

1
2 REGIONAL RESOURCE STEWARDSHIP COUNCIL MEETING

3 MARCH 13, 2008

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P R O C E E D I N G S

DFO MR. PEYTON HAIRSTON: Good

morning, everyone. That's better. My name is Peyton Hairston, and I am TVA's Chief Ethics & Compliance Officer, but for the purposes of today I am the Designated Federal Officer for the Regional Resource Stewardship Council.

And on behalf of TVA, I want to welcome you to our second term -- second meeting of our fourth term of this group, and we're really pleased that you have all taken the time to be here today.

Over the next day and a half we're going to have an opportunity to learn more about what TVA is doing in a couple of areas and give the public an opportunity tomorrow to give us any input, and most importantly, to get input from you. So we appreciate the dedication of this group and look forward to a productive day and a half.

20 with that, I will turn it over to our
21 Chairman Tom Littlepage.

22 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
23 right. welcome. I hope you have had a chance to
24 look through the materials that have been provided.

25 Before we get into the meat of the
1 meeting, I wanted to let you know that our thoughts⁵
2 and prayers are out with Kenny Darnell who had to put
3 his mother in the hospital and was planning to be
4 here and will not be able to be here. So we will
5 continue to lift him up.

6 Also, to welcome our new member, Carol
7 Doss, hey, Carol, from Virginia who has come on the
8 Council. Maybe I will give you an opportunity just
9 to say hello and tell us a little bit about yourself.

10 MS. CAROL DOSS: Okay. I am glad to
11 be here. I work in Virginia in the -- I am actually
12 coordinator for the Upper Tennessee River Round
13 Table, which is a non-profit working obviously in the
14 upper Tennessee drainage, and I collaborate with TVA
15 on a number of projects. They have always been such
16 a good partner.

17 I am also coordinator for Keep America
18 Beautiful affiliate, which we just formed last year
19 called, Keep South West Virginia Beautiful. Then I
20 took on another coordinator's position recently, and
21 now I am coordinator for the Virginia Watershed
22 Alliance. So I have got a pretty full agenda right
23 now. Anyway, I am glad to be here.

24 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
25 right. well, we welcome you and welcome your input.
1 we hope you enjoy your time on the Council.⁶

2 I guess we have got a full agenda.
3 This is an exciting session because we're going to
4 talk about environmental policy, and that's one of
5 the key things that I think a lot of us care about
6 with regards to our particular interface with TVA.
7 TVA is trying to establish some structure to how they
8 are going to move forward in the future, and
9 hopefully we can provide some input into that
10 process.

11 I guess with that we will turn it
12 over.

13 FACILITATOR DAVE WAHUS: If you will
14 open up your book to the agenda, please, behind the
15 first tab. This morning we're going to be listening
16 to a TVA update by -- from Bridgette Ellis. Then
17 starting at 9:00 we will hear a series of
18 presentations on the Environmental Policy &
19 Framework, focusing on Land & Water Stewardship.

20 The three questions that we will be
21 addressing tomorrow will be in response to the
22 presentations that you will hear starting at 9:00
23 a.m. this morning and up until the break this
24 afternoon, this afternoon's break. So that material
25 that you hear during that period will be addressing
1 the first two questions.

2 Then the presentation -- the first
3 presentation after the break this afternoon on
4 Natural Resource Management Strategy on the Draft,
5 the third question will be addressing material that
6 you will be hearing in that period of time.

7 we have three excellent panelists this

8 afternoon and some very good panelists this morning.
9 And then this afternoon we're also going to get a --
10 receive a presentation or an update on drought
11 conditions in the Tennessee Valley, and then the Bear
12 Creek Dam update. If you recall, at our last meeting
13 we heard some information on that.

14 Then we will be adjourning around 4:00
15 or 4:30 and, of course, planning for dinner. We will
16 hear more about dinner this evening as we get closer
17 to the end of the day.

18 Any questions on the agenda?

19 Thank you.

20 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
21 right. I guess with that we will go ahead and --
22 Bridgette, are you ready?

23 MS. BRIDGETTE ELLIS: Yes.

24 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
25 right.

1 MS. BRIDGETTE ELLIS: I was going to⁸
2 come out from behind here, but I am not so sure I
3 can. Anyway, is that on?

4 FACILITATOR DAVE WAHUS: Let me get
5 you another mic. That might be good.

6 MS. BRIDGETTE ELLIS: I am just going
7 to talk about -- I am going to give you an update on
8 two items, and then if you have got questions we can
9 spend the rest of time just answering any questions.

10 The first has to do with -- now, I
11 have got to be able to do all of this. Maybe this
12 wasn't a good idea.

13 Okay. Two items I want to give you an
14 update on. The first is the Board. A lot of people

15 are interested in where we stand in terms of updating
16 the Board and getting a full complement of Board
17 members.

18 The initial terms, of course, of
19 Director Susan Williams and Bishop Graves expired in
20 May. President Bush did renominate them and also
21 nominated Thomas Gilliland from Blairsville, and I
22 know a lot of y'all know Tom, to fill the vacancy
23 that was created when Bill Baxter left.

24 So Mr. Gilliland is the Executive Vice
25 President, Secretary, and General Counsel for the
1 United Community Banks, which is the third largest ⁹
2 holding company in Georgia. So last fall the Senate
3 Environment & Public Works Committee held a hearing,
4 a confirmation hearing for Tom, and they approved him
5 and also the renominations of Director Williams and
6 Bishop Graves, but the Senate has not acted on any of
7 those nominations.

8 In fact, if you follow any of the work
9 around nominations, there's practically none that
10 have been completed, I guess, in six, seven, eight
11 months, I guess.

12 The Board still has six members.
13 We're -- they are fully functional. At their last
14 February board meeting they reappointed and reelected
15 Bill Sansom as the Chairman for his second turn --
16 term.

17 Now, additionally, some of you may not
18 know, Director Harris, her term will expire this May.
19 So we will go through this again with another board
20 member. So if we don't get additional Board members,

21 we will actually be down to five Board members then
22 at that point. So we will go through the same
23 process with Director Harris' position as well in
24 terms of she can serve until someone -- either she's
25 renominated and confirmed or someone else or until
1 Congress adjourns. 10

2 A lot of people had a little bit of
3 confusion about what -- how that works. Both
4 Directors Williams and Graves, they served all of
5 this past year until Congress adjourned. So even
6 though their appointments ended in May, they got to
7 serve through that December time frame when Congress
8 actually adjourned. So the same thing will hold true
9 with Director Harris' position too if she so chooses.

10 The only other thing I will talk
11 about, and I know everyone knows a lot about this, is
12 the issues in the papers with Georgia wanting to tap
13 the Tennessee River for water supply or maybe change
14 the boundaries, you know, kind of depending on where
15 you are, you know, those are the kinds of things you
16 have got to think about.

17 well, the legal system governing the
18 use and consumption of water for water rights is the
19 creation of the states. It's not a federal issue.
20 So this is a state issue in terms of how they are
21 going to look at the boundaries and all those
22 different things.

23 As we manage the Tennessee River
24 system, you know, we manage for multiple benefits.
25 So we're always trying to balance all of those
1 different issues. So if those things do come up, we 11
2 would handle it the same way, regardless of where the

3 boundaries truly are.

4 So if a person or entity decides to
5 come to TVA and say, hey, we would like an interbasin
6 transfer, we have an existing process that a lot of
7 y'all are aware of that we use, and it takes large
8 amount of coordination with local, state, federal
9 entities, our other nation associates, such as the
10 Eastern Band. So we would look at all of those
11 issues as it relates to any type of transfer that
12 might come on.

13 And if you remember, and I think y'all
14 have seen this before when we did the Reservoir
15 Operation Study, the USGS did a study, and this is
16 what's being quoted, that talked about the Tennessee
17 River being one of the most intensively used but not
18 consumptively used rivers in the nation. It also
19 predicts that we're going to have another
20 one-and-a-half million residents by 2030 on top of
21 the four-and-a-half million we already have.

22 So even though people are saying, you
23 know, it looks like there's plenty of water in the
24 Tennessee River, if you read the report it really
25 talked about under normal conditions, you know, this
1 is how we think things could occur. ¹²

2 Obviously, when you're in a drought
3 situation you need to look at different analyses and
4 make sure that you're looking long-term if you had
5 more drought like conditions moving forward. So
6 those are the kinds of the things that we would look
7 at.

8 A lot of people have asked, how many

9 interbasin transfers do we have. We have currently
10 got 25, and that's both into and out of the Tennessee
11 River. So it's not just everything going out of the
12 Tennessee River. So there's like 9 that come in and
13 16 that go out, and they are all fairly small. I
14 think the largest one is about 16 and 1/2 million
15 gallons per day, and that excludes the TennTom. The
16 TennTom is, you know, one of its other -- it's in
17 itself much larger than anything else.

18 So those are the only two updates, I
19 think, I wanted to give you. I think I will just see
20 if you have any questions about any of that because I
21 know a lot of people are interested in the water
22 issues. Again, remember, you will get an update on
23 the drought this afternoon.

24 COUNCIL CHAIR MR. TOM LITTLEPAGE: Has
25 anybody got any questions for Bridgette?

13

1 MS. BRIDGETTE ELLIS: All right.

2 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
3 right. Thank you, Bridgette.

4 The next -- are you ready? I guess
5 we're a little early, but can you --

6 MS. ANDA RAY: I will just sit down
7 and we will all wait. We're taking up some time
8 here.

9 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
10 right. Talk real slow.

11 MS. ANDA RAY: Okay. Well, we're
12 really excited about embarking on this Environmental
13 Policy for the Board. So we want to give you kind of
14 an overview.

15 We're going to do it in three phases.

16 I'm going to give you an overview of the
17 environmental policy activity itself, and then John
18 Myers, our senior manager of Environmental Strategy &
19 Management will talk a little bit as we narrow down
20 into the areas that are most concerned to you-all in
21 your role on this Council, and then Neelanjan will
22 talk specifically about some of the guiding
23 principles that we really do need feedback on. This
24 is a very important meeting for us to be able to get
25 your input.

1 All right. You remember last year --¹⁴
2 and in the front of your book there is the TVA
3 Strategic Plan that the new Board developed in 2007,
4 and what they realized was as we were going through
5 here that we needed some guiding principles on the
6 environmental side.

7 In fact, a lot of the comments that
8 were provided by the public and several of you said,
9 you know, this talks a lot about energy, you know,
10 what about the other pillar of TVA's mission on the
11 environment and environmental stewardship side?

12 However, environmental activities go
13 across the entire three-phase mission of TVA,
14 economic development, knowledge, and environment. So
15 that's what this policy -- the Board wanted to set
16 some type of guiding principles for the company to
17 operate within.

18 You see that we have the TVA Strategic
19 Plan. So what we have done is we have looked at,
20 what are the environmental dimensions that TVA is
21 involved in? Can everything that do fit in one of

22 those yellow bubbles?

23 And we were specific to try not to
24 make those yellow bubbles be program areas because
25 then people have paradigms and they position
1 themselves, oh, we mean this kind of thing. So we 15
2 wanted to look much more generic. So we're going to
3 evaluate the environmental policy across those yellow
4 bubbles, those dimensions.

5 Now look at the blue bubbles. This is
6 where you start to get more granular, and it says, if
7 the Board gives us this policy, then as TVA begins to
8 implement individual strategies, those guiding
9 principles and that policy will be able to direct
10 them.

11 So the blue bubbles are much more
12 specific, things that you're used to hearing in the
13 public, energy efficiency, renewables. You're going
14 to hear about natural resource management strategy
15 from Buff later on today. So that's kind of how the
16 whole picture fits.

17 Then we realized that in the
18 environmental arena that -- and a company is often
19 not seen as credible if they try to develop
20 anything -- everything within themselves, and
21 especially with the energy part of our company and
22 the fact that we are just by volume a large emitter
23 of certain pollutants, maybe not by intensity we look
24 better, but as a result if we were to say this is
25 what we're going to do, we felt that we needed to
1 bring in some other objective help, both for you-all 16
2 as a non-government organization, both for our
3 distributors because they need to make sure that

4 we're just not going to go out there and do
5 everything and spend all of this money on things that
6 they're going to have to foot the bill for, and then
7 also for the elected officials, local, state, they
8 want -- they are trying to set public policy, and
9 TVA, as a federal agency, has a responsibility to
10 make sure that we use sound science for our
11 implementation strategy. So we recognized we needed
12 an external firm.

13 Many of you may be aware of McKinsey &
14 Company. They are a global consulting firm. We did
15 an RFP. We looked at several different companies.
16 They had just published a book on abatement of
17 greenhouse gas.

18 Now, you may say, well, what does that
19 have to do with the Regional Resource Stewardship
20 Council, but when you look at things that people can
21 do in this world to reduce greenhouse gas, it
22 actually covered a plethora of activities, all the
23 way from carbon sequestration, nuclear power, clean
24 coal, energy efficiency, building standards, and so
25 you realize that there was a really interesting
1 common thread that could help us with our
2 environmental policy. So we have engaged McKinsey to
3 help us.

4 In fact, you're going to get to hear
5 from Jon Creyts later on today talking specifically
6 about the areas of which we're interested in.

7 The objective is -- the deliverable
8 rather for the environmental policy is very similar
9 to what you have in the front of your book, a 15 to

10 20 page document that talks about each of those six
11 dimensions and provides some guidance in the
12 direction that we're going to go on renewables.

13 For instance, why are you doing
14 renewables?

15 Is it just because you want to comply
16 with the standard or is there actually some public
17 benefit that comes from that?

18 why are you doing energy efficiency?

19 Are you going to get a return on
20 investment or does it reduce greenhouse gas?

21 So we need to know why we're doing
22 these things. with the 15 pages, that's like the top
23 of an iceberg, you know, that's what the public and
24 everyone is going to see, but before you can set that
25 policy you-all know that you have to begin with the
1 end in mind. 18

2 what if I made this statement and I
3 couldn't back it up later on when I did the analysis?

4 So underneath that 15 to 20 page
5 analysis is a lot of analysis and discussion that
6 will go on to say, if we say this, can we actually
7 down the road fund it?

8 Can we do it politically?

9 Can we do it competitively?

10 So there's a lot more detail than just
11 the 15 or 20 pages, the same as the TVA strategic
12 plan.

13 Accelerated schedule: One of the
14 things that Tom Kilgore, our CEO, would like us to do
15 is do things faster and better, not just faster. So
16 McKinsey & Consultants officially started with us on

17 January the 22nd. We're in our sixth week. We're
18 trying to have a draft policy available for the
19 public to look at by April the 3rd and then have that
20 out for public comment and then have the Board
21 meeting on May the 19th in such a form that the Board
22 could actually consider approving it.

23 You see that in the bottom where it
24 talks about the Regional Resource Stewardship
25 Council, you're a very important part in helping
1 provide us the input on the stewardship part of this¹⁹
2 environmental policy. So all those comments you had
3 before where you said you're not -- you know, you
4 haven't given enough real estate in the TVA strategic
5 plan, there is not enough depth here, this is where
6 we need to try to address that.

7 The stakeholder engagement, in this
8 case it would be very difficult to have public
9 meetings to talk about the entire range of the
10 environmental policy. It would be hard to be
11 productive because one person might want to talk
12 about how you procure coal in a clean manner, someone
13 else might want to talk about how you handle recycled
14 material, someone else might want to talk about how
15 you do the reservoir.

16 So what we have decided to do as
17 opposed to holding individual regional meetings is to
18 have this huge interview initiative where we
19 interview as many different types of perspectives as
20 we can. We have gone through over 60 now in the past
21 three or four weeks with these type of organizations.
22 You see the FACA is you, that includes yours.

23 we have also held a separate Board
24 listening session on energy efficiency and renewables
25 as those strategies, along with the natural resource
1 management strategies are being developed 20
2 concurrently.

3 This very busy slide are the
4 environmental commitments statements that we pulled
5 out of the TVA strategic plan because you want to be
6 sure that you're aligned with that strategic plan.

7 Specifically, the ones E and F have to
8 do with the land and water stewardship function, the
9 natural resource management function, recreation,
10 what TVA does with the reservoir lands that we're
11 managing, which is what you advise us on. So that's
12 the kind of starting place. Now we want to build and
13 add more flesh to the bones because that's very thin.

14 And with that, I am going to turn it
15 over to John so we can start focusing on the land and
16 water stewardship activities.

17 MR. JOHN MYERS: Thanks for being with
18 us today. As I enjoy the opportunity to talk to you
19 today, my focus is on looking at the stewardship
20 activities and how those relate and where those are
21 housed in the environmental and policy framework.

22 With the stewardship focus we want to
23 take you back to the environmental dimensions chart.
24 As we talked -- Bridgette was talking the alignment
25 starting off with the TVA strategic plan coming down
1 to the environmental strategy objective summary of 21
2 what we're trying to do here on building a long-term
3 success by managing the environmental risks and
4 impacts and increasing business and public value of

5 environmental management and enhancing TVA's
6 reputation. That's kind of where we're headed.

7 The environmental dimensions down
8 there are across and capture the elements of the
9 environmental issues, and below that are the
10 individual strategies that we looked at.

11 And you see in the high -- in the
12 light green color where we have got the land and the
13 shoreline strategy, water quality and its efficiency,
14 natural resources and recreation, and throughout
15 today we will be talking about those elements.

16 I am going to specifically going to
17 talk about the land policy and the shoreline
18 management strategy and water resource strategy.

19 When we started this exercise one of
20 the things that we wanted to do was to look at, what
21 are others doing in this area?

22 When we looked at some of our electric
23 competitors, we looked at a variety of reports they
24 put out, be it policies, strategies, sustainability
25 reports, social responsibility reports, and looked at
1 what dimensions and what areas did they cover. 22

2 And so for a variety of folks we
3 looked at both electric competitors and others that
4 were both on the domestic and international stage to
5 look at the types of areas that they covered, whether
6 it was statements or initiatives that they had
7 addressed or a wide range of environmental issues
8 that governed the stewardship activities.

9 Going back to where this is housed,
10 where the stewardship activities are housed in the

11 policy and framework. This is very much like the
12 bubble chart that we just showed. You will see that
13 up in the top of the report it talks about the
14 context, this report in context, and that's where we
15 will draw the linkages back to the strategic plan.

16 Then we will come down and look at the
17 environmental policy and framework hitting those
18 three dimensional areas of the TVA mission;
19 affordable power, clean, reliable affordable power or
20 energy, economic development, and we take a look at
21 it from a sustainable environmental development
22 aspect.

23 Then as we look at environmental
24 stewardship looking at it from a proactive
25 environmental stewardship and talking about the word
1 proactive here, discuss stakeholder value, and then²³
2 we will talk -- get into the different dimensions;
3 climate change, air quality, and then the ones that
4 are part of the stewardship functions; the water
5 resource improvement, sustainable land use, and
6 natural resource conservation. Those are the areas
7 that are kind of the stewardship activities.

8 When we look at those we will move up
9 to try to address them in a systematic fashion of
10 trying to have a policy statement out there that our
11 policy is this and to explain what that policy is, to
12 explain the scope of that policy, what does that
13 cover, and by explicitly what it covers and
14 implicitly what it doesn't cover.

15 we'll be talking about key issues.
16 what are the drivers that are shaking this? what are
17 the issues coming at us today and in the future that

18 would affect us that we need to account for in
19 developing this policy? Then we'll talk about the
20 current status.

21 I think one of the things that we have
22 seen as we have had multiple stakeholder meetings is
23 that there is a recognition that we do do a lot of
24 things that we may not take sufficient credit for.

25 So one of the things that we will do
1 in here is the current status of the many initiatives²⁴
2 that we have got underway, to talk about what we are
3 doing right there, and then get into the goals and
4 aspirations. Maybe that's where you can dream, but
5 from a business practice we also are looking at the
6 valued proposition.

7 what is the cost? what is the
8 opportunity?

9 we will look at the -- to ground those
10 aspirational on what we think is achievable and how
11 and why we can do that and what cost and value
12 trade-offs we see.

13 So as we move through these, let me
14 just start off with land policy. As a background, I
15 guess, most of y'all are aware but we -- TVA acquired
16 1.3 million acres in its mission. We -- with the
17 reservoirs, as they filled, consumed about 35 percent
18 of that acreage or about 470,000 acres of reservoirs.

19 we transferred a little more than a
20 half million acres to federal and state entities for
21 public uses. We currently manage 293,000 acres of
22 reservoir properties. We also have about 160,000
23 acres of mineral and coal rights. We manage 293,000

24 acres for -- well, that's 258,000 acres of
25 transmission right-of-way and 293,000 acres of
1 flowage easements. 25

2 Some of the key components of the land
3 policy that was developed in '06, we will continue to
4 develop reservoir management lands, but we will do it
5 in such a way that there's transparency and
6 accountability. Transparency in that we will approve
7 those plans at the Board of Directors' level and
8 transparency is that we will do it with public
9 engagement, significant public engagement. We also
10 said that there will be no residential or retail
11 development on those TVA managed reservoir lands.

12 Excuse me. Foreign industrial
13 development, we said that we would give preference to
14 those industrial developments that need access to
15 water and that TVA will consider leasing or granting
16 easements for commercial recreation purposes, and
17 that would be -- we wouldn't give title but we would
18 provide access.

19 And then also for the public, we would
20 consider the removal and modification of deed
21 restrictions to promote recreational access.

22 That land policy is in effect. We
23 have been developing implementation guidelines. When
24 the policy is set you think the work is over, but
25 there's a lot of implementation that goes on from
1 there. We have developed that implementation policy 26
2 and we will be using that as we move forward.

3 Part of what we will be doing in the
4 environmental policy and framework is meshing a lot
5 of the natural resource management, recreational

6 strategies and shoreline management policies.

7 Shoreline management policy: Out of
8 that 290,000 acres of shoreline or reservoir
9 properties, about 11,000 acres of shoreline is in
10 that. And through our Section 26(a) of the Act, we
11 have permitting jurisdictions on that, and we take
12 into account what navigational barriers there might
13 be. We look at flood control. We look at other
14 aspects -- environmental aspects of that.

15 In '99 the Board of Directors approved
16 the shoreline management policy, and it was approved
17 in 2003 through federal regulations. That's not a
18 small thing. We process about 2,600 permits a year
19 through that.

20 The key components of that policy are
21 that it defines an area of what is open for
22 residential, about 38 percent of the 11,000 miles of
23 shoreline. It decides -- it stated -- let's see
24 here. There we go. It set standards for docks,
25 construction aspects of docks, sizes, shoreline
1 buffers, and other shoreline uses. It decided in ²⁷
2 areas that are newly developed, residential areas on
3 that shoreline, it gave out areas for shoreline
4 management zones and views. It adopts a strategy for
5 maintaining and gaining shoreline, maintain-and-gain
6 aspect, and then permits for existing facilities
7 remain in place.

8 Implementing that shoreline policy, we
9 do have implementation guidelines and are continuing
10 on with it.

11 The water resource management: I

12 think many of you are aware of what we do and why we
13 do it, but we see in water resource strategy to
14 maintain suitable both surface and groundwater for a
15 variety of uses, for municipal, industrial, and
16 agricultural supply, for wetlands, for wildlife, for
17 aesthetic enjoyment, for swimmable and fishable
18 streams, and for -- and we know that to keep those
19 attributes there that we have to look at development
20 aspects around streams and reservoir that support
21 those uses.

22 A variety of programs are underway to
23 do that. We have a long history in that. I think
24 many of y'all are familiar with the vital signs
25 monitoring or the valley-wide monitoring programs,
1 targeted watershed, TVA Clean Marina Initiative, and ²⁸
2 a variety of other programs that help institute and
3 achieve those goals.

4 TVA's future plans include continuing
5 with these many programs and looking at those areas
6 where there are efficiencies, that as these programs
7 grow and mature and we get more partnerships that we
8 are able to look at efficiencies among them.

9 We will -- part of the goal in here is
10 to strengthen the partnerships that we see, to
11 leverage what other people can do for valley-wide
12 efforts, and develop communication plans to make sure
13 that people understand what we're doing and why we're
14 doing it.

15 So with that, those are the major
16 aspects of where we're headed. This is where
17 Neelanjan Patri takes over. Neelanjan is working
18 with us on the environmental policy and framework and

19 the developing of it.

20 MR. NEELANJAN PATRI: Good morning,
21 folks. It's nice to see you guys here. As far as I
22 am concerned, it's been a privilege to work on the
23 environmental policy.

24 From our standpoint it is
25 groundbreaking. We haven't done anything like this²⁹
1 before because for the first time we are trying to
2 develop a kind of framework and have an integrated
3 vision of what TVA will be in the future from an
4 environmental perspective.

5 You have heard -- we've talked to a
6 lot of stakeholders and got their feedback. We're
7 trying to position ourselves to make sure that we not
8 only in the environmental policy reflect internal
9 thinking of TVA, we also bring to the table some of
10 the external perspectives.

11 Anda talked about that's why we have
12 McKinsey as a consulting partner to give us feedback
13 from what everybody else is doing so that we can
14 incorporate some of their knowhow, knowledge, along
15 with the internal feedback we get in designing this
16 policy.

17 What I would like to go over with you
18 is some of the things which we have seen from a
19 quality perspective. We have talked to a lot of
20 stakeholders.

21 The process we are adopting in
22 developing this policy is doing a situational
23 assessment first. In a situational assessment what
24 we do is we talk to the internal stakeholders. We

25 talk to the leaders in specific areas inside TVA. We
1 ask them, what do you think are TVA's strengths, 30
2 weaknesses, and also threats and opportunities from
3 an external perspective. McKinsey is helping us with
4 that, too.

5 So once we ground ourselves on where
6 TVA is right now, then we like to say, based on the
7 assessment, let's start with the external
8 stakeholders and make sure we incorporate their
9 feedback into what our end policy would be.

10 So these are some of the things we
11 heard people say. They wanted us to focus on
12 leadership areas, one of the areas TVA is good at.
13 Make sure people hear about it and know what your
14 stance is in certain areas. Then partner with other
15 people. We should be better communicators, partner
16 with people, and have collaborative efforts. So from
17 that standpoint we talked to Tom Littlepage and he
18 gave us some great ideas on where we could move on
19 with this.

20 Some of the things you see here, like
21 land and water stewardship policy must be aligned
22 with the statute and TVA's mission and strategic
23 plan, what we mean here is it's just not enough to
24 put an environmental policy in place.

25 What we would really like to do is at
1 a high level we do have the TVA strategic plan. When 31
2 we draft an environmental policy we have strategic
3 objectives. We have critical success factors. We
4 also have metrics which makes sure that at TVA we
5 follow what we say.

6 How can I measure that I, as a person,
Page 24

7 am following what I have said in the policy?

8 That normally helps us to drive our
9 strategies that come in the back end of this. It
10 also helps the employee and the people who are
11 actually on the ground doing the work to have what we
12 call a line of sight, and that's very important and
13 we have seen its importance because it really helps
14 us to drive performance.

15 The second bullet you see, and that's
16 where I would like your feedback, is, again, the
17 three-part TVA mission in terms of low cost
18 affordable power, economic development, and
19 environmental stewardship.

20 We are trying to position the
21 environmental policy one-on-one which latches on with
22 these three things in TVA's mission. So when we talk
23 of, for example, low cost and affordable power, we
24 will talk about cleaner low cost and affordable
25 power. When we talk of economic development, we talk
1 of sustainable economic development. ³²

2 When we talk of environmental
3 stewardship, what is the word before environmental
4 stewardship?

5 What we have thought of is proactive,
6 TVA should be proactive in environmental stewardship,
7 and that's where I would like to your feedback. If
8 you guys could say that sounds right or it could be
9 made better, we would love to have some of your
10 feedback into these areas which we could help and
11 present it to our -- to the team leads to make sure
12 it's addressed.

13 The other areas are reinforce the
14 state messages on conservation. The state can
15 mandate, TVA can't, the state will mandate and TVA
16 will help reinforce what those state mandates are.

17 The other thing is education and
18 outreach. We feel and we totally understand that
19 communication is very important when it comes to a
20 policy.

21 Why do we have a policy in the first
22 place and what will TVA's role be in that policy?

23 I think people who would like that are
24 doing it to make sure that we -- they understand why
25 TVA is there putting out such a policy.

1 Then communicate with state governors³³
2 and their staff. Also, we have local, state, and
3 federal stakeholders that we need to take care of
4 from both a communication partnership and helping --
5 and working with them in a collaborative way.

6 The environmental decisions will be
7 based on qualitative environmental criteria,
8 including costs, things like what's TVA reputation in
9 the valley? What's the public perception? Are we
10 addressing those issues hand-in-hand?

11 The overriding thing is, is TVA
12 looking just at cost or are we looking at the big
13 picture? We would like to ensure that the work we do
14 helps us to get a wider picture, and that goes right
15 back to the first -- the second bullet about the
16 framework.

17 So what's the framework going to give
18 us from an environmental perspective?

19 A framework would address when you

20 have different projects come up, when you have
21 different initiatives TVA could probably do, we have
22 to make sure it supports the framework from a
23 standpoint of saying, yes, I think we can go ahead
24 with the initiative because it does support the
25 various things we have said in the policy, the six
1 dimensions to the policy that TVA has set out to do ³⁴
2 well.

3 A few other things, economic
4 development and activities will support reduction of
5 the valley's environmental footprint, the jobs and
6 what kind of jobs we're looking at.

7 TVA will partner with other federal
8 agencies, local and state, to develop plans in
9 executing projects to support TVA's environmental
10 policy.

11 And, of course, last but not the least
12 as you say, continue to obtain stakeholder feedback
13 as appropriate in carrying out stewardship
14 responsibilities.

15 In areas of water and land, one of the
16 things that has been pointed out to us repeatedly is
17 the fact that when we have done kind of planning
18 before we had always considered land and water to be
19 infinite sources. It's no longer the case.

20 So how do we go back to the drawing
21 board and address that finite resource, water, the
22 finite resource that's land?

23 So there would be some change in the
24 planning policies and how we plan, and that's one of
25 the things we would like to address in the policy as ³⁵

1 being an aspirational document as how are we going to
2 address the finite resources we have in the areas of
3 land and water?

4 That's the part, again, of education
5 and outreach. And, of course, in terms of water
6 usage, we are one of the largest I would say users of
7 water but a small consumer because we put it right
8 back. Again, that's something that the message,
9 again, needs to be socialized, too.

10 Develop an integrated water quality
11 and quantity issues management program that fosters
12 better collaboration and coordination with internal
13 and external stakeholders.

14 On policies on land, as I said before,
15 the same thing about land being a finite resource and
16 trying to use land the best way we can for the
17 creation of whatever initiatives we have going on and
18 how we can address that in a common framework.

19 All environmental stewardship
20 strategies aligned to the TVA strategic plan, and the
21 TVA policy framework will be used to manage and
22 prioritize all the different things, the creation,
23 the shoreline development, the habitat, ecology,
24 heritage, and cultural requirements looking at it
25 from that one broad framework.

36

1 TVA will manage eco-friendly
2 recreation. Specific to recreation, what should be
3 the policy statement on that, and again, partnership
4 with other federal agencies.

5 So one of the things I would like to
6 encourage you-all to do is if you have any kind of
7 feedback on this, we'd be glad to take it and we will

8 get the folks to look at it and give you feedback on
9 that.

10 One thing that we do, and I don't know
11 if it's been done before in an RRSC meeting or not,
12 is -- and I think Tom was very excited when he heard
13 this and when we talked about this with him was doing
14 a SWOT.

15 One way to -- we found a good way for
16 us to get input from any kind of panel is doing what
17 we call a strength, weakness, opportunity, and threat
18 assessment of two specific areas. What we would like
19 to do is I'll talk about the areas, but first is to
20 ground you on what a SWOT is.

21 If you look at TVA, internally what
22 are TVA's strengths? Internally what are TVA's
23 weaknesses? Then you focus on the externals and say,
24 okay, what does TVA perceive as a threat from the
25 external and what are the opportunities that TVA
1 needs to make use of to be better off in the future?³⁷
2 That is basically what a SWOT does.

3 What I would like to do is get your
4 input. We will try to do two SWOTs. One would be
5 focused on the land use and natural resources. So
6 from your perspective, from a land use and natural
7 resources standpoint, what are TVA's strengths? What
8 are TVA's weaknesses? Externally where we do see the
9 threats and opportunities for TVA?

10 Just to give you a typical example,
11 you see we have one of the strengths from a land use
12 and natural resource standpoint is, of course, the
13 land policy, which gives an overarching guidance to

14 how are we -- what the land strategy needs to be and
15 then the weakness is the legal development of land
16 that are in the slow litigation process, which holds
17 us back on certain things we would like to
18 accomplish.

19 The threats, the increasing demand on
20 shoreline access for economic development, how you
21 view economic development and urbanization, and the
22 opportunity is providing a new set of eco-friendly
23 creation to meet the increasing demand.

24 How can you position yourself from an
25 increase in cultural -- increase in the resources to
1 meet the recreational requirements? 38

2 For going to the SWOTs, I would like
3 to ask Dave to help facilitate the session. If you
4 guys have any questions, they --

5 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
6 right. Dave and I were just talking. We have been
7 exposed to a lot of information. I think this is an
8 exciting initiative that TVA is embarking on, but I
9 wanted to provide opportunities for anybody to ask
10 questions relative to the wide range of data that
11 Anda and John and Neelanjan have provided relative to
12 some of these goals.

13 Does anybody have any comments or
14 questions on this general amount of information or
15 tone of information before we get into the specific
16 SWOT stuff?

17 Yeah, Jeff.

18 MR. JEFF DURNIK: It may be nice to
19 have a list of the stakeholders contacted for the
20 input into the TVA process. Maybe that can come

21 tomorrow.

22 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
23 right. Anybody else?

24 Yeah, Mike.

25 MR. MICHAEL BUTLER: I think I know³⁹
1 the answer to this question, but I would be curious
2 to ask whether in the environmental policy, does that
3 policy drill down into the areas of economic
4 development, for instance, sustainable economic
5 development and get deeper into what does that mean
6 and how we're going to perform in that arena or is
7 this above that level and just saying we're going to
8 make efforts to do that or does it set performance
9 standards and goals to try to go do those things in
10 those three areas you gave of the mission?

11 MS. ANDA RAY: It will provide -- very
12 good question. At a policy level it's going to
13 address the guidance that environmental -- I mean,
14 that economic development needs to have.

15 Right now, because we're an importer
16 of power, every single new megawatt that comes on the
17 system is adding to our costs because it means we
18 have got to buy power to support that.

19 So in the past where we were bringing
20 as much industry as we can in, is that the best
21 thing?

22 So we need to balance that with, well,
23 what kind of industry are you bringing in, those that
24 have the same environmental values that you do?
25 well, how do you judge that?

1 So that's the kind of guiding

40

2 principles they want to provide. Are there
3 additional criteria that we need to consider in
4 economic development in our recruiting practices?

5 will they say, these are the types of
6 industries that we recruit? I doubt it.

7 would they say, we want to look at the
8 load profile? Probably.

9 So implementation strategy is below --
10 is in the blue bubbles, and that's not what the
11 environmental policy would cover.

12 MR. MICHAEL BUTLER: So it would be
13 safe to say the policies don't permeate all the way
14 to the ground, other than they serve as guiding
15 principles?

16 MS. ANDA RAY: Yes. It's a Board
17 level guiding -- it's a longer term. Then the
18 implementing policies will be, what are -- for
19 instance, in energy efficiency, here's how much you
20 should look for. How you get it is in an
21 implementation strategy that the CEO would be
22 responsible to approve.

23 MR. MICHAEL BUTLER: Let me ask a
24 follow-up question, and it will be my last. If --
25 and I think that you-all are looking at the right --
1 if I hear what -- if I think what I hear I'm saying⁴¹
2 is accurate, it appears that y'all are trying to look
3 down the road.

4 I can see the real potential for
5 internal conflicts within TVA's mission between water
6 and land use with the growth patterns that are going
7 to hit at least this side of the state, maybe not so
8 much the western part of the state where you end up

9 with uses that don't conflict necessarily now but
10 that will conflict down the road, especially in the
11 area of water and power production. You already bump
12 up against them and try to manage them now in terms
13 of thermal issues and things like that.

14 Is it -- in terms of those long-term
15 trends, do you think it would be useful to try to
16 drill down into each one of those mission critical
17 areas and more finely define kind of environmental
18 policies and guiding principles at a finer level to
19 look -- in terms of taking a longer view to try to
20 predict and avoid those types of conflicts?

21 MS. ANDA RAY: I want to make two
22 comments. First, you are very astute in saying that
23 there are internal conflicts in TVA. In fact, what
24 prompted this is if you look at those blue bubbles,
25 there's activities going on with all of those right
1 now and the Board recognized that effectively they⁴²
2 were being developed in somewhat of a silo and we
3 needed to have some kind of integration across all of
4 them. So you hit the nail on the head with that one.

5 As far as the policies and guiding
6 principles, that is -- that does define an upper
7 level. Before you can implement you have to consider
8 the detail that you're talking about, but that is
9 more in the implementation strategy, not a policy.

10 So the Board will look at long-term,
11 you know, 2015, 2030 in the policy level, but as far
12 as the individual implementation actions that's not
13 what they will be looking at.

14 Of course, we're going to look at what

15 happens with two and three perturbations, you know,
16 if you take -- like in a chess move, you look two and
17 three chess moves ahead in the policy, could we
18 actually implement those?

19 what are the implementation challenges
20 for the thermal compliance with our plants and,
21 yesterday, our stewardship for aquatic monitoring, I
22 mean, our aquatic plant life?

23 So, yes, definitely we will consider
24 that, but how we manage that will be much more
25 granular.

1 Back to the stakeholder, I really --⁴³
2 that's a great question. They were to provide us the
3 beginning of the framework as we begin to immerse
4 ourselves in the activities, but everyone -- this
5 will be open for public comment. So whether you were
6 interviewed or not, the public comment period will be
7 open to everyone between April the 3rd or May the
8 2nd, May the 3rd.

9 MR. MICHAEL BUTLER: I would point out
10 that it does appear that TVA has developed
11 environmental policy. If you look at the three
12 points of the mission you have power production, you
13 have economic development, and you have the
14 environmental stewardship piece.

15 I think TVA has made monumental
16 strides in developing environmental policy that is
17 very specific in the environmental stewardship range,
18 especially with the water. I mean, y'all have been
19 doing water policy work for 20 years that has been
20 cutting edge of anywhere in the country, and the
21 recent land policy.

22 So I think you have gotten to that
23 level of detail in certain areas of the policy
24 development, and I think there's been some of it in
25 the power. I think maybe in the SWOT analysis we can
1 get into some of the discussion about there's a great⁴⁴
2 opportunity there to meet public expectations.

3 MS. ANDA RAY: And you raise -- in
4 fact, Bridgette was just mentioning to me when we
5 were back there, referencing the work that's already
6 been done in the River Operations Study and the
7 shoreline management policy and the land policy,
8 those will be referenced in the environmental policy.
9 So, therefore, reinforcing the Board's approval of
10 those and the details associated with them in those
11 individual ones. So good point, good point, and we
12 will talk more about water resources and sufficiency.

13 In fact, that's one of the areas I am
14 not sure you -- it came out very clearly, but we have
15 always talked about the water quality. We have
16 always talked about interbasin transfer. What we
17 haven't always talked about is water sufficiency and
18 TVA's role in helping the public use the water more
19 effectively.

20 Just like we're talking about using
21 electricity smarter, how can we talk about using the
22 water smarter?

23 We haven't really been in that area,
24 and I think we feel a responsibility that maybe
25 that's something we need to do is to look at the
1 education outreach part of that. 45

2 So any other questions?

3 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
4 right. Bill has one.

5 MR. BILL TITTLE: You set time lines
6 for the development of the policy at the higher
7 levels. Are you doing that at the lower levels that
8 also would force communication bridges and consensus
9 building amongst some of these conflicting entities
10 at the lower levels?

11 MS. ANDA RAY: Is your question more
12 about setting a schedule or more about the
13 collaboration-and-communication approach?

14 MR. BILL TITTLE: More about the
15 schedule to force or to encourage the collaboration.
16 Are you setting some time lines down through the
17 organization for them to comply with what the Board
18 and the top management -- the goals and ambitions
19 for --

20 MS. ANDA RAY: On several -- it's --
21 you have made an interesting connection. On several
22 of the blue bubbles we do have a time line, and they
23 are being driven from the top down, but that's more a
24 sense of urgency for that particular discipline and
25 business aspect.

1 Collaboration is expected everywhere⁴⁶
2 and no matter what. It's expected to have public
3 input. It's expected to have one-on-one interviews,
4 whether you decide to do public meetings or listening
5 sessions.

6 I think this last three months -- in
7 fact, the last year shows you that this Board expects
8 that of themselves, and therefore, they expect it
9 from the staff. So if you have -- if you see

10 opportunities where we aren't collaborating and
11 getting input, please let us know, because that's an
12 expectation.

13 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
14 right. Russell.

15 MR. RUSSELL TOWNSEND: This has, I
16 guess, created a question in my mind. If we have
17 kind of a policy development level and then an
18 implementation level as two very separate activities,
19 can you-all tell me how stakeholders will be involved
20 in the development of the implementation strategies?

21 MS. ANDA RAY: Let me give you --
22 great, great question as usual. Remember, I talked
23 about the glacier. So to do a policy you have to
24 consider what does that have -- what implications
25 does that have on implementation. Then as you move⁴⁷
1 towards those implementation strategies, you involve
2 the stakeholder.

3 For instance, the energy efficiency
4 and renewable, in that case they just had a Board
5 listening session. Panel members were invited. The
6 public was invited. They will be posted on the web
7 site. On the natural resource management we're
8 getting external stakeholders and public involvement.

9 would we do that on a coal procurement
10 strategy? I'm not sure.

11 So it's kind of on a -- if it involves
12 a significant public benefit and there are external
13 stakeholders, then, yes, we will get external
14 stakeholder support -- not support but input from the
15 public comments.

16 If it's more of a business operation
17 function, I don't think I could commit to say, well,
18 we're going to get the public input on how we
19 implement our fleet strategy for hybrid cars. We
20 probably wouldn't do that.

21 Is that kind of where you're going?

22 MR. RUSSELL TOWNSEND: Yes.

23 MS. ANDA RAY: But certainly with most
24 of the areas that you-all work with, there's
25 significant public input that's needed.

1 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any 48
2 other questions from anybody? Okay. I guess with
3 that, Dave, you're going to kind of guide us through
4 this.

5 FACILITATOR DAVE WAHUS: What we're
6 going to do is we're going to do slides for both land
7 use and the natural resources and then we're going to
8 talk -- and then we're going to do a separate one for
9 water quality -- yeah, water quality and sufficiency.

10 As to how we do this, we're going to
11 start with the strengths, identifying strengths. And
12 Catherine is sitting back here at the computer, and
13 as you provide your input, we're going to put them on
14 the screen so you get immediate feedback. Please
15 tell us if we have captured your thought. Because of
16 the space, we're going to capture it in short phrases
17 rather than full sentences, but we want to make sure
18 that we're capturing your thought.

19 We will start with the strengths and
20 then work clockwise around the box and then go to
21 weaknesses, the opportunities, and finally the
22 threats.

23 If you have -- if your -- if you have
24 a thought that follows through all the way around, we
25 will jump anyplace you need to where you want to add
1 something to it. However, I would ask that as you ⁴⁹
2 provide input here that you start out by telling us
3 whether you're addressing a strength, a weakness, an
4 opportunity or the threat so that we're not guessing.
5 we're not listening to your whole comment and then
6 having to guess or then realizing where you're going.

7 So I would ask then that we start with
8 the land use and natural resources. We had one
9 suggestion or one example that was shared a few
10 minutes ago on the shoreline management policy.

11 Does anyone want to start with
12 identifying what the strengths of the land use and
13 natural resources might be?

14 Russell.

15 MR. RUSSELL TOWNSEND: I think a
16 strength would be that there are firm promulgated
17 federal regulations that can act as guidance for TVA
18 in developing land use policy, things like NEPA,
19 natural environment -- or National Environmental
20 Policy Act, the National Historic Preservation Act,
21 the Archeological Resource Protection Act, and other
22 of these things that we have to comply with and that
23 provides a firm framework for TVA to consider when
24 they are doing this policy.

25 FACILITATOR DAVE WAHUS: Okay. 50
1 Excellent.

2 Any other strengths? Everybody knows
3 the rules from which we have a framework in which to

4 work.

5 Mike.

6 MR. MICHAEL BUTLER: The fact that TVA
7 has developed a shoreline initiative policy and the
8 recent land use policy, that is, in my opinion, a
9 significant -- those are significant establishments
10 in policy that allow them to focus on other parts of
11 their business rather than having to get in the weeds
12 on some of those things as much.

13 FACILITATOR DAVE WAHUS: Okay.
14 Excellent. Would you mind putting the have
15 established shoreline. There you go. Now, does that
16 capture thought, Mike?

17 MR. MICHAEL BUTLER: Yes.

18 FACILITATOR DAVE WAHUS: Any other
19 strengths? Can anybody identify any weaknesses?
20 Yes, Russell.

21 MR. RUSSELL TOWNSEND: I would point
22 out that the laws that I quoted are rather weak and
23 don't have much teeth. So it's really up to TVA as
24 to how to interpret and enforce those regulations.
25 So that's a weakness.

1 FACILITATOR DAVE WAHUS: Okay. Some⁵¹
2 regulations are weak. Put regulations/laws, please.
3 Excellent.

4 Any other weaknesses that you can
5 identify?

6 Yes, sir, Mike.

7 MR. MICHAEL BUTLER: I think that it's
8 a -- I don't know if you would claim it as a weakness
9 or a challenge, but I think it is significant that
10 their lands are spread across a pretty large area.

11 In other words, those lands are mostly
12 associated with the waters with which they do
13 business, and I think that provides some real
14 challenges from a management standpoint.

15 In other words, if you had 293,000
16 acres in one block of property like Land Between the
17 Lakes, it's a lot easier to deal with what you have
18 got to do rather than having a 150-acre strip that
19 runs 11,000 miles down the road. I think that that's
20 a -- and I don't know if there's anything that you
21 can really do about it, but I think that is a
22 weakness. I think it provides unique challenges and
23 problems.

24 FACILITATOR DAVE WAHUS: Okay. Around
25 11,000 acres or 11,000 shoreline miles. Okay.

52

1 MR. MICHAEL GOODMAN: Right.

2 FACILITATOR DAVE WAHUS: Any other
3 weaknesses?

4 what opportunities? Based on just
5 what you see so far, what are the opportunities?

6 Tom.

7 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
8 was going to ask, I am thinking it's an opportunity,
9 but wouldn't there be a potential to look at certain
10 land use patterns?

11 As TVA moves into alternative fuel
12 analysis, could you use lands, for example, to
13 support the development of fuel for biofuels or
14 others?

15 Is there a way to sort of make the
16 lands compatible with future directions of energy

17 production?

18 FACILITATOR DAVE WAHUS: Okay.

19 Biofuels is something that has been talked about a
20 long time and there's still a lot of development in
21 the future to make it cost efficient.

22 Other -- anything else? Any other
23 opportunities that you see?

24 MR. MICHAEL BUTLER: Can we -- can I
25 add a weakness?

53

1 FACILITATOR DAVE WAHUS: You bet.

2 Let's go back to weakness, please.

3 MR. MICHAEL GOODMAN: One of the
4 weaknesses that, I think, TVA has struggled with over
5 the years is creating public expectations and having
6 a difficult time some years later when an issue comes
7 up or a major change in the way things are done and
8 being able to bridge past that public expectation to
9 embrace a new way of thinking or a new way of doing
10 things.

11 I will try to get specific about it.
12 I think where I am trying to get with this is the new
13 land policy, for example, uses the term commercial
14 recreation. Well, the writers of that policy have a
15 value in mind when they say commercial recreation,
16 and when it's on the web site, as I look at it, it
17 says commercial recreation.

18 I bet if we took a picture out of our
19 heads in this room about what commercial recreation
20 is, we would have as many different pictures as we
21 have people.

22 So I don't -- that's also -- you know,
23 in lot of these SWOT analysis that's an opportunity,

24 it's a weakness, and it could be a threat, but
25 having -- striving for greater clarity in terms of 54
1 what is really meant by those terms in terms of
2 that -- having it on the web site builds a public
3 expectation, and when the picture in the head doesn't
4 match the words on the paper and what's happening on
5 the ground there's an amazing amount of conflict that
6 takes place typically and that draws energy and
7 resources away from TVA to have to deal with those
8 situations when they could be spending those energy
9 and resources doing other things that are either good
10 for their business model or good for aspects of their
11 business model that intersect land use and natural
12 resources.

13 FACILITATOR DAVE WAHUS: Okay. Let's
14 see. Up here we captured that by saying, "Creating
15 public expectations and then bridging to a new way of
16 thinking and to use the recreation."

17 An example that I was given by TVA
18 that would fit in this is the lack of focus to meet
19 rising recreation demands. So that may be another
20 weakness of TVA's land use program.

21 Any other weaknesses or opportunities?

22 Yes, Glen.

23 MR. GLEN BIBBINS: Can we chalk up
24 another one for strengths?

25 FACILITATOR DAVE WAHUS: Go back to 55
1 strengths.

2 MR. GLEN BIBBINS: Just that TVA is
3 very experienced and they have been doing this a long
4 time and things have evolved, you know, and when you

5 do something for a long time you tend to get better
6 at it.

7 FACILITATOR DAVE WAHUS: Okay. So
8 they have a long history of doing things and they
9 improve as they go along. Okay.

10 Any other strengths, weaknesses,
11 opportunities?

12 what are the threats of the land use
13 and natural resources?

14 Tom.

15 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
16 right. I think part of the threat is just a -- and I
17 guess it's pretty obvious, but Bridgette explained
18 the future growth of the Valley relative to pressures
19 on the land and natural resources.

20 So you know that in the future you're
21 going to have increasing potential conflicts based on
22 economic development and population growth that are
23 going to put pressures on the ability of the land to
24 sustain the current quality of life, I guess, is one
25 way to say it.

1 FACILITATOR DAVE WAHUS: Okay. Any ⁵⁶
2 others?

3 Yes, George.

4 MR. GEORGE KITCHENS: Well, an
5 additional threat is that we are in a time of
6 uncertainties with regard to what Congress, United
7 Nations, Kyoto, and other type of agreements might
8 place on us for additional requirements that could
9 impact our land use and water uses.

10 FACILITATOR DAVE WAHUS: There's a lot
11 of uncertainty when it comes to what rules or

12 regulations that --

13 MR. GEORGE KITCHENS: I mean, right
14 now we don't know what we're planning for because we
15 have a great deal of uncertainties. Yesterday there
16 were hearings in Washington and a lot of discussion
17 and fussing between the EPA and Congress and any
18 number of other folks.

19 FACILITATOR DAVE WAHUS: Okay.

20 Excellent.

21 Mike.

22 MR. MICHAEL BUTLER: I think there's a
23 real threat in the whole arena of energy and energy
24 costs in terms of the -- a threat in terms of
25 conflict with stated environmental policy missions
1 that deal with things related to coal, coal mining, ⁵⁷
2 even in the State of Tennessee where TVA owns
3 reserves, where those things have not been resolved.

4 And I think building a little bit off
5 of what George said is that, you know, as some of
6 these items move through they have the potential to
7 increase the cost of energy, and that's going to get
8 passed down and that's going to impact TVA's mission
9 and economic development. It is definitely going to
10 impact potentially the -- well, I will say
11 potentially impact the land use and natural resources
12 objectives that they set forth. So the cost of
13 energy and how to -- it is a big bear.

14 FACILITATOR DAVE WAHUS: It's an
15 unknown.

16 MR. MICHAEL BUTLER: It's an unknown.
17 Therefore, it's very difficult to predict how to

18 respond.

19 FACILITATOR DAVE WAHUS: Okay.

20 Excellent.

21 Jean.

22 MRS. JEAN ELMORE: Mine is more of a
23 question. I'm really not sure where it would fall in
24 here or whether it would need a whole new SWOT, but
25 that would be where do the megasites fall into this?

1 FACILITATOR DAVE WAHUS: where do the⁵⁸
2 megasites?

3 MRS. JEAN ELMORE: Right. Because
4 that's land but they -- I mean, you know, there's
5 strengths, there's opportunity, there are weaknesses
6 and all that go in with those too, certainly from the
7 standpoint of energy usage and economic development,
8 just it's more of a question.

9 FACILITATOR DAVE WAHUS: Can any of
10 you help answer that question?

11 MR. GEORGE KITCHENS: Dave, I will
12 take a shot at it.

13 FACILITATOR DAVE WAHUS: Okay. Go
14 ahead.

15 MR. GEORGE KITCHENS: The megasites
16 themselves aren't on TVA land. So from a land-use
17 perspective relative to our work here, we don't care
18 a lot.

19 From a power-use perspective we do
20 care a lot because the kinds of industry that we
21 might recruit to those megasites in Mississippi,
22 Tennessee, Alabama can play a big part. It's like
23 Anda told us earlier this morning, every new megawatt
24 that we add to the system and demand right now costs

25 us something. So recruiting the right source of
1 industry to our megasites is going to be important. 59

2 MRS. JEAN ELMORE: All right. Well,
3 that actually is the perspective of where I was
4 coming because there are -- certainly, Sevacorp
5 (phonetic) being close, you know, up in Northeast
6 Mississippi.

7 MR. GEORGE KITCHENS: Right. TVA
8 doesn't want another Sevacorp (phonetic).

9 MRS. JEAN ELMORE: That was my point
10 there. I mean, it's great, of course, from an
11 economic standpoint in Northeast Mississippi, but
12 each time they fire that -- having just seen it, when
13 they fire that steel they are using 250 megawatts
14 each time, and they do that anywhere from two to four
15 times a day.

16 MR. GEORGE KITCHENS: Their load
17 profile is pretty stingy. That would probably be
18 down around 50.

19 MRS. JEAN ELMORE: That was my
20 question in land use. Anyway, thank you.

21 FACILITATOR DAVE WAHUS: So you got --
22 you're satisfied with the answer?

23 MRS. JEAN ELMORE: Yes. Thank you.
24 Russell.

25 MR. RUSSELL TOWNSEND: I guess in the
1 weakness category I would need to put economic 60
2 downturns as a significant threat to land stewardship
3 or any stewardship activities.

4 It seems like when an organization is
5 hit with a financial loss, stewardship protection

6 seems to suffer first before some of the other
7 issues.

8 I would think with TVA, if there is
9 not sufficient planning and sufficient emphasis
10 placed on stewardship, you know, turning to power and
11 some of these other issues and making them a priority
12 could hurt stewardship.

13 FACILITATOR DAVE WAHUS: Okay.
14 Excellent. Okay.

15 Any other input on natural resources?
16 George.

17 MR. GEORGE KITCHENS: I guess just --
18 it may follow along with where Mike was going
19 earlier. I worry about all of our work here and what
20 we're doing contributing to an economic downturn in
21 the southeast.

22 Our engine is running pretty well
23 right now in the southeast, and the word sustainable
24 economic development, to keep it going and balancing
25 the concerns we deal with in this committee is just a
1 concern of mine. I don't know where it goes or if it
2 goes on --

3 FACILITATOR DAVE WAHUS: I'm not sure
4 either, but we have captured the thought there. I am
5 not sure where it goes.

6 Mike.

7 MR. MICHAEL BUTLER: I think for the
8 future of land use and natural resources, I think
9 back when I was in school here in Knoxville, it's
10 over 16 years ago now, I am getting old, even though
11 I am young.

12 FACILITATOR DAVE WAHUS: It's all
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13 relative.

14 MR. MICHAEL BUTLER: I actually
15 interned -- I interned at Norris in the forestry
16 department up there. That no longer exists. Those
17 things have changed. TVA's corporate structure has
18 changed dramatically in terms of their staff. So I
19 would say this.

20 FACILITATOR DAVE WAHUS: Are we
21 talking about --

22 MR. MICHAEL BUTLER: I'm going to go
23 two places. A weakness to be examined would be, do
24 you have the staff and the funding, because I think
25 the funding is a major part since we lost ten years
1 ago the federal appropriated dollars to really make⁶²
2 these policies stick to meet the public expectations.
3 So that would be a weakness.

4 FACILITATOR DAVE WAHUS: Okay. Before
5 we go any further, Catherine, under weakness, do we
6 have the staff and funding to make these policies
7 stick, I believe.

8 MR. MICHAEL BUTLER: And that could
9 also be a threat, however you want to --

10 FACILITATOR DAVE WAHUS: How are you
11 going to carry them out.

12 MR. MICHAEL BUTLER: But I think
13 there's a tremendous opportunity for TVA, and this is
14 almost a public relations issue more than anything.

15 FACILITATOR DAVE WAHUS: Opportunity?

16 MR. MICHAEL BUTLER: And an
17 opportunity. I mean, industry in this country is no
18 longer being judged on environmental compliance as

19 much as they are environmental performance, and I
20 think TVA clearly sees that and they are moving in
21 that direction.

22 I think the opportunity is to protect
23 public power production, but to do that we -- I
24 looked at the set of missions, and I know this is not
25 necessarily reflective of how they are going to
1 market this, but if you look at the missions of 63
2 producing power and then producing economic
3 development and then environmental stewardship, I
4 think there's a tremendous opportunity to turn that
5 whole matrix on its head and say, if it's not for our
6 natural resources that TVA manages in the valley, we
7 don't have electric power production because you have
8 to use natural resources in minerals and water to
9 produce your power and we don't have the land base to
10 do economic development.

11 And I think that when you are talking
12 about protecting public power, if that is in the best
13 interest of TVA, then you have to really sell the
14 benefits of public power. And I think TVA has done
15 that, but I think that in the current climate we're
16 in, tying that message of environmental policy and
17 stewardship to that as a lead is going to be more and
18 more critical as it comes down the pike.

19 FACILITATOR DAVE WAHUS: Ties the
20 environmental policy and stewardship to the
21 production of power by stating if you're going to be
22 destroying or adversely affecting the natural
23 resources, then power should not be --

24 MR. MICHAEL BUTLER: And that may be
25 more of a public relations marketing type of issue,

1 but rather than having it be third on the list, if I⁶⁴
2 go on the web site and look at it, flip it around and
3 use it as a strength and say, this is what allows us
4 to do all of these things and generates the money to
5 be able to protect the lands that we do have and
6 manage those. So the environment is the engine in
7 which TVA is able to operate from.

8 FACILITATOR DAVE WAHUS: So the
9 decision is based on the impact on the environment
10 rather than the production of the power first and
11 then determine how it's going to affect them?

12 MR. MICHAEL BUTLER: Yeah, rather
13 then -- I mean, it may be a little longer discussion
14 and is appropriate for another time.

15 FACILITATOR DAVE WAHUS: Okay.
16 Excellent. Any others? Anything else you would like
17 to add to land use?

18 Yes, Jeff.

19 MR. JEFF DURNIAC: We're a little
20 light on the strengths. I would like to help out
21 there.

22 FACILITATOR DAVE WAHUS: Please.

23 MR. JEFF DURNIAC: I think TVA has an
24 enhanced public communications network that
25 strengthens their policy.

1 No. 2 on the weaknesses -- I will wait⁶⁵
2 for her to catch up. On the weaknesses I think you
3 can have conflicting land uses on adjacent private
4 lands that can impact what you want to do on your
5 lands. Basically you have to default to a buffer
6 between private and public lands.

7 FACILITATOR DAVE WAHUS: Okay. Any
8 others?

9 well, let's stop for a moment.

10 Mr. Chairman, we're scheduled to have a break at this
11 time. When we come back from the break we will take
12 a look at this once more and see if we have anything
13 to add, and then we will go on to water quality
14 sustainability.

15 COUNCIL CHAIR MR. TOM LITTLEPAGE: We
16 will try to keep this to about 15 minutes. No. We
17 said a 30-minute break.

18 Thank you.

19 (Brief recess.)

20 FACILITATOR DAVE WAHUS: An
21 announcement, I was asked to announce it at the end
22 of the morning, but to make sure that I don't forget
23 it, this evening -- and we're going to talk more
24 about dinner later this afternoon, but this evening
25 we're going to be having lunch at Regas, the Regas
1 restaurant about three or four blocks from the hotel. 66

2 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
3 right. Dinner.

4 FACILITATOR DAVE WAHUS: I'm sorry,
5 not lunch, dinner. Lunch is going to be back here.
6 Tonight we're going to have dinner at the Regas.

7 If you -- it's an easy walk. It
8 should be nice weather this evening. If for some
9 reason you need a ride, you prefer to have a ride,
10 you can't walk that distance for whatever reason,
11 please let Beth know sometime this afternoon.

12 Beth is standing right there in the
13 white top. Let her know sometime this afternoon so

14 she can make sure that she has enough transportation
15 available for this evening. That's what I needed to
16 share before I forgot.

17 Thank you very much, Beth.

18 Okay. We have been talking about the
19 last half hour on the strengths, identifying
20 strengths, weaknesses, opportunities, and threats for
21 land use and natural resources. We will entertain
22 some more input and then we will go on to the next
23 section.

24 Bruce.

25 MR. BRUCE SHUPP: One weakness that I
1 think we should add to this one, and certainly it
2 carries over to the water one when we get to that
3 too, is either a nonexistent or diverse local and
4 state policies that makes it difficult for TVA to
5 have a vision for where it wants to go in both its
6 land and water policies because they are not
7 consistent, inconsistent policies or nonexistent
8 policies.

9 FACILITATOR DAVE WAHUS: Okay. Thank
10 you.

11 Any other thoughts that you have on
12 any aspect of any of these four elements for land use
13 and natural resources now that you have had an
14 opportunity to discuss it for a half an hour? I know
15 that's all you've discussed. Okay. None. Okay.

16 Then let's leave land use and natural
17 resources and let's go on to water quality and
18 sustainability. Does anyone want to start?

19 Again, you said a weakness of -- is

20 the same as what we just had for land use,
21 inconsistent state and local policies, that's a
22 weakness. There you go.

23 Mike.

24 MR. MICHAEL BUTLER: I have got an
25 opportunity to give a very big strength. TVA has
1 some of the best experts in water around, and I am 68
2 proud to say that we're giving one of them our Water
3 Conservationist of the Year Award this year, Charles
4 Sailor, who has done a career's worth of work in
5 aquatic diversity and things like that and is an
6 exceptional professional.

7 I really truly believe that if wasn't
8 for this type of expertise they have, East Tennessee
9 is much the worse for wear because I think they
10 compliment Commissioner Fyke's department well in
11 that endeavor as well and they work closely with
12 them.

13 So that is a huge strength that we
14 need to protect, is the other reason for bringing it
15 up, it needs to be protected as we go through time.

16 FACILITATOR DAVE WAHUS: Okay.

17 Excellent. Thank you, Mike.

18 Any other strengths for water quality
19 and sustainability? Any other strengths?

20 Yes, sir, Tom.

21 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
22 was going to say TVA has a unique role with regards
23 to its statutory authority and environmental
24 responsibilities that span the seven states. So
25 there's an opportunity for TVA to provide leadership
1 through that role for all of the lands that border 69

2 these TVA states.

3 FACILITATOR DAVE WAHUS: Leadership to
4 the states. Okay. Thank you.

5 Any others? Any other strengths?

6 Jeff.

7 MR. JEFF DURNIAK: Strength would be
8 the ROS process and the products.

9 FACILITATOR DAVE WAHUS: The ROS
10 process and products. ROS is River Operations Study
11 for those who don't remember.

12 Okay. Bill.

13 MR. BILL FORSYTH: The same strength
14 that we had for land also for water is TVA's outreach
15 of communication to the public and bringing the
16 stakeholders in so that they feel they have a part of
17 the policy, and thus, will buy into it more.

18 FACILITATOR DAVE WAHUS: Okay.
19 Excellent.

20 Any other strengths?

21 Weaknesses?

22 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
23 will go again. The weaknesses that -- unlike when we
24 talk about sustainability or water quality-related
25 issues, the states have primacy so that TVA must
1 adhere to individual state rights with regards to 70
2 water resource management policies and priorities.

3 MR. GEORGE KITCHENS: Tom, let's --
4 would it be okay to just say seven states' worth?

5 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
6 right. Yeah.

7 MS. CATHERINE MACKEY: I'm sorry. I

8 couldn't hear him.

9 FACILITATOR DAVE WAHUS: Seven states.
10 They deal with seven states that have primacy and
11 must adhere to the individual right -- individual
12 state policies.

13 COUNCIL CHAIR MR. TOM LITTLEPAGE: And
14 maybe add to that that those states have in some
15 cases different approaches. So there are seven
16 different --

17 FACILITATOR DAVE WAHUS: So the states
18 may have conflicting or different approaches?

19 COUNCIL CHAIR MR. TOM LITTLEPAGE: Yes.

20 FACILITATOR DAVE WAHUS: Okay. The
21 states have different approaches. Excellent.

22 Any other weaknesses?

23 Opportunities?

24 I was -- I told someone before we --
25 at the break that I thought we were going to -- that
1 water was going to be -- we were going to have more⁷¹
2 discussion on water than we did on land use. I guess
3 I was wrong.

4 Bruce.

5 MR. BRUCE SHUPP: I think to move
6 Tom's opportunity for leadership, that is a
7 tremendous opportunity and one that should show up
8 down there. Move that down. Their unique role is a
9 strength but only if they use it -- use the
10 opportunity to take that leadership.

11 FACILITATOR DAVE WAHUS: Okay. Okay.
12 Do you agree?

13 COUNCIL CHAIR MR. TOM LITTLEPAGE: Yes,
14 that's fine.

15 FACILITATOR DAVE WAHUS: Any other
16 opportunities?

17 Yes, Mike.

18 MR. MICHAEL BUTLER: I think there's
19 an opportunity to -- and I know that they are already
20 looking at this, to really push ahead in looking
21 long-term at the pressures that are going to be
22 applied to them because there's a huge threat.

23 I will go ahead and issue that this is
24 a real threat coming, with the increase in uses and
25 the increase in stressors on waters because of
1 population growth and a lot of other reasons, I think ⁷²
2 we are starting to see already an increased movement
3 to privatize waters, specifically for human use.

4 This is happening at the national
5 level with several different organizations and
6 companies that sell private water coming together to
7 address certain things on a large scale, and they are
8 a very powerful group.

9 Privatization of water and of that
10 public resource is, I think, a real threat, not right
11 now necessarily, but down the road to intersecting
12 with TVA's mission and them trying to do their job.

13 Primarily water use for industry and
14 humans, just everyday water use, looking at the
15 population projections that are coming our way in the
16 southeast.

17 FACILITATOR DAVE WAHUS: Okay. So
18 daily -- the daily water -- your increase in daily
19 water use, is that an opportunity or threat?

20 MR. MICHAEL BUTLER: I think it's

21 both.

22 FACILITATOR DAVE WAHUS: Okay. Let's
23 duplicate that last sentence there. There you go,
24 Catherine. Thank you. Just duplicate that and put
25 it on the other side, too.

1 MR. MICHAEL BUTLER: I'd add one other⁷³
2 threat to that just real quick.

3 FACILITATOR DAVE WAHUS: Give her just
4 a minute. Now, go ahead.

5 MR. MICHAEL BUTLER: I think in the
6 southeast we have been blessed with so much fresh
7 water that one of the threats that I think TVA faces
8 is that there's going to have to be in the next 50
9 years a public conscious change on water as a
10 resource. It's just not this infinite resource that
11 we have effectively had. I think we felt that last
12 year, but not enough of the public really probably
13 has grasped that. I think that is a threat that the
14 Authority is going to face.

15 FACILITATOR DAVE WAHUS: So water is
16 an infinite resource.

17 MR. MICHAEL BUTLER: No, it is not an
18 infinite resource.

19 FACILITATOR DAVE WAHUS: Is not an
20 infinite resource. Okay. Water is not an infinite
21 resource.

22 MR. MICHAEL BUTLER: And I think we're
23 just on the cusp of the public beginning to realize
24 that in terms of how it affects us.

25 I mean, this past year in the drought⁷⁴
1 Nashville's water for the first time I have ever
2 lived there had a funny taste to it. It was because

3 it had an algae in it that wasn't harmful to humans
4 but it affected the taste all summer. It made the
5 news, all of that stuff, and I had never experienced
6 anything like that. That's the first time in my 38
7 years that I had ever come across that, having lived
8 most of them in Tennessee.

9 well, you add several more million
10 people in this state and you have a year like last
11 year and we don't make changes to accompany that,
12 you're going to end up in a situation where it's more
13 than just the taste of the water.

14 FACILITATOR DAVE WAHUS: And we're
15 seeing some long-term battles between Alabama and
16 Georgia over the water and between the two states as
17 to boundaries. So there are lots of battles that are
18 going to be happening.

19 Yes, George.

20 MR. GEORGE KITCHENS: I just want to
21 tag on to Mike's comment. As the nation pushes
22 forward to consider using hydrogen as a fuel source,
23 that, in and of itself, would put a tremendous strain
24 on finite water resources.

25 FACILITATOR DAVE WAHUS: Tom.

1 COUNCIL CHAIR MR. TOM LITTLEPAGE: I 75
2 am just going to amplify, really it's a combination
3 of what Mike and George have both alluded to, and
4 that's assessments of future water availability
5 involve risks.

6 And if you look at things like the ROS
7 or other studies, those assumptions about what water
8 is going to be available in the future is a function

9 of past hydrologic records. So as the drought of
10 2006, 7, 8 has gone on, it has rewritten the baseline
11 of water availability in our state, as well as in
12 other states.

13 So a key aspect or a threat to
14 assumptions about water availability, we know
15 droughts will continue to occur. They are a natural
16 cycle, and they will create risks with regards to
17 those assumptions.

18 So we need to keep in mind that
19 there's no certainty with regards to future water
20 availability or limited certainty maybe is a better
21 way.

22 FACILITATOR DAVE WAHUS: Thank you,
23 Tom.

24 Any others?

25 Jeff.

1 MR. JEFF DURNIAC: I would consider 76
2 Mike's comment about the public consciousness, I
3 would consider that an opportunity for TVA. It may
4 be slow, but there's been quite a bit of change in a
5 lot of citizen's attitudes towards water.

6 FACILITATOR DAVE WAHUS: Okay. Any
7 others?

8 Did that capture what you wanted to
9 say?

10 Tom.

11 COUNCIL CHAIR MR. TOM LITTLEPAGE: We
12 saw a little bit from John's presentation how TVA had
13 looked at other utilities, both competition and
14 peers, and there may be an opportunity for TVA to
15 demonstrate responsible reservoir or system

16 management with regards to how they sort of -- other
17 entities wrestle with some of these issues or most of
18 these issues.

19 So TVA is in a position where they can
20 set the standard with regards to managing stakeholder
21 involvement, communication, and outreach as well as
22 the technical aspects of balancing these needs.

23 FACILITATOR DAVE WAHUS: Thank you.

24 Other -- any other additions that you would like to
25 make to the thought?

1 Tom. Keep on talking. That's okay. ⁷⁷

2 We have got lots of time.

3 COUNCIL CHAIR MR. TOM LITTLEPAGE: On
4 other threats, again, we have heard it before, but,
5 again, this issue of funding for environmental
6 stewardship becomes a direct challenge with regards
7 to water resources sustainability.

8 This is an activity that power
9 producers are paying for and it continues to
10 create -- require more and more analysis and studies
11 and financial support. So there will continue to be
12 a challenge with regards to how funding for these
13 activities are sustained.

14 FACILITATOR DAVE WAHUS: Other input?
15 Does anyone else have any others?

16 Okay. After listening, do you have
17 anything you would like to add to land use and
18 natural resources? Anything else to this?

19 I am not going to stand up here and
20 dance for you while we're waiting for the time to
21 pass. So we have about 45 minutes before lunch is

22 scheduled and so we will -- we're going to move the
23 agenda a little bit, and what we're going to do is --
24 what is it you want?

25 MR. NEELANJAN PATRI: There's one more
1 slide. 78

2 FACILITATOR DAVE WAHUS: You mean the
3 three questions?

4 MR. NEELANJAN PATRI: No.

5 FACILITATOR DAVE WAHUS: There's one
6 more slide to your presentation. Okay. Here's the
7 microphone, and we will let you -- it's on.

8 MR. NEELANJAN PATRI: One of the
9 things we would like to ask you was we have not
10 covered renewables and climate change, carbon
11 abatement in this forum.

12 However, as you know and as Tom
13 mentioned before, we can probably -- what are we
14 going to do, for example, in terms of biofuels and
15 TVA lands?

16 One of the questions that comes in
17 context of renewables is on TVA managed lands. Can
18 we, should we, or what should we do in terms of
19 should we grow switchgrass or the biocrops?

20 what's your ideas on that because
21 that, again, has a direct link with what you would
22 follow on renewables?

23 On the second side, climate change and
24 carbon abatement, I just want to give you kind of an
25 overview. McKinsey's report that did come out the
1 beginning of this year in terms of the greenhouse gas 79
2 abatement curve that it came out with talks about
3 ways by which we can abate greenhouse gases by using

4 land as a carbon sink.

5 One of the areas, again, was
6 forestation, use of TVA's land as carbon sinks by
7 growing certain trees that have a high absorption
8 rate, and what are the other areas where these
9 resources can help carbon abatement?

10 So, again, this is the link, and
11 that's the whole purpose, as Anda said, for an
12 overarching policy because none of these things are
13 silos in themselves. The environment dimensions have
14 common threads running through them, and this
15 typically establishes that link between land and
16 greenhouse gas, climate change, and renewables.

17 The general questions in this area
18 would be from a land and water stewardship
19 perspective, what are the specific focus areas that
20 need to be covered in TVA's overarching environmental
21 policy?

22 We have shown you the areas which we
23 think are focus areas. We just want to make sure we
24 have based them correctly and not missed any of the
25 key areas which you think we need to cover.

80

1 For each of these focus areas, just
2 identify what the key issues that need to be
3 addressed are and relative emphasis on what they
4 should receive.

5 Prioritization is key to any kind of
6 policy. You can have ten things we want to do, but
7 as you know, because of budget constraints, because
8 of resource constraints, because of other constraints
9 you have from an operational perspective, how do you

10 think we need to prioritize these from your
11 perspective which we can, again, give to the team and
12 make a suggestion on your behalf?

13 So these are some of the things I
14 would like you guys to think about and see if you can
15 weigh in on these and give us your comments.

16 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
17 guess as part of this process, let's just open this
18 as sort of an informal ability to provide input into
19 the TVA staff with regard to these issues.

20 Mike, do you want to start us out?

21 FACILITATOR DAVE WAHUS: We're going
22 to be addressing these two questions. Those are the
23 questions for tomorrow. So why don't we listen and
24 do that tomorrow?

25 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
1 right. 81

2 MR. MICHAEL BUTLER: Tom, my comments
3 are on the item under renewables and the climate
4 change, and they are pretty brief.

5 One would be, I think there's a great
6 opportunity for TVA to do habitat work. I think that
7 there is a need to -- if you grow biocrops at the
8 densities that are efficient for agricultural to be
9 involved in producing energy for renewable energy, it
10 is not good wildlife habitat. It is just as poor as
11 some other things like fescue that we try to combat
12 more when we're managing for quail and other things.

13 I think there's a tremendous
14 opportunity to conduct some research as a public good
15 in cooperating with the Native Warm Season Grass,
16 Chair of Excellence, at the University of Tennessee

17 here in Knoxville to look at some TVA land and look
18 at how -- where can you do biofuel production in
19 terms of raising those crops where you don't impact
20 wildlife habitat but you, in fact, enhance it and
21 find that nexus.

22 If you can find that nexus, that is a
23 huge opportunity for the public and the agricultural
24 community because we know that that pressure is going
25 to keep going that way. In our community, The
1 wildlife Federation, we have real concern over 82
2 looking at high density plantings for native grasses.

3 On the issue of forestation, I think
4 you have a similar opportunity that if you really
5 want to get into TVA looking at carbon sinks, I don't
6 think they -- they own enough land that they might
7 could do some things, but the ecological sensitivity
8 of a lot of those lands and where they are placed in
9 terms of public expectation and the relationship of
10 the water makes doing some things pretty difficult.

11 You could use -- if you're going to
12 show how TVA land can be used as carbon sinks, you're
13 going to have to do active forest management because
14 you need younger -- younger forests bind carbon at a
15 higher rate than do old forests, or not necessarily
16 old forests, middle-aged forests or pine forests that
17 were put on TVA properties 40 years ago. So some
18 type of -- again, some type of public beneficial
19 experimental.

20 TVA could play a leading role in
21 working with Oak Ridge and possibly the university in
22 helping answer some of these questions about --

23 because the real issue on binding carbon and climate
24 change and the whole climate model in terms of
25 economics is getting down to what's really effective
1 on the ground in binding carbon. 83

2 There's a lot of work being done
3 trying to figure how do you -- we say that we can
4 have this carbon credit model, but we don't really
5 know all of the answers as to how that really happens
6 on the ground.

7 TVA has got a great opportunity to do
8 that, being that they use a ton of fossil fuels, they
9 have some land, and I think that could also be
10 integrated into some wildlife habitat benefits.

11 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
12 right. Good comment. Okay. As Dave alluded to,
13 these are the questions we are going to address
14 tomorrow. So I encourage you to think about both the
15 SWOT analysis that we have done and the presentations
16 you have heard and will hear later today with regard
17 to answering these questions.

18 Now what we're going to do is adjust
19 the agenda a little bit and let Buff, who was
20 scheduled later this afternoon, to go ahead and --
21 unless somebody has got anything else to add, any
22 closing -- certainly not closing, but any additional
23 comments with regards to the SWOT on land or water
24 issues.

25 Not hearing any, we will let Buff go. 84

1 MS. BUFF CROSBY: So we will go
2 through all the natural resource management strategy
3 before lunch and that way this afternoon we will be a
4 little clearer. Let me make sure I know how this

5 works. Okay.

6 One of the things we wanted to do is
7 kind of talk to you about why are we even doing a
8 natural resource management strategy. Hopefully
9 after you -- we went through the SWOT analysis on the
10 land use and natural resources SWOT, you can see how
11 all of the various threats and weaknesses and
12 opportunities makes it pretty clear that it is a good
13 idea for us to come up with a strategy for how we
14 manage our public lands.

15 The other things that we want to do as
16 we play off of the environmental policy, we want to
17 make sure that we are aligning with the policy. We
18 want to strengthen those stewardship activities, make
19 sure they align with everything across TVA and link
20 with all of the other strategies that's going on.

21 We're also the -- kind of the
22 on-the-ground-type things that makes it important for
23 us to have a strategy is that, you know, we do have a
24 limited natural resource land base. So we want to
25 make sure that what we are going to do on there that
1 we're doing it right, you know. ⁸⁵

2 I am kind of looking at it from the
3 standpoint that we want to make sure we're doing the
4 right activities at the right places and at the right
5 time. So that's kind of where we're heading.

6 Also, from a public-use standpoint,
7 we're starting to see an increase in non-fee based
8 recreation. If you think about it, as the economy
9 goes up and down, right now with the economy kind of
10 starting to decline, we're also seeing across the

11 country a decline in fee-based recreation.

12 So everybody is still wanting to get
13 out and recreate or spend some time doing other
14 things, but they don't have that extra funds to go
15 pay for it. So they are trying to look for those
16 extra non-fee opportunities.

17 we're starting to see those demands
18 hitting these public lands, you know. They want to
19 find places to go do informal camping, do trails,
20 hiking, biking, those types of things.

21 So how do we manage those public lands
22 as we get those added impacts on to those resources?

23 And then thirdly, as we have talked
24 earlier and as you guys know, very much in our water
25 quality work we spend a lot of time working on
1 partnerships, dealing with -- you know, if we're out⁸⁶
2 there by ourselves in the water quality area, we're
3 in the wrong place.

4 we're kind of starting to think like
5 that on the public lands. How do we prioritize in
6 not just our internal resources but how do we
7 prioritize those partnerships we have out there that
8 we're working with and making sure -- you know, the
9 bottom line is, how do we get the biggest bang for
10 the buck for what we're doing on public lands? So
11 those are kind of the driving reasons for us to start
12 developing this strategy.

13 Let me just kind of focus on where the
14 strategy is primarily focused. We are looking at,
15 you know, how does this strategy affect all of our
16 lands, but we are focused more down here at the
17 bottom, you know, chart where we have got the nice

18 little squiggly around the lands.

19 We are primarily focusing the strategy
20 on those about 250,000 acres of land that is
21 primarily in the sensitive resource management area,
22 natural resource conservation area. That's about 80
23 percent of our reservoir lands.

24 However, we do have activities --
25 natural resource management activities that does
1 occur on the -- our power properties, which is about ⁸⁷
2 35,000 acres. This is where our power plant sites
3 are.

4 You know, we do have activities going
5 on, and a lot of those are involved with the
6 employees from those plant sites. While they are out
7 there trying to improve some of the resources there,
8 they have some food plots -- wildlife food plots
9 going on, trails happening there. So we do want to
10 include that into this strategy. How do we handle
11 that?

12 The other area where we have
13 activities is on our TVA operations lands, and this
14 is where our dam reservations are. We have some
15 limited activities there. We have informal camping,
16 not really informal camping, but trails occurring
17 there. We have forest management activities going on
18 and some wildlife habitat protection areas. The bulk
19 of what we're focused on is that sensitive resource
20 management and natural resource conservation.

21 I don't know really remember from our
22 lands planning process, our sensitive resource
23 management sites are the -- those are the areas where

24 we have known sensitive resources we're managing to
25 protect those resources. The natural resource
1 conservation lands are that we're managing the 88
2 habitat for conservation.

3 So as we kind of move forward, what I
4 am wanting to do before I get into the strategy is
5 kind of give you a little background of how do we
6 manage our lands right now, what kind of activities
7 occur on those lands, and then showing you some
8 pictures to kind of show you what type of activities,
9 human uses, you know, protection activities, what we
10 do on those lands and then how we move forward in
11 developing this strategy.

12 Currently our management focus is that
13 we do inventory, monitor, and protect known
14 threatened and endangered species and archeological
15 resources. We manage for natural resource areas for
16 protection enhancement and recreation.

17 This is where we use a lot of our
18 partnerships to enhance those public uses, you know,
19 working with groups like trail -- Quail Unlimited,
20 you know, those groups in trying to enhance wildlife
21 enhancement areas to promote a little better hunting
22 opportunities, developing trails, other camping and
23 other recreational experiences.

24 So those are kind of the three primary
25 areas that we work in. So as we move forward, 89
1 hopefully you will see how we are taking these
2 activities and molding it to a kind of a larger
3 strategy of how we manage these lands moving forward.

4 Just to kind of quickly go through
5 some of the slides on the types of uses that occur,

6 down here you see that, you know, fishing is probably
7 one of the biggest things that occurs, not, you know,
8 on the reservoirs but getting from the lands to the
9 water is one of the biggest benefits of the TVA
10 public lands. You can see that when we have 700
11 reservoir boat ramps, 80 stream access sites, and
12 over 200 fishing berms and piers.

13 when we go and do, you know, public
14 input and stakeholder input on what we call our unit
15 plans, you know, when we specifically ask on pieces
16 of land how do you want us to manage these, one of
17 the No. 1 public input we get back from the public is
18 they want bank fishing opportunities.

19 So you can see how with the lands that
20 we have that are, you know, primarily around all the
21 reservoirs, how this is a big opportunity for the
22 public is how do we use those to provide that
23 fishing, that land and water interface for the
24 public.

25 This is an area that is a -- again, as
1 I kind of mentioned earlier that is really growing.⁹⁰
2 In talking to several of our counterparts across the
3 country, we're finding that informal recreation and
4 informal use is a growing thing or us.

5 We estimate right now that we have
6 about 2,500 informal recreation sites, and I say that
7 it's estimated because just a couple of areas ago
8 when we were starting to see the increased pressure
9 that we're getting on informal recreation uses, one
10 of our rec managers came in and said, you know, we
11 need to start getting an inventory of where these are

12 and then how do we manage them and when do we know
13 that we have an abused site and when do we know when
14 we're impacting a resource in these areas.

15 So what this Clay Gary did for us is
16 he actually has developed a methodology for us. It's
17 called, The Limits of Acceptable Change. What it's
18 doing is it's allowing us to go into these informal
19 rec sites and do an assessment. It's helping us to
20 be able to prioritize these sites on when do we need
21 to take some action to prevent any further abuse or
22 is it getting the right amount of uses there and we
23 just need to monitor this area and wait until there's
24 some increased uses and we need to do some things on
25 this. Again, this is the type of uses that is 91
1 increased along the valley for us.

2 The trails from biking, hiking,
3 horseback riding, this is another area that's getting
4 a lot of use. For us on the public lands we have 30
5 hiking trails totaling over 50 miles that we
6 specifically manage. This doesn't include the number
7 of trails that are managed by others on lands that
8 are adjacent to TVA that may come over into the TVA
9 lands or on lands that we may have licensed or leased
10 to others. So this is an area that's really
11 increasing.

12 A lot of you may have heard around on
13 Raccoon Mountain around Chattanooga, the SBA Group,
14 which is a Southeastern Biking Association, came in a
15 couple of years ago and partnered with us to develop
16 a really kind of informal biking trail on that -- on
17 the mountain, and that thing is really starting to
18 get increased use and is becoming really highlighted

19 around the country for a place to come and mountain
20 bike.

21 So we're seeing a lot of these
22 increases, as well as we're starting to get a lot
23 more pressures and input on doing horseback riding.
24 A lot of times though we do get the conflicts with
25 horseback riding. A lot of those require the big 92
1 tracts of land that we manage. well, the bigger
2 tracts of land is also where we have the -- you know,
3 more opportunities for hunting. So those are
4 conflicting uses that we have to manage during the
5 appropriate seasons, but it's still a use that is
6 really ongoing.

7 As we do get to the hunting that
8 occurs, you know, this is the large game, small game.
9 This is where we do a lot of partnerships with other
10 groups, such as Quail Unlimited in going in and
11 planting food plots and converting a lot of our
12 agricultural fields from -- as Mike mentioned a
13 little bit ago, converting our fields from fescue to
14 native warm season grasses because the native warm
15 seasons grasses provides much better habitat for the
16 wildlife.

17 One of the most asked questions that
18 we get from TVA regarding our public lands is, where
19 can I hunt on TVA lands?

20 However, we don't really think
21 that's -- we are not seeing the increase in hunting
22 on the lands. What that is telling us though and
23 what we are getting is that our information on
24 hunting opportunities is not readily available to the

25 public. So that's an opportunity we're seeing that
1 we need to improve on. 93

2 The majority of the lands that we have
3 available for hunting, we have previously transferred
4 to other state agencies. So the TWRA, Tennessee
5 Wildlife Resources Agency, and the Alabama Department
6 of Natural Resource Conservation, they have the bulk
7 of the hunting lands that TVA has transferred. They
8 are more involved in providing the hunting
9 opportunities. However, we do have specific areas
10 where we do allow hunting to occur.

11 When we move into -- kind of move into
12 the human uses into the resource protection, you kind
13 of get -- you get a lot of that overlap with the
14 human uses with resource protection, and wildlife
15 observation and burning observation is one of those
16 that really merges into that resource protection area
17 because what we try to do in this area is create the
18 habitat or create the sites for folks to come in and
19 watch all of these type of activities.

20 We do manage those highly sensitive
21 resource areas or those unique resources that we want
22 to promote for public benefits or for the resource
23 benefits. Down here it kind of shows you all the
24 areas that we kind of manage, you know, the kind of
25 eco-diversity type things that we manage.

1 I am going to give you just quickly a 94
2 definition of what these sites are, you know. We
3 tend to look at these and we know what these are and
4 we move on, but an ecological study area are the
5 sites that we have judged to be suitable for
6 ecological research or environmental education.

7 Habitat protection areas are
8 established to protect populations of species that
9 have been identified as threatened or endangered by
10 the Fish & Wildlife Service or that are rare to the
11 state in which they occur. So we're trying to
12 protect that habitat for that particular species.

13 The small wild areas are exceptional,
14 natural, scenic or aesthetic qualities which are
15 suitable for low impact public use. These are the
16 areas that we really try to encourage the public to
17 come in and use this area and interpret the natural
18 features.

19 So we would likely develop informal
20 trails going into these sites and have them, you
21 know, pretty rustic where people come in and see
22 these unique areas.

23 Then the wildlife observation areas
24 are the sites that have concentrations of viewable
25 wildlife, and this is such areas for shore birds, 95
1 song bird or waterfowl areas of observations.

2 Most of these wildlife observation
3 areas where we -- the best places to find these areas
4 are in our drawdown zones on dam reservations, you
5 know, urban wetlands, bluff areas, those types of
6 things.

7 And as a matter of fact, just to kind
8 of highlight this picture down here, this is actually
9 a flock of white pelicans on Kentucky reservoir,
10 which is a unique thing. You wouldn't think you
11 would see that on there. We actually have folks
12 travel from many miles away to come look at these

13 type of activities and birds and things.
14 Let's quickly talk about the
15 threatened, endangered, and the other resources that
16 we protect. You know, the southeast United States is
17 a global center for freshwater diversity. So it's
18 really important for us to protect and enhance these
19 threatened and endangered species.

20 We actually do active monitoring for
21 17 species on TVA lands. These are some examples of
22 the grey bat, the eagle. This Ruth's goldaster is a
23 plant species. It's actually found on the Hiwassee
24 watershed that we actively monitor trying to see how
25 they are improving.

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1 We manage and monitor some of these
2 maternity caves and actually go out there and put in
3 cave gates just to try to protect these types of
4 species. So this is another area that is pretty
5 important.

6 The other area that is very important
7 is the archeological resource protection. TVA has
8 more significant archeological sites per acre under
9 our management than any other federal agency. We
10 have over 10,000 archeological sites that have been
11 identified on TVA lands. We also on kind of an
12 annual basis we survey or inventory about 4,000 acres
13 each year. So this number of 10,000 is increasing.
14 So with this abundance of archeological resources,
15 that's something that we really want to protect.

16 Many of these resources are found
17 along the reservoir and along the shoreline. So in
18 our stabilization program, we give preference to
19 protecting these eroding archeological sites. So

20 that's a high -- a big thing for us.

21 To date we have actually stabilized
22 about 75 miles of archeological sites, which, you
23 know, is a total of 393 sites. So this is an active
24 area that we continue to work in.

25 When you have the human uses on your
1 lands, you're also going to have the negative impacts⁹⁷
2 of the abuses that comes along with that.
3 Fortunately, you know, that's really probably not as
4 prevalent. With the amount of use going on, the
5 abuses probably aren't as prevalent, but it is
6 increasing.

7 So one of the increasing things that
8 we're getting to deal with, and I don't think we are
9 the only ones, I think if you talk to TWRA or ADC&R
10 or anybody, the off-road vehicle use is really
11 starting to be an impact to everybody. This is
12 really -- you know, everybody has got a four-wheeler.
13 Everybody wants to go get out in the mudflats and
14 have a great time.

15 For us we only allow ORV use on
16 designated or established roads, but that's a hard
17 thing to keep them off the non-roads. The other
18 things where we had the problems is in the winter
19 months in our drawdown zones, it's great to get out
20 there in the mudflats. They can really do a lot of
21 damage out in there. So that's something we deal
22 with.

23 The other thing is unauthorized tree
24 cutting. As you can imagine, the homeowner that can
25 almost see the reservoir but there's a whole bunch of

1 trees in the way, they have a different view of
2 what's aesthetically pleasing than what we, as
3 natural resource managers, have.

4 So we have the issue of, you know,
5 people coming in and clearcutting down to the water
6 so they have a view, and then when we come out there
7 and talk to them about you just took away that
8 natural habitat or wildlife viewing, you know,
9 habitat, they can't understand why we don't like
10 lawns and ornamental trees and, you know, clean-cut
11 shore views all the way to the lawn. So that's an
12 issue that we continue to try to deal with is the
13 encroachment on to TVA lands.

14 I think you have heard that we manage
15 11 campgrounds across the valley. I am glad to say
16 this is not one of our campgrounds, but we do have
17 problems where in remote areas where maybe our staff
18 hasn't been in -- you know, we try get around to
19 everybody and everything annually, but with 293,000
20 acres you're not going to get to everyplace to see
21 what the conditions are.

22 So we do have problems with what we
23 call homesteading. So that's one of those issues.
24 To me it's really hard when they are very patriotic
25 and have their flag hanging, it's hard to get them
1 off of there. It is an issue we do have to deal
2 with.

3 The other things, you know, illegally
4 clearing wetlands, some people don't know or doesn't
5 recognize what a wetland is or they may not even
6 recognize the value of a wetland, so just impacting
7 those resources.

8 The looting of archeological
9 resources, that's huge. As collectors are increasing
10 and the value of these archeological resources
11 increase, that becomes a harder and harder thing to
12 manage, but we are dedicated. We have -- one of the
13 biggest things that we do go after is the looters of
14 these archeological resources.

15 When we have caves that we know of, we
16 will go out there and gate those caves trying to keep
17 people from looting, but it's a continuing problem of
18 trying to manage.

19 Illegal dumping, probably everybody
20 has this issue. It's much easier to go to a remote
21 area and dump your trash than take it to the official
22 land dump. I don't know why that is.

23 The only time that -- it's very hard
24 to catch these culprits. Probably the only time we
25 will be able to catch them is if they actually take
1 household trash and dump that, then we might be able¹⁰⁰
2 to find an envelope or something with their address
3 on it and then we can track them down. Other than
4 that, this is something that is just -- you have got
5 to deal with because you can't find who it is.

6 As a matter of fact, last week one of
7 our teams found seven 55-gallon barrels filled with
8 something. We don't know what it is. We have got to
9 take it and get a sample test to see what it is, see
10 if it's hazardous before we can even dispose of it.
11 So this is an ongoing problem.

12 So we have the human impacts, but you
13 also have the other impacts from other plants and

14 animals that would be invasive or cause us problems.
15 Many think a beaver is a cute little thing. It goes
16 out there and builds a cute little dam, but it
17 depends on where they build their dam at whether it's
18 cute or not.

19 You know, at some areas our guys would
20 say, this is great because it's going to develop some
21 wetland habitat, wildlife habitat, waterfowl habitat.
22 So we're not going to touch it. In other areas where
23 we have beaver dam building, it's going to flood on
24 TVA's land that water backs up to our adjacent
25 property owner and then we're not a very good
1 neighbor. 101

2 So we -- this is a problem with
3 beavers and is a valley-wide issue. So we actually
4 kind of keep the USDA wildlife services in business
5 in trying to manage some of these beaver populations
6 where we need them to.

7 The other issues is invasive plants.
8 As you can see, for us we don't like privet. It
9 takes over everything, but I know last year when I
10 was at Lowe's it seems like they were selling privet.
11 So, again, it's one of those, what's invasive to some
12 may not be to others, but this is an ongoing problem
13 because privet actually gets into some of our
14 sensitive areas and can actually wipe it out pretty
15 quickly.

16 So I have kind of covered probably
17 pretty quickly, you know, here's what we do and
18 here's some of the activities that occur on our
19 lands. So now I want to kind of move into the
20 strategy and how we're looking at building this

21 strategy.

22 what we want is the -- I am kind of
23 focused on the yellow boxes down below because we
24 want to fit under the umbrella of the environmental
25 policy and framework. This slide doesn't show those
1 six dimensions, you know, but obviously the natural¹⁰²
2 resource strategy fits under natural resource
3 conservation, as well as sustainable land use.

4 what I want to point out here is that
5 we want to make sure that the natural resource
6 management strategy links with the recreation
7 strategy, links with the land and shoreline strategy,
8 and also links with the water resources strategy
9 because you had that hand and water interface.

10 For the land and shoreline strategy,
11 those are the implementation pieces for the land
12 policy and shoreline management policy. The
13 recreation strategy, we have talked to you before
14 about the recreation strategy. It's in place.

15 However, as we're developing the
16 natural resource strategy, we're seeing that we need
17 to take a step back and look at that recreation
18 strategy, and we may be adjusting it to make sure
19 that the recreation strategy does link with the
20 natural resource strategy.

21 So as we were doing -- sending our
22 folks out to develop this strategy, one of the things
23 we wanted to know was, what is everybody else doing?

24 How is the other industries doing with
25 their lands?

1 what's their strategy?

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2 what problems are they coming up with?

3 You know, how are we doing against all
4 of these others?

5 So our staff actually went and talked
6 to 18 different groups. They actually went and did a
7 little different kind of benchmark than what you
8 might see in other places. They went and spent two
9 or three days with these companies to see what their
10 issues are, how they do their natural resource
11 management.

12 They went to 18 different groups. We
13 selected not just other power producers or other
14 federal agencies but other businesses or industries
15 that manage large land holdings, such as Peabody
16 Energy, there's weirhouser, you know, those type of
17 groups.

18 So they spent a lot of time going and
19 talking to them, and that was really probably one of
20 the biggest benefits because we're still reaping
21 those benefits from those groups.

22 And they are actually -- actually all
23 of those are interested in how we're developing our
24 strategy and what's our strategy going to say. So
25 we're still corresponding back and forth with those
1 groups. We found a lot of things that we have in ¹⁰⁴
2 common with those groups, and then we did have some
3 key findings out of that.

4 Some of the things that we found that
5 we had in common with these other groups is that they
6 are also experiencing increases in public abuses of
7 the lands. So we're not alone in that.

8 The other things that were found is a
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9 need to have an inventory. I had up there to say we
10 inventory, monitor, and protect our resources, but
11 those are -- monitoring and inventorying are for
12 threatened and endangered species or those sensitive
13 resources.

14 what we're finding along with them is
15 we need to know what's the inventory or what's the
16 conditions of the entire -- your land base, and we're
17 finding we're not the only ones that's asking those
18 questions and they haven't started that either. So
19 they were very interested. So, okay, give us a call
20 when you figure out how to do that.

21 So then the third thing which we
22 continue to struggle with is defining kind of the
23 appropriate metric on what's your desired conditions.

24 How do you show the public or show
25 your executives that you're making improvement to
1 your lands or the conditions of your lands are in 105
2 good shape and that you're doing a good job with what
3 you have got and you're meeting your public's
4 expectations? So we're finding they are also
5 struggling with that.

6 The other things that we found that
7 was interesting is that several of these entities do
8 participate in a third-party certification, such as
9 they have Wildlife Habitat Council Certification or
10 Sustainable Forest Initiative Certification.

11 what this really is you have got a
12 third-party group that comes in and certifies you
13 that you're doing good with your stewardship of your
14 programs. It's kind of giving you that third-party

15 credibility instead of you sitting there saying, hey,
16 we're doing great with our lands and we're doing good
17 with out natural resources, somebody else is coming
18 in and telling you that you are doing that.

19 We actually have three sites at TVA
20 certified by the Wildlife Habitat Council, but it may
21 be something we need to look at, do we need to do
22 more of that?

23 Many of the groups put a large focus
24 on marketing and communicating what they do. That
25 was more of their focus is selling what they do on 106
1 their -- you know, being green and selling that
2 piece.

3 FERC regulated power companies, they
4 were really dictated by FERC in their licenses on
5 what they could and couldn't do with their recreation
6 and natural resource management. So it really looked
7 like that took away a lot of their flexibility, but
8 they were more dictated to what they did.

9 The public agencies that we talked to,
10 the Corps of Engineers, Bureau of Land Management,
11 those type entities, they are -- we're experiencing
12 the increase in public uses of their lands, but they
13 weren't getting additional funds for managing those
14 increased impacts to the resources.

15 Again, as I talked earlier, everybody
16 seems to be seeing an increase in the abuse of lands
17 and it's a growing problem across the country.

18 So now as we walk through all of that,
19 we will lay out what our vision and guiding
20 principles are for the strategy. This kind of gets
21 us started down that path.

22 what we want to look at is this vision
23 is -- what we're really trying to do is we have
24 always looked at doing integrated natural resource
25 management, and from our perspective integrated
1 natural resource management meant we're integrating¹⁰⁷
2 our cultural resources management with natural
3 resource management visual, all of that, we're
4 integrating it.

5 we were looking at doing it on a
6 reservoir-by-reservoir basis. what this vision
7 though is doing is we're formally integrating not
8 only just natural resource management with cultural
9 resources, but we're also integrating that with
10 recreation. what we're saying is that, you know,
11 we're not just going to protect the bugs and bunnies
12 but we're going to protect the bugs and bunnies and
13 balance that with recreation.

14 So what I hope to show here is what we
15 hope to do with this strategy is be able to show that
16 there's a linkage with TVA operations with the
17 quality of life and with environmental stewardship.

18 So now as we kind of go in through the
19 strategy objectives, I think we sent that out to you
20 ahead of time and so you have read through that, I am
21 just going to kind of quickly go through the
22 objectives and kind of from our perspective what each
23 objective is.

24 when we look at strategic objective
25 one, to us this is kind of our communication piece.¹⁰⁸
1 How do we get the information out to the public to
2 tell them why they should get outdoors and why they

3 should get out and enjoy these resources, but it's
4 not only just get them out there but it's also how do
5 we get them into the right places, direct them where
6 we want them to go for the particular recreational
7 opportunity or resource benefits that they want, you
8 know. So this is that communication piece that we're
9 looking at.

10 Objective two is that piece that we're
11 recognizing that we cannot be all things to all
12 people with the land. So it's what type of
13 recreation opportunities will we provide? How will
14 it fit with the surrounding land uses and how do we
15 minimize the user impacts?

16 So what we're really kind of saying
17 here is we don't want to take a 50-acre tract of land
18 that's in a surrounding residential area and say, oh,
19 we're going to go do hunting on this piece, we're
20 going to manage this for hunting and do habitat
21 improvements here, you know, it just doesn't fit with
22 the surrounding land uses.

23 So this is kind of what we're trying
24 to say here is, where are we going to put it? What
25 kind of recreation are we going to do? How does it
1 fit with the surrounding lands? It's kind of more ¹⁰⁹
2 taking a wholistic approach of, how does our lands
3 fit into things?

4 The third objective is that objective
5 where we are wanting to be a leader in how we manage
6 and protect those sensitive and unique resources that
7 are on those public lands. Because we are -- the
8 southeast is an ecologically diverse region and
9 because we have so many sensitive and unique

10 archeological resources, how do we be a leader on
11 protecting, managing, and enhancing those resources?

12 The other thing is what we have heard
13 from everybody else, how do we develop the measures
14 to show that we're doing a good job or not and then,
15 you know, how do we implement those measures and
16 stuff? So that's what this strategy looks at.

17 The fourth strategy really is to
18 develop the partnership piece. We are still looking
19 at if we're going to do all of these things on the
20 lands, we still can't do it all by ourselves. So how
21 do we develop the partnerships? How do we get the
22 collaborative integrated efforts going so that we do
23 increase our efficiency, we improve that service
24 delivery of what we're doing out there?

25 Then this fifth piece objective is
1 kind of that big, how do we reduce our environmental ¹¹⁰
2 impact? How do we start taking the lands that we use
3 and how do we use it to impact users to look at
4 climate change? How do we use it to reduce TVA's
5 environmental footprint?

6 You know, a couple of examples that
7 we're looking at here is that as you have increasing
8 development going on, you know, people are still
9 going to have continued pressures up against the open
10 and natural lands. How do we work with the public
11 and with smart growth and sustainable growth in
12 looking at sprawl -- urban growth and urban sprawl to
13 protect those public resources?

14 The other areas in how do we reduce
15 our environmental footprint is, we have got a

16 campground that we're looking at that probably has
17 too high of a density. It has 215 campsites. When
18 we look at the environmental impact of that, that's
19 probably too high. So how do we start reducing that
20 density there to get it more in line so that we're
21 probably a more sustainable campground than it was
22 previously?

23 How do we look and ensure that our
24 sewage is being taken care of right? Is the
25 electricity out there right? Is there -- are we
1 managing our campgrounds appropriately? Then, how 111
2 does that roll into other informal recreation
3 opportunities out there? So that's kind of what this
4 piece looks at.

5 So that's pretty much the strategy.
6 what we're going to ask you for tomorrow is, how do
7 we improve on the natural resource management
8 strategy? What have we missed? What have we not got
9 in there that we need to have in there? What do we
10 need to highlight more that maybe we're not
11 highlighting? So your input tomorrow is going to be
12 very important there.

13 Then just kind of talk through, you
14 know, our next steps. As I mentioned earlier, we are
15 looking at -- we do have that recreation strategy.
16 Now we want to kind of take a step and look at, is
17 the recreation strategy what it needs to be and make
18 sure that it does link to each other. So we will be
19 doing that.

20 The other pieces that we will start
21 this next week is getting additional internal
22 comments on our strategy from our employees and other

23 organizations within TVA. We will be getting
24 external comments. We want the comments from you on
25 this strategy to incorporate that into our strategy,
1 and then we are hoping -- the target is to finalize¹¹²
2 this strategy by July of '08.

3 with that, if anybody had any
4 questions.

5 COUNCIL CHAIR MR. TOM LITTLEPAGE: Are
6 there any questions for Buff?

7 I guess I have one, and that's -- I
8 think Mike alluded to this earlier. As development
9 and intensity increases along non-TVA lands, to what
10 extent does TVA become a buffer and then limits your
11 ability to achieve some of these results?

12 MS. BUFF CROSBY: Actually we have a
13 lot of that. On the bulk of our lands, you know, we
14 don't have that big chunk of lands. A lot of it is
15 probably buffers that becomes probably more of a
16 challenge to keep those buffers in place.

17 I think what it's going to be -- to
18 behoove us more is to get the word out and publicize
19 and get the public to understand the value of those
20 buffers versus, you know, trying to use them for
21 anything. So we do have a lot of areas, you know,
22 and right now it is a challenge for those areas that
23 are buffers. Then those large tracts or the largest
24 tracts that you can do recreational opportunities,
25 you know, determining what kind of opportunity do you
1 want to do on those.¹¹³

2 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
3 right. Mike.

4 MR. MICHAEL BUTLER: One of the
5 things, Buff, that I would be curious is if TVA would
6 be willing to look in Middle Tennessee on Corps'
7 properties, especially some of the wildlife
8 management areas that are on Corps' properties around
9 Percy Priest in the Smyrna and La Vergne area and the
10 failure of those communities to adequately plan for
11 their citizens open space associated with the
12 developments that have come in play.

13 For instance, in La Vergne you have
14 the largest subdivision in the State of Tennessee,
15 and what that is doing is that's bumping up -- we're
16 in the middle of a pretty significant disagreement
17 between user groups because all of those people that
18 live right there are looking to go recreate in the
19 last segment of wildlife habitat that exists anywhere
20 in any direction for several miles. It's adjacent to
21 a public water.

22 So the pressure being put there, you
23 know, some of the activities, even for recreation,
24 being put on these properties are impeding wildlife
25 habitat, sustainability objectives, and water
1 quality, and all of this other stuff. 114

2 what role -- or would TVA, either
3 through your department or through another department
4 within the Authority, look at working with local
5 governments to get them to think about moving in a
6 direction in a cooperative fashion so that you don't
7 end up in the same situation that you've got in
8 Middle Tennessee in that -- that's a great case
9 study. I mean, it is a nightmare waiting to happen,
10 and it's actually starting to heat up.

11 That kind of stuff I see as being
12 very, very resource intensive on TVA. I wonder if a
13 less expensive strategy than having to wait to deal
14 with those problems would be being proactive and
15 going and working with the local communities in some
16 kind of fashion.

17 MS. BUFF CROSBY: Yeah. And I think
18 to me that's the value of having water quality
19 improvements, sustainable growth, and natural
20 resource management in the same group because we
21 should be starting to look at how that interacts.

22 what we ought to be able to do with
23 our sustainable growth group to start talking to them
24 about, okay, here's other issues we need to start
25 thinking about as we go out there and talk to these
1 local government officials on how they are setting ¹¹⁵
2 their ordinances and how they are developing that.

3 So I think there is opportunities
4 there, whether you do it in the natural resource
5 management strategy or the water quality strategy,
6 you know, sustainable growth in all of those areas, I
7 think it is something that we have got a good
8 opportunity to start looking at that.

9 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any
10 other questions?

11 It's kind of interesting how that
12 dovetails with what we talked about with some of the
13 land use and water issues in terms of this
14 relationship between those neighboring entities or
15 states that have statutory roles and authorities and
16 how TVA -- I mean, it sort of just re-emphasizes that

17 same message in terms of working with those groups
18 and the challenges thereof.

19 It's 12:45. We have got -- we're a
20 little bit ahead of schedule, not much.

21 Jeff, did you have something?

22 MR. JEFF DURNIAC: My point about the
23 buffers may be mistaken a little bit. The private
24 public land interface is a challenge. My point
25 wasn't to increase buffers. You're defaulting away
1 from the land use you desire. You're forced into 116
2 buffers.

3 My point really was to try to reduce
4 the buffer width. My point is consider enforcement,
5 you know, basically you are pushing your border back
6 and conceding to some of the private uses of public
7 lands by creating buffers.

8 Consider the opposite approach, which
9 is a harder line, and consider a higher enforcement
10 presence so that you reduce your buffer width and you
11 enhance the amount of public lands that you're trying
12 to manage for.

13 MS. BUFF CROSBY: Okay.

14 MR. JEFF DURNIAC: And my classic
15 example is Atlanta and our national forest. It is an
16 urban recreation forest. They have that urban
17 interface, and it's a struggle, not only our national
18 forests but our state lands, too.

19 One of our effective tools is
20 enforcement. So consider that and consider funding
21 that adequately before you concede more public lands
22 to de facto privatization.

23 MS. BUFF CROSBY: Okay. Good point.
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24 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any
25 other questions or comments for Buff or anything 117
1 before we break for lunch?

2 Okay. We will break and come back at
3 12:45 back in this room. Lunch is ready.

4 FACILITATOR DAVE WAHUS: Lunch is
5 ready. We can just come up here and go through the
6 door.

7 (Lunch recess.)

8 COUNCIL CHAIR MR. TOM LITTLEPAGE: If
9 we could get everybody to kind of head back. We're
10 going to start with a presentation where we talk
11 about some perspectives on the continued discussion
12 on land and water use, policy development and
13 stewardship activities, and we're going to begin this
14 afternoon with Jon Creyts.

15 Did I say that correctly?

16 MR. JON CREYTS: Yes.

17 COUNCIL CHAIR MR. TOM LITTLEPAGE: So
18 go ahead, sir.

19 MR. JON CREYTS: Thank you, Tom. For
20 those of you who don't know, I am Jon Creyts. I'm a
21 partner out of McKinsey's Chicago office. I spend
22 most of my time working in energy and materials. I
23 am one of the leaders of our global climate change
24 initiative and am hoping to guide the policy
25 development here within TVA.

1 Today I will talk a little bit about 118
2 some perspectives on integrated strategic approaches,
3 and I am probably going to step up a couple of levels
4 beyond where we were this morning just to make sure

5 that we have got a framing, you know, and that we're
6 covering all of the key issues that are involved.

7 Hopefully, this will serve as a basis
8 to stimulate some of your conversations here over the
9 next day as you continue the dialogue around land and
10 water resource management.

11 when we look at this particular issue
12 at a global level, there are many challenging aspects
13 to land and water management. It's, you know,
14 particularly challenging for TVA when you look at
15 probably the two biggest, you know, societal issues
16 that we have to address in this next century, one of
17 them is clearly carbon dioxide and how we're going to
18 manage greenhouse gas footprints, and the second is
19 really around water use. TVA, given its unique
20 position, actually sits at the nexus of both of those
21 issues.

22 when it comes to land and water
23 management, there are a number of what I would call
24 more global forces that are at work here. Some of
25 those are manifest right now within the valley. Some
1 of those are going to develop over time, but we ¹¹⁹
2 certainly see where there are issues around
3 increasing and inequitable demands in terms of, you
4 know, some of the forest regions of the world not
5 having access to water in a drinking form, where you
6 see competing use tradeoffs much like the discussion
7 we had this morning here around recreational use,
8 around industrial and agricultural use, et cetera.

9 You see kind of a debate over the role
10 of markets, you know, and whether we can actually put
11 prices on biodiversity, whether in the end water is

12 something that we can value or whether it's a good
13 that's required for health and for agricultural
14 purposes, et cetera.

15 You have got, you know, a number of
16 other forces that are all interacting and really
17 making this a challenging topic. The climate change
18 uncertainty is certainly one of the largest where you
19 see an absolute correlation and reinforcing of the
20 challenge on, in particular, water availability that
21 is tightly linked with changes in local climates. So
22 that's just one comment.

23 You know, Mike made the comment
24 earlier about the challenge of water being global,
25 and I just thought I would pull these couple of
1 charts out that are from UNESCO, in particular, but ¹²⁰
2 start to show that, you know, when you start looking
3 at the global overall and safe water access, in
4 particular on the left-hand side where we're thinking
5 about how much really potable water is out there that
6 can be consumed, it's definitely an issue, but it's
7 an issue that primarily affects most of the poorest
8 nations of the world.

9 When you look, however, at consumption
10 rates and how well we manage resources in and of
11 themselves and you think about our ability to
12 sustainably kind of harvest that water, you see that
13 the issue is no longer just focused on, you know,
14 Africa and some of the developing far east, but it
15 turns to be a global issue and you see large areas in
16 the United States that start to be kind of
17 challenged, even in 2004 when this data was taken.

18 So that's kind of, again, a global backdrop.

19 Now, when McKinsey talks to clients
20 about issues that span kind of socioeconomic space,
21 we often use what we would also call business in
22 society where the issues are not always quantifiable
23 at a shareholder level, but you have to develop
24 strategies that ultimately affect the long-term
25 sustainability of your business.

1 We oftentimes use what we would call a ¹²¹
2 5-R model where you would think about, you know, the
3 specific stress to the system. In this case we're
4 going to think a little bit about water-and-land use
5 issues related to some of the environmental dynamics
6 going on around climate change and other water
7 scarcity issues, right, and walk around and think
8 about, first off, from a risk perspective what are
9 the risks that we're being subjected to and how does
10 that necessarily affect the long-term prospects for
11 my business. It's much like we did our SWOT
12 analysis, kind of divide that up to think about risks
13 across the different opportunities, as well as
14 threats to the business.

15 You think about it from a renewal
16 standpoint where you're starting to talk about where
17 there are business opportunities, where there are
18 kind of catalysts for change within my organization,
19 whether it's the ability to attract new talent,
20 whether it's the ability to think about kind of
21 building new pieces on my organization that, you
22 know, necessarily revitalize and stimulate additional
23 thought, additional capacity, additional expertise.

24 You think about it from a reputation

25 perspective on how trustworthy are we seeing out in
1 the public space and how exactly do we manage that,¹²²
2 how exactly do we secure it and earn it, and that has
3 a lot to do with relationships which lie at the
4 middle, which is certainly what today's discussion is
5 about, it's about TVA reaching out and talking
6 through and making sure that all of the different
7 stakeholders in the region are very much a part of
8 the process.

9 And finally, there's the fifth R,
10 which is really around regulation and how to
11 anticipate or shape legislation for competitive
12 advantage. This is not so much around how do you get
13 things to turn out the way you want them to be but
14 more from an anticipatory perspective.

15 How do you understand the way things
16 are likely to trend and actually figure out ways to
17 mobilize your organization ahead of the dynamic and
18 wind up being a beneficiary on the front-end of the
19 wave rather than being washed over by it? So that's,
20 again, just a general framework that we use.

21 If we kind of walk through just a
22 few -- you know, when we think about kind of the
23 typical performance versus kind of what the
24 leading-edge companies do on the risk perspective,
25 it's a matter of, you know, not being kind of central
1 to the pack but starting to think about where and how¹²³
2 to step forward by using kind of insight and
3 foresight to guide which issues and how quickly you
4 want to move against them.

5 On the renewal front it's, you know,

6 thinking less about adaptation and thinking more
7 about growth and sustainable returns, and in
8 particular using an opportunity lens around the
9 different dynamics related to either in this case or
10 land- or water-based issues.

11 Regulation, again, it's less around
12 trying to manage short-term and legacy positions and
13 more about thinking on long-term upstream issues that
14 are likely to come down at you and how exactly to
15 manage those.

16 And similarly on reputation and
17 relationships, it's really about managing trusts
18 across the entire expanse of those who are, you know,
19 impacted and influenced by your business.

20 So, again, general framework, I am
21 going to flip through a couple of examples that
22 illustrate this, not just across the environmental
23 space, but across many of the -- kind of
24 intersections in business and society, and then we
25 will turn and talk specifically about the land
1 management and water use aspects. 124

2 So, you know, on the risk front, a
3 very simple example here around improving the
4 efficiencies of automobiles, you know, American
5 automobile manufacturers spent collectively about \$37
6 million between 2002 and 2005 lobbying against
7 increases in fuel mileage efficiency.

8 In the end they wound up declining
9 market share. You see that the highest growth for
10 Toyota right now is very much in the energy efficient
11 auto business. It all kind of goes back to 1990
12 where there was a proposal to gradually ratchet up

13 standards at that point in time. Had that actually
14 passed, the U.S. auto industry might have been in a
15 very different situation than where it finds itself
16 right now.

17 So one kind of quick note on risks.
18 On renewal, you know, you-all are likely quite
19 familiar with GE and the Ecomagination, how they are
20 thinking about kind of green is green, you know, is
21 their motto and mantra right now in terms of being
22 able to identify ways and opportunities for them to
23 embrace the technologies that exists within their
24 portfolio, expand upon them and leverage them at a
25 global scale.

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1 On the regulation front, you know,
2 several years ago there was a challenge to Pepsi and
3 Coke, in particular on issues around obesity and on
4 the caloric content of their soft drinks, in
5 particular, a number of states passing laws that were
6 directly aimed at taking soft drinks out of school.

7 In response to this and kind of as a
8 means of addressing it, both Coke and Pepsi
9 proactively self-regulated, right, and took the
10 regulation on their own hands to try and emphasize
11 lower caloric intake or lower caloric soft drinks and
12 tried to ensure that the public was getting all the
13 facts and details around the true content of their
14 existing products while offering alternatives and
15 were able to stave off, you know, a longer term, more
16 expansive legislation on that front.

17 You know, a similar story on
18 Microsoft, which in 1998 was very much in the

19 public's eye as a threat to individual
20 entrepreneurship and really cited as a threat to
21 innovation and competition because of its apparent
22 market power.

23 Microsoft saw it somewhat differently,
24 you know, feeling like their tools and capabilities
25 were trying to enable people to be more
1 entrepreneurial and seamlessly integrating in 126
2 business, but at the same time they did that they
3 recognized that some of that concern was legitimate
4 and started changing their practices and started to
5 open sourcing their codes to allow programmers to see
6 more of what was inside.

7 That wasn't enough though, and in 2000
8 they started then a social effort, right, in terms of
9 establishing the Bill and Melinda Gates Foundation to
10 help support them, recognizing kind of what the
11 different shareholders and stakeholders that they
12 were relating to kind of valued.

13 They also increased their spending on
14 public education just to make sure that the public
15 was aware of what exactly the value of their products
16 was and how it was helping small businesses, et
17 cetera.

18 And then they finally launched their
19 massive institutional campaign later on which
20 greatly -- you know, the -- all three of these,
21 together with the fact that they opened up their
22 source code to a large degree, you know, helped them
23 mitigate a reputational issue here.

24 You know, on the relationship front
25 another kind of example here that is drawing from the

1 energy industry is where, you know, depending on what
2 your perspective is, coal can be a potential threat
3 to local communities.

4 This is a story of one coal power
5 company that really heavily invested in local
6 community partnership and in the process started a
7 campaign to really articulate and message what their
8 positions were on technological development and on
9 the efficiencies of the things they were doing, and
10 in the end, you know, were able to kind of, you know,
11 forge a joint collaboration with the local economy to
12 the point where people within the original
13 criticizing or critiquing pool were actually quite
14 supportive of their role within the community and
15 recognized them as a necessary participant and an
16 open one relative to the course of action they were
17 going to take with their asset build-out.

18 So these are all kind of, again,
19 fairly generic examples, but they give you a sense
20 for how different companies have addressed this issue
21 of finding its place within a social issue and
22 developing very much a collaborative and stakeholder
23 participatory solution framework.

24 When we think about them, some of the
25 key themes and issues that come across in water and
1 land management issues from successful energy
2 companies, there are few addendums that I would point
3 out that have been consistent across the board.

4 You know, one is on the risk front
5 that -- you know, that there are these quite
6 significant structural shifts that are going on and

7 that it is a time when companies have kind of seized
8 the opportunity to really stake a new position with
9 their brand and step forward and differentiate
10 themselves either on the basis of performance or to
11 establish and strengthen trust with existing
12 shareholders.

13 I will talk about ALCAN in a minute
14 here, but they stand as a great example of a company
15 that actually has recognized kind of the
16 discontinuity in the current perceptions on the
17 environmental front and took that to heart.

18 On the renewal front, you know,
19 there's a -- within energy companies there's a key
20 push for, in particular, these two issues of land
21 management and water management to figure quite
22 closely with clean energy and clean technology pushes
23 to form the basis for sustainability strategies. So,
24 again, we will talk about a few power companies here
25 in a moment that have embraced it in that way.

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1 On the regulation front certainly
2 self-regulation and voluntary actions were seen as
3 critical components and ultimately do become a, you
4 know, very necessary part of establishing, you know,
5 the level of support and the level of integrity
6 within the process to ensure that stakeholders,
7 again, are broadly aligned.

8 Reputation, I think the most important
9 point here, particularly relative to land and water,
10 is that while many energy companies are in the
11 business of delivering energy, that's not their
12 public face. Their public face is often seen as
13 where they interact with the communities on the

14 issues of the environment, on the issues of water
15 stewardship.

16 And even though you have a -- you
17 know, TVA has a necessary position that it's going to
18 deliver safe, clean, and reliable energy, oftentimes
19 that's very much a binary step function and that is
20 provided that you aren't meeting a critical level of
21 support that that is taken for granted.

22 And the way that TVA is ultimately
23 kind of accessed is really not on the basis of that
24 power but on the basis of how it manages its
25 reservoirs, how it thinks about, you know, the
1 individual land use issues that occur. 130

2 And then, you know, finally on the
3 relationship front, it really is a story around
4 proactive engagement being kind of the key lever to
5 make sure that folks are brought to the table.

6 we've already talked a little bit
7 about, you know, some of the peers out there, and I
8 just wanted to bring this chart back because if you
9 look at -- and I'm afraid the plants are blocking the
10 last little graphic at the bottom here -- but what
11 you see is that across the board there is really not
12 a strong focus in a consistent basis on issues of
13 land use and water quality, as well as ecodiversity
14 across the major producers here in the United States,
15 and that poses a bit of a challenge.

16 Also, you know, clearly as was noted
17 earlier, TVA, in its current position, is very much
18 in certain areas at the front of pack in terms of how
19 it does think about these issues and the expertise

20 that it has within the organization.

21 when you think about kind of the
22 issues of land and water again, there is quite
23 frequently a linkage between clean energy and
24 stewardship issues. I have taken just three examples
25 here from the United States, Canada, and Norway where
1 individual power companies have branded and are 131
2 pushing out a public image. For Southern, it's their
3 planet power brand, for Ontario Power, it's their
4 sustainable development company brand; for Statkraft,
5 it's their pure energy kind of moniker that they are
6 pushing out.

7 They certainly in each case embrace
8 energy efficiency, embrace, you know, many of the
9 renewable powers, power supplies, et cetera, but they
10 also link to that quite tightly this notion of water
11 use, the notion of land use, et cetera, as being kind
12 of critical to and establishing the complete cycle of
13 sustainability for each of these companies.

14 So I wanted to take a few minutes to
15 talk about ALCAN because, again, many of you are
16 familiar with the power industry and you're familiar
17 with TVA. ALCAN is an interesting example because it
18 represents a company that really has taken upon
19 itself a global leadership position that started as
20 early as the mid '70s and really flourished and
21 blossomed through the 1990s and 2003 and culminated
22 with their CEO really pushing substantially forward
23 the issue of water at a global basis.

24 Just to give you a quick overview of
25 the company for those of you who are not familiar
1 with it, ALCAN is the third largest aluminum producer 132

2 in the world. It operates in 42 countries. So if
3 you think about the regulatory constricts that they
4 have to deal with, TVA, while seven states is a
5 difficult challenge, they have got 42 countries and
6 individual kind of constituents that they manage to
7 against in each of those.

8 They own and operate -- in addition to
9 a large network of dams and power plants, they own
10 and operate bauxite refineries and smelters. They
11 own and operate kind of all the mining around the
12 alumina to begin with for the bauxite itself, et
13 cetera. So they have got a fairly both energy
14 intensive, water intensive, and power intensive base
15 of operations.

16 Their total electrical consumption is
17 about 32 terawatt hours, roughly a fifth of what TVA
18 produces right now, but their hydro comprises the
19 majority of that, and that's roughly on par with
20 TVA's hydro capacity.

21 So for them the key issue, when you
22 look at their company, the license to operate
23 globally is tightly linked to their ability to
24 validate their land management practices, as well as
25 their water practices. They have to manage those
1 both for their private enterprise. 133

2 They are in a commodity-based business
3 where they aren't secured a guaranteed level of
4 return, but they also have to manage it for the
5 public good. So that puts them in a competing issue
6 where anytime they try to, you know, manage publicly
7 issues it necessarily comes out of their bottom line

8 if it's going to be an incremental cost. So they
9 have to think quite carefully around the trade-offs
10 that they make there.

11 It's very similar to TVA. They have
12 got -- you know, they do run very large dams that
13 have reservoirs as well as watershed requirements.
14 They have water availability and quality issues, very
15 similar to what we talked about this morning.

16 You know, they do have -- since they
17 have so many industrial sites, they have all sorts of
18 issues around consumption and resource depletion for
19 underground water. They have got shoreline
20 preservation issues relative to the dams that they
21 control. Biodiversity and land management all figure
22 in.

23 So the company was straining, you
24 know, in the early '80s to really come to grips with
25 the fact that they have a global footprint base and
1 recognize that they have to manage all of these ¹³⁴
2 simultaneously on a global basis.

3 They put together essentially a
4 stakeholder consortium and started to manage their
5 stakeholders at a global level in terms of their
6 capabilities but broke off into each of their regions
7 to have a coordinated stewardship network that they
8 built and supported over time.

9 Eventually it got to the point where
10 the CEO felt passionate about -- so passionate about
11 the issue that he chaired the first sustainable water
12 committee for the world economic forum and used that
13 as a platform to really set the standard around
14 expectations for water and resource stewardship.

15 And that's something that was done in
16 1992 and, you know, here in 1997 we're finally at a
17 point where I think the issue around global water
18 supply is really reaching its full recognition as a
19 primary driver and a primary concern both around
20 development as well as, you know, access to all the
21 necessary ancillary kind of benefits that you receive
22 from that water in and of itself.

23 You know, I have got a couple of case
24 examples here that kind of walk through individually
25 for ALCAN how they manage some of their issues. You
1 know, in the end I think the important points are ¹³⁵
2 that it was ultimately a systematic stakeholder
3 engagement process that they went through, whether it
4 be with -- with kind of first nation participants,
5 whether it be with, you know, many of the industrial
6 and/or community folks that they worked with.

7 They moved from what was originally
8 and early on very much a profit-based,
9 litigation-based approach to a collaborative,
10 fundamentally, externally-oriented process where they
11 ultimately created public bodies that had access to
12 joint funding, were supported technically with ALCAN,
13 and ultimately promoted kind of their position within
14 the community, and again, their right to own and
15 operate within the different regions.

16 That was the case in this example of
17 the Nechako watershed. Very similarly, they manage a
18 very large reservoir outside Montreal which was going
19 through very similar circumstances. So, again, it
20 gives you just a broad set and context of the types

21 of issues.

22 I am going to step back and think
23 about today's discussion and where TVA stands. You
24 know, this is -- today's discussion is really around
25 relationships and thinking about how TVA can best
1 collaborate with you-all and build a team that 136
2 addresses these issues. And on that front, you know,
3 there are a few important points that I think have
4 shown consistently across the companies that we
5 worked with.

6 Certainly first off, you know, kind of
7 the stakeholder involvement is mandatory, right?

8 Consensus is always the objective that
9 we're trying to reach, but the input is essential in
10 the end. That's something that certainly TVA has
11 embraced throughout the development of the
12 environmental policy that they are working on and
13 something that it figures quite prominently in the
14 DNA, which from a McKinsey perspective we have high
15 hopes in terms of a success of these initiatives
16 because we have seen quite strongly that through
17 proactive engagement, that through leveraging
18 partnerships, that through kind of putting forward
19 commitments, et cetera, that you ultimately kind of
20 achieve the best outcome for the growth and
21 sustainability of the business enterprise.

22 You know, the second point really
23 around the successful policy is really it's in an
24 internal change but it also has an education
25 component which, again, speaks back to stakeholder
1 involvement up front. 137

2 Third, you know, really that the
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3 companies that have been most successful with issues
4 around sustainability, in particular, don't try to do
5 a full-court press across the board. They choose
6 several that are most important to their stakeholders
7 and use those as the testing grounds to ultimately
8 build the capabilities that they then can parlay into
9 the subsequent rounds of initiatives that are built
10 up over time but that you have to be successful at a
11 few initiatives first before you kind of build them
12 out.

13 And then finally, you know,
14 sustainability is -- ultimately it is a long-term
15 view and that you can really trip yourself up if you
16 worry too much about where your starting point is and
17 stop focusing on the longer term. In particular, you
18 oftentimes see that lead to the massive destruction
19 of shareholder value in the medium to long-term.
20 There are a number of cases that I could certainly
21 talk to you about that.

22 You know, again, my emphasis here was
23 just to put forward a general overview and discussion
24 that as you think about, you know, kind of TVA and
25 where you would engage in the different issues, I
1 would encourage you over the next day to think about ¹³⁸
2 the SWOTs that we have done and the context of the
3 categories of risks, renewal, of reputation building,
4 of regulation, and in particular of relationships and
5 your relationship with TVA here as the kind of
6 catalyst for the development of an effective land,
7 water, and, you know, ultimately environmental
8 strategy and policy here.

9 So with that, I am just going to stop
10 and welcome any questions.

11 COUNCIL CHAIR MR. TOM LITTLEPAGE: And
12 what we intended to do is try to get -- let all the
13 three presenters make their presentations and then go
14 into a more detailed question period. So unless
15 there's anything immediately pressing, what I would
16 propose to do is to let's go on to our next
17 presenter.

18 We will be hearing from Kevin Brown,
19 who is the Tennessee State Conservationist.

20 MR. KEVIN BROWN: Thank you. It's an
21 honor to be with you this afternoon. My name is
22 Kevin Brown. I am the state conservationist for the
23 Natural Resources Conservation Service here in
24 Tennessee. We're part of the USDA, the technical
25 branch, that work directly with land owners in
1 putting conservation on the ground. 139

2 What I will be talking about, I will
3 try to hit three areas. First of all, this is going
4 to be very low tech. I do have a couple of pages I
5 will be referring to in your handout, but this will
6 be very low tech. I'll answer any questions, like
7 was said, in the break.

8 First of all, I am going to talk about
9 what we do as an agency, how we work with
10 stakeholders. Third, a little bit about a strategic
11 planning process that we went through nationwide just
12 a few years ago.

13 First of all, we work on private lands
14 to apply conservation on the ground, the second
15 thing, through voluntary programs, third is with a

16 locally led process. Let me back up and tell you a
17 little bit about each one of those things.

18 First of all, about over 90 percent of
19 Tennessee is privately owned. To really impact soil,
20 water, air, plant, animal resource issues that we're
21 all concerned about, we have to be working on private
22 lands. So we do that through voluntary programs.

23 It's good to see the Commissioner
24 here. We work very closely with the Commissioner and
25 TDEC on helping our producers get the proper permits
1 to apply conservation practice on the land, but it is¹⁴⁰
2 through voluntary programs on our side.

3 Finally, we work through a locally led
4 process. In Tennessee each of the 95 counties have a
5 soil conservation district, and we work closely with
6 those folks, and also with the Tennessee Department
7 of Agriculture and other partners, to have a
8 partnership at a local level where we, as a federal
9 partner, have access to privately owned land where
10 we're applying the conservation practices and we have
11 the authority to be working.

12 If you will in your packet of
13 information, I am going to talk a little bit about
14 what we did last year and how we were able to do
15 that.

16 Last year we -- through the federal
17 conservation programs we obligated \$14.3 million for
18 private lands conservation. In this that was
19 50 percent cost-share with local producers to apply
20 these conservation practices. So even though we're a
21 conservation agency, this is a 50-percent cost share.

22 So you double that, that's almost \$29 million that
23 went for conservation on private lands.

24 And not only does that help the
25 resources that I have mentioned, it also helps with
1 the rural economy, because if our economists are ¹⁴¹
2 right, that money turns over five, six, seven times
3 in the community and is able to help rural Tennessee.

4 we provided \$21 million in technical
5 assistance, that's engineering, design, working the
6 producers to apply the conservation on the ground.
7 Let's skip down to the very bottom there. We worked
8 with 42,000 individuals across the state last year
9 through this local partnership.

10 In the third bullet, we applied 47,410
11 conservation practices on the land last year. Those
12 practices ranked from large animal waste management
13 systems to something maybe as simple as exclusion of
14 cattle from streams, but in that working on some
15 practices with TVA, Corps, and TDEC on getting
16 permits. We work with the local landowners. What we
17 do in the engineering design or agronomic standards
18 for these practices is help put them on the ground.

19 Next I am going to be talking a little
20 bit about our strategic planning process. You should
21 have a sheet -- the next sheet over in your book that
22 talks about that.

23 Is Bridgette back in?

24 I know, Bridgette, you came up and
25 spoke to our group. I am just returning back from ¹⁴²
1 D.C. myself. I have been back in the state. I'm a
2 native Tennessean from Wilson County and glad to be
3 back, believe me, from D.C. after four years up

4 there. Bridgette came up and talked to us about TVA
5 and our strategic planning process and how it
6 cascades down to everything that we do in the agency.

7 In this sheet you talk about -- first
8 of all, we talked about our vision, tried to keep it
9 very simple, productive lands, healthy environment.
10 we talked about our mission, helping people help the
11 land. we're more of a catalyst to get conservation
12 on private lands. we talked about our overreaching
13 strategies.

14 Then we really got -- and I happened
15 to be on this national team that set this up. There
16 was about 30 of us from all over the nation that set
17 up our -- our strategic planning process, and believe
18 me, it was quite trying, a lot of long nights.

19 We worked on target every time we were
20 with the products we were supposed to have, but it
21 was a well -- it was a very valuable process in
22 learning exactly what we do and how we do and the
23 direction we are going to go from here.

24 Then we broke down our goals, the
25 foundation goals. There's three there, high quality¹⁴³
1 productive soils, clean and abundant water, healthy
2 plant and animal communities. That's something we
3 have done for -- since 1935. We have been around --
4 we were an organic act of the agency. We were formed
5 in 1935. We have been doing those things, working
6 with soil, water, air, plant, and animal resources.

7 So then we got into what we want to do
8 and go from here. What are the resources that we
9 need to be addressing in the future, and we got down

10 to our venture goals, clean air, adequate energy
11 supply, working farm and ranches.

12 Clean air, of course, that's very
13 obvious what we do with the agricultural sector,
14 everything from particulate matter to spring to
15 whatever it might be in clean air.

16 with energy we really had two areas
17 that we were working on in energy. First of all,
18 it's reducing energy price to the producers. This is
19 everything from minimum till farming where there's
20 less trips across the field, where there's less
21 diesel burned and a savings -- overall savings of
22 energy.

23 The other area we looked at was
24 production of ethanol and methane gases primarily.
25 Ethanol, you hear a lot about ethanol. You also know
1 that corn prices are the highest they have ever been¹⁴⁴
2 anywhere and what's that doing to the rest of the
3 food chain when you go to the grocery store to have
4 corn as high as it is. We also know that corn is not
5 the long-term answer for energy production as far as
6 ethanol.

7 Recently I read a report that in Iowa,
8 our No. 1 corn producing state in the United States,
9 if every ethanol plant goes on-line that's set to go
10 on-line in Iowa, when they go on-line, Iowa would be
11 a net importer of corn. So, you know, what is that
12 going to do with the prices? What is that going to
13 do with the other animal agricultural prices out
14 there? All of our food stuff, everything from tacos
15 to whatever, what's that going to do?

16 But anyway, in energy we're looking at
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17 that. We're looking at methane primarily from animal
18 waste. We know that storage and lagoons as far as
19 water quality concern, the air quality certainly,
20 long-term that's not what we need to be doing. We
21 need to be taking a look at other things, such as
22 methane production.

23 Finally, where it talks about our last
24 venture goal, it's working farm and ranch land
25 preservation. As you go out through the countryside
1 now you see -- I wish Mike was still in here. He was¹⁴⁵
2 taking about earlier around Percy Priest Lake about
3 how that's just been completely subdivided, I didn't
4 know that, but he said it was the largest subdivision
5 in the state.

6 We're looking at our landscape all
7 over Tennessee and seeing what we can do with certain
8 programs to put conservation or agriculture easements
9 on this land. There's some areas in the United
10 States that have done an awfully good job with this.

11 Davis, California, that's a big
12 agriculture area, if you have been in that part of
13 California, but they took a downtown area and really
14 put a ring of easements around the downtown to where
15 they went back and they have the agricultural land
16 there that's protected. They have downtown that's
17 been revitalized and they have done an excellent job
18 as far as easement -- conservation easements and
19 protecting our resources.

20 Finally, we worked on the business
21 lines of what we do as an agency, and that seems like
22 it should be fairly simple, but it was the hardest

23 thing -- there was a lot of blood, sweat, and tears
24 that went into this area.

25 You know, we have been around almost
1 75 years as an agency but still defining what we do, ¹⁴⁶
2 or better yet, what we don't do was the most
3 important thing, I think, we have done because as an
4 agency in over 70 years we have not sat down and
5 exactly told our producers and our customers, the
6 constituents out there what we do and what we won't
7 do for them because we have always said, yeah, we
8 will do that and come on in and we will help you out
9 on that. I think TVA has done some of that in the
10 past, too.

11 So the business lines, I will let you
12 read for yourself and not get into detail, but that
13 was one of the parts of the strategic plan that we
14 really had to focus on to see the direction we're
15 going. As far as what we we're doing, how we're
16 utilizing our strategic plan, and I keep referring to
17 it, I didn't have enough copies with me, but this is
18 on-line at our nracs.usda.gov web site.

19 If you want to take a chance and take
20 a look at this, I think it's a great document to kind
21 of use as an outline maybe for what you're wanting to
22 do on down the line.

23 We are using this document almost
24 daily. We do everything from everyone's personnel
25 performance plan that's tied into the measures in ¹⁴⁷
1 this plan, all of our business plans are tied into
2 this plan, and we really set the direction as much as
3 we can with this plan as the basis of what we do.

4 As a spinoff of this plan, we realized
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5 that in this plan we talked about the direction we're
6 going, what we're going to need to be doing, what
7 technical expertise that we need to be working, say,
8 in air and energy that we don't have now.

9 So a spinoff to this plan, we actually
10 did a human capital strategic plan. So the strategic
11 plan here is what we want to do and the human capital
12 strategic plan is how we're going to get this done,
13 how we're going to gear up our own employees to be
14 working on things in the plan and how we get there
15 and what outside resources we will need and
16 expertises that we don't have in the agency that we
17 will need to get some way.

18 with that, I would -- just in summary
19 I would like to hit a couple of things that gave us
20 some real concerns with our strategic plan. The
21 whole process worked fairly well, but we are an
22 agency that depends on Congress both for money and
23 for authorization of what we do. Our authorities
24 depend on what Congress does.

25 We primarily rely on a Farm Bill. And
1 if any of you have been following that, Congress ¹⁴⁸
2 writes a Farm Bill about every five to seven years.
3 Congress really doesn't like to write a Farm Bill.
4 It's not a topic -- you know, no one is against
5 conservation, no one is against agriculture, but
6 we're not -- without the Jamie Whittens and the Ed
7 Joneses that we used to have as champions forwarding
8 those purposes, it's harder and harder to get people
9 in D.C. to write a Farm Bill.

10 Our Farm Bill that ran out of -- the

11 authority was supposed to be reauthorized last year.
12 It's been extended numerous times. The authority
13 runs out this Saturday, but I found out today right
14 as I was walking into this meeting that it's been
15 extended through April the 18th, the current Farm
16 Bill.

17 It was supposed to go through a month
18 from this Saturday, which would be April 15th, but we
19 all know that's tax day. So Congress, in their
20 wisdom, said we will make it the 18th and no one will
21 put the two together.

22 Anyway, this is a major piece of
23 legislation. It's a \$280 billion plus. It's got 11
24 different titles. It's got -- it starts with the
25 commodity title. It's got conservation title. It
1 goes down through education -- through research and ¹⁴⁹
2 education. It's got rural development and all the
3 other titles in the Farm Bill.

4 That sets pretty well the direction
5 that we go. Even though we have got a great
6 strategic plan, Congress has a lot to say in how we
7 do what we do because, you know, we have got
8 authorization for a lot of authorities. You know,
9 there's authorizers and there's appropriators. The
10 authorizers say we can do this, but unless the
11 appropriators puts up the money to do that, not much
12 gets done. So we are working very diligently with
13 Congress on the Farm Bill to try to get some changes
14 in.

15 I know that in our programs we work
16 very closely with the TDEC and TVA and Corps of
17 Engineers on the permitting on what we need on

18 private land. As a matter of fact, I am very proud
19 of the fact that we're streamlining on T&E species
20 and cultural resources to try to make it easier for
21 the producers to apply conservation on the ground.

22 In closing I would like to say and
23 just brag on us a little bit, you know, we helped
24 apply over 47,000 conservation practices -- very
25 diverse practices from east to west in Tennessee,
1 everything from timber stand improvement to, like I ¹⁵⁰
2 mentioned, animal waste management systems, and that
3 averages to over 500 conservation practices per
4 county.

5 So if we're going to be addressing the
6 natural resource concerns, like I said, the air
7 quality, water quality, healthy soils, this is where
8 we need to be working in what we're doing. So I
9 appreciate your help in expediting this process.

10 Thank you.

11 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
12 right. Thank you, sir. We appreciate you providing
13 us that overview of NRCS about where you're going.

14 Our next speaker is from the
15 Southeastern Watershed Forum, Catherine -- how do you
16 pronounce your last name?

17 MS. CHRISTINE OLSENIUS: Christine
18 Olsenius.

19 COUNCIL CHAIR MR. TOM LITTLEPAGE: It
20 is Christine. I'm sorry.

21 MS. CHRISTINE OLSENIUS: Good
22 afternoon, everyone. Let's see. I am hoping I can
23 get this going. It magically came up. All right. I

24 am hoping the one on the right is the one, correct?
25 That's it. Okay.

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1 Christine Olsenius, Southeast
2 watershed Forum, a non-profit organization to give
3 you a slightly different perspective this afternoon
4 on some of the topics that you-all have been hearing
5 about today.

6 Our mission is to build the capacity
7 of communities and organizations to better protect
8 their land and water resources. We do that through
9 education, training, and regional dialogue.

10 In your packets you do have a couple
11 of special reports that we have developed on the
12 economic value of habitat, another one on the
13 economic value of trees to your community.

14 we developed out of a conference in
15 1997 where 300 people came from throughout the
16 southeast to share watershed success stories, and
17 there was a feeling at the end of that conference
18 that there was a need for some kind of central
19 clearinghouse or entity that could share experiences
20 of what was going on from one end of our region to
21 another.

22 when I talk about region, originally
23 we served nine southeastern states, Kentucky to the
24 Gulf, Mississippi to the Carolinas, including
25 Southwest Virginia, even though Baton Rouge and Port
1 Aransas, Texas and a few other folks have been asking¹⁵²
2 for some assistance. So our region continues to
3 expand.

4 We have a Board of Directors from nine
5 of the southeastern states. We have an office in
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6 Nashville and a virtual or office business office
7 near to D.C.

8 We were -- we received one of the
9 first EPA targeted watershed capacity buildings
10 grants. If you're not a follower of TVA's funding,
11 or EPA's funding I should say, that may not mean a
12 lot to you, but there's very few of those that go out
13 and we were -- and it's usually big national groups
14 that get them. So we were really thrilled to have
15 the southeast recognized as an area that should
16 receive a capacity building grant.

17 we have a very heavy emphasis,
18 especially working with our TVA partners throughout
19 the seven TVA states, on community quality growth
20 because this is where we feel we're going to win or
21 lose our watersheds, and we're winning or losing them
22 acre-by-acre everyday in terms of land-use practices.

23 we developed a watershed training
24 academy a number of years ago. We have trained over
25 110 people in 14 states to go out -- they had
1 intensive three-day training to go out and do better¹⁵³
2 watershed management and land and water protection
3 efforts in their community.

4 we also are involved in creating many
5 new strategic partnerships, which I will talk to you
6 about a little bit later. We started a program, and
7 we started it in Chattanooga, our second one was in
8 Knoxville, it's called the Southeast Watershed Round
9 Table. It was an effort many years ago to get
10 industry and agriculture and the watershed community
11 and the city and county state agencies together in

12 one room to sit down face-to-face and dialogue, not
13 talk at each other, but really working on how we
14 could do a better job of making things happen on the
15 ground.

16 what's been exciting is to see that
17 after starting that at a regional level for a couple
18 of years, five states decided to start their own
19 state based round tables and four regions have done
20 regional round tables.

21 Carol, we probably should include the
22 upper Tennessee in there as well. We were not sure
23 we should take credit for you, but there's -- these
24 were direct outgrowths from our regional meetings.

25 we have documented on an average of 25
1 to 30 percent new partnerships and initiatives that
2 develop from these meetings. So they are not just
3 conferences. They are great opportunities to address
4 issues facing our region.

5 we have a virtual on-line center as
6 well where you can go to get a lot of information on
7 watershed restoration efforts, management efforts
8 throughout the region. Some of those might be
9 habitat protection, quality growth or smart growth
10 efforts, model ordinances, linking to other kinds of
11 information resources.

12 At the end of this month we're going
13 to debut a new web site and a new community mapping
14 service, which we're very, very excited about, that's
15 going to give folks in all of our countries and local
16 communities throughout the region an opportunity to
17 go on line and actually pull up their own watershed
18 or their own county and get any number of mapped

19 resource data.

20 where are your wetlands?

21 where is your forest cover?

22 where is your primary priority

23 habitat?

24 where is your 303(d) streams, your

25 impaired streams, your land use, your land cover?

1 so we're pretty excited about making ¹⁵⁵

2 this a user-friendly sites for all of those folks who
3 aren't specialists in GIS.

4 when we met here in Knoxville at the
5 second Southeast Watershed Round Table in 1999 we
6 break up everybody into small groups for these
7 discussion sessions, and we asked them all the
8 question, what do you think the biggest environmental
9 issue is facing the southeast in the next decade.

10 This was 1999.

11 Every single -- the feedback we got
12 from every single break-out group was pretty much a
13 variation on this theme, that the southeast between
14 urban sprawl, land fragmentation, loss of rural areas
15 and farm lands, the continued population growth,
16 these land use changes would have a major impact on
17 not only our water resources in terms of quality but
18 our water resources in terms of supply. This was
19 1999. They were right on the money.

20 In the 1990s the southeast was the
21 fastest growing region in the country. We lost the
22 most forest farms and open space to sprawl than any
23 other region of the United States. Populations for
24 our region, as you know, are very high, and in

25 particular for the Gulf Coast and South Atlantic 156
1 Coastal Regions exceedingly high.

2 Yet, here we are a region that has
3 some of the greatest biodiversity on the North
4 American continent, incredible biodiversity in the
5 southwest. We have more fish in the Duck River than
6 they have got in the entire Colorado River system in
7 terms of native species. Of course, we're losing
8 over 30 percent of that biodiversity as well.
9 Because we are so rich, we're losing the most due to
10 all of these changes.

11 Now, this is a map of housing density.
12 We often use housing density as sort of a measure of
13 growth and development changes and land use. Where
14 are the impervious surfaces? How is the sprawl
15 affecting? As you can see, there's a little bit more
16 green, but as we move forward in time there's going
17 to be less and less green.

18 This is a housing density map from
19 1960. I am going to show you the next one for 2000
20 and 2030, and please note the changes. Obviously,
21 the red are your urban areas and the whitish and
22 pinkish areas are as the sprawl moves into ex-urban
23 areas.

24 All right. There's 2000 and there's
25 2030. Now, this is housing density based on county 157
1 statistics, growth statistics that researchers have
2 taken and applied and then projected in their models.

3 I am going to next show you an
4 animated housing density GIS map for Tennessee, and
5 it moves a little quickly. So here we go. '80,
6 1990, 2000, 2010, 2020, 2030. Notice a definite

7 decline in green and a definite increase in the white
8 areas, which becomes sprawl. Of course, an increase
9 in the red urban cores as well.

10 Now we're going to go to Meigs and
11 McMinn Counties, which is an area where we're
12 working. It's really a relatively rural part of
13 Tennessee. As you can see, by the time we get to
14 2030 up there at the top, there isn't a whole lot of
15 green left up there either. Again, 1990, 2000,
16 2001 -- 2010, excuse me, 2020 and 2030.

17 we don't know -- when we're doing
18 land-use planning and when we're working at a county
19 community level, we're not always projecting how all
20 of our various activities are really going to impact
21 our community or our watershed in a cumulative way.
22 This is a tool that we feel is very valuable to take
23 into communities. Of course, whatever we do on land
24 is affecting our water.

25 And these -- this is an older map of ¹⁵⁸
1 the 303(d) streams, the impaired waters in the
2 Southeastern United States. Obviously, if you
3 overlay that with the highest areas of growth and
4 development, they correspond pretty directly.

5 So we have been able to see and our
6 stakeholders have been able to identify over the
7 years that the biggest issues that we have to address
8 are land use and the impact of land use on water
9 quality as well as on water supplies.

10 As our colleagues in Georgia continue
11 to remind us, as they try to keep moving that state
12 boundary up to Chattanooga, that we have some serious

13 issues, even though the director of the Atlanta
14 Chamber of Commerce does -- his recent quote was
15 that, "Our growth and development has nothing to do
16 with the water problems in Atlanta." We don't know
17 what universe he's been in, but obviously the water
18 supply issue is only going to intensify.

19 we have in the south a real resistance
20 to land-use planning. So that makes it challenging.
21 We have got a lot of counties that don't even have
22 codes or ordinances of any kind. All of this is
23 going to become intensified by climate change,
24 whichever ways it goes or impacts us.

25 what we're seeing is a tremendous need
1 for more technical assistance at a time when many of ¹⁵⁹
2 the federal programs that used to provide a lot of
3 local and technical assistance are pulling those
4 resources due to budget cuts.

5 This is where the Tennessee Valley --
6 the watershed stewardship teams have been so
7 absolutely critical to building capacity in local
8 communities, and they're great partners with us.
9 We're seeing a real need -- we have got communities
10 that can't even write a code and ordinance. They
11 just don't know how to have the technical staff. They want
12 to improve. They don't know how to improve. They
13 don't have the technical capacities to move forward.

14 we need expanded partnerships. We
15 couldn't do what we do without our partnerships, like
16 TVA and the other agencies and organizations that we
17 work with throughout our region. We think there's a
18 need for new forums, at least that's what we're
19 hearing at our annual watershed round tables is that

20 we need knew forums for addressing water issues
21 before they become a crisis.

22 So with all of these challenges, our
23 answer to this challenge is, again, trying to build
24 community capacity for what we call watershed
25 friendly growth and development. Every community
1 wants to grow. 160

2 As the Mississippi Department of
3 Development told me one day, you know, Christine, we
4 have got a lot of counties that want some impervious
5 surface. They want some pavement. They want some
6 parking lots. They want some roads and buildings.
7 They have got enough green space right now. And
8 that's true.

9 The question is one of balance. The
10 question is, how do we maintain our southern
11 character and how do we maintain our quality of life
12 and the water resources that we want and need for a
13 variety of purposes and do so in an affordable
14 fashion? So there's some tools to land-use
15 management that will help us get there.

16 We think we bring something different
17 to the training arena. We have done a lot of work on
18 developing and researching the economics. We can't
19 go in and talk with city/county folks without talking
20 their language, and that's economics. That's cost
21 and benefit.

22 We have a lot more statistics now than
23 we had in the past to show the hidden costs of
24 sprawl, the costs of stormwater management, the value
25 of urban forests, the value to developers of a

1 conservation plan and how much money that saves them
2 and how much more they can sell a home for if they do
3 it in a greener manner. There's -- there's just a
4 tremendous amount of economics that are becoming
5 available that we can use now to really motivate some
6 changes at the local community level.

7 In addition, we go into every
8 community with some strong visuals because we still
9 don't have a very good -- we have not come up with a
10 good way to visualize impact, and that's why we feel
11 that the GIS, the build-out maps, and some of the
12 other maps that we're trying to develop for
13 communities will really help them see impacts. If
14 they can see where the valuable resources are, they
15 will do a better job of trying to protect them.

16 we're doing as much as we can to
17 integrate land use and water protection. You know,
18 in all of our agencies, whether it's federal, state,
19 probably even within agencies such as TVA, you know,
20 you have got your land use, resource people here, and
21 you have got your water people over here. Sometimes
22 they are on opposite ends of the building or in
23 separate buildings, and they don't always talk.

24 when you get into the local community
25 level, it's amazing that the people doing the
1 comprehensive planning aren't talking to a whole host ¹⁶²
2 of people in the watershed arena. So we try to bring
3 those threads together.

4 Let's face it, when we get down to
5 talking about land-use change, it's not hard science,
6 it is social science. We have to work on motivation
7 and we have to work on consensus building, because

8 it's a very tough thing to actually change land uses
9 at the local level.

10 we have been working with TVA over the
11 past five years on some very exciting programs,
12 growth readiness, the land-use planning for water
13 quality, which depending on where we go can be
14 land-use planning for resource development, can be
15 land-use planning for sustainable development, but it
16 all has the same general theme, and then a new smart
17 growth community quality growth initiative that has
18 finally for the first time taken the smart growth
19 codes and made them more watershed friendly.

20 A lot of us in the water community
21 have been complaining to the smart growth community,
22 especially EPA, for years of what they're trying to
23 do on land was having a negative impact on water and
24 could the smart growth people please talk with the
25 Division of Water Quality, and we have been able to
1 help facilitate that with Joel Hayden's work at TVA¹⁶³
2 because when Joel Hayden and TVA goes in to talk to
3 EPA, somehow it has a little bit more impact than
4 when Christine Olsenius goes in to talk to EPA. So
5 that's the value of partnerships.

6 Just very briefly, I don't want to go
7 into the details, but growth readiness, when we go
8 into communities and we work with this approach,
9 we're working at a site planning level. How can you
10 do better -- best management practices at a
11 residential or commercial site?

12 So we're really getting them to
13 inventory their codes and ordinances. They are

14 looking at those codes and ordinances in relationship
15 to, are they expanding their impervious footprint or
16 are they saving their green space?

17 Again, they agree to work over the
18 course of a year to a year and a half on reviewing
19 and revising those codes and ordinances, and they
20 build consensus working on that process.

21 When we get to land-use planning for
22 water quality we move out and we are really talking
23 more about county comprehensive planning. How do you
24 look at your county and first decide where are the
25 key resources that you want to protect and then where
1 do you want to shape your growth and development
2 patterns?

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3 So we do a lot more with our mapping
4 systems at this point. And again, actually folks get
5 in and start doing a green print for their community
6 and their comprehensive planning.

7 Then ultimately, as I said, the
8 quality growth training is going to be more where we
9 get -- when we get more to the communities that are a
10 little more sophisticated and ready to move in to
11 more of a smart growth agenda, again, what are the
12 best practices that will achieve both smart growth in
13 terms of land use transportation planning but also
14 for water quality and water availability, sustainable
15 water supplies?

16 We have worked with the State of
17 Tennessee at the local planning assistance offices,
18 have taken this training. They have changed their
19 three-star community program because of the training,
20 and they have been instituting some of the best

2 institute into their local regulations, county
3 regulations. Tazwell County, Virginia we have worked
4 with, also with TVA and the Upper Tennessee River
5 Basin Round Table.

6 Again, that work has secured them some
7 additional funding to do work. They have changed
8 zoning ordinances, stormwater ordinances. The State
9 of Virginia is actually working now to do a statewide
10 growth readiness approach as a result of some of this
11 work.

12 Haywood County, North Carolina, also
13 we're working with the North Carolina State -- well,
14 it's WECO. It's Watershed Education for County
15 Officials, but that's out of their extension office.
16 Also, the Haywood Waterways Association and TVA and
17 their team up in that area. Again, they came up with
18 some interesting approaches with the steep slopes
19 ordinances, which is a big concern up in the mountain
20 areas.

21 Greene County, Tennessee was exciting
22 because they developed an LID, Low Impact
23 Development, Training, and Certification Program for
24 the contractors and landscapers. I thought that was
25 a great outcome from the particular program.

1 Some of the results from our land-use¹⁶⁷
2 planning for water quality, which goes beyond TVA's
3 area, Darien, Georgia, they wanted a planning
4 workshop. They didn't even want a watershed
5 workshop.

6 we went in there and helped them with
7 some local planning issues. They came out of it with
8 a comprehensive water resources protection ordinance

9 and a conservation subdivision ordinance. So no
10 matter what a city or county wants, we tailor
11 whatever they need, but we hopefully will still come
12 out with land and water improvement.

13 In coastal Alabama, we've been working
14 with folks in Baldwin and Mobile counties and the
15 communities along the coast to strengthen their
16 floodplain and wetland protection ordinances.
17 There's a tremendous amount of money you can save by
18 joining FEMA's community rating service. All you
19 have to do is protect a little bit more open space
20 and wetland areas and you can get some real
21 reductions in your floodplain insurance.

22 Moss Point, Mississippi, an area
23 affected by Katrina, we have been working with them
24 on sustainable development. We've been working on
25 ecosystem or ecotourism in Apalachicola, Florida as
1 well. So we get around. 168

2 Here are the benefits of land
3 conservation. I mean, they're incredible. It's a
4 win/win for a community. It should be in some cases
5 a no-brainer, but we all know that every local
6 community is balancing so many issues.

7 It protects their drinking water
8 supply and their quality. It saves them on
9 infrastructure and liability costs. It enhances
10 their property values and their tax revenues. It
11 attracts businesses. It boosts tourism. It improves
12 air quality, controls erosion, provides recreational
13 benefit, preserves community character. All of these
14 are reasons, and we can give you some of the

15 statistics behind them, as to why you should be doing
16 a better job of land-use planning in your community.

17 Now, a number of years ago we noticed
18 that there were a number of people working in our
19 watersheds that weren't working together. We have --
20 in 2000 we tried to map where all of our watershed
21 groups were in the south. We don't have all of them.
22 We have only 400 of them up there. We at least had
23 400 watershed groups.

24 Then we started to look at land trusts
25 because a lot of land trusts was starting to come to
1 our meeting. We had about 175 land trusts there in ¹⁶⁹
2 green next to the blue dots.

3 well, we noticed that they were not
4 working together, and land trusts can be a tremendous
5 benefit to a local watershed group because of what
6 they're protecting. It can really help a watershed
7 group achieve its objectives, but they sort of have
8 different modes of operation and they just tended --
9 were not working together. We started a partnership
10 with the Land Trust Alliance years -- three years ago
11 to try to get these two groups to do a better job of
12 collaborating.

13 We also thought that as the state
14 agencies were all working on their comprehensive
15 state-wide conservation strategies, every state had
16 to outline their state-wide SWOT, what was it, State
17 Wildlife Action Plan, where are all of their
18 threatened and endangered species and how are they
19 going to protect them in the years ahead?

20 well, we thought, you know, if they
21 started to work a little bit more with watershed

22 groups and land trusts, probably it would be a good
23 partnership out there because the resource agencies
24 aren't going to be able to accomplish their goals and
25 objectives all by themselves.

1 So another -- it doesn't sound like a ¹⁷⁰
2 novel idea, but it's surprising what a new idea it
3 can be for people. So we're trying to get -- we're
4 working with the Southeast Aquatic Resources
5 Partnership, which is a consortium of state fish and
6 wildlife groups from throughout a 14-state region
7 actually in the southeast because we think we can all
8 start to work together and do a better job of
9 encouraging more habitat protection and better lands,
10 both whether it's public or private land management.

11 Of course, our goal is to encourage
12 communities, when they are doing their comprehensive
13 planning, to do a better job of making sure they see
14 and protect that habitat that's in their area and to
15 build support for things like the Southeast Aquatic
16 Habitat Plan, our state plans, and the National Fish
17 Habitat Initiative, which is a new national
18 initiative out there.

19 So as a part of this program we
20 figured it's about time -- we're into mapping, I
21 guess, because we want to visually see where things
22 are. So we thought it would be a great idea to
23 develop a web base map that showed us where the
24 privately protected lands were and to show us where
25 some of our other natural resources are and to give
1 us a one-stop source of habitat protection data and ¹⁷¹
2 to allow us a method that over time we could actually

3 see if we're improving or if we're reducing protected
4 lands over time.

5 These are some of the people who are
6 involved in that partnership for land and water
7 protection that has evolved over the years. What we
8 began to do -- the first step was to map privately
9 protected lands.

10 So we worked again with the land
11 trusts and sent surveys out to the ones in the
12 southeast to ask them for their GPS coordinances on
13 where their land was, the protected parcels.

14 If they didn't know what their GPS
15 coordinates were, could they give us a tax ID? If
16 they can't give us a tax ID, tell us how many acres
17 are protected and in which county and which state and
18 we will do what we can. Of course, we're working
19 with partners at the University of Tennessee at
20 Chattanooga in their GIS lab.

21 well, 87 land trusts responded from
22 eight states, 36 watershed groups in nine states. We
23 actually came up with about 700,000 new acres of land
24 that was not in the gap data, the national data that
25 was already in existence, 232,000 new acres of
1 privately protected land, along with about 500,000 of¹⁷²
2 new publicly protected lands that had just come on
3 board the last year.

4 So we have been -- we were able to go
5 from a map that looks something like this at the
6 national level to a map that looked like this.

7 Now, as this work was progressing the
8 universities talk a lot with NBII, the National
9 Biological Information Infrastructure group, which is

10 a part of, I guess, the USGS. They are the people
11 who really provide access to our national biological
12 data. They link with all kinds of incredible sites,
13 and I didn't really know who they were before.

14 They got very interested in our data
15 and in the mapping project, and they decided that if
16 they could use our privately protected land data in
17 the national data site they would provide us some
18 geo-spatial design services and help create a web
19 mapping application, which we wanted to do all along
20 but we did not know it was going to cost quite so
21 much.

22 So they've probably brought -- and
23 again, this is where partnerships are absolutely
24 critical, probably \$100,000 that we had failed to
25 realize it might take in geo-spatial design 173
1 capabilities and, of course, the servers powerful
2 enough to create web mapping programs. So, again, a
3 great partnership. Again, TVA has been helpful in
4 participating in this program and also in providing
5 information and land protection data for this
6 database.

7 So at the end of the month, not
8 before, at the end of the month we hope to launch
9 www.watershed-assistance.net/mapper, which everyone
10 is going to be able to go on and they are going to be
11 able to choose any number of options to, again, get
12 information on their watershed or their county or
13 their state.

14 They can get any number of cross data
15 natural resource information. Again, as I had said

16 earlier, land use, wetlands, forest cover, privately
17 protected lands or publicly protected lands, 303(d)
18 streams, all kinds of data there. We're pretty
19 excited because we think that that is going to really
20 give us some key help for improving land and water
21 protection at the local level.

22 Here is the state -- Tennessee State
23 wildlife Action Plan. We, again, worked with all of
24 our state fish and wildlife agencies to try to map
25 their priority habitat. This is -- I'm not sure how
1 well you can see it with the light. This is ¹⁷⁴
2 Tennessee. The green areas, the darker the green,
3 the more valuable the habitat. You can see how much
4 of it along the Cumberland Plateau.

5 The red areas are already protected
6 lands. You can see some of the plateau is in
7 protected areas but much of it is not. So, again, a
8 nice way of cross-referencing some data.

9 This is North Carolina. Again, the
10 red area is already privately or publicly protected
11 lands. The dark green, a tremendous amount of area
12 that is prime habitat that is not yet protected.

13 Here's at a county level walker
14 County, Georgia, the red areas and deep blue areas
15 are priority habitat, both plant and animal. Then
16 all of those other colors are different land trusts
17 and which land trust have which area. You can see
18 how from a local county planning perspective, you can
19 see who your partners need to be or you can see where
20 the gaps are for resource connectivity if you want to
21 create a habitat corridor. So, again, some very
22 interesting opportunities.

23 This is Baldwin County, Alabama,
24 again, land cover, again, showing a lot of different
25 resources all together for your information. Again,
1 download it -- not download it but print it to your¹⁷⁵
2 computer. It's a nice, cheap way. It's going to be
3 a free service. Again, it's designed for the non-GIS
4 specialist.

5 Again, we wanted to show some other
6 comparisons. Here's an overlay of Georgia. Again,
7 you can see green protected areas. Interestingly
8 enough where you see blue streams, those are the
9 streams meeting designated uses. The red streams are
10 not.

11 Interestingly enough, where you see
12 green you have blue supporting streams. In all of
13 the areas where the red streams, the 303(d) streams
14 are, there is no protected land. So it's a nice quid
15 pro quo there in terms of a direct relationship.

16 So for us really healthy watersheds
17 produce improved water quality, a more sustainable
18 long-term water supply continued by diversity for our
19 region, improved quality of life, and definitely is
20 going to be better for the long-term economy of the
21 region.

22 And again, we think that the expanded
23 partnerships, and there's just a few we have talked
24 about today, are going to encourage greater
25 collaboration. None of us can do all of this alone.
1 we have to be working in partnership with others.¹⁷⁶
2 None of us have the money, the expertise or the staff
3 to do everything that's required.

4 Critical strategic partnerships and
5 leveraging of resources is going definitely help us
6 get a lot more bang for our dollar. So that's in a
7 nutshell what the Southeast Watershed Forum is doing
8 with TVA and all of our other partners in the region.

9 This is just a few of our partners.
10 It looks very messy, but, you know, we love our
11 partners. We couldn't get them all on there, but
12 these are certainly some of our major ones. There's
13 my contact info.

14 I wanted to make one suggestion while
15 I had the platform for all of you as you do your
16 thinking and deliberating in the day ahead, try to
17 remember, again, that quality growth is related to
18 water supply. We can't disconnect quality land
19 use -- water quality and land use and water supply.

20 Our feeling is that the resource
21 stewardship teams at TVA are absolutely critical
22 partners to have on the ground. They have done a
23 tremendous amount to build capacity at the local
24 level and they have been great partners for us to
25 do -- to cover, you know, more territory with limited
1 staff. 177

2 We continue to need integrated
3 resource management. Land people have to talk to
4 water people who have to talk the transportation
5 people, and all of these people in their different
6 little bends need to start collaborating. I am
7 hoping as well that TVA land use and watershed
8 practices continue to be integrated as well over time
9 because I think they play a critical role in the
10 future development of the valley.

11 So with that, thank you very much.

12 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
13 right. Thank you very much, Christine. That was
14 very informative. What we're going to do is we have
15 had three very good, distinct, but complimentary
16 presentations today from different perspectives.

17 We're going to set up an opportunity
18 to talk to each of these presenters and ask questions
19 as we prepare for consideration of the discussion
20 questions tomorrow and sort of reflecting on the
21 material that we have seen earlier this morning.

22 I'm going to ask our three panelists
23 if they would come sit up front in the proverbial hot
24 seats, and we will have an opportunity to just ask
25 some follow-up questions based on the information 178
1 that you have provided.

2 I'm going to ask my fellow members to
3 just follow the procedure, again, of flipping up your
4 name tag, name chart if you have a question for these
5 individuals. We really don't have any specific order
6 or anything, I think just whatever you see as a
7 result of what you have heard this afternoon.

8 Mike, do you want start us out?

9 MR. MICHAEL BUTLER: I will lead it
10 out. First question is for Christine. There's
11 actually two questions there.

12 The first part is one of the
13 weaknesses the State Wildlife Action Plans are that
14 they only show what good things are left. In other
15 words, you could take a photo negative of that. If
16 you look at that and you look in the western part of

17 the state where I was born and raised, there's very
18 little green. That's because it's all been destroyed
19 over the last 80 to 100 years.

20 what plans do y'all see or do you work
21 with in terms of restoration efforts? Because those
22 restoration efforts, I think, are going to be
23 critical in the future to having a little bit more
24 predictable water supply for some areas. You know,
25 Middle Tennessee is very similar in that a lot of
1 those areas are -- you know, there's some surface 179
2 waters that are used for drinking water supplies, but
3 there's some restoration that needs to take place in
4 certain areas of Middle Tennessee.

5 How do y'all handle -- how do y'all
6 engage in the issue of restoration versus protection?

7 MS. CHRISTINE OLSENIUS: That's going
8 to be a decision for a local community. Again, we
9 would not go in and tell a local community what they
10 should be doing.

11 First of all, I think the reason
12 there's an emphasis on the protection is because
13 there is a need to protect a few things before it's
14 too late anymore and the next year this particular
15 place may not be there. So I think that's one of the
16 reasons there's been so much emphasis on protection
17 is land-use transformation and change has just been
18 going at such a rapid pace.

19 Now, many local communities already
20 have an idea that there's some areas that they want
21 to restore, or because of their watershed planning it
22 has been identified that they need to restore these
23 areas, especially if they are -- say in an area where

24 there's 303(d) streams and they are going to have to
25 do improvement or there's going to be issues with 180
1 their permitting.

2 So we don't control that. We try to
3 make the local communities aware of these concerns.
4 Most of them will -- some of them will certainly be
5 aware of where there's a need for restoration. What
6 they're not doing is they are not looking at habitat
7 at all. So we're just trying to bring that to the
8 table.

9 MR. MICHAEL BUTLER: The second part
10 to my question is a little different. It seems that
11 a lot of the organizations that we work with at my
12 organization are based in either suburban or urban
13 areas, and they have a focus that really can go --
14 let me rephrase this.

15 Do you find -- in our research we find
16 that there's an enormous lack of resources available
17 to rural counties to make any kind of educated
18 decision. You know, several counties in a study area
19 we have on the southern plateau, they don't even have
20 even rudimentary planning committees or commissions
21 in their county governments, which precludes you
22 from -- it makes it very difficult to bring good
23 information to the ground.

24 Do you see that bias carrying forward
25 in the partnerships that y'all have to be able to get
1 tools to rural people to help them make better 181
2 decisions about watershed protection?

3 And what's your thought on TVA's
4 ability to kind of cut across -- since they are a

5 federal entity, they can cut across the urban,
6 suburban, rural boundary and bring -- what has your
7 experience been or what do you think they could bring
8 to the table?

9 MS. CHRISTINE OLSENIUS: Most of the
10 communities that we actually are involved in training
11 are at that local level or the rural level. If they
12 are rural, per se, they are awfully small and they
13 don't have -- they don't have resources, and that's
14 why I mentioned right when -- and we continue to hear
15 that at the Southeast Watershed Round Table every
16 year. The smaller communities or the rural
17 communities are saying, you know, we don't get enough
18 attention and we're not getting enough funding. So
19 that is a huge problem.

20 we have been trying to talk to state
21 development offices about, you know, where are your
22 local development teams?

23 You have got all of these regional
24 planning groups, you know, why are they not working
25 with some of these smaller communities?

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1 So wherever we can, even with our
2 discussions with TVA or EPA, that comes up.
3 Although, I must say that TVA, because of the region
4 that it's traditionally covered, does a better job
5 of, again, having their teams working in some areas
6 that are very, very rural. So that's not then as
7 much of a problem with them. It certainly is a
8 problem getting some of the EPA funds down to those
9 areas.

10 I would agree with you, that's --
11 we're continuing, at least through our interaction

12 with the federal agencies and in terms of who we
13 serve, that's our market. Those are the ones -- you
14 know, if you're in Knoxville and Nashville you have
15 got the staff. You don't need our help so much. You
16 might need our perspective sometimes, but where they
17 need our help is in your communities, the rural ones.

18 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
19 right. Any other questions?

20 I had one. I guess it's for Kevin.

21 In Alabama we have had a lot of discussions relative
22 to the Farm Bill and the potential to use that as a
23 vehicle for regional reservoir development and to
24 help ag water supply in terms of the drought impacts
25 that farmers in our state and others across the
1 region have felt. 183

2 I guess I am curious to the degree of
3 a national initiative like that, how does that fit
4 into the NRCS strategy that you raised this morning?

5 MR. KEVIN BROWN: It's in the
6 strategy, but as of now it's not in the Farm Bill.
7 There's not anything that talks about the water
8 supply. There was a program -- well, it's still
9 authorized, but it's not funded at this point. It's
10 our PL566 project where we go in and help rural
11 communities establish water supplies.

12 That program was earmarked the last
13 couple of years for about 130 percent of the money
14 that goes into that program. In the past Alabama has
15 been able to work and get some of the money for that
16 program, but it's not part of the Farm Bill.

17 So, Tom, I guess to answer your

18 question, right now we have addressed that in our
19 strategic plan. We take a look at that. You know,
20 the first time in the history of the United States
21 we're looking at water quantity problems on this side
22 of the Mississippi that we have never looked at
23 before.

24 I wish I had a better answer for you,
25 but we have not -- Congress so far has not directed
1 us. Even though we do have the authorities, we ¹⁸⁴
2 haven't had the monies to work on such resource
3 concerns.

4 COUNCIL CHAIR MR. TOM LITTLEPAGE: And
5 I think that sort of alludes to really the
6 presentations we have heard all day today, given
7 water quantity and its need to cross boundaries in
8 terms of how it's managed as a resource.

9 There's been a lot of discussion.
10 Christine most recently raised that in terms of the
11 need to integrate holistically transportation
12 networks and land-use patterns and quality and
13 quantity and even air quality, trying to pull those
14 concepts together.

15 The federal government traditionally
16 has -- and probably for a lot of statutory reasons,
17 has stepped back and let the states work with that,
18 but they are seeing the pressures now are becoming so
19 intensive that the states are going to have to work
20 with entities like federal agencies or with TVA to
21 help manage these so these resources would be
22 available.

23 There's some real -- I think things
24 like the land-use maps that you illustrate, I have

25 seen those presented in a number of different forums.
1 It's one of those deals, are we watching the tip --¹⁸⁵
2 you know the old frog in the boiling water analogy
3 where you never notice that increase and then finally
4 the frog dies, and are we watching that just a degree
5 at a time and 30 years or 50 years from now we wake
6 up and it's all gone and we're in a completely
7 different environment that we're trying to fix as
8 opposed to trying to manage.

9 So I think there's a message for us
10 that we're at a point where we can work together. I
11 think that's one of the challenges that TVA has is
12 trying to figure out how we do this, as Kevin alluded
13 to, for those of us that are east of the Mississippi
14 and traditionally haven't had to worry about those
15 kind of issues.

16 Other questions for our panelists?

17 Bill.

18 MR. BILL TITTLE: Good presentations.

19 I think we hear from all of you that it takes a lot
20 of partnerships to make these things happen at the
21 local level from public and private. I think all of
22 us will go back with some enthusiasm and try to
23 foster doing that.

24 My question is to Christine. I heard
25 you mention national flood insurance rate reduction.
1 If we go to your web site, can we find something¹⁸⁶
2 there to talk about that?

3 MS. CHRISTINE OLSENIUS: No. Actually
4 I would go to FEMA's and look under -- and maybe, you
5 know, that's a good link we ought to think about

6 adding. We bring it up at all of our training, but
7 we don't have it on the web site.

8 It is the community rating service.
9 So it's a CRS program, and that's the one where they
10 will rate you on one to eight. Depending on what
11 your land-use practices are, they will reduce you
12 accordingly.

13 MR. BILL TITTLE: Thank you.

14 MS. CHRISTINE OLSENIUS: Your rate
15 rather.

16 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
17 had one additional question. John, Christine's
18 presentation was interesting, especially with regards
19 to the ability to quantify economic benefits
20 associated with green development.

21 I was trying to figure out in your
22 presentation where you talk about the planning
23 process, how does that fit into the identification of
24 issues moving forward?

25 MR. JON CREYTS: So there are very 187
1 real economic costs that need to be established on a
2 cost-benefit basis. One of the real tricks here, of
3 course, is in valuing ecodiversity or a lot of the
4 externalities to the market that are -- you know,
5 there are economic ways of measuring, but they tend
6 to -- you know, there are multiple ways to establish
7 and oftentimes aren't necessarily good markers that
8 companies can buy into or that communities can buy
9 into and feel comfortable and confident relative to,
10 you know, the hard cash that comes out from others.

11 There's certainly -- you know, there
12 is work afoot to really establish more standardized

13 cost curves that help correlate kind of the clean
14 water supply potential with, you know, relative
15 levels of need and relative kind of resource
16 availability at a local and regional level.

17 As those standards come forward here,
18 I think it's going to greatly speed and expedite the
19 ability of local communities to establish the cost
20 benefits at a reasonable level and for companies to
21 be able to buy into it in a straightforward manner as
22 well.

23 Christine, do you have any other
24 thoughts on that?

25 MS. CHRISTINE OLSENIUS: Yes. I mean,
1 it doesn't have to be really difficult economics. ¹⁸⁸

2 The American Waterworks Association did a survey of
3 27 utilities and they found that the -- there's a
4 great chart we use in our workshops that shows the
5 more forested your watershed the less the cost of
6 treatment of water or of your drinking water. This
7 was obviously surface water supply.

8 Some of this is just -- it's not
9 really rocket science, but there's good associations
10 there that nobody has ever thought to look at before
11 or to survey. Again, the same with green
12 developments versus conservation developments, the
13 developers themselves are coming up with some of
14 these costs.

15 Absolutely, we do need the economists
16 to do more, and the more they can do --
17 interesting -- one quick thing is that we found that
18 the economic value of an acre of wetland was worth

19 far more for bird watching than it was for its water
20 quality or floodplain potential. So it was amazing,
21 the dollar value was very high.

22 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
23 think it's interesting when you look at the idea of
24 cost benefits directly in terms of increased value of
25 developments that have green space versus the cost
1 avoidance, as John alluded to, or I guess you alluded¹⁸⁹
2 to with the waterworks deal of treatment, that
3 there's cost penalties of doing nothing and having to
4 address issues in the future from a county or
5 municipal level.

6 I think it's those kinds of messages
7 that need to go out to encourage folks to be
8 sensitive to this issue and realize that there is a
9 benefit to be -- to be achieved or a cost to be paid
10 if you do nothing or maintain the status quo. I
11 appreciate all three perspectives we have heard
12 today.

13 Any other questions for our panelists?

14 Okay. I will throw out one more,
15 Kevin. Sorry. I am like Mike, I don't want to be
16 the only one out here. So I would encourage you to
17 jump in here.

18 We talk about water conservation in
19 the ag community, and I think there's a real untapped
20 market, as you say. How does the strategic plan
21 envision trying to work with local level resources
22 and individual farmers to encourage water
23 conservation practices or improve what is already out
24 there?

25 MR. KEVIN BROWN: Well, really that's
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1 one of the target goals that we're working on is
2 water conservation.

3 Primarily that's another thing that's
4 been done out west for years. The technology that
5 they have that we're bringing and we're seeing in
6 Southern Florida and all the way on up into the
7 valley, some of the water quantity issues and
8 irrigation.

9 For instance, in West Tennessee now
10 we're taking -- there's not that much irrigated crop
11 land in Tennessee, but where there is an established
12 irrigation system you can save over -- well, about
13 two-thirds of the water supply on changing the
14 nozzles in a more direct spraying and drip irrigation
15 where possible, and that type thing.

16 So we're bringing that technology
17 that's been across the United States to Tennessee to
18 increase the efficiency on agricultural water supply.

19 We're doing a lot of work with
20 tailwater supplies where we're seeing around Warren
21 County, McMinnville in the horticulture business
22 where we're re-utilizing the money, I mean, the water
23 and saving money for the producers but also
24 recirculating the water.

25 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
1 was just going to ask, so with the nursery or turf¹⁹¹
2 growers or other folks, you do have an opportunity
3 to -- they are direct users of water and could
4 benefit directly from water conservation technology.

5 MR. KEVIN BROWN: I was going to
6 mention too, and it's along the same line, although

7 most of our authorities primarily on water storage is
8 for flood control prevention, still we're doing
9 things on -- like for 27,000 acres in Tennessee, and
10 Mike mentioned this earlier, we have got a program
11 where we take land that's been -- it's hydrant soil.
12 There's three things that form in the wetlands, the
13 soil hydrology and the plants.

14 Primarily in west Tennessee where the
15 land was cleared up prior to '85 when the '85 Farm
16 Bill was passed, we can take land that was crop land
17 that's hydrant soil which just about anything on flat
18 land in west Tennessee would meet, and this -- their
19 producers are able to go into this program, put in a
20 conservation easement, and they receive a fair
21 agriculture price of the land for the land, plus we
22 do the restoration costs, most of the time at 100
23 percent. We have got some good partners.

24 Also, speaking of partners, under the
25 Conservation Reserve Program, Tennessee this past
1 year led the nation on riparian restoration in Middle¹⁹²
2 Tennessee primarily. We did a lot of riparian zone
3 restoration under a conservation reserve program.

4 So we're beginning to see the program,
5 but what we lacked there is the overall planning.
6 You know, there's so much land in crop land eligible
7 for these programs, but it's here and there. We
8 don't find it concentrated. We don't have a good
9 overall plan, especially in the agriculture areas, to
10 go back and maybe give priorities to this.

11 Hopefully, in this Farm bill Congress
12 will give us that authority back. In the '96 Farm
13 Bill we could take some of our programs and kind of

14 pick and choose and give priority areas, is what it
15 was called. That was taken out in '02 where we can't
16 do that as readily, but hopefully that will be
17 restored when and if we get a new Farm Bill.

18 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
19 right. Okay. Thank you.

20 Any other comments or questions?

21 Okay. Well, I want to thank you
22 again, our panelists, for their information and
23 presentations this morning.

24 At this time we're going to take a
25 break until about 2:45, and then we will gather
1 together again. 193

2 (Brief recess.)

3 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
4 right. While you-all are moving toward your seat,
5 I'd like to tell you that TVA has graciously provided
6 the SWOT analysis that we worked on this morning and
7 copies have been placed at your seat. So please feel
8 free to take those home tonight and look them over
9 and make sure that everything has been captured
10 correctly.

11 We're now going to hear from Chuck
12 Bach who is going to tell us -- I guess I had a
13 person tell me that the drought of 2007 is over, it
14 officially ended on December 31st. So we're going to
15 talk about the drought perspective from TVA.

16 Chuck, go ahead.

17 MR. CHUCK BACH: Thank you, Tom. I am
18 going to do two presentations today. I will do one
19 on the drought first and talk about 2007 and a little

20 bit about 2008.

21 Since we had a little bit of time, I
22 have included a few extra slides to show some --
23 where we are in a few of our tributaries, and then I
24 will do a presentation on Bear Creek for Gene Gibson.
25 You may remember, the last time he was here he had
1 broke his ankle. He has recovered from that and he's¹⁹⁴
2 doing well. So I just wanted to pass that on to you.

3 With that, I will get started. I
4 appreciate the opportunity to come and give you an
5 update. I would like to touch on three things this
6 afternoon with you.

7 First, I want to talk about how we
8 operated last summer and what we learned. Second, I
9 want to update you on the current status, the
10 reservoir system, and finally talk a little bit about
11 what we plan do in the coming year.

12 First, let's talk about last year.
13 Remember, it was the driest year in 118 years of
14 record. We operated the river system according to
15 the TVA Act, and we were consistent with our
16 reservoir operating policy.

17 And as you know, we adopted that in
18 2004 as a result of the River Operations Study that
19 somebody earlier said was one of our strengths, and I
20 appreciate that.

21 Well, whether it's a dry year, wet
22 year or normal year, we operate the river to make
23 sure we have the right amount of water in the right
24 place at the right time and at the right temperature
25 and the right quality.

1 We provide a balance of benefits

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2 instead of optimizing for any one benefit. We try to
3 get the most out of every drop of water by using it
4 over and over and over again.

5 Most of you have seen this slide
6 before, and you know it's TVA's operating policy
7 based on seasonal allocation of flood storage and
8 driven by reservoir specific and system-wide flow
9 requirements.

10 The amount of space allocated for
11 flood storage in the TVA reservoir system varies for
12 the time of year and the potential flood threat. In
13 January we bring them down to the lowest level. As
14 you can see up here, by June 1st we hope to have the
15 spring fill and get them up to the top level and try
16 to hold them there and then at Labor Day draw them
17 down.

18 Our policy commits us to meeting flow
19 requirements all along the system to ensure
20 sufficient water flow to meet downstream needs.

21 This is a schematic of the Tennessee
22 River system. There we go. Up here are tributaries
23 and then the main-stem is down through here. Of
24 course, we work with the Corps on the Cumberland
25 system and into the Ohio River system.

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1 It may be of interest to you that
2 currently we're working with the Corps in a flood
3 control operation on the Ohio River. We have cut
4 back a little bit on our flow out of Kentucky to
5 minimize the crest at Cairo on the Ohio and will be
6 going back up in a day or two to help them there.

7 Our integrated river system consist of

8 49 dams. We have ten dams on the Tennessee River and
9 then 49 in the tribs. Ten up through there. Then if
10 you look at all the tribs all the way around, you end
11 up with the other 39.

12 Tributary reservoirs were built
13 primarily to reduce the risks of downstream flooding
14 by providing space to store rainfall and runoff to
15 meet major storm events. It's not unusual for our
16 tribs to fluctuate 30, 50 or 70 feet.

17 When we need water during the summer
18 to meet minimum flow requirements, we pull it from
19 the tribs, unless there's sufficient water below
20 Chattanooga so we don't have to pull those. Of
21 course, if we're lower than the flood guide we use
22 our balancing guides to equitably pull that water
23 out.

24 Main-stem rivers from Knoxville all
25 the way down to Kentucky are mainly for navigation,
1 but we also get some limited flood storage space out¹⁹⁷
2 of those. They only fluctuate typically 4 to 5 feet.

3 Not all reservoirs are created equal.
4 They are built for different purposes. They all come
5 in different sizes and shapes, and that also affects
6 their operation.

7 This is a graph of rainfall runoff for
8 the eastern part of the Valley. Eastern part of the
9 Valley is defined from Chattanooga up through the
10 Bristol area. This is inches here across -- and time
11 across here. You can see 66 inches of rain -- 66
12 percent of normal for calendar year 2007 for rain and
13 54 percent for runoff.

14 what you see in the graph, the dotted
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15 lines are the normal for rain and runoff, and then
16 the solid lines are what we received in 2007. No
17 surprise to anybody there.

18 Another key point to remember is
19 starting last February we went into a conservative
20 mode, and by conservative mode I mean we only ran
21 minimum flows down the river. We didn't pull extra
22 water to generate hydrogeneration or anything else.
23 We had downstream commitments, and that's all the
24 water we ran was to meet those downstream
25 commitments.

1 So we have been in conservative flow ¹⁹⁸
2 since February of 2007. We're continuing to stay in
3 that and will stay there until we get our reservoirs
4 filled back up.

5 This is a graph showing annual runoff
6 variability, again, in the eastern part of the
7 valley. This across here is normal, percent of
8 normal for runoff here, and time across the X axis.
9 So if you're above that line, you have above-normal
10 runoff. If you're below the line, you have less
11 runoff.

12 The whole purpose of this is to show
13 you that 2007 over here was the driest that we ever
14 had, but it's not unusual. We have had droughts
15 before here, here, there, back in 2000, and we came
16 out of those droughts. We will come out of this
17 drought. I'm not sure when. We're still in a
18 drought, but we will come out of it. We're already
19 seeing some easing of it right now.

20 Looking back at the 2007 drought, this

21 was the same list of benefits that I showed earlier.
22 I want to talk about it a little bit more. The good
23 news is by following our operating policy we minimize
24 the effects of the drought on all the benefits. Now,
25 that's not to say there weren't some hard spots. We
1 had hard spots in hydrogeneration. We had hard spots¹⁹⁹
2 in recreation, tributary recreation levels.

3 Even though we did have impacts there,
4 we were able to do some other things. We kept TVA's
5 nuclear and fossil fleet generating during the
6 hottest times of the year. There were some impacts
7 there also.

8 We started the year 17 feet higher
9 because of the ROS, that was a good thing.
10 Navigation, there were minimal impacts on navigation.
11 There were some impacts down on the Kentucky area on
12 navigation. We had minimal impacts on water quality.
13 We didn't have any fish kills. We kept reservoir
14 levels above water intakes for water supply, and the
15 only one I got an A plus in was no flood damage.

16 Lessons learned, every year at the end
17 of the year we go back and look at how we did, what
18 can we do better, and things like that. In 2004,
19 2005, 2006, we had lots of water and things were
20 good, didn't get a lot of feedback.

21 In 2006 we started to see some things
22 show up on the dry side, started getting a little
23 feedback. Then, of course, in 2007 we got a lot of
24 feedback.

25 So a couple of the areas that we
1 wanted to work on were communications and then
2 reservoir balancing. So on communications we have

3 started some things. We are putting out weekly
4 drought updates. We made an attempt to get it out to
5 members of the RRSC.

6 At lunch I found out that that
7 happened one time and then it stopped. We're looking
8 into that and we will see if we can get that
9 corrected and get it going again. So you will -- you
10 should get back on that list weekly drought updates.
11 We have been sending those to power distributors,
12 elected officials, and other key stakeholders.

13 We have started a lot of meetings with
14 the reservoir users, for example, marina operators.
15 We have talked to people at Fontana, Nottely, and
16 Norris, for example. We have started some biweekly
17 teleconferences, and I know Tom participates in
18 those, I believe, with the states talking about the
19 drought, sharing information.

20 We have been doing a lot of briefings
21 with field staff, bringing them up to speed so when
22 they get questions they will be able to answer those
23 right away. We have been talking with our watershed
24 teams that we have talked about before, our valley
25 relations people, our economic development staff. So
1 those are some of the things we have done on 201
2 communications.

3 On reservoir balancing, this was the
4 operating strategy we used for 2004 to 2007. A lot
5 of you have seen this before. This is the flood
6 guide. Then we had Balancing Guide 1, Balancing
7 Guide 2, Balancing Guide 3.

8 The idea is to keep up around the

9 flood guide and stay there. If we go above it, you
10 bring it back down. If you fall between Balancing
11 Guide 1 and a flood guide, we use Balancing Guide 1
12 to help us determine how much water to pull out of
13 the reservoirs and to do it in an equitable manner.

14 Then starting in 2007 we fell below
15 Balancing Guide 1 and started using Balancing Guide
16 2. This created some problems, some concerns, and we
17 reevaluated that and we have changed the way we're
18 using our balancing guides.

19 Now, Balancing Guide 3 was put in to
20 protect the water supply, and we're continuing to
21 keep that one.

22 So what did we do?

23 Here's what we're planning to do in
24 2008, same flood guide. We will use a primary
25 balancing guide, and that was Balancing Guide 1 but
1 we call it our summer elevation, okay, that's the 202
2 same as Balancing Guide 1 as before, but now
3 Balancing Guide 2, the one that we had before is a --
4 it's called the primary balancing guide winter
5 elevation and it goes straight across so that if you
6 drop below the primary balancing guide in the summer,
7 we'll go down here and use this one.

8 Then the secondary balancing guide is
9 the same as what we had before. We call it the
10 Balancing Guide 3 to protect the water supply
11 intakes.

12 The value of this is the Balancing
13 Guide 2 that we originally had didn't have a set of
14 consistent definitions to why it was picked. All
15 right. So now at least we're consistent. We just

16 stay right across that solid line right there, which
17 is the winter flood guide level so it will be
18 consistent.

19 The other reason was is if you were
20 coming down here to balance, you would be using the
21 flood guide and the Balancing Guide 2. If you came
22 across this line at Labor Day, then you would go back
23 to Balancing Guide 1. So you had an inconsistency
24 there.

25 So if that happens again, we get in a
1 dry situation and the curve comes down like this and²⁰³
2 drops across that line, we will still be consistent
3 there. So this will be the new way we will balance
4 the reservoirs for the coming year.

5 Now, we went back and ran 2007 data.
6 Using this there was some changes. There was no
7 change in the total amount of water being pulled out
8 of the reservoir because that's based on our minimum
9 flow requirements, but we looked at Labor Day and we
10 found that a couple of the reservoirs were up a
11 couple of feet and a couple of reservoirs were down a
12 couple of feet, not a lot of change but a little bit
13 more consistency.

14 So that's the plan we're going to go
15 with this year. At the end of the year we will
16 reevaluate it again and take a look at it. If we
17 need to change it, we will change it again. That's
18 where I need input from people or from this group.
19 If they see some things or question some things, we
20 will be glad to come and talk to them.

21 All right. That's last year.

22 Going forward to this year, rainfall
23 currently above Chattanooga, that's the eastern part
24 of the valley, we're up to 88 percent. Runoff is
25 53 percent. We were what, 60 and 40 before. So 204
1 things are looking a little better.

2 Nine of our tributary reservoirs
3 currently are at or above target elevations. You can
4 read those there. There's two exceptions, and we
5 know those very well, South Holston and Watauga.
6 we're doing everything we can to hold water back
7 there. We're right cutting as close as we can
8 providing just the minimum downstream there.

9 Of course, hydro generation is way
10 below normal because we're only running minimum flows
11 down through the river. We're not pulling any extra
12 water out of our tributaries to generate more hydro
13 generation.

14 What's coming up?

15 Well, this is the drought monitor. I
16 am sure a lot of you have seen this somewhere along
17 the way. Over here we're still in the drought. If
18 you look back here, we're in an exceptional and
19 extreme drought here over in Georgia's area and over
20 in that area there. So we're not out of the woods
21 yet.

22 Things are looking better, but the
23 spigot could turn off and we'd be right back in the
24 situation we were last year. So as everybody knows
25 it comes down to, does it rain and do we get runoff,
1 that will be the key that everybody has to watch. 205
2 Are we getting rain and are we getting the runoff?
3 So it's looking better.

4 Another product put out by the weather
5 service is the drought outlook, and you can see
6 they're starting to predict improvement also. It's
7 all over our area, that's another good sign. I
8 talked to my meteorologist friends in TVA, and they
9 are of the opinion that we're in something called La
10 Nina and it's still strong. La Nina typically means
11 dry weather for us in the eastern part of the valley
12 in Tennessee.

13 I talked to my friends in the weather
14 service and they go equal chance of above normal or
15 below. All right. I take that as, well, at least
16 they are saying below normal. So things are looking
17 better and things are a little improved from where we
18 were, but we're not out of the drought yet.

19 You have got to remember that if the
20 spigot does get turned off, we will be back in a
21 drought situation. If we do, we will continue to
22 follow operating policy and only run minimum flows
23 out of those tributaries.

24 We have a web site, www.tva.com, that
25 you can go and get some information if you're not
1 familiar with it. You can get the current reservoir ²⁰⁶
2 elevations. You can get operating guides, release
3 schedules, monitoring results.

4 We put out there our TVA river
5 newsletter. It's a wonderful tool to go check and
6 see where we're at. It has all of the information
7 about what the levels are in the tributaries and what
8 our plans are in releases and things like that. So
9 you can use that information.

10 I would like to take a minute or two
11 and touch on a few of the reservoirs and give you an
12 update of where we're at comparing last year versus
13 this year. Again, this is elevation versus time of
14 the year in the X axis. The top green line is that
15 flood guide and then the balancing guide. The red
16 line is what we did last year. The black line is
17 where we're at this year.

18 Now, if you remember, we had a good
19 rainstorm not too long ago. Look what happens when
20 we get a good rainstorm, those reservoirs shoot
21 straight up. So hopefully we will get some more rain
22 and those reservoirs will shoot up. So that's the
23 key right there. You can see that. That shows up
24 over and over and over again. Every reservoir
25 responds that way.

1 South Holston is there. They should²⁰⁷
2 be up there. So they are well below. Here's
3 Watauga, same thing, elevation versus time of year.
4 Again, there's that rainstorm that showed up. They
5 are well below where they should be at this time of
6 year. They should be up at that flood guide.

7 Not everybody is in that situation.
8 Here's Cherokee. Again, remember the red line was
9 last year and the black line is this year. My
10 operating policy says I am supposed to pull that back
11 to the flood guide. We have been easing back to
12 flood guides.

13 We're trying to use a little common
14 sense that we're still in a dry drought period, but
15 we have to maintain flood storage space. So we
16 haven't been jerking them right down. So we will be

17 pulling these slowly down until we get back over
18 here.

19 You can see there's a rainstorm that
20 occurred in early February that showed up at
21 Cherokee. They didn't get a lot of rain out of that
22 storm that Watauga and South Holston got. So they
23 didn't shoot up.

24 Douglas, same thing. Red was last
25 year. There's that same rainstorm that shows up 208
1 there. You can see they got a little bit of that
2 rain just recently that showed up there.

3 Yeah.

4 MR. MICHAEL BUTLER: Does this mean
5 you're not generating at South Holston?

6 MR. CHUCK BACH: No. We have minimum
7 flows to meet. We're generating to meet those
8 minimum flows but nothing more.

9 MR. MICHAEL BUTLER: Okay.

10 MR. CHUCK BACH: Okay. Norris, you
11 can see rainstorm there, rainstorm there, and one
12 there. There's last year. They were the only one
13 that got up to flood guide last year. They had a
14 large storm up in their watershed that was in
15 Kentucky also, and by operating a minimum flow and
16 that large amount of rain they got up there.

17 The hope is all of them get up there
18 this year. They are still below their flood guide
19 right now.

20 Chatuge, they got to that level last
21 year. They should have been up to there. You can
22 see we're above where we were last year. There's

23 that little rainstorm that showed up everywhere else
24 showing up at Chatuge also.

25 So you can see that even though it was
1 the driest in 118 years, by staying to our operating ²⁰⁹
2 policy, running minimum flows, we have been able to
3 get them back at least to flood guide with the two
4 exceptions and where we were last year. So it's
5 pretty good, pretty good.

6 There's Nottely, same kind of thing.
7 Hiwassee, that might be the last one. Nope. Blue
8 Ridge. Blue Ridge, you can see we're right along the
9 flood guide there. So we're back to where we were
10 there last year also.

11 Fontana, on Fontana, let me go back,
12 we're a little bit ahead of where we were last year.
13 There's that rainstorm showing up there also.

14 Then Normandy in Middle Tennessee has
15 created a lot of interest. They are still way below
16 here. They had a good rainstorm here and it jumped
17 up there and a rainstorm there that jumped up a
18 little bit.

19 we've been watching their rainfall
20 amounts. A lot of storms seem to go around the
21 Normandy area. It's a small watershed. So it needs
22 a lot of rain to get caught back up also, but it's
23 showing significant improvement also.

24 I will stop there. That's the
25 main-stem river. I'll open it up to questions.

1 COUNCIL CHAIR MR. TOM LITTLEPAGE: ²¹⁰ Any
2 questions for Chuck?

3 I am just going -- I don't have a
4 question, Chuck. I do want to say that as somebody

5 involved with the state partnership, I appreciate
6 TVA's role and leadership in helping to establish a
7 coordination process. It really did help to foster
8 interstate coordination and understanding of
9 localized impacts and regional implications of what
10 went on the -- with regards to the drought.

11 The other thing is it was interesting
12 that I am not aware of any entities, and it maybe
13 goes back to Jon's presentation this morning about
14 entities and their sensitivity to their role as an
15 environmental steward, that I'm not aware of any
16 entities actually requesting variances to permit
17 conditions.

18 So as the drought really kicked in
19 hard last year, we had the example of TVA shutting
20 down one of the Browns Ferry units. And then local
21 utilities, Alabama Power and Georgia Power, are
22 making decisions if they had to they would shut down
23 or derate facilities as opposed to asking for
24 variances of temperature and water quality.

25 I think it just reflects really a 211
1 serious approach to being seen as a good
2 environmental steward with regards to making
3 decisions that had profound economic impacts on their
4 local operations. So I see that as a good sign
5 relative to their understanding of broad-based
6 environmental impacts. I think a lot of that is just
7 based on the information of providing a good platform
8 of information sharing.

9 MR. CHUCK BACH: Thank you, Tom.

10 MR. GLEN BIBBINS: Isn't there a law

11 that requires a nuclear plant to be shut down when
12 the water gets too warm?

13 COUNCIL CHAIR MR. TOM LITTLEPAGE: But
14 they do have the option of requesting a variance from
15 the state authority to operate in excess of that and
16 explain the extenuating circumstances associated with
17 it. So there was a procedure with which they could
18 have followed to do that.

19 In most cases -- and I guess I'm not
20 really trying to speak for TVA at all. I am just
21 saying that what I noticed as an observer of the
22 impacts of the drought is that industries and
23 companies were very reluctant to even request that
24 because they felt like they would be seen as --

25 MR. GLEN BIBBINS: Is it a request for
1 a variance that really wouldn't have to be honored?²¹²
2 I mean, is it optional on the government's part?

3 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
4 don't -- what do you mean optional? I'm sorry.

5 MR. GLEN BIBBINS: I mean, they could
6 request a variance and it could be denied.

7 COUNCIL CHAIR MR. TOM LITTLEPAGE: You
8 are exactly right. All right. Jeff.

9 MR. JEFF DURNIK: One comment and
10 then a question, Chuck. The comment would be we
11 spent a lot of time on drought planning at the fall
12 Council meeting. I would find it very interesting to
13 know what TVA -- what aspects of Council feedback TVA
14 accepted and implemented in terms of your draft
15 drought plan and also your management actions. Take
16 that under consideration.

17 MR. CHUCK BACH: Okay.
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18 MR. JEFF DURNIAC: Item No. 2 is a
19 question. Can we go back to maybe your first -- the
20 first slide of where we stood now and where you had
21 your existing level a little bit above the flood
22 guide?

23 Let's pick on that one. One comment
24 we had in the fall was a suggestion for TVA to give
25 you the latitude to operate above the flood guide. I
1 found your comment interesting. 213

2 I think on this one where you said,
3 hey, it's still a drought and we're going to pull it
4 down slowly. I'm just a biologist, so forgive me,
5 but why not continue to hold that water because
6 within one month your purple line would intersect the
7 ascending leg of the blue line?

8 If we're in a drought, why would you
9 go down?

10 Is the flood risk to TVA higher than
11 the drought risk?

12 MR. CHUCK BACH: That's exactly it. I
13 have to balance the flood risk. My operating policy
14 says bring it back to flood guide. All right. And
15 we're trying to stay true to that, but at the same
16 time we're trying to balance the fact that it is dry
17 and we're in a drought.

18 So I want to make sure I create that
19 flood space in case we do get the large storm that
20 brings a lot of runoff and we need that space. So
21 we're constantly looking at eight, 12, 15 days in the
22 future to see what's out there. If we saw some large
23 storms out, we would be going like that. We don't

24 see large storms, but I am bringing it back slowly.

25 MR. JEFF DURNIAK: See, here you're at
1 what 1048. The top of the gates may be 1075. If you²¹⁴
2 draw it down, say, on March the 15th you'd hit your
3 flood guide, right?

4 On April the 1st you would be 2 or
5 3 feet below your flood guide with tremendous
6 storage, that would be my challenge, and it's easy to
7 comment from the cheap seats.

8 MR. CHUCK BACH: Yes. And if you're
9 sitting in my shoes and the flood comes, how do you
10 respond to the people on the --

11 MR. JEFF DURNIAK: You would be in the
12 cheap seats with me.

13 MR. CHUCK BACH: I have this balancing
14 act, and I am trying to do the best for everybody and
15 take into account the situation and everything. I
16 try to stay true to the operating policy.

17 It's done well for us for four years,
18 or three years now. It's worked in wet conditions.
19 It's worked well in dry conditions. So I think it's
20 robust enough to make sure things go along.

21 Then the key comes back to, do we get
22 enough rain in this time period here that we call our
23 aggressive fill period to fill those?

24 MR. JEFF DURNIAK: I do want to
25 compliment the open lines of communication, and I
1 appreciate how well you keep us informed, Chuck. ²¹⁵

2 MR. CHUCK BACH: Thank you. I have
3 wonderful staff that helps.

4 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
5 right. W.C.

6 MR. W. C. NELSON, JR.: Yeah. First
7 off, Chuck, I just want to tell you how much we
8 appreciate your looking at the Balancing Guide 2 and
9 making this change because it was causing an inequity
10 in some of the lakes. I appreciate that very much.

11 I guess the other question I have is
12 along with Jeff's comments. This early in the year,
13 you know, you have got a tremendous storage if you
14 did have a large rain and would have time to work it
15 back down. So it seems like it would be wise to
16 continue holding the water because you do have --
17 now, if we were up, you know, considerably higher and
18 you didn't have much storage capacity, I could see
19 that we need to be pulling it back down, but right
20 now I would be for holding the water.

21 MR. CHUCK BACH: And I hear you loud
22 and clear. Again, I am going to say I am going to
23 stay true to my operating policy but I will do
24 very -- I will look very hard and make sure that I
25 balance that as best I can.

1 COUNCIL CHAIR MR. TOM LITTLEPAGE: ²¹⁶Let
2 me just ask one thing. Is it not true that that
3 flood risk curve or the -- is basically built upon
4 your hydraulic record of rains and how quickly water
5 can accumulate in these projects so --

6 MR. CHUCK BACH: Yeah. We modeled 100
7 plus years' worth of data. In looking at that, we
8 came up with the flood guides that would give us
9 storage space for those storms that come.

10 In this time of the year, we get
11 storms that can fill this up. I know it's hard to

12 believe, particularly since we have been in a drought
13 the last few years, but there are times when we get
14 that.

15 In 2003 we had 11 inches of rainfall
16 between Chattanooga and Knoxville. The forecast was
17 for three-quarters of an inch of rain. So I am
18 balancing those kinds of things.

19 when you have been there and been
20 through those, it kind of stays in the back of your
21 mind and so you're aware of it and try to make sure
22 you take care of that too. I understand what you're
23 saying, W.C., and I am sensitive to that. Okay.

24 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
25 right. Mike.

1 MR. MICHAEL BUTLER: I had a question²¹⁷
2 as to, does the drought afford TVA any cost savings
3 in doing maintenance by providing opportunities where
4 the water levels are low enough that it makes it
5 cheaper for y'all to do maintenance on certain
6 aspects of your operations?

7 MR. CHUCK BACH: It doesn't make it
8 cheaper to do the maintenance, but it allows us
9 opportunities to do maintenance and not worry about
10 spilling water. So in that sense, yes.

11 Do we try to take advantage of the
12 drought conditions, yes. Up at Ocoee we took a gate
13 out and replaced it because the water was low. We
14 didn't have to bring in a cason (phonetic) and set it
15 in front of it. A cason (phonetic) is something that
16 you put in front of it so you can pull the gate up
17 and the water doesn't come down. So we're taking
18 advantages of situations like that to do maintenance

19 and repair gates and chains and things like that,
20 yes.

21 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any
22 other questions for Chuck related to drought
23 operations?

24 Seeing none, I guess, Chuck, we'll
25 just move into your next presentation and talk a
1 little bit about that small little dam project up on ²¹⁸
2 Bear Creek.

3 MR. CHUCK BACH: All right. At the
4 last RRSC meeting Gene Gibson made a presentation to
5 you on Bear Creek and its leakage problems. I am
6 going to fill in for Gene and give you an update on
7 what's going on at Bear Creek.

8 Bear Creek is down in here in the
9 north corridor of Alabama and Mississippi. A brief
10 recap, Bear Creek Dam is located in that Northwest
11 Alabama, Franklin County. It was completed in 1969.
12 Over the years TVA has made repairs to the dam. The
13 most recent repair work was done in 2004 and 2005.
14 We refilled the reservoir to its normal summer pool
15 level of 576 feet above sea level but excessive
16 leakage continued.

17 Since then TVA has operated the
18 reservoir at a reduced summer pool level of 568 as a
19 precautionary measure to reduce the leakage and
20 provide a greater margin for flood margin.

21 However, following periods of heavy
22 rainfall the reservoir level can go up and the rate
23 of leakage to the dam, again, increases. Because of
24 this continued leakage, TVA recognized the need to

25 identify a long-term solution to ensure the integrity
1 of the dam. 219

2 Here's our action plan. It's a
3 three-step action plan. First, to ensure the safety
4 of the dam on an interim basis, we lowered the
5 reservoir to its winter pool level and we're holding
6 it there to decrease the amount of leakage to the
7 dam.

8 In addition, TVA increased monitoring
9 at the dam, stockpiled materials on-site that could
10 be used quickly to fill in sinkholes or other
11 features that might appear during a potential flood
12 event.

13 No. 2, we completed an EIS to evaluate
14 potential alternatives for a long-term solution to
15 the leakage problem. The EIS preferred alternative
16 was to design and construct a roller compacted
17 concrete berm that would fix the leakage problem and
18 return the dam and reservoir to its original
19 operating parameters. We have decided to implement
20 that prepared alternative. The project is estimated
21 to cost 35 million.

22 Here's the benefits from the preferred
23 alternatives, retain intended benefits of the flood
24 protection, water supply, recreation, and economic
25 development, to provide protection from the probable
1 maximum flood. It's stable if Karst leak appears. 220
2 Karst is a word -- a fancy word for soluble rock,
3 that's all it is.

4 Allow water releases to be managed to
5 ensure appropriate seasonal minimum flows, including
6 federally threatened or endangered species down

7 there, and minimize the effects of the high flow
8 velocities downstream of the dam.

9 Here's what Bear Creek Dam looked like
10 preconstruction. Here's the reservoir up here.
11 Here's the dam itself. The spillway is here. The
12 sluiceway is here. Let me draw your attention to
13 this area where the trees are here. Here's a
14 rendering of Bear Creek Dam after the concrete berm
15 is in place. The concrete berm is located here.

16 However, before we can put in that
17 roller compacted concrete berm we must excavate a
18 large area down to rock underneath where the berm is
19 going, and that will be all this area in here.

20 I will show you a few more slides of
21 what we're currently doing there. The idea is to
22 fill in any voids and gaps that are down there, drill
23 and grout the entire foundation area from one side of
24 the dam all the way to the other side to ensure
25 there's a reliable water barrier.

1 In order to expedite the project, we²²¹
2 started the excavation and foundation preparation
3 work before the design of the berm was being done.
4 The project is on schedule. The design of the berm
5 is 90 percent complete.

6 Here's a construction time line. We
7 have about 50 people working down there currently.
8 The construction of the berm is scheduled to begin in
9 November right here, and we plan to complete the
10 project in June of 2009.

11 The next slide shows some major
12 construction that's going on down there. This is the

13 first phase of the construction. I'm sorry that you
14 can't see it better. You can see some big equipment
15 down in here where they are digging the dirt and
16 excavating. We have excavated 60,000 cubic yards of
17 soil and 10,000 cubic yards of rock thus far.

18 This is some major rock features in
19 phase one. It's really hard to see. This is
20 probably about 15 feet right here, but you can see
21 some rock features down in here. When the reservoir
22 goes up or down they leak and this area here will
23 leak and that area in there will leak and that area
24 will leak depending on how high the water is behind
25 the dam.

1 The thing is if you did drilling you ²²²
2 would never know where all of this is. So we have to
3 go down and clean all of that out to find out.

4 All right. Let me get your attention
5 to this hose that goes right here. Okay. This is
6 that hose coming down. You can see that down in here
7 is water. When the lake comes up, it will leak
8 there. When it gets higher, it will leak up here.
9 If it gets higher, it will leak up there. We have to
10 clean all the dirt off all of this so we can get a
11 solid adherence of what we call dental concrete.

12 The rock surface preparation was very
13 time-consuming because they were going in there with
14 pressure washers. They came up with a big pressure
15 washer right here. You can see the jet right there.
16 That saved us a good bit of time. They are able to
17 do a whole lot more quickly and more safely with one
18 person inside of that than they were before, but that
19 isn't able to get all of it. We have to actually get

20 down in there with hand pressure washers and finish
21 it out.

22 This is a slide showing putting in
23 this dental concrete it's called. Dental concrete is
24 just concrete that will adhere. Then these white
25 pipes are here so we can pour grout down in it. The
1 grout pushes up against the dental concrete so it ²²³
2 pushes down and then we end up with a solid base all
3 the way across and then we put the concrete berm
4 across the top.

5 My last slide is we have a web site
6 that you can go to and get information on it. It's
7 updated at least monthly, maybe more frequently, I'm
8 not sure. It has pictures of what's going on and
9 things like that. So that's just a quick update of
10 what's going on at Bear Creek. We're on schedule.
11 We're on budget. We plan to be finished in June of
12 2009.

13 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any
14 questions for Chuck on the status of that project?

15 George.

16 MR. GEORGE KITCHENS: Chuck, where you
17 showed the slide with the rock, was that the original
18 old creek bed formations down through there?

19 MR. CHUCK BACH: It's karst rock. I'm
20 not sure.

21 MR. GEORGE KITCHENS: Okay. So
22 limestone is just porous?

23 MR. CHUCK BACH: Right. Yep.

24 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any
25 other questions for Chuck?

1 Thank you, Chuck. Thank you for both
2 of the presentations. We appreciate that.

3 Now we're going to let Dave talk to us
4 a little bit about the introduction of the questions
5 for our discussion tomorrow.

6 FACILITATOR DAVE WAHUS: Thank you,
7 Tom. If you don't have the questions on hand, if you
8 go to the tab that says "discussion questions" in
9 your book you will note that there are three
10 questions.

11 The first two, as we talked about this
12 morning, will talk about the environmental policy and
13 framework and the strategic planning. You can read
14 the questions. I would encourage you to do that this
15 evening.

16 Then the third question deals with
17 natural resource management strategy, and Buff made
18 that presentation this morning. So we will be
19 dealing with that as well.

20 We will be starting at -- we'll be
21 starting at 8:30 in the morning and we will commence
22 with our discussion at 8:45. We will stop at 9:30
23 for the public comment period, in the event there is
24 anyone that comes to make a comment. If not, we will
25 continue our discussion until we complete.

1 Does anyone have any questions about ²²⁵
2 the questions? Okay.

3 COUNCIL CHAIR MR. TOM LITTLEPAGE: I
4 have got just a couple of just general announcements.
5 Did we get a good count for dinner? Are we all set?

6 FACILITATOR DAVE WAHUS: She has the
7 count.

8 COUNCIL CHAIR MR. TOM LITTLEPAGE: All
9 right. We're going to meet in the lobby about 5:45.
10 If you need a ride, I am told it's within good
11 walking distance. So certainly I need the exercise.

12 FACILITATOR DAVE WAHUS: The last car
13 will leave at 6:00.

14 COUNCIL CHAIR MR. TOM LITTLEPAGE: So
15 we will meet in the lobby at 5:45. If there's
16 anybody that needs a ride, there will be that
17 available until 6:00.

18 If you would tonight, we have provided
19 you some material. You have the SWOT charts that we
20 talked about this morning. I think they are working
21 on getting the presentations from Christine and Jon
22 that we heard this afternoon and they may be
23 available. If not, they will be here tomorrow.

24 FACILITATOR DAVE WAHUS: They are out
25 on the table.

1 COUNCIL CHAIR MR. TOM LITTLEPAGE: ²²⁶ So
2 you will have those to look at as you prepare for the
3 discussion questions with regards to tomorrow.

4 Also, if you would, look at your
5 calendars. In the response material you were asked
6 to look at a couple of dates, October 9th and 10th
7 and November 6th and 7th. All but one said they
8 could make the October date, but if you need to
9 review your calendars tonight, please do. We will
10 set the next meeting date tomorrow and we would ask
11 you to take a look at that.

12 And then also tomorrow we start at
13 8:30. As Dave alluded to, checkout of the hotel is

14 at 11:00. So you may need to think about or consider
15 checking out before you come over tomorrow morning or
16 check or ask for a late checkout because I think we
17 will be done around noon and a late checkout may can
18 get you to 1:00. So that's your call. You may --
19 you just need to be aware of that issue.

20 I guess, Peyton, do you have any other
21 comments?

22 DFO MR. PEYTON HAIRSTON: No, sir.

23 COUNCIL CHAIR MR. TOM LITTLEPAGE: Any
24 other questions or comments before we adjourn from
25 the Council?

1 with that, I guess we are adjourned. ²²⁷

2 (Meeting was adjourned and reconvened
3 on Friday, March 14, 2008.)

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