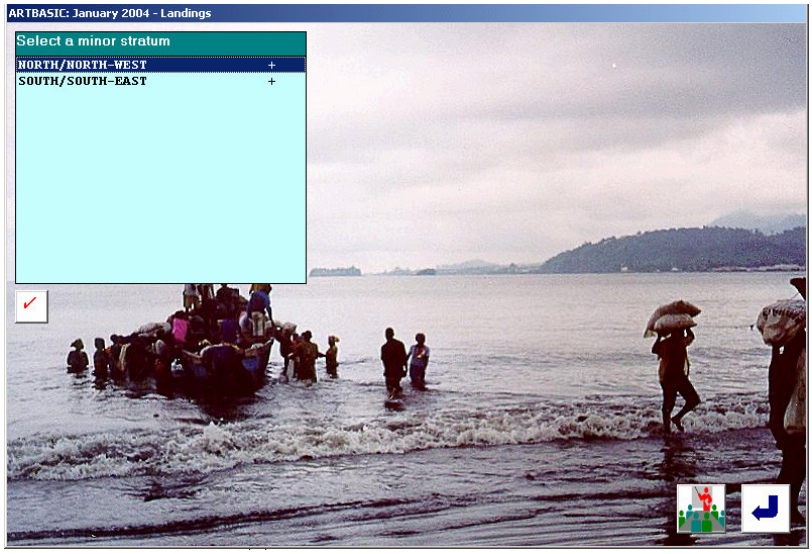
Artbasic case study

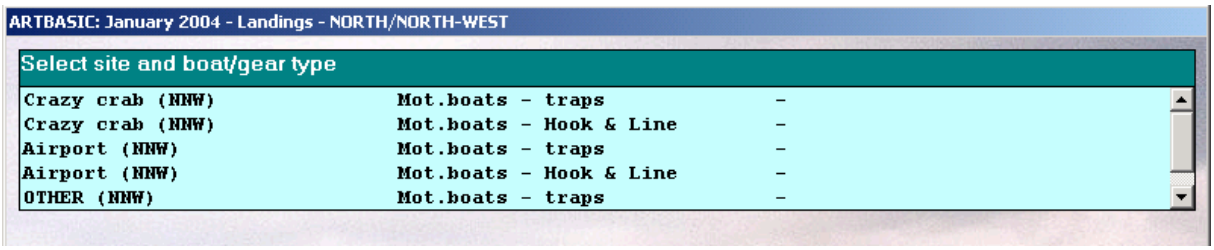
Part 5: Sample data on landings

1. Selecting a minor stratum

Clicking on the button with the fish icon for entering landings, will activate the following screen:



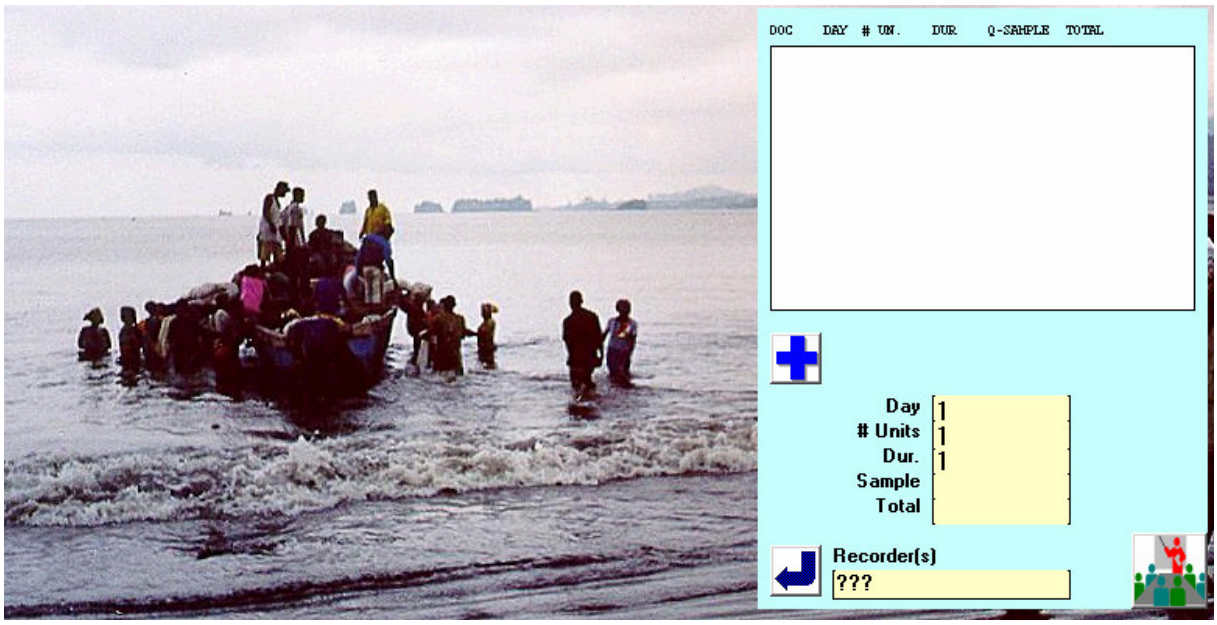
Here the user will select a minor stratum, for instance NNW, and then click on the confirm key. This operation will activate another screen containing sites and boat/gear types for which sample landings may have been collected.



The table above is created automatically by combining only those sites in the selected minor stratum for which non-zero boat/gears have been specified in the frame survey. A minus sign means that no data have been inputted for a given combination, whereas a plus sign means that some or all sample landings have already been recorded.

By clicking on a combination: Sampling site + boat/gear, the following screen will appear:

2. The screen of fishing operations



Before entering species composition data, users have to:

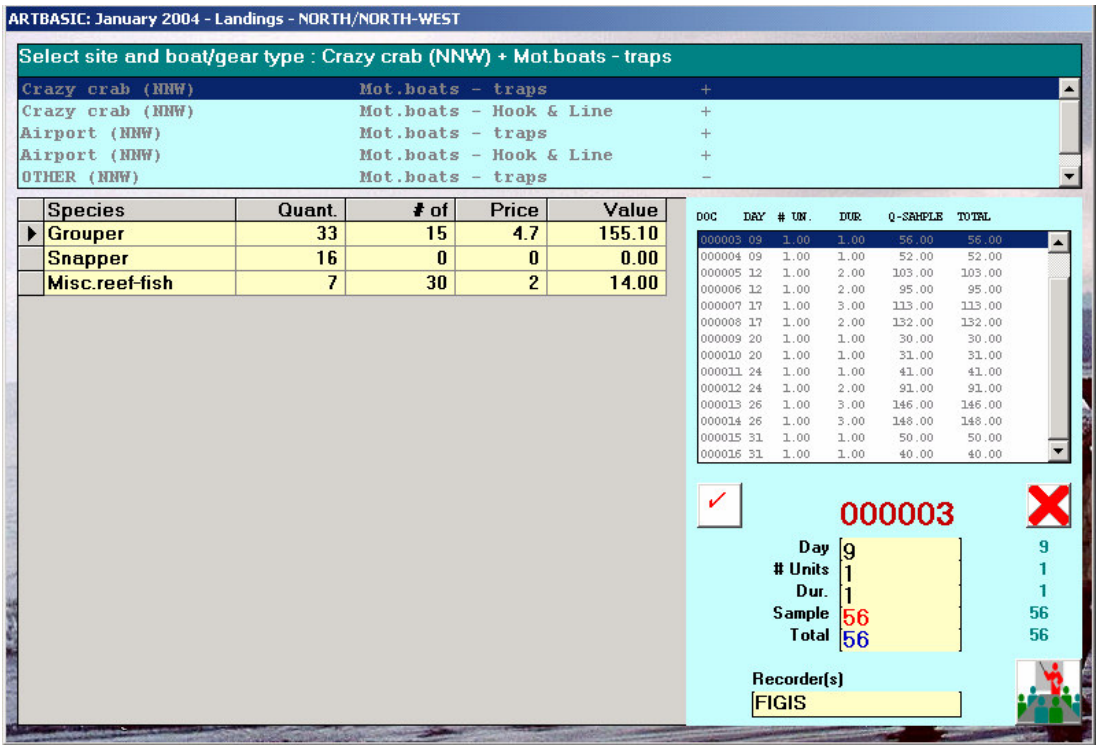
(a) Specify the recorder's name (to the right of the RETURN key)
(b) Indicate the sampling day of the month i.e. 3, 7, etc.
(c) Specify the duration of trip in days.
(d) Specify the total landings sampled. This must equal the total by species. It is used for control purposes.
(e) Click on the blue cross to enable the screen for catch by species, numbers of fish in the sample and price.

Note: The "# of Units" and "Total" fields will not be used in this case study. The first is in fact rather rarely required, when more than one fishing units operate and land together. The "Total" field is used when the landings are large and only part is used for species composition.

Clicking on the blue cross will cause the following actions:

- A line summarizing the fishing operation (in red) will be added to the white box.
- A document number will be generated automatically and displayed in red. It is advisable to write this number on the hardcopy form, for cross-reference purposes.
- An inputting chart for species composition will appear.
- For each species the quantity, the number of fish and the price are recorded in separate columns. The last two fields are optional.
- Number of fish and prices may also be used on a sub-sampling basis, that is they need not be always present.
- At the end of the operation the OK button must be used.
- The sum of species must tally the figure specified as "Sample", else an error message is displayed and the current sample is not accepted.

Following is an example of a completed landings screen.



3. Inputting sample landings for the case study

Following is a series of tables containing test data for landings. Although users are not obliged to input the entire dataset, they are advised however to cover as many sites and as many boat/gear types as possible, so as for the results to be reasonably comparable to those produced by the case study.

The tables refer to the following 4 estimation contexts:

1. **January 2004, minor stratum NNW, boats with traps**
    - **Site Crazy crab: 16 samples**
    - **Site Airport: 16 samples**
2. **January 2004, minor stratum SSE, boats with traps**
    - **Site Golden sand: 16 samples**
    - **Site Pirates' cave: 16 samples**
    - **Site Windy beach: 16 samples**
3. **January 2004, minor stratum NNW, boats with H & L**
    - **Site Crazy crab: 16 samples**
    - **Site Airport: 16 samples**
4. **January 2004, minor stratum SSE, boats with H & L**
    - **Site Golden sand: 16 samples**
    - **Site Pirates' cave: 16 samples**
    - **Site Windy beach: 16 samples**

Table 1. Input data (16 samples) for site "Crazy crab" and for boats operating traps.

Crazy crab Boats with traps	*Quant.*	*# of fish*	*Price*	*Day Duration Sample total*
Grouper	32	20	5	3
Snapper	4	10	5	1
Misc. reef-fish	7	20	1.5	43
Grouper	117	50	5.2	3
Snapper	54			3
Misc. reef-fish	8			179
Grouper	33	15	4.7	9
Snapper	16			1
Misc. reef-fish	7	30	2	56
Grouper	37	0	4.2	9
Snapper	8	20	5.1	1
Misc. reef-fish	7	10		52
Grouper	69			12
Snapper	26			2
Misc. reef-fish	8	12	2	103
Grouper	65			12
Snapper	20		5.2	2
Misc. reef-fish	10			95
Grouper	62	25	4	17
Snapper	30			3
Misc. reef-fish	21			113
Grouper	78	30	5.6	17
Snapper	38		6	2
Misc. reef-fish	16		2	132
Grouper	20	8	4.2	20
Snapper	6	10		1
Misc. reef-fish	4			30

Grouper	21	11		20
Snapper	9	14	6.1	1
Misc. reef-fish	1	5	1.2	31
Grouper	23	12		24
Snapper	12	10		1
Misc. reef-fish	6			41
Grouper	51			24
Snapper	22		5.8	2
Misc. reef-fish	18		1.5	91
Grouper	107		4.7	26
Snapper	36			3
Misc. reef-fish	3	10		146
Grouper	70		3.8	26
Snapper	51			3
Misc. reef-fish	27			148
Grouper	32		4	31
Snapper	13			1
Misc. reef-fish	5			50
Grouper	25		4	31
Snapper	6	15		1
Misc. reef-fish	9			40

Table 2. Input data (16 samples) for site "Airport" and for boats operating traps.

Airport Boats with traps	*Quant.*	*# of fish*	*Price*	*Day Duration Sample total*
Grouper	49	25	4	3
Snapper	19	40	6	2
Misc. reef-fish	6	15	1	74
Grouper	58	30	4	3
Snapper	36			2
Misc. reef-fish	14			108
Grouper	59	22		9
Snapper	6	10		2
Misc. reef-fish	18	40	1.2	83
Grouper	30	11		9
Snapper	11	20	6	1
Misc. reef-fish	7			48
Grouper	24	7	3.8	12
Snapper	16			1
Misc. reef-fish	8	23		48
Grouper	21	10	4.2	12
Snapper	12	20		1
Misc. reef-fish	2		0.8	35
Grouper	28	12		17
Snapper	51		6	1
Misc. reef-fish	9			88
Grouper	35			17
Snapper	10	20		1
Misc. reef-fish	8			53
Grouper	107		5.1	20
Snapper	9	12	6.1	3
Misc. reef-fish	4			120

Grouper	78	30		20
Snapper	16			3
Misc. reef-fish	27			121
Grouper	43	0	5.2	24
Snapper	9	15		2
Misc. reef-fish	14		1.5	66
Grouper	51	26		24
Snapper	26			2
Misc. reef-fish	16			93
Grouper	33			26
Snapper	24		5.8	1
Misc. reef-fish	3	12		60
Grouper	76		4	26
Snapper	42			2
Misc. reef-fish	12			130
Grouper	67			31
Snapper	15	30	5.5	3
Misc. reef-fish	3			85
Grouper	36		5	31
Snapper	12			1
Misc. reef-fish	1			49

Table 3. Input data (16 samples) for site "Golden sand" and for boats operating traps.

Golden sand Boats with traps	*Quant.*	*# of fish*	*Price*	*Day Duration Sample total*
Grouper	13	2	4.5	3
Snapper	5	4	6.5	1
Misc. reef-fish	23		1.2	41
Grouper	33	8		3
Snapper	12			1
Misc. reef-fish	28			73
Grouper	27	7	5.5	9
Snapper	18		6	1
Misc. reef-fish	24		0.5	69
Grouper	32	10		9
Snapper	8	6		1
Misc. reef-fish	15	56		55
Grouper	65	20	6	12
Snapper	57		6	3
Misc. reef-fish	10			132
Grouper	44	10		12
Snapper	14			2
Misc. reef-fish	58			116
Grouper	40	8		17
Snapper	28			2
Misc. reef-fish	34		1	102
Grouper	22	5	5.5	17
Snapper	15		5.9	1
Misc. reef-fish	28			65
Grouper	29	8		20
Snapper	14	17		1
Misc. reef-fish	18	100	1.1	61

Grouper	41			20
Snapper	24		6.5	2
Misc. reef-fish	38			103
Grouper	86		6	24
Snapper	24		6.2	3
Misc. reef-fish	54	120	0.9	164
Grouper	77	14		24
Snapper	34			2
Misc. reef-fish	52			163
Grouper	71		5.1	26
Snapper	24		6.1	2
Misc. reef-fish	22		1	117
Grouper	31	5		26
Snapper	7	6		1
Misc. reef-fish	22			60
Grouper	32		6	31
Snapper	10	10		1
Misc. reef-fish	26		1	68
Grouper	39			31
Snapper	8	12		1
Misc. reef-fish	23	75		70

Table 4. Input data (16 samples) for site "Pirates' cave" and for boats operating traps.

Pirates' cave Boats with traps	*Quant.*	*# of fish*	*Price*	*Day Duration Sample total*
Grouper	27		4.5	3
Snapper	4	6		2
Misc. reef-fish	28			59
Grouper	25	6		3
Snapper	5	5		1
Misc. reef-fish	11	55		41
Grouper	48			9
Snapper	15	10	5.8	2
Misc. reef-fish	38		1	101
Grouper	108	27		9
Snapper	5	8		3
Misc. reef-fish	39			152
Grouper	54		5.1	12
Snapper	39		6.1	2
Misc. reef-fish	28		1	121
Grouper	35	9		12
Snapper	26			1
Misc. reef-fish	4	22		65
Grouper	26	5		17
Snapper	16		6.2	1
Misc. reef-fish	9	16	1	51
Grouper	27		5.1	17
Snapper	6	10		1
Misc. reef-fish	6	18		39
Grouper	42	14		20
Snapper	8	10	6.4	2
Misc. reef-fish	2	15	1.1	52

Grouper	26		6	20
Snapper	14			1
Misc. reef-fish	26			66
Grouper	32	10		24
Snapper	21		6.5	1
Misc. reef-fish	1	5	0.8	54
Grouper	20		6	24
Snapper	20			1
Misc. reef-fish	24			64
Grouper	74	25		26
Snapper	32		6	2
Misc. reef-fish	32		0.9	138
Grouper	55		5.8	26
Snapper	11	15		2
Misc. reef-fish	54			120
Grouper	58			31
Snapper	14		5.8	2
Misc. reef-fish	28			100
Grouper	104			31
Snapper	14			3
Misc. reef-fish	84			202

Table 5. Input data (16 samples) for site "Windy beach" and for boats operating traps.

Windy beach Boats with traps	*Quant.*	*# of fish*	*Price*	*Day Duration Sample total*
Grouper	14	4	5	3
Snapper	5			1
Misc. reef-fish	5	15	1	24
Grouper	28			3
Snapper	10	12	5.9	1
Misc. reef-fish	3	20		41
Grouper	41	10	0	9
Snapper	12	15	0	2
Misc. reef-fish	58	0	0	111
Grouper	64		6	9
Snapper	28			2
Misc. reef-fish	2	13	1	94
Grouper	61	17		12
Snapper	10	12	5.8	2
Misc. reef-fish	20			91
Grouper	61			12
Snapper	21			3
Misc. reef-fish	51			133
Grouper	37	9	6	17
Snapper	5	6	6	1
Misc. reef-fish	13			55
Grouper	33	9		17
Snapper	8	12		1
Misc. reef-fish	14		0.8	55
Grouper	39	12		20
Snapper	11			1
Misc. reef-fish	7	25		57

Grouper	32			20
Snapper	15		6	1
Misc. reef-fish	9	28	1.5	56
Grouper	119			24
Snapper	30			3
Misc. reef-fish	30			179
Grouper	82	20		24
Snapper	33			3
Misc. reef-fish	60		1.2	175
Grouper	68		5.4	26
Snapper	34			2
Misc. reef-fish	50			152
Grouper	22			26
Snapper	17		6.6	1
Misc. reef-fish	20		1.1	59
Grouper	53		5.8	31
Snapper	30			2
Misc. reef-fish	12	56		95
Grouper	38			31
Snapper	12	15		1
Misc. reef-fish	14		1	64

Table 6. Input data (16 samples) for site "Crazy crab" and hook & line.

Crazy crab Hook & Line Duration = 1	*Quant.*	*# of fish*	*Price*	*Day Sample total*
Grouper	25	20	5.7	2
Snapper	3	8	5.2	28
Grouper	31	50	5.7	2
Snapper	14			45
Grouper	26	15	5.2	7
Snapper	12			38
Grouper	29		4.6	7
Snapper	6	12	5.4	35
Grouper	27			10
Snapper	10			37
Grouper	26			10
Snapper	8		5.5	34
Grouper	16	25	4.4	16
Snapper	8			24
Grouper	31	30	6.2	16
Snapper	15		6.3	46
Grouper	16	8	4.6	19
Snapper	4	10	4	20
Grouper	16	11		19
Snapper	7	14	6.4	23
Grouper	18	12		23
Snapper	9	10		27
Grouper	20			23
Snapper	8		5	28

Grouper	**28**		**5.2**	**27**
Snapper	**9**			**37**
Grouper	**18**		**4.2**	**27**
Snapper	**13**			**31**
Grouper	**25**		**4.4**	**30**
Snapper	**10**			**35**
Grouper	**20**		**4.4**	**30**
Snapper	**4**	**9**	**5**	**24**

Table 7. Input data (16 samples) for site "Airport" and hook & line.

Airport Hook & Line Duration = 1	*Quant.*	*# of fish*	*Price*	*Day Sample total*
Grouper	11	25	4	2
Snapper	4	10	5.2	15
Grouper	14	30	4	2
Snapper	9			23
Grouper	14	22		7
Snapper	1	10		15
Grouper	15	11		7
Snapper	5	10	5.3	20
Grouper	12	7	3.8	10
Snapper	8			20
Grouper	10	10	4.2	10
Snapper	6	10		16
Grouper	14	12		16
Snapper	25		5.4	39
Grouper	17			16
Snapper	5	9		22
Grouper	17		5.1	19
Snapper	1	3	5.5	18
Grouper	13	30		19
Snapper	2			15
Grouper	10		5.2	23
Snapper	2	5		12
Grouper	12	26		23
Snapper	6			18

Grouper	**16**			**27**
Snapper	**12**		**4.9**	**28**
Grouper	**19**		**4**	**27**
Snapper	**10**			**29**
Grouper	**11**			**30**
Snapper	**2**	**3**	**5.9**	**13**
Grouper	**18**		**5**	**30**
Snapper	**6**			**24**

Table 8. Input data (16 samples) for site "Golden sand" and hook & line.

Golden sand Hook & Line Duration = 1	*Quant.*	*# of fish*	*Price*	*Day* *Sample total*
Grouper	17		4	2
Snapper	5	12	4.8	22
Grouper	10	8	4.9	2
Snapper	2	5	5	12
Grouper	7	6	4.8	7
Snapper	3	4	5	10
Grouper	9	7	4.5	7
Snapper	5	8	5	14
Grouper	10		4.6	10
Snapper	7		5.1	17
Grouper	18	12	5.2	10
Snapper	10	20	5.5	28
Grouper	10	10	5	16
Snapper	5	10	5.2	15
Grouper	30	20	5	16
Snapper	4	6	5.2	34
Grouper	10			19
Snapper	8			18
Grouper	13			19
Snapper	9			22
Grouper	6	7	5	23
Snapper	2	3	5.3	8
Grouper	11			23
Snapper	5			16

Grouper	**15**			**27**
Snapper	**8**			**23**
Grouper	**21**			**27**
Snapper	**7**			**28**
Grouper	**30**	**20**	**5.2**	**30**
Snapper	**11**	**15**	**5.4**	**41**
Grouper	**21**	**15**	**4.8**	**30**
Snapper	**4**	**4**	**6**	**25**

Table 9. Input data (16 samples) for site "Pirates' cave" and hook & line.

Pirates' cave Hook & Line Duration = 1	*Quant.*	*# of fish*	*Price*	*Day Sample total*
Grouper	15	12	5	2
Snapper	13	18	5.1	28
Grouper	10	6	5	2
Snapper	5	8	5.1	15
Grouper	11			7
Snapper	7			18
Grouper	10			7
Snapper	12			22
Grouper	25	30	4.5	10
Snapper	13	15	5.8	38
Grouper	11			10
Snapper	6			17
Grouper	20			16
Snapper	14			34
Grouper	19			16
Snapper	9			28
Grouper	11	6	5.5	19
Snapper	6	8	5.6	17
Grouper	19	8	5.2	19
Snapper	3	4	5.5	22
Grouper	9			23
Snapper	5			14
Grouper	20			23
Snapper	3			23

Grouper	**11**	**10**	**5**	**27**
Snapper	**8**	**12**	**5.8**	**19**
Grouper	**20**			**27**
Snapper	**5**			**25**
Grouper	**28**			**30**
Snapper	**9**			**37**
Grouper	**15**	**6**	**5.5**	**30**
Snapper	**6**	**6**	**6**	**21**

Table 10. Input data (16 samples) for site "Windy beach" and hook & line.

Windy beach Hook & Line Duration = 1	*Quant.*	*# of fish*	*Price*	*Day* *Sample total*
Grouper	20	20	5	2
Snapper	10	10	6	30
Grouper	12			2
Snapper	10			22
Grouper	10			7
Snapper	6			16
Grouper	19			7
Snapper				19
Grouper	20	15	5	10
Snapper	15	18	5.2	35
Grouper	20			10
Snapper	9			29
Grouper	12			16
Snapper	3			15
Grouper	20	12	5.2	16
Snapper	2	3	6	22
Grouper	22	15	5	19
Snapper	8	12	5.2	30
Grouper	12			19
Snapper	5			17
Grouper	12			23
Snapper				12
Grouper	20			23
Snapper	5			25

Grouper	**12**	**5**	**5.5**	**27**
Snapper	**4**	**10**	**4.8**	**16**
Grouper	**15**			**27**
Snapper	**14**			**29**
Grouper	**30**			**30**
Snapper	**15**			**45**
Grouper	**11**	**5**	**5.3**	**30**
Snapper	**2**	**2**	**6**	**13**