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File 180
No. 4431
Box 12

case # 4993

File # 180

4431

1 IN THE DISTRICT COURT FOR THE FIFTH JUDICIAL DISTRICT

2 WASHAKIE COUNTY, STATE OF WYOMING

3
4 IN RE:)

5 THE GENERAL ADJUDICATION OF)
6 ALL RIGHTS TO USE WATER IN)
7 THE BIG HORN RIVER SYSTEM)
8 AND ALL OTHER SOURCES, STATE)
9 OF WYOMING.)

Civil No. 4993

)FILED

6/23

1981

Margaret V. Hampton CLERK

DEPUTY

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15 VOLUME 73

16 Morning Session

17 Wednesday, June 3, 1981

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22 **ORIGINAL**



APPEARANCES

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CLERK TO THE
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1 THE SPECIAL MASTER: May we please come to
2 order.

3 MR. MEMBRINO: Your Honor, before we continue,
4 I think just for the ease of identification, I'd like to
5 put an exhibit sticker on the outlines that Mr. Vogel has
6 been referring to.

7 THE SPECIAL MASTER: Very good. Numbering it
8 what?

9 MR. MEMBRINO: United States Exhibit WRIR
10 C-285.

11 DIRECT EXAMINATION (CONTINUED)

12 BY MR. MEMBRINO:

13 Q Mr. Vogel, yesterday we were speaking of the avail-
14 ability of United States Geological Survey gauging
15 information and how it could be used, whether it
16 could be used in the work that you did in recommend-
17 ing instream flows. The term you have been using is
18 measured flows that you take into consideration into
19 the incremental methodology. Could you describe your
20 understanding of measured flows versus the gauged
21 U.S. flows that we were talking about. If there are
22 any differences explain them and how you use one or
23 the other in your work.

24 A First of all we have to go back to the original
25 vogel-direct-membrino



1 objectives of what the study intended to do. Our
2 whole intention was to model the fish habitat that
3 was present upon having different flows. It is
4 true that there is USGS stations distributed through-
5 out these streams on the Reservation. However,
6 we're trying to analyze fish habitat and to do that
7 we have to know how the water actually behaves into
8 these streams. USGS does give us information about
9 quantity of water, but we have to know exactly how
10 that water behaves in the stream, how different
11 velocities are distributed throughout the stream,
12 how the different depths are distributed, how much
13 substrate is inundated, so this is our number one
14 objective. And the only way we could do that is
15 through the use of IFG incremental methodology,
16 enables us to describe the behavior of the water in
17 the stream. Once we know that we can go one step
18 further and predict what the fish habitat will be.
19 Q So are you saying that when you -- when you're talk-
20 ing about measured, measured flow, for example, in
21 your Exhibit 280 -- I believe it's 283, you're talk-
22 ing about measurement, the performance of the water,
23 of how the water acts in the stream at a flow?
24 You're not talking about measuring or gauging the
25 vogel-direct-membrino



1 volume of water passing by the site?

2 A That's correct. At a certain level of flow we want
3 to know how that water in the stream is behaving,
4 throughout the entire reach of our study site where
5 the velocities are at in the stream, where the depths
6 are at and where the substrates are, and we're using
7 that to extrapolate for the entire segment. The
8 USGS simply tells us a quantity of water, it's not
9 telling us how that water is behaving.

10 Q Now, once you have gotten your measured flow, that
11 is you measured the performance of the water and
12 you've put that into the computer using the incre-
13 mental methodology, is there any use you can make
14 or did make of USGS flows?

15 A Would you please --

16 Q Was there any -- did the -- Did the USGS flow records
17 serve any purpose for you?

18 A The only purpose they served at all is sometimes we
19 compare them with what we actually measured in the
20 field. It was important for us to know what the flow
21 was at that certain given time when we were measuring
22 the characteristics of the water. There was a few
23 times when we actually went out, did our own gauging,
24 went to a USGS station for that particular day and

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1 compared what the flow was and what we gauged.
2 That was the only time we really used the USGS
3 station. Other than that, after we plugged it into
4 the computer model, the USGS wasn't of any use to us.

6 * * * *

25 vogel-direct-membrino



1 Q Now, to complete the distinction, does the -- does the IFG
2 incremental methodology predict flows or does it predict
3 how water will act at a given flow?

4 A. It predicts how the water will act at a given flow. It is
5 showing the distribution of various characteristics of
6 the water when it is running down the stream.

7 THE SPECIAL MASTER: Can I ask a question here? Define
8 some more about behavior and characteristics of water. Up
9 until now, most of our concern has been really in the gauging
10 results which has been volume, how much water. How much
11 water. But your inquiry, you see, deals with the behavior
12 of that water. What does that mean? Do you mean webbs,
13 eddies; what do you mean, behavior of water?

14 THE WITNESS: By behavior, I am talking about the
15 velocity is one particular behavior. In different sections
16 of the stream, referring again to Exhibit C-283, various
17 different velocities are distributed throughout the cross-
18 section.

19 THE SPECIAL MASTER: All right.

20 THE WITNESS: You might have slower velocities, lesser
21 here, higher velocities here, slower over here (indicating).
22 We want to determine how that is distributed throughout
23 a stream. That determines what fish habitat will be. We
24 also want to know --

25 vogel - direct - membrino



1 THE SPECIAL MASTER: That is the reason for pools
2 where you have virtually no velocity in a quiet, almost a
3 return of flow along some banks?

4 THE WITNESS: Right. That's a certain type of fish
5 habitat that might be present. And also the behavior, as
6 far as depth, where the water rises or lowers, it changes
7 the depth in the stream. That also determines fish habitat.

8 THE SPECIAL MASTER: Okay.

9 Q (By Mr. Membrino) So, the USGS flow records don't tell you
10 what the -- won't tell you what the depth of the water is
11 in a stream or whether it's pooling or whether it's got a
12 high velocity?

13 A. The USGS stations will tell you what the depth is at that
14 particular station, but it will not tell you what is repre-
15 sentative for the entire stream reach.

16 Q And that's why you used the incremental methodology?

17 A. That's correct.

18 Q Now, we also used some terms yesterday in your testimony;
19 minimum flow and optimum flow, and we also used mean monthly
20 instantaneous flows. Could you describe whatever relation-
21 ship there may be among those terms?

22 A. For purposes of this water rights adjudication, what we are
23 trying to establish is flows that will maximize the available
24 fish habitat in a stream. Now what we are intending that to
25 vogel - direct - membrino



1 be is a minimum flow left in the stream to actually maxi-
2 mize the fish habitat.

3 As you recall, higher flows often resulted in less
4 fish habitat. We are asking for a minimum amount of flow
5 to be left in the stream to actually maximize the fish
6 habitat. So, in other words, to make it sound a little
7 bit simpler, our presentation of optimum flow to maximized
8 fish habitat is intended to be our minimum flow claim for
9 this water rights adjudication.

10 Q Now, we also saw in your report, that's Exhibit 280, I
11 think we were looking at Page 30, there were recurrence
12 interval low flows described and the question was asked
13 why you relied on the one in two-year as opposed to the
14 one in five or one in ten-year recurrence intervals to
15 establish your recommendations. Would you explain that
16 for the Court?

17 A. Yes. We geared in on the average flow or the flow that
18 might occur in a one in two-year recurrence interval,
19 because that flow is the flow that would occur most often
20 in terms of fish. That's the one that they are going to
21 be exposed to most of the time. We did, however, take
22 into account flows that might be less than that, and if
23 they were less than that, we would adjust our recommendations
24 downward to reflect those lower flows.

25 vogel - direct - membrino



1 Q Was there any need to take into consideration the probability
2 of higher flows in your opinion?

3 A No, I felt it wasn't necessary. Those -- we didn't intend
4 to deal with the extremes. We only intended to deal with
5 what fish would usually be exposed to in stream environ-
6 ment.

7 MR. MEMBRINO: I would like to turn now, Your Honor, to
8 the specific conclusions that Mr. Vogel reached for the
9 sixteen stream reaches for which he has made recommendations,
10 and that will pretty much conclude his direct testimony.

11 THE SPECIAL MASTER: Are those contained in 280?

12 MR. MEMBRINO: They are contained in 280, and I thought
13 it would be useful for us to -- to have Mr. Vogel describe
14 how he went about one, and to tell us how that was done
15 identically for the other streams and where there were
16 other reaches, and where there were variations in that,
17 he would describe them, but I think that would save us some
18 time rather than going through every one.

19 THE SPECIAL MASTER: All right.

20 Q (By Mr. Membrino) With that in mind, I would refer you to
21 Page 21 of Exhibit C-280, Mr. Vogel, and ask you to identify
22 the reach described there, and also identify it on Exhibit
23 C-281 for the Court.

24 A This particular stream reach for which we have a flow claim
25 vogel - direct - membrino



1 is the Big Wind River from the western reservation boundary,
2 or the confluence at East Fork of the Wind River, down to
3 to the confluence of Dinwoody Creek, and it's denoted as
4 stream reach Number One on Exhibit C-281.

5 Q. Can you point out where Stream Reach One is on the map,
6 please?

7 A. This one right here (indicating) in the lefthand corner of
8 the exhibit.

9 Q. Now, could you briefly describe your findings and your
10 conclusions, and how they are depicted in the report?

11 A. Yes --

12 MR. WHITE: Your Honor, I would object to the
13 question on two grounds: foundation and relevance.
14 The relevancy objection is based on the witness'
15 testimony that his options go to fishery habitat which
16 has only a partial relationship to the amount of water
17 which may be required to either maximize, optimize or
18 barely maintain the fishery. What the witness is saying
19 is that this is the optimum habitat of these particular
20 flows. And talking about optimum habitat is like talking
21 about a new subdivision in Worland where you've got three
22 hundred homes that are valued at a million dollars apiece.
23 It is optimum habitat, but is very unlikely that people are
24 going to fill those three hundred million dollar homes in
25 vogel - direct - membrino



1 Worland, and there is no evidence, aside from some general
2 conclusions by the witness for which no facts and data
3 were provided, --

4 MR. MEMBRINO: Your Honor --

5 MR. WHITE: -- that the fish would actually be
6 available to fill the habitat. So what I'm suggesting
7 is that there is not only a relevance problem here, but
8 there is also a question of probative value because the
9 ultimate question is why have the optimum habitat unless
10 there is significant assurance to the Court, which there
11 is not, that the fish are actually available or will be
12 available, and will occupy that habitat, or there are
13 people that subdivision in Wyoming. There is no evidence
14 with respect to that.

15 We get to foundation, and perhaps I could make both
16 of these a continuing objection if they are overruled -
17 there is no evidence with respect -- or no foundation with
18 respect to the species preference values which Mr. Vogel
19 used. The preference value, as the Court is aware, varies
20 significantly from stream to stream, location to location.
21 There has been a suggestion that the adult life stage of
22 Rainbow Trout species preference information was collected
23 or used from the Instream Flow Group. There is no indication
24 that those preference values were applicable to any of the
25 stream reaches involved here.



1 Now, second, there has been no verification that the
2 model that Mr. Vogel uses actually depicts accurately the
3 flow regime on these rivers. There has been no testimony
4 by Mr. Vogel, unlike Dr. Mesghinna, for example, who testi-
5 fied that he did hand calculations to insure that the
6 computer program which he used actually did the calculations
7 it was supposed to do. And, in addition, there's been no
8 evidence through this witness that the flows predicted --
9 excuse me, the habitat predicted in the particular flows
10 has ever been checked even once, physically checked to see
11 whether or not the habitat predicted by these flows will
12 actually occur. And it would be a relatively simple thing
13 to take a measured flow and measure the habitat and see
14 if it actually occurred. But again, the Court's being
15 asked to take that on faith, and whenever the Court is
16 being asked to take something on faith, then there is a
17 lack, essentially a lack of verification or foundation.

18 In addition, there is an objection with respect to
19 relevancy, and it goes to whether or not these recommended
20 or claimed flows in the exhibit are -- fall within the
21 statement of claim. And on voir dire of the exhibit, which
22 will come eventually, but the objection needs to be made
23 now for the purpose of the record, you will find that they
24 significantly fall outside or beyond the statement of claims.
25 There is no evidence - again relevancy - that the claims



1 sought are in any way related to trust lands; no evidence
2 at all that the instream flow claims for these various
3 reaches are for reaches that involve trust lands. The
4 fact of the matter is that many, if not all, of these
5 reaches are interrupted by fee lands that occurs either
6 on one side or, in many cases, on both sides of the river.
7 So essentially, a claim is being made here for instream
8 flows for fee land. And finally, there is no indication
9 that if the United States' claims are granted, the other
10 claims are granted which we have heard, the irrigation,
11 municipal, industrial, commercial claims, and exercised
12 that there's going to be water available for these particu-
13 lar instream flow claims. The fact of the matter is that
14 there simply will not be. So for all those reasons,
15 primarily relevancy and foundation, I object to this witness
16 being asked to give his opinion on a matter which is far
17 from meeting and a process that is far from meeting the
18 rules of evidence.

19 * * * * *

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1 MR. MEMBRINO: Your Honor --

2 THE SPECIAL MASTER: Let me respond to that,
3 Mr. White. You've thrown about five bases for
4 objections and motions at me. I'd like to take them
5 from the last to the first. There is no doubt but
6 what the statements and pleadings to date did not
7 anticipate a claim for maximum instream flows on the
8 Reservation. I thought the claims were based upon
9 the Treaty which required that the, until the
10 countries were settled around the Reservation, there
11 shall be a maintenance of fishing off the Reservation,
12 and I see that after the first six months or so, the
13 case was removed by subsequent aid, by subsequent
14 pleading.

15 MR. WHITE: I may have misled the Court. There
16 were claims for instream flows on the Reservation,
17 no doubt about that. What I'm saying, those claims
18 don't match up with the evidence that the witness
19 has given.

20 THE SPECIAL MASTER: I appreciate that. We're
21 left therefore with inquiry into what is a case there
22 and if there's a little bit more that gets in than
23 is appropriate, I think I'd rather make an error on
24 that side of the problem than to limit it to too

25 vogel-direct-membrino



1 little, so I'm going to overrule your objection on
2 that.

3 On relevancy and foundation I feel also the same
4 way. There may not be much probative value in what
5 he's about to tell us, but we'll hear it anyway and
6 I will grant you a continuing objection to this line
7 of direct evidence.

8 MR. WHITE: Thank you, Your Honor.

9 MR. MEMBRINO: Your Honor, I want to suggest
10 that there is indeed great relevancy to what Mr.
11 Vogel is testifying to. Relating to Mr. -- Mr.
12 White's first objection, this, the whole purpose of
13 the IFG incremental methodology, as testified to by
14 Mr. Vogel, is to establish habitat because that in
15 turn is calculated to promote fish population.

16 THE SPECIAL MASTER: While we're discussing
17 this, gentlemen, let me interrupt you, Mr. Membrino.
18 To establish habitat is much to be desired and hoped
19 for, and warrant all the cooperation of the State of
20 Wyoming, the United States, the non-Indian people who
21 settled there, the Indian people who are there. As
22 Mr. White said we got fee land on both sides of this
23 thing for hundreds of miles. Ever since I can
24 remember, and I'm sixty-six years old pretty soon,

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1 this area has had fishing where you pay a buck to
2 Fort Washakie or the Indians, but you could fish it
3 if you had the State permit, and it's been stopped.
4 We used to watch and see what the Game and Fish would
5 stock, which stream, which fish. So optimum is much
6 to be desired, but is it a burden upon the State of
7 Wyoming to have to make restrictions upon its manage-
8 ment of a hundred year old system of water rights
9 management to assure that any more than it is to --
10 for anybody else to make their contributions towards
11 the Shoshones. That's our problem with this.

12 Now, we're talking about maximum, not minimum
13 stream flows. When you say I want, when you say I
14 want instream flow claims to assure maximum habitat,
15 you're asking for a considerably larger assurance of
16 waters than ever existed in this.

17 MR. MEMBRINO: Your Honor, I think the evidence
18 has shown that's not quite the case, that in fact
19 minimum flow -- or optimum habitat, rather, is not
20 equivalent to maximum flow.

21 THE SPECIAL MASTER: We went all through that
22 yesterday and I agree with you. But neither is
23 optimum habitat requirements, as they may come forth,
24 something that should impose a duty upon downstream

25 vogel-direct-membrino



1 users. You're in a -- For example, we're now on
2 number one, we'll call that number one, is that what
3 you call that stretch?

4 MR. MEMBRINO: Yes, Your Honor.

5 THE SPECIAL MASTER: Stretch number one feeds
6 virtually all of the rest of the Water Division No.
7 3; it would never be less than optimum that he's
8 requiring for it now under any system I know of with
9 the possible exception of a one-in-a-fifty-year low
10 flow, which we don't even have on our table. We're
11 limited to one-in-ten-years only, but I suppose there
12 will be a terrible drought later in years when there
13 will be some effect of optimum fish habitat.

14 MR. MEMBRINO: Your Honor, in fact looking at
15 this example, this recommendation, Mr. Vogel testi-
16 fied to it, you can see on page 22, that in the key
17 months of irrigation the relative requirements for
18 -- for stream water are far, far less than the avail-
19 able supply.

20 THE SPECIAL MASTER: Yeah, yeah.

21 MR. MEMBRINO: So there is, there will be
22 abundant water.

23 THE SPECIAL MASTER: So we have no problems with
24 the stretch reach number one.

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1 MR. MEMBRINO: But that is not to say, that is
2 not to say that if by happenstance that there is
3 water for some other use, that it's all right for
4 the instream flow claim to be acknowledged. The
5 Indians have a right to preserve and develop the
6 resources of their Reservation. They have hunting
7 and irrigating rights.

8 THE SPECIAL MASTER: If all of the rights of
9 the Indians on this Reservation are guaranteed and
10 delivered to them intact, with the exception of the
11 fact that May, June and July there may not be always
12 three hundred and twenty cfs of water in a stretch
13 number one, then they've won the most resounding
14 victory of justice in a lawsuit that ever prevailed.

15 I see this thing as asking for something --
16 Well, I just -- Is your claim that the State must
17 always maintain the minimum flows in the first column
18 in reach one, is that what your claim is going to be
19 because this is optimum fish habitat?

20 MR. MEMBRINO: That's right. That is a theory
21 of the methodology, and that's the theory of our claim.
22 When the water is available up to three hundred and
23 twenty -- When the water is available in the amounts
24 described in that column, the Indians are entitled to
25 vogel-direct-membrino



1 it for the preservation of habitat. That's the
2 claim.

3 THE SPECIAL MASTER: For the preservation of
4 habitat --

5 MR. MEMBRINO: Because --

6 THE SPECIAL MASTER: The Indians are entitled
7 to it because they're going to be wanting so many
8 thousand feet of historic irrigation first. They're
9 entitled to it and if they're going to get that,
10 they have to have some minimum stream flow up here.
11 This works two ways. This is not just a guarantee
12 for Indian fishing, it's a guarantee for Indian
13 irrigation, it's a guarantee for Indian life, and
14 it's a guarantee of the rest of the stream for the
15 benefit of the State.

16 MR. MEMBRINO: But remember we are quantifying
17 the reserve right and we have, we are investigating
18 different methods for that quantification. One is
19 to examine the agricultural land base and decide how
20 much water it would take to irrigate it. That would
21 be one test. Another test is to examine instream
22 flow requirements.

23 It is -- It is going -- If there turns out to be
24 an impossibility of use between the two, the Indians
25 vogel-direct-membrino



1 will have to choose between what resource they want
2 to develop and what not to develop.

3 THE SPECIAL MASTER: Again, why --

4 MR. MEMBRINO: In any --

5 THE SPECIAL MASTER: Well, again, why does this
6 become a right of the Indians only to choose if there
7 has to be a case of conjunctive use? Everybody's
8 water is passing through there. That water passing
9 through there is not owned by anybody but the State
10 of Wyoming. The riverbed isn't even owned by the
11 Indians according to the United States Supreme Court,
12 which is --

13 MR. MEMBRINO: We haven't solved that point.

14 THE SPECIAL MASTER: But the right to use that
15 water is what was reserved to the Indians.

16 MR. MEMBRINO: And the ways in which the water
17 may be used are what we are investigating.

18 THE SPECIAL MASTER: Yes. But if an election is
19 to be made, why is the election left only to the
20 hands of the Indians? Shouldn't others have something
21 to say about it?

22 MR. MEMBRINO: But the fact that we are talking
23 about the priority of the right to use water, and
24 if the priority date of the Indians turns out to be
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1 what the Government is claiming --

2 THE SPECIAL MASTER: Are you claiming the
3 priority date for fish habitat?

4 MR. MEMBRINO: Yes, we're claiming a priority
5 date for the use of water to maintain instream flows,
6 and that claim includes a claim for priority of 1868.
7 Remember, even getting into the discussion we've had
8 frequently about the effect of the 1905 Act on the
9 Reservation, the Wind -- all but two reaches are
10 within the, what's been called the -- the unaffected
11 --

12 THE SPECIAL MASTER: Diminished.

13 MR. MEMBRINO: We'll use diminished, although
14 I bite my tongue when I do.

15 THE SPECIAL MASTER: All but number eight and
16 number sixteen?

17 MR. WHITE: Probably a couple more, Your Honor.

18 THE SPECIAL MASTER: Maybe Boysen.

19 MR. ROGERS: Your Honor.

20 THE SPECIAL MASTER: Yes, Mr. Rogers.

21 MR. ROGERS: Mr. Membrino's been doing a sig-
22 nificant job.

23 THE SPECIAL MASTER: Trying to keep some sense
24 in me.

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1 MR. ROGERS: There are two or three points I'd
2 like to make. I realize we may be only slightly
3 astray of Mr. White's original objection.

4 MR. WHITE: Glad to be whatever service I can
5 to the Tribes, Your Honor.

6 THE SPECIAL MASTER: You mixed it up real well
7 this morning.

8 MR. ROGERS: But I wanted to clarify that the
9 Tribes endorse what Mr. Membrino has said, that is
10 essentially the senior water user on the stream, if
11 we are entitled to an 1868 priority date as we say
12 we are, the Tribes should have the right to elect as
13 they choose, from time-to-time, which of the beneficial
14 uses they will -- they will put the water to. And
15 that choice may be one to maintain fisheries and not
16 be able to develop entirely all of the irrigation
17 that they now claim in the case or they may elect to
18 fully develop the irrigation at the expense of --

19 THE SPECIAL MASTER: Fish habitat?

20 MR. ROGERS: Of these optimum --

21 THE SPECIAL MASTER: That is exactly why I'm
22 glad we're having this discussion. You are maintain-
23 ing in this case that there is to be reserved, to the
24 Tribes, unilateral and total decision as to whether
25 vogel-direct-membrino



1 the minimum fish -- whether the fish habitat
2 conditions shall prevail or they can utilize their
3 water for a new irrigation project. I do not believe
4 that's equity or just, frankly. That fish habitat
5 is here for many reasons, not just for the Indians.
6 There are a lot of Indian and non-Indians enjoying
7 that.

8 MR. MEMBRINO: That's right.

9 THE SPECIAL MASTER: There's almost an obliga-
10 tion to nature, if I may say, to keep a minimum flow
11 as distinguished from an optimum flow to assure some
12 assurance of a continuation of fish life, not popu-
13 lation.

14 MR. ROGERS: We have to decide, though, if we
15 talk about minimum flows, that is obviously a very
16 relative term, and Mr. Vogel is testifying as to
17 optimums.

18 THE SPECIAL MASTER: Optimum fish habitat.

19 MR. ROGERS: That's right, as in his opinion he
20 sees from the study of this Reservation and these
21 particular streams.

22 If for whatever reason the Master should choose
23 to -- to decree certain levels of instream flows that
24 may be less than what Mr. Vogel has testified to as
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1 optimum, we are saying, the Tribes are saying that
2 the optimum may in fact be the minimum, if that is
3 their choice, to leave the amount in the stream to
4 maintain these fish habitats. But obviously there
5 can be less in the streams and there will be some
6 effect on fish habitat, less fish if we go below
7 certain, certain flows.

8 THE SPECIAL MASTER: It's your belief that the
9 Indians have the sole say about that maintenance of
10 fish population habitat in the river and not the
11 Wyoming Game and Fish Commission?

12 MR. ROGERS: Well, in essence I believe that's
13 what it boils down to.

14 THE SPECIAL MASTER: We have a very, very serious
15 question there, gentlemen.

16 MR. ROGERS: The basis of it is that we have a
17 reserved water right that is guaranteed by the 1868
18 Treaty.

19 THE SPECIAL MASTER: Right.

20 MR. ROGERS: And the law has developed that that
21 instream flow for maintenance of fisheries can be a
22 part of the reserved water right.

23 THE SPECIAL MASTER: Yes, Mr. Rogers, but --

24 MR. ROGERS: As is irrigation.

25 vogel-direct-membrino



1 THE SPECIAL MASTER: But there also is a matter
2 of fact for, ever since the creation of the State of
3 Wyoming there have been trucks from the Game and
4 Fish Commission on the Reservation, they've taken
5 part in the stocking programs of the streams; they've
6 taken part in allowing the Indians the jurisdiction
7 over the fishing in certain areas where you come in
8 and get your permission first to fish and pay your
9 dollar or two, if necessary. And there has been
10 cooperation for a hundred and ten years between the
11 State and Tribes, and I don't want to see it destroyed
12 in this lawsuit.

13 MR. MEMBRINO: It's not intended to be destroyed,
14 Your Honor.

15 THE SPECIAL MASTER: Well, how can --

16 MR. MEMBRINO: There is, in fact -- What you
17 described is a Government-to-Government relationship.
18 There is a serious jurisdictional relationship between
19 the Tribe and the State Government. The State Govern-
20 ment did not allow the Tribes to have jurisdiction on
21 the Reservation.

22 THE SPECIAL MASTER: That's right.

23 MR. MEMBRINO: They acknowledge --

24 THE SPECIAL MASTER: That is right.

25 vogel-direct-membrino



1 MR. MEMBRINO: They acknowledge that, and in a
2 gesture of cooperation and promotion of mutual
3 interest, the stocking has taken place on the Res-
4 ervation. But let's make no mistake about whose
5 Reservation it is and where the jurisdiction is.

6 THE SPECIAL MASTER: We're not talking about
7 the Reservation, we're talking about the water that
8 runs through the Reservation.

9 MR. MEMBRINO: But that water --

10 MR. RADOSEVICH: That's right.

11 MR. MEMBRINO: That water is a Reservation
12 resource, it lies on the Reservation, passes across,
13 and under the Winters Doctrine, the Indians are
14 entitled to a reserved right to some measure of that
15 water, and that's what this case is all about, to
16 determine what measure of water they are entitled to.

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25 vogel-direct-membrino



1 THE SPECIAL MASTER: Well, there is no question.
2 Let's stay with fish habitat right now.

3 MR. RADOSEVICH: Yes.

4 THE SPECIAL MASTER: Irrigation is over here, and
5 the deep water is over here. But the fish habitat thing
6 gives me more trouble than it ought to.

7 MR. MEMBRINO: Let me make this point in response to
8 Mr. White's point. I think his analogy is inaccurate --

9 MR. WHITE: You already overruled my objection,
10 Your Honor.

11 MR. MEMBRINO: I'm using it to discuss --

12 MR. WHITE: Do I get to argue on this too?

13 MR. MEMBRINO: I'm using it to discuss the matter of
14 habitat. Mr. White said if we build three hundred million
15 dollar homes up in Lander --

16 MR. WHITE: Worland, Your Honor.

17 MR. MEMBRINO: -- or Worland, what is the prospect
18 of someone moving into them, and I assume he is saying that
19 optimum habitat is goldplated, three million dollar habitat.

20 THE SPECIAL MASTER: Well, that analogy might leave a
21 little -- it is an early morning analogy.

22 MR. WHITE: I hope I'm going to get --

23 MR. MEMBRINO: There, Your Honor --

24 MR. WHITE: Well, let Mr. Radosrvich --

25 THE SPECIAL MASTER: We're going to finish up with



1 Mr. Membrino now.

2 MR. MEMBRINO: Yes, what I wanted to say was that the
3 evidence presented here shows that optimum habitat is the
4 -- it may require some minimum stream flow to accomodate
5 that, but let's not confuse maximum flow with optimum habi-
6 tat. The other thing is that the appropriateness of the
7 incremental methodology to this case is apparent when you
8 look at his curves here that have been developed by Mr. Vogel
9 and you see what happens when you take more or less of that
10 water in terms of the availability of habitat. There is a
11 lot of information here for the Court to consider in drafting
12 its decree.

13 Our claim is for the optimum habitat, but certainly
14 we are not left with an either-or situation; either optimum
15 habitat, or no habitat. The Court has to consider all the
16 evidence and make some of its judgments --

17 THE SPECIAL MASTER: Yes, Mr. Membrino, I think there
18 simply has to be a decree in this case, and in this
19 subject matter of the case -- fish habitat, which carries
20 out the basic fundamental concept of what was called the
21 law of prior appropriations for use of people and things --
22 all creatures great and small -- and I think that that
23 concept of prior appropriations has to apply to any decree
24 setting forth minimum or optimum flows in this stream of
25 the Wind River. And what you're saying is, "No, I don't



1 think we are going to come to that, we are going to
2 want a guarantee of flows, and we'll be the judge of
3 whether it's going to rise or fall with the availability
4 of water or with the needs that may otherwise be put upon
5 that water."

6 MR. MEMBRINO: No, I think we are in agreement --

7 THE SPECIAL MASTER: That rubs me the wrong way.

8 MR. MEMBRINO: No, no. I think we are in agreement
9 about the law of prior appropriations, and this issue here
10 is: the reserved right of the Indian Tribes senior in
11 priority to the other uses on the stream. That's question
12 number one. Number two is if that priority is senior,
13 what is the --

14 THE SPECIAL MASTER: What water rights limitations
15 -- what are its limitations then?

16 MR. MEMBRINO: Well, first of all, what are the
17 extent of the rights. How do you quantify the right?
18 We are submitting to the Court that question. We do have
19 a senior priority date, which you have to decide. Second,
20 here is the amount of water we are entitled to. This is
21 different from the ordinary process of prior appropriations
22 where you go out and actually put water to use, and you
23 make your determinations of somebody's water right by what
24 has been put to use and how it's been put to use. In this
25 case, we are projecting what the right -- what the reserved



1 right is. And so we have to calculate. We don't have
2 on the ground uses in all cases of that water right.

3 THE SPECIAL MASTER: Right. Well, I would like a
4 statement of recognition by the Tribes, gentlemen, that
5 this grant of reserved water for optimum fish habitat is
6 a grant to the Indians, to the Tribes, but it has a
7 multiple effect in benefit inuring to a lot of interests
8 in Wyoming, other than just the Tribes or just the Indians
9 in that area. And you become, in effect, the Indians become
10 the trustees of the non-Indians. We get a reverse situation
11 because you don't have one, the right to consumptive use
12 of this. In a way, you have a right to its beneficial use.
13 It is almost an obligation that it be carried on for others
14 as well as yourself.

15 MR. MEMBRINO: And in these uses, these are instream
16 uses.

17 THE SPECIAL MASTER: That's right. That's right.

18 MR. MEMBRINO: So, in many respects it accomodates
19 multiple use.

20 THE SPECIAL MASTER: Well, why should it be so diffi-
21 cult for somebody from the Game and Fish, as distinguished
22 from the State Engineer, and somebody from the reservation
23 to sit down and work out what these figures should be,
24 that would be adjusting their language in the decree
25 regarding fish habitat?



1 MR. MEMBRINO: Your Honor, that --

2 THE SPECIAL MASTER: Not maximum, not optimum, but
3 something between minimum and optimum fish habitat figures
4 that would be acceptable to the Game and Fish Commission
5 and to the Tribes?

6 MR. MEMBRINO: That may be the proper subject of
7 negotiation between the State and the Tribes when we
8 get to that point. But certainly, we cannot agree that
9 the State has the prerogative to determine what the property
10 interests of the Tribes are in their water.

11 THE SPECIAL MASTER: No, no.

12 MR. MEMBRINO: And that's really the nub. We are
13 still talking about prior --

14 THE SPECIAL MASTER: We are not saying that the State
15 has a prerogative of setting this, we were just wondering
16 whether the Winters Doctrine or any extension of the
17 federal reservation of water extends to a decree that would
18 command that certain flows every year have to be guaranteed
19 in the stream, in any of these stretches of river for --
20 for optimum or maximum habitat conditions.

21 MR. RADOSEVICH: Your Honor, what we are talking about
22 really is not an insignificant or incidental impact,
23 particularly in the area of Lander, with the clients or
24 the people upstream. What we are talking about may be a
25 very much life and death situation with respect to other



1 habitat than fish, which should have a higher priority to
2 it than providing --

3 THE SPECIAL MASTER: Mr. Radosevich, I don't understand
4 how could there be clients or tenants upstream --

5 MR. RADOSEVICH: I'm talking about the entire --

6 THE SPECIAL MASTER: -- from one? I thought you
7 were talking about above Dubois.

8 MR. RADOSEVICH: The entire area from the City of
9 Lander -- the minimum stream flow from the City of Lander
10 downstream --

11 THE SPECIAL MASTER: Minimum flows above the stream.

12 MR. RADOSEVICH: Minimum flows below the city are
13 going to adversely affect the City of Lander, because
14 the water is going to have to flow through and prevents
15 their diversion. It may mean putting people out of business.
16 It may mean a lot of fields drying up in order to preserve
17 a habitat which we don't know how many fish are there, how
18 it is being used, what the economic gain is going to be. So
19 I think we are talking about a very significant impact upon
20 the water being used in this entire area, and the claims
21 being made. I think there are many aspects of this that
22 have to be thoroughly looked at, not only just what the
23 fish like, or if they were there, would like.

24 MR. WHITE: I would like to ask the Court to reserve
25 judgment on this, Your Honor, and the seriousness of this,



1 until you see exactly what these instream flow claims do to
2 places like Lander, Dubois, and the irrigation economy up-
3 stream of the reservation. Because I think you will find it
4 is much more serious than has been suggested.

5 THE SPECIAL MASTER: I think the decree has to carry
6 some sort of grant for fish habitat and a right for flows
7 for fish habitat. But when I know -- I begin to see some
8 of these figures, I have my doubts that we are not even in
9 the same ballpark, if I may say so. This is what bothers
10 me. You're claiming what I have felt should be some degree
11 of equitable figures which just aren't in the same ballpark,
12 unless you and the Game and Fish Department could come up
13 with some limit or quantification to these figures on low
14 water years.

15 MR. ROGERS: Your Honor --

16 THE SPECIAL MASTER: Yes, Mr. Rogers.

17 MR. ROGERS: I agree with Mr. White, and maybe you
18 should want to reserve judgment. We are going to be briefing
19 these --

20 THE SPECIAL MASTER: That's right.

21 MR. ROGERS: -- that issue I guess in a couple of weeks.
22 But I just wanted to say we would also intend, now that I
23 hear one of Mr. White's objections, that the ownership of
24 fee lands adjacent to streams affects the Tribes are apparent
25 -- or apparently precludes the Tribes reserved rights to



1 maintenance of fisheries is a position we obviously do not
2 agree with and intend to --

3 THE SPECIAL MASTER: I don't think you meant to go
4 that far. I also feel there are some other considerations,
5 other equities that affect this particular matter that may
6 not affect an irrigation reclamation project or the natural
7 -- or civilization's uses of water for sinfuels plants
8 and for the development. This has the unique touch of
9 everybody's in these streams, because everybody has
10 enjoyed these streams for the last 110 years -- I was
11 four or five years old when I first saw the Popo Agie
12 River with my mother, and those first Indians were being
13 kicked around the streets of Lander -- their lifestyle
14 has improved a lot since then.

15 MR. WHITE: Your Honor, I hope you're still going to
16 reserve on this point --

17 THE SPECIAL MASTER: There's a lot more we haven't
18 heard so why don't we go ahead with the evidence.

19 MR. MEMBRINO: Just to inform the Court, that is
20 displayed in this exhibit admirably, and is suited to
21 negotiations, and the United States is certainly willing
22 to listen to any negotiation proposal that the State
23 would like to make. We just haven't heard anything forth-
24 coming from them. And, after all, they are the ones who
25 filed this suit and have caused this conflict downstream.



1 THE SPECIAL MASTER: Okay, gentlemen, we have -- let's
2 proceed.

3 MR. WHITE: I wonder if we can --

4 THE SPECIAL MASTER: We have had a beneficial discussion.

5 MR. WHITE: I wonder if we can save time, Your Honor,
6 if we could stipulate that were Mr. Vogel to testify orally
7 about his conclusions, he would testify as is set out in
8 his report, and it would not be necessary to go through
9 the report. I don't mean to waive my objection. I've got
10 a standing objection on that, or a continuing objection.
11 But I wonder if it might be a lot faster simply for Mr.
12 Membrino to ask Mr. Vogel whether or not his opinions are
13 set forth in that report and accurately contained in that
14 report, and then we have solved our problem, and we'll save
15 a lot of time.

16 MR. MEMBRINO: Could I have a moment, Your Honor?

17 THE SPECIAL MASTER: I appreciate the suggestion, but
18 I want to make a few questions about it:

19 Is there a page and a table in your report, Mr. Vogel,
20 for every one of the stretches -- they are not called
21 stretches --

22 THE WITNESS: Reaches.

23 MR. WHITE: Reaches.

24 THE SPECIAL MASTER: Reaches of your work program?

25 THE WITNESS: Yes.



1 THE SPECIAL MASTER: And in each table, are they
2 exactly like Table 22 when you take each month of the
3 year for a reach and set up a minimum recommended -- rather
4 you set up a recurrence -- what is "mmf"?

5 MR. MEMBRINO: It is a mean month instantaneous flow.

6 THE SPECIAL MASTER: It is a mean monthly flow which
7 is, in fact, the optimum or maximum stream condition for
8 fish habitat?

9 THE WITNESS: Right. The format is the same in all
10 the tables for all sixteen reaches.

11 THE SPECIAL MASTER: Well, Mr. Membrino, that doesn't
12 sound like a bad suggestion Mr. White has.

13 MR. MEMBRINO: I don't believe Mr. White's suggestion
14 is bad. I just wanted to make sure that Mr. Vogel can
15 establish the relationship between the tables -- or the
16 graphs that follow the tables, maybe to explain where the
17 numbers in the tables come from in relation to the graphs.

18 Q (By Mr. Membrino) Could you do that briefly?

19 A Certainly. Again referring to Stream Reach No. 1, whose
20 results are shown on Page 22 --

21 THE SPECIAL MASTER: But 22 doesn't say Stream Reach
22 No. 1, does it? So that I can lock this into the big
23 exhibit.

24 MR. MEMBRINO: Well, the big exhibit --

25 vogel - direct - membrino



1 THE SPECIAL MASTER: By the way, where is my big
2 exhibit?

3 MR. MEMBRINO: We borrowed it last night, Your
4 Honor.

5 THE SPECIAL MASTER: Nothing is safe in this room.

6 MR. WHITE: At least this is one the State didn't
7 borrow. Usually we are the culprits.

8 THE SPECIAL MASTER: Shall we just write in on them
9 as to the reach numbers?

10 THE WITNESS: In the lower lefthand corner of
11 Exhibit 281, it gives the reach number, and it gives the
12 name of the reach, describes where it's --

13 THE SPECIAL MASTER: I see. But not the page where
14 you have the claim?

15 THE WITNESS: No, no.

16 THE SPECIAL MASTER: But you have the claim totals,
17 cubic feet per second, high and low for the year.

18 MR. MEMBRINO: Your Honor, with the Court's permission,
19 I think that during a break the witness would be more than
20 happy to annotate both exhibits with a page number.

21 THE SPECIAL MASTER: Would you do that, please?

22 THE WITNESS: Sure.

23 THE SPECIAL MASTER: Put a number in 280 that locks
24 it into the reach number on 281.

25 THE WITNESS: Sure.



1 THE SPECIAL MASTER: Okay, Mr. Membrino.

2 MR. MEMBRINO: Your Honor, the United States would
3 so stipulate or would agree --

4 THE SPECIAL MASTER: Good.

5 MR. MEMBRINO: -- with Mr. White's suggestion --
6 stipulation.

7 At this time, I would like to move into evidence
8 then the exhibits that have been used in Mr. Vogel's
9 testimony and start -- I believe his resume 279 is already
10 in evidence, so --

11 THE SPECIAL MASTER: Before you make the offer,
12 may I please ask a question here that might help me in
13 my deliberations?

14 Mr. Vogel, is there anything short of a conversion
15 table available to us in the event we have to convert
16 your cubic feet per second to acre-feet on such things
17 as the Wind River No. 6, and those higher demands? You
18 didn't convert this into acre-feet, did you?

19 THE WITNESS: No, I didn't.

20 THE SPECIAL MASTER: Okay.

21 THE WITNESS: It could be done though.

22 THE SPECIAL MASTER: Oh yeah.

23 We'll borrow Dr. Mesghinna's computer. I think
24 that's the fanciest thing we've seen --

25 MR. WHITE: It is easy to do, multiply the number of



4-13

1 days times .98 and find the number of feet.

2 THE SPECIAL MASTER: We'll find the formula and
3 crank it in.

4 All right, go ahead with your offer of proof.

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1 MR. MEMBRINO: Your Honor, I would move into
2 evidence then United States Exhibits WRIR C-280,
3 which is entitled Instream Flow Recommendations for
4 Fishery Resources in the Major Rivers and Streams on
5 the Wind River Indian Reservation, Wyoming. That's
6 Mr. Vogel's report. The next exhibit -- for the
7 purpose of expressing his conclusions, his findings,
8 conclusions and recommendations for instream flows
9 on the Reservation.

10 I next offer Exhibit WRIR C-281, entitled
11 Instream Flow Claims for Fisheries, Wind River Indian
12 Reservation, for Illustrative Purposes, that is to
13 illustrate the location of the stream reaches, study
14 sites -- and study sites for which Mr. Vogel has
15 made instream flow recommendations.

16 I would next move into evidence Exhibit WRIR
17 C-282, which is the -- which is the Figure 4, an
18 example placement of transects and hypothetical study
19 reach. It's illustrative, it's an illustrative
20 exhibit and we offer it for that purpose.

21 The next exhibit, also offered for illustrative
22 purposes, is Exhibit WRIR C-283, which is a cross-
23 sectional view of a hypothetical transect.

24 And Exhibit WRIR C-284 is, is a blowup of a --
25 vogel-direct-membrino



1 of a graph depicting the life history stages for
2 rainbow trout, for adult rainbow trout on the --
3 for all stages of the life history of rainbow trout
4 on the Big Wind River below Bull Lake Creek confluence.
5 And that is, that is offered for the truth of its
6 contents. It's actually a repetition.

7 THE SPECIAL MASTER: Of 280?

8 MR. MEMBRINO: 280, one graph in 280. should
9 also point out that 280 is offered for the truth of
10 its contents.

11 MR. WHITE: For what?

12 THE SPECIAL MASTER: For the truth of its con-
13 tents.

14 MR. MEMBRINO: I think the last exhibit is
15 Exhibit 285, which is the outlines that Mr. Vogel
16 sketched on the board. That's certainly offered only
17 for illustrative purposes.

18 THE SPECIAL MASTER: All right.

19 MR. WHITE: 283 for illustrative purposes?

20 MR. MEMBRINO: That's right.

21 THE SPECIAL MASTER: Voir dire, Mr. White --
22 or Mr. Rogers?

23 MR. ROGERS: None, Your Honor.

24 THE SPECIAL MASTER: Mr. White, Mr. Radosevich.

25 Vogel-direct-membrino



1 MR. RADOSEVICH: I have a few questions that I'd
2 like to ask Mr. Vogel with respect to what he had
3 testified to yesterday.

4 THE SPECIAL MASTER: Well, if they're on the
5 exhibits, then it's in order, if not, this is just
6 on the voir dire of the exhibits before moving --
7 before ruling on their admission.

8 MR. RADOSEVICH: No, Your Honor, they're mostly
9 dealing with what he had testified to.

10 THE SPECIAL MASTER: All right. Mr. White, any
11 voir dire on the exhibits?

12 MR. WHITE: No, Your Honor. The State would
13 have no objection to the admission of 279, which I
14 believe was admitted previously, the resume.

15 THE SPECIAL MASTER: 297, the resume.

16 MR. WHITE: 281, 282, 283 and 285. As I under-
17 stand it, those are offered for illustrative purposes
18 and we have no objection.

19 With respect to 280 and 284, which were offered
20 for the truth of their contents, in order to save
21 time, Your Honor, I wonder if we could get the parties
22 -- I'll just make an objection based on the same
23 grounds, for the same reasons that I objected to --

24 THE SPECIAL MASTER: At the time --
25 vogel-direct-membrino



1 MR. WHITE: The question concerning Mr. Vogel's
2 professional opinion as being expressed in Exhibit
3 280, essentially foundation and relevancy. The
4 objection that you overruled last, Your Honor. If
5 that's satisfactory with the Court, I'll just incor-
6 porate that by reference.

7 THE SPECIAL MASTER: That will be fine, and the
8 objections will be overruled. And the Court will now
9 rule that the exhibits just referred to in the offer
10 by Mr. Membrino, beginning with C-280 and ending with
11 and including C-285, being the same, are hereby
12 admitted into evidence for the purposes offered.

13 (Whereupon United States
14 (Exhibits WRIR C-280, C-281,
15 (C-282, C-283, C-284 and
(C-285 were admitted into
evidence.)

16 MR. MEMBRINO: Your Honor, that concludes the
17 direct testimony of the United States.

18 MR. ROGERS: The Tribes have no cross, Your Honor.

19 MR. MEMBRINO: Your Honor, we've been going for
20 awhile. Do you think we could take a break before
21 going into cross-examination?

22 THE SPECIAL MASTER: All right. Would you like
23 a five or ten minute break right now?

24 We'll stand in recess,

25 vogel-direct-membrino



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(Thereupon a ten minute recess
(was taken.

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1 MR. MEMBRINO: Your Honor, I know we have informally --

2 THE SPECIAL MASTER: Do you want to go on the record
3 first or not?

4 MR. MEMBRINO: Oh, yes, Your Honor.

5 THE SPECIAL MASTER: All right.

6 MR. MEMBRINO: I know we have completed our direct
7 examination, but I noticed that one of our illustrative
8 exhibits we did not mark and offer, and I think it would
9 be useful to the Court to have that available to it.
10 And with the State's and Mr. Radosevich's agreement, I
11 would like to mark for identification and have that --

12 THE SPECIAL MASTER: I think it should be in. It
13 is a work paper, a draft. What identification do you put
14 on that?

15 MR. MEMBRINO: That will be 286.

16 MR. WHITE: Is that offered for illustrative purposes?

17 THE SPECIAL MASTER: Do you have objection or voir
18 dire?

19 MR. WHITE: Your Honor, the State has no objection
20 with respect to the contents of the exhibit since it's
21 being offered for illustrative purposes.

22 I would like to inquire about the practice of pre-
23 paring exhibits during testimony. That essentially cir-
24 cumvents the five-day rule and I wonder if we might not
25 get some direction from the Court in that regard. I



6-2

1 would hope that the Court might order that exhibits pre-
2 pared during direct testimony may be offered and admitted
3 only for illustrative purposes if that's the case.

4 THE SPECIAL MASTER: Exhibits have been, as has been
5 the case so far, prepared during testimony that do nothing
6 more than give a graphic illustration of the application
7 of some theories of that witness in coming to his conclu-
8 sions, certainly can be admitted for illustrative purposes
9 only.

10 MR. WHITE: Thank you, Your Honor.

11 THE SPECIAL MASTER: Going to the merit of the habitat
12 system or to any of the G-2 or G-4 figures, has nothing
13 that, you know -- to go beyond that particular exhibit.

14 All right, C-286 is admitted into evidence also.

15 (The instrument hereinbefore
16 identified as United States
17 Exhibit WRIR C-286 was received
18 in evidence.

19 THE SPECIAL MASTER: All right. Mr. Radosevich, do
20 you want to begin cross for Wyoming --

21 MR. ECHOHAWK: Your Honor, before we begin the cross-
22 examination, I was wondering if I could bring up and re-
23 quest a slight scheduling change. The next witnesses
24 that the United States has, three witnesses dealing with
25 depletions, virgin flow analyses and what we call a
systems operations or to show water availability for all



6-3

1 the United States' water requirements --

2 THE SPECIAL MASTER: What's the third one?

3 MR. ECHOHAWK: Systems operation.

4 THE SPECIAL MASTER: All right.

5 MR. ECHOHAWK: Those three witnesses are all kind of
6 fit together quite neatly. And since we have a break
7 coming next week, I would request that when the State of
8 Wyoming finishes with Mr. Vogel, that we recess for the
9 remainder of the week, which I think will probably be
10 around tomorrow at noon, as I understand Mr. White's
11 indications, and pick up again in the middle of June, I
12 think it is the 14th or the 15th, and continue then for
13 a two-week period. I think now we only have one week
14 scheduled, but I would request that we take on an addi-
15 tional week.

16 THE SPECIAL MASTER: That's all right with me. Any
17 objections to that, Mr. White?

18 MR. WHITE: The usual objections, Your Honor, I
19 think we ought to move it along.

20 THE SPECIAL MASTER: Well, it is in a way moving it
21 along. We're picking up the week we were not going to
22 work, the week of the 22nd, and we will work that week.

23 MR. ECHOHAWK: The United States' case should be
24 ended by the end of June and that will give the Tribes
25 two weeks in July to put on their case.



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1 THE SPECIAL MASTER: I would like to think that you
2 will finish by the end of June. I would like to think
3 that the Tribes will then take what - two more weeks,
4 three weeks, two weeks at the most? Without limiting
5 you, just --

6 MR. ROGERS: We may go over two weeks, Your Honor.
7 It is possible. Again, it depends on cross, but --

8 THE SPECIAL MASTER: But it is also possible you can
9 finish in two weeks.

10 MR. ROGERS: It is possible, yes, sir.

11 MR. ECHOHAWK: There is a slight possibility that the
12 United States' witnesses won't take the entire two weeks
13 that we have set up also.

14 THE SPECIAL MASTER: That would give you, Wyoming,
15 almost due notice that you will be ready to start your
16 case in September --

17 MR. WHITE: That's generally what we are planning on,
18 Your Honor.

19 THE SPECIAL MASTER: That's fine.

20 MR. WHITE: If, by any chance, the United States and
21 the tribes would finish up --

22 THE SPECIAL MASTER: Yes.

23 MR. WHITE: -- we can probably go -- I know we can
24 go ahead and get several weeks of our case out of the way
25 right away.



1 THE SPECIAL MASTER: I assume that you will have your
2 case finished in four weeks?

3 MR. WHITE: No, Your Honor, there's no way we will
4 finish in four weeks. Especially to respond to the case
5 of the United States and the Tribes.

6 THE SPECIAL MASTER: You can't go into October. I
7 promised a friend of mine we will not have any hearings
8 in October for something --

9 MR. WHITE: That's why I kind of want to move it
10 along. It will probably be eight to twelve weeks.

11 THE SPECIAL MASTER: We have to be finished this
12 fall, you all know that. We are almost under an order
13 from Judge Joffe to finish this fall even with the exten-
14 sion of time for the report.

15 Okay, that is ordered; that will be the schedule,
16 Mr. Echohawk.

17 MR. ECHOHAWK: Thank you, Your Honor.

18 THE SPECIAL MASTER: Mr. Radosevich.

19 MR. RADOSEVICH: Thank you, Your Honor.

20 CROSS-EXAMINATION

21 BY MR. RADOSEVICH:

22 Q Mr. Vogel, referring to your Exhibit C-283 in which you
23 have a high, medium and low, I'm not sure exactly what
24 you call those lines vertically (?)

25 vogel - cross - radosevich



1 THE SPECIAL MASTER: Mr. Radosevich, I hate to inter-
2 rupt.

3 During the break, did you mark these exhibits?

4 THE WITNESS: No, I didn't yet.

5 THE SPECIAL MASTER: When you do it, will you do it
6 on my copy of 280 also?

7 THE WITNESS: Certainly.

8 THE SPECIAL MASTER: Thank you.
9 Go ahead, Mr. Radosevich.

10 Q (By Mr. Radosevich) Mr. Vogel, with respect to those
11 three lines I didn't quite understand if you said that
12 the top line was established and then you established
13 the other two lines, the medium and low by computer or
14 exactly how did you arrive at those three lines?

15 A We see lines with the surface level of the stream, the
16 water surface elevation at the time we actually went out
17 and did our measurement. If we happened to go out on one
18 particular day and did our measurements and this was the
19 surface level, that's what this line represents. If it
20 was higher than these other levels that's why it is listed
21 as the highest measured flow. As I stated earlier we did
22 it on a receding level or we did it on a receding stream
23 flow which started early in the summer, and we worked
24 through the summer to late summer or early fall. So the
25 vogel - cross - radosevich



1 water levels in the streams were generally dropping. So
2 the particular day we went out, be it a certain day in
3 July, this was the level of the stream during the time
4 we actually made our measured flow. This is my measured
5 flow. This isn't what the computer is saying; these are
6 on the actual flows that were present at the time that
7 I was in the field. And the same goes for these other
8 two flows.

9 Q Okay. Is there a direct relationship between all three
10 of those lines to levels of the stream throughout the
11 year at the highest point and at its lowest point and
12 the medium point?

13 A No, no, it is not. We are not talking about flow levels
14 at different times of the year; we are only talking about
15 flow levels at that particular time I went out and measured
16 the velocity, depth and substrate.

17 Q Okay. There was no relationship then between those three
18 lines and the U.S.G.S. records as far as high and low
19 levels of the stream?

20 A No.

21 Q So this in no way will serve as a hydrograph of the stream--

22 A No.

23 Q -- at those three points?

24 A No.

25 vogel - cross - radosevich



1 Q Okay. As far as -- you were testifying then that the fish
2 desire an optimum level of flow in which your Exhibit 280,
3 you've got the level, the quantity of water. Is that with
4 respect to any particular quantity of fish or how did you
5 arrive at that in terms of the amount of fish for that
6 habitat?

7 A No. Again, as I previously stated our goal and objective
8 was not to develop a flow for a certain quantity of fish.
9 The methodology does not enable us to do an echo-system
10 model. All we are trying to do is model fish habitat.
11 We are making the assumption that if we model optimum
12 fish habitat, it would be correlated to the fish popula-
13 tions.

14 Q Okay. So we don't really know if there are that many fish
15 in the stream during -- at those reaches?

16 A That's correct, it is an assumption on my part.

17 Q All right. So in fact then this is more or less a hypo-
18 thetical model in all of these areas?

19 A Yes. Yes, it is a hypothetical model. However, that is
20 backed up by empirical research so that I can make that
21 assumption that the fish populations would follow if the
22 habitat is presented for them.

23 Q Then you know for a fact -- you feel for a fact that the
24 fish actually would survive in that area and reach the
25 vogel - cross - radosevich



1 levels that you're hoping in terms of population?

2 A In my opinion if we provide the flows present in my recom-
3 mendations, they would be satisfactory for fish populations.

4 Q Mr. Membrino asked you at one point in terms of deciding
5 the reaches of stream, I believe, what -- what factors
6 were included in your analysis, and you happened to point
7 out that beaver dams were not allowed under the instream
8 flow group. What do you call this --

9 A Incremental Methodology.

10 Q The Incremental Methodology. All right. Could you explain
11 why, if we happened to have a ranch that has a stream
12 flowing through it and there are beaver dams throughout
13 and it seems like it is very significant for fish popula-
14 tion, why is this not included?

15 A The IFG Incremental Methodology is to measure flowing water
16 in a stream, we are not intending to model -- like if you
17 take a beaver dam, you blow it up to a large scale it would
18 be a reservoir. We are not trying to deal in terms of im-
19 poundments or reservoirs. It is true that beaver dams do
20 have water flowing through them. We are only concerned
21 with modeling habitat in flowing water, present in the
22 stream. The model isn't intended to model a structure such
23 as beaver dams in rivers.

24 Q Okay. So the benefit of beaver dams is not accounted for
25 vogel - cross - radosevich



1 in terms of fish habitat?

2 A It's not modeled the way I have presented it. It's true
3 that there is fish habitat often present in beaver dams,
4 but we are not attempting to model beaver dams.

5 Q Okay. By this then are you referring to fish habitat that
6 is necessary to sustain the life -- I mean other than just
7 a natural, say, it is a pond? In other words if there's no
8 food for them there, is that not fit habitat?

9 A I don't understand your question. Would you please --

10 Q Well, you were saying that the beaver dam wasn't included
11 because there may not be -- or there may be fish habitat
12 there -- isn't just the pool of water itself habitat?

13 A Yes, it certainly is.

14 Q Okay. Again referring to your C-283, under direct you
15 testified that those headstakes are very important; that
16 they were established and that you pointed out that they
17 were rebar pounded into the ground. Are they permanently
18 fixed?

19 A They are permanently fixed during the duration of my study.
20 However, we pulled them out after the study was over.

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25 vogel - cross - radosevich



1 Q (By Mr. Radosevich) Okay. How many times did you measure
2 at each one of those headstakes?

3 A. Measure what?

4 Q At any one of these transects, how many times during the
5 course of the year or the period of time that you took
6 your measurements did you go back and utilize those head-
7 stakes for gathering measurements?

8 A. In terms of the IFG-4 study, we used the headstakes three
9 separate times during the year. For the IFG-2 studies,
10 we used the headstakes as a reference point in only one
11 particular day.

12 Q All right. When you go back after the first time that they
13 were set, did you check the measurement of the headstake
14 to determine if it had been altered in any way?

15 A. The headstake elevation?

16 Q Yes.

17 A. Yes, we did so, but it was indirect. We did so because
18 we knew the headstake elevation was the same in relation
19 to the other headstakes. In other words, it's possible in
20 an extreme sense that all the headstakes might have lowered
21 by a fraction of an inch, but there was no apparent differ-
22 ence between the two, one didn't rise and one didn't lower,
23 so my assumption was that they all remained the same
24 elevation throughout the study since there was no apparent

25 vogel - cross - radosevich



1 change in those elevations between the two different
2 headstakes.

3 Q How many headstakes would you say you had throughout
4 this entire area that you were taking these measurements?

5 A This will be an approximate number.

6 (Brief pause.

7 A I believe it will be over 200 headstakes.

8 Q Did you ever find, at any point, that any of these
9 headstakes had been moved?

10 A No, I didn't.

11 Q Are any of these headstakes located in fields where cattle
12 or sheep or other animals, or in areas where there's fre-
13 quent fishing by human beings?

14 A That's true, there is. I should point out, however, for the
15 ones where i was most concerned that there might be a change in
16 headstake elevation over time, we actually cemented those
17 headstakes in place. So if we were using the IFG-4 model
18 and we knew we had to make frequent visits back to the
19 identical site, we dug a large hole out after we pounded
20 the headstake in and put a large quantity of concrete in to
21 cement them in place.

22 Q If these headstakes would move, though, it would make a
23 difference upon your calculations in terms of the amount of
24 water flowing and ultimately upon the amount of water needed

25 vogel - cross - radosevich



1 for optimum fish habitat?

2 MR. MEMBRINO: Object, Your Honor, that calls for
3 speculation.

4 THE SPECIAL MASTER: Objection overruled. He may
5 answer if he knows.

6 THE WITNESS: It depends on how much the headstake
7 moved. If the headstake moved by a large distance, say a
8 foot or so, it would have a difference. However, in my
9 opinion, a very small variation would have little effect
10 on the results of my study.

11 Q (By Mr. Radosevich) And you testified, to your knowledge,
12 there was no movement of any of these headstakes?

13 A. As far as I know, there wasn't.

14 THE SPECIAL MASTER: What do you call the little
15 wire you put across the headstake?

16 THE WITNESS: Tag line.

17 THE SPECIAL MASTER: The tag line. If a headstake
18 movement affected the marks on your tag line so you were
19 not working in the same -- just a minute, I'll get the
20 word. You weren't working in the same --

21 THE WITNESS: Vertical area where we made a measure-
22 ment?

23 THE SPECIAL MASTER: Then there would be quite a
24 difference in your work, would there not, as to the
25 vogel -- cross -- radosevich



1 validity of your statistics as to those given, in between
2 the hash marks?

3 THE WITNESS: You're referring if there would be
4 a horizontal movement of the headstake.

5 THE SPECIAL MASTER: Right.

6 THE WITNESS: Yes, but I don't believe there was
7 horizontal movement of the headstake.

8 Q (By Mr. Radosevich) Mr. Vogel, in determination of the
9 amount of water here, you just mentioned that these beaver
10 dams may serve as a habitat. What would happen in terms
11 of optimum habitat in these various areas if, as The
12 Special Master has often alluded to, storage was con-
13 structed? Would that resolve the problem as far as providing
14 storage, providing habitat for the fish?

15 A. I don't believe I understand the question.

16 MR. MEMBRINO: Your Honor, again I object; it calls
17 for speculation.

18 THE SPECIAL MASTER: Well, it's a projection, and it's
19 a hypothetical, but it really doesn't call for speculation
20 or surmising on it. If he knows, he can answer whether or
21 not the building of head dams on some of these streams
22 would have an effect upon the mean flows in his report,
23 mean monthly flows.

24 THE WITNESS: Would you please repeat the question?

25 vogel - cross - radosevich



1 Q. (By Mr. Radosevich) Yes. What would happen in terms of
2 providing optimum habitat for the fish and presumably other
3 wildlife in this area, if, in lieu of maintaining a
4 minimum flow during the reach of the stream, storage was
5 constructed? Would that provide as much habitat or is it
6 possible to provide as much habitat in the storage area as
7 maintaining minimum flows?

8 THE SPECIAL MASTER: George, I'm going to find that
9 question almost too complex or too rambling or too diffi-
10 cult. So let's see if I can't bring out exactly what you
11 had in mind first.

12 If key dams were constructed to store early spring
13 run off, May, June maximums, which is what your testimony
14 is and to which you testified, would that have an effect
15 upon optimum fish habitat? And if so, what would that
16 effect be or do you know?

17 THE WITNESS: First of all, from the area where the
18 dam was constructed upstream, all that stream habitat would
19 be inundated and lost. However, it is correct that there
20 may new habitat created by the formation of the reservoir.

21 As far as the downstream sections below the dam, it
22 depends on the proper management or the flow regimes that
23 were released from the dam as far as how it would affect
24 fish habitat.

25 vogel - cross - radosevich



1 THE SPECIAL MASTER: All right. Are you familiar
2 with Bull Lake?

3 THE WITNESS: Yes, I am.

4 THE SPECIAL MASTER: In your opinion, when Bull Lake
5 Dam was finished, did it help or did it hurt maximum fish
6 habitat in Reaches 8, 9 and 3, and the rest of the
7 reservation?

8 THE WITNESS: It would depend, Your Honor, because
9 Bull Lake has undergone various management practices. There's
10 various times of the year where they do hold a large quantity
11 of water, so they release very little down below. For
12 example, they'd actually shut off the dam, and it eliminates
13 a tremendous amount of habitat. However, Bull Lake is
14 capable of having --

15 THE SPECIAL MASTER: Tremendous portion of habitat for
16 how long, three miles?

17 THE WITNESS: For approximately three miles below
18 the dam.

19 THE SPECIAL MASTER: Yeah. Well, that, three miles
20 is how much of a percentage of the total miles of fish
21 habitat on the reservation?

22 THE WITNESS: You're right, it is a small percentage,
23 but I would like to point out, however, that in my opinion
24 and my boss' opinion, Bull Lake Creek below the dam is one
25 of the very unique areas for fishery resources. It is



1 extremely productive. It has a very stable stream
2 channel, and it has high population of trout.

3 THE SPECIAL MASTER: If water releases were made with
4 respect to those conditions, that should be a maximum
5 benefit to fish habitat in that area.

6 THE WITNESS: Yes, it potentially could with proper
7 flow releases. It could very well maximize fish habitat
8 in that portion of Bull Lake Creek.

9 Q. (By Mr. Radosevich) So, Mr. Vogel, what happens to
10 your calculation if in fact storage is constructed into
11 these reaches of streams?

12 A. Again, the areas of streams that would be inundated, the
13 stream habitat would be lost. However, the sections of
14 stream down below the dam, it could work quite feasibly,
15 it could work out that we could still maximize the fish
16 habitat if proper flows were released at specific times
17 of the year.

18 THE SPECIAL MASTER: Are you saying that the construc-
19 tion of a dam destroys fish habitat --

20 THE WITNESS: No.

21 THE SPECIAL MASTER: -- because of impoundment of
22 water behind it?

23 THE WITNESS: No.

24 THE SPECIAL MASTER: Isn't there another side of that
25 equation?



1 THE WITNESS: No, I simply said it destroys the
2 stream habitat. However, there may be new habitat created
3 that would be more lacustrine, more lake-like. It may have
4 a different species of fish than it would have in that lake,
5 but it's possible to have new fish habitat created.

6 THE SPECIAL MASTER: Of course, and isn't it almost
7 obvious that would include the creation of a whole new
8 type of boat fishing and heavier trout fishing for larger
9 catches.

10 THE WITNESS: It's possible. It depends, however, on
11 the management of the reservoir.

12 THE SPECIAL MASTER: Of course.

13 THE WITNESS: If you have a very fluctuating water
14 level, you might have a very unproductive reservoir. If
15 the management was proper in terms of fishery resources,
16 it's quite possible you would have a good fishing reservoir
17 as you described it.

18 Q (By Mr. Radesovich) Is the model capable of then taking
19 into account, in order to adjust to your calculations,
20 if in fact storage is installed in some of this area?

21 A. Yes, I believe it is.

22 Q Okay. You testified extensively on this, on the instream
23 flow incremental methodology. I would like to know how
24 many other methods are there that you examined before you
25 vogel - cross - radosovich



1 arrived at selecting this one?

2 MR. MEMBRINO: Your Honor, I think that's been asked
3 and answered in his direct testimony.

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vogel - cross - radosevich



1 THE SPECIAL MASTER: I think it has to but can
2 you surmise it? Can you make a quick answer to that?

3 THE WITNESS: A general -- like I said, I brought
4 out things like the Montana method or the Tennent
5 method that takes a certain percentage or mean monthly
6 flow -- or excuse me, the mean annual flow. There's
7 other techniques, that I knew were available in terms
8 of the biologist actually going out and making his
9 subjective opinions on what habitat was available at
10 a specific flow.

11 There was also a -- there is the precursor to
12 the IFG incremental methodology that dealt with the
13 computer, but it was on a very limited basis; maybe,
14 like a single transect, things like this.

15 Q (By MR. RADOSEVICH) Is there any evidence or is
16 there any indication by the developers of that model
17 or yourself as to the accuracy of this model relevant
18 to, say, the Montana model that you just mentioned?

19 A There have been comparisons made, if that's what
20 you're referring to.

21 Q Yes.

22 A Yes.

23 Q As comparisons?

24 A Yes.

25 vogel-cross-radosevich



- 1 Q And this model appears to be more accurate, in your
2 professional opinion?
- 3 A More accurate in terms of what?
- 4 Q In terms of determining the optimum amount of water
5 for fish habitat.
- 6 A I believe they have done a significant amount of studies
7 that have shown that the results obtained from the
8 IFG incremental methodology are more useful and more
9 meaningful than these other methods you may be refer-
10 ring to.
- 11 Q Had you tested any other methodology on the reaches
12 that you were working on there and compared it against
13 the results you had under using the instream flow
14 group?
- 15 A Yes, I compared this Tennant method, the one where I
16 take an actual percentage of the mean annual flow and
17 I have also compared in some of my study reaches the
18 wetted perimeter method used by Montana Game, Fish
19 and Parks.
- 20 Q And how close were the results of that to your findings
21 under the methodology that you employed?
- 22 A In general, the wetted perimeter method arrived at
23 somewhat lower flows. And I also found in those areas
24 where it could be used, I also found that it didn't
25 vogel-cross-radosevich



1 work all that well. I couldn't find a flow recommend-
2 ation satisfactory -- it wasn't a meaningful flow
3 recommendation.

4 I also compared it with the Tennant method and
5 the results varied there. In certain cases I would
6 be asking for more water if I used the Tennant method
7 and in certain cases, I may be asking for less.

8 Q Okay. A number of times you testified -- or, during
9 your testimony, you indicated that fish like or
10 prefer certain types of habitat. Is that based upon
11 the fact that they are more reproductive in this type
12 of habitat, or that they remain in a certain area
13 longer, or that they live longer; what is the basis
14 of determining this?

15 A. That's based on empirical research where biologists
16 have actually gone out in the field and examined
17 where fish are present. And, for example, if we, say,
18 go out in a field and there's a rainbow trout present
19 in a certain portion of the stream, we would make the
20 physical measurement at the precise location where
21 that fish was found. That is the background informa-
22 tion of how those curves were developed.

23 Q Okay, so it does not have anything to do with the
24 longevity of fish in that area?

25 vogel-cross-radosevich



- 1 A No. In terms of?
- 2 Q Just their physical presence?
- 3 A Yeah. It is just their empirical physical presence
- 4 at the time that the researcher was there.
- 5 Q Okay. As the Special Master has indicated and I think
- 6 as more or less is common knowledge, fish are stocked
- 7 throughout this area. Did you double check, or did
- 8 you check these curves again, the actual situation
- 9 there, to determine if, in fact, this would have
- 10 affected the presence of fish, or the absence of fish?
- 11 A I should point out, first of all, that the only
- 12 portions of the streams on the Reservation that I'm
- 13 aware where they do have fish stocking taking place,
- 14 are only certain boundary streams of the Reservation
- 15 between the Reservation boundary and the State boundary.
- 16 As far as streams inside the Reservation, such as the
- 17 Bull Lake Creek, north fork of the Little Wind River,
- 18 south fork of the Little Wind River, the Little Wind
- 19 River, the major portion of the Wind River that's on
- 20 the Reservation and Crow Creek, stocking does not
- 21 occur there. As far as the other portions, you are
- 22 correct. There are stocking operations going on in
- 23 the past and, I believe, at the present time, that
- 24 are performed by the Wyoming Game and Fish Department.
- 25 vogel-cross-radosevich



1 And I'm not sure I understand the last portion
2 of your question, so far as my verifying the fish in
3 the habitat.

4 Q Well, actually you answered, as far as I was concerned
5 if the stocking -- stocking definitely would impact
6 the presence of fish in either -- any of the reaches
7 where stocking takes place?

8 A No, I didn't say that.

9 Q No, but I mean it would, would it not?

10 A It may.

11 Q Okay. So we don't know if, in fact, they would remain
12 there over a period of time, if they were stocked?

13 A I believe -- the Wyoming Game and Fish Department has
14 handled most of that area and, as I understand it,
15 they would not have a regular program of stocking if
16 the flows were not satisfactory. In other words, what
17 use would it be if the fish just left?

18 Q A couple of -- just a couple more questions. Getting
19 into your Exhibit C-280 and specifically referring
20 on page 28 to Table 2, where you have the recommended
21 monthly -- mean monthly instantaneous flow --

22 THE SPECIAL MASTER: Page 22, Table 2?

23 MR. RADOSEVICH: Yes, Your Honor. On C-280.

24 Q (By Mr. Radosevich) Throughout in January through
25 vogel-cross-radosevich



1 December, you have cfs, which I presume these are
2 the optimum amounts. Is there any relationship in
3 these amounts to the actual flows of the stream at
4 that point?

5 A. Yes, there is. The actual naturally occurring flows?

6 Q. Yes.

7 A. Yes, I believe there is.

8 Q. All right. Is there ever a point when your recommended
9 mmfs are actually much higher than the actual flows?

10 A. No, there's no portion of this table where we are
11 asking for flows that would not naturally occur.

12 Q. Okay. So, at all points at a minimum, the flows
13 exist to cover what you're recommending here?

14 A. That's correct.

15 THE SPECIAL MASTER: Let me ask a question: Are
16 there any instances where you found that the flows
17 you're recommending are less than the USGS gauging
18 statistics for that river showed? Or did you make a
19 comparison to determine that?

20 A. I couldn't answer that question.

21 THE SPECIAL MASTER: No one that you know of made
22 a comparison to see that your figures were, in no
23 event, higher than those figures of the United States
24 Geologic Survey at their gauging stations, on those
25 vogel-cross-radosevich



1 streams?

2 THE WITNESS: No. I simply used Mr. Keene's
3 data from HKM.

4 THE SPECIAL MASTER: I see. All right.

5 MR. RADOSEVICH: One second.

6 Q (By Mr. Radosevich) Well, Mr. Vogel, what happens
7 in these areas now, when the flows are actually less
8 than you're recommending?

9 A. What do you mean, what happens?

10 Q Yes, what happens to the fish habitat, or to the fish
11 population if these flows are actually reaching below
12 what you're recommending as the minimum, mean monthly
13 minimum flow?

14 A. Well, you asked me two questions. You said, what
15 happens to the fish habitat and what happens to the
16 fish population --

17 Q Make it two questions. What happens to the fish
18 habitat, first of all; secondly, what happens to the
19 fish population?

20 A. Okay. If the flows would be the flows going down
21 a particular stretch of stream are less than what we
22 are recommending, there would be less fish habitat
23 present at that given time. In terms of fish habitat,
24 I can't answer that question. It depends on whether

25 vogel-cross-radosevich



1 you're talking about those flows at, like on a
2 one-day basis --

3 THE SPECIAL MASTER: I think you answered about
4 fish habitat.

5 THE WITNESS: Pardon?

6 THE SPECIAL MASTER: You just answered about fish
7 habitat. There would be less fish habitat. Now, in
8 terms --

9 THE WITNESS: Right.

10 THE SPECIAL MASTER: Now, in terms of fish popu-
11 lation.

12 THE WITNESS: That's what I'm starting to say.
13 In terms of fish population, it would depend on
14 whether you're talking in terms of a flow at a given
15 instant, at a given day, or a given time over a month
16 or over a year. If a flow was sustained over several
17 years, it would be very damaging to the fish popula-
18 tion.

19 Q (By Mr. Radosevich) Okay. As it occurs naturally in
20 the hydrograph, the high flows or the low flows, what
21 happens to the fish in an area that go below the
22 optimum flow that you're referring to there?

23 A. Are you referring to naturally occurring?

24 Q Yes. What happens naturally now?

25 vogel-cross-radosevich



1 A. Okay. Now, there's -- in many cases on the Reserva-
2 tion, as I understand it, there's a lot of stream
3 reaches that do not have naturally occurring flows.
4 They are historic type flows. They are impacted by
5 man's activities. So, is that what you're referring
6 to?

7 Q. No. If, during a drought, or for some reason there's
8 not a minimum -- an optimum flow through one of the
9 segments that you're talking about there, say, that
10 you've got on your map, what happens to that fish
11 population, does it die, does it move downstream --

12 MR. MEMBRINO: Your Honor, the witness has
13 testified that the methodology addresses habitat.
14 It does not predict population.

15 MR. RADOSEVICH: Your Honor, I'm asking him a
16 professional opinion. If he is familiar with the
17 species of fish, he should know what occurs. And,
18 I would like to know what we're talking about, that
19 if, in fact, we do exceed, because of the diversions
20 that go to irrigation, or municipal use, or commercial
21 use, does that mean, in fact, we lose the fish
22 population in the reaches of a level below the
23 optimum level that he's recommended.

24 THE WITNESS: I would have to say, again, to
25 vogel-cross-radosevich



1 qualify the answer, if the flows did occur over a
2 long period of time, it would very definitely be
3 damaging to the fish population.

4 THE SPECIAL MASTER: If the flows would occur,
5 it would be damaging, or if the flows were diminished?

6 THE WITNESS: He's talking about a stream
7 condition --

8 THE SPECIAL MASTER: He's asking you for what
9 happens on low flow years in the state of nature and
10 --

11 THE WITNESS: Okay. Now --

12 THE SPECIAL MASTER: -- and also on matters
13 impacted by man. He was asking both earlier, before
14 the interruptions.

15 THE WITNESS: Okay, okay. We'll address the
16 natural condition first.

17 A So, just assume man is not here at all, and we have
18 natural conditions in the stream during dry periods,
19 during drought years, things like that. There would
20 be an adverse impact on fish populations. They may
21 do several things. They may migrate out of the area
22 to maybe deeper sections of the stream. There may be
23 fish that die as a result of that, because of increased
24 water temperatures, things such as this. It depends on
25 vogel-cross-radosevich



8-11

1 how severe of conditions you're talking about. As
2 it presently exists in the historic sense, there are
3 several portions on the Reservation where streams are
4 actually, totally dewatered. This is obviously --

5 THE SPECIAL MASTER: Could you identify which
6 of those is the case from your experience?

7 THE WITNESS: Certainly. There are portions of
8 Bull Lake Creek below the reservoir that have been
9 totally dewatered. There's also portions of the
10 Big Wind River down below the Diversion Dam that
11 have been totally dewatered --

12 THE SPECIAL MASTER: Not on the Little Wind, or
13 nothing on the Popo Agie, do you know of, that have
14 been totally dewatered?

15 THE WITNESS: I'm not sure of total dewatering,
16 I know of times the water is so low that it could be
17 lethal to the fish.

18 THE SPECIAL MASTER: Where?

19 THE WITNESS: Pardon?

20 THE SPECIAL MASTER: Where?

21 THE WITNESS: In the Little Wind River.

22 THE SPECIAL MASTER: Where in the Little Wind
23 River?

24 THE WITNESS: Further down, downstream from --
25 vogel-cross-radosevich



8-12

1 above the confluence of the Popo Agie.

2 Q (By Mr. Radosevich) If the water levels, then, re-
3 occur to at least the point that you have as the
4 optimum level, will the fish, then, reestablish them-
5 selves?

6 A. Again, remember it is important to talk about times
7 here.

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vogel-cross-radosevich



- 1 Q. (By Mr. Radosevich) Over an annual period?
- 2 A. Yes. In my opinion, in a natural basis, the trout years,
- 3 if we have following years with flows that would naturally
- 4 occur, that would be more average conditions, the fish
- 5 would repopulate sections of the stream.
- 6 Q. Then, in other words, we really could get to levels far
- 7 below what you're talking about as the optimum levels?
- 8 The fish would migrate out and if the levels were rejuvenated,
- 9 the levels were brought back up during the course of that
- 10 year, the fish would just come back into that area?
- 11 A. The fish do have an ability of rebounding. It's a natural
- 12 creature in a natural environment. So theoretically,
- 13 if a fish lives to be ten years old, it may go through,
- 14 in fact the probability is it will go through two low flow
- 15 periods that occur in a one in five-year recurrence interval.
- 16 So they do have that capacity to rebound if it's not all that
- 17 severe, but eventually they will repopulate the sections of
- 18 the stream.
- 19 I should point out too, just to make it clear, that
- 20 my flow recommendations account for those dry periods.
- 21 If there is a one in five-year low flow or one in ten,
- 22 or I haven't even listed a one in twenty, one in fifty
- 23 or one in a hundred, those flow recommendations for those
- 24 reaches of stream would be adjusted downward to account
- 25 vogel - cross - radosevich



1 for those low flows.

2 MR. RADOSEVICH: Your Honor, I have no further
3 questions.

4 THE SPECIAL MASTER: All right. I thank you, Mr.
5 Radosevich. Mr. White.

6 MR. WHITE: Your Honor, the first area of our cross-
7 examination will take a half an hour. It's your pleasure
8 whether we go ahead and do that now or break for lunch.

9 THE SPECIAL MASTER: All right. Why don't you go
10 ahead. Does anybody really want to break right now?

11 Merissa, are you all right?

12 THE REPORTER: I'm fine.

13 THE SPECIAL MASTER: Let's go ahead and proceed.

14 CROSS-EXAMINATION

15 BY MR. WHITE:

16 Q Mr. Vogel, on direct examination you testified that you had
17 employed what's commonly known as the IFG incremental
18 method; is that correct?

19 A That's correct.

20 Q And during your direct examination, you explained in various
21 degrees the operation of that methodology, or the concepts
22 and limitations involved in the methodology; is that correct?

23 A To an extent.

24 Q Isn't it true that the Instream Flow Group which developed
25 vogel - cross - white



1 the methodology has also prepared a professionally
2 developed slide show that lasts about twenty minutes,
3 has a taped narration that goes with it that describes
4 in laymen's terms how that methodology works and the
5 limitations and concepts behind the methodology?

6 A. I'm not aware of it; I have not seen that personally.

7 Q. Well, I'm going to direct your attention now to what would
8 by Wyoming Exhibit WRIR-Fish-1, which is that slide show.

9 THE SPECIAL MASTER: A slide show?

10 MR. WHITE: Yes, sir.

11 THE SPECIAL MASTER: How long does it take?

12 MR. WHITE: Twenty minutes.

13 THE SPECIAL MASTER: Twenty minutes. You may proceed
14 to darken the windows and show it.

15 Anything that will shed a little light on my weary
16 mind, that would be fine.

17 MR. MEMBRINO: Before we get under way --

18 THE SPECIAL MASTER: We are told that we are not
19 supposed to touch these drapes.

20 MR. MEMBRINO: Before we get under way, I'd like to
21 object to using this. It's hearsay. It can't be cross-
22 examined, and if the State wants to put on its own witness
23 and use this in its own case, it may do so.

24 THE SPECIAL MASTER: Normally I would sustain your
25 vogel - cross - white



1 objections, Mr. Membrino. Perhaps the proper place for
2 this may well be in the State's case instead of the
3 cross-examination, but one, I will recognize that this
4 is propaganda, and believe me, I know propaganda when I
5 see it. And I know the difference of self-serving declara-
6 tions when I see them and hear them, and I'm going to allow
7 --

8 MR. ROGERS: Your Honor, it's not an issue of
9 propaganda, it's a position of accuracy in the film itself
10 that can't be cross-examined.

11 MR. WHITE: The point is, I can -- Let me make the
12 record, if I might, Your Honor. This is a film that's
13 developed by the Fish and Wildlife Service itself. If
14 anything, it may be an admission against interest by
15 parties. It can be used to impeach, it may be used to
16 refresh the recollection of this witness with respect
17 to various concepts and limitations. There's no question
18 about the authenticity. There's three people from the
19 Instream Flow Group sitting in the back of the room, and
20 you can ask them about it if you like.

21 THE SPECIAL MASTER: I don't intend to ask anybody
22 about it. I want to make sure you understand that I,
23 at this time, will overrule your objections, carrying in
24 mind the objections you made, and I can assure you I don't
25 believe there's going to be any adverse effect to your case



1 of the showing of this film.

2 I want to get more familiar with the incremental
3 methodology, and if this film can help me do that, it will
4 do it in an objective sense. It doesn't hurt or help
5 anybody's case. It makes me more familiar with the subject
6 matter and evidence before me.

7 MR. WHITE: I've also given the witness, and I'm
8 giving copies to the Court and counsel, copies of the
9 script that goes along with this that was prepared by the
10 United States.

11 THE SPECIAL MASTER: Let me ask the witness, are
12 you familiar with the incremental approach to the study
13 of instream flows, a guide put out by the U. S. Department
14 of Interior, Fish and Wildlife Service?

15 THE WITNESS: I'm familiar with the methodology, but
16 I have not seen this particular document, and I haven't
17 seen the slide show.

18 MR. WHITE: Let's go ahead and see the slide show and
19 see what happens.

20 MR. MEMBRINO: May we have a moment before we continue
21 with this?

22 THE SPECIAL MASTER: Sure.

23 (Brief pause.

24 MR. WHITE: If there's really any question, I can
25 interrupt this witness to lay a foundation for the



1 impeachment document by calling Dr. Lamb or Dr. Milhous..

2 THE SPECIAL MASTER: That's not necessary. What wall
3 do you propose to show it on?

4 MR. WHITE: I think we'll show it on that wall. We
5 tried it out the other night, and I think it works fine.

6 THE SPECIAL MASTER: Do you want to go off the
7 record, or do you want to stay on the record to show this.

8 MR. WHITE: I think we ought to stay on the record.
9 I have a copy of the script that goes with it that's
10 prepared by the United States, and it can be used by the
11 reporter to supplement her transcription of what's said.

12 THE SPECIAL MASTER: And is this procedure acceptable
13 to you, Mr. Rogers?

14 MR. ROGERS: I'm sorry --

15 THE SPECIAL MASTER: Is this procedure acceptable to
16 you.

17 MR. ROGERS: Well, the United States and the Tribes
18 are objecting to the slide.

19 THE SPECIAL MASTER: I meant this procedure of staying
20 on the record while we show this, and if there is any
21 questions or comments made during the showing of it that
22 too goes on the record..

23 MR. ECHOHAWK: Are there going to be questions?

24 MR. WHITE: I don't plan to have any questions. We'll
25 come back to the script later on.



1 THE SPECIAL MASTER: This is just video, no audio?

2 MR. WHITE: That's audio as well.

3 MR. MEMBRINO: Your Honor, I should note that there is
4 no foundation --

5 THE SPECIAL MASTER: Commotion in the courtroom. This
6 is calm compared to some of these I've seen, trials and --

7 MR. MEMBRINO: I didn't say commotion, I said founda-
8 tion. There is none, this isn't authenticated in any way.
9 It's not presented through a witness. Our witness has
10 testified he doesn't know anything about this.

11 I think we're in a pretty severe disadvantage. I want
12 you to know that that is our objection, and that we don't
13 know that this is, if it is a publication by the government,
14 that it hasn't been amended or emended prior to its presen-
15 tation here today.

16 THE SPECIAL MASTER: Well, I appreciate your objections,
17 and if I were in role, I'd probably make a more vehement
18 objection than you are.

19 Mr. White, you represented that the slides about to
20 be shown to me are published, prepared and published by
21 the United States Fish and Wildlife Service?

22 MR. WHITE: Yes, sir. We checked them out from the
23 Fort Collins office, I believe on Monday, Your Honor.

24 THE SPECIAL MASTER: And they were checked out from
25 the Fort Collins office on Monday, from the U. S. Department



1 of Interior?

2 MR. WHITE: Instream Flow Group. There is the original
3 of the script which I haven't marked because I assume Dr.
4 Lamb would like to have it back.

5 THE SPECIAL MASTER: The script now is marked as
6 Fish-1-A, Mr. Membrino, is labeled "A Guide to the Use
7 and Operation of an Eighteen Minute Slide Tape Overview
8 of the Instream Flow Incremental Methodology." Now,
9 does that rest your fears what is about to be shown?

10 MR. MEMBRINO: Well, I have Mr. White's --

11 THE SPECIAL MASTER: Word.

12 MR. MEMBRINO: -- word that that is it, but ordinarily
13 exhibits are introduced through witnesses.

14 THE SPECIAL MASTER: You're saying that you don't like
15 to have something come in Court that you haven't seen
16 before?

17 MR. MEMBRINO: Well --

18 MR. WHITE: I think he's seen the slide show, there's
19 no question about it.

20 MR. MEMBRINO: I have seen a slide show. The point is
21 that exhibits are introduced through witnesses.

22 MR. WHITE: That's --

23 MR. MEMBRINO: Our witness can provide no foundation
24 for this.

25 MR. WHITE: That's precisely the point, that's part of



1 the process of impeachment. If the witness hasn't seen this,
2 there's further problems.

3 THE SPECIAL MASTER: The --

4 MR. MEMBRINO: The witness --

5 THE SPECIAL MASTER: Gentlemen, what you're going to
6 do is require a ruling as to whether or not there's some
7 serious error in proceeding to show this now rather than on
8 the State's case. Is that what you're saying?

9 MR. MEMBRINO: Yes, Your Honor.

10 MR. WHITE: The error would not be allowing the
11 impeachment of a witness by an official United States'
12 document which is an admission against interest.

13 THE SPECIAL MASTER: That may be true also. Why don't
14 we adjourn the hearing and you two gentlemen assure me
15 that you will go ahead and have an informal showing of
16 the eighteen minute slide to see if your objections won't
17 be removed. You're saying you haven't seen it, and you're
18 fearful of the -- of some entrapment or adverse matter that's
19 going to come before the Court, isn't that what you're
20 saying?

21 MR. MEMBRINO: Yes, sir.

22 THE SPECIAL MASTER: I'm saying now that we will now,
23 at 11:10 adjourn these proceedings, and I am requesting
24 that you two gentlemen go ahead and hold a hearing. I
25 won't be here, I'll leave. After you two have seen it and feel



1 safe about it, at least having it come in at this posture
2 in the hearing, I'll come back and see it, because I would
3 like to see it.

4 MR. WHITE: Your Honor, I'd like to suggest that you
5 remain and see it, because it will save time.

6 THE SPECIAL MASTER: That removes the fact that --

7 MR. WHITE: The reason is, Your Honor, if you should
8 sustain the United States' objection, I'd still go ahead
9 and show it as an offer of proof. You're going to see it
10 one way or the other, so I would suggest you stay and see it,
11 rule on the United States' objections afterwards, and in
12 that event --

13 THE SPECIAL MASTER: I would rather do it my way.

14 MR. WHITE: All right.

15 THE SPECIAL MASTER: I would rather --

16 MR. MEMBRINO: It should be noted that an offer of proof
17 is put in the record, it's not given to the tryer of
18 the facts.

19 MR. WHITE: That's not -- That simply isn't correct.

20 THE SPECIAL MASTER: Gentlemen, please don't argue.
21 Let's adjourn now and show the film, and the two of you see
22 if this is something that will then be -- if you still
23 object, I will hear your objections, but I tell you, I may
24 overrule them, but I want you to see this before it comes
25 into the record. Let's break then for about eighteen



1 minutes.

2 I won't be back till one o'clock. I will back at
3 one o'clock to start.

4 (Thereupon, the proceedings
5 (were recessed at 11:15 a.m.
6 (and were reconvened at 1:00
7 (p.m.

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