

9 BOX-NESTING BIRDS SCHEME

Zoological Museum, Finnish Museum of Natural History
Box-nesting Birds Scheme / Zoological Museum

P. Rautatiekatu 13
SF-00100 Helsinki

1. BACKGROUND AND AIMS. Birds that use nest-boxes are especially suitable for population studies. The size of a local population can be censused accurately if natural site availability is low, it is easy to trap the birds for ringing, and basic data on breeding attempts can be collected during just a few visits. Many birdwatchers have studied box-nesting species for years in Finland, and from 1975 to 1984 a nation-wide study project was organized with the help of more than 40 participants.

The aim of the present survey, started in 1987, is to monitor the population ecology of box-nesting species in different parts of Finland from year to year. The nest-box survey is one of the most versatile and accurate monitoring projects. By ringing nestlings and adults and by checking nest-boxes according to standard instructions, it is possible to monitor population fluctuations, breeding success, mortality and emigration/immigration of populations of ecologically different species.

2. EQUIPMENT AND TIME NEEDED. Participants may use varying numbers of different nest-box types (with a removable roof) in their study areas. It is preferable, however, to have at least 50–250 ordinary nest-boxes per area suitable for tits and Pied Flycatchers. One may also have special nest-boxes for Starling, Redstart, Treecreeper, Spotted Flycatcher etc. Observers with only a few nest-boxes are also welcome to take part in the study.

The tit-size nest-boxes, which are of greatest importance for the study, must meet certain criteria to minimize the sources of error caused by differences in size and condition of the boxes. The most important measurements are the following: diameter of the entrance hole about 32 mm and that of the floor 100–120 mm. Standard measurements, available from the Museum, should be used also for special nest-boxes to ensure comparability.

Nest-boxes should be marked on a survey

map. One page of a notebook is reserved for each nest-box. Ringers taking part in the survey need trapping equipment, amongst other things, for adult birds.

Time needed for field work depends on the number of nest-boxes and the size, shape and terrain of the study area. During a day one usually has time to check 50–100 nest-boxes.

3. CHOOSING A STUDY AREA AND ERECTING NEST-BOXES. In a proceeding study the location of nest-boxes should be kept constant. When a new nest-box area is taken up, "pure" habitat types are recommended. For example, the study area may consist of the following subareas: a deciduous forest, a pine stand and a spruce stand, or one part of the area in ordinary commercial use and the other old forest in its natural state. In this way combining and comparing of results from different study areas is more reliable. Another possibility is to put up the boxes in a fragmented landscape having small patches of forest, field edges, courtyards etc.; their distribution should preferably reflect the proportion of main habitat types in the region. Pay attention to the habitat requirements of the species under study when placing nest-boxes.

Nest-box area should preferably have clear boundaries (e.g. an island, a patch of forest etc.). Most of the hole-nesting birds in the area will probably nest in nest-boxes and small-scale movements from one nest site to another occur within the area. Another possibility is to erect the boxes in a line along paths, shores and forest edges which makes checking the boxes easy. This is advisable especially if the study area is heterogeneous (see above).

Data on annual population fluctuations are most reliable if one offers a slight surplus of boxes. In southern Finland a suitable density is about five nest-boxes per hectare. Distances between nest-boxes of similar type should be at least 50 m. If the nest-boxes are placed at much

longer intervals, part of the pairs have to breed elsewhere or move totally away from the area during peak years. If the main goal is to study breeding biology, sparsely placed nest-boxes (e.g. interval 100–200 m) give relatively more data because the proportion of empty boxes remains lower.

Ask the landowner for permission to erect nest-boxes on his/her land. Make sure that the area will not become unsuitable for the study during the next few years (e.g., because of logging). If a nest-box disappears or breaks, it should be replaced at the same site or a similar one nearby.

If there is no fear of human mischief or vandalism in the area, nest-boxes for passerines may be placed only 1.5 metres above the ground (to check them without climbing the tree). Tree species and the direction of the entrance hole do not matter, but the boxes should not be nailed to valuable timber trees or placed so that they are very easy to see. A good method to attach the box is to tie it with twisted nylon rope or electric wire; both last for years and do not cut into the tree, in contrast to an iron wire, when the trunk grows thicker. The rope can be slipped through two holes in the back wall of the nest-box or knotted to staples on both sides of the box. If you use iron wire, tighten the ends of it around the bases of two branches on the opposite sides of the tree. A lath or cleats between the trunk and the box prevent the flowing of water into the nest-box, which is of special importance during rainy summers. A waterproof roof and some holes in the floor also lengthen the life of the box.

4. STUDY PERIOD. Field work lasts through the whole breeding season of the monitored species. The length and timing of the season depends on the species and geographical location of the area. In southern Finland tits start to lay in the beginning of May and the fledglings of the second brood leave the nest at the end of July or in the beginning of August. In northern Finland nest-boxes should be visited for the first time at the end of May.

In order to gather as complete data as possible, each nest-box should be visited frequently enough to collect the following information: (1) beginning of egg laying, (2) complete clutch size, (3) number of hatchlings and (4) number of young that were large enough to leave the nest. Four visits are enough to gather this data,

if they are timed properly. Additionally, about 10 days after the young left the nest or the brood was destroyed, the nest-box should be checked again to find out (5) the number of young that died just before fledging, and (6) a possible repeat or second clutch (these are checked as described above). With two visits both at the egg stage and the nestling stage the losses per nesting day may be calculated reliably (Mayfield's method).

Useful data on breeding biology can also be collected with fewer visits, but it cannot be used for as many monitoring purposes as those from standard visits. The minimum requirement is that the number of pairs laying their probable first clutches in the nest-boxes is known. At least two visits is usually needed for this.

Besides the visits during the breeding season, at least one visit should be made in early spring to clean and prepare the boxes and replace old ones if some are missing.

5. TIME OF DAY. Nest-boxes may be checked at any time of the day. During the laying period it is, however, better to start checking after 8 a.m. to be sure that the female has had enough time to lay. The time of the day should be considered more carefully when trapping parents feeding or warming chicks (see Sect. 6 and 7).

6. WEATHER. Nest-boxes should not be checked during cold or rainy weather, because the nestlings may get a chill.

7. FIELD WORK. Nest-boxes should be numbered permanently with waterproof ink or with a metal plate. They should also be marked on a map. Reserve one page in a notebook for each nest-box to get all visits to a nest in chronological order.

The boxes should be checked for the first time when the early breeders have started laying – in southern Finland generally in the beginning of May and in northern Finland at the end of May. Because part of the pairs may start breeding later than others or lay a replacement or second clutch, empty boxes should be checked several times, i.e.: similarly to inhabited ones.

If the first visit was made during nest building, the next visit (meaning the first one in the above list of standard visits) should be timed so that egg laying has not yet been finished (e.g.

after 5 days). If the box has been checked during laying, the next, or the second, visit should be made at earliest 10 days later when the clutch is complete but the young have not yet hatched (the interval depends on the number of eggs and the length of the incubation period of the species).

The hatching time is estimated with the help of the normal incubation period (e.g. in tits and Pied Flycatcher 13–15 days from the laying of the last egg to the hatching of the last young). The nest should be visited for the third time a few days later. The fourth visit should be made when the nestlings are old enough for ringing (the young of tits remain in the nest 18–20 days, those of the Pied Flycatcher 15–16 days).

During the fifth visit, about 10 days after the fledglings have left the nest-box, the nest is removed and thoroughly checked to find unhatched eggs or dead young. (Note that on the Nest Record Card breeding losses in a successful nest can be documented by aftercheck code A1.) Be careful not to remove a nest if the birds have started to build a new nest on the top of the old one (there may be only a bit of fresh moss as a clue). Six or even more visits are necessary to confirm the latest repeat and second clutches.

If the adults are to be trapped, additional visits are usually needed. In Pied Flycatcher, Blue Tit, Coal Tit and Wryneck that practically never abandon their nests due to trapping, the parents may be caught from the nest already during incubation. This is advantageous because the parents of destroyed nests can be ringed also. Females of species that easily abandon their nests (Redstart, Great Tit, Willow Tit and Crested Tit) should not be caught before the end of nestling period, when also the males may be trapped. Female tits are easy to catch from their nests at night when they warm their young; otherwise one has to trap feeding parents, which takes a little more time. Detailed information on trapping of different species is available from the Museum.

The right technique has to be learned for catching an adult from the nest. One has to get a good hold of the bird right away so that it cannot flutter around in the nest-box. When this is mastered there is almost no danger of damage even when Great Tit females are taken from their nests at the end of the incubation period. However, they must be carried 50–100 metres away from the nest (in a tight grip with

the head of the bird covered) before releasing.

The same routine is followed at each visit: sneak quietly to the nest-box and block the entrance with a piece of cloth etc. (remember to remove it when you leave!), open the roof of the nest carefully, and peer through your fingers into the nest. If the bird leaves the nest-box when it hears someone coming (as, e.g., the Pied Flycatcher often does), at the next visit block the entrance from further away with the help of a long stick, the end of which is covered with cloth. Count eggs and young carefully; some of them can be cautiously picked up if necessary. If the parent bird was not incubating, the warmth of the eggs is tried for with the fingertips. During the laying period tits cover their eggs with nest material. It should be carefully removed and then put back after the eggs have been counted.

Each time one visits a nest-box the following information should be written down in the notebook (check also the Nest Record Card and its instructions): date, hour, species, stage of breeding (e.g., "some moss", "nest almost finished", "finished but empty nest"), number of eggs and nestlings, eggs cold/warm, estimated age of the young (with an accuracy of 2–3 days based on experience, or more rough notes like "just hatched", "naked and blind" etc.). Additional data on the parents should be written down: "the female was incubating but fled", "a ringless male was uttering alarm calls" etc. When nesting is over, unhatched eggs are broken to study whether there is an embryo or not. The ages of dead chicks should be estimated. Give reason for an unsuccessful nesting if there is any clue of it (e.g. "eggs abandoned", "robbed by Great Spotted Woodpecker", "nest full of ants", "the whole nest teared out, roof open"). Ringers should write down the ring numbers of the parents and nestlings and the age of the parents. In addition, special remarks about building material of the nest or behaviour of the parents, amongst other things, should be documented.

If an observer merely wants to find out the number of pairs nesting in the study area, only two visits are usually required, the first in the beginning and the second in the middle of June, when (almost) all pairs have laid their first clutch. Destroyed nests should be recognized and taken into account when estimating the number of pairs. In the same way an experienced ringer may estimate the number of pairs

based on only one visit in June.

8. INTERPRETING OBSERVATIONS. One should report only exact information, no guesses. Observations are analysed and interpreted at the Museum.

9. FILLING IN THE FORMS AND NEST RECORD CARDS. Data on study activity, the study area and the numbers of nest-boxes and nesting pairs are reported annually on Nest-box Area Form 9A. The quality and habitat of each nest-box are given on Nest-box Form 9C, which is filled in only in the first year (later this form is merely used to report changes). The locations of the nest-boxes are presented on a map sent to the Museum after the first year.

A Nest Record Card (see Form 7A–B and instructions in the Manual) is filled in of each inhabited nest-box within the study area (even if there were only a few traces of building a nest). The card should preferably be coded in the field so that no data are left out through forgetting. Habitat codes, that usually remain constant from year to year for each nest-box, can be found on the Nest-box Form (take a copy for your files before sending it in the first year!). Remember to write down the ring numbers of the birds and the age of parents in calendar years (if known). Also fill in the time of the visit, observations on the parents, age of the young (See Sect. 7) etc. On the reverse side of card (7B), a box has been reserved for the number of the study area and the number of the nest-box where the nest was (e.g. area 12 / box 35).

The Nest-box Area Form and Nest Record Cards of the year are sent together to the Museum every year. In the first year and after changes enclose also the Nest-box Form and a map of the area with the boxes marked on it.

If the nest-boxes have been checked only

once or twice or nesting data is otherwise incomplete, it is not necessary to fill in Nest-box Forms and Nest Record Cards. One can merely report annual numbers of nesting pairs by sending a Nest-box Area Form (and a map after the first year). If the efficiency of the study increases, the Nest-box Form and Nest Record Cards are taken into use.

10. REPEATING THE STUDY. The study area and the number and quality of nest-boxes should remain the same during the years to ensure comparability (see Sect. 3). Efficiency of the study is standardized by having the same observer or team for field work every year and keeping, for example, the number and timing of the visits and the effectiveness of trapping of the parents constant. If the efficiency of the study changes somehow, details are reported on the Nest-box Area Form.

Return the Nest-box Area Form (and the Nest-box Form with map if necessary) as well as Nest Record Cards to the Museum before the end of September!

SELECTED REFERENCES

- Hildén, O. & v. Haartman, L. 1987: A decade of population studies in box-nesting small passerines in Finland (in Finnish with English summary). – *Lintumies* 22:70–75.
- Järvinen, A. & Lindén, H. 1980: Timing of breeding and the clutch size in the Pied Flycatcher *Ficedula hypoleuca* in Finnish Lapland. – *Ornis Fennica* 57:112–116.
- Virolainen, M. 1984: Breeding biology of the Pied Flycatcher *Ficedula hypoleuca* in relation to population density. – *Ann. Zool. Fennici* 21:187–197.

NEST-BOX AREA FORM

Box-nesting Bird Survey / Zoological Museum
P. Rautatiekatu 13
SF - 00100 Helsinki

Return with Nest Record Cards before the end of August!

9A Version III/1990

AREA NUMBER: 19 YEAR: OBSERVER NUMBER:

Name: _____
Addr.: _____
Tel.: _____

Cross New study area Studied last year Observer changed Study changed Only the number of pairs given

NATIONAL GRID 1-km square S - N: W - E: MUNICIPALITY (6-letter code): AREA hectares: FIRST STUDY YEAR: 19

NAME OF THE AREA: NUMBER OF NEST-BOXES: OCCUPIED NEST-BOXES: NO. OF NEST CARDS:

PAIR ESTIMATES
(based on the first clutches):

PAIRS	SPECIES
<input type="text" value="29"/>	Pied Flycatcher FICHYP
<input type="text" value="8"/>	Great Tit PARMAJ
<input type="text"/>	Blue Tit PARCAE
<input type="text"/>	Starling STUVUL
<input type="text" value="1"/>	Wryneck JYNTOR
<input type="text" value="18"/>	Redstart PHOPHO
<input type="text" value="1"/>	PAR MON
<input type="text"/>	
<input type="text"/>	

Remarks/changes from previous year:

10 NEW NEST-BOXES FOR THE REDSTART WERE ERECTED →
THE AREA INCREASED BY 150 ha →
HABITAT COMPOSITION CHANGED...
THE NESTS WERE CHECKED AND THE BIRDS RINGED MORE INTENSIVELY.
*) D: BOTTOM 120mm x 120mm, ENTR. 70mm

HABITATS	COVER-AGE INDEX	NUMBER OF NEST-BOXES						TOTAL
		A	B	C	D	E	F	
Spruce forest	<input type="text" value="1"/>	<input type="text" value="2"/>						
Pine forest	<input type="text" value="3"/>		<input type="text" value="5"/>		<input type="text" value="37"/>	<input type="text" value="1"/>		
Coniferous forest	<input type="text" value="1"/>		<input type="text" value="8"/>					
Mixed forest	<input type="text" value="3"/>	<input type="text" value="6"/>	<input type="text" value="3"/>	<input type="text" value="1"/>	<input type="text" value="3"/>			
Deciduous forest	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="10"/>	<input type="text" value="3"/>				
Birch forest								
Aspen forest								
Alder forest								
Yard/park								
PINE MIRE	<input type="text" value="1"/>		<input type="text" value="3"/>			<input type="text" value="1"/>		
Total	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="29"/>	<input type="text" value="4"/>	<input type="text" value="40"/>	<input type="text" value="2"/>		

Nest-box types: A = Small tit, B = Great Tit, C = Starling
*) D = REDSTART *) E = SPOTTED FLYCATCHER F =

Natural holes (circle one code):
0 No data
1 No holes
② < 0.5 x no. of nest-boxes
3 0.5-1 x no. of nest-boxes
4 > no. of nest-boxes

General forestry status (circle one code):
0 Not determined
1 Stand of saplings
2 Only seed trees left
3 Forest strongly thinned
④ Forest slightly thinned

9B HOW TO FILL IN NEST-BOX SURVEY FORMS

The forms are filled in with clear hand-writing, in pencil using BLOCK LETTERS. All numbers are written so that they end at the right margin (e.g. area, number of nest-boxes). All data with letters are started from the left margin (e.g. municipality, name of the area).

NEST-BOX AREA FORM 9A

The data from the study area is collected on the Nest-box Area Form (9A). The upper part is filled in every year. The AREA NUMBER is given at the Zoological Museum after the first year; later the observer fills in the number himself. If the study has CHANGED FROM THE LAST YEAR, draw a cross in the space reserved for it, and give a closer account about the changes in the remarks (e.g. which boxes were left unchecked, changes in ringing or in effectiveness of study). If you are not filling in Nest Record Cards but only giving the amount of pairs, mark a cross in the respective space.

NATIONAL GRID coordinates are given according to the 1x1 km square where all or most of the nest-boxes are situated. The name of the MUNICIPALITY is abbreviated according to Appendix 2 of the Manual. If the area lies in more than one municipality, give the one where most of the boxes are. The size of the AREA (with an accuracy of 1 ha) is the unbroken area where the nest-boxes are placed. If the nest-boxes are in line, the area is calculated by multiplying the length of the row (in meters) by 50 meters and then converting the number to hectares. The FIRST STUDY YEAR is the year since when the results have been sent to the Zoological Museum (if you have even older data make a note on that in 'remarks'). The NUMBER OF NEST-BOXES is the total number of nest-boxes checked during the study year and the number of OCCUPIED NEST-BOXES is the number of nest-boxes with at least one egg laid. The NUMBER OF NEST CARDS means the number of filled Nest Record Cards (=number of nestings; e.g. if one pair nests twice, separate cards are filled in of both nestings). Note that these are not the same numbers as the number of pairs nesting in the area! Give a suitable NAME TO THE AREA, which preferably can be found on a detailed field map.

The NUMBER OF PAIRS (first clutches) of each species nesting in the boxes is marked after the species's name and code (3+3 letters, see Appendix 1 of the Manual). All the SPECIES not already marked on the form and their pair numbers are written on their respective lines.

In REMARKS you may tell e.g. about strange nest-boxes in the area (especially if birds nest in them but you have no access to them). For possible changes in the study, see above.

The HABITAT AND NEST-BOX DATA on the lower part of the form is reported in the first study year and later only if there are changes in it (e.g. because of logging). Note that nest-boxes either broken or disappeared should be replaced with new ones, which are placed at a similar site as close as possible to the location of the original nest-box.

A list of common nest-box habitats is given. There is also space for additional habitat types. Only the habitat types listed in the Nest Record Card may be used (the forest habitats already on the form are from the N.R.C.). The COVERAGE INDEX of each habitat type in the whole nest-box area is estimated by adding up all the habitat patches of the same type. The index is determined in the following way: 1 = 1-10%, 2 = 11-25%, 3 = 26-50%, 4 = 51-75%, 5 = 76-90%, 6 = 91-100%. After the habitat and its coverage report the NUMBER OF NEST-BOXES in each habitat according to the types of boxes: A = size for small tits (diameter of the entrance hole ca 26-28 mm), B = Great Tit size (entrance ca 32 mm) and C = Starling size (entrance ca 40-50 mm). The first

Flycatcher). A description of the boxes is given (height, diameter of entrance, size of the floor). If there are more than six types of nest-boxes in the same area, the other types are written on an additional Form 9A. Note, that the emphasis in this study lies on Passerines (check the instructions for the survey; the most important nest-box type is B). However, also people specializing in Goldeneye, Goosander or other hole-nesting birds are welcome to take part in this survey; the owners of a great number of boxes for owls just send their reports to the raptor survey of the Museum (see the Manual). The numbers of nest-boxes are easy to total when the data about each nest-box has been written on Nest-box Form 9C-D. In addition, the estimated number of NATURAL HOLES and the GENERAL FORESTRY STATUS is reported in the first study year by circling the most accurate code.

NEST-BOX FORM 9C-D

Information about the nest-boxes and their surroundings is collected on the Nest-box Form. It is filled in only the first year or if there are changes in the placing or the habitat of the boxes (this should also be summarized in remarks of the Nest-box Form of the year). The Nest Record Cards are much easier to fill in once one has gathered all the data about the nest-boxes on the Nest-box Form, because the habitat data remains the same. Make a copy of the Nest-box Form for your own use!

Fill in the AREA NUMBER and OBSERVER NUMBER at the top of the form. The NEST-BOX NUMBER is the number of the box (all the nest-boxes are numbered consecutively regardless of their type). If a box breaks or disappears the new box replacing it gets its number (the year of placing reveals that it was replaced). The NEST-BOX TYPE is mainly determined by the diameter of the entrance hole and is marked according to a letter A, B, C, etc. (see Form 9A, from D onwards a separate explanation is included). The NEST-BOX MATERIAL is reported in the following way: 1 = a "natural" box in a tree trunk, 2 = made of board, 3 = made of plywood, 4 = other (describe). The PLACING YEAR tells the age of the box. If the exact year is not known, mark the supposed year and a question mark. The HABITAT is described as in the Nest Record Card (see Form 7A and the Manual). SURROUNDING TERRAIN means the main habitat surrounding the actual nesting habitat (codes 0-9) and NESTING HABITAT means the actual nesting habitat or that where the nest is located (codes 01-99). (The total number of nest-boxes in different habitat types on Nest-box Area Form 9A is determined according to the nesting habitats; e.g. habitats 01 and 11 are summarized as spruce forest.) The AREA OF THE NESTING HABITAT is given according to the instructions in the Nest Record Card (1 = < than 1 ares, 2 = 1-10 ares etc.). The POSITION OF NEST-BOX WITH REGARD TO EDGE is coded as on the Nest Record Card: the first code giving the situation of the nest-box and the second one the distance of the nest-box from the nearest edge of the nesting habitat (e.g. code 67 means that a box in the forest is 70 meters away from the nearest opening, which in this case is a shore). The FORESTRY STATUS is marked for each nest-box with codes 0-5 as on Form 9A. The average HEIGHT OF THE FOREST is reported with the following codes: 5 = 2.5-7.5 m, 10 = 7.5-12.5 m, 15 = 12.5-17.5 m, 20 = 17.5-22.5 m, 25 = 22.5-27.5 m, 30 = 27.5-32.5 m. For open areas (e.g. Goosanders' nest-box) mark a zero = no data.

Nesting data are collected on nest record cards (see Instructions for using the Nest Record Cards in the Manual). Remember to write the number of the nest-box area and the number of the nest-box on the reverse side (7B) of the Nest Record Card.

After the first year send a large-scale copy of a detailed field map (or an enlargement) of your study area to the Museum. Mark all the nest-boxes and their numbers on the map. If you have trouble in enlarging the map, contact the Museum.

NEST-BOX FORM
9C Version
 II/1990

Box-nesting Bird Survey / Zoological Museum
 P. Rautatiekatu 13
 SF - 00100 Helsinki

Return with Nest-box Area Form
 (in the first study year) or after
 changes of data!

AREA NUMBER

6

OBSERVER NUMBER

1 2 3 4

Name of
 observer
 and date:

NEST-BOX NUMBER NEST-BOX TYPE NEST-BOX MATERIAL NEST-BOX ERECTED IN YEAR SURROUND. TERRAIN NESTING HABITAT AREA OF NEST. HAB. POSITION TO EDGE FORESTRY STATUS HEIGHT OF FOREST

1	A	2	19	8,7	1	0,1	4	3,2	4	1,5
2	A	2	19	8,7	1	0,1	4	3,3	4	1,5
3	B	2	19	8,7	3	0,2	4	7,1	3	1,5
4	B	2	19	8,7	3	0,2	3	7,2	3	2,0
5	B	2	19	8,7	2	0,2	4	4,2	4	2,0
6	B	2	19	8,7	2	0,2	4	4,3	4	1,5
7	B	2	19	8,7	2	0,2	4	4,3	4	1,0
8	D	2	19	8,7	2	0,2	5	4,1	4	1,0
9	D	2	19	8,7	2	0,2	5	4,2	4	1,5
1,0	D	2	19	8,7	3	0,2	5	7,4	4	1,5
1,1	D	2	19	8,7	3	0,2	6	7,5	4	2,0
1,2	D	2	19	8,7	3	0,2	5	7,5	5	2,0
1,3	D	2	19	8,7	2	0,2	5	7,4	5	2,0
1,4	D	2	19	8,7	2	0,2	4	4,5	5	2,0
1,5	D	2	19	8,7	1	0,2	6	4,6	5	2,0
1,6	D	2	19	8,7	1	0,2	4	9,9	1	2,0
1,7	D	2	19	8,7	2	0,2	5	9,9	1	1,5
1,8	D	2	19	8,7	2	0,2	5	4,2	1	1,5
1,9	D	2	19	8,7	1	0,2	6	4,2	4	1,5
2,0	D	2	19	8,7	1	0,2	6	9,9	5	1,0
2,1	D	2	19	8,8	1	0,2	6	9,9	4	1,5
2,2	D	2	19	8,7	1	0,2	6	4,2	4	1,5
2,3	D	2	19	8,7	1	0,2	6	9,9	4	1,5
2,4	D	2	19	8,8	1	0,2	5	9,9	4	2,0
2,5	D	2	19	8,8	1	0,2	6	9,9	4	1,0
2,6	D	2	19	8,7	1	0,2	5	9,9	2	2,0
2,7	D	2	19	8,7	1	0,2	5	9,9	4	2,0
2,8	D	2	19	8,7	1	0,2	5	9,9	4	1,5
2,9	D	2	19	8,7	1	0,2	4	9,9	5	1,5
3,0	D	2	19	8,7	1	0,2	5	9,9	4	1,5

REMARKS:

