Guidelines For Preparing Expert Testimony In Water Management Decisions Related To Instream Flow Issues

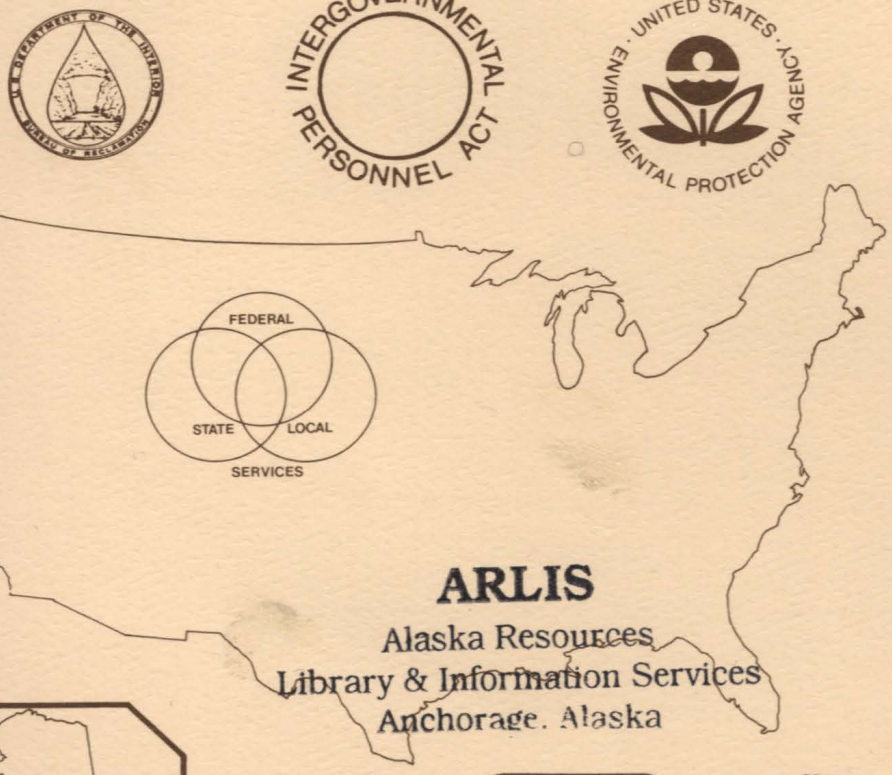
COOPERATIVE INSTREAM FLOW SERVICE GROUP

INSTREAM FLOW INFORMATION PAPER: NO.1 REVISED

FWS/OBS-79/37
SEPTEMBER 1979

Cooperating Agencies:

Fish and Wildlife Service
Environmental Protection Agency
Bureau of Reclamation
Soil Conservation Service



The Cooperative Instream Flow Service Group (CIFSG), a portion of the Western Energy and Land Use Team, U.S. Fish and Wildlife Service, was formed in 1976. Primary funding was provided by the U.S. Environmental Protection Agency.

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The CIFSG, under the initiative and leadership of the U.S. Fish and Wildlife Service, functions as a multi-agency, multi-disciplinary program which is providing a focus for technology development on instream flow assessments. This multi-agency, multi-disciplinary approach is provided for by the Intergovernmental Personnel Act transfer of State personnel and details from other Federal agencies.

FWS/OBS-79/37
September 1979

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Instream Flow Information Paper No. 1, Revised

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This study was conducted
as part of the Federal
Interagency Energy/Environment
Research and Development Program
Office of Research and Development
U.S. Environmental Protection Agency

Cooperative Instream Flow Service Group
Western Energy and Land Use Team
Office of Biological Services
Fish and Wildlife Service
U.S. Department of the Interior

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

Library of Congress Catalog Card Number: 79-600205

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INTRODUCTION

This document is not a legal reference. The purpose is to give practical guidance to field biologists and other professionals regarding what to expect when they become directly involved in some form of litigation, and are asked to present the results of their research or investigation. The discussion is directed primarily toward administrative hearings and courtroom proceedings related to the preservation of instream flows. Considerable reference is made to water pollution control because many practical lessons can be learned from this field. To avoid making this presentation unduly long, many generalizations have been made and fine points of evidentiary rules have been ignored. The intent is to point out in a general way what one will be asked during cross-examination so that laboratory or field investigation procedures may be tailored to avoid the tragedy of having valuable scientific work rendered less useful for failure to follow a protocol.

The specific preparation of a witness for a particular hearing, of course , necessarily must take place with the government trial counsel in the time immediately before one is to testify and is shaped largely by the substance of one's testimony. The reader should remember that the expert witness is a servant of the court.

Much of the report is based on a primer developed for scientists by the EPA (Rogers 1974). Other information was gathered from persons who have served as witnesses.

TYPES OF PROCEEDINGS

TRIALS IN COURT

The traditional way in which environmental issues are litigated is in a courtroom, either Federal or State. Cases involving instream flows are growing in number. Moreover, there have been hundreds of cases in which the State or Federal government brought actions against a polluter, either for violation of specific statutory or regulatory requirements or for violation of some public nuisance concept. The Reserve Mining case is an example of this: The Federal government based its claim for relief on the pre-1974 Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.) and the water quality standards promulgated thereunder; the plaintiff States sued largely on the basis of public nuisances ("unreasonable interference with the public's right to use and enjoy the environment"). Such cases require the presence and testimony of many expert witnesses.

As more cases are decided and methods are standardized, there will be fewer in which expert witnesses will be called upon to testify; or at least, the witnesses will be called upon to present less controversial proof than before. This trend is because the country is gradually moving to systems under

which most contested facts will be resolved before an agency instead of in a trial. Thus, the adequacy of a particular flow will be addressed in hearings before an agency's administrative law judges or hearings officers. As instream flow needs are recognized as beneficial, there will be interagency agreements, agency reservations of flow, or appropriations for instream values. When action is brought under these conditions, the factual issue will often be whether the agreement or rights have been violated. This will significantly alter the burden of proof which is placed on the biologist.

Of course, even with these changes, there will be court actions and the basic rules of evidence of presentation of expert testimony will come into play. These rules will be examined below in the section dealing with adjudicatory administrative hearings.

ADMINSTRATIVE TRIAL-TYPE HEARINGS

Increasingly, State and Federal agencies are holding administrative trial-type hearings. The rules for presenting the expert testimony in trials and adjudicatory-type administrative proceedings differ little. In each situation the expert witness is asked to testify about his knowledge on technical questions relevant to the issues being tried. It may be helpful to remember that conclusions and opinions generally are not permissible forms of testimony and that an exception to this rule is made for expert testimony under the theory that laymen would be unable to draw conclusions in difficult technical areas without the assistance of experts. But it is only when the person testifying is truly expert in the field that his opinion testimony is permitted; i.e., he is drawing upon his expertise in making a conclusion when the laymen (judge or jury), given the same facts, could not render a conclusion.

On occasion the expert will be asked to render an opinion on the ultimate question; e.g., he will be allowed to give his opinion that the permit for a power plant discharge should call for a minimum discharge of 1,000 cfs. More often a biologist will be allowed to say what the effect of a 1,000 cfs discharge on the aquatic habitat would be. The point is, the expert witness in his proper role is providing a part of the technical base upon which decisions are made. For him to render a judgment on questions in which other disciplines come into play is to enter fields in which he is not expert and in which he cannot render assitance to the trier of fact.

The relatively new Federal Rules of Evidence (Pub. L. 93-592, Jan. 2, 1975) shed some light on those things to which an expert can testify. In regard to expert witnesses, Rule 702 follows a liberal line of court decisions which require that the expert's testimony be of assistance to the trier of fact, not that the area testified to must be beyond the comprehension of an average individual. Under this rule, formal education does not provide the sole basis for qualification as an expert: Skill, experience, or training are also of importance. Rule 704 provides that testimony embracing the ultimate issue to be decided is not objectionable if otherwise admissible. In a recently completed trial in Federal Court, where four expert witnesses testified, the Judge, himself, posed questions to the witnesses involving the

ultimate issue to be decided. In administrative proceedings, it is not unusual to ask the expert a legal conclusion, that is the ultimate issue to be decided, and to have the question allowed. Rule 703 provides that the facts or data relied upon by the expert may be admissible in evidence so long as they are the type reasonably relied upon by experts in the field. Rule 705 requires the underlying facts basing an opinion to be disclosed if asked for on cross-examination. Prior disclosure is required only if the court so orders.

Perhaps the major difference between expert testimony in the court trial and in an adjudicatory administrative proceeding is the extent to which hearsay is allowed. Hearsay evidence is:

> . . . testimony in court, or written evidence of a statement made out of court, the statement being offered as an assertion to show the truth of matters asserted therein, and thus resting for its value on the credibility of the out-of-court asserter. (Cleary 1972:584)

In short, hearsay relies on the assertions of someone who is not testifying.

It is important to remember that the hearsay rule applies to both oral and written statements by an out-of-court party. In a traditional suit, then, a witness testifying on the proper analytical methods for establishing flows, for example, could not refer to a paper by another scientist confirming the appropriateness of his methods if the purpose is to suggest that the substance of that paper is true.[1] Nor could a witness testify that his results were confirmed by Dr. Jones, with whom he talked last week. He can say that he used method "X" which was developed by Dr. Jones. Moreover, it is not hearsay if the witness says that method "X" is widely used.

In administrative proceedings the hearsay rule is relaxed substantially. In the proceedings held to date before EPA administrative law judges, hearsay expert testimony has been allowed if there is a "nexus" (i.e., the connecting link) between the witness's expertise and the subject of the paper -- authored by another -- to which he wishes to refer. The witness in the hearing room must, however, be prepared to stand some cross-examination on the document. Thus, if he cannot say under what conditions the analytical methods used by the other investigator were acceptable, he may not be allowed to use the paper. This underscores a basic point: the witness must thoroughly understand the assumptions which underlie the methodology he is using.

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[1] However, in line with Rule 703 of the Federal Rules of Evidence, it has been held that opinion testimony based in part upon reports of others which are not in evidence but which the expert customarily relies upon in the practice of his profession is admissible (Jenkins v. United States, 307 F.2d 113 [1962]). In other words, an expert may rely upon hearsay data in forming his opinion if the data is of the type reasonably relied upon by experts in that field.

ADMINISTRATIVE-LEGISLATIVE HEARINGS

This refers to those administrative proceedings in which "generic" rules are being considered. This may be in an agency rule-making hearing or in Federal or State legislative proceedings in which proposed statutes are being debated. There is usually only informational questioning, not in an adversary setting. Often scientists appear in panels, and most of the time the bulk of the testimony has been prepared in advance.

PRESENTING DIRECT EVIDENCE

The direct testimony in a court trial is usually given orally, often with reference to a written report and always with access to written factual data upon which the expert is relying in rendering his conclusions. And almost always, the direct testimony relates to the effects of flow at specific points.

In administrative proceedings, quite often the direct testimony is in written narrative form and only the cross-examination is done orally. There are many advantages to the written narrative: The witness and his lawyer can be sure that the important points are covered, and difficult concepts can be presented with more precision than is usually possible in oral testimony.

The opposition is usually given a week or two to study the document before the witness appears. This allows them to narrow the areas of cross-examination and to prepare for the often intricate questioning of the scientific data. It allows the cross-examiner to have his own expert go over the material with a fine-toothed comb. The end result is a more organized hearing. It also allows the hearing to go forward without the necessity of elaborate "discovery," since the tender of written direct testimony well in advance of the hearing serves the basic purposes of pretrial discovery: Avoidance of surprise.

Unfortunately, one of the by-products of the use of written direct testimony which is entered into the record without reading is a feeling by some witnesses that their testimony did not hold up well. This is because the experienced cross-examining attorney chooses to question the witness only on points on which he thinks the witness is not capable of giving firm, well documented answers. Thus, witnesses have gone an entire day without being asked to discuss their basic research. Nevertheless, the results of that research will be used if it is adequately presented in the written testimony.

A large problem encountered by trial lawyers is the natural resistance on the part of scientists to write a complete narrative rather than a short precis of their work. There may be an assumption that whatever the rules at the hearing, they will get to elaborate orally on the presentation. In several instances the opposition attorneys have not cross-examined at all because otherwise dangerous witnesses did not present a statement worthy of the underlying research or investigations. The rule to remember in writing direct

testimony is to put on paper everything you want to say. It is far easier for your lawyer to cut you back if you said too much than it is for him to interpolate in a difficult scientific area.

Collins (1976:397-400) gives this advice to the expert witness:

> A great many people are interested and have evidence to give. The job of the trial lawyer is to quickly marshal these facts and present them in their most pursuasive form. At the outset there should be a survey of the basic relevant factual material easily assimilated by lay persons and visually displayed to the Court and jury, if possible. Photographs are almost a necessity. A picture is still worth a thousand words.
>
> . . .
>
> There must be identification of any particular stream input or withdrawal, its nature, source and amount. Lay witnesses may be sufficient to establish these facts, but most trial lawyers insist upon a qualified person with appropriate scientific training who tested and identified or otherwise measured the amount of any particular matter, including water, entering a stream or being withdrawn from it.
>
> . . .
>
> Give some thought to reviewing with your lawyers the testing and measuring procedures and the data upon which your experts rely. If possible, walk your lawyers through your laboratories. Let them watch some similar testing being performed. Let them ask lots of ... questions. Point out to them the shortcomings of your work as well as its strengths. This will not only help prepare them for examination of your experts, but also will anticipate cross-examination. If you have employed mathematical or computer or physical stream simulation models, you should walk your lawyers through them from beginning to end. Most lawyers cannot handle at the outset the distinctions in these techniques.
>
> . . .
>
> You may wish to consider having certain members of your organizations answer the increasingly frequent calls for expert testimony. Such a procedure may not only be more economical, it may also take advantage of particular talents and experience which exist in most large organizations. It also has the advantage that personnel will become acquainted with lawyers who frequently deal with them. In the course of such acquaintances, enormous amounts of information are passed informally back and forth. All of this makes for better courtroom presentations.

> Preference is to also have several witnesses who can present the kind of evidence that appeals to "every man" -- the color, touch and smell of bunker C crude oil as it covers a particular shoreline ... There are still advantages to having "the old timer" who can give historical background of a locality and remembers how this particular stream appeared before the advent of a particular project which has been the subject of litigation.
>
> . . .
>
> The subject of damages is worth special mention. To the private practitioner it is often the source of his fee. To the plaintiff seeking an injunction it is the irreparable injury that money cannot measure or compensate. In the federal courts some . . . detect a trend toward requiring a plaintiff to actually prove an "injury in fact" as a condition to even opening the federal courthouse door.
>
> . . .
>
> Occasionally you will find a lawyer who would like to "look at the ground." Take him there. Take a day or two if need be. Have your field people and experts along if possible. Take lots of pictures. It is often on such trips while walking around some dry stream bed that the shortcomings of your data, and that of your adversary, come to light. These trips provide a lawyer with the details of local history and geography that enable him to later sound in court like he may know what he's talking about.
>
> . . .
>
> There is something more important trial lawyers can do for you. They can help present your best judgments as professional resource managers -- quietly, effectively, and free of political slogans and overblown cliches. This will become more important to you personally and your agents generally as our society asks for action from our resource managers, which requires a higher order of planning and projection than we know. Perhaps it is true that to retain our hopes, while recognizing our limits, requires a touch of greatness. The views, the judgments that you hold were not quite your father's nor will they be your children's. They may indeed turn wrong, but if today they are the very best amoung our work and hopes, then the lawyer can help you say them, and say them well.

Collins's discussion (1976) is presented in a light-hearted manner, but it illuminates a very important point. It cannot be stressed enough that, assuming the expert and the attorney are each reasonably competent, the attitude of each is of paramount importance. Each should display qualities of willingness and cooperation. The witness should be willing to appreciate the

problems of presenting sometimes very complex scientific or technical data and to cooperate with the lawyer in presenting the testimony in terms understandable to lay persons who will be reviewing the evidence and deciding the case. An attitude of "stupid questions" or "this stupid lawyer" and "this stupid judge" on the witness's part may be fatal to a proper presentation. Correlatively, the attorney must use his talents to the utmost to assist the witness in making the presentation as succinct and manageable as possible and completely intelligible to the lay person. A trial involving expert testimony is not a sparring match between the witness and his attorney but should be looked upon as an educational exercise -- enlightening the trier of facts to the scientific or technical bases of the position to be presented. Humility on the part of both the witness and the attorney is an indispensable asset in approaching this difficult task.

It has often been said that the direct testimony of an expert witness consists of four parts: (a) his qualifications (by education or experience) as an expert; (b) the material from which he fashions his opinion; (c) the process or reasoning by which he gets from the material at hand to his conclusion or opinion; and (d) the conclusion or opinion itself. Usually there is little dispute over an expert's personal background and that information comes in without question. In many cases the presentation of raw data itself, or with a clear statistical explanation, is enough for one to draw a conclusion, and logical step-by-step delineation of how the experiment was conducted or how the field samples were analyzed is vital to showcase these data. Actual examples of testimony will be presented in the later discussion of cross-examination to show what should and should not be done.

DISCOVERY

Discovery is a general term used to describe the process by which one side in litigation finds out the factual basis for the other side's case. Discovery can be used to help build a case against the government, particularly when data or documents relative to the issues are not otherwise available. In Federal or State court actions, there are several procedures by which this can be accomplished. The most frequently used procedure is the taking of oral depositions. Under this procedure, the potential witness is placed under oath before a court reporter and asked a wide range of questions designed to prepare the opposing lawyer for his testimony at the trial. The deposition is also an opportunity for the opposition to ask about reports, memos, maps, lab books, pictures, and other materials which the person giving the deposition knows of or may have in his possession and which he does not intend to use in the trial, i.e., material which the other side may wish to use. By use of a subpoena duces tecum (very roughly "you are ordered to appear and bring all the following documents with you") the opposing party can force a scientist to collect all material which might be applicable to the issue. The lawyer may precede the "noticing" of a deposition by filing a motion to inspect all the documents related to the question. This helps prepare him to take the deposition.

Under modern practice and Federal rules, the names of expert witnesses, background resumes, and a brief statement of the nature of the experts' testimony is exchanged by the parties' attorneys in advance of trial. This also applies in adminstrative proceedings, where frequently the parties will stipulate to abide by the Federal Rules of Civil Procedure.

A less often used procedure is the use of written questions served upon the opposition and to be answered under oath (interrogatories). Sometimes this is used to initiate discovery by asking "who are the scientist who have any knowledge on this subject" or "where are your freshwater laboratories located," or "whom have you consulted in bringing this lawsuit?"

Biologists are virtually united in their horror of the all powerful discovery procedures, drafted and enacted by lawyers, which can force them to photo-duplicate massive amounts of material. Some lawyers have argued that, unlike conspiring executives in an antitrust case, scientists should not be put through the ordeal of having filing cabinets raided. Actually, the Federal Rules of Civil Procedure, applicable in Federal courts but adopted intact by most States, provide for restricted discovery of an expert's data. Rule 26 (b)(1) of the Federal Rules of Civil Procedure states the basic rule:

> Parties may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the pending action, whether it relates to the claim or defense of the party seeking discovery or to the claim or defense of any other party, including the existence, description, nature, custody, condition and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of any discoverable matter. It is not ground for objection that the information sought appears reasonably calculated to lead to the discovery of admissible evidence.

From this base, the Rules in Section 26 (b)(4) set forth an exception for experts:

> Discovery of facts known and opinions held by experts, otherwise discoverable under the provisions of subdivision (b)(1) of this rule and acquired or developed in anticipation of litigation or for trial, may be obtained only as follows:
>
> (A)(i) A party may through interrogatories require any other party to identify each person whom the other party expects to call as an expert witness at trial, to state the subject matter on which the expert is expected to testify, and to state the substance of the facts and opinions to which the expert is expected to testify and a summary of the grounds for each opinion. (ii) Upon motion, the court may order further discovery by other means, subject to such restrictions as to scope and such provisions, pursuant to sudivisions (b)(4)(C) of this rule, concerning fees and expenses as the court may deem appropriate." (Emphasis supplied.)

What the Rules giveth (in the form of protection to scientists) the trial judges usually taketh away, in response to motions to have full discovery of expert witnesses and documents. The theory advanced by most of these judges is that in large complex cases, in order not to unduly drag out the trial, it is essential to have the parties do the exploratory questioning prior to trial. It must be remembered that most civil litigation in the United States is between two private parties and may involve one or two experts at the most. The scientist is likely to appear, if at all, in a major suit or hearing in which a dozen or more experts will testify. In such situations it is unlikely that discovery will be restricted.

Are any materials privileged and not subject to disclosure? Increasingly the answer is: virtually none. Memos between researchers in a laboratory, draft reports, memos of telephone calls, and letters have all been held to be discoverable. Only three very limited categories of documents are privileged. These are the "interagency and intra-agency communications privilege," the "attorney-client privilege," and the "work product privilege," which may come into play in regard to government documents.

EXECUTIVE PRIVILEGE: COMMUNICATIONS

The latter is a modified "executive privilege" rule and is a qualified, not absolute, privilege. To fall within this privilege, the material in question must consist of documents internal to or between governmental agencies reflecting "advisory opinions, recommendations and deliberations comprising part of a process by which governmental decisions and policies are formulated." (Carl Zeiss Stiftung v. V.E.B. Carl Zeiss, Jeana, 40 F.R.D. 318, 324 [D.D.C. 1966], aff'd, 384 F.2d 979, cert. denied, 389 U.S. 952 [1967]). The deliberations must be prior to a decision having been made. Otherwise, the material is considered part of the public record.

Factual material, in contradistinction to advisory or deliberative matter, is not privileged. (E.P.A. v. Mink, 410 U.S. 73 [1973]). Information coming from outside the government, even if advisory, is not privileged. (Boeing Airplane Co. v. Coggeshall, 380 F.2d 654 [C.D.C. 1960]). Memoranda lose their privileged status if the agency, in announcing its decision, specifically refers to otherwise privileged memoranda as a basis for the decision.

This privilege is still applied, although under increasing pressure to permit broader discovery.

ATTORNEY-CLIENT PRIVILEGE

The attorney-client privilege includes government attorneys. This is an absolute privilege. The information in question must be confidential and communicated by the client to his attorney away from the presence of strangers for the purpose of obtaining legal advice or legal assistance from the

attorney (U.S. v. United Shoe Machinery Corp., 89 F. Supp. 357 [D. Mass, 1950]). Ordinarily, the information in question must come from within the government. (U.S. v. Anderson, 34 F.R.D. 518 [D. Colo, 1963]).

The privilege extends to communications:

a) from the agency to the agency attorney;

b) from the agency to attorneys in two separate agencies representing the agency;

c) from an agency to another agency acting as attorney for the first agency (Thill Securities Corp. v. N.Y. Stock Exchange, 57 F.R.D. 133 [1972]; U.S. v. Gates, 35 F.R.D. 524 [1964]); and

d) between attorneys respresenting a single client or from the attorney to his client if the communication is based on the original confidential information communicated by the client. (Insur. of N.A. v. Union Carbide Corp., 35 F.R.D. 520 [D. Colo, 1964]).

WORK PRODUCT PRIVILEGE

Although the "work product" privilege applies only to material which is legal in nature, prepared by an attorney, relating to specific litigation and confidential (not communicated to or from outsiders), there is an excepted area covered that involves expert witnesses. This exception is the so-called "written memory" rule; a major exception receives only a qualified immunity. If substantial need under Rule 26(b) (3) F.R.C.P. can be demonstrated, together with a showing of due hardship in obtaining the material through other means, the court will permit discovery.[2]

CONCLUSIONS

No rigid distinction can be drawn in the above discussion between trials in courts and administrative proceedings because lawyers have used increasingly the Freedom of Information Act (FOIA) to obtain those documents discoverable under court rules. Having complied with the mechanical requirements of 43 CFR Part 2, such as making a request in writing at the right office, a party is entitled to review and copy materials subject to some exceptions.

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[2] It should be noted that the requirement to show "good cause" under Rule 34 F.R.C.P. (Federal Rules of Civil Procedure) to obtain production of documents was deleted by the 1970 amendment to the rules, "relevance" being the general guide to production after that date.

The regulations relating to the production of documents and the testimony of government employees by subpoena are presently covered by 43 CFR §§ 2.80 and 2.82. The nine exemptions from disclosure provided by the FOIA are found in 43 CFR § 2.13. The general test of what documents may be inspected and copied under the disclosure provisions of the FOIA is: What would be discoverable in a civil action under the federal rules?

Procedures regarding FOIA request are covered by 43 CFR §§ 2.14-2.19. Some very "fine line" questions can arise where provisions under both the FOIA and the Privacy Act are involved. (See 43 CFR §§ 2.45 et seq.)

LABORATORY AND FIELD PROCEDURES SUBJECT TO ATTACK

CHAIN OF CUSTODY

The scientist or technician who fills water bottles in a stream just below a potential defendant's outfall must take precautions to insure that at trial the sample bottle he refers to can be shown to correspond to a sample taken at a certain time and a certain place. The often elaborately stated rules of chain of custody are nothing more than a means of guaranteeing the integrity of the identification of field samples such as stream transects and photographs. McCormick on Evidence (Cleary 1972) states simply that the expert witness must be able to trace the chain of custody "with sufficient completeness to render it improbable that the original item has either been exchanged with another or been contaminated or tampered with." This requirement must be met before the evidence can be received at all; it does not simply affect the weight to be given to the evidence.

One of the most useful things you can do in this regard is to establish a procedure for a chain of custody (e.g., the tag and receipt method) within your agency. It will often be necessary to prove that, not only is the sample the expert tested or collected the one that came from a particular stream, but also that it is the one which has been produced in court and about which the expert is testifying. Under many circumstances you may have to produce every person who handled that sample from the day it came from the stream until it appeared in court. As you can see, chains of custody should be short, well established, and the samples retained. Cross-examiners delight in breaking down a chain of custody, thereby impairing the integrity of the sample and the testimony of the expert about it.

For example, color slides or photographs are sometimes taken of streams, documenting time, flow, location, and any visible water pollution in the vicinity. Written documentation on the back of the photo should include the signature of the photographer, time, date, and site location. Photographs of this nature, which may be used as evidence, should be handled according to the established chain of custody procedures.

Integrity of identification is also of importance relative to the use of field notebooks. In addition to being a valuable reference for refreshing the

potential witness's memory, a well kept field notebook can be utilized to verify conditions, techniques, and observations which are often critical to conclusions of fact. Conversely, failure to keep a field notebook or compiling one in a poor manner can render a field observation almost worthless from a legal standpoint. Information relevant to a field observation, such as location and date, is necessary to preserve the chain of custody. Without an adequate record of such material, the value of a field observation is greatly diminished or destroyed.

RESEARCH TECHNIQUES

Volumes have been written on proper techniques, so there will be no attempt here to indicate in even a general way what procedures should be followed in examining a particular stream. The purpose of this section is more to emphasize that role proper (or, arguably, improper) sampling technique plays in a case. If a lawyer determines that an expert witness can do harm to his client's case, and that the substance of what the witness has to say is probably correct, or at least difficult to attack, then he may attempt to cast doubt upon the analytical methods employed by that scientist. It is imperative that accepted techniques be followed to the letter and that if the methods are not presented in depth in the research paper itself, at least detailed records are kept so that questions directed at those methods can be answered. For example, care should be taken to assure the transects or photographs are representative and not anomalous, and that this can be shown by the testimony. The increasing amount of environmental litigation has generated a lawyer-specialist who (a) knows where to find consultants and (b) knows how to use their expertise in ways which can seriously discredit researchers who are not careful. Such care should be standard in all research, but special care should be placed on understanding the concepts which underlie the research design.

The statistical significance of test results is often taken for granted, yet several witnesses who have appeard in recent EPA hearings have had their published work seriously questioned by skillful use of desk calculators and accepted statistical analyses. Reference to statistical tests is now common in lengthy proceedings.

What follows is an excerpt from part of the Aldrin/Dieldrin pesticide proceeding (Rogers 1974:11-12). In this case the witness was not totally trapped by improper methods; it is a more typical case in which a "question" is raised in the mind of the trier of fact:

> Q. First of all, I would like to discuss the methodology that you employed in this particular experiment. In particular, I would like to discuss the reliability and the weight which you give to the levels of dieldrin and aldrin that you found I would like to focus on the methodology.
>
> In particular I want to ask you, Dr. _____, whether in the techniques that you employed for analyzing the presence of aldrin and/or dieldrin, you used any separation techniques, or so-called

clean-up techniques, in order to eliminate the presence of DDE, or PCB, or any other artifacts which could have caused interference on the GLC columns, and, therefore, exaggerated or made too large the results which you found for aldrin and/or dieldrin?

A. Really there are two components to the question. One is the sampling and one is the in-house analysis of the sample.

You are asking once the sample is in-house and in a correctly identified manner, how it is analyzed?

Q. That is correct.

A. In this particular investigation, some of the peculiarities of saltwater chemistry said it really wasn't that necessary to go through elaborate separation schemes with the type of gas chromatography, the type of detector that was employed. We did use different columns so we wouldn't catch any of these places where one type of compound overlaps another, or one reacts in a column and produces a spurious peak of one sort or another.

In other types of work, sometimes medium clean-up, extensive clean-up, might be needed, but not in in this case.

Q. Are you saying that because the samples were taken from saltwater, in this case it was actual seawater, wasn't it --

A. That is correct.

Q. -- that there were no artifacts that could have been present in the seawater?

A. Oh, there may have been many artifacts. But using the particular column, the inlet design, the type of detector, the sensitivity settings, the thermal settings, flow rates, all of those parameters, there was no interference at this point. There were lots of other items that could be seen on some of the chromatograms, but they weren't of interest for this particular paper.

It must be emphasized that a judge cannot easily determine what is "harmless analytical error"; as a lawyer in a strange field, he must rely upon certain procedures which others in the field have called the standard methods for analysis. If the witness cannot tick off the requisite procedures, he should be prepared to explain why he used a different method, and preferably to be able to point to some published work which sanctions the method he used.

There is an aura of "peer acceptability" that surrounds published work which does not attach to unpublished research. If at all possible, the extra time and effort should be made to publish your work, preferably not just in an agency circular. Although probably unjustified, the greater weight given by lawyers and judges to glossy-paper finished reports will no doubt continue.

WHAT TO EXPECT IN CROSS-EXAMINATION

When scientists think of trials or adminstrative proceedings in which they are to appear, they may not think of the purpose of the hearing, or even the purpose of their testimony. They may not think of the novel scientific and legal issues involved. Often, their main concern is how bad cross-examination will be. To some scientists cross-examination is a forceful wrenching from the world of the reasonable and polite to the world in which word games prevail over accepted fact. In some trials, unfortunately, this has been true, but a witness can control the cross-examination to a remarkable extent by being adequately prepared. Most of this preparation should be directed by his lawyer, but there are some general points which apply to most situations. The following guidelines have been used in preparing witnesses for the EPA headquarters hearings on pesticides and Section 307(a) of the FWPCA:

1. You have no obligation to answer a question which you do not feel qualified to answer. You are not a defendant in a criminal trial required to answer. An "I am not qualified to answer that" or "I do not have enough facts to answer that" is perfectly acceptable.

2. Do not be lured into areas beyond your field.

3. Ask for clarification of a question if you have any doubt what is being asked.

4. When a hypothetical question is posed, make certain all elements of the hypothesis you need to be able to answer are included clearly in the question.

5. Take your time in responding to questions.

6. Do not elaborate beyond what is necessary to give a complete answer --on the other hand, do not allow yourself to fall into the trap of giving an "out of context" answer--an answer which, in and of itself, is true but which has a misleading implication if further comment is not given. If you cannot answer with a "yes" or "no," make it plain you need to qualify your answer.

7. You may be asked to comment on works of other scientists you do not know or have not read recently--e.g., "I show you this list of instream flow figures from Iowa--aren't they awfully high?" You probably need to know how the research was conducted, the details of the methods, and much more before you can comment accurately.

8. Do not respond to a challenge by boasting.

9. Do not try to render categorical decisions ("all pesticides are bad" or "corporations mislead the public").

10. You may be confronted with statements made by you at an earlier date which are too broad. If those statements were your personal opinions and not your professional scientific opinion, you should say so. Scientists are allowed personal opinions but are allowed to testify in court in opinion and conclusion form only as to matters within their scientific realm, upon which a layman would be unqualified.

11. Do not get angry at the interrogator if he becomes arrogant or insulting. This invariably is because he does not have any way to crack your testimony scientifically and is trying to rattle you. Allow your lawyer to attempt to put him in his place.

12. The good lawyer will not ask a question on an opposing party's witness's strongest ground. Do not feel upset if you are not challenged on work you want to discuss.

13. Do not be drawn into an argument with opposing counsel. He is not being called to testify.

14. It may be possible to obtain a recess from the proceedings. However, a request of this nature should not be used as an excuse to avoid difficult questions--your counsel will ask for a recess if he sees you need a chance to collect your thoughts. Only for necessity will the court interrupt a cross-examination.

15. Most important, remember you know more about what you are talking about than anyone else in the courtroom. Your "home ground" is your data--do not stray too far from it.

There have been notable examples in each major administrative hearing held by EPA or court trial in which EPA was a party, of witnesses who have fallen into one or more of the traps mentioned above.

The ideal expert witness has facetiously been characterized by some as a white haired gentleman with a pipe and elbow-patched tweed sport coat who understates most answers he gives and never changes his mood of academic detachment. This picture is not altogether misleading, for the best witnesses seem to be those who are never caught exaggerating, never lower themselves to the rancor of the hearing room, and never deviate from their area of expertise. Judge E. Barrett Prettyman (Rogers 1974:15) gives this advice to experts:

> Don't argue. Don't fence. Don't guess. Don't make wisecracks. Don't take sides. Don't get irritated. Think first, then speak. If you do know the answer to a question, say so. If you do not know the answer but have an opinion or belief on the subject based on information, say exactly that and let the hearing officer decide whether you shall or shall

> not give such information as you have. If a "yes" or "no" answer to a question is demanded but you think that a qualification should be made to any such answer, give the "yes" or "no" and at once request permission to explain your answer. Don't worry about the effect an answer may have. Don't worry about being bulldozed or embarrassed; counsel will protect you. If you know the answer to a question, state it as precisely and succinctly as you can. The best protection against extensive cross-examination is to be brief, absolutely accurate, and entirely calm.

In order to present material in the most favorable light, a witness must reflect possession of knowledge in a calm manner. No matter how intelligent the witness may be, adoption of an argumentative stance serves only to harm the credibility of the witness's testimony. A witness may become irritated by the questions directed toward him or her, but this must not become apparent in the testimony given, nor should the witness allow such irritation to be expressed in the form of argumentative responses. This problem is illustrated in the following material derived from the Yellowstone River Reservation proceedings held before the Hearing Officer for the Montana Board of Natural Resources and Conservation (Montana Board of Natural Resources and Conservation August 9, 1977:63-64).

> Q. All right, so you do consider that answer to be a reasonable one, 1282 gallons per capita per day?
>
> A. Including industrial uses in the manner that you are using it, I would assume it's reasonable. However, I did not make that statement; that was the per capita usage that we were projecting for our residents.
>
> Q. O.K., keeping that figure in mind, on page 1 of Exhibit 4, you indicate that personal water use rates at 320 gallons per day as average and 896 gallons per person per day as your maximum?
>
> A. Yes.
>
> Q. How do you reconcile the difference?
>
> A. Well, that's what I've been trying to tell you. Thirty percent of that 1190 is for industrial purposes.
>
> Q. And is it not correct that you said you did not factor in certain other industrial developments in that 30 percent contingency reservation?
>
> A. I used that as a total amount for future industry that would come to the City and need water.

Q. But you did not factor in those other things that we have gone over previously?

A. The Alaskan Pipeline?

Q. Yes, those certainly very realistic occurrences in the Billings' area.

A. I think I've said to you about four times that I used the historical use patterns for projecting the demands; and I told you before that I did not factor in the Alaskan Pipeline.

The skillful witness also knows when to concede a point, even if it reflects poorly on his work. To struggle with a lawyer on a line of questioning, only to agree with him later, highlights the concession and places the other answers of the witness in an unfavorable light. What follows is the aftermath of a cross-examination on a point on which a witness refused to yield until the last possible moment. The expert then became argumentative and refused to answer questions clearly within his area of expertise. The questions deal with possible sources of dieldrin found along the Atlantic coast (Rogers 1974:16-17):

Q. Looking at Table 5, I notice that New York is the most frequent reporter of residues of dieldrin in mollusks. Are you able to account for that?

A. No; that is an interesting observation, but I am not able to account for it.

Q. Why is it interesting?

A. It just interests me as a person.

Q. What does it suggest to you?

A. I have no further comment.

Q. Refer to the New York section of the paper. This begins at page 303.

A. Yes.

Q. You will notice the sites of the monitoring stations are fringed around the island of Long Island, not notorious as one of the world's great feed corn granaries. Does that suggest anything to you?

A. I am not in a position to comment on that.

Q. You are not even in position to comment on whether or not these sites are adjacent to urban areas?

A. No comment.

Q. No comment?

A. No.

Q. Are you able to comment, for example, with respect to page 304 and let's say, for example, the Mamaron data which shows residues, if you allow a subjective judgement, for example, in 1967, a fairly constant rate throughout the year and tell us whether or not that indicates to you that these are agricultural or non-agricultural sources?

A. No, I have no basis for comment.

Q. Let's go back to page 243 and notice in the next column of Table 5 that Georgia is the state reflecting the maximum value in PPB. Are you able to comment about that?

A. No, I am not.

Q. If you will turn to the Georgia section and particularly the Lazareth Creek data, Station Number 1, for example; are you able to advise us as to the existence of one or more wool treatment plants on this creek?

A. No, I am not.

To some people, giving testimony as an expert witness is a challenging experience which starts the adrenalin pumping and prompts an attempt to answer all questions which are posed. A good lawyer will endeavor to draw an expert away from his area of expertise to a topic on which the witness knows enough to want to answer the questions but not enough to avoid being trapped. The witness also can be led into this unfortunate situation by a client and lawyer who wish to prove a point by forcing the witness to "expand a little upon this expertise." The example which follows is of a witness who rose to bait offered by the interrogator. The witness, who was a chemist, had just presented data on the runoff of pesticides from a cornfield during a heavy rain. (Rogers 1974:17-18).

Q. Over the course of five years, Doctor, how many days would you expect that kind of rainfall to occur of that intensity? Did you have any way of making an estimate? Iowa weather?

A. Yes, I could make an estimate.

Q. Out of five years, what would your estimate be?

A. Well, I won't be numerical.

Q. Well, could you try -- how many days?

A. With considerable frequency. It is not uncommon. Several times a year, at the approrpiate seasons; sometimes a couple of times a week it's happened.

. . .

Q. Would you identify that for the record and tell me what you see, whether you recognize that?

(indicating)

A. Yes, I recognize it. It is a publication, 1969, by the Iowa Academy of Sciences, entitled "Water Resources of Iowa."

Q. Now I direct your attention to figure 8, done in exactly the same method. I understand this figure, Doctor, and I ask you to correct me if I am incorrect, we can expect a four-inch rainfall in a 24-hour period once in five years; is that correct?

A. Yes sir.

Q. Thank you.

The second example of a witness leaving his area of knowledge was probably the fault of his lawyers, who assisted in the drafting of an overly broad written statement. The witness was attempting to rebut an EPA position in the Aldrin/Dieldrin hearings that much if not most of the residues of these pesticides come from agricultural runoff rather than point sources. The Shell Chemical Company was attempting to show that sloppy handling by formulation and fertilizer blenders was the cause of the pollution. (If this were so, the argument goes, EPA could reduce pollution measurably by enforcement actions against certain plants and would not need to ban the pesticide. Another more immediate purpose was to throw doubt upon the EPA studies showing high residues in those agricultural areas in which Aldrin is used.) A company chemist was put in the uncomfortable position set forth below (Rogers 1974:19-21):

Q. Are any of your publications related to the material you talk about in your statement?

A. No.

Q. So to shorten this up you have never published in the fields of -- stop me if you have, I am just going to read a list, aquatic toxicology, kinetics of Aldrin/Dieldrin degradation, the absorption of Aldrin/Dieldrin to soil particles, erosion problems, the fate and effect of Aldrin/Dieldrin in fresh water moving stream environment, or the

relationship between turbidity and aldrin-dieldrin concentrations in a moving fresh water stream. Have you ever published in those areas?

A. No.

Q. Do you know how many tons of soil leave an average American corn field according to the U.S. Department of Agriculture?

A. No.

Q. Don't you think that would be a good figure to have in mind when you are talking about the relative pollution of Iowa corn streams?...

A. I don't see the need to know that figure.

. . .

Q. Did you have any data on the distance an aldrin or dieldrin molecule can be transported in various size streams?

A. No. But I would guess it could go from one end to the other.

. . .

Q. You have no data on that, do you?

A. No.

Q. You have no information on how far this molecule could travel in a highly turbid drainage ditch or turbid Iowa stream of 500 cfs, do you?

A. No.

. . .

Q. Doctor, do you have any example of a number in parts per million or pounds per day for any formulating plant in the Midwest at any time of the year?

A. No.

Q. Do you have any number for the pounds per day or parts per million from any municipal outfall in the Midwest.

A. No.

Q. Dr. _____, have you been in any of the eight major Shell formulating plants in the United States?

A. No.

. . .

Q. Let me run to Figure C, the map of fertilizer blenders, and so on. I take it you have no knowledge of whether the formulators on that map ever discharged a drop of dieldrin to the water, is that correct? I mean in normal operations.

A. I have no personal knowledge.

Q. And you have no knowledge of any type of numbers in parts per millions or pounds per day from any of these plants.

A. No.

Q. So, you do not know if they are polluting the water in Iowa or not, basically, do you? They could be all closed systems for all you know, right?

A. Right.

Being drawn into an area in which the witness is not truly expert does not necessarily mean that the witness must personally extricate himself from such a trap. A seemingly simple question concerning a matter which the witness has general knowledge of may lead to questions further afield of the witness's expertise. At such a point, the expert's attorney may object to the line of questioning and attempt to redirect the opposition's examination. The following material taken from the Yellowstone River reservation hearings is illustrative of an attorney's ability to provide protection when an expert has been lead outside the area of his expertise. In this particular instance, an attorney for the Montana Department of Fish and Game attempted to assist his expert witness during cross-examination testimony on the validity of the Department's instream flow reservation request (Montana Board of Natural Resources and Conservation August 18, 1977:85-88). An early objection as to the lack of expertise helped to resolve later difficulties involving the use of a hypothetical question.

Q. Are you quite familiar with the Water Use Act?

A. As a layman and as an administrator, I try to retain familiarity with that Act, yes.

Q. And do you know that under the Act, the Board of Natural Resources is given the responsibility to gather all information on water rights and submit to courts of competent jurisdication in the particular jurisdictions to seek adjudication of the water rights, are you familiar with that?

A. Not familiar, but I certainly wouldn't debate it.

Q. Do you know that is what has to be done in Montana under the Water Use Act that all the water rights have to be adjudicated?

A. It's called for, yes.

Q. That rests with the Department of Natural Resources to gather all this information?

ATTORNEY FOR MONTANA DEPARTMENT OF FISH AND GAME: If it please the Hearing Examiner, Mr. _____ is getting more and more qualified as a lawyer by the opposition, so I trust when I start asking questions he will be qualified. I object to the extensive line of questioning upon the interpretation of the law.

ATTORNEY FOR THE MONTANA POWER COMPANY: Well, he said he was familiar with it.

Q. You have read it, haven't you?

A. Yes, I have.

Q. Do you know whether or not under the Water Use Act this information is supplied to the particular judges in the jurisdictions where the water rights are that he makes a preliminary decree setting forth the priorities and amounts and so forth of the water rights?

ATTORNEY FOR MONTANA DEPARTMENT OF FISH AND GAME: I object to this being beyond the direct testimony. It has no bearing.

ATTORNEY FOR THE MONTANA POWER COMPANY: There's been water rights questions asked.

HEARING EXAMINER: Do you know that?

WITNESS: I certainly couldn't argue it. I concur that that is my impression of what the process is to the best of my knowledge and I have no disagreement with that.

HEARING EXAMINER: The objection will be overruled, but try and stick within his expertise instead of having him interpret all the sections of the Water Use Act.

Q. I want to ask you a hypothetical question, Mr. _____, in your capacity as Division administrator. Assuming you are granted a reservation in a particular stretch of river and it's either a full amount you've asked for or somewhat less and then a preliminary decree comes down from the judge establishing the water rights which would necessarily, because of the established rights, reduce your reservation. Are you following me so far?

A. I think so.

Q. Would you, as administrator and after that preliminary decree, recommend to the Commission to attach that preliminary decree, in other words, be protester of the established water rights in order to raise up again your reservation?

ATTORNEY FOR THE DEPARTMENT OF FISH AND GAME: Just a minute. The Department of Fish and Game objects upon the grounds of a hypothetical question. It assumes facts not in evidence. It's very speculative. It calls upon the witness to speculate upon matters of law when he stated he is a lay witness. It calls upon him to make some prognostication of what he would do under circumstances and other conditions and, therefore, the question is objectionable.

ATTORNEY FOR MONTANA POWER COMPANY: It is pretty well qualified.

HEARING EXAMINER: The way the question is worded, attached in what conditions? In the court of law? Under what law?

ATTORNEY FOR MONTANA POWER COMPANY: Under the Water Use Act that is permissible. Anybody that is adversely affected.

HEARING EXAMINER: I'm going to sustain the objection. I don't believe the witness has shown an expertise in the Montana Water Use Act to answer that question.

There are, unfortunately, many examples of expert witnesses who have violated one or more of the fundamental rules for presenting evidence. The chances of doing so, however, are far less if the potential witness has viewed at least a day or more of the proceedings prior to giving testimony. This accomplishes several things: It gives the "tone" of the hearing, it usually indicates what general type of questions to expect, and most of all, it reassures the witness. If you are called upon to testify, you should make every effort to arrive enough before your appearance to view the proceedings.

Unfortunately, simple fatigue can undo the best of research. Experts have likened giving testimony before good lawyers to a lengthy oral defense of one's dissertation without the usual opportunity to give complete answers. By the end of a day of hard questioning, the witness' concentration and the precision of the answers fall off markedly. Good lawyers may save the most agressive and most important questioning for after the mid-afternoon break. It is also at this time that the skillfully phrased leading question has its greatest effect. With certain practical exceptions, lawyers are not allowed to "lead" their own witnesses, but may phrase long rhetorical questions when facing witnesses for the opposition. These often begin with "I take it we can agree that . . ." or "I assume you are aware that . . ." or some form of a lead-in which calls for a yes or no answer to an often lengthy proposition. The prepared cross-examiner will know where he wants to go, and roughly how many leading or hypothetical questions it will take to get there. In most cases the final answer will not be the conclusion the witness anticipated when he conducted his research, i.e., it may be a consistent extrapolation from his original work. Or it may be a conclusion not truly in line with the data, but the inevitable result of the skillful questioning.

The latter result, most frustrating to good scientists, can happen when the leading or hypothetical questions are 95% accurate and the respondent is either too tired or too timid to demand the correction of the 5%. As any scientist knows, a 5% error compounded several times leads to substantial deviation: this simply is what happens when a witness is not careful with leading questions. He should demand that all elements of a hypothetical questions he needs in order to reply are indeed included in the question or that all elements of a leading question do indeed reflect the state of facts. This training best comes from actual experience, but intensive mock cross-examination by his own lawyer can give a fair idea of what to expect. Perhaps such preparation or a request for clarification of the hypothetical question presented to an expert witness for the Montana Department of Fish and Game testifying during the Yellowstone River reservation hearings could have prevented the following occurrence (Montana Board of Natural Resources and Conservation August 18, 1977:78-79):

> Q. Let's assume a well drilled by the side of the Yellowstone or one of its tributaries, let's assume it was supposed to be a case well and let's assume they didn't do too good a job of casing it, there would be a chance, wouldn't it, that some of the waters that would supposedly support the surface flow would become intermingled in the well and would be pumped out of what was merely ground water?
>
> A. That is a physical possibility. Yes, I would recognize that.
>
> Q. And if such things should occur, wouldn't you in protection of your reservation, obtain one; wouldn't you be interested in putting a stop to things like that?

A. In a hypothetical sense, I think maybe we're creating situations here with the answers obvious, but the probability of something like that confronting us as a real problem I think is remote. But again, in response to your question with all these hypothetical things assumed, that is correct.

Q. Would you accept the fact as a water lawyer over a period of about a quarter of a century, I've encountered numerous cases exactly like that?

A. Yes, I accept that.

Q. So I don't -- are you saying that such instance of occcurence where there is conflict between use of ground water and surface water is very isolated?

A. I think -- again, this is an opinion you're soliciting that I'm offering that on the mainstem of the Yellowstone, I think so.

It is often a good idea at the end of a day of hearing or trial for attorney and witness to review the past testimony in addition to preparing for likely cross-examination to come the next day. Witnesses and their lawyers often disagree as to what was said, or how it was interpreted, or whether that was really what the witness wanted to say. If there has been testimony that could be misinterpreted or was simply misspoken, the government attorney should try to correct the misimpression by well phrased "redirect" questions. These are traditionally questions which deal with issues raised in the cross-examination, not with "new matters." It is helpful to trial counsel if the witness keeps a mental note of areas of cross-examination in which he feels he needs to say more, and if the witness can suggest appropriate questions to his lawyer.

In some of the bigger trials and trial-type administrative hearings in which EPA has been a party, a daily transcript is made and is usually available to the parties 4 or 5 hours after the close of the day's hearings. Reference to the actual recorded answers, of course, greatly facilitate the correction of misimpressions and the protection of a precise record.

Review of personal publications, newspaper articles pertaining to the expert, and testimony in other trials is also advisable. The expert witness's attorney should inquire in what courts the witness has testified, when, for whom, and on what particular issues. Such preparation avoids the presentation of contradictory information and prepares the witness for questioning as to past statements. This form of review should also encompass publications authored by the witness and newspaper articles which the witness may have written or which contains statements attributed to the expert. Any books or articles written by the witness, or for the witness, should be read carefully and analyzed for inconsistencies with the witness's proposed testimony at the future trial. In addition, the witness should be prepared to clarify inconsistencies in statements which may be attributed to him. An example of the need for clarification is evidenced in the following testimony by the expert

witness for the City of Billings, given during the Yellowstone River reservation hearings (Montana Board of Natural Resources and Conservation August 9, 1977:18, 24-25):

> Q. I noticed from this morning's issue of the Billings Gazette, you were quoted as saying, "I'm not used to talking in acre feet. We always talk in gallons or we usually talk in gallons." I recognize what you mean by it and I just suggested if you're used to talking in gallons, you would be able to talk in gallons for us now.
>
> A. I can talk in gallons if you'd like and I can convert this figure, but I'm not familiar and I have not used it in acre feet per year and it's a terminology that I don't use quite often. I use million gallons per day; this is what all of our figures are. When I talk to our customers, they prefer talking gallons because they can picture a gallon. They have a very difficult time picturing acre feet per year and I might point out, I am not responsible for what the Gazette says in their paper. When they quote me, I don't even know if they're quoting me correctly. There are some things in the paper that I did not say that they quoted me in.
>
> . . .
>
> Q. So it's not doubled then as suggested. The Billings Gazette might be wrong there. It's not doubled, but you think it might be ten, twelve times as much water as -------
>
> A. I never quoted to the Gazette that it was doubled or anything. I told them I did not have my figures available and I didn't give them any figures. That was on their part that they quoted that figure.

Lack of awareness as to such inconsistencies could have placed the witness in the position of having to justify conflicting information.

SUMMARY

First and foremost, the expert witness is a servant of the court who is obligated to assist the trier of fact in ruling upon the matters with which the trier has been presented. By fact and by title designation, the expert possesses knowledge outside the scope of that held by laymen. In applying that knowledge in a manner to assist the trier of fact, the expert is faced with possible obstacles which may render the presentation of laboratory or field

investigation procedures less useful. Difficulties may arise in terms of discovery techniques, laboratory research and field investigation procedures, and during cross-examination. By avoiding obstacles in these areas, expert witnesses may more effectively assist the trier of fact and more accurately present the results of their labor.

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APPENDIX

U.S. FISH and WILDLIFE SERVICE

U.S. Department of the Interior

EMPLOYEE INFORMATION BULLETIN

Prepared by Division of Personnel Management and Organization

Bulletin No. 10 **Washington, D. C.** **Date:** 11/8/76

TO: All FWS EMPLOYEES

SUBJECT: EMPLOYEE TESTIMONY AS WITNESSES IN JUDICIAL OR ADMINISTRATIVE PROCEDURES

From time to time, questions arise regarding employee participation in judicial proceedings. The Department's regulations on testimony of employees are quoted below from 48 CRF 2.20:

"(a) An officer or employee of the Department shall not testify in any judicial or administrative proceeding concerning matters related to the business of the Government of the contents of official records without the written permission of the head of the bureau or office, or his designee, or of the Secretary. If the head of a bureau or office, or his designee, concludes that permission should be withheld, he shall report the matter immediately to the Secretary for determination, and the officer or employee shall appear in answer to process and respectfully decline to testify, pending the receipt of instructions from the Secretary, on the ground that testimony is prohibited by this part.

(b) Any person (including a public agency) wishing an officer or employee of the Department to testify in a judicial or administrative proceeding concerning a matter related to the business of the Government or the contents of official records must submit a statement in writing, setting forth the interest of the litigant and the information with respect to which the testimony of the officer or employee of the Department is desired, before permission to testify will be granted under this section. In the case of a private litigant, this written statement must be in the form of an affidavit. Permission to testify will be limited to the information mentioned in the written statement, or to such portions thereof as the official granting of the permission deems proper.

(c) The Solicitor of the Department of the Interior may exercise all the authority of the Secretary of the Interior under this section."

4 AM 4.6B delegates authority to regional directors to grant written permission to employees to testify in judicial proceedings on matters related to Government business or the content of official records within limits of rules set forth in 6 AM 3.

When arrangements are made for employee participation in legal proceedings, and especially those between private litigants, this action must be fully coordinated among all offices concerned. Expectation of involvement in legal proceedings should be promptly reported to the Washinton office so that the latter will be prepared to handle inquiry on the subject. It is also important that the Washington office unit so notified, alert other Washington office divisions or staff offices concerned to assure a coordinated action and response in these matters.

6 AM 8 provides detailed information on this subject. All employees and supervisors are responsible to familiarize themselves with these procedures and ensure adherence.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. FWS/OBS-79/37	2.	3. Recipient's Accession No.

4. Title and Subtitle

Guidelines for Preparing Expert Testimony in Water Management Decisions Related to Instream Flow Issues IFIP No. 1 Revised

5. Report Date: September 1979

6.

7. Author(s)

Edited by Berton L. Lamb and Debra A. Sweetman

8. Performing Organization Rept. No.

9. Performing Organization Name and Address

Cooperative Instream Flow Service Group, Western Energy and Land Use Team, U.S. Fish and Wildlife Service, 2625 Redwing Road, Fort Collins, Colorado 80526

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.

(C)

(G)

12. Sponsoring Organization Name and Address

Cooperative Instream Flow Service Group, Western Energy and Land Use Team, U.S. Fish and Wildlife Service, 2625 Redwing Road, Fort Collins, Colorado 80526

13. Type of Report & Period Covered

14.

15. Supplementary Notes

Library of Congress Catolog Card Number: 79-600205

16. Abstract (Limit: 200 words)

The guidelines provide instructions and background information to biologists who believe their work may become part of a formal adjudication or administrative hearing. Topics covered include types of hearings, discovery procedures, and rules of evidence. Samples of testimony are also included.

17. Document Analysis a. Descriptors

instream flows
legal arrangements
expert witness
judicial proceedings
expert testimony
water law

b. Identifiers/Open-Ended Terms

United States
legal and institutional affairs

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
release unlimited	UNCLASSIFIED	33
	20. Security Class (This Page) UNCLASSIFIED	22. Price

(See ANSI-Z39.18)

☆U.S. GOVERNMENT PRINTING OFFICE: 1980-682-543/210

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

The Biological Services Program was established within the U.S. Fish and Wildlife Service to supply scientific information and methodologies on key environmental issues which have an impact on fish and wildlife resources and their supporting ecosystems. The mission of the Program is as follows:

1. To strengthen the Fish and Wildlife Service in its role as a primary source of information on natural fish and wildlife resources, particularly with respect to environmental impact assessment.

2. To gather, analyze, and present information that will aid decisionmakers in the identification and resolution of problems associated with major land and water use changes.

3. To provide better ecological information and evaluation for Department of the Interior development programs, such as those relating to energy development.

Information developed by the Biological Services Program is intended for use in the planning and decisionmaking process to prevent or minimize the impact of development on fish and wildlife. Biological Services research activities and technical assistance services are based on an analysis of the issues, the decisionmakers involved and their information needs, and an evaluation of the state-of-the-art to identify information gaps and determine priorities. This is a strategy to assure that the products produced and disseminated will be timely and useful.

Biological Services projects have been initiated in the following areas:

Coal extraction and conversion

Power plants

Geothermal, mineral, and oil shale development

Water resource analysis, including stream alterations and western water allocation

Coastal ecosystems and Outer Continental Shelf development.

Systems and inventory, including National Wetlands Inventory, habitat classification and analysis, and information transfer

The Program consists of the Office of Biological Services in Washington, D.C., which is responsible for overall planning and management; National Teams which provide the Program's central scientific and technical expertise, and which arrange for contracting of Biological Services studies with States, universities, consulting firms, and others; Regional staff who provide a link to problems at the operating level; and staff at certain Fish and Wildlife Service research facilities who conduct inhouse research studies.

U. S. Department of the Interior

Fish and Wildlife Service

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.