <th< td=""></th<></td></t<></td></th<></td></th<></td></th1<<></th1<></th1<></th1<> | Survey Area I <th< td=""><td>Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<></td></th<> | Survey Area 1 <th< td=""><td>Survey Area 1 <t< td=""><td>Nurvey Area 1 <th< td=""></th<></td></t<></td></th<> | Survey Area 1 <t< td=""><td>Nurvey Area 1
 1 <th< td=""></th<></td></t<> | Nurvey Area 1 <th< td=""></th<> |

31.00 32.0 28.5 9-45.0 10-06.1 10-08.3 10-08.4 10-09.8 10-24.5 10-22.6 85-55-4 86-02.0 86-07.2 NNN 3.0 16-05 1012 15-35 Normal Normal Normal Dec.18 Dec.18 Dec.18 Dec.19 Dec.19 ន្ត 335 9-44.3 10-04.9 10-07.3 10-07.1 10-08.5 10-26.0 10-21. 85-13.3 85-31.5 85-51.7 85-50.3 85-51.3 85-54.5 86-02.3 86-06. 123 8 ENE 119 ф 3 42.7 NNN 33.0 28.4 13-38 14-08 3.0 30 400 а 1012 102 102 165 ထ Ϋ́ε Ņ 118 33.0 1012 28 8 NNW 31.0 15-32 3.2 പ 15-02 108 108 325 400 g NNE ပ္ထ à 117 14.4 85-12.4 85-32.9 85-52.8 85-51.4 85-52.2 Normal 31.0 28.8 14-11 1012 3.0 13-41 330 8 5 380 30 BC ဖ 2 116 14.7 Norma ! 1014 32.0 28.7 12-13 12-43 3.0 <u>85</u> 320 12 8 NNE io 115 ŝ Ó 5 29.2 NNN-Dec. 18 1015 Normal 30.0 10-32 11-02 2 2 2 പ 102 100 30 400 320 Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1987 NNE 114 2 ပ 17.8 34.0 29.2 1014 3.0 Dec.16 Dec.16 Dec.17 12-00 12-30 115 114 Tear 8 295 N 8 ပ္ထ 113 ŝ ω 0 2 9-28.4 9-28.4 13-26 29.6 32.0 13-50 2.0 433 1000 Normal 1013 8 426 24 ŝ 112 ŝ in in 9-28.8 9-37.8 9-28.6 75.6 86-13.4 86-13.6 86-16.0 86-14.2 86-16.4 86-18.6 85-10.4 85-21.5 85-10.4 85-11.5 32.0 29.8 11-29 2.2 Normal 10-59 1000 1017 342 355 285 ŝ B 3 111 86-14.5 86-17.3 86-15.2 86-17.4 86-19.9 85-11.6 85-20.7 9-37.1 25.1 Dec.16 Normal | Normal 07-25 28.8 07-45 3.0 29.5 500 1016 2 128 20 53 -ပ္ထ 'n; 110 ŝ 9-33.8 8.9 9-33.0 30 0 Dec.11 | Dec.11 | Dec.15 | 34.0 15-45 16-10 3.1 1015 300 68 গ্ন 300 8 2 ŝ 109 S S 10-34.2 10-30.5 10-34.1 10-30.4 10-33.1 10-33.6 (N) 10-35.9 10-32.0 10-35.1 10-31.7 10-34.2 10-34.5 2.9 2 11-09 11-39 3.2 28.6 1017 32.0 375 300 315 Normal 360 1000 RE 8 2 108 66.4 60-60 3.0 09-39 1018 31.0 28.4 Normal 339 1000 317 315 8 ¥ 3 107 മ Dec.10 Dec.11 4 Noemal 07-41 3:2 30.0 28.2 315 08-11 006 364 8 325 1017 2 106 က် ഷ w 795.7 13-40 3.0 14-10 28.7 Normal Normal 31.0 255 310 258 800 1016 8 3 105 NNE മ 49.2 Dec. 10 Dec. 10 12-20 268 12-50 3.4 31.0 28.7 276 8 800 1017 330 NNE 104 ŝ æ 86-14.1 41.3 10-15 09-45 3.0 Norma I 30.5 28.3 1018 235 236 8 335 200 103 -NNE ഫ (LSJ) S (m) E $\widehat{\mathbb{S}}$ (LSJ) (uin) E (kg) 3 E 30 Atmosph: Pressure (mb) Surface WaterTemp (°C) (knot Net urrent Direction Cowing Direction long otton materials long Air Temperature lat. lat. **Depth of Finish** Start of ime of Finish cength of Warp find Direction ime of Start owing speed otal Catches tate of Haul Area Date Wind Force owing Time ing Spread Series No. of Start f Finish osition osition)epth of enarks eather urvey ur vey

-48-

138	2	Jan.7	9-59-9	85-33.4 85-45.7	23-37	. 65	-10-0 F	85-35.0 85-47.2	20-00	63	30	4.0	315	220	24	Normal	ß	NNN	2	1016	28.0	28.7	-	NNN	25.8			
135	3	Jan.7	9-48.5	85-33.4	20-45	82	9-49,2	1 A A	21-15	87	30	3.4	290	300	24	Norma 1	D	ANA	3	1017	28.0	29.0			32.6			
134	3	Jan.7	9-48.4	85-31.2	19-30	64	9-47.8	85-29.1	20-00	63	30	4.2	105	200	24	Norma 1	D D	-	. 1	1016	28.5	29.1			48.7			
133	ę	Jan.7	9-48.5	85-28.3	-18-35	52	9-48-5	85-28.1	18-40	56	5			200	24	Vojd	ນ ເ	-	-	1016	28.5	29.1			20.8	 . •		
132	ę	Jan 7	9-46.0	85-25.2	03-21	99	9-45.2	85-23.2	03-51	61	30	3.8	220	220	24	Normak	<u>م</u>	N	Ś	1015	27.5	28.9	W		32.7			
131	e	Jan 7	9-43.6	85-24.6	02-16	80	9-44.5	85-26.0	02-46	83	30	3.2	300	300	24	Norma 1	B	AN	2	1015	27.0	28.9	N.		20.6			
130	3	Jan.7	9-40.8	85-18.1	01-00	58	9-42.0	85-19.4	01-30	58	30	3.2	220	220	24	Normal	8	.1	1	1017	27.5	29.0	×		145.1			
129	e	Jan.6	9-35.3	85-14.5	23-15	80	9-36.8	85-15.8	23-45	62	30	3.8	300	300	24	Normal	8	1	1	1018	29.0	29.0	×		40.6			
128		Jan.6	9-35.0	85-12.7	21-42	62	9-37.0	85-12.8 85-15.8 85-19.4	22-15	60	30	4.4	330	200	12x2=24	Normal	6	1	1	1018	30 0	28.9	M		78.6	Double	craw]	
127	2	Dec. 22	10-19.2	86-03.4	11-26	109	9-46.9 10-17.8	86-03.0	11-56	113	30	3.2	170	400	13	Normal	D	NE	ы	1014	30.0	28.9		NN	91.0	<u>.</u>	<u>.</u>	-
126	5	Dec.21	6-55.1	85-47.4	10-49	183	9-46.9	8 85-46.9	12-19	197	30	2.6	155	600	14	Norma I	60		2	1012	34.0	29.5			469.5			
125	2	Dec.21	9-56.8	4	11-30	171	9-55.9	85-47.8	12-00	183	g	2.4	150	580	13.5	Norma I	8	Z	2	1014	32.0	29.2			392.7			
124	5	Dec.21	9-56.7	85-48-9	10-02	254	9-55.7	85-48.1	10-32	224	8	2.6	140	- 200		Normal	8	N	4	1014	32.0	29.0		NN	81.0			-
123	2		10-28.6	36-11 1 3	-12-15	219	10-27.5	36-11.2	12-31	226	16	3.2	180	200		Tear	ß	N	ŝ	1014	32.0	28.6			75.5	Trapped	in sea	
122	5)ec.20	10-25.4	36-11-0	10-37	260	10-26.7	86-11.9	11-07	277	30	3.2	325	- 700		Norma I		X		1016	33.0	28.8			21	E		-
121	~	Dec.20 Dec.20 Dec.20	(N) 10-16.5 10-17.1 10-25.4 10-28.6 9-56.7	(W) 86-03.5 86-04.9 86-11.0 86-11.1 85-48.9 85-48	08-52	186	10-17.3	36-05.1 (08-57	182	ເກ	3.6	320	680		Normal		z	 	1016	35.0	28.9			41.9	rapped	in sea	
120	2	Dec. 20	0-16.5	36-03:5	07-13	125	0-17.8	36-04.6	07-43	126	30	3.2	320	500		Normal	m	X	1	1015	30.0	28.7			212.1	E	<u>.</u>	
44 44				$-\pi L c$	(LSI)	E		3 (1)	(LST)	(E)	(min)	knot)	Ē	(m)	(m)					e (mb)	()°)	()) du	s	uo	(kg)			
s No. of Net	Area	Survey Date	on lat.	rt long.	f Start	of Start	osition Tat. (N) 10-17.8 10-17.3 10-26.7 10-27.5	Finish [long (W) 86-04.6 86-05.1 86-11.9 86-11.2 85-48.1	ime of Finish	epth of Finish	owing Time	owing speed (knot	owing Direction	ength of Warp	ling Spread	tate of Haul		ind Direction	Wind Force	tmosph.Pressure	Air Temperature	urface WaterTemp (°C)	ottom materials	urrent Direction	otal Catches	s)		
Series	Survey Area	Survey	Position	of Start	Time of	Depth of	Positi	of Fin	Time o	Depth	Towing	Towing	Towing	Length	Wing S	State	weather	Vind D	Wind	Atmosp	Air Te	Surfac	Bottom	Curren	Total	Remarks		

Recording Data of Trawling Research Strvey by Nisshinwaru No.201, 1988

	137	1.50	20	241 140		747	140	144	0 5 7	041	147	148	143	150	151	152	153
<u> </u>	2	N	0	N	2	N	2	N	2		-				-1		
L I	Jan.8	Jan.8	Jan.8	Jan 8	Jan.8	Jan.8	Jan.8	Jan.8	Jan.9	Jan.9	Jan.9	Jan.9	Jan.9	jan.9	Jan.9	Jan.10	Jan. 10
$ \mathbf{Z} $	(N) 10-00.8	10-04.1	10-08.7	10-04.1 10-08.7 10-10.6 10-20.7 10-22.5	10-20.7	10-22.5	10-23.3	10-23.3-10-23.7	10-25.7	10-30.3	10-48.3	10-54.3	10-54.3 10-58.4		10-59.6 10-56.4	10-58.5	11-00.1
E	85-48.1	85-49.6	85-51.6	85-49.6 85-51.6 85-53.8 85-57.1	85-57.1	85-58.4	85-58.4	85-55.5	85-57.6	85-56.8	86-01.2	86-04.9	86-07.5	86-04-0	86-03.8	85-56.9	85-54.6
(121)	00-36	02-00	03-00	18-05	20-10	21-25	22-33	00-25	01-33	02-30	18-30	20-05	21-20	22-55	23-50	01-58	02-50
E	82	81	22	85	. 99	81	-62	67	79	8	124	136	139	114	121	36	6
B		10-06-0	10-10.6	9-59.5 10-06.0 10-10.6 10-08.8 10-23.8 10-21.0	10-23.8	10-21.0	10-25.0	10-25.0 10-25.6 10-27.4	10-27.4	10-31.8	10-48.5	10-31.8 10-48.5 10-55.8	11-00.1		10-55.2	10-47.9 10-55.2 11-00.2 10-59.	10-59.7
E		85-47.2 85-50.3 85-52.3	85-52.3	85-53.1	85-46.7 85-08.8	85-08.8	85-57.5	85-55.6	85-57.0	85-54.8	86-02.6	86-05.0	86-08.1	86-03.5	86-02.8	85-56.0	85-52.8
(LST)	01-06	02-30	03-30	18-35	20-40	21-55	23-03	00-55	02-03	03-00	19-00	20-35	21-50	23-25	00-20	02-28	03-20
epth of Finish (m)	81	81	67	68	72	83	78	- 70	81	83	123	134	131	211	112	95	86
(min)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
owing speed (knot)	3.2	3.6	4.0	3.6	4.0	3.4	3.6	3.6	3.8	3.6	3.6	3.2	3.6	3.6	3.2	3.6	3.6
owing Direction	145	320	340	335	10	190	30	335	20	35	310	355	340	160	145	8	105
E	300	300	280	300	240	300	300	190	300	300	400	420	420	390	390	300	290
E	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
	Normal	Normal	Normal	Normal	Normal	Norma I	Normal	Normal	Norma	Norma I	Norma]	Norma]	Normal	Normal	Normal	Norma]	Norma I
	60	8	¢.	່ ບ	в	8	B	В	8	B	B	8	8	æ	æ	BC	BC
	SSE	NE	ENE	S	1	N	NE	NE	NE	NE	N	N .	NE	ENE	ENE	NE	ENE
	1-	1	3	2		3	3	3	ŝ	3	7	5	- t	9	20	ŝ	4
tmosph. Pressure (mb)	1016	1015	1015	1015	1017	1017	1016	1016	1016	1016	1016	1015	1017	1017	1017	1015	1015
30	27.5	27.5	27.0	28.5	28-5	28.5	28.0	27.5	27.7	27.5	29.0	27.0	27.2	27.0	27.0	27.0	27.0
Surface WaterTemp (°C)	28.5	28.5	28.3	29.1	29.9	29:0	29-0	28.3	28.5	28.4	28.4	27.1	26.7	25.9	26.4	24.0	23.5
Sottom materials					W	¥	М	N	W	W	- N	¥.	H	¥>}	H	H Star	H
urrent Direction	NNN	NNN	NNN	NNN	NNN	NNN	NNU	NNN S	ANN	NN.							
(200	13.9	26.3	14.5	49.4	38.1	49.5	48.4	21.4	45.7	43.6	41.0	63.8	56.2	2 75.2	2 109.0	66.2	37.6
											40 20 20 20 20 20						
																	: :
-				~						-							

170	1	Jan.12	10-47-8	85-54.7	21-45	85	10-46.0	85-55.6	22-15	63	30	4.0	205	290 -	24	Normal	В	N	2	1018	27.5	25.4	H.		70.9	
169		Jan.12	10-44.2 10-47.8	85-50.4	20-31	- 76	10-45.2	85-51.6	21-01	78	30	3.2	310	290	24	Normal	8	N	3	1018	27.5	24.8	M .		20.5	:
168	1	Jan.12		86-09.3 85-56.6 86-01.8 86-04.7 86-01.2 86-04.5 86-00.3 85-44.0 84-46.3 85-50.4 85-54.	19-26	19	10-46.4	84-52.7	19-56	63	30	4.8	310	210	24	Normal	В	NE	3 3	1017	27.5	25.0	M		17.5	
167	-	Jan.12	10-41.4	85-44.0	18-24	57	10-43.4	85-45.0	I8-54	57	30	4.4	330	210	24	Norma I	В	NE	4	1016	28.5	26.1	Ж		12.5	
166	1	Jan.12	10-30.8	86-00.3	01-40	G 6	10-31.6 10-43.	85-58.6	02-10	92	30	3.6	65	350	24	Normal	BC	ENE	4	1017	27.5	27.2	М		29.4	
165		Jan.11	10-33.7 10-35.5 10-37.4 10-36.0 10-33.5 10-30.9 10-30.8 10-41.4 10-44.8	86-04.5	23-28	107	10-32.9	86-04.8	23-58	110	30	4.0	350	330	24	Normal	В	N	4	1018	27.5	27.3	W		18.5	
160 161 162 163 164		Jan.11	10-33.5	86-01.2	22-23	103	10-31.6	85-55.8 86-01.8 86-05.9 86-01.8	22-53	102	30	4.0	200	390	24	Normal	പ	NE	പ	1018	27.5	27.3	М	NNU -	39.2	
163		Jan.11	10-36.0	86-04.7	20-30	120	10-34.4	86-05 9	21-00	115	30	3.8	220	430	24	Normal	ഫ	ENE	ഹ	1018	27.5	27.2	Ж		40.5	
162	2012 111 111 111 111 111 111 111 111 111	Jan.11	10-37.4	86-01.8	19- 20	120	10-35.6	86-01 8	19-50	112	30	3.6	180	400	24	Normal	69	ENE	ى 1	1017	28.5	28.3	×		25.4	
161	ла Ал	Jan.11	10-35.5	85-56.6	18-00	64	10-37:0		18-30	67	30	3.6	30	300	24	Normal	щ	NE	ы С	1016	29.0	27.4	×		19.8	
160	2 1 1 1 1	Jan. II	10-33.7	86-09.3	03-05	124	10-31.8	86-09.6	03-35	129	30	3.6	190 -	430	24	Norma]	ŝ	NE	ß	1017	27.0	28.2	×		62.8	
159	-7	Jan.11	10-37.5	86-05.5	01-50	137	10-37:0	86-07.4	02-20	145	30	3.6	250	430	24	Normal	са	NE	<u>ى</u>	1016	28.0	28.4	×		8	
158	-	Jan.II	10-41.1 10-37.5	86-03.0	00-46	140	10-39-6	86-03.7	01-16	145	30	3.4	205	430	24.	Normal	8	NE	ы	1018	27.5	28.3	×		15.5	
157 158 159	1	Jan.10	10-40.7	86-00.0	22-23	125	10-45.9 10-44.4 10-40.6 10-42.6	85-59.5	22-53	122	30	4.0	15	400	24	Normal	æ	NE	4	1017	28.0	28.4	×		9.8	
156	1. 	Jan.10	10-42.2	85-57.8	21-15	110	10-40.6	85-58.3	21-45	112	30	3.2	190	330	24	Normal	8	NE	4	1017	28.0	28.6	×		55.6	
155	$1 \sim 1$	Jan.10	10-46.3	86-02.1	19-33	136	10-44.4	86-02.0	20-03	139	30	3.8	175	430	24	Normal	8	NE	4	1016	29.0	28.4	35		60.5	
154	1	Jan.10	10-44.2	85-59.3	18-26	114	10-45.9	(W) 85-59.3 86-02.0	18-56	116	30	3.6	330	390	24	Normal	æ	NE	4	1016	28.8	28.6	×		39.1	
of Net			lat. (N) 10-44.2 10-46.3 10-42.2 10-40.7	Tong. (W) 85-59.3 86-02.1 85-57.8 86-00.0 86-03.0 86-05.	(LST)	t (n)	(N)	(\mathfrak{A})	(TSJ) (sh (m)	(nim)	(knot)	ion - '	(E)	(H)					ure (mb)	re (°C)	Temp (°C)	sle	tion	(kg)	
Series No. of	Survey Area	Survey Date	Position lat	of Start lor	ime of Start (LST) 18-26	Depth of Start	Position lat.	of Finish long	Time of Finish (LST)	Jepth of Finish	owing Time	owing speed (knot	owing Direction	ength of Warp	ing Spread	e of Haul	er	Wind Direction	ind Force	Ytmosph. Pressure	Air Temperature	urface WaterTemp (°C)	Sottom materials	Current Direction	otal Catches	ks
Zeri	Surve	75	Posit	of St	Time	Depth	Posit	of Fi	Time	Depth	Towin	Towin	Towin	Lengt	Ving	State	Heather	Nind	Nind	Atmos	Air 1	Surfa	Botto	Curre	Tota	Remarks

Recording Data of Trawling Research Survey by Misshinmaru No.201, 1988

Series No. 01 Net							_								·			
survey Area	+			1	1	-1			1							-	-	-
urvey Date		Jan.12 J	Jan.13 .	Jan 13	Jan.13	Jan.13	Jan.13	Jan.13	Jan.14	Jan.15	Jan.15	Jan.15	Jan.15	Jan.15	Jan.15	jan.15	Jan. 16	Jan.16
osition lat.	(N) I(10-40.5 1	10-40.2 10-42.5	10-42.5	10-39.7	10-37.2	10-36.0	10-36.2	10-33.8	10-35.7	10-37.4	10-33.4	10-32.4	10-31.5	10-36.0	10-36.5	10-59.2	10-59.8
of Start Jong.	(A) 8;	85-53.9 8	85-52.6	85-49.6	85-45.8	85-45.9	85-46.4	85-50.5	85-50.4	85-47.7	85-48.7	85-50.7		85-53.6 85-57.8	85-55.8	85-52.6	85-50.4	85-52.9
line of Start (1	(LST)	23-13	00-55	01-45	18-35	20-23	21-44	22-40	00-20	50-80	80-60	10-20	11-30	12-52	14-32	15~50	10-09	11-24
Depth of Start	(<u></u>	89	82	74	63	62	64	26	52	69	72	74	80	89	93	82	52	87
osition lat.)I (N)	10-38.8 1	10-41.6	10-42.2	10-42.0	10-37.1	10-35.7	10-36.5	10-32.5	10-37.4	10-36.0	10-32.1	10-32.4		10-37.3	10-30.3 10-37.3 10-36.6 10-59.7	10-59.7	10-59.9
of Finish long	(A) 8	85-55.0 8	85-81.1	85-47.5	85-47.5 85-05.0	85-47.5	85-48.6	85-52.3 85-52.1	85-52.1		85-47.6 85-49.4 85-51.6	85-51.6	85-55.2	85-59.0	85-54.7	85-55.2 85-59.0 85-54.7 85-51.0 85-51.9 85-54.5	85-51.9	85-54.5
ime of Finish (l	(121)	23-43	01-25	02-15	19-05	20-53	22-14	23-10	00-20	08-39	09-38	10-50	12-00	13-22	15-02	16-20	10-39	11-54
lepth of Finish	<u>(</u>	81	76	68	61	63	12	81	73	69	73	88	85	16	8	44	84	6
owing Time (n	(u [u]	30	30	30	30	30	30	30	30	30	30	30	8	30	30	8	3	ନ୍ଥ
Cowing speed (knot	ot:)	4.2	4.0	4.0	4.6	3.0	4.0	4.0	4.0	3.2	3.0	3.0	3.2	3.2	3.2	3.2	3.0	3.2
owing Direction		210	50.	100	20	270	265	280	235	355	205	210	270	220	40	85	290	275
ength of Warp	(E)	300	290	290	210	210	210	300	300	300	370	300	380	400	400	300	300	300
ing Spread	(H)	24	24	24	24	24	24	24	24	14	10	10	12	10	14	10	13	13
tate of Haul	Ň	Normal No	Normal 1	Norma I	Normal	Norma I	Norma 1	Normal	Norma !	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
eather		6	en la	ß	ß	B	В	29	89	8	<u>6</u>	8	8	m	64	8	BC	6
Vind Direction		NE	ENE	សា	ENE	ENE	NE	NE	NE	ដា	ដា	2	ANN	AN	N	NE	ENE	EN N
ind Force		(m)		2	S	9	4	4	4	2	1	2	8	3	4	4	G	ß
tmosph.Pressure ([(q¤)	1018	1017	1017	1016	1018	1019	1019	1018	1019	1020	1019	1018	1017	1017	1016	1020	1020
lir Temperature (00	27.5	27.5	27.5	28.5	28.0	27.5	27.5	28.0	27.0	29.0	29.0	30.0	30.5	32.0	30.0	28.0	28.0
Surface WaterTemp (°C)		26.2	27.7	27.2	28.3	27.7	27.5	27.0	27.2	26.7	27.6	27.1	28.3	28.8	28.6	28.6	24.2	26.3
sotton materials		2	×	N .		щ	H	N .	M	H	`	H	¥	H	H	N .	Ħ	H
urrent Direction																		
otal Catches ((kg)	42.5	32.5	13.8	1000.8	18.9	6.2	18.3	15.2	4.6	4.9	15.7	7 12.0	0 20 1	5.2	26.7	7 11.8	8 18.0
temarks										Single			 					
					· · ·	;				traw!			•				 	
										met			:				· · ·	

204		3	Jan 23	9-36-6	85-14.	11-41	5	9-37	85-16.1	12-11	7	300	3.2	300	29		Normal	æ	SE	3	1017	31.0	29.0	3		20.7	
203		3	Jan. 23	9-32.3	85-09.0	10-08	65	9-32-9	85-10.5	10-38	62	30	3.0	295	300		Normal	8	ENE	4	1017	31.5	29.2	S	NN	20.9	
202		1	Jan.18	10-41.4	85-53.2	13-40	36	10-40.0	85-53.8	14-10	89	30	3.2	200	300	10	Normal		BNR	3	1017	31.5	28.6	W		12.3	
201			Jan. 18	10-41.3	85-50.0	12-33	76	10-40.6	85-51.5	13-03	8	30	3.2	245	300	6	Normal	6	ANA	ŝ	1018	32.0	28.7	M		12.7	
200	•	-1	Jan.18	10-40.8	85-46.9	11-35	2.9	10-41.4	85-48.4	12-05	72	30	3.2	290	290	10	Normal	8	72	2	1019	31.0	28.6	Ж		23.2	
199		1	Jan. 18	10-42.3	85-43.6	10-24	54	10-40.5		10-51	56	30	3.4	0	200	12	Normal	8	S	2	1020	30.0	28.4	H N		4.6	
198		1	Jan. 18	10-45.6	85-45.8	09-21	55	10-44.2	85-44.7 85-43.5	09-51	52-	30	3.2	145	200	10	Normal	8	ENE	4	1019	30.5	28.2	×		16.8	
34 195 196 197 198			Jan.18	10-45.0	85-49.7	08-05	22	10-43.9	85-48.6	08-35	69	30	3.2	135	290	12	Normal	В	ENE	2	1019	29.0	27.8	×		14.0	
196		1) ((((((((((((((((((Jan.18	10-48.0	85-50.9	10-20	66	10-46.9	85-49.7	07-31	63	8	3.2	130	300	12	Normal	6	ENE	. 3	1018	27.8	28.1	×		7.7	
195			Jan.17	10-54.5	86-12.5	14-45	178	1	86-14.2	15-15	182	8	3.2	280	600		Normal'	8	RE	9	1018	28.2	28.2	×	NN	13.0	
194			Jan.17	10-59.8	86-15.8	12-18	164	11-00 0 10-54.8	86-17.3	12-48	169	30	3.2	280	500		Normal	8	Э.	5	1021	27.8	28.2	×	AN	10.8	
193			Jan 17	10-58.3	0.90-98	10-39	146	10~59.4	4	11-09	145	0°E	3.2	315	480	 	Normal	6	NNE	2 2 2	1020	29.0	28.3	×	NN	9.2	
192			Jan.17	10-56.0	86-01.6	09-02	110		86-03.2 86-10	09-32	121	30	3.2	245	380	01	Normal	В	NE	2	1021	27.8	28.4	×		31.2	·
191 192 193		1	Jan.17		85-58.8	07-48	86	10-56.0 10-55.4	85-58.7	08-18	36	30	3.2	355	380	17	Normal	m	NE	4	1020	27.5	28.1	×	Z	37.2	
190		1 = 1	Jan. 16	10-54.8	86-06.4	15-35	145	10-53.3	86-05.9	16-05	144	30	3.2	160	5005	- - -	Normal	m	NE	5 LO	1017	27.8	28.0	×		49.4	
189		1.000	Jan.16	11-00.0	86-02.3	13-53	108	10-59.8		14-23	115	0 M	3.4	265	400		Normal	B	Z	2	1019	27.8	27.2	×		55.5	
188		1	Jan.16	(N) 10-59.8 11-00.0 10-54.8 10-54.4	85-58.6	12-48	101	2:00-11 (N)	86-00.0 86-04.2	13-18	104	30	3 0	285	400	12	Norma	8	X	52	1019	28.5	26.6	Ж		47.0	
Series No. of Net		Survey Area	Survey Date	osition lat. (N)]	of Start long. (W) 8	Nime of Start (LST))epth of Start (m)	osition lat. (N) 1	of Finish, long (W) 8	ime of Finish (LST)	epth of Finish (m)	owing Time (min)	owing speed (knot)	owing Direction	ength of Warp (m)	Hing Spread (m)	tate of Haul	eather	ind Direction	Ind Force	ltmosph.Pressure (mb)	Air Temperature (°C)	Surface WaterTemp (°C)	sottom materials	urrent Direction	otal Catches (kg)	(endr ks

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

Series No. OI Net	c 07	0 0 77	102	2007	222	>13				+ 1		2	1	2	2		1
at Asco	~	M	6	3		m	3	m2	3	8	8	2	2	2	2	2	2
Survey Date	Jan.23	Jan.23	Jan.23	Jan.23	Jan.24	Jan.24	Jan.24	Jan 24	Jan.24	Jan.24	Jan 24	Jan.25	Jan 25	Jan 25	Jan.25	Jan 25	jan.25
Acition lat. (N)		9-36.2	9-37.0	9-39.6	9-41.6	9-43.1	9-45.8	9-47.4	9-43.8	9-46.4	9-46.8	9-55.5	9-55.6	9-55.2	9-56.9	9-59.2	10-00.1
long.	85-16.7	85-18.5	85-19.5	85-20.4	85-20.0 85-23	85-23.9	85-23.6	85-28.3	85-28.6	85-30.0	85-32.9	85-44 2	85-46.2	85-47.2	85-49.0	85-46.6	85-46.6
tart (L			15-48	16-52	07-46	0-00	10-20	11-47	13-47	15-00.	16-06	07-20	08-36	03-20	11-50	13-01	14-15
Nanth of Start (m)	1	102	107	83	63	81	59	64	100	89	105	83	101	179 1	231	62	72
l lat.	Գ	9-35.3	9-38.3	9-38.4	9-42.6	9-44.1	9-47.0	9-47.4	9-44.6	9-47.2	9-47.4	9-56.6	9-54.5	9-56.3	9-55.8	10-00.6	9-58-9
long	1^{\sim}	85-17.4	85-20.6	85-19.4	85-21.3 85-25	85-25.1	85-24.9	85-27.9	85-30.1	85-31.2	85-34.6	85-45.2	85-45.5	85-48.4	85-48.2	85-48.2 85-47.7	85-45.6
nish (L		15-09	16-18	17-22	08-16	09-31	10-50	11-55	14-17	15-30 c	16-36	02-20	10-60	10-20	11-35	13-31	14-45
1 0	1	103	107	88	66	82	56	62	109	88	105	84	105	185	223	82	74
15	30	30	30	30	30	30	30		30	30	30	30	25	30	30	30	30
			3.4	3.0	3.2	3.2	3.6		3.6	3.0	3.4	3.1	3.1	3.4	2.9	3.4	3.0
Causing Direction		130	320	140	310	310	310	36	295	300	290	320	145	310	145	320	145
enoth of Warp (m)		390	400	300	200	300	200	280	380	380	380	380	380	580	680	300	280
		12	14	10	14	11		10	12	LL	21	10		13		10	13
t to the second s	Nor	Normal	Normal	Norwal	Normal	Normal	Normal	Lost	Normal	Norma I	Normal	Normal	Normal	Norma I	Normal	Normal	Norma!
	6	+	B	BC	m	В	B	BC	B ()	8	8	8	8	В	8	B	8
tration linestich	S.F.	SE	SE	SE	Ч	NE	AN .	SE	SE	ΝS	S.W	NE	NE	ENE	S	ŔΝ	S
Part Country and	P	7	4	4	2	2	1	2	2	2	3	÷.	3	7	•••	4	1
Atmosph Pressure (mb)	3	1014		1015	1017	1019	1019	1018	1016	1016	1015	1016	1017	1017	1016	1015	1014
Air Temperature (°C)	18	32 0	29.0	29.5	29:0	30.0	31.0	31.5	31.5	31.0	31.0	29.8	29.1	32.0			32.0
Surface Vater Temp (°C)	29.2	29.2	29.2	29.2	28.9	29:0	29.2	29.2	29,1	29.4	29.3	28.0	28.1	28.5	28.8		28.4
Bottom matorials				- - - - - - - - - - - - - - - - - 	×	K	N. N		N.	H.	W	N.		(_ M	H	H	H
Turnont Direction												NNN	NNN (NNN (
C-ALLEN (I.A.)	20.2	18 5	6 66	10.7	45	19 4	41.4	0	56.6	59.0	40.5	43.7	83.	5 703.0	2448	8.9	B 57.
denarks		1 to .															
													2 				
			.,.						۰.	: ; ;	-	÷				• •	

-54-

	238		1	Jan.31	10-59.	86-26	10-35	180	11-00-(86-28-0	11-05	173	8	3.2	280	580		Normal	2 2 2 2 2 3	HE .	4	1017	26.2	26.2	×		109.2		
	237		.	Jan.31	10-58.4	86-21.9 86-26	0-04	183	10-57.8	86-23.5	09-34	183	30	3.2	250	- 2009		Normal :	Ð	NE	3	1016	25:5	24.6	×		77.3		
	536			Jan.30	10-47.4	85-04.1	16-32	145	10-45.8 10-49.0 10-57.8 11-00.0	86-04.3	17-02	145	8	3.2	355	480	10	Norma]	BC	NE	4	1014	28.0	22.6	×		113.6		
	535	-		Jan. 30	10-44.0	86-05.2	15-15	159		86-05.4	15-45	157	30	3.4	355	500	6	Norma]	BC	N	3	1013	26.5	23.0	H N	MNN	100.7	- <u></u>	· .
	234	F	-1	Jan. 30	10-45.3	86-02:7	13-55	142	10-43.9	86-00.7 86-02.9 86-05.4	14-25	142	30	3.0	185	480		Normal	BC	N ST	4	1014	27.5	22.8	Ж		75.7		
	233		4	Jan. 30	10-44.3	86-00.2	12-43	127	10-46.0	86-00.7	13-13	127	30	3.6	340	400	6	Normal	BC	NE	3	1016	29.5	22.9	Ж		98.0		
	232			Jan. 30	.3 10-20.5 10-43.7 10-44.7 10-48.1 10-45.8 10-44.3 10-45.3 10-44.0 10-47.4 10-58.4 10-59.	85-58.9	11-30	110	10-46.1 10-48.5 10-44.3 10-46.0 10-43.9	85-58.2	12-00	114	30	3.2	155	380		Normal	BC	NE	3	1016	28.0	22.3	H		32.0		
	231		-	Jan. 30	10-48.1	85-55.2	10-14	88	10-48.5	85-55.4 85-56.8	10-44	- 7 6 .	30	3.2	290	300	14	Normal	BC	NE	3	1017	28.0	21.1			101.7	s.,	· ·
	230		- -	Jan. 30	10-44.7	85-54.7	09-04	6	10-46.1	85-55.4	09-34		30	3.0	335	300	14	Normal	BC	NE	. 8	1017	26.0	21.8	×	-	317.2		<u> </u>
	229	**************************************	- The second sec	Jan.30	10-43.7	85-50.7	07-46	- 26	10-45.2	85-51.2	08-16	1. 2 76	30	3.2	340	300	10	Normal	BC	NE	3	1016	22.5	21.1	N		120.2		
	8 2		1	Jan.28	10-20.5	85-57.0	07-58	99	10-22.2 10-45.2		08-28	. 72	30	3:0	0	280.		Normal 1	BC >	NNE	ى م	1017	30.0	24.6	- - 	· · ·	67.0		
	227	6	1	Jan. 27	10-10.3		08-25	76	10-09-0	35-52.4	08-55	- 78	30	3.0	150	280	· · ·	Norma I	B	NE	9	1018	27.0	27.1	М		43.5		
	526	•	4	Jan 27 .	0-08.7	85-51.4 85-53.1	07-10	67		5-52.5 8	07-40	- 11	30	3.4	325	280	13	Normalh	BC	NE	9	1018	25.0	25.2	· · ·		63.4		
	225	6		Jan. 26	0-05.4]	5-51.4 8	10-03	101	0-04 7 1	5-51.8 8	10-15	106	12		180	380		Normal	В	NNE	5~7	1018	28.5	28.0	X		26.4		• <u> </u>
	534	•		Jan. 26 J	0-06.1]1	5-50.5 8	08-43	81	0-04.7 1	5-49.7 8	09-13	83	30	3.2	150	300	11	Normal N	<u>с</u> а	NNE	ى ك	1018.	27.5	28.0	, M	NN	16.9		
	533	¢	90 1910 1910	Jan.26 J	0-04.0	5-48.3 8	07-39	65	0-05.5 1	5-49.3 8	08-09	67	30	3.6	325	280	13	Normal N	В	NNE	9	1017	30.0	28.1	X	AN	65.1		
	222		3	Jan.25 J	9-57.6 10-04.0 10-06.1 10-05.4 10-08.7 10-10	(V) 85-44.8 85-48.3 85-50.5 85-51.4	15-28	22	9-56.4 10-05.5 10-04.7 10-04.7 10-10.1	(W) 85-43.6 85-49.3 85-49.7 85-51.8 85-52.5 85-52.4 85-57.0	15-58	22	30	3.2	140	280	10	Normal N	e G	SW	3	1014	30.5	28.6	×		26.4		
	let				(N)		(LST)	(E)	(N)		(LST)	(m)	(mim)	knot)		(u)	(¹¹) .	X				е (шр)	. (ລູ)	_{mp} (° C)	S	- uo	(kg)		
	Series No. of Net	Timutov, brook		Survey Date	osition lat.	of Start long.	ime of Start)epth of Start	osition lat.	of Finish long	e of Finish	epth of Finish	owing Time	owing speed (knot	owing Direction	ength of Warp	g Spread	tate of Haul	eather	ind Direction	Vind Force	thmosph.Pressure	ir Temperature	Surface WaterTemp (°C)	Sotton materials	Current Direction	otal Catches	kemarks	
L	Se.			Sur	so So	ч, Ч	Time	Dept	Posi	of .	Time	Dept	Iowi	Fow	Tow	Lens	Suiv	Stat	Nea1	Nin,	vin.	Atm	Air	Sur	Bot	L. D.	Tot	Ken.	

Series No. of Net	539	042	741	242	. 243	244	245	246	747	248	548	220 720	52	525	253	254	222 222
Survey Area			p-4	/ 		-1										1	1
Survey Date	Jan.31	I Feb.1	1 Feb.1	Feb.1	Feb.1	Feb.1	Feb.1	Feb.2	Feb.2	Feb.2	Feb.2	Feb.2	Feb.2	Feb.2	Fzeb.2	Feb.3	Feb.3
osition lat. (N	(N) 11-00.4	4 10-49.8		10-4106 10-40.2 10-41.7	10-41.7	10-42.2	10-37.4	10-37.4 10-30.7 10-33.8 10-35.7 10-34.1	10-33.8	10-35.7	10-34.1		10-32.5 10-34.5	10-37.1 10-39.3	10-39.3	10-40.5	10-44.6
of Start long. (W	(V) 86-31.4	.4 86-03.2	.2 86-03.0	0 86-02.3	86-00.7	85-59.7	86-01.4	86~03.2	86-03.2 86-04.5	86-07.0	86-09.1	86-10.3		86-09.8 86-09.586-05.5	36-05.5	86-07.0	86-08.2
Nime of Start (LST)	r) 12-04	4 07-03	3 09-11	10-28	11-39	13-10	14-32	07-16	08-13	03-20	10-19	11-26	13-02	14-04	15-40	07-42	80-60
)epth of Start (m)	u) 159	130	143	134	129	124	119	102	111	120	124	156	169	195	166	173	183
osition lat. (N	(N) 10-59.6	6 10-48.5		10-40.0 10-41.7 10-40.1	10-40.1	10-39.9	10-35.6	10-32.3	10-35.5	10-34.3	10-32.3	10-35.6 10-32.3 10-35 5 10-34.3 10-32.3 10-30.9 10-36.1	10-36.1		10-38.4 10-41.0 10-41.9 10-46.3	10-41.9	10-46.3
of Finish long (W	(1) 86-32.9	9 86-03 0	0 86-03.5	5 86-01.6	86-00.6	85-59.5	86-02.4	86-04.0	86-04.8	86-08.1	86-09.5	86-02.4 86-04.0 86-04.8 86-08.1 86-09.5 86-10.5 86-09.7	86-09 7	86-08.6	86-05.9	86-08.0	86-09.4
line of Finish (LST)	r) 12-34	4 07-33	3 09-41	10-58	12-09	13-40	15-02	07-46	08-43	09-50	10-49	11-56	13-32	14-34	16-10	08-12	09-38
lepth of Finish (m)	162	134	142	132	126	121	113	108	115	117	128	172	185	189	167	183	186
owing Time (min)	() 30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	ଛ
owing speed (knot)	3.2	2 2.6	3.2.	3.4	3.2	44	3000	3.6	3.4	3.6	3.6	3.4	3.0	3.0	3.6	3.4	3.8
owing Direction	240	175	195	52	180	175	210	335	350	215	190	190	5	35	350	325	325
ength of Warp (m)	0) 200	400	480	400	007	380	380	380	380	380	380	480	480	500	500	580	288
ling Spread (m)		10	8	12		11	10	15	15	1	6	10			11		
tate of Haul	Normal	I Normal	Normal	Norma !	Tear	Norma!	Tear	Normal	Norma !	Normal	Normal	Norma]	Normal	Normal	Normal	Normal	Normal
eather	BC	BC	B	8	BC	BC	BC DB	é	8	BC	В	B	60	BC	BC	BC	æ
find Direction	RE	NE	NE	NE	NE	NE	NE	X	NNE	NNE	NNE	NNE	INNE	NNE	NNE	NE	E
lind Force	2	5	9	ы	2	4	8	2	ŝ	3	3	ŝ	ي ما	5	4	5	ŝ
tmosph.Pressure (mb)	0101	1016	1016	1016	1016	1014	1014	1016	1016	1018	1018	1016	1015	1013	1013	1016	1018
ir Temperature (°C)) 28.0	0 26.0	27.5	29.0	28.5	29.0	29.5	31.0	31.0	29.5	29.3	29.2	32.0	32.0	32.0	30.0	29.5
urface NaterTemp (°C)				27.5	27.6	27.6	27-8	28.1	28.2	28.3	28:2	28.2	28.3	28.4	28.3	28.0	27.6
Sottom materials	M	N.	2	1	×		H/Sh		100 A				H		×	H	
urrent Direction																	
otal Catches (kg)) 30.0	.0 944.2	2 32.0	0 29.1	51.7	23.5	40.5	27.1	25.0	120.4	18.8	101.3	32.1	175.2	282.1	196.2	109.4
enarks																	
		: 	<u></u>														•

272		2	Feb.11	10-06.	85-54	07-26	181	I0-05	85-53	07-56	198	8	2.9	135	580	13	Normal	BC	NE	4	1016	28.5	28.1	н		125.0			
271		3	Feb. 10	9-39.4	85-16.7 85-54.	13-05	63	9-40.3 IO-05-7	85-17.9	13-35	8	30	3.0	310	280	0	Normal	8	S		1015	34.0	29.6			41.3			
270		3	Feb.10	9-29.5	85-12.7	10-17	254	9-23-8	85-14.1	10-47	248	30	2.9	285	780		Normal	<u>~</u>	NN	r 1	1017	31.0	29.7		ja.	41.5			
269		3	Feb. 10	9-23.9	85-13.4	08-44	234	9-29.2 9-30.7 9-29.9	85-12.4 85-13.6 85-14.7 85-14.1 85-17.9 85-53.	09-14	237	30	2.6	270	002	14	Norma 1	ŝ	NNN	m	1017	30.0	28.8			188.0			-
268		3	Feb.10	9-30.4	85-12.2	07-26	172	9-30.7	85-13.6	07-56	169	30	3.0	285	500		Normal	m	ΛN	2	1015	29.0	29.0			477.0		. :	
267		3	Feb.9	9-28.9	85-11-2	16-19	289	5 a	85-12.4	16-49	291	30	2.6	285	880	12	Normal	BC	SE	4	1012	30.0	29.2	×		79.6			
266	tara tara ang	3	Feb. 9	9-28.2	85-10.3 85-10.5	14-21	402	1.1	85-11.8	14-51	403	30	2.6	275	1000	6	Normal	8	SE	4	1013	30.5	29.2	X		19.0		· .	!
265		3	Feb. 9	9-28.5	85-10.3	12-37	362	9-28.6	85-11.6	13-07	378	30	2.8	275	005		Normal	6	ш	3	1014	31.5	29.2			14.8			
264			Feb.4	10-50.4	86-22.4	14-56	197	10-50.8	86-24.1	15-26	194	30	3.4	285	580		Norma I	В	ENE	5	1013	29.0	27.6	. *		207.8			
263		1	Feb.4	10-54.8	86-22.4	13-47	192		86-24.0 86-24.1	13-17	191	30	3.4	285	580		Normal	В	ENE	9	1017	29.0	27.7	X		141.7			
262		1.	Feb.4	10-53.9 10-54.8	86-18.9 86-22.4	11-42	192	2 10-54.3 10-55.1	86-20.6	12-12	192	30	3.4	285	580		Normal	æ	ENE	9	1016	29.0	27.6			189.2			
261		1.0	Feb.4	\circ	86-17.9	09-40	196	10-52 2	11-	10-10	196	30	3.4	275	600		Normal	8	NE	2	1017	27.0	27.6	X		139.3			
260		1. S	Feb 4	10-51.8	86-13.6		191	10-51.8	86-15.4	08-59	195	8	3.4	270	580		Wormal	8	ÅE	9	1017	27.0	27.6	×		273.8			
259		1	Feb. 3	10-54:3 10-50:4 10-46.6 10-51.8 10-52.	86-06.5	15-44 08-29	166	10-45.2	86-07.0	16-14	172	30	3 0	200	480		Normal	B	NE	2	1013	29 0	27.5	×		997.4			
258		1	Feb 3	10-50.4	86-06.8	14-20	160	10-48:6	86-06.6	14-50	161	30	3.6	170	480		Normal	8	NE	9	1013	30.0	27.3	 		56.3			
257			Feb.3	10-54.3	86-08.7	12-41	162	10-52.7	86-08.3	13-11	164	8	3.2	165	480		Normal	8	NE	9	1015	32.0	27.2	×		287.6			
256		1	Feb.3	(N) 10-49.1	86-09.4	10-35	180	(N) 10-50.8 10-52.7 10-48.6 10-45.2 10-51.8 10-52.	(W) 86-10.4 86-08.3 86-06.6 86-07.0 86-15.4 86-19.	11-05	182	300	3.8	330	580		Norma I	8	E E N	9	1017	29.5	27.8	×		109.4			•••••••
of Net		2	e	lat.	10ns. (W) 86-09.4 86-08.7 86-06.8 86-06.5 86-13.6 86-17.	Fine of Start (LST))epth of Start (m)	at:		ine of Finish (LST)	of Finish (m)	ie (min)	ed (knot)	ection	Warp (m)	(ш) pi			tion		essure (mb)	ature (°C)	aterTemp (°C)	erials	rection	thes (kg)			
Series No. of Net		Survey Area	Survey Date	Position	of Start	Time of St.	Depth of S	Position	of Finish long	Time of Fi	Depth of F	Towing Time	Towing speed	Towing Direction	Length of Warp	Wing Spread	State of Haul	Weather	Wind Direction	Wind Force	Atmosph.Pressure	Air Temperature	Surface WaterTemp	Bottom materials	Lurrent Direction	Total Catches	Remarks		

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

-

597	r-4	Jan.15	10-39.8	85-44.4	18-58	28	10-41.5	85-44.6	19-28	57	8	3.5	350	180	24	Normal.	B	NNE	5	1015	28.5	27.5	H	<u> </u>	16.8	Double	Irawl	Net	
288	7-4	Jan.14	10-38.9	86-15.3	08-52	229	10-39.1	86-15.5	00-60	226	8		325	200		Tear	BC	NE	5	1018	28.5	25.4	H/R		N. 2				
287	2	Jan.13	10-18.8 10-21.9 10-38.9 10-39.1	85-56.0 85-59.3 85-59.4 86-02.8 86-07.3 86-15.3	14-48	124	10-20.6	86-04.1 86-16.4 86-15.5	15-18	127	30	3.0	150	400		Normal.	8	NE	4	1015	29.0	27.2	N 1		119.4				<u> </u>
286	2	Jan.13		86-02.8	13-02	110	10-20.6 10-20.0		13-32	50I	30	3.4	315	380	14	Norma	BC	NNE	3	1016	29.5	26.4	S M N		95.1			11 . 13 1 14	· · · ·
285	2	Jan.13	10-23.5 10-22.1	85-59.4	11-41	68	10-20 6	85-56.0 86-00.3 85-59.7	12-11	95	8	3.2	190	300	11	Normal	BC	NE	4	1017	27.8		N.		64.5				
284	2	Jan.13		85-59.3	10-23	86	10-27.2 10-23.8 10-24.8	86-00.3	10-53	92	30	3.4	325	300	12	Normal	BC	NE	4	1018	29.8	26:9	Ж		54.7				
283	2	Jan.13	10-25.4	85-56.0	08-10	11	10-23.8	85-56.0	05-60	02	30	3.4	180	285	14	Norma I	BC	NE	4	1018	27.5	26.6	Ĥ		52.3				
282	2	Jan.13	10-28.7	85-57.1	07-58	84	10-27 2	85-57.2	08-28	81	30	3.2	180	280	15	Normal	В	NE	3	1018	27.0	27.1	(X) (97.3				
5 81		Jan.12	10-40.2	86-12.6	13-35	218	10-39.1	86-13.6	14-05	226	30	3.0	225	004		Normal	BC	NE	5	1016	28.5	28.0	H 👘		243.5				
580	1	Jan.12	10-39.4	86-09.9	12-27	205	10-40.8	86-10.9	12-57	212	30	3.2	325	600		Norma 1	. B.	NE	ີ ເດັ	1016	31.0	28.0			181.9				
513	1 1	Jan. 12	10-35.0	86-12.0	10-22	214	10-36.4	86-12.5	10-52	226	30	2.8	340	600		Normal	8C	NE	4	1018	31.0	28.0	H.		57.3				
8/2		Jan.12	10-30.8	86-12.0	08-33	224	10-32.2	86-12.6	09-03	231	30	3 0	340	100		Normal	В	NNE	4	1018	29.5	28.0	H		315.2				2 2
112	2	Jan.11	10-15.6	85-59.2 86-01.4 86-12.		112 - [10-14.2		16-11	114	30.	3.0	150	400	14	Norma]	BC	N N	ŝ	1014	31.0	28.5	Keel a		378.0		 	 	
276	2	Jan.11	10-11.2	85-59.2	13-39	209	10-10.0 10-14.2	85-58.3 86-00.6	14-09	217	30	2.8	140	600	13	Normal	BC	NE	4	1015	32.0	28.3	e george de la la compara de la compara d Este de la compara de la com		465.0	s. A de la companya de			
275	5	Jan.11	10-11.0	85-59.0	12-17	174		85-58.1	12-47	181	30	2.6	135	200	13	Normal 3	BC	NE	3	1016	33: 0:	28.4	K		114.4	and and a state of the second s	<u></u>		
274	2	Jan.11	10-09.0	85-54.9 85-59.0	10	107	10-10.0 10-10.1	85-56.2	11-05	114	30	3.3	310	380	11	Normal 1	BC	NE	4	1017	32.0	28.3	N S		161.1				
273	2	Jan.11	10-06.2	85-54.7 8	08-53	236	10-05.2	85-53.7 8	09-23	250	30	2.8	140	600		Normal N	BC	NE	4	1017	29.5	28.2	N.		67.8				
let			(N)	(11)	(LST)	(m)	(N)	(N)	(LST)	(E)	(min)	knot)	line in the second s	(m)	(¹)	X				(dm)	С°)	رت (C)		"	(kg)	in a state of the			
Series No. of Net	Area	Date	n lat.	t long.	of Start	f Start	n jat.	sh long	ine of Finish	lepth of Finish	Time	owing speed (knot	owing Direction	ength of Warp	read	f Haul		ection.	ce :	tmosph.Pressure	Air Temperature (°C)	urface WaterTemp (°C)	Sottom materials	Current Direction	tches	an dia kaominina dia kaomin Ny INSEE dia kaominina dia k			
Series	Survey Area	Survey Date	Position	bf Start	Time of	Depth of	Position	of Finish	Time of	Depth o	Towing Time	Towing	Towing	Length	Wing Spread	State of Haul	Veather	Wind Direction	Vind Force	Atmosph.	Air Temp	Surface	Sottom m	Jurrent	Total Catches	Remarks			

		295 296 297 298 299 300 301 302 303 304 305 306 1	296 297 1 1 1 Feb.16 Feb.16 10-41.0 10-42.6 85-47.6 85-51.1 19-29 20-33 19-29 20-33	298 299 1 1 1 Feb.15 Feb.16 10-41.0 10-40.4 85-54.2 85-58.4 21-30 22-40 88 114 10-39.4 10-42.1 85-55.2 85-58.5 22-00 23-10	299 300 1 1 1 Feb.16 Feb.16 10-40.4 10-42.2 85-58.4 86-001 22-40 23-36 114 125 10-42.1 10-41.1 85-58.5 86-01.3 23-10 00-06 115 131 115 20	300 301 1 1 1 Feb.15 Feb.17 10-42.2 10-40.4 86-02.4 23-36 00-35 125 138 10-41.1 10-42.2	302 7 Feb.17 54 10-47.7 54 86-02.4 16 02-15	303 303 3 1 Feb.17 Fe	304 305	306
Survey Area 1 1 1 1 Survey Date 1 1 1 1 1 Survey Date 1 10-44.2 10-45.0 10-45.0 85-51.0 85-55.2 Position lat. (N) 10-44.6 85-47.7 85-51.0 85-55.2 Of Start long. (N) 85-44.6 85-45.0 85-55.8 Opeth of Start (m) 53 62 76 95 Position lat. (N) 10-45.6 10-47.3 00-02 Opeth of Start (ms) 85-45.9 85-56.6 85-55.8 Position lat. (N) 10-45.6 10-47.3 Of Finish long 07 22-33 00-02 Depth of Start (ms) 85-45.9 85-55.8 Finection 33 21-32 23-03 00-32 Depth of Finish (ms) 35.6 54 77 94 Time of Finish (ms) 35.6 56 56 77 94 Time of Finish (ms) 35.0 32.0 30.0 Opting Spread (ms) 32.0 32.0 34.0 Lowing Spread (mot) <		1 1 Peb.16 Feb. Peb.16 Feb. 0-44.7 10-4 86-01.6 85-4 02-18 19- 136 6 0-46.4 10-4 6-02.1 85-4 02-48 19-	16 Feb.16 1.0 10-42.6 7.6 85-51.1 7.6 85-51.1 2.9 20-33 2.6 10-41.4 2.6 10-41.4	I Feb. 16 Feb Feb. 15 Fe Fe 10-41.0 10 2 85-54.2 85 2 21-30 2 88 85-55.2 85 2 22-00 2 2	1 1 1 ab.16 Feb 10- 5-58 4 86-(7-58 5 86-(7-58 5 86-(7-58 5 86-(715 11 10-	15 Feb.1 42.2 10-40 00.1 86-02 -36 00-3 25 138	7 Feb.17 4 10-47 7 4 86-02.4 16 02-15	1 Feb.17 710-59:41		
Survey Area 1 <th< th=""><th></th><th>1 1 7 10-44 7 10-4 10-44 7 10-4 10-44 7 10-4 10-44 10-4 136 6 136 6 136 6 0-46 4 10-4 6-02.1 85-4 6-28 19-4 126 19-1 126 10-4 126 10-4 10-4 126 10-4 126 10-4 126 10-4 126 10-4 126 10-4 10-4 126 10-4 126 10-4</th><th>16 Feb.16 1.0 10-42.6 7.6 85-51.1 29 20-33 9 77 2.6 10-41.4</th><th>1 1 Feb.16 Fe 10-41.0 10 85-54.2 85 21-30 2 88 88 85-55.2 85 22-00 2</th><th>1 1 1 ib:16 Feb ib:16 10- ib:16 23 114 1: ib:15 1: ib:15 1: ib:15 1:</th><th>1 16 Feb.1 42 2 10-40 20.1 86-02 36 00-3 36 138 25 138 25 110-42</th><th>1 7 Feb.17 14 10-47.7 14 86-02.4 15 02-15</th><th>1 Feb.17 Fe</th><th>a she ta ta</th><th></th></th<>		1 1 7 10-44 7 10-4 10-44 7 10-4 10-44 7 10-4 10-44 10-4 136 6 136 6 136 6 0-46 4 10-4 6-02.1 85-4 6-28 19-4 126 19-1 126 10-4 126 10-4 10-4 126 10-4 126 10-4 126 10-4 126 10-4 126 10-4 10-4 126 10-4 126 10-4	16 Feb.16 1.0 10-42.6 7.6 85-51.1 29 20-33 9 77 2.6 10-41.4	1 1 Feb.16 Fe 10-41.0 10 85-54.2 85 21-30 2 88 88 85-55.2 85 22-00 2	1 1 1 ib:16 Feb ib:16 10- ib:16 23 114 1: ib:15 1: ib:15 1: ib:15 1:	1 16 Feb.1 42 2 10-40 20.1 86-02 36 00-3 36 138 25 138 25 110-42	1 7 Feb.17 14 10-47.7 14 86-02.4 15 02-15	1 Feb.17 Fe	a she ta	
Survey Date Feb.15 Feb.17 Feb.16 Feb.17 Feb.17 Feb.17 Feb.17 Feb.17 Feb.17 Feb.15 Feb.16 Feb.17 Feb.17 </td <td></td> <td>Top Top Ceb.16 Feb. O-44.7 10-4 S6-01.6 85-4 O2-18 19- 02-18 19- 02-18 19- 02-48.4 10-4 02-48.4 10-4 02-48.4 10-4 02-48.1 85-4 02-48 19- 02-48 19-</td> <td>16 Feb.16 1.0 10-42.6 7.6 85-51.1 29 20-33 9 77 9 77</td> <td>Feb. 16 Feb. 16 Feb. 16 10+410 10 85-542 85 21-30 2 88 10 10-394 10 85-55.2 85 22-00 2</td> <td>ib.16 Feb)-40.410-)-40.410- 5-58.48 86- 22-40 23 114 11 0-42.110 10- 0-558.5 86- 23-10 00 23-115 11</td> <td>116 Feb.1 42.2 10-40 00.1 86-02 36 00-3 25 138 41.1 10-42</td> <td>7 Feb.17 .4 10-47.7 .4 86-02.4 85 02-15</td> <td>Feb.17 Fe</td> <td></td> <td></td>		Top Top Ceb.16 Feb. O-44.7 10-4 S6-01.6 85-4 O2-18 19- 02-18 19- 02-18 19- 02-48.4 10-4 02-48.4 10-4 02-48.4 10-4 02-48.1 85-4 02-48 19- 02-48 19-	16 Feb.16 1.0 10-42.6 7.6 85-51.1 29 20-33 9 77 9 77	Feb. 16 Feb. 16 Feb. 16 10+410 10 85-542 85 21-30 2 88 10 10-394 10 85-55.2 85 22-00 2	ib.16 Feb)-40.410-)-40.410- 5-58.48 86- 22-40 23 114 11 0-42.110 10- 0-558.5 86- 23-10 00 23-115 11	116 Feb.1 42.2 10-40 00.1 86-02 36 00-3 25 138 41.1 10-42	7 Feb.17 .4 10-47.7 .4 86-02.4 85 02-15	Feb.17 Fe		
Position lat. (N) 10-44.2 10-45.3 10-45.3 10-45.5 10-45.5 10-45.6 10-45.6 10-45.6 10-45.6 10-45.6 10-45.6 10-45.3 10-45.6 10-45.3 10-45.3 10-45.3 10-45.3 10-47.3 00-02 00-	00	0-44.7 10-4 66-01.6 85-4 02-18 19- 136 6 136 6 0-46.4 10-4 6-02.1 85-4 02-48 19-	1.0 10-42.6 7.6 85-51.1 29 20-33 9 77 2.6 10-41.4 2.6 10-41.4	10-41.0 10 85-54.2 85 21-30 2 88 28 10-39.4 10 85-55.2 85 85-55.2 85 22-00 2)-40 4 10- -58 4 86-(22-40 23 114 10- -42 1 10- 10- 23-10 00 23-10 00 115 11	42. 2. 10-40 20.1 86-02 -36 00-3 25 138 41.1 10-42	10-47.7 14 10-47.7 14 86-02.4 15 02-15	10-59:4 11	Feb.17 Feb.17	7 Feb.17
of Start [long. (W) 85-44.6 85-47.7 85-51.0 85-55.2 Time of Start (LST) 20-03 21-07 22-33 00-02 Depth of Start (m) 53 62 76 95 Position lat. (N) 10-45.6 10-45.0 85-55.8 Position lat. (N) 10-45.6 10-45.0 85-55.8 Position lat. (n) 55 64 77 94 Powing Time of Finish (m) 30 25 30 30 Powing Time (min) 30 25 30 30 Powing Time (min) 30 25 30 30 Powing Time (min) 30 25 30 30 Powing Direction 320 315 170 340 Length of Varp (m) 180 180 180 30 Ving Spread (m) 24 24 24 State of Haul Normal Norma Normal Normal Normal Nor	0 - न म	66-01.6585-4 02-18 19- 136 6 0-46.4 10-4 66-02.185-4 02-48 19-	85-51.1 20-33 77 10-41.4	85-54.2 85 21-30 2 88 88 10-39.4 10 85-55.2 85 22-00 2)-58 4 86-(22-40 23 114 12)-42 1 10-2)-42 1 10-2)-42 1 10-2 23-10 00 23-10 00	00.1 86-02 -36 00-3 25 138 41.1 10-42	4 86-024 15 02-15		-00-8 11-00	2 10-59.1
art (LST) $20-03$ $21-07$ $22-33$ $90-02$ tart (m) 53 62 76 95 lat. (N) $10-45.6$ $10-47.3$ $10-47.3$ long (N) $85-45.9$ $85-48.0$ $85-55.8$ nish (LST) $20-33$ $21-32$ $22-03$ $00-32$ nish (m) 56 64 77 94 e (min) 30 25 30 30 ed (knot) 3.8 3.5 3.5 3.5 ed (knot) 3.8 3.5 3.6 3.6 varp (m) 30 25 30 30 30 d (m) 30 180 180 180 300 30 d (m) 24 24 24 24 24 aul Normal Normal Normal Normal $Normal 100 d (m) 24 24 24$			20-33 77 10-41,4		22-40 23 114 12 -42.1110 -42.1110 -42.1110 -42.1110 -115 115 115	-36 00-3 25 138 41.1 10-42		1 85-50 4 81	85-54.2 85-58.4 86-00.1 86-02.4 86-02.4 85-50.4 85-55.4 85-55.4 85-56.9 86-01.2	9 86-01
tart (m) 53 62 76 95 lat. (N) 10-45.6 10-45.6 10-43.4 10-47.3 long (W) 85-45.9 85-48.0 85-55.8 nish (LST) 20-33 21-32 23-03 00-32 inish (LST) 20-33 21-32 23-03 00-32 inish (LST) 20-33 21-32 23-03 00-32 ection 30 26 64 77 94 e (min) 30 25 33 30 30 ection 320 315 170 340 36 Varp<(m)	निष्		77 10-41.4		114 11)-42.1 10-1)-58.5 86-(23-10 00 115 11	25 138 41.1 10-42	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	19-25	20-40 21-40) 22-59
lat. (N) 10-45.6 10-45.0 10-47.3 long (W) 85-45.9 85-48.0 85-55.8 nish (LST) 20-33 21-32 23-03 00-32 inish (m) 56 64 77 94 e (min) 30 25 30 30 ed<(knot)	<u></u>		10-41.4)-42.1 10-/)-58.5 86-(23-10 00	41.1 10-42	135	78	96 06	≦105 °
long (W) 85-45.9 85-45.0 85-55.8 hish (LST) 20-33 21-32 23-03 00-32 inish (m) 56 64 77 94 e (min) 30 25 30 30 30 ed (knot) 3.8 3.5 3.6 340 varp 3.8 3.5 3.8 3.5 ection 3.20 315 170 340 Varp<(m)	7		C C L C)-58.5 86-(23-10 00 115 11		2 10-49.4	10-59.7	11-00.5 10-58.5	5 11-00.6
(LST) 20-33 21-32 23-03 00-32 nish (m) 56 64 77 94 (min) 30 25 53 30 30 d (knot.) 3.8 3.5 3.5 3.5 d (min) 30 25 30 30 30 d (knot.) 3.8 3.5 3.8 3.5 3.5 dit (m) 180 180 180 180 300 300 arp<(m) 180 180 180 180 180 30 30 dit Normal Normal Normal Normal Normal Normal bion NBE B B B B B B B source (m) NNE WW NW N N N ion NBE B B B B B B B B B B B B B B B B B B	┠╧╍┨╧╸┠╍╍	┨╍╧╍┨╼┘	0.70-00		┟╧╍╌┠╍╼═┢━	01.3 80-02	.5 86-02.6	85-52.1 85	86-01.3 86-02.5 86-02.6 85-52.1 85-57.0 85-56.5 86-03.7	5 86-03.
nish (m) 56 64 77 94 min) 30 25 30 30 30 at (knot) 3.8 3.5 3.8 3.5 3.5 ction 3.8 3.5 3.8 3.5 30 30 ction 320 315 170 340 30 30 arp (m) 180 180 180 30 30 arp (m) 24 24 24 24 24 arb Normal Normal Normal Normal Normal arb N N N N N N arb N N N N N N arb N N N N N N N arb B B B B B B B B B B B B B B B <td></td> <td></td> <td>59 21-03</td> <td></td> <td></td> <td>-06 01-05</td> <td>5 02-45</td> <td>19-55</td> <td>21-10 22-10</td> <td>) 23-29</td>			59 21-03			-06 01-05	5 02-45	19-55	21-10 22-10) 23-29
(min) 30 25 30 30 at (knot) 3.8 3.5 3.5 ction 320 315 170 340 arp (m) 180 180 180 300 arp (m) 180 180 180 300 arp (m) 24 24 24 (m) 24 24 24 arb B B B B bin Normal Normal Normal arb N NW NW N arb B B B B bin Normal Normal Normal Normal arb B B B B bin Normal NWW NW N arb NNE WNW NW N arb Normal 1016 1016 1016 cture (°C) 28.5 28.0 27.5 27.0 arb M M M M arb M M M 39.0		·.	69 81	94		131 139	129	84	36 36	111
d (knot.) 3.8 3.5 3.5 3.5 ction 320 315 170 340 arp (m) 180 180 180 300 arp (m) 24 24 24 (m) 24 24 24 (m) 24 24 24 (m) 24 24 24 b B B B B ion NNE WNW NW N ion NNE WNW NW N scure (mb) 1015 1016 1016 1016 ture (°C) 28.5 28.0 27.5 27.0 cure (°C) 27.5 27.0 26.8 26.2 rials M M M M		30 20 20	30	30 30		30 30	30	30	30 30	30
ction 320 315 170 340 arp (m) 180 180 380 ul (m) 24 24 24 ul Normal Normal Normal Normal ul Normal Normal Normal Normal ul Normal Normal Normal Normal ion B B B B ion NNE WNW NW N ion NNE WNW NW N seure (mb) 1015 1016 1016 1016 cure (°C) 28.5 28.0 27.5 27.0 cure (°C) 27.5 27.0 26.8 26.2 cials M M M M setion 134.4 60007.0 14.1 39.0	3.5 3.2	3.6 3	3.2 3.6	3.4	3.4	3.2 3.6	6 3.4	3.2	3.2 3.4	1 3.6
arp (m) 180 180 180 300 (m) 24 24 24 24 (m) 8 8 8 8 bio 8 8 8 8 sure NNE NNW NW N Nine NNE NNW NW N sure (mb) 1015 1016 1016 cure °C) 28.5 28.0 27.5 settion M M M M ection 134.4 60007.0 14.1 39.0	195	345	0 225	215		225 0	350	280	255 170	262
(m) 24 26 21 23 23 23 23 24 26 27 23 23 23 23 23 23 23 23 23 23 2	100 320	320 270	270	280	310 30	300 300	370	270	280 280	310
Normal Normal<	24 24	24 24	1 24	24	24 2	24 24	24	24	24 24	24
B D D <thd< th=""> D <thd< th=""> <thd< th=""></thd<></thd<></thd<>	Norma 1	Normal Normal	al Normal	Normal No	Normal Normal	ual Normal	I Normal	Normal No	Normal Normal	Norma I
NNE WN NW NW NW N<	В	BBB	8	~	8 	8	8	В	BB	B
3 1 3 3 (mb) 1015 1016 1016 10 (°C) 28.5 28.0 27.5 2 o(°C) 27.5 27.0 26.8 2 m M M M M n 134.4 60007.0 14.1	AN N	NV NE	KE	BN	NE NE	R NE	NE	NE	NE ENE	NNE
(mb) 1015 1016 1016 1016 10 (°C) 28.5 28.0 27.5 2 o(°C) 27.5 27.0 26.8 2 o(°C) 27.5 27.0 26.8 2 n M M M M n 134.4 60007.0 14.1	3	0 3	9	4	4	പ	9	4	4 5	5
(°C) 28.5 28.0 27.5 2 b (°C) 27.5 27.0 26.8 2 M M M M M n 134.4 60007.0 14.1	16 1015	1015 1014	1015	1015 1011	1015 1016	6 1016	1015	1016 1(1017 1017	1016
b (°C) 27.5 27.0 26.8 2 M M M H H 1 134.4 60007 0 14.1	7.0 27.0	26.5 28.5	5 28.5	28.0	27.5 27	27.0 27.5	5 27.0	26.0	24.5 23.8	24.8
м М И М М М М М М М М М М М М М М М М М	6.2 26.2	26.4 27.2	2 27 3	27.3	27.7 28.	0.0 27.8	8 27.3	20.8	21.2 21.3	24.6
(kz) 134.4 60007.0 14.1	¥	W.		i X	M M	M	Ŵ	H	H H	X
(k_{z}) 134.4 60007 0 14.1										
	39.0 81.2	81.8 11	18.8 110.0	44.0	73.2 1	17.0 14.4	.4 60.7	13.1	14.8 20.4	4 27.3
Remarks Jeily-		· · ·			-	- -				
201								·		:
			······		- 					

•

.

-- 59 --

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

323	5	Feb.20 Feb.20	10-32.5 10-27.2	86-05.0 85-56.6	01-00 19-00	109 79	34.2 10-25.6	86-05-0 85-57.2	01-30 19-30	113 78	30 30	3.4 3.2	0 200	380 290	24 24	Normal Normal	BC	NES	2 1	1013 1014	28.0 29.0	28.7 29.0	N N		25.6 18.6		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
321 322		Feb.20 Feb	10-33.2 10-	86-03.1 86-	10 00-00	107 1	10-31.3 10-31.8 10-31.6 10-34.2	6-03.8 86-	00-30 01	107	30	3.5	205	390	24	Normal No	8	8	3	1014 1	28.1	28.8	H		45.5			
22		Feb.19 F	10-33.1 1	85-58.4 86-01.3 8	22-49	102	10-31.8 1	86-02.2 86-03.8	23-19	102	30	3.4	215	400	24	Normal	8	E	2	1014	28.7	28.6	H		41.2		<u></u>	-
818	1	Feb.19	10-32.6	85-58.4	21-36	: 83 :		85-59.1	22-06	92	30	3.0	210	370	24	Normal	æ	SE	2	1014	29.0	28.6	H		39.8		······	
318	1	Feb.19	2 10-32.6	85-50.5 85-54.8	20-23	84	8 10-31.5	0 85-55.6	20-53	84	30	2.8	220	310	24	Normal	B	S	2	1014	28.8	28.5	N.		9 19.8		• • •	
317	1	Feb.19	5 10-34.2		19-08	74	10-36.0 10-32.8 10-31.5	86-03.4 86-05.6 85-51.0	19-38	02	30	3.2	200	280	24	Normal	В	S	: :::3	1013	28.0	28.4	N.		0 9.9	n en gine en an		
316	1	9 Feb.19	2 10-37.5	5 86-05.4	3 01-50	140		4 86-05	3 02-20	120	30	4 3.0	190	430	24	l Normal	B	ß	4	1015	5 27.0	1 28.2	H		.2 31.0			
315	1	8 Feb.19	.1 10-37.2	86-00.6 86-03.5	6 00-43	122	.5 10-38.9	2	6 01-13	138	33	6 3.4	5	400	24	I Normal	8	N	2	1015	5 27.5	1 28.1	in H		23.9 27.2			
514	1	8 Feb.18	0 10-38.1		7 23-36	119	.1 10-36.5	85-55.8 86-01	7 00-06	113	30	~	210	400	24] Normal	ŵ	£	ŝ	1015	2 27.5	1 28.1	₩		8			
513		8 Feb.18	3 10-37.0	6 85-54.1	8 22-07	89	.8 10-37.1	2	8 22-37	56	8	2 3.2	270	320	24	I Normal	8	ANN	m	1016	28.	28.	, M		.4 23			
312	1	8 Feb.18	.9 10-36.	.7 85-50.6	2 21-08	76	.9 10-36.	.6 85-52.	2 21-38	81	30	6 3.2	290	280	- 24	1 Normal	8	ΜN		1018	5 28.5	2 27.6	н		.1 10.4		· · ·	· · · ·
110		8 Feb.18	. 8 10-35.9	.6 85-46.7	8 20-12		.6 10-35.9	. 9 85-48.6	8 20-42	69	30	2 3.6	270	280	24	Normal	В	SE	3	1015	5 28.5	5 27.2	H		6.0 19.1			
210		.8 Feb.18	1.0 10-36.8	. 8 85-48.6	19-18	11 11	:.7 10-36.6	. 4 85-46.9	4 19-48	65	30	2 3.2	06	270	24	I Normal	B	SE	2	1015	0 28.5	4 27.5	H		88.5 6		-	
303		18 Feb.18	5.1 10-54.0	3.1 86-04.8	52 02-44	121 136	1.6 10-52	3.8 86-05.4	22 03-14	3 143	8	3.2 3.2	200	380	24	I Normal	B	ж Ж	<u>ى</u>	1014	5 25.0	0 27.4	N. S				- 	
300		18 Feb.18	0.5 10-56.1	5.9 86-03.1	03 01-52		0.2 10-5	5.5 86-03.8	33 02-22	2 128	30		5 210	370	1 24	Normal	B	NE	9	1013	0 25.5	6 27.0	na No. Internet		43.9 110.1			
	1	Feb.18	(N) 11-00.5	(4) 86-05.9	(LST) 00-03	(m) 123	(N) 10-59.2	(V) 86-06.5	(LST) 00-33	(щ) 132	(min) 30	t) 2.8	205	(R) 370	(n) 24	Norma	8	ENE	9	(mb) 1015	(°C) 25.0	°C) 25.6	N S				. در: ۱۰۰۰ ۱۰۰۰ - ۱۰۰ ۱۰۰۰ - ۱۰۰	· .
Series No. of Net	Survey Area	Survey Date	osition lat.	of Start long.	fime of Start (L	epth of Start	osition lat.	of Finish long	lime of Finish (L	epth of Finish	owing Time (mi	owing speed (knot)	owing Direction.	ength of Warp (ing Spread	State of Haul	eather	Wind Direction	Wind Force	Atmosph.Pressure (m	Air Temperature (°	Surface WaterTemp (°C)	Bottom materials	urrent Direction	otal Catches (kg)	lenar ks		

340		3	8 Feb.28	6 9-43	.1 85-28.6	7 21-05	05	.8 9-47.0	6 85-30 2	7 21-35	85	30	3.8	310	250	24	Normal	8	N	3	1017	28.2	28.3	H		5 55.7	
220	 	3	Feb.28	2 9-43 6	5 85-25.1	20-07	85	6 9-44.8	0 85-26.6	20-37	82	8	3.8	305	250	24	Normal	60.	1	1	1017	28.3	28.4	, M	-	30.5	
338		3	Feb.28	1 9-43.2	0 85-22.5	19-10	68	0-44-6	7 85-24.0	19-40	68	30	3.8	315	210	24	Norma]	8	1	1	1017	28.5	28.5	₩. ·		21.8	
1337		3	Feb.27	9-40-4	85-18.0	22-35	61	9-41.2	85-19.7	23-05	64	30	3.5	290	210	24	Normal	Зg	X	3	1018	28.0	28.4	W		13.0	
336		3	Feb.27	9-37.4	85-15.1	21-37	65	9-39.0	85-16.6	22-07	66	30	4.0	320	210	- 24	Norma]	BC	ជា	€ ²	1018	28.0	28.4	N		4.9	
335		3	Feb.27	9-36.3	85-16.6	20-20	82	9-37.2	85-17.9	20-50	84	30	3.2	305	250	24	Normal	BC	ല	2	1018	28.2	28.6	×		13.1	
334		3	Feb.27	9-34.6	85-46.9 85-13.0 85-16.6 85-15.1	19-20	66	9-35.8	85-14.7	19-50	68	8	3.2	320	230	24	Normal	BC	SE	ŝ	1017	28.5	28.5	×		13.1	
333		5	Feb.21	9-59.7	85-46.9	21-41	62	10-01.3	85-47.4	22-11	44	30	3.4	335	300	24	Normal	ß	ш	4	1015	30.1	28.5	X		35.3	
332		2	Feb.21	10-00.7	85-46.6	20-48	68	9-59.4	85-45.6	21-18	68	8	3.2	155	290	24	Norma)	с. СС	<u>ل</u>	4	1016	31.0	28.4	 X		11.4	
33		2	Feb.21	10-05.4	85-49.0	19-45	66	10-03.7	85-48.2	20-15	72	30	3.6	155	210	24	Normal		RE	ى ك	1015	30.5	28.0	×		14.8	
330		2	Feb. 21	10-02.6	. 4 85-49.1	18-49	88	10-04.3	9 85-49 4	19-19	62	30	3.2	350	300	24	Normal		RE	د	1014	30.5	28.8			22.8	
309		2	Feb.21	10-10.7	85-52.4	02-16	67	10-09.1	85-51.9	02-46	12	30	3.2	160	210	24	Normal	BC	S	5	1015	27.5	28.9	x		20.4	_
328		2	Feb.21	10-10.5	85-54.0	01-08	06	10-09.0	85-53.6	02-38	98	30	3.2	170	300	24	Normal 1	BC	s		1016	28.2	26.2	M		34.2	
327		5	Feb.20 F	10-23.0	85-56.6	23-02		10-21.4 1	85-57.0	23-32	68	30	3.6	190	220	24	Normal	BC	s	- - 	1016	28.8	28.6	×		23.7	
326		2				21-53		10-21.5 1		22-23	87	30	3.8	210	260 -	24	Normal N	BC	s	2	1016	28.7	28.8	×		54.0	
325		2.5	Feb.20 F	10-25.2 10-23.2	5-57.7 8	21-06	: <u></u> 279 [°])-23.8 1	85-58.4 85-59.5	21-36	80	30	3.6	205	230	24	Normal N	BC	s	8	1015	29.0	29.0	×		32.5	
324	<u>, 1</u>	2	Feb.20 F	10-25.6 10	85-55,8 85-57,7 85-58,6	·	22	(N) 10-23.7 10-23.8	85-55.6 81	20-25	. 68	30	3.6	170	240	24	Normal No	BC	SE	2	1014	28.8	28.9	×		15.5	
			F.	(N) 1(3	(LST) 19-55	(m)	(N) 1(38 (N) 81	(IST)	(m)	(min)	<pre>(knot:)</pre>		(m)	(m)	Ň				(ab)	(ລູ)	ہ (° C)			(kg)	
of Ne		Area	ate	lat.	long.	Г., :	Start	lat.	long	 	Finish	ne		irection	s yarp	sad	of Haul		sction	. 95	Atmosph.Pressure	erature	VaterTem	aterials	urrent Direction	tches	
Series No. of Net		Survey Ar	Survey Date	Position	of Start	Fime of Start	Depth of	Position	of Finish	Fine of Finish	Depth of Finish	Towing Time	Towing speed	Towing Direction	Length of Marp	Wing Spread	State of	Weather	Wind Direction	Wind Force	Atmosph.1	Air Temperature	Surface WaterTemp (°C)	Bottom materials	Current	Total Catches	Remarks
					- - 43			• • • •	ب ە د		- Perk -		لديم. '	- 6 1													

351 352 353 354 355 356	1 1 1 1 2 2	Mar.5 Mar.5 Mar.5 Mar.6 Mar.8 Mar.8	10-30.3 10-32.3 10-33.9 10-26.3 10-22.6 10-25.2	86-14.1 86-15.6 86-12.8 86-01.7 86-06.4 85-59.7	10-00 11-35 13-33 15-51 12-15 14-20	310. 334. 231 101 116 91	10-33.3 10-31.6 10-33.0 10-34.8 10-27.8 10-24.0 10-25.4	86-14.9 86-16.8 86-14.2 86-02.0 86-07.2 85-59.3	10-30 12-05 14-03 16-21 12-45 14-50	398 350 242 102 115 90 90 100 115	30 a) 20 a)	3.0 2.8 3.0 3.2 3.2 2.8	225 310 310 305 4 350 4 350 4 200 1 20 30 4 5 50 4 5 50 50 50 50 50 50 50 50 50 50 50 50 5	900 800 700 330 30 300 280	11 11 11 11 11 11 11 11 11 11 11 11 11	Normal Normal Normal Normal Normal Normal Normal	B B B B B B B B B B B B B B B B B B B	CINE IN NUE IN NUE IN NUE IN NUE IN NUE		1020 1019 1017 1014 1019 1016	31.5 31.0 31.0 31.0 31.0	28.2 28.2 28.3 28.4 28.2 27.8	Sh/Co/M Sh/Co/M W		553:5 54.0 100.8 56.0 106.4 106.1		
350		Mar.3	10-34.4 10-33.7 10-30.3	86-15.6 86-18.0	00-00 10-47	251 359	10-35.1 10-33.3	86-16.9 86-17.3	09-30 11-03	245 358	30 16	3.2	295 120	800 900	15	mal Normal	S B	E NE	3	1018 1018	29.5 29.5	26.5 26.3			99.2 102.8		
348 349	1	Mar.3 Mar.3	10-30.1	86-13.8	07-18 09	266 21	10-31.5	86-14.5	07-48 09	289 2	30	3.0	330 21	800	13	Normal Normal	B	NE	3	1017 10	28.0 2	27.1			104.5		
347	1 1	Har.2	10-45.6	86-17.6	11-00	210	10-45.0	86-19.2	11-30	211	õ	3.4	250	600	12	Normal	8	NE	Q	1018	24.5	23.7	М		154.7		
346	1	Mar.2	10-47.8 10-48.5	86-16.7	06-03	205	10-47.4 10-48.1	86-18.4	10-33	203	30	3.5	260	600		Norma	8	NE	Q	1019	24.2	22.9	М		194.5		
345		Mar.2	10-47 8	86-12.9	07-27	203		86-14.7	07-57	206	30	3.6	260	600		Norma !	В	NE	6	1018.	23.5	23.0	Ņ		216.0		
344		Mar.1	10-45.3	86-15-2	11-55	212	10-44.7	86-17.0	12-25	210	30	3.4	250	600	14	Norma 1	В	NE	9	1019	25.0	23.2	, W		145.7		- - -
343		Mar.1	10-15.6	86-13.4	09-45	213	10-44.6	86-15.0	10-15	215	30	3.6	240	600		Normal	В	NE	Ş	1020	25:2	23.1	N		200.7		
342	~	War.1	3 10-45.1	86-11.7	07-13	206	9-48.5 10-44.3 10-44.6 10-44.7	86-13.0	10-80	215	30	3.0	240	600		Normal	: ∑ B - 25	NE	6	1019	23.5	23.3	N.		326.3	Single	+~~
341	e	Feb.28	9-47.9	85+32.6	22-10	81		85-34.2	22-40	88	30	3.4	290	240	24	Norma I	8	N	5	1017	26.5	28.3	NO PORT		23.0		
Series No. of Net	Survey Area	Survey Date	Position lat. (N)	of Start long. (W)	Time of Start (LST)	Start	Position lat. (N)	long	Time of Finish (LST)	Depth of Finish (m)	Towing Time (min)	Towing speed (knot)	Towing Direction	Length of Warp (m)	Wing Spread (m)	State of Haul	Weather	Vind Direction	Wind Force	Atmosph.Pressure (mb)	Air Temperature (°C)	Surface WaterTemp (°C)	Bottom materials	Current Direction	Total Catches (kg)	Remarks	

•	11	1	"	10-54.8	85-59.0 86-01.6	9-00 -6	110	10-55.7	86-03.0	9-30	116	30	3.3	305	380	16.	П	BC	NNE	3.	1018	30.0	28.8	¥		213.7	
	9	1	Jun.16	10-53.2		7-45	8	<u>6</u>	85-59-1	8-15	88	30	2.9		300	13	Normal	BC	NNE	4	1017	28.5	28.4	14		95.0	
	15	<i>n</i>	1	10-58.7	86-27.0	13-05	165	10-58.4	86-28.6	13-35	172	30	3.2	255	500	13	11	BC	ដា	1	1018	30.5	28.6	Ж		26.7	
	77	11	<i>"</i>	10-59.0	86-22.1	11-45	133	10-58.9	86-23.8	12-15	182	30	3.2	265	500	-	H = 1	BC	ENE	2	1019	29:0	28.2	×		810.1	
	13	1	n.	10-47.6 10-46.2 10-59.2 10-59.1	85-46.6 85-49.0 85-53.8 85-54.9 86-15.2 86-18.8	10-30	178	10-58.9	86-20.4	11-00	181	30	3.2	260	200	I	л	BC	NNE	3	1019	28.5	28.2	×		570.2	
OORT 1	12	1	Jun.15	10-59.2	86-15.2	3-05	163	10-59.6	86-16.8	9-35	170	30	3.0	280	500	11	Normal	BC	NNE	ţ	1019	29.5	28.1	X		1391.8	
ru. 110. 20	11	<i>n</i>	ll .	10-46.2	85-54.9	15-55	60	10-44.8	85-54.6	16-25	92	30	3.0	170	280	13	Щ	BC	SU	1	1016	33.5	29.4	K		546.7	
research ourvey by missimilaru no.cut	10	11	n.		85-53.8	14-35	83	10-48.2	85-55.8	15-10	60	30	3.7	285	280	15	11	BC	SW	2	1016	30.0	29.4	M		46.8	
Vey DY II	6	 $\boldsymbol{\mu}_{[i]}$	11	10-44.2 10-46.1	85-49.0	13-10	64	10-47.1	85-50.1	13-40	65	30	3.2	320	280	16	H.	BC	MNA .		1018	33.0	29.6	, M		23.8	
arce: our	ø	11	"			11-45	64	10-43.6	85-48.2	12-15	72	30	3.2	250	280	14	"	BC	Calm		1018	31.0	29.2	M		27.3	
LINK ACCO	6	11	n.	10-40.0	85-42.0	10-10	58	10-41.9	85-43.7	10-40	56	30	3.6	10	280	13		BC -	Calm		1019	31.0	28.9	ж		29.1	
TAPJI IO	9	- 1	Jun.14	10-43.8	85-45.0	8-45	56	10-42.2	85-44.8	9-15	29	30	3.3	170	280	12	Normal	BC	Ca]n		1019	31.0	28.7	H.		38.1	
ACCULUTES DOLO AN TE ON	ល	$\mathcal{H}_{\mathcal{F}}$	"	0.00-II	86-06.4	15-37	131	10-59.5	86-08.0	16-07	136	30	3.2	255	380	14		BC	ASS	2	1015	30.0	28.3	¥		689.9	
30 30004	4	11	"	11-01.2 11-00.5 11-00.2 11-00.0	86-02:0	14-00	110	10-59.4	86-03.6	14-30	117	30	3.5	245	380	15	. 11	BC	\$	3	1015	29.8	29.8	×		170.0	
•	ŝ	JI.	n -	11-00.5	85-58.8	12-30	102	11-01.2	86-00.2	13-00	105	30	3.2	290	310	15	. <i>II</i> .	BC	SW	2	1016	31.0	29.5	×		98.1	
	2	11	и	11-01.2	85-55.6	10-45	16	10-59.8	85-56.2 86-00.2 86-03.6 86-08.0	11-15	94	30	3.2	200	300 -	1	11	BC	Calm		1017	32.0	29.8	X		86.6	
			Jun 13	11-00.8	85-52.6	08-30	85	11-01 0	85-54.4		06	30	3.2	275	300	13	Normal	BC	Calm		1017	31.0	28.5	M		37.3	
:	Net			(N)	long. (W) 85-52.6 85-55.6 85-58.8 86-02.0 86-06.4	(LST)	t (m)	(N)	E	h (LST)	sh (m)	(min)	(knot)	i on	р (щ) Ф	(III)			Ľ		ure (mb)	re (°C)	Temp (°C)	als	tion	(kg)	
	Series No. of Net	Survey Area	Srvey Date	Position lat.	of Start lon	Time of Start	Depth of Start	Position lat.	of Finish long	Time of Finish (LST) 10-00	Depth of Finish	Towing Time	Towing speed (knot)	Towing Direction	Length of Warp	Wing Spread	State of Haul	Veather	Wind Direction	Wind Force	Atmosph. Pressure (mb)	Air Temperature	Surface WaterTemp("C)	Botton materials	Current Direction	Total Catches	Remarks

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

·····	T	Ţ		10		1		0				1.0			15.1	F.		a		2	27:0	27.3		T		
34	"	=	9-38.1	100	14-00	65	ကြ	85-17	14-30	10	8	5 7 7 7	325	280	7 1 	~	υ 	Cala		1017			H		and a second second Second second second Second second	- 10 8
33	11	"	9-34.6	85-13.4	12-55	62	9-36.9	85-14.7	13-25	99	8	3.8	315	280	16	. . .	U	Cala H		1017	28.5	27.6			127.0	Started No.2 Le
32	3	Jun. 25	9-32.4	85-08.8	11-35	64	9-33.2	85-10.4	12-05	64	30	3.4	295	280	16	Normal	U	Calm		1018	28.5	27.3	H		54.5	Finished Started No.1 Les No.2 Les
F	11	"	10-36.6	86-03.7 86-04.4 85-08.8	15-10	122	10-35.2	86-04.3	15-40	115	30	2.8	180	380	12	"	0	S		1015	30:0	29.4	М		76.3	
30	п -	"	10-35.5	86-03.7	14-10	115	10-37.2	86-03.8 86-04.3 85-10.4	14-40	123	30	3.2	Z	300	12	n -	0	Calm	Ì	1015	30.0	29.6	И		0.6	
29	"	H_{1}^{2}	10-33.7	86-03.2	12-40	108	10-32.2	86-04.3	13-10	107	30	3.2	210	300	13	ll -	0	Calm		1016	32.0	30.2	H S		157.7	·
58	"	11	10-31.1	86-02.0	11-35	102	10-32.8	86-01.8	12-05	104	30	3.2	10	300	11	1	BC	Ca]n		1017	31.8	30.3	H arry	34 34 34	108.8	
27	и .	11	10-32.6	85-58.2	10-10	16	10-31.2	85-59.6	10-40	94	30	3.4	225	300	145	11	BC	NU ^C	1	1017	31/5	29.8	.		82.4	
26	"	"	10-32.3	85-54.7	8~50	83	10-31.1	85-56.0	9-20	85	30	3.4	210	300	12	$\sum_{i=1}^{N} \mu_{i} \sum_{i=1}^{N} \mu_{i}$	BC	£	r-1	1017	30.0	28.9	`> ₩ ~		70.3	
25	ы	Jun.18	10-33.6	85-50.6	7-30	72	10-32.4	85-51.6	8-00	R	30	3.2	225	280	13	Normal	BC	ERE	4	1016	27.3	28.8	N. N.		6.7	
24	11	1	10-55.0	86-25.2	12-15	189	10-54.3	86-23.6	12-45	190	8	3.3	150	600	11	Tear	BC	NE	2	1016	29.5	28.8	d so hr a d		1650.3	
23	"	11	10-55.0	86-19.5	11-00	190	10-55.1	86-21.2	11-30	189	8	3.2	270	600.	15 15	"	BC	КЕ	e	1016	30.0	28.4	N.		56.3	
52	r-1	Jun.17	0	86-18.2	9-35		10-53.3	86-19.3	10-05	193	8	3.2	315	600	14	Normal	BC	NE	4	1017	31.0	28.7	N S W	-	305.9	
21	"	"	10-52.4 10-52	86-16.8	15-00	195	10-51.3	86-16.0 86-15.4	15-30	199	ŝ	3.2	130	600	13	"	BC	NE	m	1016	29.5	28.8	S N 2		97.0	
50	"	'n	10-55.0	86-14.3	13-30	179.	.9 10-55.0 10-51.3	86-16.0	14-00	185	g	3.4	270	580	12	"	ည္ထ	NE	S	1017	30.0	28.8	N N		864.1	
6	н.	*	10-53.0 10-54.6	86-10.0	12-05	164	10-54	86-11.8	12-35	170	30	3.4	275	580	11	11	BC	NE	m	1017	30.0	28.7	М		166.2	
18	Ţ	Jun.16		86-05.2	(LST) 10-40	138	10-54.2	4	11-15	143	30	3.4	315	480	15	Norma I	BC	NE	S	1018	30.0	28.6	N		210.2	
Net			(N) ·	(#)		(H)	(N)	(A)	(IST)	sh (na).	(uin)	(knot)	Б	(H)	(<u>e</u>)	j				انت	د (۲) e	emp (°C)	ls	lon	(Kg)	
Series No. of	Survey Area	Srvey Date	Position lat	of Start long.	Time of Start	Depth of Start	Position lat.	of Finish long	Time of Finish	Depth of Finish	Towing Time	Towing speed (knot)	Towing Direction	Length of Warp	Wing Spread	State of Haul	Veather	Wind Direction	Wind Force	Atmosph. Pressure (mb)	Air Temperature (°C)	Surface WaterTemp(°C	Bottom materials	Current Direction	Total Catches	Remarks
	L		L		Ľ		ļ <u> </u>				<u>-</u>	-	-64	l	2	<u>s</u>	*	≥	>	¥	₹	Й	ഷ്	B	7	

	48 49 50 51			<i>n</i> Jun.28 <i>n</i> 3	9-47.3 9-54.9 9-55.8 9-56.6	85-34.0 85-43.6 85-46.6 85-48.	16-25 8-05 9-25 11-15	105 85 105 176	9-47.9 9-55.8 9-54.6 9-55.4	85-35.4 85-44.8 85-45.7 85-47	16-55 8-35 9-55 11-45	106 88 107 169	30 30 30 30 30 30	3.0 3.2 3.0 3.2	290 305 145 135	380 300 380 580	10.4 15.0 15.3 13.6	// Normal // //	0 BC BC BC	W N N W	4 1 2 3	1015 1016 1017 1016	29.5 28.5 29.0 30.0	- 26.9 27.3 28.2	M M H		294.0 23.9 54.7 528.0
1988	46 47		n 1	<i>II I</i>	9-45.3 9-47.3	85-30.0 85-31.9	13-55 15-15 1	106 89	9-45.8 9-47.8	.5 85-33.4	15-45	109 96	30 30	3.3 3.3	290 285	380 300	15.9 13.0	н <u>н</u>	C 0 0	<u>n</u> .	3 4	1015 1015	29.0 28.0	27.4 27.5	M M		427.2 775.3
ru No.201, 1			"	" "	9-44.7	85-27 0	12-50 13-	87 1	9-45.2	85-28.2 85-31	13-20 14-25	92 1	30	3.0 3	295 2	300 3	14.0 1	1 11	 ပ	Э	e	1016 10	30.0 29	27.2 2	N N		60.9 42
Survey by Nisshinmaru No.201,	44		<i>i i</i>	"	1.6 9-43.3	2.9 85-26.7	0 11-10	7 105	2.6 9-42.5	4.2 85-25.4	0 11-40	88 103	30 30	5 3.0	0 125	0 380	11.2 15.3	"	ی د د	MSM M	3 2	7 1017	.5 30.0	.8 27.7	X		.5 1102.6
			3 "	Jun.27 // //	9-35.6 9-41	85-18.0 88-22.9	7-40 9-40	104 87	9-36.6 9-42.6	85-19.2 85-24.2	8-10 10-10	104 8	30 3	3.5 3.5	310 310	380 300	15.9 11	Normal //	R	NSN NSN	4	1017 1017	27.0 28.5	26.8 26.8	W		1500.7 39.
ling Research			3	Jun.26 J	9-28.4	85-10.4	16-00	420	9-28.2	85-11.9	16-30	431	30	2.7	265	1000		Normal N	BC	NSM	4	1015	28.5	27.8	3		4.9
ta of Traw	9 40		"	"	9-29.6 9-28.6	85-13.0 85-10.2	io 13-55	353	9-29.8 9-28.8	4.0 85-11.8	5 14-25	0 365	25 30	9 3.0	5 275	006 0	1	"	<u>ن</u>	MSM 1	2 3	8 1016	28.0 29.0	27.5 27.8	R M		5 4 2
Recording Data of Trawl	38 39	-	" "	<i>n n</i>	9-30.2 9-2	3	9-55 11-40	185 262	£	5-13.6 85-14.0	10-25 12-05	182 240	30 2	3.2 2.9	285 275	580 780	12.7 -	" "	BC	S SU	,	1018 1018	30.0 28	28.0 27	M M/R		1194.6 162.5
122	37		3	Jun.26	9-38.9	85-18.0 85-21.5 85-19.2 85-12.1	7-25			85-18.2 85-13.6	7-55 1	85	30	3.0	135	300	14	Norma I	U I	s	2	1018	27.2	26.5	, M		23.9
	36		\mathcal{H}	5	.0 9-44.1	.0 85-21.5	16-15	25	.4 9-45.0	.8 85-22.7	16-45	22	30	3.4	305	280	15	μ [ت ا	Calm	1	1017	5 27.5	2 26.8	H H		0 58.3
Appendix Table-4	Series No. of Net 35		Survey Area	Srvey Date Jun.25	Position [lat. (N) 9-41.0	of Start long. (W) 85-18	Time of Start (LST) 15-10	3	Position [Jat. (N) 9-42.4	of Finish long (W) 85-19.8 85-22.7	Time of Finish (LST) 15-40	Depth of Finish (m) 57	Towing Time (min) 30	Towing speed (knot) 3.8	Towing Direction 310	Length of Warp (m) 280	Wing Spread (m) 16	State of Haul Normal	Weather R	Wind Direction Calm	Wind Force	Atmosph. Pressure (mb) 1017	Air Temperature (°C) 27.5	Surface WaterTemp(°C) 27.2	Bottom materials M	tion	Total Catches (kg) 34.0

68	"	"	10-25.8	85-57.5	8-55	8	10-27.0	85-58.0	9-25	83	30	3.0	350	300	14.5	<i>u</i> r	8C	SE	1	1016	28.2	28.5	S. ₩ S. St		2.9	Lots of	Jelly-	fishes	
67	2	Jul.1	10-25.5	85-55.8	7-35	12	10-24.3	85-55.4	8-05	63	30	2.8	170	300	14	Normal	BC	SE	3	1016	28.5	28.4	H.	MN	42.1	Lots of	pni		
99		ſ(10-22.4	86-06.8	16-00	119	10-23.7	86-07.0	16-30	117	30	3.0	N	400	14	<i>II</i>	BC	Calm		1013	30.5	28.6	M		582.6				
35	"	Ц	10-24.1	85-59.1	13-45	87	10-25.3	85-59.6	14-15	60	30	2.8	340	300	14.5	n –	BC	AN	1	1014	30.0	28.8	N -		33.4				
49	"	н .	10-21.0	.85-57.2	12-25	72	10-22.5	85-56.8	12-55	.73	30	3.0	15	300	12	"	C	NNN	2	1015	28.3	28.4	H		36.7				
63	"	11	10-20.9	85-59.2	10-45	89	10-22.4	85-59.6	11-15	87	30	3.2	350	300	14.5	"	R	N	4	1016	28.0	1. S	H		10.9	Lots of	Jelly-	fishes	
62	11		10-17.8	86-02.8	8-40	112	10-19.4	86-03.7	9-10	108	30	4.0	330	380	16	$\boldsymbol{\mu}^{-}$	BC	ų	 - 	1016	30.5	28.5	М		763.2				•
[9	2	Jun.30	10-14.5	86-00.0	7-25	113	10-15.7	86-01.0	7-55	113	30	3,3	315	380	15	Normal	U	ų.	-	1016	30.0	28.5	М		57.8				
00	1	11	10-11.0	85-59.0	15-45	210	10-10.1	85-58.3	16-10	210	25	3.0	135	700	14	1	BC	ħ	1-4	1014	34.0	29.2	М		2000.0				
53	"	"	10-11.2	85-59.0	13-50	180	10-10.0	85-57.9	14-20	182	30	3.0	135	580	13.6	n.	BC	8	3	1014	29.5	28.8	H		2500.0				
58	1	. 11	10-08.6	85-51.6	11-45	. 02	10-10.2	85-52.3	12-15	02	30	3.3	3490	300	16	"	BC	A	2	1016	30.5	28.5	, W		38.2				
57	"	л.	10-10.8	85-54.2	10-20	89	80	85-53.3	10-50	06	30	3.3	155	300	14	n I	BC	7	2	1017	29.0	28.8	W		31.3		·		••••
20		п	10-08.8	85-54.4	9-10	107	10-10.2		07-40	107	30.	3.3	325	380	12.9	'n	0	A.	2	1017	30.0	28.6	N.		52.1				
55	5	Jun.29	10-05.6	85-49.7	00-20	72	10-05.0 10-07.1 10-10.2 10-08	85-50.5 85-55.4	02-30	69	30	3.0	325	300	16	Normal	ວ ບ	MSM.	2	1016	27.5	27.9	N.		36.0				
54	"	"	10-03.7	85-49.2	16-10	80	10-05.0	85-50.1	15-40	81	30	3.5	330	300	15.0	11	ပ	ų	n	1015	28.0	28.2	, K		44.1				
ŝ	"	"	9-59.0	85-46.8	14-45	81	9-55.5 10-00.4	85-47.6	15-15	80	30	3.4	330	300	16.0	<i>n</i> -	ບ ບ	M	2	1016	30.0	28.6	X		59.5		<u> </u>		
22	2	Jun.28	9-56.7	(N) 85-48.6 85-45.8 85-49.2 85-49.7	13-00	- 215	9-55.5	85-47.8		206	30	3.0	145	200	11	Normal	BC	N .	2	1016	31.0	28.4	H.	and the second secon	378.8	and the second secon			نېر
f Net			(8)		(LST)	(a)		8	h (LST) 13-30	sh (m)	(nin)	(knot)	ion	(m) d	(m)					ire (mb)	e (°C)	(C) (C)	115	ion	(Kg)		<u></u>		
Series No. of	ey Area	Srvey Date	Position lat	of Start long.	Time of Start	Depth of Start	Position lat.	of Finish long	Time of Finish	Depth of Finish	Towing Time	Towing speed	Towing Direction	Length of Warp	Wing Spread	State of Haul	er	Wind Direction	Wind Force -	Atmosph. Pressure (mb)	Air Temperature (°C)	Surface WaterTemp(°C	Bottom materials	Current Direction	Total Catches	Ś			
Seri	Survey	Srve.	Posi	of S	Time	Depti	Posit	of F	Time	Depth	Towin	Towin	Towin	Lenst	Wing	State	Veather	Vind	Wind	Atmos	Air T	Surfa	Botto	Currei	Total	Remarks			

	85		<i>n</i>	1 10-45.3	86-01-0 86-05-2	9-05	158	4 10-43.9	1 86-05.5	9-35	159	30	3.0	200	500	11.3	"	S	N	ŝ	1017	28.5	28.7	н		198.1	
	84	1	Jul 4	10-44.1		7-40	131	10-45 4	85-02.1	8-10	137	30	3.6	315	400	10.8	Norma]	C	N	3	1016	27.5	28.4	Ж		32.5	•
	83	n.	n	10-44.7	86-16.0	15-50	215	10-46.2	86-16.0	16-20	212	30	3.2	N	680	12.3	11	BC	ų	2	1014	30.0	28.8	W		219.1	
	82	JI.	μ	10-46.5	86-06.4 86-11.6	13-50	204	10-44.9	86-11-7	14-20	207	30	3.2	180	600	15	11	BC	А	2	1016	31.5	29.5	М		0.08	· ·
	81	II I	n	10-44.2	86-06.4	12-25	167	10-45.4	86-07.8	12-55	177	30	3.4	315	580	15.5	"	BC	S	~	1016	30.5	29.3	X		144.0	· ·
1988	80	11	n	10-45.7	86-03.3	10-50	143	10-44.2	86-02-9	11-20	142	30	3.2	165	480	14.0	11	BC	S	2	1017	30.5	28.7	M.		35.8	
u No.201	- 62	11	<i>n</i>	10-44.3	85-59.2	9-25	118	10-45.3		9-55	124	30	3.3	315	380	15.9	л.	BC	S	1	1017	30.2	28.5	M.		35.0	
Nisshinmaru No.201	78		Jul.3	10-45.6	85-57.0	08-00	38	10-44.3	85-55.9 86-00.4	8-30	96	30	3.4	140	300	12.6	Normal	BC -	ESE	3	1016	30.8	28.5	М	N	114.4	
	77	 <i></i>	<i>n</i>	10-49.5	36-16.4	15-25	204	10-48.4		15-55	206	30	3.2	235	. 009	16	"	C	SW	11	1015	30.1	29.4	W		63.5	
Research Survey by	1.92		<i>n</i>	10-48.7	86-07.2 86-11.0 86-16.4	13-40	191	10-50.0	86-12.0 86-17.6	14-10	191	30	3.3	315	600	10.2	11	BC	Celm	. 1	1015	31.0	29.4	W		40.8	-
	75	"	JI -	10-48.7	35-07.2	12-05	165	10-50.2	86-07.7 8	12-35	165	30	3.2	340	580	13.7	. 11	BC	Calm	3	1017	31.5	29.2	H.		31.6	-
Trawling	74	<i>. . . .</i>	11	0-49.2	6-04.8	0-20	146	0-47.4	86-04.4 8	10-50	147	30	3.3	1.70	480	15.6	И	BC	S	1	1016	31.0	28.8	M		300.2	
s Data of	73	1	Jul.2	10-47.8 1	86-01.3 8	8-55 1	122	10-49.6 1	86-02.0	9-25 1	122	30	3.7	335	400	14.7	Normal	0	S :		1016	29.0	28.8	¥		56.2 1	
Recording Data of	72	 <i>n</i>	" "	0-36.5 1	6-08.78	16-00	169	10-35.5 1	86-09.9 8	16-70	176	30	3.1	225	580	14	<i>"</i> N	ex ا	SV	2	1014	28.3	28.2	¥		1002.7	-
84	12	$H_{\rm c}$	"	0-37.4 1	3-04.8 8	14-30-1	138	10-36.8 1		12-00 1	131	30	2.8	235	480	13	11:	C	n -	2	1015	28.0	28.8	ж		100.9 1	·
	20 2		"	10-36.8 10-37.4 10-36.5	5-01.4 8	12-55 1	119	10-38.5 1(3-01.7 8	19-25 19	128	30	3.2	N	380	14	"	BC	A	2	1016	30.6	29.1	W		95.6	
	69	 2	11	10-27.7 1(-02.2 8		·	10-29.1 10	86-02.1 86-01.7 86-06.0		101	30	3.0	10	380	13.5	Norma I	BC	SE	5	1017 1	30.2	29.0	М		42.2	
	ť		Jul	(N) 10	(N) 86	LST) 10	(m)	01 (N)	E	LST) 11	(w)	(min)	(knot)		(m)	(m)	Nc					(° C)			, ,	(kg)	
	Series No. of Net	Survey Area	Srvey Date	Position lat	of Start] long. (W) 86-02.2 86-01.4 86-04.8 86-08.7	Time of Start (LST) 10-45	Depth of Start	Position lat.	of Finish long	Time of Finish (LST) 11-15	Depth of Finish	Towing Time (Towing speed (k	Towing Direction	Length of Warp	Wing Spread	State of Haul	Veather	Wind Direction	Wind Force	Atmosph. Pressure (mb)	Air Temperature	Surface WaterTemp ("C)	Bottom materials	Current Direction	Total Catches	Remarks

Recording Data of Trawling Research Survey by Nisshinnaru No.201. 1988

Series No. OF Net	8		3	}	;	2	3	3	 }	3	3	<u>,</u>	2	2	 2 7		57
Survey Area		11	"	"		11	"	"	"	1	. 11	ľ,	2	. 11		=	"
Srvey Date	Jun. 4	"	"	"	Jun.4	п	"	"	11	Jun.6	11	11	Jun.14		=		"
Position lat. ((N) 10-44.2	2 10-45.0	10-44.6	10-50.0	10-42.6	10-40.7	10-42.1	10-40.6	10-41.8	10-59.3	10-56.1	10-52.3	9-57.5	10-00.6	10-05.3	10-07.0	10-06.(
of Start long. ((M) 86-07.9	9 86-14.4	86-18.0	86-20.2	85-54.6	85-57.8	86-03.2	86-07.6	86-10.0	86-30.0	86-31.1	86-33.2	85-44.6	85-44.6 85-46.9 85-51.8	85-51.8	85-55.0 85-54.4	85-54.4
Time of Start (LST)	T) 10-35	12-10	13-35	15-15	8-30	10-15	12-00	13-50	15-40	11-00	12-27	14-06	9-28	10-32	11-55	13-23	15-40
Depth of Start ((四) 179	212	215	200	92	110	142	179	203	167	183	204	73	72	103	180	210
Position lat. ()	(N) 10-45.3	3 10-44.4	ž	10-51.3	10	10-42.3	10-40.5	10-42.2	10-40.2	10-59.3	10-54.6	10~51.1	9-58.5	10-01.9	10-06.8	9-58.5 10-01.9 10-06.8 10-06.8 10-05.2	10-05.
of Finish long ()	(N) 86-09.1	1 86-15.8		86-18.0 86-21.0	85-53.8	85-58.1	86-03.7	86-07.7	86-10.0	86-31.5 86-30.7	86-30.7	86-32.1	85-45.5	85-45.5 85-47.5	85-52.7	85-54.9 85-53	85-53.
Time of Finish (LST)	r) 11-05	12-40	14-05	15-45	00-6	10-45	12-30	14-20	16-10	11-30	12-57	14-36	9-58	11-02	12-25	13-29	16-03
Depth of Finish (n	(m) 187	216	209	198	88	111	145	178	202	166	189	201	75	74	103	176	203
Towing Time (min)	7) 30	30	30	30	30	30	30	30	30	30	30	30	8	30	R	co	R
Towing speed (knot)	:) 3.3	3.2	3.2	3.1	3.4	3.3	3.2	3.2	3.2	3.2	3.2	3.2	2.9	. 1	3.3		2.4
Towing Direction	315	240	N	305	150	350	200	×	180	270	165	125	320	330	330		135
Length of Warp (m)	1) 580	680	680	600	300	380	480	580	600	500	580	600	280	280	380	580	88
Ving Spread (m)	11.8	8	-	1	14	11	14.9	11	15.9	14.2	16.4	15	13.8	14.6	14.1		10.2
State of Haul	Normal	"	"	"	Norma	н	'n	. 11	"	"	11	И	Normal.		"	Tear	Normal
Veather	0	.	R	R	BC	BC	U U	D J	<u>د</u> بر	BC	BC	BC	BC	BC	BC	SC	မ္က
Wind Direction	N (Calm	· S ·	S	ESE	ង	S	S	S	Calm	Cal∎	S	s	2	Calm	22	\$
Wind Force	2	L	വ	ŝ	3	8	m	3	ŝ	1	1	2	2	2			8
Atmosph. Pressure (mb)	101	1017	2101	1016	101	1017	1018	1016	1016	1018	1018	1016	1018	1019	1018	1018	1016
Air Temperature (°C)) 31.5	32.5	24.5	24.0	28.5	30.0	31.0	30.0	28.0	31.0	31.5	31.5	29.0	30.0	31.7	31.8	32.0
Surface WaterTemp(°C	C) 29.1	30.3	28.3	28.3	28.4	28.5	28.6	28.4	28.3	29.1	29.2	29.6	27.5	27.6	28.5	28.1	28.2
Bottom materials	N I	W	Ж	W	W	М	Ж	H	W	H.		X		Ħ	X		
Current Direction																	
Total Catches (kg)) 600.8	112.0	414.2	1000.2	61.2	197.0	93.9	2000.0	146.7	4000.0	4.1	53.0	32.1	48.5	41.6	87.0	628.8
Remarks						- - -				ots of		Finished	Finished Started			Trapped	Bad
										butter-		No.2 Le	No.2 Les No.3 Les	88		in sea	bottom
										fish						bed	

119		<i>n</i>	n	10-42.5	86-14	13-50	22	10-41	86-15.0	14-20	222	30	3.0	215	680	14.4	11	BC	N	4	1016	30.0	28.7	Ж	Ж	205.8				
118		$\mu_{\rm scale}$	n,	10-39.8	86-12.2 86-11.7	12-36	220	10-41.3	86-11.7	13-06	220	80	3.0	W	680	8.0	. 11	BC	X	ي	1017	31.5	28.6	Ж	M	313.2				
117		<i>1</i> 1	<i>n</i>	10-31.4 10-33.0 10-35.3 10-39.8 10-42.5	86-12.2	11-13	222	10-36.4	86-12.6	11-38	227	ន	1	335	680	16.6		BC	N	4	1017	31.5	28.6	Н	N	2112.2			•	
116		'n	n	10-33.0	86-12.0	10-02	217	10-32.2	86-12.0	10-19	222	17	1	180	680	1		BC	x	4	1017	31.0	28.4	Н	x	503.8		inos		
115		1	Jun.19		86-10.6	8-43	180	10-32.5	85-10.9	9-08	199	52	3.0	350	580	14.5	Norma]	BC	z	4	1017	30.0	28.3	×	x	1090.3	Lots of	langostinos		
114		"	"	10-37.0	86-01.2	13-42	212	10-35.6	86-01.6	14-12	213	30	3.0	195	680	15.5		BC	NE	6	1019	30.0	28.8	×	ANN	808.2	lo Punta-	renas	for crew	change
113		11	H^{2}	10-41.2 10-40.2 10-42.5 10-42.3 10-38.5	.4 86-04.9 86-08.9	12-16	195	10-37.6	86-09.9	12-46	198	30	3.0	220	009	12.1		BC	NE	. 8	1020	29,5	28.4	×	ANN	2501.1	ots of T	butter- r	fish f	
112		1	$\boldsymbol{\mu}_{i}$	10-42.3	86-04.9	10-47	157	10-40.9	86-05.6	11-17	168	30	3.2	215	500	15.5		BC	NE	2	1020	31.0	28.1	×		73.8		_ <u>.</u> Q	<u>. 4</u>	
111		11	"	10-42.5	86-01.4	9-22	131	10-40.8	86-00.9	10-22	129	30	3.3	170	400	12.7	"	BC	NE	5	1020	31.0	28.2	X		33.5		······		
110		1	Jun.16	10-40.2	86-00.2	8-22	125	10-41.9	86-00.4	8-52	127	30	3.3	355	400	16	Normal	BC	NE	3	1020	30.0	28.0	2		15.2				
109		n	'n	10-41.2	85-50.0	15-20	12	10-41 1	85-51.7	15-50	81	30	32	265	280	13.7	11	ບ ບ	Calm	1	1016	32.8	28.6	×		16.2				
108		и	JU -	40.8		14-10	68	10-42.0	85-47.7	14-40	11	30	3.3	320	280	14.2	"	ບ ບ	NE	,	1017	33.0	28.6	×		0.1	Lots of	jelly-	lish	
107		"	"	10-37.3	85-46.2 85-46.6	12-38	63	10-37.0	85-47.5	13-08	68	30	3.0	255	285	13.5		0	NE	2	1018	32.0	29.2	*		67.1	ٽ.		<u>.</u>	
106		<i>n</i>	<i>"</i>	(N) 10-06.3 10-35.0 10-35.8 10-36.0 10-37.3 10-		11-23	22	10-35.7		11-53	58	30	3.4	95	280	14.6		ັ ບ	NE	6	1019	31.0	28.6	×		39.2				
105		1	<i>"</i> "	0-35.8	35-53.7	10-00	84	0-37.0	35-53.0	10-26	84	26	3.2	52	280	15.1		0	ш	5	1019	31.0	28.2	×		9.4	Bad	bottom		
104			Jun.15	0-35.0	35-56.4	8-44	93	0-36.5	35-55.8	9-14	93	30	3.2	20	300	16.5	Normal	ບ 	ш	2	1019	29.0	27.8	7 E.		12.9	ă.	<u> </u>		
103		\$	Jun.14	0-06.3]	(W) 85-54.3 85-56.4 85-53.7 85-48.6	153	196	10-05.2 10-36.5 10-37.0	85-53.8 85-55.8 85-53.0 85-46.8	17-08	195	21	2.8	140	600	11.1	Normal	BC	s	2	1016	33.0	28.5	X	N	149.5	bad	bottom		
Net			r	(N) 1		(LST) 16-47	(m)	L (N)	(N)	(LST)	(mu) y	(min)	(knot)	uo	(III)	(w)	N				re (mb)	e (°C)	emp (°C)	ls	ion	(j) 26	92 26	ğ		
Series No. of Net		Survey Area	Srvey Date	Position lat.	of Start long	Time of Start	Depth of Start	Position lat.	of Finish long	Time of Finish	Depth of Finish	Towing Time	Towing speed (knot)	Towing Direction	Length of Warp	Wing Spread	State of Haul	Weather	Wind Direction	Wind Force .	Atmosph. Pressure (mb)	Air Temperature	Surface WaterTemp(°C	Bottom materials	Current Direction	Total Catches	Remarks			
	1			Ļ		لنغدا	LC.J				: ا -	أحجا		69		L	L.,—,	L	L	<u></u>	∟I		L		;	! i	└╌╌┯╸			

Recording Data of Trawling Research Survey by Misshinmaru No.201. 1988

																					 		1.4 .5						
136			1.04-8	85-18.4	22-20	64	9-41.1	85-19.7	22-50	83	8	3.4	305	200	*	"	BC.	E S I	1 1	1018	27.5	28.2	H		23.1		4		
135	"	2	9-37.6	85-18.6	20-57	82	9-38.5	85-19.5	21-27	. 98	30	3.2	310	300	"	11	BC	Ca Ja		1018	27.5	28.4	H		46.3				
134	"	"	9-37.1	85-15.1	19-42	68	9-38.7	85-15.9	20-12	65	30	3.4	325	200	"	11	BC	Cala	1	1016	27.8	28.6	W		36.5				
133	3	Jun.27	9-34.5	85-12.9	<u>18-46</u>	63	9-35.7	85-14 1	19-16	64	30	3.2	310	200	12×2	Normal	U	Calm	1	2101	28.5	28.5	X		33.2				
132	"	11	10-34.2	86-00.1	5-24	102	10-32.7	85-59.8	5-54	26	30	3.2	170	300		<i>II</i>	BC	ш	4	1017	27.0	27.3	Х		358.5	Started	double	inished rigged	traw!
131	-1	Jun.22	10-34.4	86-00.2	2-20	103	10-33.2 10-32.8	86-00.0	2-50	98	30	3.2	175	300		Norma]	BC	RE	3	1016	26:7	27.7	Н	ΔN	238.1		7	Finishe	No.3 Leg trawl
130	Ľ.	Ш	10-34.3 10-34.5	86-00.3	23-00	103	10-33.2	86-01.2	23-30	103	30	3.2	215	300			5	ы	4	1018	28.0	28.2	Ň		101.9		E		
129		11		86-00.2	18-40	103	10-32.8	86-00.4	19-10	100	30	3.1	190	300			IJ	NE	3	1016	28.2	28.2	H		183.1		*		
128	"	"		86-00.1	14-33	102	10-31.1	86-00.3	15-03	66	30	3.2	185	300		11	D	NE	ស	1016	30.0	28.6	М		203.9		*		
127	11	"	10-34.4	86-00.1	10-53.	102	10-32.6	86-00.3	11-23	66	30	3.4	190	300	11.2	11	BC.	NE	ស	1017	31.0	28.6	, Ņ		208.7				-
126	- F=4	Jun.21	10-31.3	85-59.8	6-55	36	10-32.8	86-00.1	7-25	66	30	3.1	350	300	ć	Norma]	BC	N	2	1016	28.0	28.2	Ж	NN	137.1	Day-	night	survey	
125	"	"	10-34.0 10-34.6	86-16.1	15-50	252	10-35.2	86-16.8	16-10	247	50	3.6	320	780	T	n.	0	NE	4	1017	30.5	28-2		NNN	12.2	Bad	bottom		
124	"	11		86-20.0	13-18	381	10-34.5	86-21.0	13-39	396	21:	1	295	1000	1.	11	BC	N	5	1016	29 8	27.6			0.6	Irapped	in sea	bed	
123	"	11	10-32.4	86-15.4	11-53	324	10-33.4	86-16.7	12-23	335	30 :	3.0	320	900		n	BC	N	ß	1017	29.8	28.2		NNN	0.6				
122	11	"	10-30.5	86-13.9	10-38	288	10-31.8	86-14.8	11-08	299	30	3.0	325	800	. 1	с Л.	BC	NE	5	1018	29.7	28.2		NNN	0				
121	-	Jun.20	10-30.8	86-14.2	00-6	316	10-31.9	86-15.2	9-30	322	30	3.0	320	006	ł	Normal	£	NE	4	1018	30.0	28.2		NNN			 		
120		Jun.19	(N) 10-33.5 10-30.8 10-30.5	86-12.5	(LST) 17-00	226	(N) 10-34.5 10-31.9 10-31.8 10-33.4 10-34.5 10-35.2	(W) 86-12.7	17-20	228	20	3.6	350	200	12.6	Normal	BC	S	3	1015	29.5	28.6	N.	N .	242.0				
of Net				long. (V)		rt (m)			(LST)	(m) hsi	(min)	(knot)	tion	(m) du	Ê			n		ure (mb)	(C) e.c)	Temp (°C)	als	tion	(Kg)		<u> </u>		
Series No. o	Survey Area	Srvey Date	Position lat.	of Start lo	Time of Start	Depth of Start	Position lat.	of Finish long	Time of Finish	Depth of Finish	Towing Time	Towing speed	Towing Direction	Length of Warp	Wing Spread	State of Haul	Weather	Wind Direction	Wind Force	Atmosph. Pressure (mb)	Air Temperature (°C)	Surface WaterTemp(°C	Bottom materials	Current Direction	Total Catches	Remarks			

-70-

.

152 153	/ 1	// Jun.31	10-31.4 10-34.3	85-03.7 86-04.7	23-35 0-50	106 113	-33.1 10-32.6	-03.1 86-04.8	7-05 1-20	108 111	30 30	3.5 3.3	10 180	300 300	11 11	" Tear	BC BC	N - N	1 2	1017 1017	27.0 27.0	28.2 281.2	M N		79.7 38.1	
151		<i>n</i>	10-33.7 10-	86-01.2 85	22-24 23	103	10-23.5 10-26.9 10-32.5 10-32.3 10-33.1	86-01.9 86-03.1	22-54 7-	102	30	3.2	210	300	"	" "	BCB	N	1	1017 10	27.5 2	28.2 2	Ж		171.3 7	
150		<i>"</i>	10-31.0	85-59.0 8	21-10	6	10-32.5 1	85-58.9 8	21-40 2	- 32	30	3.3	<u>.</u> בי	300	11	"	BC	N	2	1017	27.0	28.5	H	•• •	244.3	· · · · · ·
149	"	"	10-25.4	85-58.0	19-50	80	10-26.9	85-57.3	20-20	80	30	3.4	25	300	11	"	ບ	Calm		1016	26.5	28.0	W		74.1	
148	<i>"</i>	"	10-21.8	85-59.1	18-40	85		85-58.8	19-16	83	30	3.3	10.5	300	11		ت	S	2	1016	25.7	28.3	W.		259.2	
147	"	"	10-25.1	85-57.6	1-42	80	10-23.7	85-58.2	2-12	80	30	3.2	205	300	<i>II</i>	11 -	BC	SW	2	1017	27.0	28.2	М		73.1	
146	5	Jun.30	10-23.2	85-56.6	0-35	22	2 10-22.9 10-24.6	85-56.2	1-05	- 72	30	3.0	50	200	11	Norma !	BC	Calm	1	1018	27.0	28.4	×		23.9	
145	2	"	9 10-21.1	1 85-56.7	23-37	67	0-22.6	85-56.4	20-0	12	30	3.3	10	200	. 11 -	11	BC	MN	°0'	1018	26.8	28.3	X		29.3	
144	<i>"</i> "	"	1 10-59.9	7 85-53.4	22-15	84	10-11	5 85-54 6	22-45	8	30	3.3	320	300	11	"	ں ا	AN	ស	1018	26.0	28.2	X		25.8	
143			1 10-09	5 85-51.7	19-48	88	3 10-10.6	2 85-52 5	20-18	02 2	30	3.4	330	200	- <i>11</i> -	"	~	73	5	1017	28.0	28.0	¥		33.9	
142	*	1 1 1	3 10-04.1	2 85-49.5	18-39	81	2 10-05.6	9 85-50.2	19-09	80	30	3.4	335	300	11	"	с 	7	ມ	1017	27.0	28.2	×		49.1	
141	*	"	9-59.8	4 85-47.2	1-19	83	3 10-01.2	2 85-47.9	1-49	84	30	3.3	330	300	""	"	<u>64</u>	3	3	1017	25.8	27.4	X		33.2	
140	2	Jun.29	8 9-59.0	4 85-45.4	0-13	65	9-44.7 9-46.9 10-00.6	7 85-46.2	0-43	65	30	3.2	335	200	11	Norma I	6 4	>	4	1017	26.0	27.8	М		20.2	
139	"	n L	8 9-45.8	85-25.0 85-28.4	20-55	83	7 9-46.9	2 85-29.	21-25	85	30	3.2	305	300	11	"	∞	MSM	2	1016	27.5	28.4	Ж		63.1	
138	"	<i>n</i>			19-48	82	8 9-44.	(V) 85-23.2 85-26.2 85-29.7	20-18	81	30	3.0	305	300	"	$H \sim \pi$	U I	ASM	4	1016	28.0	28.8	W		63.0	
137	3	Jun.28) 9-42.8) 85-21.9) 18-40) 67	9-43.8) 85-23.) 19-10) 67	30	3.2	310) 200) 12×2	Normal	0	\$	3	1016) 28.5	C) 28.6	×) 35.1	
Series No. of Net	Survey Area	Srvey Date	Position lat. (N)	of Start long. (W)	Time of Start (LST)	Depth of Start (m)	Position lat. (N)	of Finish long (V)	nish (L	Depth of Finish (m)	Towing Time (min)	Towing speed (knot)	Towing Direction	Length of Warp (m)	Wing Spread (m)	State of Haul	Veather	Wind Direction	Wind Force	Atmosph. Pressure (mb)	Air Temperature (°C)	Surface NaterTemp("C	Bottom materials	Current Direction	Total Catches (kg)	Remarks
æ	<u>[3</u>	Ś	<u>a</u>	of	7	අ	G.	of	F	đ	12	L	은 71			<u>お</u>	3	5	19	At	Wi	Su	8	3	18	Re

•

48.6 27.8 26.8 5 86-05.7 86-02.6 86-00.9 85-58.3 85-54.8 85-57.2 85-52.7 86-00.7 86-06.2 86-06.2 300 150 450 **T017** 13 ଞ୍ଚ Norma n -86-07.8 86-05. 10-59.8 10-54. 0-35 S Aug. 3. 6-0 21 10-58.4 10-59.7 10-59.9 11-00.4 10-55. **1** 9 $\dot{\mathbf{c}}$ 2 27.2 28.0 28.0 (<u>5</u> 1019 22-43 23-13 3 265 ŝ 126 350 3 8 ò S * 159 \$ 2 2 16.4 10-39.0 10-59.6 10-59.7 11-00.2 28.4 28.2 1018 104 103 275 300 35 (4) 86-05.8 86-03.9 86-02.3 85-55.7 85-55.5 85-51.0 86-08.4 86-05.6 86-02.6 86-00.7 85-58.0 85-55.0 85-56.1 85-54.3 86-02. 21-58 ŝ × 21-28 4 Ģ 3 183 -3 × 2 15.3 28.1 38 21.0 1017 3.5 19-58 20-28 5 270 କ୍ଷି 5 -53 ŝ * 6 167 -2 2 3.6 27.0 28.2 88 19-07 8 3 88 1016 18-37 6 Ş. œ. ŝ ×. 166 : -2 2 87 10-39.5 10-42.2 10-39.7 10-40.8 28.2 9.8 26.0 1988 2-05 6 8 4 210 250 1017 8 " " S × 165 5 ŝ -2 Recording Data of Trawling Research Survey by Misshinmaru No.201. 10-33.8 10-42.6 10-40.6 10-41.5 10-40.7 10-41.4 27.5 28.0 111.4 300 11.1 1018 20-03 112 0-33 3.3 112 2 8 Norma 164 Aug.2 × с В 띬 4 142.1 28:0 27.5 125 22-50 23-20 3.2 1019 170 350 127 163 8 ः म æ 2 ŝ 2 1 2 2 115.8 28.2 27.5 400 21-34 22-04 11 136 138 4.0 1019 z, 162 R BC SE ŝ 2 ж, 2 2 10-42.0 123.2 28.0 28:2 1018 20-04 20-34 0 8 163 164 8 175 500 161 ts 1 2 547 = 2 2 10-32.2 10-40.8 94.3 28.2 27.0 18 - 4219-12 s 189 3.6 2101 160 3 85-51.8 86-08 ß 600 191 z -Ó ņ 2 2 2 2 27.8 27.0 114.4 1-55 200 × 33 1-25 8 " Calla S 1016 120 7 R 11 ï BC 2 * 10-37.0 10-33.0 10-31.2 27.5 28.0 80 0-00 85-55.8 85-55. ŝ 0-30 85 () () () R 185 158 250 1017 Aug. 1 Norma -2015 3 2 <u>ى</u> 25.1 26.5 27.8 93 10-35.1 23-30 91 23-00 250 1017 157 8 175 2 S S **.**.... 2 2 2 2 10-35.9 10-37.3 10-35.5 (N) 10-37.7 10-35.6 10-37.2 27.0 27.8 ő 21-15 -110 119 86-05.8 86-03.9 86-02. 21-45 156 о с 300 8 Ż 1017 385 -SB 2 æ 2 Ó 2 2 96.3 28.0 27.0 19-58 125 20-28 115 3.5 300 155 180 1 30 1017 ं 2 ~ S 2 é × Jun.31 26.3 28.0 106.1 (LST) 18-44 120 3 400 Normal 157 (LST) 19-14 ន្លន្ល 22 1016 z Ś 24 2 (A) E E (nin) Ē Surface WaterTeap (°C) E (kg) Towing speed (knot) Air Temperature (°C) Atmosph. Pressure (mb) Net Current Direction Towing Direction Sottom materials Depth of Finish long. lat. Depth of Start Time of Finish of Finish long of Position | lat. Length of Warp Time of Start Wind Direction Total Catches State of Haul Survey Area Towing Time Ving Spread Wind Force Srvey Date Series No. Position of Start Veather Remarks

-72-

182 183 184 185 186 187		1	0 10-42.3 10-40.8 10-42.7 10-36.8 10-36.7 10-35.8	5 85-44, 4 85-46, 7 85-50, 4 85-53, 4 85-49, 2 85-46, 6	0-15 1-23 18-50 20-15 21-15 21-15 22-15	57. 56 77 86 775 56	3 10-40.6 10-41.8 10-41.5 10-36.3 10-36.7 10-36.0	3 85-44.1 85-47.9 85-51.7 85-51.4 85-47.7 85-48.2	0-45 1-53 19-20 20-45 21-45 22-45	57 71 82 81 70	30 30 30 30 30 30	3.4 3.2 3.2 3.4 3.2 3.2	170 315 225 105 895 275	150 200 200 250 200 200		Normal II II II II II	BC BC R R C C	E NE Calm SE SE SE	3 3 - 3 3	1016 1017 1016 1016 1017 1017	27.0 27.8 27.0 27.5 27.0 26.5	27.7 28.2 28.1 28.0 28.0 28.2	W W W W W W W W W		54.9 41.8 132.1 78.7 60.9 54.6	Finished	
180 181	<i>n n</i>	<i>u u</i>	10-45.1 10-46.0 10-42.3	85-47.4 85-46.5	21-53 23-10	63 58	10-46.2 10-44.8	85-48.9 85-45.6	22-23 23-40	63 56	30 30	3.4 3.1	315 140	200 150	П П.	<i>n. n</i>	BC BC	NE NE	4 3	1017 1016	27.3 28.0	27.8 27.6	M M		5.8 62.4		-
179	\boldsymbol{v}	<i>n</i>	10-45.3	1	20-372 21-	78	10-43.8	85-51.0	21-07 22-	78	30	3.2 3	155 3	210 2	1 11	1 11	BC	NE	ъ	1017 10	27.5 2	27.8 2	W		5.2 8		
77 178		u _	10-45.9 10-47.1	86-02.5 85-56.0 85-51	55 19-20	33 93	14.4 10-45.4	1.8 85-55.2	25 19-50	55 93	30 30	2 3.4	0 150	0 300		"	BC	(K) (K)	4	6 1017	.0 28.0	27.6 28.1	*		89.6 13.3		
176 177	1 1	4ug. 4 //	4	86-05.6 86-0	0-35 1-55	160 138	10-45.0 10-44.	86-05.0 86-01.8	1-05 2-25	153 135	30	3.2 3.2	15 150	450 400	" "	Normal //	BC BC	Calm Calm		1016 1016	27.5 27.0	 _	N		84.7 89.		
175		¥ "	(N) 10-54.1 10-50.1 10-47.6 10-50.2 10-46.4 10-43	86-08.58	22-53	190	10-44.8		23-23	192	30	3.2	190	550	"	N 17	C C	Calm		1017	26.8	27.4	×		155.1		
174	"	n.	.6 10-50.2	8 86-08.0	19-55 21-25	121	2 10-48.5	86-03.8 86-07.7 86-08.8	21-55	170	. 30	3.2	170	200	"	11	ပ —	AN	2	1016	5 26.5	8 27.6	X		5 21.5		
2 173	1	n	0.1 10-47	2.9 86-03		0 144	8.4 10-49		2 20-25	7 138	0	2 3.2	5 N	0 450	Ш	11	ບ 	N	3	6 1016	0 26.5	27.7 27.8	H		29.7 26.6		
171 172	1 n	Aug. 3 // //	-54.1 10-5	(W) 86-03.8 86-02.9 86-03.8 86-08.0 86-08.5		125 130	10-55.2 10-48.4 10-49.2	86-02.8 86-02.8	2-33 19-22	116 137	30 30	3.2 3.2	45 175	400 400	12×2 . "	Normal //	R	AS AS	5 3	1016 1016	26.0 26.0	28.1 27	H H		35.7 29		
of Net				1.1	Start (LST) 2-	Start (m) 1	lat. (N)	(M)	(LST)	Depth of Finish (m) 1	(min)	(knot)	rection	(m)	(m)				e	Atmosph.Pressure(mb) 10	Air Temperature (°C) 2	Surface WaterTemp("C) 2	iterials	lirection	(kg)		
Series No.	Survey Area	Srvey Date	Position lat.	of Start long.	Time of St	Depth of S	Position	of Finish long	Time of Finish	Depth of	Towing Time	Towing speed	Towing Direction	Length of Warp	Wing Spread	State of Haul	Weather	Wind Direction	Wind Force	Atmosph.P	Air Tempe	Surface V	Bottom materials	Current Direction	Total Catches	Pomorto	DK IDHDV

-73-

Appendix

Recording Data of Trawling Research Survey by Nisshinmaru No.201, 1988

Series No. of Net	188	189	7 27	Te T	101	} •	721	2	0.61	221	0.21		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1/2	202	CV2	5 5
Survey Area	1	11 -	. 11	11 -	"	***	1	"	11	2		"	"	"	"	"	11
Srvey Date	Sep.3	"	"		"	Sep.4	"	"	n	"	Sep.5	11	"	. "	"	""	11
Position lat. (N)	() 10-53.8	3 10-58.5	5 11-00.5	0.10-11	11-00.9	11-00.2	11-00-11	11-01.5	11-00.6	11-00.8	10-48.0	10-46.5	10-45.7	10-42.8	10-40.7	10-37.3	10-37.0
		85-57.4	1 85-53.4	\$ 85-58.9	86-03.5	86-08.6	86-15.6	86-20.8	86-25.3	86-30.1	85-57.2	85-54.9	85-52.2	85-51.0	85-53.2	85-55.3	85-53.5
	00-01 (11-18	12-40	14-00	15-12	8-05	9-43	11-03	12-20	13-37	7-42.	8-42	9-55	10-58	11-57	13-06	14-23
Depth of Start (m)	26 ()	66	87	102	111	135	159	173	181	153	96	88	52	- 52	98	84	87
Position lat. (N)	0 10-55.5	5 10-59.8	3 11-00.2	11-01.1	11-00.8	11-00.3	11-00-1	11-01.5	11-00.6	11-00.9	10-47.8	10-44.9	10-44.2	10-41.4	10-39.8	10-35.8	10-36.6
long	(N) 85-58.6	85-56.6	85-55.0	86-00.3	86-05.0	86-10.2	86-17.2	86-22.5	86-26.9	86-31.7	85-55.5	85-54.6	85-51.5	85-51.8	85-54.5	85-55.7	85-52.0
Time of Finish (LST	(LST) 10-30	11-48	13-10	14-30	15-42	8-35	10-13	11-33	12-50	14-07	8-12	9-12	10-25	11-28	12-27	13-36	14-53
Depth of Finish (m)) 95	25	16	103	211	141	164	175	179	155	06	89	62	81	35	3 3	81
		30	30	30	30	30	30	30	30	30	30	30	30	92	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	30	30
1) 3.3	3.2	3.3	3.0	3.0	3.2	3.2	3.2	3.0	3.4	3.2	3.2	3.2	3.2	3.2	3.4	3.2
	1	30	260	275	265	270	270	270	270	275	35	165	145	215	235	195	100
Length of Warp (m)	350	300	300	300	380	400	500	580	600	480	300	280	280	280	300	300	300
Ving Spread (m))				-	-	-	1		1	-	1	•				
State of Haul	Normal	n a	<i>n</i> - 1	n.	n.	Norma I	11	"	"		Norma!	IJ	n	11	л.	and II and	<i>u</i> r
Veather (1999)	BC	BC	BC	BC	BC	BC	BC	BC	BC	8	BC	C	3	ဥရ	BC	BC	ບ
Vind Direction	SW	SV	NSN	N.	Å	ň,	ň	, v	ų.	4	N	Å	S	S	A. 2	ана А лана Алана	AND S
Vind Force	2			3	3	3	3	2	2	2		1	2	2	2	2	2
Atmosph. Pressure (mb)	1018	1018		1016	1015	1018	1017	1017	1017	1016	1017	1018	1018	1018	1016	1016	1016
Air Temperature (°C)	29.0	29.0	30.0	30.0	29.5	28.0	30.0	32.0	32.0	31.0	29.0	30.0	32.0	32.0	32.0	32.0	30.5
Surface NaterTemp (°C)	3) 28.9	28.9	28.9	29.0	28.8	28.2	27.7	28.8	29.2	28.8	28.0	28.2	28.5	29.0	29.2	29.0	28-0
Bottom materials		N.		N	N 2 1	N N	N N	N	Ņ	H	. 	- ∦	N.	N Star	- W	SW-201	1. A. M. S.
Current Direction														X			
Total Catches (kg)	6. T	4.8	3.4	10.0	28.8	1280.6	2.9	58.3	101.2	148.5	0	11.4	10.5	80.5	34.8	3.3	L. Frank
Remarks	Started										Discarded	ĥ					
	No.6 Leg										all catches	hes					
																4 9 7 1 1	

-74-

216 217 218 219 220		<i>n n</i> Sep. 8.	10-55.9 10-55.7 10-55.9 10-53.6 10-52.1	86-14.6 86-18.3 86-21.8 86-29.9 86-33.3	12-22 13-34 14-47 10-58 12-19	178 188 189 188 207	10-56:8 10-56.5 10-55:9 10-55.6 10-55.8 10-53:6 10-51:5	86-16.1 86-19.8 86-23.4 86-31.4 86-31.9	12-52 [14-04]15-17]11-28]12-49	183 190 189 204	30 30 30 30 30 30	3.0 3.3 3.2 3.2 3.2	270 265 265 270 115	580 600 600 600 600 500			BC BC BC BC BC BC	WNW WNW WNW SM	3 3 3 3 3	1017 1016 1015 1017 1016	31.0 30.0 31.0 30.0 31.5	28.7 28.8 29.0 28.8 28.8	N N N N N N N N N N N N N N N N N N N		133.6 225.4 118.0 10.0 254.4
214 215	<i></i>	<i>""</i>	4 10-43.9 10-45.5 10-53.4 10-56.0 10-56.3	85-46.9 85-49.3 86-03.3 86-06.2 86-10.5 86-14.6	9-43 11-02	140 160	0-56.8 10-56.5	86-07.6 86-11.8 86-16.1	10-13 11-32	144 166	30 30	3.2 3.0	305 280	480 500	1	<i>u u</i>	BC BC	NN NN	3 2	1018 1018	30.5 31.5	28.2 28.7	M M		509.2 200.1
2 213		Sep. 7	5.5 10-53.4 1	9.3 86-03.3 8	8-26	67 124	10-54.7	86-04.4	8-56	8 129	30	2 3.3	5 320	0 380	1	Normal	BC	Calm	8	1017	3 31.0	5 28.2	N		1506.5
211 212	<i>n n</i>	u = 1	10-43.9 10-4	85-46.9 85-4	15-47 16-36	63	10-44.9 10-46.6	85-48.2 85-50.4	16-17 17-06	67 68	30 30	3.4 3.2	300 315	200 200	1	11 11	ວ ເ	¥ ¥	3 2	1015 1015	28.5 28.3	28.5 28.5	M M		69.7 37.2
209 210	1. A. M. W.	$\ \boldsymbol{u} \ _{\infty} = \ \boldsymbol{u} \ _{\infty}$		13.4 85-44.7	14-30	56 53	2	13.8 85-45.5	15-00	57 53	30 30	2.8 3.2	340 325	180 180	-	"	BC	ENE S	2 2	1016	32.0 29.0	28.6 28.6	M W		0 0.3
208	n (1)	n	10-41.2.10-	85-48.5 85-	11-48 13-18	72	10-42.0 10-	85-47.2 85-	12-18 13-48	69	30	3.2 2	55 3.	280 1	-	`H [™] Ĥ	BC BC	ENE	4	1017 1017	29.5 32	27.4 28	N.		9.3
206 207	<i>n 1</i>	$\boldsymbol{\mu} \in \mathbb{C}^{n}$	10-32.8 10-35.9 10-36.6 10-41.2 10-40.6 10-44	long. (W) 85-51.9 85-48.9 85-48.6 85-48.5 85-43.4	9-16 10-25	12 12	(N) 10-33.9 10-36.2 10-36.8 10-42.0 10-41.9	85-51.0 85-47.3 85-47.1 85-47.2 85-43.8	9-46 10-55	68 67	30 30	3.2 3.0	80 80	280 280		и и	C 2 2 C	ENE E	3 4	1018 1018	27.5 27.5	27.6 27.8	М		0.8 2.1
205		Sep.6		82-21.9 85	8-02	74	10-33.9 10		8-32	75	30	3.0	07	280		Normal	0	ENE	3	1018	25.6	27.0	H		9.0
Series No. of Net	Survey Area	Srvey Date	Position Nat. (N)	of Start long. (W)	Time of Start (LST)	Depth of Start (m)	Position lat. (N)	of Finish long (W)	Time of Finish (LST)	Depth of Finish (m)	Towing Time (min)	Towing speed (knot)	Towing Direction	Length of Warp (m)	Wing Spread (m)	State of Haul	Veather	Wind Direction	Wind Force	Atmosph. Pressure (mb)	Air Temperature (°C)	Surface WaterTemp(°C	Bottom materials	Current Direction	Total Catches (kg)

Appendix

Appendix

-1088. 1088. Recording Data of Travling Research Survay hy Nisshir

				•	•										•	 	•	· ·				1 1 1 1 2 1 1			
"	"	10-38.8	86-12.6	14-18	224	10-37.2	86-12.2	14-48	225	30	3.2	170	680		n	0	2	3	1015	28.3	27.8	, K		1500.1	
11	11	10-42.7		12-50	220	10-41.1	86-14.8	13-20	221	30	3.2	195	680		.	C	SU	() - 2 () -	1015	27.8	27.6			1.645	
	"	10-41.1	86-12.5	11-25	220	10-42.2	86-13.6	11-55	221	30	3.2	315	680	1 1 1 1		C.	100 N	3	1016	26.5	27.4	N.			
"	"	10-43.0	86-10.7	10-10	211	10-41.4	86-11.2	10-40	215	30	3.2	195	600	1		J	SE	ß	1017	26.0		N.		<u></u>	
F.	Sep.11	10-43.2	1 1 1	8-43	189	10-44.8		9-13	193	30	3.3	340	600	,	Normal	ox.	NE	4	1017	24.3		N,			
11	11	10-48.6	۱ I	15-05	203	10-49.3	86-18.4	15-03	203	30	3.2	65	009	1	"	Ů	NE	5	1015	26.0		N			
"	"	10-45.8	86-19.0	13-49	209			14-19	206	30	3.1	310	680		ll I	ບ	A	5	1015	28.3	28.1	М		175.0	
II -	Л	10-46.2	86-16.1	12-40	211			13-10	210	30	3.2	275	680	-	u –	ບ	SW	5	1016	28.8	28.0			257.4	
н	11	10-44.7	86-13.1	11-17	214			11-47	213	8	3.0	325	680	-	<i>H</i>	8	NSN	5	1017	26.5	27.9	Ж		697.0	
11	11	10-47.3		10-03	206	10-45.9	L _	10-33	213	30	3.2	215	600	-	<i>n</i>	C	ß	5	1017	30.0	28.2	K		135.3	
	Sep.10	10-45.7		8-35	184	10-47.1		9-05	189	30	3.4	320	600		Norma !	ø	۸S	4	1016	27.5	27.9			337.4	
"	Ш	10-52		14-18	196	10-52	1	14-48	194	30	3.0	280	600		n e	BC	S	4	1014	28.5	28.4	W		241.5	
"	"		86-19.2	13-13	198		86-20.7	13-43	197	30	3.1	260	600		ll I	BC	S	4	1014	29.5	28.2	N.		472.7	
"	11	·	86-15.2	11-36	185	10-53.2	86-16.6	12-06	186	30	3.0	280	600	-	11	R	S	3	1016	26.0	28.0			428.5	
"	11		86-10.1	10-20	175	10-52.4	86-11.8	10-50	180	30	3.2	270	580	1	n	BC	AS	3	1017	28.5	28.2	N.		101 7	
"	"		86-06.4	9-01	151	10-52.2	86-08.0	9-31	161	30	3.3	295	480		п	C	SΨ	3	1017 (25.8	27.5	М		455.8	
	Sep.9			7-45	138	10-50.5	86-04.8	8-15	143	30	3.1	325	480		Normal	0	NSN	4	1016	25.5	28.0	A. N. A.		421.7	
Survey Area	Srvey Date	Position lat. (N)	of Start long. (W)	Time of Start (LST)	Depth of Start (m)	Position lat. (N)	of Finish long (W)	Time of Finish (LST)	Depth of Finish (m)	Towing Time (min)	Towing speed (knot)	Towing Direction	Length of Warp (m)	Ving Spread (m)	State of Haul	Veather	Wind Direction	Vind Force	Atmosph. Pressure (mb)	Air Temperature (°C)	Surface WaterTemp(°C)	Bottom materials	Current Direction	Total Catches (kg)	Remarks
		Area 1 <i>n n</i>	Area 1 <i>n n</i>	Area 1 <i>n n</i>	Area 1 <i>n n</i>	Area 1 n <td>Area 1 n n<td>1 <i>n n</i></td><td>1 <i>n n</i></td><td>1 n n</td><td>$\begin{array}{ c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>1 <i>n n</i></td><td>a 1 n n</td><td>1 n n</td><td>1 n n</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>a 1 n</td><td>a 1 n</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td></td>	Area 1 n <td>1 <i>n n</i></td> <td>1 <i>n n</i></td> <td>1 n n</td> <td>$\begin{array}{ c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>1 <i>n n</i></td> <td>a 1 n n</td> <td>1 n n</td> <td>1 n n</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>a 1 n</td> <td>a 1 n</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td>	1 <i>n n</i>	1 <i>n n</i>	1 n	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1 <i>n n</i>	a 1 n	1 n	1 n	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	a 1 n	a 1 n	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

-76-