

USGS Old-Timers' Collection

Robert H. Webb Interview

Interview number: 100.40-41

This is September 19, 1994. This is the River Runners Oral History Project. We're down here at [Mile] 191. We're talking to Bob Webb. [Lew Steiger is the interviewer. Jeff Robertson is running the camera]

[BEGIN INTERVIEW, Tape #6, about 30? min. into Side A]

Steiger: How about if you give us a short resumé? Tell us your name and a little bit of your background, kind of focused toward how you ended up connecting with the Grand Canyon and GCES [Grand Canyon Environmental Study].

Webb: Well, my name is Robert H. Webb. Everybody that knows me calls me Bob, although sometimes down here I'm known by a number of other (chuckles) names, one of which is "The Chief," for having run a lot of long river trips here. I've had a rather extensive education background, culminating in a Ph.D. from the University of Arizona in geosciences, with a minor in civil engineering. A lot of the work I do is in desert plant ecology, and most of that stuff has been work that I've picked up in the course of my professional career. I ended up down here the first time in 1984, with Ray Turner, because he needed some help with repeat photography work that he was doing at that time here. And then I have been working, running my own research trips down here since 1986, when we first started getting interested in debris flows in the Grand Canyon. That's how come I got down here. It sort of escalated in a lot of different directions ever since.

Steiger: How does the debris flow work connect with dam operations or the effects thereof?

Webb: Well, it's rather interesting. I've fought somewhat of an uphill battle for years, to try and get people to understand the importance of debris flows down here. The first and foremost thing that we've tried to get across is that debris flows set up the framework of this river. Without debris flows down here, this would be a totally different place -likely mostly flat water. They form the rapids, they maintain the rapids, and that's an important thing to know in terms of trying to set up operations in Glen Canyon Dam. If you would, it's the "baseline" that's needed to understand just how the Canyon works.

But the next thing is that we knew that debris flows, because they're a totally natural process, were going to keep happening. They're something that's not influenced by human beings, and they're gonna continue to constrict the river, continue to increase -in some cases, decrease -the severity of rapids, and that we felt that there were ways that you could operate the dam that could do some of the natural housecleaning the pre-dam floods used to do down here. So that's how it principally ends up affecting dam management, in two ways. One, it's the principal means by which we have things such as sandbars down here -sets up the framework of the river. That needs to be understood quite well. And the second is, that we need to understand that this process is going to keep going on, and that something eventually may have to be done about it in terms of active management of Glen Canyon Dam.

Steiger: Because it could be that you get a scenario where a debris flow is so severe that it will hinder navigation on the river?

Webb: That was the original idea, yeah. I think that the whole issue of Crystal Rapid in 1983, what its affect was on navigation, spawned this whole notion that you could have a debris flow down here that would shut off the river to certain kinds of traffic, particularly the large motorboats. When we started working down here, I had that in mind, looking explicitly for what the probability of such an event might be. That works quite heavily into the research that we're doing with magnitude and frequency of debris flows, is to try and assess what the probability might be for another Crystal Rapid to be formed -or for some rapid someplace else that might actually really severely hamper navigation down here.

Steiger: Well, now, the debris flow work, does it connect directly with this photo matching? The photos are matched specifically to really get a handle on the frequency of debris flows? Or are you also using that stuff to look at, just overall the health of the beaches, et cetera? How does all that stuff go together?

Webb: Well, the thing about, as I usually put it, it's real difficult to figure out when a pile of boulders got put out on some rapid someplace. We have a lot of ways of dating when geomorphic events occur, and the most common is radiocarbon dating, but there's a lot of other methods out there. And when I first came down here in 1986, that's what I was armed with, was those rather standard tools, if you would, where.... [sounds like equipment failure--several seconds of blank tape]

Steiger: Are we rolling? Okay. That was bizarre. Robertson: Before you get started, I'm going to run....

Steiger: Beautiful-sounding plane! That's a neat little ol' cliff there, isn't it?

Webb: Yeah, I really like this basalt cliff along here. I don't think I've ever camped in this place before -in fact, I'm sure I haven't.

Steiger: Two or three times I've seen a blackhawk flyin' around in here, which is one of the only places where it seems like you ever see 'em. So where were we, 1986?

Webb: Well, you asked how I started getting into repeat photography down here, and there's several answers to that question, but for me the research question was trying to date when debris flows occurred down here. All of my standard tools that I was trained with didn't work very well. They worked to a certain extent, but they left a lot to be desired. And my mentor was Ray Turner, who had matched about 100-150 photographs down here, and had published a monograph in 1980 on changes down here, principally in the riparian vegetation. And I had Ray along on my first several trips, and it didn't take too much effort to get us involved in repeat photography.

But I think the main thing that happened to me that really switched around what I was doing down here was Jack Schmidt and Glen Rink, L.B., and I.... [phonetic spellings] L.B. was my head boatman at that time, a person I worked with a lot. We were sitting in the Marble Canyon Lodge, waiting to launch a river trip, and the latest "biography," if you will, of Stanton, The Colorado River Survey, which is actually Stanton's diary, had just been published, and it was available, and I'd never seen it before. It was filled with all these pictures, and I thought, "My God, these pictures are great!" And I started lookin' at 'em and I read a footnote, and it said there were two thousand negatives, and I thought, "Holy cow! We could really go through the entire Canyon and get a good representative 'snap shot,' if you would, of change down here over a century." So L.B. and I planned a commemorative trip in 1990 to come down and match Stanton photographs. That's the hook, that's what got me into it in a major league sort of way, was, again, standing in the Marble Canyon Lodge. That's really where I buy all my books, for whatever reason, is in that particular place. I bought some at the start of this trip there.

Steiger: (commenting on available light) Oh, come on sun! How are we doing on this shot? Robertson: It's not as good when the sun's out.

Steiger: Just holler if you need to rebalance. I always thought it was really cool -let's go on with this Stanton deal, because that's a great story. Like, how did you track the photos and the negatives down? That process. And how did you get the study off the ground? Didn't you encounter some difficulty there?

Webb: I've seemingly encountered difficulties with everything I've done down here. It's been a very frustrating experience, in a lot of ways. It's actually one of the reasons why I'm intending to leave the Canyon, in terms of research. I've had a difficult time fighting through some things, and I just am not interested in that. I do too many other things in other places to have to deal with that kind of noise.

But the Stanton project was, from the very beginning, a very magical project. It always had a certain quality to it. Of all the things I've ever done, I've never had anything happen quite the way that one did, the way that it unfolded. We were, you know, in the Marble Canyon Lodge, and decided to do it. And when I decide to do something, I do it. I don't go half-cocked on it, I go out and make it happen. I started looking around, trying to figure out where the photographs

came from, and the book *The Colorado River Survey* was published by Dwight Smith and Greg Crampton [phonetic spelling]. Dwight Smith's at Miami University in Ohio, and the photo credits were given to Miami University of Ohio. So the first thing I did was call Dwight Smith up. Well, as it turns out, Stanton is the only thing he's really done in western Americana. It's not like he's got an abiding interest in river history -he had an interest in Stanton because he happened onto the stuff. And it turns out the photos were not in Miami University. So the trail led on, and somebody told me that they were in the National Archives in Washington, D.C. They also said that they were in the Engineering Society's library in New York City, there was a copy in the British Engineering Society's library in London, and there was another copy someplace else -oh, in the New York Public Library. But I went to the National Archives, and I'll never forget that, because it was so much fun. I stroll into the Archives, and I ask to see the Stanton photos, and it turns out there's a number of albums. I think there's four original photo albums that were put together by Stanton, that are still in very, very good shape. And I remember distinctly the interest that the archivist took in me, because as they put it, "Most people who come in here, all they want is a photograph of the battleship that they served on in World War II," where now it's they're interested in photographs of somebody, a relative, that was in the Civil War. So I was an unusual case, walking into the Archives and looking for this stuff. And the first trip, I saw what I wanted to see, which is these photo albums that they had, that were just beautiful, and I realized the project was gonna go, it was something that was well worth doing. But I was still hunting for those negatives. All they had was this album of prints, and you know, after ninety-five years, photographic prints fade, and they're not very good -they're not very good quality. But the negatives should still be in good shape, and that's what I was hunting for, because I knew that the negatives were what we really wanted to be working off of. Well, we got enough prints, about 120 or so, that we were able to do the first trip in 1990. We established an itinerary that was mostly geared towards the upper half. Stanton's trip lasted about three months down here, and so we really wanted to time the photographs, to get it as close to the correct time of day, and definitely the correct time of year, so we more or less timed it for the upper half of the Canyon, knowing that we're not going to take a three-month trip. And in the course of that trip, we matched 101 Stanton photographs 100 years later, which we always thought was pretty funny. And in some cases, we were there on the right day. In one case, we were there 100 years later, to the minute, on one of the photographs. We were using these duplicate negatives. Greg Crampton had loaned me all the negatives that he could find that were used in *The Colorado River Survey* book, but they were just copy negatives -actually somewhat poor copy negatives -that were made out of the collection at the Engineering Society's library in New York City. And in working with the photos in 1990, we just realized, there's a lot here, this is more than a debris flow story, it's more than a change in rapids story: we're seeing plants in the same spot 100 years later, and we had no idea these plants could live that long. We were seeing other things that were leading to these clues that kind of said, were screaming out, "There's a big story here!" So I went back to the National Archives and I remember the woman there that's the head of it, Betty Hill -just a wonderful person -and she was extremely friendly when I was there, just really very helpful. But I confronted her one day, and I said, "Betty, I just know that the negatives are here. I've been through all your finding aids, they're not listed in your holdings, but I know the negatives are here someplace." And she looked real sheepish and she said, "I need to show you something." And it's real rare when you get an opportunity to go back into the stacks of an archives. Most times at archives they let you set out in the front room, and they tell you, "We only want you to use pencils, keep all your pens away, and we only want you to have white gloves on," and things like that.

Steiger: We gotta stop. Sorry, we got a battery down. This is too good. I don't want to really miss it.

Is that battery, or tape, Jeff? Are you shooting that cataract boat going by? This is a great story. I'm sorry to interrupt you there.

[END TAPE #6, SIDE A, BEGIN SIDE B]

Steiger: Okay, this is the River Runners Oral History Project, September 19, 1994. This is Part 2 of an interview with Bob Webb, a geomorphologist, working for the GCES. We're going to sit here now for thirty seconds and get ourselves a little presence. Let's see if we can get this room tone now.

Steiger: We're back: Archives and white gloves. They want you to put on the white gloves to go in the Archives.

Webb: Well, what I was saying was when you walk into most archives, you think of them as this stuffy front room with a bunch of tables and they want you to use pencils only, put away your pens, and your briefcase has gotta stay

outside, and you have to wear these white gloves to handle all the historical material. Not that I mind doing that, that's the proper way to handle it. But it was amazing, because when I asked that question of Betty, and she admitted that they had the negatives, all of a sudden my whole experience with the National Archives changed, because they took me into the stacks. When you go back into the stacks, it's a rather amazing experience for me, because you're there with the original stuff, it's all around you -things that you might have read about someplace in history, they're back there. And she took me off to this corner, and showed me this box.

Now, I ought to give you a little background on this, and this is somewhat of a sensitive thing with archives, so I just need to mention this, to understand why what happened, happened. Nitrate film is what was used in the early days. The emulsion had a cellular laseitate backing that was -in one case, a movie film spontaneously combusted in an archive and destroyed a lot of historical material. That set off an outcry that I think was more hysterical than necessary, where all nitrate-based film was to be destroyed. They felt that it was a fire hazard -in fact, they still do not want nitrate-based film on airplanes, for example. It's really strange. They think it might spontaneously combust and take an airplane down. So they were required to duplicate everything that was on nitrate-based film, and destroy the originals. Now fortunately, for some things like the Powell glass plates, that's a different matter, that's stable, and those still exist. But Stanton, as it turns out, with his professional photographer Franklin Nimms [phonetic spelling], was using, first, a very special type of film, called paper stripping film, that had a very short life in history. It was only used for about a four- or five-year period in the late 1880s, but it was nitrate-based. And then Nimms, for the second expedition, shot most of the photos, switched to what is the first emulsion film. It was the first film that Eastman-Kodak came out with, and in fact the patent on that film was issued the day they launched up the Crescent Wash, into Glen Canyon. So it's a rather interesting collision of photographic history and history of the Grand Canyon there. They were taking the first emulsion film. But it was nitrate-based, and it was unstable, as they later found out. There was an article written in the mid-1890s that indicated that when this stuff dried out, it rolled up. And that's exactly what Betty Hill showed me when I went back into the stacks of the National Archives: a "shoe box," if you would, of all these negatives, rolled up tight as cigars, and totally unusable in that condition. And when I looked at that, I almost cried, because I knew I'd found my gold mine, but I thought it was unusable. And Betty kind of mentioned to me that, oh, if I had six thousand dollars, she could start a restoration project, and maybe some of those negatives could be useful. And at that time I was just really getting started in the U.S. Geological Survey, and I didn't have that kind of money, I was not being paid to do this kind of work. I was being paid for other types of things. So I indicated that no, that wouldn't be the case, and she again hid those negatives. She had them hidden there illegally. She was violating federal statutes by having those negatives there, but Betty recognized they were of value, and she kept them stashed away, not catalogued anywhere. It was really a very amazing thing, and that's why she was so sheepish when I confronted her with the fact that I knew they had to be there. So I left the Archives, and thought, "I just have to deal with duplicate negatives." I came back about six months later, and Betty Hill's all excited to see me, and she says, "You know, we've started trying to preserve those Stanton negatives that you wanted." And I thought, "Wow, this is amazing! I thought you said it was going to cost all this money." And they said, "Well, we just decided this stuff was too valuable to let sit here, so we, on our own steam, we decided to do a rehabilitation project on them." And as it turns out, what happened was that after my little visit -see, I had forgotten about this box of rolled-up negatives -they'd taken them down to the photo conservationist down in the basement, a woman by the name of Connie McCabe [phonetic spelling], who has since become a very good friend of mine, and Connie took one look at it and said, "Wow, what is this stuff?!" And she started looking at the negatives, and started looking in the historical record, and she said, "This is paper stripping film! We don't have any of this stuff anymore. I never even knew what this stuff looked like." And then she looked at the rest of it, that was all rolled up tightly and said, "My goodness, this is the first Eastman-Kodak film!" And it's since been determined that it's the largest collection of that first emulsion film that's left, in the world. And they decided that this is an important thing from a photo conservation point of view, to restore these negatives. And they developed this elaborate process -it took them six months -and they restored somewhere on the order of about 1,000-1,200 negatives. I never got the exact total down, but it was a lot of negatives that they restored. And now those negatives are stored in the National Archives in a special place, because they're a special collection for what kind of film they were. And the archivist, Connie McCabe, has published articles in the archive trade about restoring these negatives, so it's kinda cool, the way that worked out.

But the even better thing for me was that they knew that they couldn't use these negatives the way that they were, that they had to make duplicates. So they have a really great photographer in the Archives, a guy by the name of Steve -I can't remember what his last name is -but by using the things that Connie had flattened out, she created this high-

quality interpositive -or Steve did -this high-quality interpositive from the negatives. And that means those negatives don't have to be used ever again, because the interpositive can be used to make a set of duplicate negatives, that are as good as the original. The format is 6½ by 8½ inches. These are big negatives -they're not 35 millimeter size. They're very large negatives, with lots of detail in 'em. And when they restored those and made the interpositives, they gave me the "second set," if you will. So I have a duplicate set of negatives of all the ones that are still in existence. It's the second set that was made off of the first generation interpositive. So I felt very, very honored by having them give me that. It was something that I now store archivally, because I realize how important this set of negatives is.

Steiger: How was the quality of the photographs?

Webb: It's like "looking through a pair of dirty glasses," if you will, when you look at duplicate negatives -or when you look at, rather, copy negatives. Any time that you make a copy negative of an old photograph, you lose quality: unless it's done really well, the contrast just blows way out of proportion, and you lose a lot of the fine detail, you lose a tremendous amount of it. These duplicate negatives were astounding. All of a sudden things that we'd worked with that looked -you had a blurry plant in the foreground, that plant dropped out, and you could see it, and you knew what it was! You could identify it, and you could identify -in some of them, three hundred feet into the photo, you could identify what those species were. So it just opened up this box for research, that we just jumped on with both feet. I did the research trips for the Stanton photographs under the auspices of my debris flow work. But everybody that was involved knew what I was doing, which was starting an environmental reconstruction of Grand Canyon. And the Stanton photos became the baseline for that. There's so many things that we discovered about this place from the Stanton photos -things that nobody -until I've been on this trip, that is! -knew about. It opened up a level of detail, and a level of subtle change down here, that nobody had even an inkling about, until those duplicate negatives were made.

Steiger: So what about this trip? How did this trip come to be, and what has it meant to you? That's a big ol' question.

Webb: Well, actually it's not that big of a question. It's a very logical follow-up to what we were doing. Because of the Stanton photos, we knew that we had a major story to tell, regarding change down here, that would appeal to a lot of people. But I'm a very careful scientist -at least I try to be. I don't trust results, I tend to go after my own hypotheses, time and time again, to verify that in fact what we were seeing was correct. Just to give you an example of it: we developed a hypothesis that before 1890 there was a period of severe frost down here, that significantly changed elements of the desert vegetation. Has nothing whatsoever to do with humans -at least not in terms of direct human impact on the Canyon. But still, it was a very, very important story to tell, for a number of reasons relating to global change, which everybody's concerned about now. But we thought, you know, we have this big change that's going on, and everything is in the frost-sensitive plants. Can we find out how the change might have progressed through this century? So I started going over to the Huntington Library, and going through Dock Marston's collection, and started to realize there's a lot of historical photos down here, but there's not that many photographs that can be put together for certain things. And I started going to people, such as P.T. Reilly, and talking to him, because he had an extensive photographic collection. I'd go through his archive, looking for certain special photographs that would add to my story that was based largely on the Stanton photography. Well then, with talking to P.T. Reilly, it was obvious he had a lot of memories of the Canyon. It was obvious that he was a resource in his own memories, for what was going on down here. And I talked to a number of people: for instance, I met Garth Marston here in the Canyon at Nevills Rapid in 1991. He happened to be on an Expeditions trip, and I ran into him, and I realized he had something to offer too, in terms of river history. And Tad Nichols had been loaning us photographs to match, particularly of Badger Rapid. And this trip that's going on really wasn't my idea, it was really Diane Grua's idea, and with Kenton backing her up, they convinced me to do this trip -not that it wasn't something that I would have evolved into anyway -but it was just a situation of they felt Tad Nichols wanted to come down here for one last visit, and I thought, "I can't just take Tad down here, I can't justify that." And then we started thinking, "How many people were down here before the dam that are still alive? How many of them could come down here and tell us what the place used to be like?" We'd invented all these stories from all these old photos about what this place used to look like. Can they tell us if we're right, or if we're wrong, or are we on the right track? So we started doing that, and contacting all the people. And that's how this trip came to be. And its importance to me is actually grown.

Because of the number of problems that were associated with getting this trip on the water, I was not very enthusiastic when we launched from Lee's Ferry. In fact, exactly the opposite. If they would have canceled this trip a week before,

I would have gone along with it. I would have said, "No problem. I don't need this kind of nonsense." But once we hit the water, and at Badger Rapid, when I realized who was here, and what they remembered, I thought, "My goodness, we've really hit something here." And at certain places along here, I just felt, "We've hit a home run. These people have remarkable memories, and they're adding to what their photographs are telling us." And they're coming up with additional photos too. Now that they know something about what I'm trying to accomplish, they've been coming forth with, "I know this person that's got a pile of photos that could help you on this," and "You should have invited that person, because they know about that." And it's really snowballed from there.

Steiger: I felt the same way: Please, God, don't let this trip go! (laughter)

Webb: It was very difficult. Let me just say a word about that too, because for some reason, I guess I've just been real sensitive in my Grand Canyon career, because I've always felt that I wasn't.... Anytime I came up with a new idea for a direction to go in terms of research, people would pooh-pooh it and tell me that I'd never get anything out of it. I'll never forget trying to get funding from one source for our 1990 trip -which we funded out of USGS -and we got a small grant from the Grand Canyon Natural History Association -Glenn Rink [phonetic spelling] did, anyway. I had a major scientist tell me point blank, he said, quote, "You will not get anything out of those photographs." And it's been funny, because I've been trying to prove him wrong ever since. I'm that kind of guy. If I have somebody challenge me on something, I'm not going to let that go. And in fact, I haven't rubbed his nose in it, and I probably never would, but mentally I've vindicated myself on that little score. But even on this trip, most people looked at it as some sort of a playground thing of, "You're going to take a bunch of old codgers down there, and what are they gonna tell us about the Canyon?" They told me a lot about it. They took out one of Larry Stevens' major theories down here. They've taken out one of mine, and they've added to a number of ours, and verified that what we saw was, in fact, correct.

Steiger: Specifically what are those? What was Larry's and your theories? What were those? What changed?

Webb: Well, I shouldn't say anything for Larry, because Larry may still think that he's okay. But we've had a little running discussion. Scientists are very critical people, and they should be. They would be self-critical, and they should be critical of others. That's what we get paid to do. We're basically critics, when it comes down to it. And Larry had been maintaining that before Glen Canyon Dam, there were marshes along the river corridor. That's extremely important, because now we have lots and lots of marshes along the river corridor, and the question becomes How much management should be focused on preservation of those marshes, or enhancement of those marshes? And I've maintained that those marshes were not here before Glen Canyon Dam -just like the tamarisk I didn't think was here, in any kind of number, before Glen Canyon Dam, and therefore, if we're really trying to manage this as a natural area, if we're trying to manage this literally in the way the Grand Canyon Protection Act is written, why should we care about these features? Well, the reason why we should care about 'em is that there's a lot of endangered species that are using them, and that they are a wetland area, and there's a big emphasis now on preservation of wetlands, presumably because we've been destroying so much wetlands throughout the west of the United States, and we need to hold on or protect what we've got now -even if it's artificial.

Well, Larry came down with the idea: Wetlands -they were here before Glen Canyon Dam. He approaches Lois, and asks her that question, "Did you see cattails? Did you see this? Did you see that?" Lois said, "No, we never saw any of that along the river corridor." And I knew that, because I'd been lookin' at photos. When you look at the Stanton photos, we've matched 439 -well, now we've matched more than 439, but until this trip, we'd matched 439 of 'em. There's 446 total. Of those, about 400 show the river corridor clearly, and there's not a shred of evidence of a marsh down here.

Steiger: What was your theory they blew up? You were saying these guys blew up one of your theories too.

Webb: Oh, about tamarisk. I had been maintaining quite heavily that the tamarisk is almost entirely an artifact of Glen Canyon Dam, that it wasn't until Glen Canyon Dam that you had tamarisk in any kind of numbers whatsoever down here. And the first thing that they told me was that, "Oh, yeah, we used to see tamarisk all along here," and "Yeah, it's always been at this spot." And the reason why I'd never picked it up was that most of the people in the 1950s were taking pictures of rapids, and there still isn't a lot of tamarisk around rapids -the tamarisk is in the pools, above the quiet areas, that nobody bothered to take pictures of. So I would have had no record of it. And that's one of the

justifications for the trip, by the way, was that I felt I needed to get the person down that took the pictures that we were looking at, because the picture might be in this direction. I wanted them to tell me what might be off in that direction. And that was extremely important, and that's what we've gotten.

Steiger: I think I'm feeling like I hate to quit this thing, because I think we're kinda on a roll, but I think these guys are gonna be gettin' antsy. Jeff, can you think of anything we ought to add right this instant? Robertson: Nah, I think we can come back to it.

Steiger: How about you, Bob? I have this sense that this is really unfinished. Let's see, how about....

Webb: It's up to you guys. I mean, I'm not totally sure why you're taping this in the first place.

Steiger: Well, we're trying to document this trip, and we're seein' what we're gonna get here. Robertson: It seems like there's more to cover.

Steiger: Oh, there's a lot more to cover. Tell me a little bit about just the human experience: a little something about just these guys, what it's been like to be on the river with these guys, and how that connects with the work that you're doin', and the mission of GCES.

Webb: You know, it's pretty funny about that. I tend to think of myself as kind of a hard-nosed scientist. I've never done a private trip in the Grand Canyon; I've never done a fun trip down here. Every trip I've been down here, with the exception of my first one, I've been the trip leader on it. It's been a research trip under my direction. And I actually look at this place as my office -this is where I work. And when I come down here, I get into work mode. So this trip, actually, I've been pretty relaxed -[I'm] not usually anywhere close to this relaxed on a river trip. But on this one it's been pretty funny, because I usually have detached myself from the Canyon, because I need to be objective about it. I need to put out the fact.... I don't want to have my personal emotions get in the way. And to give you an example of how that's important with the Stanton photos, when we first started down here, everybody said, "Oh yeah, the beaches are all going away, all throughout the Grand Canyon. There's all this erosion of sandbars." And being somebody that has extremely strong environmental tendencies myself, I thought, "Well, okay, that's probably the case, but let's check it with these old photos." And it turned out, that wasn't the case, that you could see an orderly change in sandbar erosion as you moved downstream from Glen Canyon Dam, and down, we were guessing, around Mile 160, that change actually has reversed itself, and down here, compared to 1890, there are as many sandbars, and there are as many that are about the same size as there were in 1890. I'm hoping that somebody on this trip is going to say something about that. I've been real reticent to bring that up, because I didn't want to influence how they might be thinking. I've been waiting for somebody to come up with that -or some observation about that. But in terms of me personally.... Robertson: We got a bat. goin' down.

Steiger: Okay, let's change real quick, and then this'll be....

Webb: I think what I'm coming up to is I've always had a very objective view of this place, and on this trip, it's been interesting, I've had to confront a lot of very personal feelings about the place -largely because I'm dealing with some people that I'd only read about; some of them that I might have written a letter to; some of them I've only seen their photos; but I just realized how much this place meant to so many different people that were here before Glen Canyon Dam. It's been a wild experience for me to try and wrestle with that. (calling to passers-by) Save me!

Steiger: Okay, I guess we'd better shut it down. (pause) Okay, thanks. We'll have to come back to this. Okay, Jeff, I'm powering down.

[END OF INTERVIEW]