THE NATIONAL ANGUILLA CLUB

A GUIDE TO THE REPORTING SCHEMES 1971

CONTENTS

1. INTRODUCTION

The 1971 Reporting Scheme is divided into two parts: the Session Reporting Scheme and the Optional Projects.

The Session Reporting Scheme follows on from and slightly extends the scheme operated during 1967-70 and the same report forms will be used. General administrative points and detailed notes on filling in each item of the Session Report are given in this Guide. All members are requested to take part in the full Session Reporting Scheme.

The Optional Projects continue the previous Growth Rate work and extend the Stomach Contents work; two easy new projects are introduced in Sections 3.1 & 3.2; and older projects which have not been well supported are omitted, although details are available on request. General administrative points and detailed notes on each project are given. Members already familiar with the basic Session Reporting Scheme may well feel able to contribute to all the Optional Projects described in this edition of the Guide; but new members would probably be well advised to concentrate on familiarising themselves with the basic Scheme first, and defer participating in the Optional Projects until they feel confident of being able to do so without loss of angling enjoyment or reliability or both.

Please read the Guide carefully, retain it as an Appendix to Volume 8 of the Bulletin, and refer to it as necessary when making out your reports. Members who are familiar with the previous edition are urged to take particular note of the various amendments now introduced. New members should refer to the Guide at intervals, until they are sure they have committed the essentials to memory. It is <u>vital</u> to the success of the projects and the scheme as a whole that the various administrative and detailed notes are complied with correctly by all taking part: they are not mere red tape, they have been written to help with filling in the form, to help make the data consistent and reliable, to make the job of analysing the data practicable and to ensure that the conclusions reached are valid.

Remember: careless and unreliable reports are worse than useless - they sabotage the efforts of your fellow-members.

2. THE SESSION REPORT

2.1 General Administrative Points

(a) A Session Report should be completed on the Club's printed form for each and every session of eel-fishing, whether or not any eels are caught. Please do not bias the results by reporting odd successful sessions and missing out odd blank sessions. The most valuable reports are those from project waters which are fished more or less steadily over an extended period of time; so if for any reason it becomes impossible to keep abreast of reporting, odd sessions on "occasional" waters should preferably be dropped - but in this case, successful sessions as well as blanks must be dropped.

(b) As far as possible, make out a full report, completing all items. One obviously cannot report (say) water temperatures if the thermometer is lost or broken; but please adopt the same standards of reporting for blanks as for successful sessions: for example, do not miss out water temperatures or cloud cover on blanks yet report them in detail on successful sessions, because this biasses the data.

(c) "A session of eel-fishing" means any more or less continuous period of fishing, using suitable methods, tackle and baits, where the intention is wholly or partly to catch eels. Generally speaking, sessions where the main intention is to catch other species e.g. carp, tench, should not be reported, even if an eel or eels are caught; but if in a marginal case you decide to report the data, then all similar sessions must be reported, to avoid bias.

(d) Use the forms freely. Do not try to squeeze too much fishing time onto one form: this only makes it difficult to fill in the form, and equally difficult to analyse it. As a general rule, one form per session of not more than 24 hours is suggested; longer continuous sessions should be broken down onto two or more forms, and very eventful sessions may be easier to report and interpret if one form is used for each rod.

(e) Reports should not run over from one month into the next. If a session crosses the "dateline", terminate one report at 24.00 hours on the last day of the old month, and start a fresh report at 00.00 hours on the first day of the new month.

(f) Do not rely on memory! Reports filled in from memory are useless! Either carry a few forms on a clip-board and make out the reports during the sessions, or take notes in diary form and complete the session report as soon as possible afterwards, while the meaning of the notes is fresh in mind.

(g) Please try to get corroboration for 4 lb.+ eels caught on solo sessions - a witness, photographs, even otoliths, etc. - so that the Club is in a position to substantiate its results.

(h) Reports filled in on behalf of non-member friends fishing with you will be welcome, providing blanks are reported as well as successful sessions.

(i) As soon as possible after the end of the month - and not, please, later than the 14th. of the next month - batch up the complete set of reports for the month and return them direct to:-

Dr. T.M.Coulson,
13, Luxemburg Gardens,
London, W.6. 7EA.

Please make a point of checking all the reports before despatch to ensure that there are no accidental omissions, and enclose one of the "Monthly Returns" forms to confirm positively that the month's reporting is complete. If you do no eel-fishing during a month, please use one of the "Monthly Returns" forms to advise that it is a nil return, so that the analytical work can proceed. Remember that the analyst has his own reports to deal with, as well as those from all the rest of the Club, and it is vital to keep abreast of the analyses during the season.

2.2 Detailed Notes on the Report Form

*** Please ensure that all entries are clearly legible ***

Item 1. Enter your own initials and surname. If you fish in company, please indicate the name(s) of your companion(s) in the space above Item 1, so that the best use may be made of all the data.

Item 2. The name by which the water is usually known, a nearby town of reasonable size, and the County in which the water lies. If the water is near a County boundary, refer to a map to make sure from the start. If you use a code name for a water, we hope you will indicate the correct name in confidence, to enable records to be correlated. "Class of Water" refers to the classification in Bull., March 1967, p. 7; enter only the code numbers:-

1.1 = Upland River	2.1 = Lakes etc. with outflow	3.1 = Estuaries, creeks
1.2 = Lowland River	2.2 = - do. - totally enclosed	3.2 = Salt lagoons
1.3 = Tidal River	2.3 = Canals and drains	3.3 = The sea

Item 3. Enter the full date or dates covered by the report, in numbers only e.g. 16.6.71 or 20/21.7.71. In subsequent items where the date is required, only the day number need be entered. Entry of session times optional.

Item 4. This item caters for observations made at an instant in time e.g. readings from instruments. Air and water temperatures are specified, but the blank lines may be used for other observations of your choice (e.g. barometric readings - see section 3.4 of this Guide). Against "date" enter the day number (month and year are in item 3). Against "time" enter the exact time at which the observation was made, using the 24-hour clock system. A minute after midnight is 00.01. An hour after midnight is 01.00, and so on to 23.59 at a minute before midnight. Remember the date changes at midnight, so that midnight is 24.00 with the old day's date, but 00.00 with the new day's date. Always give all four figures, and please do not refer time to a.m. and p.m. as these can be confusing. For temperatures, use a spirit thermometer scaled in degress Fahrenheit, preferably fitted with a water reservoir round the bulb, and read it as accurately as you can - to fractions of a degree if possible. Take water temperatues from a depth similar to where your bait is - not surface or marginal temperatures, please. Give enough data for the water temperature to be estimated for the whole session; readings at the beginning and end of the session and at (say) three-hourly intervals in between would be satisfactory. If water temperatures are well recorded, air temperatures may be missed out.

Item 5. This item caters for observations made over a period of time. Cloud cover is specified; study the sky carefully are report thus:-

More or less complete overcast	= 100%
Significant amounts of both cloud and clear sky	= 50%
Scattered coulds or completely clear sky	= 0%

Make the estimate to the nearest one of these three - 100%, 50% or 0%. Do not enter intermediate percentages such as 75% or 33⅓%. Record the main changes during the session so as to give a fair picture of the broad pattern of cloud changes during the session; but do not try to record a multitude of very rapid changes (periods of very rapid changes may be best reported as 50%). At night, careful and thoughtful observation is needed to make a valid estimate. Although "rain" is not specified, members are now asked to report this on the line below "cloud cover"; enter the word "rain" on the left, and indicate whether "rain" or "no rain" by periods. In doubtful conditions e.g. heavy mist, make the best judgement you can, and if necessary comment in Item 6. It is most important to ensure that with both cloud cover and rain, the periods reported account for the whole session. Additional observations e.g. thunder, strength and direction of wind, etc., may be optionally reported on the blank lines below "rain".

Item 6. Your own general comments, especially on factual observations or events not covered elsewhere, or to clarify other entries. Optional.

Item 7. Enter the weight, date, time and bait of every eel caught; but try to fill in as many of the other details as possible.

Weight: weights taken with an inaccurate or insensitive balance are worse then useless; please use a reliable balance scaled in half-ounces (e.g. the Avon Dial Scale) and report weights to the nearest half-ounce (with eels of less than 1:8, estimate to the nearest quarter ounce, if you can). For the purpose of the report, do not just miss off the odd fractions of an ounce. For clarity, please do not write the letters "lbs" or "oz" on the form: enter only the numbers e.g. 0:6¼ or 3:7½ (the weight column is headed"lb:oz" and the ":" symbols are printed in place. Check the accuracy of your balance e.g. against a local shopkeeper's weights, at intervals during the season.

Length & Girth: Use a good, broad tape measure; or preferably, for lengths, use a simple measuring board constructed along the lines illustrated in Bull., May 1966, p. 11. Measure length from tip of snout to end of tail fin, and girth at the thickest point (usually just in front of the root of the dorsal fin). Work in inches and record measurements to the nearest ⅛th. inch - again, writing down only the numbers. Accurate measurement of weights, lengths and girths is greatly facilitated if the eels are first anaesthetised with MS 222 (Bull., Feb. 1967, 16).

Date: Day number only; month and year are already recorded in Item 3.

Time: The time when the run occurred, not the time when the eel was finally banked; to the nearest minute on the 24-hour clock system as indicated under Item 4 above.

Bait: These are described and numbered in Item 8; enter only the code numbers from the left-hand column of Item 8.

Sex: See Section 3.3 of this Guide.

Stomach Contents: See Section 3.3 of this Guide. Please try not to miss any opportunity to note the stomach contents (including "empty") especially of eels which die or are killed for the table.

Item 8. Enter a full description of all baits used. If the same bait is used on two or more rods, only one entry is required. With dead and live fish baits, make separate entries for different lengths of bait, state the species and whether DB or LB. With worm baits, state whether lobworms, blackheads, brandlings, etc., and whether 1, 2-4 or 5+. List all baits used, including those which did not catch any eels, the total rod-hours spent on each, and the total number of eels caught on each. Make sure that the entries cross-check correctly with the entries in Items 7 and 9. (DB means whole fish; portions should be so described.)

Item 9. The four columns under "Swim Details" are required to be filled in only for waters in Classes 2.1 and 2.2. The rest of Item 9 is required for all sessions. There is provision for reporting up to 4 rods and 4 changes of bait or swim with each rod; if this is not enough, use two forms for the session. Enter the date (i.e. day number only) and the time when you started fishing with each rod used; enter the bait code number from Item 8; and with Class 2.1 & 2.2 waters, enter the swim details. If you later recast with that rod using a different type, size or species of bait, or (with Class 2.1 & 2.2 waters) into a different type of swim, enter the date and time in the "stop" column, and start a fresh entry immediately underneath. Against each entry, specify the eels caught using the code numbers from the left-hand column of Item 7. For the purposes of Item 9, the "start" and "stop" times should be rounded to the hour or the half-hour.

Enter (for 2.1 & 2.2 waters) the distance cast in yards; make the best estimate you can, and try to improve your estimating, if necessary, by occasional practice casts on dry land, and pacing out the distance. State the approximate depth in feet. Indicate the nature of the bottom on the following classification:

Silt, mud, mud& sand, silt & sand, clay	= soft
Sharp sand, gravel	= medium
Close-packed stones, boulders, solid rock	= hard

Under "Snags", enter "yes" if you are deliberately casting close (say, within 2-3 yards) of a known snag such as a submerged tree, roots, rooted-weed bed, etc. if not, enter "no". Depth, bottom and snags data will often not be known until some form of water survey has been done, and may therefore have to be omitted from sessions on "occasional" waters; but with distances and depths, the main thing is to get the estimates into the right ranges as used in the Report for 1970, which see.

3. THE OPTIONAL PROJECTS

3.1 Worm/Dead-bait Comparison

Members will readily appreciate the basis of this project if they refer to the section on Effects of Bait Choice in the 1970 Report (Bull., 7,4 p. 73). Briefly, it is now well established that, in the average run of waters, worms catch eels about twice as fast as bead-baits; but that dead-baits catch 2 lb.+ eels about twice as fast as worms. However, there is evidence that worms swing back into favour for still larger eels, upwards of 4 lb. If this is true, it would be a very important piece of angling knowledge; but in order to confirm it, it is necessary to be able to compare worm/dead-bait results for a number of individual waters at the 4 lb.+ and higher levels. In fact, not a single one of the ca. 160 waters on which the Report is based provide these high-level comparisons.

The reason is, no doubt, that members quickly classify waters in terms of the baits to be used, and tend to concentrate on either worm or dead-bait to the virtual exclusion of the other. The purpose of this project is therefore to invite members optionally to devote a proportion of fishing effort on certain waters to the bait for which results are needed, as indicated below:-

Dead-bait Results needed	Worm Results needed
"Greystone Lake"	Fleetwood Reservoir
Abberton Reservoir	Stickney Pit
Gand Union Canal (Main)	Newton-on-Derwent Pond
Bottomless Pit (Preesall)	Castle Howard Great Lake
	Fenhouse Pit
	London Rd. Pit (Lincs.)
	Butler's Pit

Obviously, any other water from which members can obtain balanced results giving a worm/dead-bait comparison at the 4 lb.+ or higher levels, will also make a valuable contribution to the project. It is emphasised that it is not the aim of the project to press members into adopting methods which interfere with their enjoyment; but those considering taking part might bear in mind that a change from the established method might well produce pleasant surprises!

There are no special reporting requirements: results should simply be incorporated in the Session Report in the standard way.

3.2 Unusual Baits

The conclusions in the Report are arrived at mainly from results on worm and on dead-bait, and comparisons between them; and by providing the basis for the main generalisations, worm and dead-bait results will continue to be most valuable in the future. However, it is also important to extend knowledge of the relative merits of other types of bait, on which relatively little information has been gathered so far. One purpose of this project is therefore to invite members optionally to devote a little more fishing effort to baits other than worm and dead-bait.

Obviously, however, the number of possible "other baits" is very large indeed, and if the effort is spread too widely, it could be a long time before any valid conclusions could be drawn. It was therefore agreed at the 1971 Spring G.M. that, to help speed up progress, a short-list of "project baits" would be agreed each year, so that members interested in contributing to the project can concentrate on the short-listed baits whenever possible. The 1971 short-list is (1) black slug (2) freshwater mussel and (3) the two common freshwater snails whose scientific names are Limnaea stagnalis and Limnaea pereger. The only special requirement is that members using the snails should learn to identify them correctly ("The Observers Book of Pond Life" by John Clegg, or other similar books, may be consulted or a qualified friend asked) and to report whether stagnalis or pereger. Results should be recorded on the Session Report in the normal way.

3.3 Sex, Stomach Contents & "Colour"

(a) Sex: Although it may not be immediately obvious, a knowledge of the sex of the eels in the Club's data is of great potential value e.g. in the interpretation of growth rate data (Bull., 3 (Dec. 1966) pp. 11-25), Condition data (Bull., 7,4 pp 103-108) and certain aspects of location (Bull., 6,5 p. 52).

The sexing of eels is discussed in some detail in Bull., August 1967, pp. 3-6. Sexing the very smallest eels requires microscopic examination and may even then be indeterminate. However, these difficulties are mainly confined to eels up to about 12 inches in length, and it should be possible to determine with reasonable certainty the sex of most of the eels in the size-range caught by angling, by examining the gonads (sex organs) with the naked eye.

Any angler who has prepared an eel for the table will have noticed the long strip of dark-red pulpy tissue which runs down the length of the body cavity immediately under the spine. This dark red tissue is, in fact, the eel's kidneys. The gonads (often mistakenly regarded as fat) are two long strips of tissue which run down the length of the body cavity, attached on either side of the kidney-tissue. The female gonads are two continuous ribbons, one on either side of the kidney, taking the form of a tightly "pleated" fringe gathered into loose folds. The male gonads are not a continuous strip, but take the form of a series of separate lobes or "lumps" which have been described as looking like two rows of tiny button mushrooms when well-developed.

All eels with the continuous "frilled" gonad appear to be females; those with "lobed" gonads are mostly males, but include a small proportion of incipient females. Members taking part in this project will obviously not be expected to try to tell whether eels with lobed gonads are really males or females: all that is required is for the type of gonad to be identified, whether frilled or lobed. For the purpose of coding the observation onto the Session Report, enter in the column headed "Sex" in Item 7, the female symbol (♀) or the letter "F" to indicate a frilled gonad; and the male symbol (♂) or the letter "M" to indicate a lobed gonad.

(b) Stomach Contents: Members may judge for themselves the value of the information collected under this project during the last three years, from the recent Report (Bull., 7,4 pp. 78-81). For the future, the main - though not the only - interest will lie in eels from project waters, so that dietary data may be considered in relation to the food available.

Even a partial identification of all the small food items in a fish's stomach - especially if they are partially digested - is a difficult job even for a qualified zoologist, and the project does not call for this to be attempted. If you can confidently identify small food items - even in a general way e.g. as "shrimps", "nymphs", etc. - so much the better; but if in any doubt, all such items may be reported simply as "small food items" or "S.F.I." The main objective is to identify the larger forms present, such as fish, molluscs, crayfish, rodents, birds, etc. With fish, report the approximate size(s) and, if the state of digestion permits it, the species (insert a question mark if in slight doubt on species, but avoid guessing). Try to identify snails and snail shells; a useful guide is "The Observer's Book of Pond Life" by John Clegg.

Record the observations in the column headed "Stomach Content" in Item 7 of the Session Report. It is most important that the report should NOT be omitted when the stomach is found to be empty: make a special point of remembering to report "Empty" when this is what was observed.

The stomach, which is a blind sac with an opening at one end only, is easily found when the eel is opened, and the diagram in Bull., September 1967, p. 5 will help initially. The stomach may be slit open; or the closed end may be cut off with a pair of scissors and the contents squeezed out between the fingers (gently!) In either case, it will help if the contents are transfered to a shallow dish for examination: look at it "as it comes" first, then try swilling it with a little water. This can all be done very quickly at the waterside, if you wish; and the

lid of a plastics bait-box serves well as an examination dish.

If you intend looking at stomach contents, the sooner the eel is killed (or, at least, anaesthetised) after capture, the better, so as to reduce the risk of loss by disgorging, and minimise the effects of digestion. However, the speed of the digestive process in eels, which is a vital link in the interpretation of some aspects of the data, is still open to question to some extent. Optionally, therefore, members may usefully report in Item 6 any cases where the examination was delayed for any reason for a long time - say, upwards of 24 hours - the eel having remained alive meanwhile. Indeed, it would be valuable occasionally to keep alive an eel which appears to have a full stomach, for (say) 36 or 48 hours or more, to throw light on this question.

As a further optional extension of this project, members may estimate the fullness of the stomachs, and make out a report under Item 6 on the following points system as used by Sinha & Jones:

Empty, stomach collapsed, no food present	0 points
¼ Full, food occupying ¼ volume of stomach	5 points
½ Full, food occupying ½ volume of stomach	10 points
Full, food filling the stomach	20 points
Very full, stomach distended with food	30 points

If reasonably well-supported, this data would throw very useful light on variations in feeding activity.

(c) "Colour": Under this part of the project, members are invited to judge whether the eel is a "yellow" or a "silver", entering the appropriate colour under "Remarks" in Item 7. The judgement is difficult to make and the project will not be easy to carry through successfully, but it could potentially throw useful light on differences in feeding activity and Condition.

For the purposes of this project, please confine reports to eels which have been opened and the state of development of the gonads examined, as well as being given external examination. "Yellow" eels have relatively thin, translucent gonads; olive-green backs and yellowy-white bellies, relatively small eyes, rounded pectoral fins, fairly copious mucus, and relatively insignificant scales and lateral line. "Silver" eels have plump, opaque and cream- or pale orange-coloured gonads; bronzy-black or bronzy-brown backs and silvery-white bellies; relatively large eyes, narrow pointed pectoral fins, do not part readily with much mucus, and have well-marked scales and lateral line. By taking an overall view of all these factors, it should usually be possible to make a fairly confident distinction between "yellow" and "silver". In some cases, however, the characteristics will seem to be intermediate i.e. one would hesitate to describe the eel as a "silver" yet it has a distinct metallic bronze sheen and generally seems too well-developed sexually to be fairly called a "yellow": please code such cases onto the report as "bronze".

3.4 Growth Rates

This involves removing the otoliths from the eels and sending them in for reading by the Club's panel. The method of taking the otoliths is described in Bull., December 1966, p. 21 et seq. (photocopies are available on request, and most of the longer-standing Club members are able to demonstrate the simple technique). Immediately each pair of otoliths has been removed, clean them by rubbing lightly between thumb and forefinger, and place them in a stamp envelope clearly labelled with the eel's length, weight, date of capture and water, in the manner illustrated overleaf. Suitable envelopes are 2¼" square, glassine or (preferable) brown paper, from stationers, stamp-dealers or tackle-dealers (hook envelopes). Alternatively, the otoliths may be placed in small glass or plastics phials between two plugs of cotton wool (the plugs should preferably be of different

colours) and containing a small square of paper labelled with the details as before. In either case, the labelling should be in the following form:-

35½
3:11½
16.6.71
Limpid Lake

Please DO NOT send either envelopes or phials unprotected through the post: wrap them in cotton wool and protect them in a suitable small, stiff box for posting. Send the otoliths to:

Mr. G.N.Swailes,
6, Allebone Road,
Earles Barton, Northants.

by post at intervals during the season or at the end of the season; or hand them to him at the A.G.M.

It may be convenient for one member of a sub-group to take on the job of removing the otoliths and keeping the project well organised. The otoliths are best taken fresh; but the heads may be cut off, labelled so that the otoliths can be married up with the right data, and kept (e.g. frozen, or preserved in meths. - but not preserved in formalin, please, as experience has shown that this can make the stones impossible to read) until convenient. Please do not send eels' heads through the post without prior arrangement, and never send them unpreserved.

3.5 Other Projects

Separate sheets are available on request, giving guides for other optional projects for any member who may be interested in considering them. These are:

Barometric Readings
Controlled trials of unusual baits
Groundbaiting
Terminal Tackle
Water Surveys.

As agreed at the 1971 Spring G.M., a form of Water Survey Questionnaire is in course of preparation and will be issued during 1971 to assist members to take part in this optional project. Suggestions for other projects are welcome, and any member interested in a special project of his own is invited to discuss it beforehand, to help ensure that his plans are optimised.

A Note On Killing Eels

Many members naturally feel strongly about returning eels uninjured to the water whenever possible, whilst others do not: this is a matter for the individual. However, several of the optional projects require the eels to be killed; indeed, this is one of the reasons why they are optional. No doubt, no Club member wishes to take life, particularly an eel's life, without good reason; and if an eel is to be sacrificed whether in the pursuit of scientific knowledge or for the table, all will wish to make the best possible use of the creatures body: as, for example, by carrying out the full range of observations described in Sections 3.3 & 3.4 above. Yet again, opinions differ on the desirability of returning eels which are or are likely to be injured, or which have a large hook embedded in their vitals: no doubt, all should consider carefully whether it is ever likely to do well, or indeed whether we may be simply consigning it to a lingering death; and consider whether it might not be better to kill it cleanly and make use of its body. If the decision is taken to carry out a growth rate study on a project water, it is best to press the project through, and terminate it, decisively.

T.M.C., 16.5.71