

STATE OF NEVADA
DEPARTMENT OF CONSERVATION and NATURAL RESOURCES
DIVISION OF WATER RESOURCES
BEFORE SUSAN JOSEPH-TAYLOR, HEARING OFFICER

IN RE:

APPLICATIONS 53987 THROUGH 53992, INCLUSIVE,
And 54003 THROUGH 54030, INCLUSIVE, FILED BY
THE LAS VEGAS VALLEY WATER DISTRICT TO
APPROPRIATE THE UNDERGROUND WATERS OF DELAMAR
VALLEY (182), DRY LAKE VALLEY (181), CAVE
VALLEY (184), AND SNAKE VALLEY (195)
HYDROGRAPHIC BASINS, LINCOLN and WHITE PINE
COUNTIES, NEVADA.

VOLUME X
TRANSCRIPT OF PROCEEDINGS
PUBLIC HEARING
FRIDAY, SEPTEMBER 22, 2006

Reported by:

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1 HEARING OFFICER JOSEPH-TAYLOR: So you're just
2 talking about page one?

3 MR. KENNA: Yes.

4 HEARING OFFICER JOSEPH-TAYLOR: I don't really
5 see a problem with it, Mr. Van Zandt. We've accepted a lot
6 of reports that your witnesses have just mentioned in passing
7 and we have accepted the entire report.

8 MR. VAN ZANDT: I'm not sure of the context. Is
9 this witness going to be verifying the information on the
10 first page? If not, it's a little bit duplicative to his
11 testimony but as long as the conclusions are struck from the
12 exhibit, it's probably okay.

13 HEARING OFFICER JOSEPH-TAYLOR: Thank you. It
14 will be admitted.

15 MR. KENNA: Thank you, I have no more questions
16 for Dr. Charlet.

17 HEARING OFFICER JOSEPH-TAYLOR: Cross-
18 examination, Mr. Van Zandt.

19 CROSS-EXAMINATION

20 BY MR. VAN ZANDT:

21 Q. Good afternoon, Dr. Charlet.

22 A. Good afternoon.

23 Q. The conclusions that you reached in your report
24 which is now in evidence as Exhibit 3030, you relied in part
25 on the work of Dr. Tom Myers; is that correct?

1 A. Yes.

2 Q. You had a chance to review his report?

3 A. I did.

4 Q. Which is Exhibit 3001?

5 A. I did.

6 Q. So if the conclusions reached by Dr. Myers in his
7 report were in error and in fact there were not going to be
8 any water resource impacts from this project, then you
9 wouldn't have any concerns about what's going to happen out
10 there in the valley, would you?

11 A. If there's no drop in the water table, I have no
12 concerns. If the water is not taken from the phreatophytes,
13 I have no concerns.

14 Q. Did you have a chance to review Dr. Myers'
15 rebuttal report?

16 A. Yes, I did.

17 Q. There's a portion of that report which indicates
18 that under certain circumstances there would be no drop in
19 the water levels.

20 MR. KENNA: Objection, that's characterizing the
21 report in a manner that I don't think is reflected by the
22 report.

23 MR. VAN ZANDT: I think it said a few feet.

24 HEARING OFFICER JOSEPH-TAYLOR: Sustained.

25 BY MR. VAN ZANDT:

1 Q. Well, let me ask you. Do you remember reading a
2 portion of Dr. Myers' report that said there would be a drop
3 in the water level of a few feet in layer one, which is the
4 top layer of the valley?

5 A. I don't remember that, but if that's the way it
6 is, that's the way it is.

7 Q. Did you take that into consideration in forming
8 your opinion?

9 A. I wrote my report before he wrote his rebuttal.

10 Q. Would that change your opinion now if you knew
11 that?

12 A. If the effect is to drop the water table only a
13 few feet, then my concern lies with the swamp cedars.

14 Q. On page 3 of your report, Dr. Charlet, there's a
15 reference to the vegetation communities in the lowest
16 elevation or are halophytic facultative phreatophytes?

17 A. Yes.

18 Q. We've had some testimony on this before, but is
19 the significance of that that these plants are opportunistic
20 and they'll seek the water where it's available?

21 A. Yes.

22 Q. So if there is water available in the soil, in
23 the top layer of the soil, say within the top five, ten feet
24 or so, the plant will try to take it from there, correct?

25 A. Yes. In a greenhouse situation you probably

1 would see no difference in a plant, but in a competitive,
2 dynamic vegetation community in the real world, you would see
3 an effect because it will be competing with plants that are
4 better equipped at extracting from that particular layer in
5 the soil profile.

6 Q. But you do agree that all these plants are going
7 to be opportunistic, they're going to seek the moisture
8 wherever they can find it, right?

9 A. All of these plants?

10 Q. Phreatophytes.

11 A. Yes, they will use the water wherever they can
12 find it. If it doesn't have to mine deeply for it, it won't.

13 Q. Were you here when Dr. Devitt testified?

14 A. No, sir.

15 Q. You have a chance to look at his report?

16 A. I did.

17 Q. I don't know if you had a chance to review his
18 testimony, but one of the things that he said was that there
19 are certain areas of greasewood communities in Spring Valley
20 where the water table is very high and would actually benefit
21 from a lowering of the water table?

22 A. I don't remember him saying that they would
23 benefit from lowering the water table.

24 Q. Well, you weren't here for his testimony.

25 A. I watched it on the web cam.

1 Q. You don't remember that being stated?

2 A. No.

3 Q. If the water table is up high in the root zone of
4 greasewood so that the root zone is completely saturated all
5 the time, say within two or three feet of the surface, would
6 that have an effect on the greasewood?

7 A. If it's there all year, it certainly will but
8 with a lack of oxygen, the roots will die.

9 Q. Now, sagebrush is fairly well distributed in this
10 valley, isn't it?

11 A. Yes.

12 Q. And sagebrush like some of these other
13 phreatophytes that you're talking about, it will survive with
14 water in the soil from precipitation and surface runoff and
15 things like that?

16 A. It's typically not considered to be a
17 phreatophyte. There's one, big sagebrush, *Artemisia*
18 *Tridentata*, can act as a facultative phreatophyte. Subspecies
19 *Tridentata* is a big Great Basin sagebrush. That one can act
20 as a facultative phreatophyte in fairly loamy soils.

21 The *Artemisia Tridentata*, subspecies *Wyoming*
22 *ensis*. *Artemisia Nova* is not a phreatophyte. It's shallow
23 rooted.

24 Q. So some species of sagebrush are phreatophytes
25 and some are not?

1 A. We usually don't consider any of them to be
2 phreatophytic. However, Artemesia subspecies Tridentata can
3 be phreatophytic under different soil conditions.

4 Q. So sagebrush would be seeking groundwater as its
5 primary source of water, correct?

6 A. That's correct. It would prefer to have it in
7 the upper layers of the soil.

8 Q. Now, were you here for the testimony of Zane
9 Marshall?

10 A. No, sir, I wasn't.

11 Q. Did you review his testimony on the Internet?

12 A. I was only able to see a very little portion of
13 it.

14 Q. Part of his testimony had to do with potentially
15 planting some native grasses to help in certain areas where
16 other vegetation may be supplanted. Is it your opinion that
17 substituting native grasses for other types vegetation might
18 benefit the environment in Spring Valley?

19 A. Well, what species was he suggesting? Because
20 many of our species, you see, that are present there that are
21 native and locally adopted are phreatophytic. So the
22 distichlis, you couldn't replace a degraded greasewood
23 community with distichlis because the distichlis can't mine
24 water as deeply.

25 The Great Basin wild rye which holds I guess

1 about the same biomass as the distichlis also can't mine
2 water nearly as deeply.

3 So if you were to do that you would have to have
4 surface irrigation of some kind in order to support them and
5 then if you did that, then sure, it could replace it.

6 Q. Thank you. You mentioned Baker Powder Flat?

7 A. Baking Powder. They used to get baking powder
8 out of that.

9 Q. Where is that located exactly?

10 A. Exactly? That is township 12 north, range 67
11 east, section 4, section 5, section 8, section 9, section 15,
12 section 16, section 19, section 20.

13 Q. And you said that in Baking Powder Flat there's
14 very little, if any, vegetation in those sand dunes?

15 A. I didn't say in the sand dunes. The flat itself,
16 there's virtually nothing. The sand dunes have plants. Sand
17 dunes are little centers of biodiversity in deserts.

18 Q. And the plants in those sand dunes, they don't
19 get their moisture from groundwater, do they?

20 A. No, they get it from the sand dune. The sand
21 dune is a storage, a sponge with no capillary. The water can
22 only rise through a sand dune one centimeter, no more. So
23 there's water in, the only way water comes out is through a
24 plant.

25 Q. You talked about the Rocky Mountain junipers. If

1 we could, if you can get a copy of Exhibit 683 to the
2 witness, please? Have you seen that document before?

3 A. Yes, I have.

4 Q. This was an attempt to designate the swamp cedar
5 natural areas as a wilderness area, correct?

6 A. I don't know. It was unattributed. I pulled
7 this off the Internet and I saw no author, I saw no
8 attributions to where it came from, but I was interested in
9 it. It seemed to be an evaluation of this for its potential
10 as a wilderness area, but I have no idea who wrote it or why
11 really.

12 Q. I think the testimony was that it was a BLM
13 document, a decision document.

14 A. Okay. I didn't see that when I got it off the
15 site.

16 Q. You see there it says zero acres recommended for
17 wilderness?

18 A. Yes.

19 Q. So the swamp cedars have been evaluated by the
20 Bureau of Land Management and determined that they were not
21 going to be protected as wilderness, correct?

22 A. Yes.

23 Q. Now, that is Rocky Mountain junipers, they exist
24 extensively throughout the west, do they not?

25 A. I would characterize their distribution as

1 sporadic, not extensively, but fine point.

2 Q. But there are some Rocky Mountain junipers in the
3 mountains in the vicinity of the ones in Spring Valley?

4 A. Absolutely. I have collected them personally in
5 43 different mountain ranges in Nevada.

6 Q. And you indicated that there have been no genetic
7 studies on the Rocky Mountain juniper in Spring Valley,
8 correct?

9 A. None that I'm aware.

10 Q. So as we sit here today we don't know if that is
11 a unique species?

12 A. As we sit here today it is not a unique species,
13 not even a unique variety.

14 Q. Now, I believe that Mr. Kenna asked you some
15 questions about the stipulation with the federal government.
16 Have you had a chance to review the stipulation with the
17 federal government?

18 A. I did.

19 Q. And that is Exhibit 63 that's been admitted. Did
20 you take a look at the biological monitoring plan that's in
21 there?

22 A. Yes, I did.

23 Q. Did you also see the area, the initial biological
24 monitoring area which is the last page?

25 A. I did not see that, no.

1 Q. You did not see that?

2 A. No.

3 Q. Just for your information, that initial
4 biological monitoring area covers the entire area of Spring
5 Valley, a portion of Hamlin Valley and a portion of Snake
6 Valley, quite an extensive area.

7 A. Okay.

8 Q. Would you agree that having the kind of
9 biological monitoring and management that is suggested in
10 appendix B of Exhibit 63 is going to help protect many of the
11 species that you have some concerns about?

12 A. Help protect it if the project goes forward?

13 Q. Yes.

14 A. In lack of any other protection?

15 Q. Yes.

16 A. Well, then, yes.

17 Q. You still have concerns?

18 A. Yes, particularly about a phrase that's repeated
19 twice, that says unreasonable adverse effects which implies
20 of course that there are reasonable adverse effects and
21 there's no definition of the distinction between the two.

22 Q. But you understand that the biological working
23 group is going to determine some standards for how to measure
24 when adverse effects occur on the biological communities in
25 Spring Valley?

1 A. I'm certain they're going to give it their best
2 effort.

3 Q. Well, would your preference be that there be no
4 effects at all?

5 A. Yes.

6 Q. You said you did listen to Dr. Devitt's
7 description, testimony on the Internet, correct?

8 A. Not all of it, but I heard quite a bit of it,
9 yes.

10 Q. Did you hear some of his discussion about the
11 White River Valley?

12 A. I did.

13 Q. And you understand that the White River Valley
14 has a lower groundwater table than Spring Valley does?

15 A. Yes.

16 Q. But did you also hear Dr. Devitt describe that
17 the vegetation in White River Valley was just as healthy as
18 the vegetation in Spring Valley?

19 A. Well, individual plants were in good condition as
20 they are throughout the Great Basin for the last couple of
21 years because we've had wet years, so yeah, go anywhere, the
22 shrubs are doing great, they're happy, they are putting on
23 above ground biomass, they're making new leaves, they're
24 producing food for themselves, they're doing well.

25 So were you to ask me if you thought the shrubs

1 were healthy in White River Valley, I'd say yes.

2 Q. So even with a lower groundwater table in White
3 River Valley --

4 A. The communities are different --

5 Q. I'm sorry, you have to wait for me to finish the
6 question.

7 A. Oh, I'm sorry, sure.

8 Q. So even with the lower groundwater table in White
9 River Valley there's still healthy vegetation out there,
10 correct?

11 A. Yes.

12 Q. One last question I think, maybe one last
13 question. I didn't see in your report, Exhibit 3030, I
14 didn't see any mention of the fire dangers that you were
15 referring to.

16 A. Oh, okay. I'm pretty sure I included references
17 here so let me try to find it. When I'm talking about
18 desertification processes --

19 HEARING OFFICER JOSEPH-TAYLOR: What's the point,
20 Mr. Van Zandt, because the report will speak for itself?

21 MR. VAN ZANDT: Pardon me?

22 HEARING OFFICER JOSEPH-TAYLOR: I said what's the
23 point because the report will speak for itself.

24 MR. VAN ZANDT: That's fine. No further
25 questions.