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1	ISSUES CONFERENCE VOLUME 11	1
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3	In the Matter of the Applications of	
4	CROSSROADS VENTURES, LLC	
5	for the Belleaume Breiest at Catskill Bank	
6	for the Belleayre Project at Catskill Park for permits to construct and operate pursuant to the Environmental Conservation Law	
7		
8	Margaretville Fire House Margaretville, New York	
9	June 29, 2004	
10	BEFORE:	
11	HON. RICHARD WISSLER, Administrative Law Judge	
12	Administrative Law Judge	
13	APPEARANCES:	
14	WHITEMAN, OSTERMAN & HANNA, LLP. Attorneys for Applicant,	
15	CROSSROADS VENTURES, LLC One Commerce Plaza	
16	Albany, New York 12260	
17	BY: DANIEL RUZOW, ESQ., of Counsel BY: TERRESA M. BAKNER, ESQ., of Counsel	
18	BT. TERRESA M. BARNER, ESQ., OT COURSET	
19		
20	NEW YORK STATE DEPARTMENT of Environmental Conservation	
21	Region 3 21 South Putt Corners Road	
22	New Paltz, New York 12561	
23	BY: VINCENT ALTIERI, ESQ., of Counsel Regional Attorney	
24	Regional Accorney	
25		
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1		2
2	LAW OFFICE OF MARC S. GERSTMAN	
3	Attorneys for CATSKILL COALITION, ROBINSON SQUARE	
J	Page 1	

### 6-29-04-crossroads 313 Hamilton Street Albany, New York 12210 BY: MARC S. GERSTMAN, ESQ., of Counsel BY: CHERYL A. ROBERTS, ESQ., of Counsel \*\*\* rough draft \*\* rough draft\*\*\* CPC **PRESENTERS** PAGE 8, 139 MERNA HALL AARON BENNETT

6 APPLICANT'S PRESENTERS

8	KEVIN FRANK	E		93
9	RICHARD FUT	'AYMA		
10	CHRISTON RO	BBINS		
11	ALBERT FRIS	ENDA		
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13	DEC PRESENTERS			
14	FILISTINIENS			
15	JEFFREY RID	ER		128
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1	СРС			4
2	EXHIBITS			
3	65	CROSSROADS VENTURES LLC	3	
4		DRAFT EIS APPENDIX 9 - REFERENCES FROM MR.		
5		GARABED	2	
6	66	TOXICITY OF ACIDIFIED CHITOSAN FOR CULTURED	3	
7		RAINBOW TROUT - AQUACULTURE MAGAZINE - NOVEMBER 7, 1999		
8	67	HARD COPY OF POWER POINT	4	
9		PRESENTATION "FOREST FRAGMENTATION AND LAND		
10		PARCELIZATION IN THE CATSKILL MOUNTAINS:		
11		DOCUMENTING THE PAST & Page 3		

12		6-29-04-crossroads PROJECTING THE FUTURE BASED ON EMPIRICAL	
13		RELATIONS"	
14	67A	CD OF POWERPOINT 4 PRESENTATION MARKED AS CPC 67	
15	57	"THE EMPIRE STATE'S 76	
16 17	51	FORESTS TRENDS IN A ROBUST RESOURCE"	
	58	"POTENTIAL IMPORTANT 76 i.	
18		BIRD AREA MAP - 6/28/04	
19	68	"THE EFFECTS OF 83 POPULATION GROWTH ON	
20		TIMBER MANAGEMENT AND INVENTORIES IN VIRGINIA"	
21		- DAVID N. WEAR	
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2 3 4 5	(9:32 A.I	, 2004) M.)  PROCEEDINGS  ALJ WISSLER: Today is June 29th, the sues Conference in the matter of the	5
2 3 4 5	(9:32 A.I	, 2004) M.)  PROCEEDINGS  ALJ WISSLER: Today is June 29th, the sues Conference in the matter of the plications of Crossroads Ventures, LLC is	5
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2 3 4 5 6 7 8 9 10 11	(9:32 A.I	, 2004) M.)  PROCEEDINGS  ALJ WISSLER: Today is June 29th, the sues Conference in the matter of the plications of Crossroads Ventures, LLC is ntinued.  May I have the appearances of counsel r the record.  MR. RUZOW: For the Applicant, Dan zow and Terresa Bakner.	5

Roberts for the Catskill Preservation Page 4

16	Coalition.
17	ALJ WISSLER: Forest impacts I believe
18	is the issue for this morning.
19	Anything preliminarily before we
20	begin?
21	MR. GERSTMAN: Judge, we had there
22	have been some requests for documents from Mr.
23	Garabed concerning the location of various
24	citations in the DEIS to the volume of the
25	detention ponds. He has provided that here
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	6 for me. I'd like to add it to our exhibit
2	list. Also attached is an Article entitled,
3	"Toxicity of Acidified Chitosan for Cultured
4	Rainbow Trout." It's from Aquaculture, a
5	magazine, November 7th, 1999. I would like
6	those marked and entered as exhibits.
7	ALJ WISSLER: It will be CPC 65 and
8	66. 65 will be Mr. Garabed's references?
9	MR. GERSTMAN: Yes.
10	ALJ WISSLER: And 66 will be the
11	Article with respect to chitosan.
12	("CROSSROADS VENTURES LLC DRAFT EIS
13	APPENDIX 9 - REFERENCES FROM MR. GARABED"
14	RECEIVED AND MARKED AS CPC EXHIBIT NO. 65,
15	THIS DATE.)
16	("TOXICITY OF ACIDIFIED CHITOSAN FOR
17	CULTURED RAINBOW TROUT" - AQUACULTURE MAGAZINE
18	- NOVEMBER 7, 1999 RECEIVED AND MARKED AS CPC
19	EXHIBIT NO. 66, THIS DATE.) Page 5

	0-29-04-Cr05Sr0duS
20	ALJ WISSLER: Mr. Gerstman, is this
21	presentation an exhibit that you're going to
22	want to put in?
23	MR. GERSTMAN: Yes, it is, Judge, I
24	was going to do that.
25	ALJ WISSLER: A handout that we'll
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	follow along?
2	MR. GERSTMAN: Yes. If your eyesight
3	is really good you'll be able to follow along
4	on the handout, and we've also burned it on
5	CD.
6	ALJ WISSLER: Do we want to enter that
7	before we begin?
8	MR. GERSTMAN: Yes, Judge.
9	ALJ WISSLER: So 67 is what?
10	MR. GERSTMAN: The hard copy.
11	ALJ WISSLER: Of?
12	MR. GERSTMAN: The Power Point
13	entitled, "Forest Fragmentation and Land
14	parcelization in the Catskill Mountains."
15	Would you like to make it 67A is the CD?
16	ALJ WISSLER: Doesn't matter. 67A it
17	is.
18	(HARD COPY OF POWER POINT
19	PRESENTATION "FOREST FRAGMENTATION AND LAND
20	PARCELIZATION IN THE CATSKILL MOUNTAINS:
21	DOCUMENTING THE PAST & PROJECTING THE FUTURE
22	BASED ON EMPIRICAL RELATIONS" RECEIVED AND
23	MARKED AS CPC EXHIBIT NO. 67, THIS DATE.) Page 6

24	(CD OF POWERPOINT PRESENTATION MARKED
25	AS CPC 67 RECEIVED AND MARKED AS CPC EXHIBIT
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	NO. 67A, THIS DATE.)
2	ALJ WISSLER: Mr. Gerstman.
3	MR. GERSTMAN: Thank you, Judge.
4	Judge, I'd like to introduce you to Professor
5	Merna Hall. Her curriculum vitae is attached
6	to the Catskill Preservation Coalition
7	Petition for Party Status as Exhibit M.
8	Professor Hall, would you please tell
9	the Judge a little about your background.
10	PROFESSOR HALL: I'm a professor in
11	the faculty of environmental studies at the
12	State University of New York's College of
13	Environmental Science and Forestry. That's a
14	half-time appointment. My other half-time, or
15	I like to say three-quarter's time, is doing
16	consulting work principally in the area of
17	spatial ecology and land use change modeling.
18	A lot of the work I've engaged in over
19	the past three years has been primarily
20	looking at land use change in the tropics,
21	working with the Nature Conservancy and
22	Winrock International in their effort to do
23	science on the establishment of carbon
24	sequestration projects. Some of the parties
25	who are already involved in that include a

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(FOREST IMPACTS ISSUE)
Page 7

1	number of major American corporations, so
2	that, I hope, explains a little bit who I am.
3	I teach two courses at the University,
4	one is in geographic modeling, which is the
5	kind of work that you'll see applied here
6	today, and the other is in urban ecology.
7	MR. GERSTMAN: Professor Hall, have
8	you written any publications or have any
9	articles published in any professional
10	journals?
11	PROFESSOR HALL: I have a cover story
12	in Bioscience Magazine this last February in
13	which my work on the change in glaciers,
14	extent and vegetation in Glacier National Park
15	as a consequence of global climate change was
16	featured.
17	In addition, I have a number of
18	articles on land use change, particularly with
19	respect to agriculture in the tropics. And I
20	have numerous reports on the website, on
21	various websites that are about to be
22	publications on our work in Latin America, as
23	well as the work that we are just completing
24	now here in the Catskills and in the @Thames
25	Watershed in Connecticut. It's a watershed
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	(FOREST IMPACTS ISSUE)
1	that runs north of New Haven up into
2	Massachusetts. It's part of this effort.
3	MR GERSTMAN: For a complete list of

Page 8

6-29-04-crossroads 4 publications, I refer you to her CV which is 5 attached to the CPC petition. Professor Hall, you mentioned the term 6 7 spatial ecology. Could you briefly tell us what that is. 8 PROFESSOR HALL: Well, ecology, for 9 10 those of you who don't know, is the study of 11 the interaction of organisms with the biotic, which would be the plants and other organisms 12 13 in their environment and the abiotic 14 environment, which is the meteorological 15 system and the underlying rock structure, et cetera. In particular, I focus on human 16 17 dominated echosystems because I'm very interested in the interaction of humans and 18 the environment, both their impacts on the 19 20 environment and environmental impacts on 21 humans. 22 Spatial means that we are able to 23 analyze these relationships, looking at landscapes using what are called Geographic 24 25 Information Systems and computer models. I do \*\*\* rough draft \*\* rough draft\*\*\*
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# my modeling in @Fortran, which some people say is an outdated language, but very efficient for modeling and understanding the interactions of all of these components of an ecosystem, including humans. So what spatial modeling -- spatial ecology allows us to do is not just look at one place isolated, but to

	6-29-04-crossroads
8	look at the impacts of surrounding areas on
9	that, on each place in the landscape. I hope
10	that adequately describes it.
11	MR. GERSTMAN: Are you familiar with
12	the Draft Environmental Impact Statement for
13	the project that we're here to talk about?
14	PROFESSOR HALL: Yes, I am.
15	MR. GERSTMAN: Have you prepared a
16	Power Point presentation concerning the issues
17	of forest fragmentation and land parcelization
18	in the Catskills?
19	PROFESSOR HALL: Yes, I have.
20	MR. GERSTMAN: Was that study prepared
21	especially for the purpose of reviewing this
22	project?
23	PROFESSOR HALL: No, it was not.
24	MR. GERSTMAN: When did you start the
25	work that were you done for that study?
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	PROFESSOR HALL: It was the autumn of
2	2002, I believe. I'm losing track of time.
3	Yes, I think it was 2002, October.
4	MR. GERSTMAN: The Power Point is here
5	if you would like to begin and do that
6	presentation.
7	PROFESSOR HALL: This work I'm about
8	to present to you was funded by the USDA
9	Forest Service out of their growing concern
10	for the loss of the working forested landscape
11	in the United States, and that means
	Page 10

12	6-29-04-crossroads relates to two factors. One, is that over
13	the period from 1992 to 1997, 10 million acres
14	of private forest land were lost to
15	development.

In addition to that, they're concerned because the remaining forest land is becoming increasingly fragmented and parcelized. By parcelization, we mean there are more and more owners of forest land and there are -- so each parcel becomes a smaller -- becomes smaller units and it makes it difficult for the forest industry to continue in rural areas because there is less timber brought to the mills.

New forest owners, people who own typically 10

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to 17 acres are no longer interested in forestry, they're generally interested in having the forest around them. So parcelization is causing a lot of concern. It's one of the four major concerns right now listed by the Forest Service about what's going to happen to sustaining the forest and timber industry and wood products industry in the United States.

The other issue is fragmentation. You see two different images. The upper one where you see clear-cutting of forest, we consider this still a forest, its use is forest. It might not seem like a forest to some who are concerned about conservation but it is

6-29-04-crossroads nonetheless forest in terms of its use. 16 lower image is not a forest, the forest is no 17 longer used as a forest, it's been converted, 18 19 in this case, to a subdivision. These are the 20 two big issues that the Forest Service is concerned about, and there is a strong belief 21 22 that parcelization is the first step leading 23 to fragmentation. I hope I've made it clear why that's a concern, but basically it's 24 25 because it's just harder and harder to sustain \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE) the mills and to keep providing timber to feed 1 them. (Indicating) 2 Some of the potential consequences of 3 forest fragmentation, as I said, are more than just the loss of the working forested 5 landscape, that of course this is the Forest 6 Service's main concern because it makes for severe economic effects. It also causes the need to buy more timber from outside the US. 9 Third, of course is an issue that I know 10 you're all dealing with, is the increase in 11 12 runoff from impervious surfaces, and water turbidity from soil erosion. Many people in 13 14 this area were very interested in our study, especially those from New York City because of 15 16 the impacts it might have on water quality for

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the City.

Loss of wildlife habitat, another concern, contribution to CO 2 emissions from

(Indicating)

20	6-29-04-crossroads loss of forest, and making it more difficult
21	for the US to meet some kind of carbon
22	balance. And finally, more so in the west
23	than here, but an issue, again, of very high
24	concern to the Forest Service is that the
25	more the forest becomes fragmented with
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
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1	development, it requires more and more
2	initiative and dollars and manpower to fight
3	forest fires to protect homes. (Indicating)
4	MR. GERSTMAN: Based upon your review
5	of the project that's the subject of this
6	proceeding, can you identify any of those
7	particular issues of concern or consequences
8	that have importance in connection with the
9	development of these parcels?
10	PROFESSOR HALL: Locally you mean?
11	MR. GERSTMAN: Yes.
12	PROFESSOR HALL: Definitely the first
13	one is, I think, very important. The local
14	forest industry and the foresters we have
15	spoken to here are very concerned about this
16	issue. Also, of course locally, are the
17	issues related to water, numbers 3 and 4. 5,
18	loss of wildlife habitat is also a local
19	concern, as this is one of the last forested
20	landscapes in the northeast, as I'll show you
21	in some pictures that are to follow.
22	(Indicating)
23	MR. GERSTMAN: Judge, as we move

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24	forward through the Issues Conference, you
25	will find, and certainly through our briefing,
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	we expect to argue that the issues that you're
2	hearing about today also have implications in
3	connection with secondary growth. The
4	Important Bird Areas, which you have already
5	heard about from Dr. Burger, cumulative
6	impacts, aquatic habitat, and several others,
7	and we will make the connections as we go
8	forward, and also in our briefing.
9	PROFESSOR HALL: The challenge really
10	for the country and for communities is that
11	usually by the time you see forest
12	fragmentation, it's usually too late to do
13	anything about it. Secondly, that maintaining
14	land in forest is seldom possible unless the
15	ability of the forest to generate revenue is
16	also maintained. So there is a lot of concern
17	about tax implications for forest owners, et
18	cetera; and that once a threshold is passed
19	where people find that they can make more
20	money off of selling the land than maintaining
21	it in forestry and selling timber that any
22	development in a region tends to accelerate
23	the process of people selling off forest land
24	for other uses.

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In many areas, it will require the

support of urban populations to maintain working forests. By that, we mean that if communities are willing to come up with different kinds of incentives to get people to build and reinvest in urban infrastructure in order to save our wild lands, this is probably what's going to be necessary to stop what we call urban sprawl into both our agriculture and forest lands.

MR. GERSTMAN: Let me interrupt you for one second. We've heard from the Coalition of Watershed Towns concerning their perception that the Forest Preserve in the Memorandum of Agreement in connection with the New York City Watershed presents certain constraints on the ability of local developers and development to take place in the local landscape. What I believe is one of the things that we're suggesting is that the indirect benefits and the direct benefits of the forest, plus the working of the MOA, provide this area with an opportunity, essentially the golden egg as Mr. Alworth has previously identified it, to have a sustainable environmental development.

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In addition, in connection with the first point, in terms of the time that you see forest fragmentation, it's usually too late, we believe in this case where there's a Page 15

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5	significant land use development that has the
6	potential to accelerate parcelization and
7	fragmentation, and in fact should be
8	identified as a significant adverse
9	environmental impact, that SEQRA requires that
10	a hard look be taken of that project, and that
11	in fact, through SEQRA, the agency, DEC and
12	the Commissioner, would be able to counter
13	that particular consequence of this project
14	with respect to forest fragmentation.
15	PROFESSOR HALL: The challenge, as we
16	see it, is as population grows and
17	concentrates, the working forests and farms
18	dwindle, and as a result of that, we have
19	parcelization, which I have explained, and
20	fragmentation, less intact forest area; and
21	many regions of the US are already approaching
22	critical threshold densities, which this
23	region is not so far.
24	This is just to give you an idea
25	what's happening across the United States from

what's happening across the United States from

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1950 to 1990. We're looking here simply at	19
the increase in dense human population.	
Usually it is quite impressive to people when	
they see it illustrated like this. This is	
from the University of California at Santa	
Barbara website. (Indicating)	
Now, there is a theory, and various	
investigators have been studying the effects Page 16	

of population density on forest fragmentation and the ability of areas to maintain a timber extraction industry. Here we're looking at New York State's population density, and from that is derived this map of forestry's future. So you see the areas where, because of high population density, it's very unlikely, areas where it's difficult and areas where it's still considered probable, and if you look, you can see that the Catskill region we are talking about is still in the probable area. That's based on population density. I would like to point out, however, that we do not see a clear match in the data that we've examined so far between local population growth and forest cover. We think that in some of the areas we're looking at here, the change in

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8 9 forest cover is actually being driven by people who live outside of the area, and I'll show you a slide to illustrate that.

(Indicating)

The question with respect to the proposed development is do areas where population is not growing rapidly, since probably could make the case that it isn't happening here, still exhibit significant land use change that reduces the capacity of working lands? We would argue that this is -- I'll show you the evidence that we have

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examined so far that would indicate that, in fact, there is significant change even without local population growth. It seems to be driven by the predominance of ownership of this land from people who do not live here. (Indicating)

How does development that attracts non-permanent residents accelerate forest fragmentation and parcelization? Those are questions that we're asking and I hope to answer for you as we go along.

What drives parcelization? A variety of things are being investigated, and we are

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taking this study further and we're going to actually be doing surveys of local landowners, especially of land that has been parcelized, to find out what has been the driving factors here. But from the literature, and I have numerous papers on this, some of the factors that are identified are death rate. Often when people pass away, they divide their land up and give it to their children, and then the children sell it off or if the children hold on to it, they're no longer interested in forestry, as it simply becomes perhaps even a second home for them or a land that they just hold for a long time.

The need to pay inheritance taxes often, they're faced with that, so they sell Page 18

17	off the land for that.
18	Uncertainty about the future of
19	forestry in their area. Often this is
20	driven has been driven in some studies we
21	have seen by people's concerns that because
22	of limitations on how they're able to use the
23	land, that they decide to sell it off. And
24	that's often in conflict with the
25	environmental community.
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	22 Urbanization, simply just sprawling
2	out into the landscape.
3	Increased income. As people have more
4	income, they often decide that they don't need
5	the land for forestry and they will sell it
6	off or no longer use it certainly not for
7	timber extraction.
8	Locally higher land values is always
9	an accelerator of land sales for other uses
10	than forest. And the tax structure itself can
11	be an impediment to people staying in
12	forestry, and therefore parcelizing and
13	selling their land.
14	I guess we started our project in
15	October 2001 because this article is from
16	2002, and we saw it and took note of it. It
17	was an article in the New York Times on May
18	10th, and quite interesting, and we felt it

correlated a lot with the ownership data that

Page 19

we looked at. It reads: "Utter the words

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Delaware County at a party in Manhattan and you will likely get one of two very different reactions. People will either raise their eyebrows knowingly, and indicate they would prefer that their fellow New Yorkers never

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to go to it twice a year."

discover it; or they will give the more
typical response and ask: Where's Delaware
County. @John Houshman knows. He discovered
this part of the Catskills in 1991 when he was
thinking about buying a ranch in Montana. I
really wanted a place that was secluded and
had mountains and wildlife, he said, but I
couldn't bear the thought of only being able

This is just an interesting ad, of course extolling the virtues of this beautiful region from the Catskill real estate website, and Mr. Houshman goes on and says, "Trust me, buy a home up here and within five years you will be living here." This is one of the -- sort of unseen forces -- although lots of local people tell us they see it -- that's attracting people to the region, and also going to drive more and more parcelization of privately owned forest land.

Population pressures. As population density increases, the difficulty of keeping working forests intact increases as well, and I showed you some slides about that earlier.

Page 20

25	Some	of	the	pressure	is	competition	for	land

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but most is economic and social. When you reach a certain population density, there are often conflicts between people who have moved into the area and those who are still trying to use the land for agriculture or forestry. People don't like to hear chain saws, they don't like to see logging trucks. They don't like to smell pigs, and so there are a lot of reasons that as you get more and more people, it just becomes very difficult for people to continue working the land. And also the prices usually -- taxes are driven up and so people are -- it's attractive to them therefore to sell their land, either because taxes become higher or because there's a good market.

MR. GERSTMAN: Professor Hall, when you talk about population density, you're talking about both the actual population residing in an area but also the second homeowners as well, people who use their -- essentially the area as their recreation or second home?

PROFESSOR HALL: Yes. Because this is a unique area where second homes is a

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1	6-29-04-crossroads significant factor, definitely people who have
2	second homes are very much annoyed sometimes
3	by these kinds of activities.
4	MR. GERSTMAN: You include the second
5	homeowners as part of the population density
6	equation?
7	PROFESSOR HALL: Yes, although there
8	are no data on that. You can't get data that
9	tell you how many people actually, say, are
10	here on Fourth of July weekend. You can't get
11	that kind of data, but you can see it in the
12	satellite imagery, you can see that the
13	forests that there are more and more homes
14	or areas being cleared of forests.
15	So as I said, there's less tolerance
16	for rural land uses, et cetera. We've been
17	over most of these things. (Indicating)
18	I like this one, though, that I think
19	is quite true. There's a decision to get out
20	while the getting is good. And having grown
21	up on a farm myself and watched farmers go
22	through that where they decided to get out
23	while the getting is good is very apropos.
24	MR. GERSTMAN: Let's focus for one
25	moment on the second bullet which has to do
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	with higher land prices, home sites and golf
2	courses. As you know, this project involves
3	the proposed construction of two golf courses.
4	It also involves the proposed construction of

5	6-29-04-crossroads some residential home sites and time shares on
6	the mountain. In your opinion, would this
7	development increase both the secondary growth
8	aspects of would result in secondary growth
9	and also result in higher land prices in this
10	area?
11	PROFESSOR HALL: This slide, by the
12	way, was not prepared for this conference,
13	this slide is part of our general presentation
14	and was prepared by my colleague, Mary Tyrrell
15	at Yale University. I forgot to say that
16	this project is a joint study of Yale School
17	of Forestry and SUNY's College of
18	Environmental Science and Forestry. So this
19	was not prepared just with this in mind.
20	Now let me say, most all of these
21	things are taken from the various studies that
22	we have read and are reporting on here, and
23	our principal investigator was Neil Samson,
24	who at the time we started, was a @wirehouser
25	fellow at the Yale School of Forestry, and is
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	now head of the Samson Group, and for years
2	was the director of American Forests. So this
3	comes from his studies, along with Lester
4	Decouster. The feeling is, with respect
5	you're asking me how do I relate this to
6	the local situation?
7	MR. GERSTMAN: Yes.

8

Page 23

PROFESSOR HALL: First of all, higher

6-29-04-crossroads land prices makes it attractive for people to 9 10 sell their land. Secondly, people are attracted when they come to a place to play 11 12 golf from elsewhere, and they are attracted to 13 that region and they want to build homes. As I said, I don't have any study myself showing 14 15 this empirically, but I can think of hundreds 16 of examples in the west, where I spend my summers, particularly in the flathead valley 17 in Montana where when the first little golf 18 19 course went in and soon, we had home sites 20 surrounding it. The region has just -- it's 21 just boomed, and a recent study by Dennis 22 Swainson [sic] showing what's happening to the American West, especially in regions around 23 National Parks, and this happens to be around 24 25 a National Park, where people are attracted to

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11 12 the region for recreation and for scenic beauty. Because people are affluent, they see these as -- these are nodes or magnets that attract people to come and build a second home. As I said, I don't have any report at my fingertips or published paper to document that, other than Swainson's work, which is in a different landscape, it's in the West, but I think the driving forces are much the same.

Land tenure changes. We definitely have more people moving into rural areas in what we call sprawl. Forests are being used

	6-29-04-crossroads
13	for home sites and not production of
14	commodities, and the question is will
15	production land uses be feasible in the
16	future? Changing values, people inherit land,
17	they have different values, and they will use
18	the land differently. And the forest products
19	industry themselves are selling their lands.
20	You see that all over the northeast.
21	(Indicating)
22	So the impact on forestry is we have
23	more and more smaller forest parcels with more
24	neighbors, and these make it more expensive to
25	manage for forest products, people get less
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	29 money for their timber because there's sort of
2	a threshold of efficiency. If you have a
3	small property, it's much more costly per tree
4	to go in and take out the trees than when you
5	have large properties.
6	They may find their management
7	activities constrained by other local
8	concerns, and they may get taxed for
9	development values, and these parcels are more
10	likely to be sold for development.
11	(Indicating)
12	So our objectives were, in doing this
13	study, principally we wanted to explore what
14	was happening in some of the last remaining
15	forested landscapes of the northeast. The

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Forest Service wanted us to do this to see if

17	6-29-04-crossroads we could determine from satellite imagery the
18	impacts on if we could determine the amount
19	of fragmentation and parcelization, or both,
20	that was taking place in these landscapes, and
21	they wanted us to use this land use change
22	model that we had used previously, principally
23	in Latin America, but to test it here and see
24	what it told us about what's happening to
25	private forest land in the northeast.

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(Indicating)

So we were also interested in how these processes affect communities. We met twice with stakeholders in the Catskill region before we did the modeling and afterwards to present our results and get feedback from them, and also in Connecticut, we met with stakeholders there twice.

MR. GERSTMAN: Professor Hall, could you give us a representative sample of the some of the stakeholders you met with in this region?

PROFESSOR HALL: We met with several forest landowners, people who are engaged in timber extraction on their own land, people from local planning boards, from the Catskill Forest Landowners Association, I believe it is, from the watershed ag. counsel, from DEC, DEP, EPA, Catskill Center. That's a few.

MR. GERSTMAN: Thank you.

# 6-29-04-crossroads PROFESSOR HALL: Another one of our objectives was to see if we could develop from this, a tool that people could use in the planning process to help them get ahead of the situation, and to help them sustain forest

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environments and a forest economy. That was our goal.

Our project methods were as follows:
One, to identify factors that are correlated
with past patterns of land use change, to
identify areas of intact forest, where those
same factors are present today, and to use a
dynamic modeling tool called Geomod to project
possible future scenarios based on what we
have seen in the past.

Let me just talk a little about the modeling process. A good model is one that uses data collected from sometime in the past, explores, statistically or otherwise, the relation of dependent variables to independent variables; in other words, what factors are causing a certain response in a system. Then it makes a projection and validates its projection against either data that has been held out of the original set that was not used in the calibration process, or data from a later point in time. That's what we did here. And I hope I can explain it in a way that you'll be able to understand how we built the

6-29-04-crossroads model and why we have good confidence in it.

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Our other methods were to choose sites that have large areas of intact forest, I already said that, some development pressure in an active conservation community. We hosted community workshops, as I said, and from those meetings, we derived a list of potential factors that local people thought were important in explaining what was happening in their area.

These were the two areas of our study. You see the two rectangles defining the areas that were studied, and I think the next slide gives you an idea why these areas were selected. This is an earth nightlight satellite image showing these two forested landscapes in the northeast. (Indicating)

One of our reasons for also looking at the Catskill-Delaware Watershed region was, of course, because of -- it's critical to New York water supply, large areas of intact forest. We assume, because of its proximity to New York City, that it was under some threat of expanded development, and that many local and regional organizations were involved here in the preservation of forests and a

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(FOREST IMPACTS ISSUE)

2	This is a rectangle that shows the
3	actually physical area that we analyzed.
4	These are little pieces that were cut out of
5	Albany County and Otsego County, so we have
6	centered we hadn't included all of the
7	Cannonsville Reservoir but the rest are
8	included, and the red shows you those lands
9	that were excluded from the study because
10	they're not candidates for change, as they are
11	city or state owned lands. (Indicating)
12	The next slide shows you how much of
13	each county was area was included in our
14	analysis. (Indicating)
15	The hypothesis we developed with the
16	folks here were that parcelization is more of
17	a current factor than fragmentation, but it
18	will be hard to detect or predict. That is
19	true, partly because of the @dirth of data,
20	and also you can't see parcelization from a
21	remotely sensed product like the satellite
22	imagery, its changes in ownership boundaries,
23	so it is more difficult to analyze.
24	(Indicating)
25	The second theory that we developed
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	34 with folks here, and as I said, these slides
2	were prepared long before I ever knew about
3	the issues here, were that forest land change

is driven why distance from New York City,

distance from major roads, distance from Page 29

growth nodes such as ski resorts and new resort development, watershed regulations, taxes, age of landowners, and the population of permanent residents versus housing units, i.e, second homes. (Indicating)

So we tried to assess the importance

So we tried to assess the importance of these factors and either driving forest fragmentation and parcelization in this region or simply explaining where it would occur.

(Indicating)

The model that we used is -- as I said, is called Geomod. It's a spatial and temporal Geographic Information System based model that quantifies factors associated with land use change, and simulates the rate and pattern of that change into the future. This model was developed by, actually by my husband, Dr. Charles Hall, professor at EFS, along with graduate studyents under an initiative from the Department of Energy to

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(FOREST IMPACTS ISSUE)

explore the contribution of tropical deforestation to the global carbon budget.

There are two things -- what we need to build Geomod, there are two important factors in this model that we need to assess. One, is how much change per time has been occurring in the past, and where? The first is possible through a variety of means. One is to look at satellite imagery and simply Page 30

look at the change in forest cover since that's what we're interested in over time, and look at the rate of change. The second is to actually be able to compare demographic or socioeconomic data to that change in forest cover and see if there's a correlation between the two. The latter however, it's necessary to really have more than two points in time, always you always have a linear relationship. So we only had two points in time because the classification of satellite imagery is a very expensive and time-consuming process so we had a 1992 image and a 2001 image. Therefore, in order to come up with the rate, looked at the rate of change between those two points in time in the satellite imagery, and projected

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that forward ten years.

We also didn't have economic data at a resolution that would allow us to explore the relation between the economics of the region and changes in forest cover. We didn't even have it at the county level so -- and people couldn't even provide it for us at the state level really -- so that was of great disappointment to us, whereas we did have it in Connecticut. Pattern drivers then are explained where people have historically preferred to develop the land. As ecologists, we have a theory that they tend to go where

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they're going to get the highest economic return on investment, and before our highly energy subsidized era of history, that meant that energy investment was their legs and arms and a plow and a horse, and so people tended to like flat land and river valley land where the soils were rich. We still see that imprint so much on the landscape here that I think it's sort of overwhelming, some of our other analyses of all these other factors, because the historic imprint here is still very strong from that time in history.

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(Indicating)

These are the two images that we used. These are the classifications, which I know you can't see, but basically the classifications are open water -- we have no perennial ice and snow in these images. These are just the legends that come with a larger image, and we windowed out our area. Low intensity residential, high intensity residential, commercial/industrial transportation, bare rock, sand and clay, quarries, strip mines, gravel pits, transitional areas. There was none of that in the images here. Deciduous forest, evergreen forest, mixed forest, @shrubland. Orchards, vineyards, grasslands, row crops -- pasture hay, row crops, fallow, urban recreational

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18	grasses, woody wetland and emergent wetlands.
19	So those are the classifications that are
20	determined from analyzing spectoral
21	reflectants of land cover as the light. The
22	short wave radiation is bounced back to the
23	satellite and then you go through a long
24	process of ferreting out these different
25	sectoral responses in determining what the

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land cover is. (Indicating)

we re-classified all of those classes into two classes -- three with water, and the woody wetlands -- or emergent wetlands. We basically included in the forest class everything that was deciduous evergreen mixed forest or woody wetland; and in the non-forest, we included the residential, commercial, industrial -- hay, pasture, row crops, any kind of human use of the landscape other than forest. So you can see already some significant changes. (Indicating)

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We have had some concern about the absolutely immense amount of change in this region so we went in and did an accuracy assessment of this part of our imagery, and we got -- I think it's 92 percent correct, so we feel pretty confident. That's quite good. We used aerial photography as our validation map. (Indicating)

> The table you see here is a lot of Page 33

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	6-29-04-crossroads
22	numbers but it's basically summarizing by
23	county how many acres of forest there were in
24	1992 within these counties in the portion
25	that's included in our study area, and how
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	much non-forest, how much forest in 2001, how
2	much non-forest. (Indicating)
3	So the percent forested in `92 total
4	was 87 percent, by 2000, was 79 percent.
5	That's just the private forest land. That
6	includes some reforesting land as well, which
7	we have in this region. Then, we look simply
8	at this includes reforesting land. This
9	tells us how much how many acres in each
10	we're reforesting and what the net acres of
11	forest were lost. (Indicating)
12	This is quite an interesting factor
13	that the actual standing mature forest that we
14	observed in `92, this much was lost. When you
15	add back in what appears to be reforesting,
16	then this is the net number of acres.
17	(Indicating)
18	When we include the public forested
19	land, the area of our analysis went from
20	88 percent forested to 81 percent forested in

a nine-year period, which coincides with this study that I mentioned earlier that was in the Journal of Forestry showing how much private forest land had been lost in approximately the same period of time, 1992 to 1997.

Page 34

# \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE)

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1	(Indicating)
2	I might say even though New York is
3	one of the states that in the literature,
4	it says that it's reforesting. That's for the
5	whole state, and I think there are certain
6	areas of the state, as we've seen here, where
7	the conversion is now going the other way.
8	(Indicating)
9	This is a summary simply of the change
10	in forest, non-forest by county just done
11	graphically to give you an idea of the impact.
12	This is in acres. (Indicating)
13	MR. GERSTMAN: Professor Hall, how
14	would you view the rate of change that you're
15	showing from 1992 to 2001 both in the prior
16	slide and this slide? Would you characterize
17	it as something of concern, significant in
18	terms of loss of forest land?
19	PROFESSOR HALL: I would consider it
20	very significant. Everyone we've shown this
21	presentation to has been quite alarmed, most
22	especially the people from the Department of
23	Environmental Protection from New York City
24	because they're very interested in what this
25	may imply for water quality at what point
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)

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they're asking is too much -- is too much too

	6-29-04-crossroads
2	much? At what point would water quality be
3	impacted. No, this is quite
4	ALJ WISSLER: What is your answer to
5	that question?
6	PROFESSOR HALL: We don't know yet.
7	we have put forth a proposal with to the
8	Department of Environmental Conservation to go
9	forth with this study and to connect our land
10	use change projections to a hydrological model
11	and a @fatent transport model that would look
12	at sediment rate and nutrient delivery to the
13	reservoirs and the streams. And we put forth
14	that proposal, and we believe we're going to
15	be funded to do that.
16	MR. RUZOW: Did you say DEC or DEP?
17	PROFESSOR HALL: We've put forth the
18	proposal to DEC.
19	This is summarizing in the watersheds
20	themselves the loss of the `92 forest. Now
21	remember, there is some reforestation so we
22	see in the imagery, although you have to
23	imagine that in a nine-year period, that for
24	something to go from non-forest to forest,
25	it's not very forested yet, it takes a long
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	time for forest to grow, but it's being picked
2	up by the satellite in a spectoral reflectant
3	that would say it's forest. (Indicating)
4	So we have a net change in forest from
5	Cannonsville of 10 percent; Schoharie, 3;

	5 22 24
6	6-29-04-crossroads Pepacton, 5; Ashokan, 2, and very little in
7	the Neversink because most of that is public
8	land anyway in the Rondout. But then you see
9	the loss of the `92 forest itself is generally
10	between nine percent more, and as little as
11	one percent more, so the loss of the mature
12	standing forest is maybe the more important
13	statistic to look at in terms of water
14	quality. (Indicating)
15	Then we also looked at the total in
16	all the basins and outside the basins. So we
17	see a little bit more higher rate of change in
18	private forest land, forest cover outside the
19	watershed, that area that is included in our
20	study than inside the watershed, which make
21	sense.
22	MR. GERSTMAN: Just a correlation,
23	Judge, as you heard from Dr. Kiviat and you
24	will hear from further from aquatic habitat
25	specialists the loss of forest land has a
	*** rough draft ** rough draft***

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### (FOREST IMPACTS ISSUE)

43 direct impact on the quality of the surface waters, and we believe will have a significant impact on the quality of surface waters in the area adjacent to the project.

PROFESSOR HALL: Like I said, we wanted to compare population growth to the forest cover changes, and we plotted the population growth over time from census data, and the most pronounced of course is in Ulster

	6-29-04-crossroads
10	County remember, not all of Ulster County
11	is in our study area, nor are any of all of
12	these counties but it's generally more
13	flat, except in Sullivan also it's more of a
14	rise, but the population growth is really very
15	flat over time from 1890 to the present in
16	three of the counties that we're looking at.
17	(Indicating)
18	This slide is not in your handout, I
19	added it last night because I have been
20	wanting to do this for a long time, to put the
21	two side by side, so we could actually see
22	between 1990 and 2000 what the population
23	change had been versus what the change in
24	forest cover had been. So there definitely
25	seems to be something else, perhaps relating
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	back to the Article from the New York Times,
2	that seems to be driving change in forest
3	cover here. Even though there's a great deal
4	of land that's reforesting in Delaware County
5	there is also a loss of 7 percent.
6	(Indicating)
7	Then in Greene County, we see actually
8	more population change than we see change in
9	forest cover. (Indicating)
10	We see a loss of population in this
11	period in Schoharie County, but a 3 percent
12	loss in forest cover. (Indicating)
13	In Sullivan so again, I think local

Page 38

14	6-29-04-crossroads population may be decreasing, but outside
15	population may be actually increasing. In
16	Sullivan, they're about neck in neck.
17	(Indicating)
18	In Ulster, more population growth than
19	change in forest cover, and they're about
20	matched here. (Indicating)
21	From this data, it's pretty hard to
22	say that we could predict forest cover change
23	as a function of population growth. In some
24	areas, we could, but in some areas we
25	couldn't. So it's a more complicated picture
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	45 than what we might find in the developing
2	world where we almost always find a very tight
3	correlation between population growth and
4	deforestation. (Indicating)
5	The this is the work of Rene Germain,
6	who is a professor in the forestry faculty at
7	ESF and works with local foresters here in the
8	Catskills working on sustainable forest
9	practices. He and his graduate student
10	looked at the change in parcel size by going
11	to the tax records and comparing the change in
12	acreage, size classes, and how many acres in
13	each acerage size class between 1984 and 2000.
14	There is no data base for 1984 except those
15	musty books in the county offices that one has
16	to go through. So this student spent
17	enumerable hours with the digital tax parcel

18	6-29-04-crossroads map provided by the New York City DEP for just
19	the watersheds. Sat there with the digital
20	maps, went to the books and digitized on
21	screen, removed the lines from a subsample of
22	the parcels. You couldn't possibly do all the
23	parcels, so he selected through random
24	sampling parcels in the entire watershed, and
25	re-created the 1984 map by looking at where
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	the new parcel lines were drawn. You
2	understand? (Indicating)
3	So what we see in this region, that is
4	typical around the United States, is that the
5	large acreage is the one that makes for the
6	most protective timber industry, are actually
7	acerage in the 100-plus size class is dropping
8	as it is in the 50 to 100, and the 1 to 5, 5
9	to 10 and 10 to 50 acreage size classes. We
10	actually see more acreage now in those units.
11	(Indicating)
12	In the next slide, we look at the
13	number of parcels, and again, these the
14	100-plus, we have fewer parcels, and we see a
15	huge increase in the 1 to 5 and 5 to 10 acre
16	parcel size class in this region.
17	(Indicating)
18	Finally, the study mean shows that the
19	average went from about I think it's 17.5
20	to about 14.3 over the entire sample data set.
21	MR. GERSTMAN: I notice that Delaware

	C 20 04 avasavas da
22	6-29-04-crossroads County is not included. Can you tell us why?
23	PROFESSOR HALL: Yes. Delaware County
24	is not included because they were not able to
25	access any records for 1984 in the past.
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	So we have the current 2000 records, tax
2	parcel records from the DEP, but there was no
3	data that he could use to re-create the 1984.
4	This is also, I believe, an inserted
5	slide, not in your packet that I added last
6	night, just to help clarify some things.
7	(Indicating)
8	MR. GERSTMAN: These are in the Power
9	Point that was provided?
10	ALJ WISSLER: The CD?
11	PROFESSOR HALL: This one was only for
12	Greene County in fact, it still says
13	that but last night I was able to finish
14	for the whole area so I could print this out.
15	ALJ WISSLER: It's not part of the CD
16	that you gave us?
17	PROFESSOR HALL: In the package you
18	have, I believe it shows these results just
19	for Greene County.
20	MS. ROBERTS: But was it burned into
21	the CD?
22	PROFESSOR HALL: No, it was not.
23	ALJ WISSLER: There is also another
24	page?
25	MR. RUZOW: The population versus

Page 41

## \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE)

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1	forest change slide.
2	PROFESSOR HALL: That was also new.
3	MR. RUZOW: That wouldn't be in the CD
4	either?
5	PROFESSOR HALL: No, it's not. Those
6	two things were done because we were still
7	trying to get to them, we hadn't finished them
8	yet, and I finished them last night and I
9	thought I might as well show them to you
10	because they actually are interesting pieces
11	of information that we had intended to do.
12	What this is showing us that is really
13	very interesting, is that if you look at the
14	sample data that was, as I said, random
15	sampled out of all the parcel data for just
16	within the watershed, you will see that the
17	change in forest cover in non-divided parcels
18	is less than that in divided parcels.
19	(Indicating)
20	So our hypothesis, in fact, that in
21	divided parcels is 50 percent increase over
22	what you see in the non-divided, which
23	supports our hypothesis which was that
24	parcelization leads to fragmentation. In
25	other words, what you're seeing here is a
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	49 loss, greater loss in forest cover in divided
2	parcels between those areas that were

parcels between -- those areas that were Page 42

parcelized between 1984 and 2000, then you see in the non-divided. That's a very significant finding. I don't think it's been shown by anyone else yet. This is our finding and we -- as I said, it supports our original hypothesis. (Indicating)

MR. GERSTMAN: Could you explain
-- briefly again summarize how it supports
that hypothesis and how it's significant?

PROFESSOR HALL: We believe that once land is parcelized, sold off into smaller units, that this probably accelerates the change of the use from forest — at least from forest use to some other use. Now, from satellite imagery, we can't tell what the use is when land is in forest. We don't know if it's being used for timber extraction, for forestry or is simply just, you know, in conservation. I mean a landowner has decided not to do that, but this allowed us to see that forest cover was lost on more land that had been parcelized than land that had not been parcelized. So we do believe now from

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this -- it's a 50 percent increase, that there is some acceleration through the parcelization process. It always seemed logical to us, but we didn't really have any evidence to support that until we completed this part of the study.

MR. GERSTMAN: If one were to show that the Crossroads project that we're here today talking about would result in increased secondary growth and the purchase of home sites in this area, your professional opinion would be then that that would also accelerate -- decrease the amount of forested land in the area adjacent to the project?

PROFESSOR HALL: That is our concern, and that is the Forest Service's concern, is that as more development comes in, there is an acceleration of the parcelization process because landowners see the opportunity to sell off their land, and people who are coming to the region attracted by -- whether it's a new resort or a national park or whatever, see a place and fall in love with it, and are interested in having a home there. So that is our concern there.

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MR. GERSTMAN: Would you expect that type of attraction to an area to be compounded if you were going to develop, for instance, two hotels with two golf courses adjacent to an expanded ski area?

PROFESSOR HALL: As a professional, I cannot pull a peer review publication out of my pocket and say here is the proof. From my observation in many parts of the United States, I have seen that acceleration once a Page 44

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11	recreation or resort development has gone into
12	an area.
13	ALJ WISSLER: So I understand it. If
14	we took various types of recreational nodes, I
15	think was the term you used?
16	PROFESSOR HALL: Yeah.
17	ALJ WISSLER: There's no study that
18	would say that a particular use will draw more
19	people than a particular other use?
20	PROFESSOR HALL: None that I'm aware
21	of. I haven't explicitly investigated that
22	literature to look at that. I think it would
23	be worthwhile to do. I can point to one study
24	I'm very familiar with about
25	ALJ WISSLER: Sounds like the basis
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	for another grant.
1 2	
	for another grant.
2	for another grant.  PROFESSOR HALL: Exactly. Another
2	for another grant.  PROFESSOR HALL: Exactly. Another study though, the one in the West showing that
2 3 4	for another grant.  PROFESSOR HALL: Exactly. Another study though, the one in the West showing that National Parks definitely have accelerated the
2 3 4 5	for another grant.  PROFESSOR HALL: Exactly. Another study though, the one in the West showing that National Parks definitely have accelerated the deforestation/development pattern. Every
2 3 4 5 6	for another grant.  PROFESSOR HALL: Exactly. Another study though, the one in the West showing that National Parks definitely have accelerated the deforestation/development pattern. Every National Park gateway around the West.
2 3 4 5 6 7	for another grant.  PROFESSOR HALL: Exactly. Another study though, the one in the West showing that National Parks definitely have accelerated the deforestation/development pattern. Every National Park gateway around the West.  MR. GERSTMAN: We will try and provide
2 3 4 5 6 7 8	for another grant.  PROFESSOR HALL: Exactly. Another study though, the one in the West showing that National Parks definitely have accelerated the deforestation/development pattern. Every National Park gateway around the West.  MR. GERSTMAN: We will try and provide that study for you, references for you, Judge.
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2 3 4 5 6 7 8 9 10	PROFESSOR HALL: Exactly. Another study though, the one in the West showing that National Parks definitely have accelerated the deforestation/development pattern. Every National Park gateway around the West.  MR. GERSTMAN: We will try and provide that study for you, references for you, Judge.  We also have in our both in the New York City DEP offers of proof, the Attorney General's offers of proof and our own, have

15	be exploring that further in connection with
16	our cumulative impact argument.
17	PROFESSOR HALL: This is just to show
18	you the towns that were included in the tax
19	parcel analysis, so you see that primarily
20	within the watersheds, and this was DEP
21	provided. (Indicating)
22	We also then looked at the ownership
23	statistics looking at that same data base, the
24	tax parcel data base, and we found that in the
25	privately owned land, that 444,000 acres are
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	owned locally versus 482,000 that are owned by
2	people whose home address listed in the data
3	base is outside this region, as far away as
4	Japan. So you see that the number of parcels
5	is greater for local owners, but the actual
6	acreage is larger for those from outside the
7	area.
8	ALJ WISSLER: Do you have those kinds
9	of statistics for other years?
10	PROFESSOR HALL: No, we only have it
11	for these two because that was part of that
12	very laborious process. There is no digital
13	record of ownership of land of tax parcel
14	boundaries except from 2000, and from now on,
15	counties will be undating that information
16	digitally, but before this data base was

created, there was nothing digital.

ALJ WISSLER: So we're not in a Page 46

18

17

	6-29-04-crossroads
19	position at this point to suggest what, if
20	any, trends exist?
21	PROFESSOR HALL: We have two points in
22	time. Possibly, since we're already at 2004,
23	we could do some of that.
24	The public land excluded from the
25	analysis is shown in this map, just so you're
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	54 aware that this was not included in our
2	analysis, except to look at distance from it
3	to see if that was important to determining
4	where people have settled.
5	MR. RUZOW: This is city and state
6	lands?
7	PROFESSOR HALL: It does not include
8	private conservation easement lands.
9	MR. RUZOW: Land held at that point in
10	time in title by the state and the city?
11	PROFESSOR HALL: I don't know the word
12	entitled.
13	MR. RUZOW: No titled.
14	PROFESSOR HALL: Owned by.
15	MR. RUZOW: Owned by, that means they
16	have the fee ownership
17	PROFESSOR HALL: Yes.
18	MR. RUZOW: I'm trying to understand,
19	Marc, to tie it into Mr from Catskill
20	Center's future accusations by the City or
21	things in the pipeline. I'm trying to
22	understand.

Page 47

23	MR. GERSTMAN: These are owned as far
24	as I understand.
25	PROFESSOR HALL: We only have this
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	data because it was provided to us by the DEP.
2	This is our final rate then that we
3	used based on what we saw in those two points
4	in time. (Indicating)
5	ALJ WISSLER: Did we miss a slide?
6	MR. GERSTMAN: In terms of rate of
7	development of divided versus non-divided
8	parcels within the New York City Watershed?
9	PROFESSOR HALL: That's the one that
10	we just saw a few minutes ago, now been
11	completed for the whole region. I had moved
12	it to there. And it shouldn't say in Greene
13	County, this is for all, the entire region.
14	(Indicating)
15	MR. GERSTMAN: So the Greene County is
16	subsumed within these statistics?
17	ALJ WISSLER: You're going to provide
18	copies?
19	MR. GERSTMAN: Yes.
20	PROFESSOR HALL: This is for all
21	counties.
22	MS. BAKNER: All counties but
23	Delaware; right?
24	PROFESSOR HALL: Right yes. Yes,
25	because we didn't know what was parcelized in

# 6-29-04-crossroads \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE)

 Delaware exactly. Thank you very much.

So this is just the numbers that we used in order to be transparent -- you can't see them so it's not very transparent -- but these are the percent of private lands in forest. When we get to 2001, the satellite image, 77 percent of private lands are in forest. Each county is different. We project out by county, we did our analysis by county, and then we get to 2011, and we show that 66 percent of private land will be forested simply based on the rate of change that we observed between '92 and 2001. It's linear, because we had no other data to fit a trend line to. (Indicating)

Again, as part of this additional work that we're hoping to do, we're hoping to have at least four points in time to analyze the change in the region before we start talking about changes in water quality. But we still feel that it's perfectly acceptable to project only ten years into the future by back-casting ten years, that that's not an unlikely -- that the difference in the scenarios will not be much different.

ALJ WISSLER: This also assumes that the economics of the area remains constant

6-29-04-crossroads too; in other words, I think when you began your presentation by suggesting that people are ultimately driven by appropriate economic choices. So we chose flat land by the river because that's easier to till because that's economic demand. So this also assumes that the economic demand remains constant and does not diminish?

PROFESSOR HALL: And even more than perhaps the local economics, the state economics, New York State. That was certainly a boom period from `92 to 2001. If we are right in assuming that a lot of the economic activity here is driven by people coming from outside and the infrastructure and services to service that group of people, then we are assuming it is more than just local economy, that it's state economy.

How the model works. The model begins with a time 1 land use map, 1992. We look at each of these spatially distributed factors, like distance from local records, distance from secondary roads, distance from growth

\*\*\* rough draft \*\* rough draft\*\*\*
(FOREST IMPACTS ISSUE)

nodes, slope of the land, elevation of the land, a whole variety of factors that you'll see, and we run each one through a calibration procedure that looks at how much in each category of, let's say, distance from roads has been developed. We always find that the

7	6-29-04-crossroads first class within the first distance interval
8	from roads has the most development in it.
9	That's always true everywhere in the world.
10	(Indicating)
11	Then from that, we create a map that
12	we call the likelihood map. Some people in
13	the conservation community call it the risk
14	map. Some people in the carbon world call it
15	the opportunity map. So it's the map that
16	allows the model to pick based on the
17	weightings that it determined here on the past
18	where people had developed the land to pick
19	the next cells in succession on the map to
20	project a time to map. When I say cells,
21	satellite imagery senses the ground at about a
22	30 by 30 meter resolution. So these maps are
23	really grid cells of rows and columns, each 30
24	meters in width. (Indicating)
25	So then we go through the validation
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	59 procedure. We look at the simulated map and
2	compare it to the actual map of 2001, and see
3	how well we did by analyzing the Kappa
4	statistic. The Kappa statistic is
5	complicated, but not very. Basically what it
6	tells us is how much better did your model do
7	than throwing random darts at the map. It's a
8	mathematical calculation that's been
9	developed, used a great deal in the spatial

10

analysis world. But it's important here

	6-29-04-crossroads
11	because if we simply use percent correct, you
12	get a whole lot of cells correct simply
13	because there is a because of inertia, I
14	guess. There's a whole lot of the map that's
15	not going to change anyway, and you're going
16	to get that correct. If you have very little
17	change between two points in time, you can get
18	a very high percent correct, but you can
19	really miss a lot of the actual points of
20	change. (Indicating)
21	So we used the Kappa because it is a
22	better indicator to tell us how much better
23	the model did over what we call a random
24	model, which would be like throwing darts.
25	This is our calibration map for `92.
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	(Indicating) 60
2	This is the validation map for 2001.
3	(Indicating)
4	Here is how the model calibrates.
5	This is a new slide. I put it in last night
6	because I thought I didn't know how you would
7	understand unless I gave you some example.
8	This is for one of the counties. This is
9	looking at distance from what we call urban
10	areas, areas that in the `92 map were in
11	residential, commercial or industrial in that
12	map. We see that in the first distance class,

13

14

we have about 27 percent developed, and it

just goes down very nicely as you move away

15 from those areas. (Indicating)

This is another example, distance from local roads. Again, you see quite a clear trend and there is -- there were none of this in those classes. There were none of these classes in this particular county. Now, what it does then when it creates that likelihood map that the model uses for picking, is that it gives for every cell that's still in forest that's in the first distance class from roads, it gives it a 22.

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(FOREST IMPACTS ISSUE)

ALJ WISSLER: Excuse me, what would be a distance class?

PROFESSOR HALL: I believe -- I would have to look at my report, but I believe that the distance class for local roads was 300 meters for each class, something like that, but it's in our report. I can't remember all the details. These were probably also 300 meters, but the local roads were much more dense than what we would have called urban areas in some of these counties.

I put this in, this was distance from ski areas. This was a much less powerful predictor than something like this because it's kind of random. One of the reasons that distance from ski areas didn't give us as high a correlation as we thought we would get, is that, remember we include in our analysis a

19	6-29-04-crossroads lot of highly developed areas in Ulster and
20	Sullivan County that are a long way from ski
21	areas, and they are sort of overwhelming the
22	analysis in terms of where the majority of
23	land use change is going to occur in this
24	large rectangle that we analyzed.
25	(Indicating)
23	(Indicating)
	<pre>*** rough draft ** rough draft***     (FOREST IMPACTS ISSUE)</pre>
1	If somebody would pay us to go back in
2	and look at distance from ski areas in a
3	smaller window, we might see a high
4	correlation as we zoomed in closer to areas
5	where ski areas are located. If I show you on
6	another map, you'll see again how there's a
7	preponderance of the development in the
8	window that we windowed out is in areas
9	outside the watershed. The preponderance of
10	it.
11	MR. RUZOW: You'll supply us with a
12	copy of this as well?
13	MR. GERSTMAN: Yes, you'll get all
14	this.
15	PROFESSOR HALL: This is actually how
16	it works. These would be distance classes of
17	from what we call urban areas or urbanized
18	areas, really it's developed areas. It's from
19	anything that was classified as developed. So
20	distance from developed areas, this is the
21	map. Then the program goes in and says

22

-- comes up with those charts we just saw and

23	6-29-04-crossroads then it assigns those numbers to each forested
24	cell. So the black areas are lands that are
25	you know, have very little likelihood or
23	you know, have very fittle likelihood of
	<pre>*** rough draft ** rough draft***     (FOREST IMPACTS ISSUE)</pre>
1	63 are excluded from the analysis or are already
2	developed and areas in this green are the
3	areas most likely to be developed as we move
4	down the roads. You see along Route 28, some
5	of this green, and you see of course a lot of
6	it down here in Ulster County, just based on
7	one factor, one factor. We do this for each
8	factor. Here is another one. (Indicating)
9	Here it is for local roads, and you
10	see what I mean about how dense the local
11	roads are so there aren't nearly as many
12	classes, but probably the same distance class.
13	And here here it's saying that we used 150
14	meters in the first class, 250 250, 250
15	meters in each distance class for local roads.
16	(Indicating)
17	Then we have how it weighted the
18	landscape. Remember, each county is being
19	analyzed individually in the model. So the
20	weightings are different by county. Then the
21	model goes in and, by county, selects which
22	cells to change to non-forest for 2001.
23	(Indicating)
24	Then we do the validation procedure.
25	I don't even remember if this is zoomed out

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Page 55

	64
1	from this project or another project, but this
2	is just to give you an example of what the map
3	might look like when we zoom in. So the green
4	would be everything that's simulated as forest
5	and in fact, is forest in the validation
6	period. (Indicating)
7	The light green is something that the
8	model simulated as non-forest, but in fact was
9	still in forest. (Indicating)
10	The yellow is simulated as forest but
11	in reality is non-forest. (Indicating)
12	And finally, the red is simulated as
13	non-forest, and it really was non-forest in
14	the validation period. (Indicating)
15	What happens is that if you analyze
16	pixel by pixel, we call them, these 30 meter
17	cells, pixel by pixel, the validation
18	procedure is very harsh because you might have
19	come close, 30 meters off in your simulation,
20	but you're penalized because you're 30 meters
21	off. So there are other methodologies
22	developed now that allow you to expand the
23	window of for close hits or close misses
24	because there is, in fact, in spatial
25	analysis, a thing called spatial auto

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(FOREST IMPACTS ISSUE)

1 correlation; that things that are close
2 together tend to be alike. So what one study
3 has shown in Massachusetts in the @Ipswitch
Page 56

4	Watershed was that their modeling efforts
5	there, but they only used two factors, really
6	couldn't get at 1000 meters resolution,
7	which is one kilometer, they are very high
8	validation statistics. But as they move down
9	to 30 meter, they actually did better with the
10	random model than with the actual model
11	because we don't have data that corresponds to
12	30 meter resolution satellite imagery. Our
13	data is generally of a much coarser
14	resolution, so trying to match the these two
15	scales makes this procedure difficult.
16	(Indicating)
17	The statistics, I'll show you. If we
18	had expanded and said: Okay, we said this
19	would be non-forest here, but right next-door
20	it was, would look better if we had used this
21	other procedure. But we didn't, we took the
22	course of most penalty in the model.
23	(Indicating)
24	We have now all of these factors that
25	we analyze. Just follow with me, don't try to

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read it all, you'll just go nuts. We looked at population density, distance from these developed nodes in the `92 map; elevation, population over 65 from the census data, distance from state lands, distance from local roads, distance from agricultural land, slope of the land, distance from secondary roads, Page 57

distance from ski areas, owner-occupied housing, distance from primary roads, distance from bodies of water, distance from Route 28, distance from New York City. Aspect, that is which way the land faces in terms of the sun. Distance from -- this is from rivers, and finally, the effect, whether anything could be determined by looking at which watershed basin the development occurred in. (Indicating)

There are two ways you can run the model. This is that Kappa statistic I'm talking about. So these are ranked right now in order of importance by these Kappa statistics. What this side is versus this side is that the model was written to run two ways. You can either say: Okay, now you have this likelihood map and the model can go and pick all the high value cells on the map and

\*\*\* rough draft \*\* rough draft\*\*\*
(FOREST IMPACTS ISSUE)

then you do the validation. Or you can say to the model: You can only pick high value cells within a specified distance of already developed areas. (Indicating)

67

Because in some locations, we'll find a salt and pepper kind of development; and in other areas, we find a sprawl kind of development, so the model is written to test one and the other, and see how well it does in validation. So we did much better in this region with the sprawl, although we have some Page 58

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12	salt and pepper development, the overwhelming
13	abundance of development happens close to land
14	that's already developed. That's an important
15	factor, I think, to take with you today.
16	(Indicating)
17	Then we broke it down by county. So
18	of all these factors, those top five that you

Then we broke it down by county. So of all these factors, those top five that you saw in the last slide for the entire region, distance to developed areas, elevation, slope, distance to local roads, and secondary roads were a top five factors for the whole region, but each county sorts out a little bit differently. (Indicating)

Now, you may say, well, there's hardly

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any difference between 90.8 and 90.59. And one of the reasons that I think that is happening is that almost -- so many of these things are also correlated with that topography factor that dates back to the history of this region, which is where the primary development occurs in the river valleys at the lower elevations and on the flatest land. (Indicating)

So we have a high correlation among some of these independent drivers, but the important thing is that even though they seem close, when we got below -- when we added a sixth driver to these five, our results began to drop-off. So none of these alone could Page 59

produce what these five could. Even population density, which was close to secondary roads -- when we added it to the model, it caused our validation statistic to go down. So that was true for each county, and we used the five factors in each county that gave us the best validation compared to the 2001 map. (Indicating)

I want you to notice, people often do, they say why would the distance from Route 28

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be the most important factor in Sullivan
County, since Route 28 doesn't run through
Sullivan County, but it's because everything
that's there -- you remember those graphs
where things kind of went like this, or for
you it was like this, everything, -- the
development there is all in the far distance
classes from Route 28, so it actually served
for some strange reason as -- gave the model
ability to pick the right cells, those that
were in Sullivan County farthest from Route
28, and then approaching Route 28 as you went
northward, but that's how it worked.
(Indicating)

Based on that analysis, those five factors for each county, this is the final statistically derived best driver combination based on testing of each factor, each combinations of factors between `92 and 2001, Page 60

20	and I zoomed in just to show you here, this is
21	the project, Big Indian here, and Wildacres
22	here, and you can barely see but they're
23	outlined in white. So this is the likelihood
24	map. So the red are the areas of high
25	likelihood of development, depending on how
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
	70
1	fast development occurs. Yellow is the next
2	class, and then green is the least likely.
3	And the black is all the area that's already
4	developed or excluded, so they're not
5	candidates for change. (Indicating)
6	This is zoomed into a 10-mile radius,
7	and I guess I added this and zoomed in even
8	closer so that you can see that we show almost
9	no area as having likelihood for development
10	on the east side, but on the west side, we
11	have considerable area that is likely to be
12	developed. (Indicating)
13	We now want to just show you
14	this is a visualization of the simulated
15	results. I hope you you can see it. The
16	pinkish land is developed land, the brown is
17	the protected areas, publicly-owned land, and
18	then the green is the forest. Should I run it
19	again? It's 2001 to 2011.
20	MS. ROBERTS: This is all assuming
21	that the project is not going to be built?
22	PROFESSOR HALL: This is what we call
23	our baseline analysis. This is what we Page 61

24	projected would happen in this area based
25	simply on the rate of change and the location
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	71 of change and the important factors
2	determining that in the from `92 to 2001.
3	ALJ WISSLER: This is on the CD?
4	PROFESSOR HALL: I don't know if we
5	burned this on.
6	MR. GERSTMAN: It is, yes.
7	PROFESSOR HALL: I zoomed in just
8	because I thought from whole huge region, you
9	couldn't see much about what we thought would
10	happen in this region, but the model shows
11	this for `92 and 2001 and 2011. Then this was
12	another view. And there is some development
13	projected for 2011 in here. (Indicating)
14	MR. RUZOW: I think that's reversed.
15	If you look at the slide, it's either
16	upside-down or backwards.
17	PROFESSOR HALL: It's looking south.
18	The top is south. I went around to try to get
19	a better view. You can joystick the maps
20	however you want them.
21	MR. GERSTMAN: So would you identify
22	where Route 28 is on the map?
23	PROFESSOR HALL: Route 28 is here.
24	(Indicating).
25	MS. BAKNER: This is baseline; you
	***

\*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE) Page 62

72 said?

1	Salu?
2	PROFESSOR HALL: This is baseline.
3	This is without any impact considered from the
4	project.
5	This is a summary of the just the
6	again, you have seen this rate already
7	down here. Summary of the rate of change in
8	just the private forest land, going from a
9	total of 77 percent to 66 percent, and for the
10	entire region, we projected a loss of total
11	forest of around 162,000 acres. I'll show you
12	a slide that I put in at the end that
13	summarizes what that means in terms of total
14	forest cover. This is the rate you just
15	saw was for just the private forest land, to
16	consider how much forest for the whole region
17	if you include the publicly-owned land and the
18	reforesting land. I'll show you that in a
19	minute. (Indicating)
20	What does this mean in terms of
21	fragmentation? The rate we projected, and the
22	simulations that we have run, show when we
23	calculate what we call the forest continuity
24	index, which is an estimate of fragmentation

in the forest -- is that simply using the

business as usual scenario, we would go from a fragmentation index of 187, that's the area of forest blocks, of contiguous areas of forest

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4	6-29-04-crossroads divided by the perimeter of those blocks.
5	2001, it went to 150, and under our baseline
6	projections given, as your Honor, you
7	mentioned, given the same kind of economic
8	development, which it has to be assumed if we
9	only use that time period, would go to perhaps
10	104, which means that we have almost
11	landscape almost twice as fragmented as we
12	had in 1992. (Indicating)
13	Then this is summarizing the county
14	results for private forest lands from `92 to
15	2011. So we see the sharpest decreases in
16	forest cover in Delaware County and in Ulster
17	County empirically, and also in our
18	simulation. (Indicating)
19	Then looking at the total forest per
20	county, which includes public lands and
21	reforestation in acres, we see, again, the
22	sharpest declines in Ulster County and in
23	Delaware and in in the Schoharie, we see
24	very little change in terms of acres of loss.
25	So that's summarizing for you by county.
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	(Indicating)
2	I have added these conclusions. I
3	felt it was necessary, and I just want to read
4	it to you: "Our conclusions are that the
5	based on our analysis so far, development
6	in the Catskills appears to be driven in some

7

areas, but perhaps not all, by the increasing

8	6-29-04-crossroads number of non-local landowners desiring a
9	piece of rural forested America based on our
10	analysis of ownership patterns; and the
11	establishment of the facilities and services
12	to support that weekend/vacation time
13	population. In the five counties that
14	surround the heart of this region, the most
15	important biophysical factors that explain
16	where people select for development are
17	elevation and slope. The socioeconomic
18	factors are distance to already developed
19	areas showing a tendency to cluster,
20	population density and the economic
21	infrastructure of roads."
22	MR. GERSTMAN: Let me interrupt you
23	for a second. Your conclusion suggests that
24	the biophysical factor that's significant for
25	development of this region are both elevation
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	75 and slope. How do you can you explain that
2	further?
3	ALJ WISSLER: Those are the five
4	elements you referred to before; right?
5	PROFESSOR HALL: Those were the five
6	factors that gave us the highest validation
7	between our simulated 2001 and the actual
8	2001. And as I said, I think there's a big
9	imprint on this landscape from its entire
10	history of settlement on the flatest land and
11	in the river valleys, and at the lower

6-29-04-crossroads 12 elevations. And that was borne out by this 13 analysis.

We could not analyze that land that had changed between `92 and 2001, and look at where that development has been occurring because that would be cheating. Now, it would be very interesting to do, but as I said, in the good modeling procedure, you have to take data from -- you can not take data from your validation period and use it to calibrate a model, that's a circular thing, and you would be cheating. So we only looked at the development up to `92 where it was located.

We would love now to get a 2004 land

## \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE)

use map and just calibrate the model based on that change that happened between `92 and 2001 and see where that -- what factors are explaining where that change has occurred, and then validate against a 2004 image. That would be very, very interesting, because I think, based on the satellite imagery when you zoom in and look, there's much more sprinkled development happening between `92 and 2001.

Again, we would speculate that in an energy subsidized world, unlike our grandfathers or great-grandfathers had, people are willing to spend the money to put in a road going up a mountain, and you will find more and more homes on the mountaintop. And

16	certainly that's true as I've flown over quite
17	a few times in the region, you would see homes
18	in locations that you might never have seen
19	them back in the early 1900s.
20	Our further conclusion is that given
21	the rate and pattern of fragmentation detected
22	and projected, plus the evidence that
23	parcelization accelerates fragmentation, the
24	future of forestry in the wood products
25	industries in the Catskills could be impaired
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	77 in the near future without judicious land
2	planning efforts on the part of the community
3	who share a stake in the forest economy.
4	MR. GERSTMAN: Is there a point at
5	which population density, again, including
6	local residents and also second homeowners, is
7	there a point at which population density
8	essentially bottoms out the opportunity to use
9	land for forestry?
10	PROFESSOR HALL: There are a number of
11	studies that address that; one I have here by
12	David Wear, in which their findings show that
13	somewhere between 20 people and 70 people per
14	square mile, that timber industry shows a
15	decline in its ability to thrive.
16	MS. BAKNER: Can you spell wear?
17	PROFESSOR HALL: W-E-A-R. And I have
18	another paper too that talks about that. So
19	somewhere between 20 people and 70 people per

	6-29-04-crossroads
20	square mile. Now, the counties in our
21	region but remember, we didn't analyze the
22	full county, and there's a very large
23	difference in these counties between the
24	really heavy population centers, and as you
25	move towards the center of the Catskill Park,
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	78 let's say but in Schoharie County, the
2	population density in the 2000 census was 49
3	people per square mile; in Greene, 69; Ulster,
4	134; Sullivan, 67; and Delaware, 33.
5	(Indicating)
6	Certainly in certain areas of those
7	counties, I think you would say that there's
8	no likelihood of forest extraction, timber
9	extraction, but as I said, each of those
10	counts to use those numbers is a bit the
11	population is not evenly distributed over that
12	whole area. So you would have to analyze the
13	less populated areas to find out what the
14	population density is in those, and that can
15	be done using the census data. (Indicating)
16	So I added that furthermore our
17	projections of loss of forest cover,
18	fragmendation, we projected for each
19	watershed this percent decline in forest
20	cover, the largest being in the Cannonsville,
21	and also quite strong in the Pepacton, and I
22	know the other water the other reservoir
23	that's affected by the project I believe is

24	6-29-04-crossroads the Ashokan, less pronounced, in fact, much
25	less pronounced, the effects there based on
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	79 our study of using just base line statistics.
2	(Indicating)
3	I then prepared this imagery just
4	because I thought it would be another useful
5	view for you looking at the `92. I hope you
6	can see the little rusty brown is the
7	developed land, here is the proposed project.
8	(Indicating)
9	MR. RUZOW: Is this in the CD?
10	PROFESSOR HALL: Yes. This is 2001,
11	and this is 2011. We'll go back and do it
12	again. Then we will I'll show you
13	something else interesting, another effect of
14	forest fragmentation that is of concern; in
15	this case, it's the nature conservancy has
16	delineated these forest matrix blocks which
17	they have determined are important to the
18	preservation of biodiversity in this region
19	because they're defined principally by large
20	areas of intact forest, as well as the fact
21	that no roads run completely through them.
22	(Indicating)
23	When we look at our 2011 results, the
24	blue is the state and city-owned land, that
25	was non-candidate for forest change in the

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(FOREST IMPACTS ISSUE)

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1	model; and the green is land that we projected
2	would still be in forest; the rusty brown is
3	land that's likely to be developed based on
4	the past 10 years, and this is a delineation
5	of the project location which sits within one
6	of these areas. And also, as you can see from
7	the projections, is a rather significant area
8	of land. (Indicating)
9	MR. GERSTMAN: The nature conservancy
10	blocks that you were identifying in a previous
11	screen are identified here by the red outlined
12	areas?
13	PROFESSOR HALL: Yes, this is just
14	zoomed in closer to the proposed development
15	just to show you where their boundaries are.
16	MR. RUZOW: Can you just go back to
17	the prior slide for a second?
18	PROFESSOR HALL: Sure. They have
19	identified seven areas as of significant
20	importance to biodiversity preservation in
21	this region. (Indicating)
22	Then this slide is not included, you
23	can have it, I put it in I really wasn't
24	going to show it. I put it in in case anyone
25	asks because I can't remember all these

numbers, but this is just various ways of	81
looking at the forest cover in this region	
from `92 to 2011, and I have to zoom in, but	
we showed if you want to look at total Page 70	

\*\*\* rough draft \*\* rough draft\*\*\*
(FOREST IMPACTS ISSUE)

5	forest cover, including the already set aside
6	lands and the reforesting land, the whole
7	region was 87 percent forested in 1992 and
8	each of these and those two so from
9	87 to can anyone see that?
10	MR. GERSTMAN: No.
11	MR. RUZOW: No.
12	PROFESSOR HALL: Just a second here.
13	76.
14	MR. RUZOW: Is that the whole county
15	or just the portion within the watershed?
16	PROFESSOR HALL: Of the area that we
17	analyzed, if you include our projections and
18	you include all the existing protected land,
19	that's taking into account no future set aside
20	forest because we have no idea what it will
21	be, and the land that's reforesting, it went
22	from 87 percent in `92 to 76 percent in 2011.
23	Assuming a business as usual scenario.
24	That's it.
25	MR. GERSTMAN: Given what you know
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	82 about the project and your hypothesis as you
2	framed them on page 13 of the handout, what
3	would you expect the result to be in terms of
4	forest fragmentation and parcelization in the
5	vicinity of the proposed project?
6	PROFESSOR HALL: On the private forest
7	lands which was our concern in this study, I
8	would expect, based on a number of things that Page 71

we have analyzed here -- one, because we saw a preponderance of development -- we got better validation statistics when we -- when the model selected cells for development that were close to a land already developed -- I would expect that we will see more development close to any nodes of new development. Number two, I would expect, given the fact already that this area is highly attractive to people from outside the region based on our analysis of the ownership statistics within the watershed, that people will be attracted to the resort, which is good for business, but will probably be enticed, as was Mr. Houshman in the article that we showed from the New York Times. that there are a certain number of people who will be roaming the real estate offices and looking

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(FOREST IMPACTS ISSUE)

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for land to develop, and that that will in fact accelerate the process of people selling off their land or parcelizing their land when they see an opportunity to sell it to interested people who will be coming here in greater numbers attracted by the development.

MR. GERSTMAN: As you said, the increased rate of parcelization will increase in the increase in fragmentation of the forest?

PROFESSOR HALL: And we've also shown

that conclusively, there's about a 50 percent

Page 72

increase in fragmentation on divided parcels over land that is not divided.

MR. GERSTMAN: In your evaluation of this issue, have you found that the demographic of people who own second homes and the large amount of acreage owned by people outside the area to be unique in this area? I have no way of judging. To have the use of tax parcel data base is an amazing gift to be able to analyze that, and we don't have that. In our Thames Watershed study in Connecticut, we did not have tax parcel data that we could evaluate in terms of addresses of owners. But

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let me just say, in our meetings with people there, the preponderance that people there told us -- that the preponderance of people there were people who were willing to commute now two hours to @worster, to Portsmith -- not Portsmith -- in Rhode Island -- Providence, Rhode Island, and even to Boston; whereas here when we met with people here, they were talking right from the beginning about the fact that they knew a lot of the land here was owned by people from outside. So that's just anecdotal evidence.

MR. GERSTMAN: May I have one moment?

14 ALJ WISSLER: Yes.

15 (11:30 - BRIEF PAUSE.)

MR. GERSTMAN: Judge, do you have any Page 73

17	questions for Professor Hall?
18	ALJ WISSLER: No. I'll need a revised
19	Exhibit 67.
20	MR. GERSTMAN: We'll print the entire
21	new one.
22	ALJ WISSLER: And I'd like 67A to
23	match your revised 67.
24	MR. GERSTMAN: We'll do printouts
25	we'll provide a new CD and we'll print out
	<pre>*** rough draft ** rough draft***     (FOREST IMPACTS ISSUE)</pre>
1	85
1	a new hard copy.
2	ALJ WISSLER: Okay.
3	We'll take a break here for 10 minutes
4	or so.
5	(11:31 - 11:43 A.M BRIEF RECESS
6	TAKEN.)
7	ALJ WISSLER: Applicant's 57 and 58.
8	("THE EMPIRE STATE'S FORESTS
9	TRENDS IN A ROBUST RESOURCE" RECEIVED AND
10	MARKED AS APPLICANT'S EXHIBIT NO. 57, THIS
11	DATE.)
12	("POTENTIAL IMPORTANT BIRD AREA MAP -
13	6/28/04 RECEIVED AND MARKED AS APPLICANT'S
14	EXHIBIT NO. 58, THIS DATE.)
15	ALJ WISSLER: Mr. Gerstman, I believe
16	you had a couple more things you wanted to put
17	in the record.
18	MR. GERSTMAN: Yes, thank you, Judge.
19	First we will submit for the record the two
20	articles that were referred to by Professor Page 74

21	Hall in her presentation; the first is the
22	"Effects of Population Growth on Timber
23	Management and Inventories in Virginia," and
24	one of the authors is David Wear, and the
25	second article was an article publication
	*** rough draft ** rough draft***  (FOREST IMPACTS ISSUE)
1	and study done by Dennis Swainson, having to 86
2	do with the "Impact of Development on Forest
3	Parcelization and Forest Fragmentation."
4	Professor Hall, you wanted to talk
5	about the two further issues you wanted "to
6	just to clarify the impacts locally of this
7	project.
8	ALJ WISSLER: Are you going to put
9	those in evidence?
10	MR. GERSTMAN: Yes.
11	ALJ WISSLER: The Wear article is 68.
12	You just have a couple questions and then
13	we'll mark them. And 69 will be the second
14	article.
15	MR. GERSTMAN: That's fine.
16	In terms of the issue of population
17	density in Delaware County, can you comment on
18	that issue?
19	PROFESSOR HALL: I think that it
20	wasn't completely clear that we do not see a
21	correlation between we see a high
22	correlation between population growth and
23	changes in forest cover, forest fragmentation
24	in Ulster County, which is where part of this Page 75

25	project is	located.	In Delaware	County,	we

### \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE)

saw absolutely no correlation between local population growth and forest fragmentation. So we were led to believe that, based on our ownership statistics, that it's being driven by people coming from outside the area and developing second homes, particularly in that region.

Also I would say that, because we included in Ulster County, an area of both very high population growth and development, and then also regions like up here which are much different from that which you would find down in the Hudson River Valley, we might find if we zoomed in to just the more local part of Ulster County, we might find there too a disjunct between population growth over time and forest fragmentation, but that part has not been done.

MR. GERSTMAN: How would you characterize the potential impact on community character which would result from accelerated forest parcelization and fragmentation?

PROFESSOR HALL: Our concern when we started this, and the concern of the Forest Service and their willingness to fund us in

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(FOREST IMPACTS ISSUE)

	6-29-04-crossroads
1	this, was very much the fact that they are
2	concerned about the loss of timber as an
3	economic as being a viable the timber
4	extraction and wood products industry no
5	longer being economically viable in the United
6	States due to these processes of fragmentation
7	and parcelization. When we talk about the
8	loss of the working landscape, we talk about
9	the loss of the local economy and we talk
10	about, basically changing the whole character
11	of a region from one that draws its
12	livelihood, a great deal of its livelihood
13	anyway, from the natural resources that are
14	there to one that is based on entirely
15	something else when you begin to have more and
16	more development.
17	MR. GERSTMAN: You have heard me
18	allude to Mr. Alworth's characterization of
19	the forest in this area as the golden egg.
20	Would it be fair to characterize the project
21	as sort of an analogy that that would be
22	the way of what's that expression,
23	something about killing the goose that laid
24	the golden egg.
25	MR. RUZOW: Your Honor, this is silly.
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	89 ALJ WISSLER: Yes. It's something you
2	might want to brief.
3	MR. GERSTMAN: I can brief. In terms
4	of forestry related industries, would you also
	Page 77

	6-29-04-crossroads
5	include, for instance, the use of the forest
6	for outdoor recreation as part of that
7	characterization of the community?
8	PROFESSOR HALL: I think that that is
9	certainly one of the functions of the forest,
10	and certainly one of the functions of the U.S.
11	Forest Service, it's not simply interested in
12	timber extraction and we, at the forestry
13	college, are not just training people how to
14	be good foresters but also how to maximize the
15	use of the forest for all kinds of purposes,
16	including recreation. So yes, the forest
17	and also of course we train peoploe in
18	wildlife management as well. We see forests
19	as very important to the livelihood of our
20	country, and also to the restorative service
21	that it provides to people.
22	MR. GERSTMAN: You talked about the
23	study and the acceleration of second
24	homeownership, the use of the area by retirees
25	with the development of the type of resort
	<pre>*** rough draft ** rough draft***</pre>
1	90 that's envisioned here, and the secondary
2	growth that might be associated with it.
3	Could you explain what that study I'm not
4	sure if it's the Swainson study or another
5	one can you explain what that study
6	concluded with respect to the attractiveness
7	of an area for development of that nature?
8	PROFESSOR HALL: Well, Montana, I

Page 78

6-29-04-crossroads believe its title is: "Northern Rocky 9 Mountain" -- I'm sorry, I don't have it here, 10 but what he does is he looks at national parks 11 12 in particular in the Rocky Mountains as nodes, attracting people, first of all, for the 13 aesthetic qualities that are there, and that 14 15 as people are exposed to this, they come in and develop hotels and resorts, and then that 16 retired people -- people retiring also see 17 these -- there's some momentum in development 18 19 as desirable places to live because they would 20 have more of the services that might not have been there previous to development. So it's a 21 22 -- there seems to be a snowballing effect is what he points out in areas of natural beauty, 23 and that eventually, even the people in the 24 25 Chamber of Commerce who you think would have

### \*\*\* rough draft \*\* rough draft\*\*\* (FOREST IMPACTS ISSUE)

been very interested in promoting development, begin to feel that it's actually a negative because all of the aesthetic beauty that was there at one time is destroyed. And then there seems to be less attraction to people from outside. So it's kind of a circular thing that happens. It's not -- you know, it's good for a lot of people in terms of -- especially people in the building industries -- that seem to especially like the fact that there is development going on in the area, and that's understandable, but basically

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10	6-29-04-crossroads		
13	our concern in our study, is once you pass a		
14	certain threshold of development and		
15	parcelization of land, you're just not going		
16	to have a viable timber industry any longer.		
17	And if you look at a map of the United States,		
18	there are not a lot of timber producing areas		
19	in the country, and timber imported from		
20	abroad is going to get more expensive because		
21	oil is getting more expensive.		
22	MR. GERSTMAN: Would you say that the		
23	conditions that were present that led		
24	Mr. Swainson to his conclusions concerning the		
25	northern Rocky Mountains are the same types of		
	<pre>*** rough draft ** rough draft***     (FOREST IMPACTS ISSUE)</pre>		
1	92 conditions that are present in the area		
2	surrounding the vicinity of the proposed		
3	Crossroads development?		
4	PROFESSOR HALL: They're almost		
5	identical with respect to Whiteface Mountain		
6	Ski Area, north of @Calispel, Montana was		
7	once a sleepy little ski area, and now it is		
8	an absolutely booming development of		
9	condominiums, golf courses, time shares,		
10	second home and box stores lining a four-lane		
11	highway going up to it; and that's all		
12	happened basically within 10 years.		
13	MR. GERSTMAN: Judge, any questions		
14	from Professor Hall?		
15	ALJ WISSLER: No.		
16	MR. GERSTMAN: Thank you, Ms. Hall.		

Page 80

17	6-29-04-crossroads 68 and 69, why don't we put those in.
18	MR. GERSTMAN: We don't have 69 here,
19	68 would be 68 would be the Article
20	entitled, "The Effects of Population Growth on
21	Timber Management Inventories in Virginia,"
22	and David Wear is one of the authors; and we
23	will provide copies as soon as we are able.
24	And the Swainson article concerning
25	the northern Rocky Mountains would be Exhibit
	*** rough draft ** rough draft*** (FOREST IMPACTS ISSUE)
1	93 69, and I don't have that with us here today
2	but we will provide that.
3	("THE EFFECTS OF POPULATION GROWTH ON
4	TIMBER MANAGEMENT AND INVENTORIES IN VIRGINIA"
5	- DAVID N. WEAR RECEIVED AND MARKED AS CPC
6	EXHIBIT NO. 68, THIS DATE.)
7	ALJ WISSLER: Mr. Ruzow, Ms. Bakner.
8	MS. BAKNER: We're ready. The first
9	exhibit that we entered was Applicant's I'm
10	referring to 58; and I would like Mr. Kevin
11	Frank from LA Group to please describe how
12	this document was created.
13	MR. FRANKE: Basically what we have
14	done is we've taken CPC 49 that was submitted
15	as part of Dr. Burger's testimony, I believe
16	it was last week or the week before,
17	particularly the bottom portion of CPC 49, and
18	what we've done is we have overlaid that on
19	top of recent aerial photography of the area,
20	and just indicated some points of reference on

21	6-29-04-crossroads the map, as well as areas of fragmented forest
22	within the area put forth by Dr. Burger as an
23	Important Bird Area, for the primary reason
24	being it represented a large area of
25	unfragmented forest.
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	94 MS. BAKNER: Could you run through
2	some of the things that you have tagged here.
3	MR. FRANKE: Sure. For reference, we
4	have indicated the location of the Pine Hill
5	wastewater treatment plant, Lost Clove Road,
6	as well as the Turner mansion at Belleayre
7	Highlands, which we stopped at during our site
8	visit. (Indicating)
9	In terms of other labels on there, the
10	Belleayre Mountain Ski Center is shown, as
11	well as the former Highmount Ski Area, which
12	is on the project site, as well as some open
13	field areas off of old Baker Road which is a
14	road off of Rider Hollow Road to the southwest
15	south/southwest of the project site.
16	Actually by showing these, it indicates that
17	the area shown at least in the vicinity of
18	the project site certainly is not
19	unfragmented forest. (Indicating)
20	MR. GERSTMAN: I'm sorry, I can't hear
21	a word you're saying, Kevin
22	MR. FRANKE: The figure obviously
23	illustrates that the area previously shown on
24	CPC 49 is not an unfragmented forest,

25	6-29-04-crossroads particularly in the immediate vicinity of the
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	project site.
2	MS. BAKNER: Kevin, if you could go
3	here to the figure that's included in the
4	Draft Environmental Impact Statement, Figure
5	2-5, and just indicate for the record what
6	that figure shows, particularly in relation to
7	roadways, areas to be developed, et cetera.
8	MR. FRANKE: DEIS Figure 2-5
9	illustrates the project assemblage which is
10	the entire lands of Crossroads Ventures, and
11	what's shown on Figure 2-5 within this
12	assemblage are the lands proposed to be
13	developed which are shown this brownish
14	gray. Shown in green are those portions of
15	the project assemblage to remain undeveloped.
16	(Indicating)
17	This is on a USGS base map which
18	includes the roads that we've traveled on as
19	part of our site visit, including Woodchuck
20	Hollow Road near Belleayre Highlands, Lost
21	Clove Road to the southeast of Big Indian
22	Plateau, as well as County Route 49A, Todd
23	Mountain Road, very western portion of the
24	Wildacres portion of the project site.
25	(Indicating)
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)

MS. BAKNER: Kevin, can you point out Page 83

2	what's known as the former Adelstein parcel on
3	the western side
4	MR. FRANKE: The Adelstein parcel is
5	the western most portion of the project site.
6	We actually passed it on the eastern side;
7	part of our driving tour, we stopped to look
8	down the power line right-of-way. Dr. Kiviat
9	was interested in seeing that. So it would
10	have been on our right-hand side as we
11	proceeded up County Route 49A where we made
12	the turn, came down Todd Mountain Road which
13	essentially runs through the Adelstein parcel.
14	(Indicating).
15	MS. BAKNER: Thank you very much. I'm
16	sorry. Kevin, the areas that are in tan
17	there, as opposed to the areas in green, what
18	do the areas in green represent?
19	MR. FRANKE: The areas in green
20	represent those areas to remain undeveloped,
21	and as part of the project will have some kind
22	of permanent preservation associated with
23	them, be it conservation easement or other
24	similar protective measure that will preclude
25	future development on this assemblage of
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
	97
1	various tax map parcels.
2	MS. BAKNER: Can you point out where
3	the former Highmount Ski Center is; it's hard
4	to see that that is in fact tan but it is.
5	MR. FRANKE: It's not shown in tan Page 84

	6-29-04-crossroads
6	because it's not proposed @except for the very
7	base area. The ski slopes are actually in
8	this area here. (Indicating)
9	MS. BAKNER: So that's, in fact, not
10	going to be subject a conservation easement?
11	MR. FRANKE: That would not be. Maybe
12	portions of it, but not the entire area.
13	MS. BAKNER: I just wanted to point
14	that out since it could be misleading.
15	Kevin, in light of what the aerial
16	photograph shows here, do you think that the
17	methodology used by Dr. Burger was
18	particularly effective at identifying
19	unfragmented areas
20	MR. FRANKE: I think the precision on
21	the mapping could have been much greater than
22	it was, possibly
23	MR. GERSTMAN: I'm sorry, I know
24	you're talking that way. I can't hear.
25	MR. FRANKE: I'm sorry. No, I don't.
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	98 I think the precision of the mapping could
2	have been higher. Obviously there are other
3	sources out there that clearly show the nature
4	of the landscape more precisely than possibly
5	the mapping that Dr. Burger had used.
6	MS. BAKNER: Was it hard for LA Group
7	to come by this aerial photo?
8	MR. FRANKE: No, it's publicly
9	available information.

10	MS. BAKNER: We have also introduced
11	today Applicant's Exhibit 57. Can you explain
12	where you found this?
13	MR. FRANKE: That, I found on an
14	Internet search, probably within an hour's
15	worth of time yesterday. It's a USDA Forest
16	Service report, the New York State's forest
17	and trends in forest resources within New York
18	State.
19	MS. BAKNER: This is Applicant's
20	Exhibit 57.
21	I just want to direct you to the first
22	page of the report. I would just note for the
23	record that it indicates, sort of consistent
24	with the history of the Catskills: "That
25	throughout New York, by 1880, most of the
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	99 forest land was cleared for agriculture,
2	leaving only about 25 percent of the land in
3	forest." Then it notes that the 1993
4	inventory shows 62 percent of the land in
5	forest, and it remarks that: "In view of the
6	population growth and development that has
7	taken place since colonial settlement began
8	around 1625, the present level of forest cover
9	is remarkable."

The other thing I want to draw your attention to is the top of the next page where it says that: "The New York forest is a

regrown resource. In fact, the New York Page 86

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forest today is 23 percent greater in area than it was in 1953. Today, after decades of large increases, there are more acres in forest than at any time in this century. in recent years, the amount of the New York forest has been fairly stable."

I'm sure, your Honor, that you can go ahead and read this on your own. Below, it specifically refers to the significance of state-owned preserve land within the Adirondack and Catskill Parks, noting that it is reserved from cutting, and the impact that

has on the availability of timber land for commercial purposes.

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It also notes that timbering depends on private landowners, and it talks about the volume of timber increasing, and this is under large volume increases and larger diameter trees; saying that between 1980 and 1993, the total growing stock volume rose by 32 percent.

The reason -- I'm sorry, on the next page, I just want to direct your attention to the top 12 species. It's a little bar chart. We have -- I just what part to note that we have American Beech at 24 percent. And I note that in relation to its occurrence on the site; beech, maple, those are very common, apparently given the total billion cubic feet in the top 12 species.

Page 87

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18	The point of bringing this here today
19	is to show you, your Honor, that unmodeled,
20	but collected data obtained by the Forest
21	Service, even though it admittedly dates from
22	1995, shows a substantially different picture
23	than the satellite imagery that this study
24	that Dr. Hall has been talking about relies
25	upon. We just want to note for the record

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that satellite imagery apparently has its
limitations in terms of modeling, and

accurately predicting, or even seeing what's

4 on the ground at any one time.

The biggest impact in the Town of Shandaken is clearly the ownership by the state and by DEP of property, particularly in more recent years and continuing into the foreseeable future, New York City DEP ownership of property is going to have a big impact on what's available to whatever forest industries continue to exist in this area.

Similarly, the documentation that was provided earlier by the Coalition demonstrates that there's quite a bit of acreage within the town or nearby the town that's slated for further protection as open space, presumably rendering that property also unavailable to the timber industry.

In Dr. Hall's recitation of her study, and all the new information that was presented Page 88

22	today, she went into detail on how they looked
23	at ownership records. Based on her testimony
24	today, it doesn't appear that the ownership
25	records would have covered a number of

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(FOREST PRESERVE ISSUE)

102
1 critical issues. One is the recent
2 acquisition of land by DEP in two methods,
3 outright fee ownership which can take as long
4 as a year to go from having a land contract to

5 actually transferring title --

MR. RUZOW: Actually, it's more than a year, your Honor, it's anywhere from 18 months to two years, so the 2001 data of actual ownership -- and we can verify this with New York City's land acquisition data that we had -- by this spring, they indicated an acquisition of some 53,000 acres, not conservation easements, that's a separate number, of land in the New York City Watershed west of Hudson. But in 2001, which was only four years after the go-ahead from the MOA, and it took a while for the solicitation, my best estimate -- we'll check it -- was only in the 20,000 acres at that point in time, which title had actually transferred.

So a major data gap in Ms. Hall's study, not her fault, she's doing a study and picks a point a time, is the fact that there is and continues to be significant land acquisition in this area by New York City.

Page 89

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	103
1	Some 7500 acres in the Ashokan Basin alone has
2	been acquired by New York City, several
3	thousand of those since the 2001 cut-off in
4	terms of land acquisition.
5	In the Pepacton, there was some 3500
6	acres, just within the past two years. That
7	trend is a fundamental factor impacting this
8	work, and you could not take it into
9	account and from a trend analysis project
10	it forward because it excluded publicly
11	owned lands from that trend analysis. And
12	that's a major underpinning of the
13	assumptions.
14	MS. BAKNER: To proceed, as far as the
15	ownership title and how you would do the title
16	search in the county records base, we don't
17	know because we don't have the actual data,
18	but it doesn't seem that transfer of
19	conservation easements would show in a typical
20	owner to owner transfer. The way the county
21	records, land transfer records work, it's
22	usually purchase, outright purchases that are
23	recorded as part of the chain of title, and
24	the conservation easements can be placed even
25	in separate books. So it's not clear whether

they accounted for those numbers of acres that

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6-29-04-crossroads would have been protected. If they could, and we respectfully request that they share the full report with us, including the appendices, as well as the compilation of data for the model so that we can take a look at it and see other ways in which it may have failed to fully account for quasi public, if you will, ownership or prevention of future timbering due to conservation easements.

MR. RUZOW: The other factor that is missing in their assumptions is that New York City doesn't have a limit on the amount of acreage that can be acquired by the City for protection of the watershed. There's a dollar amount that's set aside, and that's supplemented as they choose to, but it's not a fixed limit on what the City can aquire. It's a willing seller, willing buyer market, and the as long as the acreage is over ten acres, has some nexus to streams, steep slopes or water bodies, the City can acquire that land. So forest parcels, even of the size of ten acres — indeed, the City has acquired many parcels — you can look at the map. This may

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or may not have been included, but the shaded areas, the New York City lands in purple on Exhibit 3-B, the purple-shaded areas are the New York City lands with fee acquisitions complete as of 12/03. And you can see the

6-29-04-crossroads relative size of these parcels, and where they are.

Many of the areas that -- based on the scale of the maps that are projected for development, in the simplistic analysis that we have heard about this morning, are encompassed in those areas of potential future growth. So without taking into account that as a projection of the City's activities, you can't get an accurate picture.

Moreover, as we have heard, the state has -- this is when money is available, that's another issue -- the State has targeted large parcels in the vicinity. All the red dots are the open space priority acquisitions. What that will do, unfortunately, and this is also true of the New York City lands is take all of that land out of timber production, because timber production isn't allowed on that. New York City allows timber production in an

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acquisition of conservation-type easement, forest easement on select lands, but that's not what we're talking about here. That's yet another category of opportunity New York City has, but all of these parcels don't fall into those. These are straight acquisitions for which forestry is not permitted, and the same would be true for any state lands acquired in the forest preserve.

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So you have, indeed, one of the
socioeconomic factors in affecting timber
industry in the Catskill Park as it has
certainly affected it in the Adirondack Park,
and which has led in part to the demise of the
paper mill industry. It is the absence of
large tracks of forest lands that are
available to them because of state ownership
and other policies at play in terms of
protecting those lands.

Over the course of the last 20 years, we have represented three paper companies that have had mills go out of business in the north country because of the absence of large tracks of land, both in the Catskills and in the southern Adirondacks, and state ownership had

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a great factor in that. But since this is all argument, I feel comfortable in suggesting that to you. We will look at producing in response to this some folks from the timber industry who will talk about that that is a fundamental factor in affecting the working forest in New York.

There are very few paper mills left in New York State, and so the market for paper products is fairly limited now that IP has basically consolidated the ownership of most of the paper production in the north country. You have only one or two mills left that are

6-29-04-crossroads
actually producing and buying timber in this
rather wholesale sort of way.

MS. BAKNER: One of the main points of

MS. BAKNER: One of the main points of the research, as it was expressed here today was that there's no correlation between changes in population density which are absolutely flat in this particular area, this subset of Ulster County and Delaware County; but that somehow if data were available regarding second homeownership or out-of-towners who own homes, that that would somehow validate the statistical analysis.

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We just want to emphasize for the record that no data on second homeownership or outsiders in the area of any sort, scientific or otherwise, has been presented in the context of this particular study. So any conclusions with respect to that would only be speculation and therefore are not admissible in the typical SEQRA proceeding.

They also try to establish a correlation between proximity of roads and likely future development. We just note for the record that we couldn't tell from the pictures that you saw up there, but in the Catskills, there are roads, different kinds of roads. There are private roads, which are not maintained by the municipalities, such as the ones that we're proposing for our resort, and

6-29-04-crossroads there are public roads. And you have 18 different sorts of rights and liabilities in 19 20 terms of right to build associated with those 21 roadways. So there's not necessarily any kind 22 of simple correlation between development and transportation corridors if you have not 23 24 carefully identified the type of road that it 25 is.

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MR. RUZOW: There are some other factors. Again, as Ms. Hall indicated, this is part 1 of a study. It may have its place in certain planning circles, and indeed the report itself when you read the conclusions, its utility for microplanning purposes at a local level or a state level or a regional level, it may -- this may be good enough for looking at and forcasting, but it has no application in our judgment in the decisional process on an individual project. It was never intended for that. It can only give you an idea of what might happen, but it's not one that is appropriate for either adjudication -because it's not capable of being adjudicated -- or use in a process and a procedure where the rights of an applicant to develop property are at issue. For land use planning purposes, if

For land use planning purposes, if planning boards and the county boards, which, by the way, which were not consulted based on

22	6-29-04-crossroads our review of the appendices to the report,
23	none of the planning boards either in the
24	counties or any of the towns involved in this
25	region were involved. There was a Roxbury

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Planning Committee of some kind, which is not a planning board unless it's misstated in the appendix, was consulted as part of this. So their involvement, the officials who are either elected or appointed to positions that were responsible for land use planning in this region were not consulted in the development of this study. That is a major flaw if the study is going to be used for purposes of planning at a local level.

On the other hand, if it's a tool to give to them at some point in the future and to say: Gee, you ought to look at this, take this into account in your own land use comprehensive planning development -- that's a different matter. I want to draw that distinction. This is not the type of a study that is appropriate.

And also, as Professor Hall indicated, this is page 1. If you look at page 16 of -- at least the appendix that was attached to Exhibit O of the CPC study, it's not included in the overhead production but in the report itself, there's a list of independent variables on page 16, "Factors Affecting

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1	Location of New Development Areas."
2	You'll see included in the New York
3	column, the $\boldsymbol{x}$ indicates that the factor was
4	taken into account, used in some way in the
5	analysis. And then the blank spaces, most of
6	which concern many fundamental economic or
7	social factors, including zoning for example,
8	zoning regulations, which were ignored; and
9	then a whole list of, "Did not investigate due
10	to project resource constraints." These are
11	all important issues in a socioeconomic aspect
12	of a study that they have yet had the
13	opportunity to include because they
14	couldn't fund it. So you have a whole variety
15	of the things that were not taken into
16	account, most fundamental, at least in our
17	judgement, is the zoning regulations because
18	they and the in addition to the zoning
19	regulations, the New York City Watershed
20	Regulations which are not taken into account
21	in this. They have fundamentally changed
22	you have heard from CWT and Kevin Kevin
23	Young and Jeff Baker, and from the town
24	supervisors themselves the fundamental way
25	in which the New York City Watershed
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Regulations have affected what can be developed. That's missing from this study.
Page 97

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It may be appropriate for future aspects of it that might, in effect, validate some of the projections in 2011, but it's simply a linear projection based on the 1992 to 2001, and then through the modeling and the spatial indices, applying that to 2011. None of the factors that were at play in a meaningful way, particularly the New York City Watershed Regs were reflected in that. It took too long.

Moreover, the study doesn't take into account the sourses of some of the parcelization, because that was not part of the study. If you look back in the late in the late 1970's and through the mid `80's, that's when Delaware County, through the federal dairy buyout lost most of the dairy industry in Delaware County. That had a fundamental consequence on the land use development patterns in Delaware County because that area, that time in New York, you had the late 1980's with development booms, and if you recall from newspaper articles of those days, the subdivision of the Catskills.

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And through use of linear lots running along roadways, you were subdividing the Catskills.

That was the time in New York when that was occurring. Because of the bust in the real estate market in 1990, and through 1992 and just until about 1993, those properties didn't Page 98

get developed. But if your task was to look
at the what in 1992 was on the books of
what was subdivided and the size of parcels,
you would see all those filed subdivision
maps.

Post, when things improved post `97 after the watershed agreement was signed because there was a cloud over development in the watershed between 1991 and 1997, and then the post economic boom from `97 through 2001 and the 9/11 incident, which stayed developed, we heard, for a little while, but then it picked up again as people wanted to look closer to home. You have a whole bunch of socioeconomic factors that are driving the levels of development and explain where the development is going.

Now you have a different cloud over the action of development in subdivisions

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because you have New York City's Watershed

Regs, which play a fundamental role in what

can be developed in the future in terms of new
opportunities for development.

These aspects, which all are worthy of study, at an academic level and then eventually through testing use by local planning boards -- this is premature. This is not something that will enlighten this proceeding in any meaningfull way because the Page 99

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data isn't there, and the the correlation of these very important factors, in addition to things that Professor Hall has done, will -- maybe advance the understanding of future activities. But one important thing that she said as well, and we have looked at it, development along the corridors. The historical corridors, the hamlet areas. These were areas which are supposed to grow. You're not going to see much in terms of forest fragmentation in those areas because geographically the hamlet area is already walled in by the mountainsides.

Along Route 28, it's an area that New York City expressed concern, we heard that in

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community character, that there could be areas of further development. The limitations there are zoning, and the City's Watershed Regs and distance from the water cources which run alongside. All of those factors are inhibiting factors in terms of future development.

It's indeed why the strength of feeling by the other parties who are not here today, the Coalition and Delaware County and the two towns, is so strong, because the areas left to be developed are so limited. The use of this study -- if we were to have a voir dire -- assuming we ever got that far -- over Page 100

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the appropriateness of this study to be used in an adjudicatory proceeding, we would argue strenuously that it is simply not right for such consideration; and secondly, that this type of study and the kinds of issues being raised about speculative future development, with or without the project, are not things that can impact -- or should impact the Commissioner's decision on whether or not we meet the statutory standards for issuance of a permit, or whether in some way these factors

should be taken into account and, in effect,

burden the project itself.

relevant, they can and should be considered by the local planning boards that are responsible for the local land use changes here and by -- under statute -- directly responsible, and because SEQRA doesn't change between or among agencies, it's simply not appropriate for this proceeding to consider them any further. We would certainly respond to these comments as part of a response in a final EIS, but it is simply not something that is appropriate for decision making on an individual project basis?

One further factor, and this was a weakness in terms of the community character position taken by New York City's consultants, Page 101

it doesn't take into account flood plains,
areas that are, in effect, regulated flood
plains along these corridors. Just because
development has occurred in one piece doesn't
mean that agencies will now allow the next
piece to be developed.

We all walked through the Village of

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117 Margaretville. The 1996 flood, the January flood, changed the dynamics of development in Margaretville because the federal buyout took out all that property for future development, and New York City, in a cooperative venture with the village, purchased that land to prevent it from any further development, and made little pocket parks out of it. That made perfect sense for that local regulatory decision to be made, both regulatory and in terms of land use planning, but it took out of all that future development or redevelopment within the hamlet areas, the immediate hamlet areas. So flood plains play a big role here, and again, because of costs, because of opportunity, this particular study didn't have the opportunity to factor all those things into its projection of what things might look like in 2011.

I don't want to sound too critical, and I apologize if I sound too critical of the study; it has its place, but it is a work in Page 102

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progress, and it has no place whatsoever from a regulatory point of view at this point in time. At best, it is a tool land use planners

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can take, and should take into account in the future and as it's further developed, and use it for that purpose. But it has no place in this regulatory forum.

Two last things. The opportunities for recreational development, intense recreational development in the Catskills are limited. The ski centers in the Catskills represent the principal source of large scale recreational development in the Catskills. There are three large ski centers. There is Belleayre, there is Windham and there is Hunter. Those are the sources. If you look at those areas in the Catskills, those are the primary areas for larger scale economic development in the Catskills in terms of reaching a balance between protecting the environment from future development or encouraging it in other places willy-nilly -they are centers. This project is tied to one of those ski centers as the private side of what is a public investment. So there really is limited opportunity in that regard.

With respect to the theorems of the study though, this is an underlying assumption

### 6-29-04-crossroads \*\*\* rough draft \*\* rough draft\*\*\* (FOREST PRESERVE ISSUE)

	119
1	that state forest preserve land and its
2	recreational activities, and attracting people
3	into the region is going to be bad for the
4	forest industry. As I'm listening to what I'm
5	hearing about the Montana experience and the
6	Rockies experience, that somehow park lands,
7	are sort of their own worst enemy, because
8	they're going to encourage that sort of
9	development. That may be a hypothesis, I may
10	have gotten that hypothesis wrong; however,
11	tourism is the fundamental economic
12	opportunity for the Catskills. Every one of
13	the studies that we read, every one of the
14	land use planning documents that we read, the
15	Catskill Forest Preserve Public Access Plan
16	that we have heard about already all presume
17	that we want to bring people here. And as a
18	corelary to that some may want to stay
19	longer than others, some may have already done
20	that, and that's the source of it. But that's
21	the basis of the economic model that's being
22	pitched for this region since manufacturing
23	has gone on its way out, timbering has largely
24	gone on its way out. There's small scale
25	activities, but they're not anything that are
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going to expand the basic economy in any meaningful way.

### 6-29-04-crossroads Then, when you look more closely at 3 the area that we're affecting, in particular 4 5 because there's emphasis on the Big Indian 6 side of the resort as being the more fragile areas and as part of the strategy of the 7 opponents to the project to attack that 8 9 because maybe we can live with the western 10 parcel, the Wildacres, it ignores the fact that the Town of Shandaken is 72 percent 11 12 already owned by New York State. The New York 13 City has grown from about five percent, because of the reservoirs, to close to 6 or 14 7 percent, and growing, because they're 15 16 continuing to acquire land. 17

If you look at all the other physical constraints on building, the opportunity for development is incredibly limited in terms of the percentage of land that remains. It's always been historically since the 1700's, along the river corridors, that that's the only place people basically have habitated in any material way, and the hamlets.

Phoenicia -- we've passed through them all --

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Mount Tremper, Phoenicia; on this side, Pine
Hill. There's just a limit to where people
can grow, so the suggestion that simply
multiplying out what has happened in the last
ten years, and the assumption that it's going
to continue to grow, and it's hard with the

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7	scale of the slides in here to see, but where
8	you see most of the growth or the red areas,
9	the projected red areas, are not to the
10	Ashokan basin, but to the Pepacton in the
11	north. You can see it up in this area.
12	(Indicating)
13	That is the area that is northwest of
14	the site. That is the area that begins and
15	they follow out these little roads, and you
16	can see them dotted along the little houses.
17	By definition, in terms of that model, they
18	just keep multiplying out along these roads,
19	and out in this area. (Indicating)
20	Our project whether our project
21	affects that part of the basin, which is in
22	the Pepacton basin part of it is in the
23	Pepacton, part of it may be actually in the
24	Schoharie basin at a certain point in there.
25	Whether we're going to accelerate that and to
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what extent, it's sheer speculation on everybody's part. To the extent it occurs, it's the subject of local land use control; whether or not larger parcels are subdivided or acquired by New York City, are factors that one of us have control over.

Moreover -- your question was a good one regarding the economic factors. If you look at this period of time, we had the lowest -- at least for a portion of this

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6-29-04-crossroads period of time -- we've had the lowest -continuous low interest rates in the history of the country. We've had a stock market crisis that occurred in a post 2001 era where money was coming out of the markets and going into real estate.

We're going to hear probably on Friday that interest rates are going up, and God help us if they go up a lot. But those economic factors are as much a factor of -- and the cycles -- of what ten years you take, as anything else is. They're all cycles. You can't reliably look at only part of this picture and then rely on it for determining the rights of applicants for permits in a fair

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and balanced way.

123 It doesn't work that way. And that aspect of the study which they have not had the funds for, maybe they will get the funds for and try to project it out is a meaningful and fundamental aspect. Using the words of -- no, I won't do that.

One interesting last comment I'll make is that this project is not contributed to parcelization as it's been described. We haven't been an assembly of parcels in order to get to this site. We didn't take large acreage and cut it up and divide it up. We acquired some 14 parcels on the Wildacres parcel, and some 12 parcels on Big Indian to

6-29-04-crossroads consolidate it, and that allows us to protect, 15 in perpetuity, some 1370 acres of forested 16 land in a meaningful way. That is ignored by 17 18 everybody. That is important, but it's the 19 converse of what we're hearing. Allegedly, the parcelization is going 20 21 to cause increased fragmentation of the forest 22 in other places, but on this assemblage, it will help secure it -- and you can see it 23 24 here. What we have done, again, looking at 25 Figure 2-5 and we'll talk about this -- you \*\*\* rough draft \*\* rough draft\*\*\* (FOREST PRESERVE ISSUE) 124 can look at it also on Figure 3 -- CPC Exhibit 1 2 3-B -- is we have taken property that adjoins the Belleavre Ski Center intensive use area --3 state policy, intensive use area -- and 5 bordered it with lands, that some will be developed, some will be preserved. On the 6 7 west side, the Big Indian, which looking at 2-5, you can see how it's configured, and 8 9

consolidated this area.

The northern boundary is Route 28. It is a natural barrier for purposes of forest fragmentation because it, by definition, is an area that fragments or at least creates a line against which the forest abuts. And this is, in our judgment, a natural area to expand, and is quite limited. If through this type of study additional parcels should be added to the Open Space Priority Plan or New York

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19	6-29-04-crossroads City's Accusation Plan along what is another
20	roadway, the only place where people live in
21	this region, that's fine, but that's a land
22	use planning concept on a macroscale that is
23	unrelated to an individual decision on a
24	project. We think this reinforces the
25	appropriateness of this particular location in

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terms of the balances of choices that are to  $$^{125}$$  be made.

One further factor. We think it effects -- there are a couple of factors that we think are potentially greater influences of forest fragmentation than this project. One is New York City's Land Acquisition Program. New York City's Land Acquisition Program is raising the price of land, and also to the extent it continues to buy up developable parcels, it will push people to seek to acquire additional ag. lands, the lands that were abandoned in the federal farm buyout, many of which are, as being observed, are being restored to forest because they're left fallow and no one is tilling them. So over the next ten year horizon, you may see, particularly in the Canonsville basin and parts of the Pepacton, more reforestation naturally occurring unless somebody acquires them and starts cutting timber or putting in fields again. But it will create larger lot

6-29-04-crossroads
subdivisions because they acquire developable
land, even in the 10 or 40 acre range, and the
pressure is there, irrespective of our

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(FOREST PRESERVE ISSUE)

project, for everybody to get their own back

40, from the wealthy folks from New York City
because that's who's buying the land -- we
agree, it's already here. They will drive
more land to be parcelized. That's a factor
that is present, and we are all living with.

This other thing is that our project -- we're criticized for it -- we have some 331 units, vacation units, time share units that provide opportunities for a lot of people to come to the region without having to buy their own back 40. We have clustered that development in and around the golf courses so that we're getting the double benefit of consolidating where that is. It doesn't require -- it doesn't allow people to clear other areas on the site for forest to decide what -- a lawn they want here or something else. And it consolidates them all in one place.

While the numbers of people, visitors who will come conceivably could be fairly large, the opportunity here to have a lot of visitors and have a piece of the Catskill environment in a more efficient, from a land

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Page 110

use perspective, a more efficient manner, because it's a lot more dense, is a very positive thing. No one can project -- but the answer is no one can project reliably how many of those people who will come and visit or stay at the hotel and want to get a piece of property of their own. We don't believe there's a reliable way of projecting that. Some might. Whether they can do it or not is going to be a factor of the land that is available off our property.

As we said, New York City is on a -is a pace acquiring as much of that as they
can. The reality is, being able to put in a
septic system, unless you have a very large
piece of property and a lot of money under the
New York City regs, is a limited opportunity
and window.

In cauldron of all the things that are involved in this, we think that the project actually may benefit -- by providing an alternative opportunity for people to participate and have a vacation experience in this region without having to buy new lands as well. Thank you.

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(FOREST PRESERVE ISSUE)

128

1 ALJ WISSLER: That's it?

2 MS. BAKNER: Yes.

3 MR. ALTIERI: We would like to take

Page 111

4	10, your Honor, or take five before we
5	present.
6	ALJ WISSLER: Okay.
7	(12:46 - 12:55 P.M BRIEF RECESS
8	TAKEN.)
9	ALJ WISSLER: Mr. Altieri.
10	MR. ALTIERI: First, it is staff's
11	view that the DEIS appropriately identified
12	and analyzed forestry impacts in general. The
13	DEIS also addressed the timber industry, and
14	it's staff's view that for DEIS purposes, it
15	was adequately addressed and analyzed.
16	Heretofore, we don't hear a substantive or
17	significant issue regarding forestry, although
18	some of the comments that were raised today
19	may be addressed in the final EIS.
20	Having made these comments, I'll call
21	on Jeff Rider just to raise two points.
22	MR. RIDER: We discussed here
23	ALJ WISSLER: What is your position
24	with the DEC?
25	MR. RIDER: My position with DEC is
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	129 I'm a senior forester by title. Again, my
2	jurisdiction, so to speak, is Sullivan and
3	Ulster Counties, the majority of which is
4	inside the Catskill Park blue line. I also
5	have some properties that I manage outside of
6	the Catskill Park for or on behalf of the
7	state.
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MR. RIDER: A couple of things, just for clarification, nothing more. We heard statements as far as DEP-owned lands and DEC-owned land and what's available for timber harvesting and what isn't. Inside the Catskill Park, in DEC forest preserve lands, they're protected by constitution and you can not remove timber on those lands. So it is correct that those lands cannot have timber production. However, on New York City DEP lands, both lands that they owned in fee and potentially lands that they have easements on can be actively managed for timber. Many times DEP has not actively managed their timber based on public perception. They were chastised quite a number of years ago for a cutting that they

did down by the Ashokan Reservoir in

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Boiceville. Due to that, they backed off for a number of years on a lot of timber harvesting; however, in recent history, due to blow-downs or due to studies that have shown that watershed management, watershed quality is generally increased with active management of your timbered lands, meaning a healthy forest, actively managed, healthy vibrant forest is better for watershed. So just to note, that not all DEP lands are off the books as far as the timber industry.

Page 113

Lands that they own or that they purchased through easement, meaning that they don't own the lands in fee but they have an easement on there, maybe a development easement, many times the property owners are allowed or hold the right to continue timber harvesting at least for a period of time.

As far as impacts on the local timber industry, we see more effect on local industry based on public perception in that as we see more and more non-resident or second homeowners move into the area, maybe have come more from urban areas and urban background, they're not familiar with land management,

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forestry, and they were brought up with the prospective that forestry is a bad thing, that cutting trees is a bad thing -- so there's more perception, as you have more and more land owners -- you also have fragmentation and parcelization, you have more and more owners on the same pieces of land. A lot of that land is taken out of production just based on a perception. So as Ms. Hall said, there is high demand in the forest industry for trees and timber production, and it's getting harder and harder to find areas where they can actually harvest trees and manage.

There's many things that also affect the timber industry. Their practices alone Page 114

-- if a forest is not professionally managed by a forester for perpetuity, many times you have companies that will come in and for economic return, they take the biggest and best species and what's left behind is species that have low value and will not increase in value over time. If it's done properly, a harvesting plan is instituted, harvest timber in perpetuity, and if done correctly, after you harvested a stand, the per acre value of

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(FOREST PRESERVE ISSUE)

that remaining stand is higher than what you had just removed, so in perpetuity you should increase the value of your stand over time, meaning you're leaving your biggest and best species, whether it be seed trees or crop trees that -- right now they're only 12 inches in diameter, if you let them go for another 20 years, they may be 15 or 20 inches in diameter where you increase your value on your land. So it's a little clarification on the timber industry around the area.

MR. ALTIERI: Do you have any questions, Judge?

14 ALJ WISSLER: No.

MR. ALTIERI: Could you -- I think
this was a question the Judge had prior
regarding first forest growth. Could you
define it, just for the record, and then
identify any regulations or standards
Page 115

20	regarding the cutting of first forest growth.
21	ALJ WISSLER: That's a question that
22	goes way back.
23	MR. RIDER: I certainly wasn't present
24	for that. Essentially there's many
25	definitions out there. You have old growth,
	<pre>*** rough draft ** rough draft***     (FOREST PRESERVE ISSUE)</pre>
1	133 first growth, second growth, third growth, et
2	cetera. Typically, a lot of times old growth
3	and first growth people use them
4	interchangeably and they're not necessarily
5	interchangeable terms. Old growth typically
6	is referred to growth that was here when you
7	got here. It's something that's been around
8	for a long time. It's the original forest
9	that was expected that was here. You don't
10	necessarily see that in the Catskills, and by
11	that I mean
12	MR. ALTIERI: When you say original
13	here when we first came here; does that
14	mean is that the measurement, colonial
15	times?
16	MR. RIDER: What you see in that area,
17	irregardless of the Catskills, but using the
18	Catskills as an example, forest is constantly
19	changing. It's either wind throw, ice storms
20	insects, disease, that type of thing changes
21	your forest continuously. And what you saw
22	here 300 years ago that you may have
23	considered old growth that was here when you Page 116

24	got here is not what you see today. The
25	forest is constantly changing and what you see

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(FOREST PRESERVE ISSUE)

today may not necessarily be what we see 100

years from now on these mountain tops. It's

going to change just due to its own

environmental factors that effect it, not only

by man but the natural factors.

So old growth, essentially -- when you consider old growth, you look at Mike Kudish's work, he defines old growth as essentially what was here, what was the original growth. First growth is what has arrived after the old growth, meaning the old growth was effected somehow, some way, whether it was environmental factors -- predominantly environmental factors before the timber industry arrived.

You have first growth. If you look at some of the maps, he has a map that's been produced, showing much of the old growth areas as being in the high peaks in the Catskills, predominantly on state-owned forest preserve lands. That's typically areas in high elevations, remote settings. For one reason or another, they were not timbered due to remoteness, where they were not cleared and farmed due to thin soils or remoteness, so

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(FOREST PRESERVE ISSUE)

Page 117

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1	they remained first growth which is
2	essentially the oldest growth that we have out
3	there.
4	Beyond that, generally below 2900 feet
5	in elevation, most of the forests here in the
6	Catskills have been inundated, to put it
7	mildly, by man's own usage. Tan barking where
8	the hemlock is removed, subsequent flush of
9	hardwoods that came in after that which
10	brought in the hoop makers and the furniture
11	factories and the acid factories and the
12	charcoal kilns and things like that. That's
13	when you get into second growth. A lot of
14	that second growth which was your pinewood
15	species was stripped off again and you end up
16	with a whole third growth. Many of the lands
17	you see, including the applicant's lands have
18	been logged year after year after year, so you
19	end up with second growth, third growth,
20	fourth growth, just new generations of trees
21	that have come along, and subjective to
22	whatever we throw at them.
23	MR. ALTIERI: As to first growth
24	forest, are there any regs or standards
25	regarding the cutting of first forest growth?

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MR. RIDER: No, there's none that I'm aware of. There's no regs in New York anyway that I'm aware of, that prohibit the cutting Page 118

4	6-29-04-crossroads of old growth or first growth vegetation.
5	Many times you see local town ordinance where
6	they may restrict clear-cutting, for instance,
7	or they may have a timber harvesting ordinance
8	where you need you're required to get a
9	permit in order to go harvest trees on your
10	land. But I'm not aware of any ordinance out
11	there that prohibits the cutting of what's
12	considered first growth.
13	MR. ALTIERI: Thank you.
14	ALJ WISSLER: That's it?
15	ALJ WISSLER: Mr. Gerstman.
16	MR. GERSTMAN: Only 10 or 15 minutes,
17	your Honor. First, we would like to take
18	Crossroads Exhibit 58 which is the map
19	introduced by Mr. Franke, explained by Mr.
20	Franke, and we weren't aware that the issues
21	concerning IBA were going to be raised today.
22	I'd like to have the opportunity to send this
23	to Dr. Burger and provide a written response
24	if that's okay with your Honor.
25	ALJ WISSLER: Yes.
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	MR. GERSTMAN: Mr. Ruzow talked about
2	the issue of whether or not the scientific
3	study that was conducted by Professor Hall and
4	her colleagues has any applicability in the
5	evaluation of a project that has a potential
6	adverse impact on the surrounding forest.
7	First, we have identified this issue pursuant
	,

6-29-04-crossroads
to SEQRA relative to several others that we
believe are relevant for adjudication and for
which we believe we have made a significant
offer of proof, including ones that I
mentioned before, secondary growth, the impact
on Important Bird Areas, cumulative impact,
impact on aquatic habitats, and the impact on
community character due to the area's
sensitivity to the change in the economy from
a forest-based economy to a very intense use
that would be envisioned and would be
associated with the project as it's envisioned
by Crossroads Ventures.
After Mr. Ruzow determines that the

After Mr. Ruzow determines that the model has no applicability, and in fact is too vague, it might be good for @mackrel evaluation, land use planning, and should not be used in this type of project review, he

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goes on to speculate on the types of things that have a greater impact than the model would have in predicting the impacts to the forest. He includes the issue of, for instance, the decline of the forest product industry, and Mr. Rider has correctly pointed out that DEP's holdings may allow for use of timbering and harvesting of wood. In fact, DEC in the Adirondacks has engaged in an extensive conservation easement program, whose goal is to provide for the use of forest

6-29-04-crossroads
products and to allow for extraction of forest
products from those state-owned lands or
private-owned lands, I'm sorry, for which a
conservation easement has been purchased by
the state.

Many of the things that Mr. Ruzow was

Many of the things that Mr. Ruzow was speculating about are legitimate speculation but they don't impact the usefulness of this model to evaluate the significant adverse impacts that this project will have on the surrounding forest. We think that is the key here. We are talking about a standard under the State Environmental Quality Review Act which requires the Commissioner to determine

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whether or not there are substantive and significant issues which should be adjudicated with respect to those SEQRA findings. We believe this is a relevant issue that has to be adjudicated under SEQRA. We believe that the Commissioner would not be able to make SEQRA findings without making this evaluation.

I would like to ask Professor Hall to identify some of the issues that Mr. Ruzow and Ms. Bakner have raised concerning her study and Crossroads Exhibit 57 which is the Empire States Forest Products Trends in a Robust Resource.

PROFESSOR HALL: A couple of things that I am -- feel compelled to point out, one

of which is that this data ends where our data begins. This is New York State data and we have carefully examined the local trends in this region, and we have shown with satellite imagery that deforestation predominates over reforestation. In fact, the deforestation numbers far exceed the small amount of land that's reforesting. Satellite imagery was called into question, and modeling called into question. There is no difficulty in

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classifying satellite imagery and seeing
what's forest and what's non-forest. The
issues in satellite image classification where
there are some problems is determining whether
it's urban grass or pasture, whether it's
shrub land or crop land, but the patterns are

very clear in the data as to loss of forest cover. So am I want to make sure you

9 understand that's the case.

I also know that people like to call science and modeling into question frequently. We try to be as quantitative and robust in our methods as possible. We don't use rhetoric, we use analysis and we're peer reviewed. Our work is peer reviewed by our peers, so we can't just get up and say: This was the trend, blah, blah, blah. We have to show the data, and we have to be transparent about how we analyzed it. It has to be submitted for

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20	peer review before it's actually accepted, and
21	this work will be submitted for peer review.
22	Perhaps that's why it was
23	characterized as premature. I don't think
24	it's premature in that we've applied this
25	model, as I said, in locations all over the
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1	141 world, and it's being used and listened to as
2	a good excellent tool for projecting future
3	likelihood of land use change patterns
4	rates and patterns. I would characterize
5	it not as premature and not as simplistic, but
6	rather as state of the art, and most of my
7	colleagues not most of my colleagues
8	would also. It's a very complicated process.
9	I tried to be as transparent as I
10	could. If I had more time with you, and I
11	could sit down with you, I could take you
12	through everything, but you would probably be
13	borred to death. But it's not a simplistic
14	process, it's complex and therefore difficult
15	perhaps, to make a person understand exactly
16	how we derive our findings, but there's
17	nothing hidden about it and I can show you
18	quantitatively the numbers and how we get to
19	those numbers. So we feel very confident in
20	the work that we've done so far.
21	There was a criticism that we had not
22	included some factors relating to zoning and
23	other restraints on land based on the MOA

	6-29-04-crossroads
24	however, we asked right before we ever got
25	started, we asked DEP officials and DEC
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1	officials both, we sat down with them. At
2	these meetings, asked them if there were lands
3	that we should leave out of the analysis that
4	were not susceptible to change from forest
5	cover to non-forest cover, were there any
6	lands we should leave out, and with the
7	exception of lands within a certain distance
8	of streams, they said, "No, you should include
9	it all. It's all candidates for change." So
10	it's not that we left that out.
11	We also we included the newly
12	acquired New York City Land Acquisition Plan
13	up to 2001, and we have the digital map of
14	that, and that was part of the land that was
15	excluded from our analysis. There is
16	undoubtedly more recent acquisitions. I would
17	hate to show you I could show you if I had
18	the GIS system here in terms of the whole
19	area that we studied, those lands to date that
20	were just identified as newly acquired lands
21	are a very, very small percent of the
22	watershed, and I know they want to acquire
23	more land, and hopefully they can, but it
24	hardly could change the results of our
25	modeling effort at this point.

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The criticism was made that the 1 2 planning boards were not involved. The 3 planning boards were invited. People choose to come or not to come. A woman from Cornell Cooperative Extension attended our meetings 5 and she was working very closely with the 6 Sullivan County Planning Board, and she said: 7 8 Oh, my God, I wish we had this model about six months ago when we started this process to 9 10 look at what's projected for our region. We also had a person from the Town of Roxbury 11 12 Planning Board at our meetings. Much of our data that was not included in the analysis was 13 14 not for funding constraints --15 MR. GERSTMAN: Referring to, as Mr. Ruzow had, page 16 of Exhibit O of the CPC 16 17 petition.

PROFESSOR HALL: -- but simply because the data either did not exist or did not exist spatially or does not exist at a resolution that would be comparable to the satellite imagery. Often models don't need to be more complicated. What we try to do in models actually is try to ferret out the major relationships with the least amount of data

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possible because you -- as I showed you today, we had 18 different factors that we analyzed, which is more than we have ever analyzed in any other application of this model. And Page 125

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after the first six factors, our ability to mimic reality actually fell off. So to add more information would not necessarily have helped us produce a model that could mimic what's actually happening in the landscape.

Something was said about development along Route 28 being appropriate, and yes, of course it is. But we also show lots of development that was not along Route 28 which was later pointed out after that statement was made up in that northern region and that was because wherever we have nodes of development already started, the model performed better in validation when it grew off of nodes than when we just let it pick and choose places all over the landscape that had high likelihood of development, which is why we contend that the project will be a node that will accelerate development because we saw that looking at our two points in time. There was definitely a trend or a pattern of development that was

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1 node based.

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MR. GERSTMAN: Notwithstanding Mr. Ruzow's statement concerning the lack of available information concerning what's referenced at page 16 of Exhibit O of CPC's petition, that doesn't impact your evaluation on whether your model is valid to predict trends in land use?

Page 126

PROFESSOR HALL: Absolutely not. The pattern is visible in the satellite imagery. Perhaps the word premature was used because I said we would like to look at a longer time period, but we can clearly see what's happening between 1992 and 2001, and we can evaluate the pattern and what were important factors in giving us the ability to predict a 2001 landscape from `92. So we feel that all of these other things would actually probably not have increased our ability -- increased our validation statistics.

I would ask since we have been -- we certainly didn't mean to demean -- I don't know if that was the intent -- ski areas or the importance of tourism to this region.

Simply to say that wherever you have

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development, and if you have -- you will have

fragmentation and you will have parcelization, and yes, this impacts the forest industry.

4 That's just a fact. We have no axe to grind,

simply to present to you the facts as we have

6 evaluated them.

I also wanted to say in response to the gentleman's comments, Jeff Rider, that we have often seen in other studyies, and in our knowledge from the forestry school, that when land is parcelized, it is often high graded, which means that the biggest trees and the Page 127

most valuable trees are taken off before the land is sold off because the people buying it still get a forest and they don't really care -- they're not even aware necessarily that they have lost a \$5,000 tree. And this is a very common event, just happened in my neighborhood last year. I think I covered most of --

MR. GERSTMAN: I might have a couple questions for you. I believe Ms. Bakner mentioned that you did not have data concerning second homeownership; is that accurate?

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PROFESSOR HALL: No, that is not accurate. We have shown, I think, to the extent where possible, that we have land that is owned by -- a great deal of land that is owned by people outside of this area. We have also shown that divided parcels are those lands that are more likely to be developed in some way. We do not have, perhaps, the real estate office data to show you where second homes have actually been built, if that's the contention. That would probably be useful.

MR. GERSTMAN: Would you say that your

-- the Geomod model has applicability both on
the macro and micro scale for evaluating
environmental impacts, i.e. those associated
with forest fragmentation and parcelization?
Page 128

PROFESSOR HALL: It does. Sometimes
you can zoom in too far. We found in what we
call frontier environments where there's very
little land use change, that actually when you
step back and zoom out, you can see
encroaching development coming toward a
region, so we have sometimes struggled a bit
with what's the appropriate scale. We picked
this scale, in fact, for this study so that we

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could get some of the development, pick out
some of that development that's happening in
the major corridors that surround the area,
and look at whether that tended to be
sprawling toward -- moving toward this area -and it did, appeared to be.

MR. GERSTMAN: I believe it was Mr. Franke sitting over there at the table with Mr. Ruzow and Ms. Bakner who suggested that this project has resulted in the assemblage of properties, and therefore represented a trend that's contrary to the one that you identified in your study. Do you have any comment on that?

PROFESSOR HALL: Well, it was like apples and oranges. The issue for us with parcelization is that it breaks the land into land units that are not manageable for forestry. What they're doing in consolidating land for this development project is just a Page 129

21	wholly different kind of activity. So it
22	seems to me that they're really somewhat
23	unrelated. I would say, although this wasn't
24	in response to my talk, that it seemed to me
25	if you were going to talk about land that

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you're setting aside in this project versus

the land that will be developed, again, issues

of fragmentation in terms of wildlife, but I

am not the wildlife expert here, are

important. I would suggest that a

quantitative analysis such as we did in our

study calculating the forest continuity index

or fragmentation index, as is commonly done in

landscape ecology and wildlife studies, would

be preferable to giving us some idea of what's

going to be there over just simply saying

certain acreage will be set aside.

MR. GERSTMAN: In fact, what Dr.

MR. GERSTMAN: In fact, what Dr.

Kiviat has testified to is that if you understand the nature and the scope of the wildlife and the flora and fauna on the project, your mitigation could be designed to project against the harshest impacts of development as opposed to the mitigation really being dictated by how you want to configure your golf course, which is what's happened here.

PROFESSOR HALL: Absolutely.

MR. GERSTMAN: I also want to suggest Page 130

25 that under no terms will the Catskill

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150 Preservation Coalition accept the mantle that Mr. Ruzow tries to put on us, that somehow we are against development and against tourism. In fact, many of our members have worked very hard and very diligently to promote the economy of this region, to find models that work in a sustainable manner, consistent with the forest landscapes and other aspects of community character. To the extent that that mantle -- that he's trying to throw that label on us -- we throw it right back and suggest that, in fact, the project itself will potentially, ultimately result in significant impacts to the golden egg, which Mr. Alworth characterized as being the key to the ultimate sustainability of the environment and the economy in this area.

What we heard from Mr. Ruzow and Ms. Bakner essentially is speculation, legal argument, no hard and fast facts which they are putting up against the state of the art science of spatial modeling that you have heard from Professor Hall, which is accepted in the professional and academic circles who are interested in this type of analysis of

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(FOREST PRESERVE ISSUE)

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1	6-29-04-crossroads land use trends, and ecological preservation.
2	So we submit that we have established a
3	substantive and significant issue for
4	adjudication concerning the impacts on the
5	forest in this vicinity, in this region. We
6	have heard no scientific rebuttal to our offer
7	of proof, and we believe this issue ought to
8	go forward to adjudication.
9	PROFESSOR HALL: One other thing.
10	There was the contention that if additional
11	land is acquired by the DEP, that this would
12	significantly impact the results that we
13	presented today. There's a term we use in the
14	carbon sequestration world. It's called
15	leakage. It means if you is you supress
16	development here, it's just going to pop up
17	over here. So it would affect the results I
18	showed you today if I could have put in all
19	the land that is continuing to be acquired.
20	But given the rate that we observed, if that
21	were to continue at that rate, we would have
22	just shown different lands developing. So
23	it's important to think about that, that we
24	have both rate and pattern here, but pattern
25	would just be different, and they would use
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1	the same rate; in other words, an equal amount
2	of change.
3	MR. GERSTMAN: Thank you, Judge.

MS. BAKNER: On the issue of the

Page 132

	6-29-04-crossroads
5	pattern would be different, I'm not a
6	forester, I'm not a scientist, what I am is a
7	land use lawyer, and what's relevant to land
8	use in New York State where we're cursed or
9	blessed with home rule, depending on how you
10	look at it, is zoning. You can not possibly
11	predict what's going to happen in the future
12	without an examination of the local
13	community's approved desire for how they want
14	to move forward. And we submit, in no
15	uncertain terms, that the absence of this,
16	admittedly micro, sort of inefficient data
17	that can't be plugged into the model easily,
18	is a real problem here. Because what the
19	people who didn't participate in the analysis
20	with Dr. Hall do is simply decide what the
21	patterns of development will be. You can not
22	build in New York State unless you get the
23	requisite local approvals and building
24	permits. And we continue to maintain that
25	that's a very important issue.

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I would state that it's also	133
assessible, and it is, while perhaps not	
scientific enough for Mr. Gerstman, clearly	
set forth in the Draft Environmental Impact	
Statement in AKRF's analysis of potential	
future or secondary growth.	
We looked in a macroscale in the Tow	n
of Shandaken and the Town of Middletown, we	
Page 133	

9	6-29-04-crossroads looked at what future growth could potentially
	•
10	result from our proposal. This model, for
11	whatever reason, did not identify the
12	Belleayre Ski Center or our property as a node
13	of future growth. I mean, clearly it is,
14	that's what we're proposing here, and we would
15	submit that the precise information that was
16	provided, accompanied by an economic model
17	prepared by AKRF, which is certainly a
18	well-respected firm who does this kind of
19	thing throughout New York State shows a much
20	more complete picture of what's going to
21	happen as a result of our project, or could
22	happen, which is a more efficient method of
23	speculation.
24	I guess what I would like to say is

that Dr. Hall's comment at the end regarding

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wildlife and fragmentation on the site -- it
seems to me that there are two competing
issues here that are proposed by CPC. One is
if we develop the property, it won't continue
to be logged for timber purposes, and it may
somehow result in other properties not being
available to be timbered, which frankly I
don't think is a legitimate argument given the
fact that 72 percent of the land in the Town
of Shandaken, putting aside DEP, is owned by
New York State, and therefore incapable of
being maintained as a timber resource.

### 6-29-04-crossroads Putting that aside, Dr. Kivat is

arguing that we shouldn't clear and change the topography of the land, and Dr. Hall is arguing that we should cut and maintain the timber for forest production, which in some cases can be clear-cutting. There's lots of different management methods. And I for one believe they're absolutely legitimate. We don't have any problems with forestry impacts whatsoever. But you can't have your cake and eat it too. If we cut down the trees on the site, it's going to take a number of years for it to grow back. It's certainly not available

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for important bird habitat. So I think what
we're trying to do in our document -- which
yes, Marc -- Mr. Gerstman, is scientific and
has been accepted by DEC -- is show what we
feel are the likely impacts of the project.
We don't feel we're burdened with the academic
study of what may be happen to timberland in
the entire watershed and areas outside it.

MR. RUZOW: Your Honor, just two last things. Page 16 in terms of the factors considered and not considered for the study, and the headings available speak for themselves. Most of them are -- they made judgments, and you always have to do this. We heard this from the other modelers about making choices of what you can afford to do,

6-29-04-crossroads what you can do now, what's easily done, but 17 in my judgment, you can't make judgments 18 about the validity or the usefulness of those 19 20 other scocioeconomic, factors; in particular, 21 zoning, unless you have looked at them and 22 applied them. And again, because of whatever 23 reason -- available resources, decisions that 24 were made along the way -- this image, this 25 particular model chose not to use those

# \*\*\* rough draft \*\* rough draft\*\*\* (FOREST PRESERVE ISSUE)

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The fact that they consulted with DEP and indeed DEC staff with regard to factors to be taken into account of the model in developing their model, and nobody piped in and said, no, you really ought to look at zoning -- doesn't go to the correctness of the judgment that was exercised. And indeed, if zoning were added and a number of the other factors were added later on, I'm willing to bet that the model would be improved, and the validity of the model would be more helpful. But the problem with the model is what CPC is seeking to have it used for, which is to help determine the rights of an applicant for a permit. And it's never been subject to the standards setting elements that one has to go through to create a standard for decision-making, and will never go through those standards because it's never going to be

21	6-29-04-crossroads sought to be used as a determinant of
22	someone's rights.
23	I think what is most troubling to me,
24	and again and this is certainly argument
25	is that the suggestion, the danger when you
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	157 see a visual image, it takes on a different
2	context, both in terms of its underlying value
3	of being able to convey a lot of complex
4	information, as well as it's the danger of
5	accepting it as true. Unless a model reaches
6	the level of sophistication and reliability,
7	and not just preliminary peer review by the
8	same folks, but the socioeconomic review that
9	occurs in standard settings, the danger is
10	enormous for misuse and misunderstanding of
11	the model.
12	It's okay that a scientist can look at
13	this and say: Hah, I know what goes into all
14	of these elements, I know the relative wastes
15	which would be attributed to each one of these
16	things and to where it should be tweaked, et
17	cetera. It's another thing for lay people,
18	including your Honor, and even indeed the
19	Commissioner of DEC, to take an image and say:
20	Ah-hah, gee, that is a telling image, and
21	somehow walk away from that image and say:
22	Gee, what did I see there? How do I separate

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out what I have heard, et cetera. That is why

the strength of feeling and belief that we

25	6-29-04-crossroads have as to the dangers of such a model at this
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	158 preliminary stage of its development for use
2	in an adjudicatory proceeding to determine
3	someone's rights to a permit that's the
4	problem. Not that models aren't appropriate
5	in the right setting, but as applied here,
6	they're dangerous.
7	MR. GERSTMAN: Judge, just
8	ALJ WISSLER: I don't want you to
9	reiterate what you already got on your record.
10	MR. GERSTMAN: I want to correct a
11	mischaracterization of Dr. Kiviat's
12	ALJ WISSLER: Because we're now just
13	getting into things that you guys can talk
14	about in the final brief.
15	Go ahead.
16	MR. GERSTMAN: I agree, I will not
17	reiterate the fact that this is science and
18	what Mr. Ruzow is saying is legal speculation,
19	I won't do that. Dr. Kiviat did not say
20	ALJ WISSLER: We're going to have him
21	here at 2:30?
22	MR. GERSTMAN: Yes, we are.
23	ALJ WISSLER: We can ask him.
24	MR. GERSTMAN: That's fine. I just
25	want you to understand that Ms. Bakner
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	159 characterized what he had said in terms of the Page 138

2	project was wrong. He was suggesting
3	mitigation could be designed to reflect what's
4	important on the project site. Thank you,
5	Judge.
6	ALJ WISSLER: Okay.
7	MR. GERSTMAN: Professor Hall just has
8	one point.
9	ALJ WISSLER: Go ahead.
10	PROFESSOR HALL: I just don't like my
11	work misrepresented. We did include ski
12	centers. Wherever the land shows clearing of
13	forest, that land was included as a node,
14	because it was an area that was non-forest, so
15	it was included. We didn't decide what to use
16	or not to use. Zoning was in effect in `92
17	and in 2001. We simply evaluated and
18	re-projected the pattern that was visible was
19	not necessary to include zoning as such
20	because zoning was in effect, and we simply
21	evaluated the pattern that happened on the
22	land and determined what factors made those
23	land parcels appealing or attractive somehow
24	by going through all those factors, and then
25	used the best set to project the future.
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
_	160
1	MR. GERSTMAN: Thank you, Judge.
2	ALJ WISSLER: Thank you. We have Dr.
3	Kiviat at 2:30; is that it?
4	MR. GERSTMAN: Yes. Actually, we had
5	wanted to have Aaron Bennett provide a Page 139

6	statement on the record concerning Simon's
7	Rock and a trail, and also we have a proposed
8	itinerary for our Belleayre to Balsam hike.
9	ALJ WISSLER: But we can discuss that
10	before Dr. Kiviat this afternoon?
11	MR. GERSTMAN: Yes. Mr. Bennett we
12	can have potentially after lunch and before
13	Dr. Kiviat.
14	ALJ WISSLER: Fine. We're going to
15	break right now for lunch and we'll break
16	until 2:30.
17	MR. GERSTMAN: Thank you, Judge.
18	(1:39 - 2:40 P.M LUNCHEON RECESS
19	TAKEN.)
20	ALJ WISSLER: Back on the record here.
21	Mr. Gerstman.
22	MR. GERSTMAN: Yes, sir, thank you.
23	Ms. Roberts. Your Honor, we would like to
24	call Dr. Kiviat for rebuttal from June 10th.
25	MR. ALTIERI: Marc, was the other
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	gentleman going to go first?
2	MR. GERSTMAN: Did he stay for that?
3	MR. ALTIERI: Yes.
4	MR. GERSTMAN: We can. I'd like to
5	introduce you to Aaron Bennett.
6	I believe this would be CPC Exhibit
7	70, Mr. Bennett's resume.
8	
	(RESUME OF AARON BENNETT RECEIVED AND
9	MARKED FOR IDENTIFICATION AS CPC EXHIBIT NO. Page 140

10	70, THIS DATE.)
11	MR. GERSTMAN: I'd like to also
12	introduce DEC Policy System it's a draft
13	dated January 7th, 1998, concerning
14	Adopt-a-Natural Resource Program. Maybe DEC
15	can clarify what the status of this policy is.
16	MR. RIDER: It's current.
17	MR. GERSTMAN: This is final as far as
18	you know?
19	MR. RIDER: If it doesn't say draft,
20	it should be final. Sorry, I gave you the
21	draft but it is a final.
22	MR. GERSTMAN: This is a final policy
23	issued by DEC. It's a draft dated January
24	7th, 1998 entitled, "Adopt-a-Natural Resource
25	Program."
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
	*** rough draft ** rough draft***  (FOREST PRESERVE ISSUE)  162
1	*** rough draft ** rough draft***  (FOREST PRESERVE ISSUE)  162  (THE DEC POLICY SYSTEM
1 2	*** rough draft ** rough draft***
1 2 3	*** rough draft ** rough draft***
1 2 3 4	*** rough draft ** rough draft***
1 2 3 4 5	*** rough draft ** rough draft***
1 2 3 4 5	*** rough draft ** rough draft***
1 2 3 4 5 6 7	*** rough draft ** rough draft***
1 2 3 4 5 6 7	*** rough draft ** rough draft***
1 2 3 4 5 6 7 8	*** rough draft ** rough draft***
1 2 3 4 5 6 7 8 9	*** rough draft ** rough draft***  (FOREST PRESERVE ISSUE)  162  (THE DEC POLICY SYSTEM  "ADOPT-A-NATURAL RESOURCE RECEIVED AND MARKED FOR IDENTIFICATION AS CPC EXHIBIT NO. 71, THIS  DATE.)  MR. GERSTMAN: And CPC Exhibit 72 is a sheet with two photographs entitled, "View of Panther, Giant Ledge and Cornell Mountains from Simon's Rock," on the top; and "View of Slide and Balsam Mountains from Simon's Rock" on the bottom.
1 2 3 4 5 6 7 8 9 10	*** rough draft ** rough draft***
1 2 3 4 5 6 7 8 9	*** rough draft ** rough draft***  (FOREST PRESERVE ISSUE)  162  (THE DEC POLICY SYSTEM  "ADOPT-A-NATURAL RESOURCE RECEIVED AND MARKED FOR IDENTIFICATION AS CPC EXHIBIT NO. 71, THIS  DATE.)  MR. GERSTMAN: And CPC Exhibit 72 is a sheet with two photographs entitled, "View of Panther, Giant Ledge and Cornell Mountains from Simon's Rock," on the top; and "View of Slide and Balsam Mountains from Simon's Rock" on the bottom.

14	(PHOTOCOPY OF TWO COLOR PHOTOGRAPHS
15	"VIEW OF PANTHER, GIANT LEDGE, WITTENBERG &
16	CORNELL MOUNTAINS FROM SIMON'S ROCK AND ALSO
17	VIEW OF SLIDE AND BALSAM MOUNTAINS FROM SIM'S
18	ROCK RECEIVED AND MARKED FOR IDENTIFICATION AS
19	CPC EXHIBIT NO. 72, THIS DATE.)
20	MR. GERSTMAN: Your Honor, I would
21	like to introduce you to Aaron Bennett.
22	Mr. Bennett is an employee of the
23	Catskill Center for Conservation and
24	Development. He's providing this offer of
25	proof today not, however, as an employee, but
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	163 as a person familiar with the trails through
2	the forest preserve in the vicinity of the
3	proposed project. And also, I understand Mr.
4	Bennett is a certified licensed hiking guide
5	as well.
6	Mr. Bennett, could you tell the Judge
7	a little about your background.
8	MR. BENNETT: Sure. I grew up in
9	Oliveria, which is on County Route 47 there,
10	and still reside there. My degree is in water
11	resource management from SUNY ESF. And as
12	Marc said, I'm employed for the last five
13	years or so at the Catskill Center for
14	Conservation and Development. I just love
15	being outside hiking.
16	MR. GERSTMAN: Would you say you are
17	familiar with the trails through the forest Page 142

18	preserve in the vicinity of the proposed
19	project?
20	MR. BENNETT: Yes.
21	MR. GERSTMAN: Particularly I want to
22	talk I want you to talk today about Simon's
23	Rock. There has been some issue concerning
24	the view from the Pine Hill/West Branch Trail
25	and the location that's been referred to as
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	164 Simon's Rock. Can you tell me how you got
2	interested in this area.
3	MR. BENNETT: The last few years, what
4	I've been doing, is once in a while after work
5	I'll drive my car up into Rider Hollow and
6	park it and hike up Mine Hollow Trail between
7	Balsam and Haines and hike home from work, and
8	then in the morning, turn around and hike back
9	to my car. I don't know why, but I just like
10	doing it.
11	MR. GERSTMAN: No better reason,
12	Aaron.
13	MR. BENNETT: One day, I think the
14	date was September 9th of last year, 2003, I
15	had a meeting in Pine Hill. I'm the president
16	of the Board of Directors of the Pine Hill
17	Community Center, so after work I decided to
18	hike to Pine Hill. So I did the same thing,
19	and then hiked up to Belleayre Ridge and hiked
20	over Belleayre. And as I was hiking, climbing
21	up Belleayre, I noticed I just enjoyed sort Page 143

22	of exploring off trail, trying to find views
23	or ledges or anything that would be a good
24	place to camp, anything like that. And I came
25	across this big boulder off next to the side
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	of the trail and it caught my attention, this
2	ledge; and I walked out to the east and came
3	upon this noticed it was a little open area
4	and you could see through the trees. I went
5	out there and the pictures that you have are
6	ones that I took on that day.
7	MR. GERSTMAN: Referring to CPC
8	Exhibit
9	MR. BENNETT: 72. And I really
10	enjoyed that spot because it's looking back
11	towards my house, and it's just an interesting
12	and very unique view of Balsam and Slide and
13	Panther Mountain that I haven't noticed from
14	anywhere else in the forest preserve.
15	MR. GERSTMAN: If you were standing at
16	this spot looking towards Panther Mountain
17	from the location where you took this
18	photograph, could you tell the Judge where the
19	proposed Big Indian Plateau development would
20	be.
21	THE WITNESS: It would be to the left
22	which would be to the north, and probably less
23	than a 90 degree angle.
24	MR. GERSTMAN: Judge, I refer you to
25	CPC Exhibit 5 which has Simon's Rock, has a Page 144

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	166
1	mark from Simon's Rock noted on the map, and
2	if you would look towards Panther Mountain,
3	you could see the project site, the location
4	of the project site as Mr. Bennett has
5	described.
6	MR. BENNETT: So I continued on
7	because I had a meeting, so I couldn't explore
8	too long and ended up I had learned about
9	the trail that goes down Giggle Hollow to Pine
10	Hill, and there's a number of other trails
11	that do that, but I had never been on the
12	Giggle Hollow one. I cannot recall where I
13	learned of it, if it was Belleayre's brochure
14	for the day use area. I know the recent one
15	has a trail on it that leads down to the day
16	use area from Belleayre, or if it was the
17	event that was referred to earlier, I don't
18	know. Anyway, I'm walking and see the sign,
19	"Trail to Belleayre Day Use Area," and I go
20	down and follow the markers down to the day
21	use area, go to my meeting, come home, and go
22	back the next day. The whole thing with
23	Simon's Rock was, it sort of caught my it
24	just was a very unique spot for me.
25	The local forest ranger we live
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)

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about a mile and a half from one another, and

2	6-29-04-crossroads
	I run into her quite often. And I asked her
3	if she knew of this place, and she said she
4	wanted to make sure we were talking about the
5	same place. So we talked about going up there
6	together to check it out. She told me the
7	story of how it got its name, it was named
8	after a forest Ranger that she knew when she
9	first started, and it was put in the UMP
10	because of the beautiful view from that spot.
11	I don't remember the story quite in its
12	entirety, but he has since either passed away
13	or got transferred up to the Adirondacks, I
14	don't remember. And ever since then, I kept
15	asking her to take me, and her status as a
16	forest ranger because of an injury was sort of
17	up in the air and she didn't know if she could
18	do that we said, okay, we'll go on our
19	spare time. We just never hooked up. And I
20	ran into her like three times.
21	ALJ WISSLER: This is very
22	interesting, Mr. Bennett.
23	MR. BENNETT: So I ran into her about
24	it just never happened, winter came and
25	then so this year being the centennial of
	*** rough_draft_** rough_draft***
	(FOREST PRESERVE ISSUE)
1	168 the Catskill Park, I decided that I really
2	want to get this thing going. My workload is
3	significantly lighter over the summer, and
4	that's when I realized also that the forest
5	ranger is not the ranger anymore, and I

Page 146

6	6-29-04-crossroads decided to put a call into Region 3 and
7	officially adopt this and maintain this
	·
8	because I learned that it was in the UMP and
9	could be maintained as a vista and the trail
10	near it, I know, gets pretty overgrown in the
11	summer because nobody maintains it.
12	MR. GERSTMAN: Is it your
13	understanding that CPC Exhibit 71, which was
14	graciously provided by the DEC, is the
15	mechanism by which one can adopt a natural
16	resource in order to maintain it for the
17	purposes of the public?
18	MR. BENNETT: Yes.
19	MR. GERSTMAN: Your honor, one of the
20	reasons that the DEC, I believe, has
21	undertaken this program, in addition to the
22	statutory authorization, is that DEC is
23	short-staffed in maintaining and enhancing
24	maintaining trails and vistas from
25	state-owned trails, and this is a good
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	mechanism for the state to have work done on
2	the forest preserve and for people who are
3	interested in natural resources to work with
4	DEC in carrying ought a mutual purpose.
5	So Mr. Bennett has made a request to
6	pursue this as a volunteer, not as an employee
7	of the Catskill Center, and that process, I
8	believe, is still in the works. It has not
9	been formally undertaken as yet. One of the

Page 147

10	6-29-04-crossroads purposes of Mr. Bennett's statement here today
11	is to point out that the initial interest in
12	Simon's Rock dated back to September of 2003
13	wasn't done in connection with this project,
14	has nothing to do with the visual impact
15	evaluation that you heard previously in the
16	Issues Conference.
17	We are prepared at some point to put
18	in photographs of this Belleayre day use trail
19	from the day use area to the Belleayre Ridge.
20	We do have a photograph of the sign from the
21	ridge indicating the Belleayre day use area is
22	there's a sign pointing in one direction to
23	get down to it. It's still there. I'm also
24	told by Aaron that there's a sign in register
25	at the Belleayre day use area for the purpose
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	of using this Giggle Hollow Trail; is that
2	clear? Is that accurate?
3	
3	MR. BENNETT: Yes.
4	MR. BENNETT: Yes.  MR. GERSTMAN: Judge, do you have any
4	MR. GERSTMAN: Judge, do you have any
4 5	MR. GERSTMAN: Judge, do you have any questions?
4 5 6	MR. GERSTMAN: Judge, do you have any questions?  ALJ WISSLER: No.
4 5 6 7	MR. GERSTMAN: Judge, do you have any questions?  ALJ WISSLER: No.  MR. BENNETT: Thank you, Judge.
4 5 6 7 8	MR. GERSTMAN: Judge, do you have any questions?  ALJ WISSLER: No.  MR. BENNETT: Thank you, Judge.  MS. BAKNER: Your Honor, we don't have
4 5 6 7 8 9	MR. GERSTMAN: Judge, do you have any questions?  ALJ WISSLER: No.  MR. BENNETT: Thank you, Judge.  MS. BAKNER: Your Honor, we don't have any response to that, but we just want to note

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Page 148

anything we can put in to enhance the record

14	6-29-04-crossroads with respect to views, we'll be doing that at
15	a later date.
16	
	ALJ WISSLER: So noted. Mr. Altieri,
17	anything?
18	MR. ALTIERI: Based on your hike to
19	Simon's Rock that you mentioned when you
20	testified, or spoke last, do these photos give
21	an accurate view of the view in general that
22	one would have when you go to Simon's Rock?
23	MR. RIDER: Simon's Rock is a view
24	that, although you can see somewhat of an
25	opening from the main hiking trail, you have
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	171 to know it's there and hike over to it. As
2	Mr. Bennett said, you have to have the
3	interest, you have to go to it. It's not
4	marked, nor is there a herd path or a foot
5	bath path leading to it.
6	I knew of it. As I say, it's marked
7	by a couple of erratic stones, normal but
8	abnormal for the area are there. If you go
9	out, the view doesn't jump at you. You have
10	to look through windows and branches because
11	it has not been maintained. The only
12	statement I will say here, he has some very
13	nice views of Slide and Panther. The view
14	that's not shown here which I have taken,
15	which we have not brought here today, shows
16	the ridge in question, the Big Indian ridge

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Page 149

coming down and the potential for, depending

	6-29-04-crossroads
18	on the development, potential to bear that.
19	But again, it's another view that you have to
20	physically go, take your time to look between
21	the tress to see the ridge to look down.
22	The view is there. It's listed in the
23	Unit Management Plan so that it can be
24	maintained, it just has not had the interest
25	to be maintained until now. But there's
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	172 nothing precluding us from opening that view
2	back up to the original view by limbing of
3	trees as opposed to cutting live trees, just
4	taking limps off existing trees to increase
5	the view, but that's something, I presume,
6	you're going to take a look at in a couple
7	weeks.
8	MR. ALTIERI: That will be the closing
9	comment, we'll be there shortly.
10	MR. GERSTMAN: Mr. Bennett, it's your
11	understanding that if you were to be a
12	volunteer in the program, and the policy
13	speaks to itself, that you would have some
14	latitude in opening the vista for views
15	towards these mountains. And maybe Mr. Rider
16	can add in, what's your understanding of what
17	the limits are in terms of what you would be
18	permitted to do in terms of your conversation
19	with the forest ranger and Mr. Rider?
20	MR. BENNETT: That's why I wanted to
21	go up there with Patty, so she could show me

22	6-29-04-crossroads
22	what was once there, what was once maintained.
23	I think it's just a gorgeous spot. The
24	wilderness area that it's in is the second
25	largest, I believe, and this was one of four
	*** rough draft ** rough draft*** (FOREST PRESERVE ISSUE)
1	vistas in this whole wilderness area. And I
2	like vistas just as much as the next person
3	and people that hike that trail, I think
4	should know about it and be able to see that.
5	ALJ WISSLER: I don't know about Patty
6	anymore, but maybe you could go with Mr. Rider
7	if that's okay.
8	MR. GERSTMAN: He's a close second.
9	MR. ALTIERI: Jeff elaborated on what
10	could be maintained as a vista.
11	MR. RIDER: The only thing I would
12	add the Adopt-A-Natural Resource took over
13	what used to be Memorandum of Understandings.
14	It just simplified the process and the whole
15	reason it's put in place is DEC sets
16	parameters on what can and can not be done by
17	a volunteer, and it's overseen by us. So it
18	sets parameters of what you can and cannot do,
19	and it also, because of liability, we also
20	have volunteers register their names or Social
21	Security number because when they're doing
22	trail work on behalf of the state under this
23	Adopt-A-Natural Resource, they're actually
24	covered under Workmen's Compensation. That
25	was the secondary reason of this

## \*\*\* rough draft \*\* rough draft\*\*\* (FOREST PRESERVE ISSUE)

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1	Adopt-A-Natural Resource to formalize it.
2	ALJ WISSLER: There has been no formal
3	application made by Mr. Bennett pursuant to
4	this policy; is that correct?
5	MR. BENNETT: No.
6	MR. GERSTMAN: I think he requested a
7	form, and it's in the works is what I
8	understand.
9	ALJ WISSLER: There's nothing pending
10	with the DEC at this point?
11	MR. GERSTMAN: No.
12	ALJ WISSLER: All right.
13	MS. ROBERTS: Your Honor, I have a
14	couple of exhibits for the record. I just
15	wanted to make sure that you all had asked
16	for a CD of Dr. Burger's presentation, and
17	that has already been submitted.
18	ALJ WISSLER: 48A.
19	MS. ROBERTS: Then you asked Dr.
20	Burger for the Monitoring Bird Populations by
21	Point Counts document from the USDA, so we
22	have a copy of that for you. That will be CPC
23	Exhibit 73.
24	("MONITORING BIRD POPULATIONS BY
25	POINT COUNTS" RECEIVED AND MARKED FOR
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	175 IDENTIFICATION AS CPC EXHIBIT NO. 73, THIS
2	DATE.)
	Page 152

3	MS. ROBERTS: Then we have a second
4	exhibit from Dr. Burger, which is just a list
5	of the technical committee members for the IBA
6	to give you an idea of the breadth and
7	experience of the people on the committeee,
8	including a DEC representative, so it's not
9	just us making this up.
10	("IMPORTANT BIRD AREA TECHNICAL
11	COMMITTE MEMBERS SECOND ROUND OF SITE
12	IDENTIFICATIONS 2003 - 2004 RECEIVED AND
13	MARKED FOR IDENTIFICATION AS CPC EXHIBIT NO.
14	74, THIS DATE.)
15	MS. BAKNER: Can I clarify when the
16	committee approved it.
17	MS. ROBERTS: They haven't approved it
18	yet, as I think Dr. Burger the committee
19	has approved it but it has to go now to.
20	MS. BAKNER: The larger group.
21	MS. ROBERTS: Right. But the study
22	was begun in 2002.
23	MS. BAKNER: When did the committee
24	approve it; that's what we're trying to find
25	out.
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	176 MS. ROBERTS: I will get that for you
2	MR. GERSTMAN: I think Dr. Burger put
3	that on the record.
4	MS. ROBERTS: I think he did too, but
5	I don't remember.
6	MS. BAKNER: No, he wasn't sure, he Page 153

7	couldn't recall. He wasn't sure if it was May
8	or April or what the date was.
9	MS. ROBERTS: The point we're trying
10	to make is this is not someting we did for
11	this project, it was done before.
12	MS. BAKNER: We can have differing
13	opinions on that.
14	MS. ROBERTS: It has nothing to do
15	with the project is the point.
16	ALJ WISSLER: This is CPC 74.
17	MS. ROBERTS: I just wanted to also
18	point out that on Exhibit 73, the USDA study,
19	there are notations on the exhibit and they
20	are from Dr. Burger to just highlight some of
21	the salient points of the article, and to just
22	to summarize the take-home message of the
23	report is that they found that even the
24	researchers found that even five visits per
25	unit over two seasons really only came up with
	<pre>*** rough draft ** rough draft***   (WILDLIFE ISSUE)</pre>
1	177 or failed to find 45 to 48 percent of the
2	species in a two-year study. So the point
3	being that there is no definite point at which
4	you can say this is enough or this is not
5	enough in terms of how many times you go back,
6	but even where these researchers did much more
7	studyies than what was done in the DEIS, they

still missed 45 to 48 percent over a

I wanted to just re-introduce Dr. Page 154

two-season period.

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11	Kiviat and ask him to go through some rebuttal
12	points we would like to put on the record.
13	Before you start, I have a couple
14	questions. Ms. Bakner went through a list of
15	citations from the DEIS on June 10th after you
16	testified. She basically listed all the
17	points in the DEIS that discussed habitat
18	issues. I just want to ask you whether you
19	had reviewed all those sections that she had
20	pointed out.
21	DR. KIVIAT: I have.
22	MS. ROBERTS: Does it change your
23	opinion?
24	DR. KIVIAT: No.
25	MS. ROBERTS: Could you please go
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	178 through some of your concerns on rebuttal.
2	DR. KIVIAT: One of the points raised
3	by the Applicant's team is that the site has
4	been repeatedly logged. It's mentioned in
5	DEIS, page 3-81. I want to point out that the
6	factor of historic logging and charcoaling and
7	other disturbances of that sort, do not mean
8	that there can be no rare species on the site.
9	For example, I have found rare species of
10	state-wide significance in abandoned mines,
11	puddles on dirt roads and post-agricultural
12	habitats in a number of places in southeastern
13	New York.
14	Rare species are also reported to use Page 155

regenerating forest, among those are the Copper's hawk and the common night hawk. Those are both special concern species in New York. It's also worth reemphasizing that the site has large areas of forest with numerous trees, one foot or larger in diameter. These areas are habitat or potential habitat for many species of neotropical birds, neotropical migrant song birds, reptiles amphibians, wild flowers, sedges and other organisms, possibly including the Indiana Bat that are associated

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(WILDLIFE ISSUE)

with more or less mature forests.

The second point that the Applicant's

team raised that I want to address. The DEIS discusses habitat issues -- yes, that's correct. Page 3-81 and following pages describe plant communities, but they do not analyze which rare species of plants and animals could occur or do occur in those communities. For the most part, the DEIS discusses habitats, but it does not discuss those habitats in relation to the species of conservation interests.

Another point that they made is the DEIS proposes mitigation measures for wildlife. This is certainly true, pages 3-107 and following pages mention several mitigation measures. One is planting 4,000 indigenous trees. Planted trees are going to be small Page 156

for a long time. They'll be in altered areas,
they will not replace the large areas of
forest to be cleared for many years.

Retaining snags at forest edges is

Retaining snags at forest edges is also proposed as a mitigation measure. This doesn't make up for removing large areas of forest as far as many wildlife species are

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(WILDLIFE ISSUE)

 concerned.

Another measure is maintenance of understory vegetation. The forest will be fragmented by construction of golf courses and other facilities exposing the remaining understory, maintained or otherwise, to higher rates of predation on bird eggs and nestlings, as well as greater invasion by exotic plants, such as Japanese knotweed, Red-buried honeysuckles and Garlic Mustard.

It was striking on the site visit, at least in so far as I was able to see the site, that many of the forested areas have quite low levels of exotic plant invasion in their current condition. So the kind of disturbance that would be associated with a large scale development would be very likely to have a large impact in that way. Wetland avoidance is mentioned as a mitigation measure. I don't really see that as a mitigation measure, it's very straightforward and necessary, and a normal part of development projects, and it

23	should not be considered mitigation.
24	I think it also has to be noted here
25	that many of the animals that use wetlands

\*\*\* rough draft \*\* rough draft\*\*\*
(WILDLIFE ISSUE)

require large adjoining areas of forested uplands which will not necessarily be preserved if this project is built; and those species include the spotted salamander and the wood frog, both of which we found on the site visit.

Travel corridors is mentioned -- that is travel corridors for wildlife. If we don't know which uncommon and rare species of wildlife are present on the site and where they are, it's not going to be possible to design travel corridors that have real conservation value. Travel corridors are very species specific. For example, a corridor for a Cooper's hawk may be very different from a corridor for a Cereuleon Warbler or red-bellied snake or almost any other species of animal. This is because different animal species have very different ecological requirements, and therefore use habitats and the spaces between them in different ways.

The DEIS also mentions golf course habitat enhancement. Again, this won't replace intact forest habitat for many birds and other animals.

#### 6-29-04-crossroads \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

182

Brush piles were mentioned. Brush 1 2 piles will be mostly gone after several years, but their development project will be 3 permanent. Bluebird nest boxes are mentioned. I think bluebirds are beautiful animals, but again, nest boxes for bluebirds do not replace lost habitat for forest interior bird species. 8 9 These mitigation measures, which are all generally good things, are oriented mainly 10 toward species of open areas and forest edges, 11 12 and will, for the most part, not help rare animals and plants of forest interiors. 13

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The purpose of mitigation, in general, is to replace that which is lost to development. In this case, mitigation should replace lost habitat functions of extensive forest. The Applicant's team made the point that Ms. Tuttle conducted a thorough search for the timber rattlesnake, and also that there is too much canopy cover for good rattlesnake habitat on the site. Appendix 20 of the DEIS describes how Ms. Tuttle looked for rattlesnakes. It does not say where or how much she looked. Apparently Ms. Tuttle

#### \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

183 spend about nine days on the site surveying for birds, reptiles and amphibians. She could Page 159

3	6-29-04-crossroads not possibly have conducted thorough surveys			
4	for everything, and there is no real			
5	documentation of the potential habitats for			
6	rattlesnakes, their quality, and the effort			
7	expended searching those habitats.			
8	I still do not know the location of			
9	the "Steep rock slide on the south facing			
10	slopes of the western section of the			
11	property," mentioned in DEIS Appendix 20, also			

described as "Near the base of the
southwestern slope of Big Indian Plateau at
approximately 1600 feet elevation," on DEIS
page 3-98, where Ms. Tuttle found a black rat

snake, in which sounds to me very much like

17 potential timber rattlesnake habitat.

There is evidence in the Catskills of undocumented or recently discovered den areas for timber rattlesnake. Thus locations with potential rattlesnake habitat should be carefully studied even if they are more than four miles from a known and documented den area. Building a golf course or hotel close to, I would say e.g, within a quarter or half

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mile of a rattlesnake den area, it could be father than that, because we know that snakes under some conditions move four miles and possibly farther from their dens during the season. Building this kind of project could result in the snakes migrating into areas of

6-29-04-crossroads intensive human activity. This could pose 7 8 unacceptable risks to both snakes and people. 9 Two years ago I was shown a private 10 home built close to the Mount Tremper rattlesnake den several years previously. 11 Rattlesnakes regularly move from the den to 12 13 bask in a parking area and on outdoor stone 14 stairs at a warm, south-facing portion of the house. The homeowners literally had to step 15 around the rattlesnakes daily at certain times 16 17 of the year. That would be pretty exciting 18 for me, but not for the average homeowner, I 19 assure you. 20 Snakes near the proposed development would be at great risk from construction 21 22 machinery, internal roads, driveways and golf 23 cart roads. Animals move among different 24 kinds of habitats. It is important to assess 25 the quality and biota of the south-facing rock \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE) 185 slide because this is an unusual type of 1 habitat in the Catskill Mountains. It is 2 3 likely to support rare species which will be affected by off-site impacts of the resort There is no way to judge the amount of 5 tree canopy cover in relation to habitat 6 quality unless the canopy cover is documented in the habitat mapped. Neither of these have

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subsequent information that's been provided.

been done either in the DEIS, or in any

	6-29-04-crossroads			
11	Despite having asked during the first ten			
12	minutes of the first day of site visits, I			
13	have still not been told where the			
14	south-facing rock slide is. Even if canopy			
15	cover has become high on this rock slide,			
16	common processes such as fire, rock and soil			
17	instability, storms and insect outbreaks, one			
18	of which is progressing right now in nearby			
19	areas of the Catskills along Route 28, can			
20	reduce canopy cover and improve the quality of			
21	snake habitat.			
22	MS. ROBERTS: Dr. Kiviat, just two			
23	questions. What is the nearby infestation?			
24	You're talking about the infestation in the			
25	trees here?			
	*** rough draft ** rough draft***			
	(WILDLIFE ISSUE)			
1	186 DR. KIVIAT: I'm talking about back			
2	southeast along Route 28 in the vicinity of			
3	Boiceville, if I remember correctly. My			
4	understanding from Spider Barbour is that that			
5	browning and damage to the trees that's			
6	visible from the highway is caused by a			
7	geometric moth, an inchworm moth. It's not			
8	caused by ten caterpillars or gypsy moths in			
9	this particular instance.			
10	MS. ROBERTS: The other question I had			
11	was how much of an area does the timber			
12	rattlesnake need to bask and reproduce? Do we			
13	need large areas?			
	· · · <b>J</b> · · · · · · · ·			

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Page 162

DR. KIVIAT: Well, some of the snakes,

6-29-04-crossroads this would include the small juveniles in the 15 gravid females, which are the females carrying 16 17 the young, stay very close to the winter dens, 18 possibly within several hundred yards. There are other individuals in rattlesnake 19 populations that move considerably greater 20 21 distances; half mile to a mile is quite common 22 according to the literature. Four miles, I believe, is the outside distance that has been 23 24 documented using radio telemetry in New York 25 State. That doesn't mean that snakes under \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE) 187 some circumstances don't move father than four 1 2 miles. MS. ROBERTS: But in terms of the 3 claim that there's such a heavy canopy that there's not a lot of habitat for snakes, is it 5 your opinion that you really don't need a lot 6 7 of open area for timber rattlesnakes to bask and produce? 8 DR. KIVIAT: That's correct. Small 9 10 areas of open forest canopy with rocks that receive a lot of sun in the early spring, that 11 12 would be April and May particularly, and the 13 late summer/early fall, approximately September and October, are needed fairly near 14 15 to the winter dens. And that area -- I'm going to make an educated guess here because I 16

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That area could be as small as half this room

don't have the numbers firmly in my mind.

19	6-29-04-crossroads potentially. So we're not talking about acres		
20	and acres of open canopy. You only need		
21	relatively small pockets where the snakes can		
22	get out in the sun and not be disturbed.		
23	MS. ROBERTS: Thank you.		
24	DR. KIVIAT: Applicant's team claimed		
25	that the biological surveys reported in the		
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)		
1	188 DEIS were adequate. However, the Applicant's		
2	rebuttal witness from LMS stated that a		
3	two-day bird survey conducted by LMS on 3rd		
4			
5	and 4th June 2004, discovered 16 species of birds not reported in Appendix 20 of the DEIS		
6	from the year 2000 survey, and that these		
7	•		
8	newly documented species included the Cooper's hawk and Cereuleon Warbler, both special		
9			
_	concern species in New York. I might add that		
10	the Cereuleon Warbler is a species of		
11	considerabe conservation concern throughout		
12	its range in North America.		
13	The Applicant has proven my contention		
14	that the original biological surveys were		
15	inadequate by finding a number of new or newly		
16	documented species in only two days, including		
17	two rare species of conservation concern. If		
18	additional wildlife surveys were conducted,		
19	they would almost certainly result in the		
20	discovery of many more previously unreported		
21	species, including other rareties. This		

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knowledge of rare species is needed to enable

23	6-29-04-crossroads project design that is appropriate for a wild
24	land adjoining the Catskill Park.
25	I want to give two examples of effort
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	189 that was invested in biological surveys in
2	southeastern New York which I consider
3	adequate for large land use project
4	situations, and I could find many other
5	examples of this kind of level of effort. The
6	Metropolitan Conservation Alliance and
7	Hudsonia are currently conducting biological
8	surveys of a 1000-acre development site in
9	Dutchess County. Eight person days are
10	allocated to the breeding bird survey for
11	1000 acres. If that were compared to Sheila
12	Tuttle's survey of the almost 2,000-acre
13	Belleayre Resort site, it's about four times
14	the effort, because she was splitting her time
15	between a reptile and amphibian survey, and a
16	bird survey. So we'll assume for a moment
17	that it was about half reptiles and amphibians
18	and half birds.
19	In the same Dutchess County example,
20	significantly more time is allocated for the
21	reptiles and amphibians because most of these
22	animals are cryptic and secretive. Also, in
23	the same group of studies at that site, 16

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Page 165

rare plants on 1,000 acres.

person days are allocated to searching for

1	My second example is from a 180-acre
2	area of glassland habitat at a proposed
3	landfill site in Oneida County, New York.
4	Hudsonia conducted surveys for rare grassland
5	birds. One biologist spent 27 mornings, 5.5
6	hours each, and five nights at six hours each,
7	surveying for this group of birds alone. So
8	that I don't have the calculation in my
9	head but you can do the arithmetic, it's a
10	very much higher level of effort to address a
11	specific question about rare birds that might
12	have been on that site.
13	MS. ROBERTS: Dr. Kiviat, considering
14	that this site is surrounded by state-owned
15	protected land, would you think that a level
16	of effort somewhere near that, or maybe a
17	little less, but at least more than the DEIS
18	is warranted to find rare species?
19	DR. KIVIAT: I think at a minimum, the
20	level suggested by the first example I gave.
21	And some of that question of the level of
22	effort has to be resolved in view of the
23	nature of the site, very little of which I've
24	been able to see in the site visits, so I
25	would prefer at the moment not to give a very
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)

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specific recommendation.

Another point that was made during rebuttal was the site has low habitat Page 166

diversity, and thus conservation concern is diminished. I disagree with that contention. Large areas of low diversity are themselves an important component of biological diversity on a larger scale. This is a very important and sometimes confusing point. When we say biological diversity, we're interested in the range of different kinds of organisms and their genes and communities and so on at different levels of spatial scale. That includes small scale, like 100 acres or less; it also includes a very large scale like the entirety of the Catskill Mountains. If you look at these larger scales, which are very important in conservation, a very important component of diversity at those large scales is the presence of large areas which in and of themselves have low diversity. So the point here is that in the larger landscaper region like the Catskills, you want to have areas of low diversity and areas of high diversity because each will support to some extent

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different species of plants and animals.

Without having large low diversity areas,
there are some species that you're not going
to have. This is why biologists are so
interested in protecting large areas of
interior forests, large areas of grasslands
and large areas of salt marshes, to give three
Page 167

8 examples.

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Removing 573 acres from an extensive area of forest will have a cumulative impact on the large scale system that supports area sensitive species, that is species that require large areas for their home ranges and their populations, including many mammals, birds and reptiles. Despite the fact that the Belleayre Resort site is mostly covered by second growth northern hardwood forest, within that gross community description there is considerable variation in structure, including rocky areas, different compass aspects, areas dominated by yellow birch, versus sugar maple, versus beech, versus hemlock, streams, springs and so forth. All these variations in this large, relatively low diversity area support variations in plant and animal communities and

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(WILDLIFE ISSUE)

species.

MS. ROBERTS: Dr. Kiviat, one of the things we heard on the 10th was that actually creating some edge might be a good thing, that it would be creating diversity in an area that otherwise has low diversity. Can you comment on that?

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DR. KIVIAT: It creates a kind of diversity. It creates a diversity of mostly common species that are tolerant of human activity. Mostly these are not species which Page 168

we place conservation value on, species of conservation concern. In conservation biology in general, we're more interested in the less common species, and in the species which are less tolerant of human activities because those tend to be the species that will disappear without conservation attention. And creating edge habitat, in most cases does not favor those species, although there are certainly exemptions to that. If you want to do good biological conservation, almost always you don't go out and create a lot of edge habitat. This is contrary to recommendations that were made for many years in, for example,

# \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

194 wildlife biology textbooks, where wildlife biologists said: Go out and make edge habitat, it's good. Well, it was good for deer, it was good for cottontail rabbits, and lots of other species that were game animals that hunters wanted to hunt. That was the goal of that kind of wildlife management. It's not good for general conservation of biological diversity, including non-game animals as well as game animals. So the goal of biological conservation, particularly on a wild land site, is not to create higher diversity of wild life, per se; in other words not to make just more species of animals but to conserve uncommon and rare species in their

Page 169

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habitats in the long-term.
 Creating more edge habitat at the
 expense of forest interior is not a good

conservation practice. The edge effect, which can extend hundreds of feet or more into the forest, increases the impacts of preditors and

23 plants.

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Also when that forest habitat is reduced, the displaced wildlife cannot simply

evasive exotic plants on forest wildlife and

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move and take up residence elsewhere. This is a statement that's commonly made in environmental impact statements for many different projects. It's simplistic because displaced dispersing animals are at high risk of predation, road mortality and other factors that cause them to die or be unable to reproduce. Herpetologists, people who study reptiles and amphibians, for example, are schooled to release individual captured animals where they were found so that those animals will not be subject to the risks of forest dispersal. And I'm just mentioning that as an example of the importance of the home range to the animal that lives in it, and to the risks that accrue when that animal is forced to leave its home range.

It was stated during rebuttal that the rare tiger beetle, Cicindela ancocisconensis, Page 170

is found off the site, thus is not at risk.
You will recall, this is the rare animal that
was reported in the letter from the New York
Natural Heritage Program, or the DEC, which
was produced during rebuttal. This species of
tiger beetle is associated with particular

# \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

196 soil conditions on stream beds and stream banks. The local record from the New York Natural Heritage Program was from the junction of the Esopus Creek and Birch Creek, just downstream from the site. This is exactly where the full brunt of altered on-site hydrology, soil erosion siltation and scouring will manifest. It's also worth noting that potential habitat exists and the beetle may occur along Birch Creek on-site and possibly elsewhere on-site. And we saw some of that potential habitat from the bridge over birch Creek, I believe, behind the former Jake Moon's Restaurant, if I have the correct location in mind.

Ms. Bakner said that Dr. Futyma is well qualified to conduct the work he did for the DEIS. I agree. Contrary to Ms. Bakner's implication, I was not questioning Dr. Futyma's qualifications. I was simply saying that there was no evidence in the DEIS that he conducted a rare plant survey, and that he spent enough time to find any rare plant Page 171

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24	species that may be present on the site.
25	During the site visit, the last day of
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	the site visit that I participated in,
2	Mr. Barbour found a sedge near the blue trail
	that was either Carex retrorsa or Carex
3	
4	bullata, but was not mature enough to
5	identify. Carex bullata is a Natural Heritage
6	Program listed rare species in New York.
7	Neither of these species is on Dr. Futyma's
8	plant list in the DEIS.
9	I think it's worth underlining here
10	that this site seems to have quite a bit of
11	sedge diversity, both in the upland habitats,
12	and the wetlands. If you don't look at the
13	sedges and identify them, you haven't done a
14	rare plant survey, because quite a number of
15	the rare species on the New York Natural
16	Heritage Program list of rare species are
17	sedges. Many of the sedges are hard to
18	distinguish in the field, and they really
19	require some careful attention and some time.
20	Although northern monkshood is a showy
21	plant when it is in flower, at any particular
22	time, a group of stems may not be in flower
23	and may be inconspicuous. A biologist
24	concentrating on wetland delineations would
25	not necessarily recognize non-flowering

\*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE) Page 172

1	198 northern monkshood, which looks much like some			
2	of the large buttercup species. This is			
3	another point about field work that I don't			
4	believe was conducted, and certainly there's			
5	no evidence of it in the DEIS, that should			
6	have been conducted given the federal listing			
7	status of the northern monkshood.			
8	MS. ROBERTS: Dr. Kiviat, during some			
9	conversations that I know you had with Spider			
10	Barbour, who I think by all accounts is very			
11	well-known, respected plant biologist, did he			
12	indicate to you whether if he had seen this			
13	plant in the wild, he would himself have			
14	difficulty identifying the plant, unless he			
15	was really looking for it?			
16	DR. KIVIAT: Spider Barbour did tell			
17	me that he has seen northern monkshood in the			
18	Catskills several miles from here several			
19	miles, excuse me, from the Belleayre Resort			
20	site, and we did have a discussion about the			
21	difficulty of identifying it when it was in a			
22	non-flowering condition. And Mr. Barbour			
23	agreed with me that it takes a good deal of			
24	attention in the field to recognize that			
25	species when it is non-flowering.			
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)			
1	199 MS. ROBERTS: When does it flower?			
2	DR. KIVIAT: It has a long flowering			
3	period during the summer. I believe the			

	6-29-04-crossroads		
4	information on the New York Natural Heritage		
5	Program web pages indicates about June to		
6	September.		
7	MS. ROBERTS: June?		
8	DR. KIVIAT: I believe that's correct.		
9	Another point raised during rebuttal is why		
10	should we be concerned over species that are		
11	not listed as threatened or endangered?		
12	That's a paraphrase. My contention is that		
13	biodiversity is more than just threatened and		
14	endangered species. Species that are uncommon		
15	or regionally rare become threatened or		
16	endangered in many cases because their		
17	habitats are lost or degraded. Habitat loss		
18	and degredation is considered to be the		
19	primary cause of species endangerment in North		
20	America. Both species have importance, not		
21	least of which is that human society depends		
22	on biodiversity for ecosystem services, such		
23	as maintenance of air, water and soil quality.		
24	And for products such as pharmaceuticals,		
25	which in many cases are derived from wild		
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)		
1	species. 200		
2	In the southeastern New York region,		
3	the fast pace of the development and land use		
4	change is altering and destroying habitats,		
	change is a recring and describying habitats,		

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and is contributing to the regional loss of species and cumulatively to species lost state-wide. It's my opinion that it behooves 6-29-04-crossroads
8 all organizations and individuals involved in
9 land use planning, including all the entities
10 that all of us in this room represent, to do
11 more to reduce the impacts of development on

biological diversity.

Also mentioned during rebuttal was the contention that all the wetlands on the site have been delineated. When we visited during the site visit the area of Irrigation Pond 1, we observed a logging road with large puddles supporting at least two wetland plant species, Carex crinita and Carex stipata. This area needs to be examined to determine how much undelineated wetland is present. Small wetlands with important habitat functions, e.g. potentially for rare plants, may well exist elsewhere on the site. Small wetlands that have not yet been delineated may well

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(WILDLIFE ISSUE)

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exist elsewhere on the site.

The final point that I want to address -- raise during rebuttal, is that the site covers almost 2,000 acres, of which only 573 acres will be disturbed. There may be a 573-acre area proposed for development, but the actual disturbance would be far larger through the agencies of, for example, soil erosion and siltation, errant construction equipment, which is very common around

construction sites, adults and children

6-29-04-crossroads walking outside the developed areas; noise, 12 light, dust and other impacts. I might add 13 pesticides, de-icing salts and nutrients from 14 15 fertilizers. I don't know of any other recently built or ongoing project of that 16 magnitude in the Catskill Mountains. 17 18 Now, the final general point that I 19

Now, the final general point that I want to make here is that the Applicant has not made enough of an effort to find and document the rare species of the development site. Without knowing where those organisms are, it is impossible to protect them and their habitats by designing the development project around them. Potentially 2,000 acres

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202 are enough land to design an economically viable project that will have relatively small impact on biological diversity. However, that appropriate design can only be done with the right biological information in hand. So to reiterate that, I'm not trying to say by making these points that this project should not be built, I'm simply saying we don't have the information in front of us to determine if this project has been designed in a way that will minimize its impact on wildlife habitat and on biological diversity in general, and that in a project of this magnitude, and even in much smaller projects, that's an extremely important consideration.

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16	6-29-04-crossroads MS. ROBERTS: I have a couple other			
17	points, Dr. Kiviat. We talked a little about			
18	Indiana bats last time and there was rebuttal			
19	back and forth. I just wanted to ask you: Do			
20	these bats need large stands of old growth			
21	trees or large trees to sustain their			
22	population?			
23	DR. KIVIAT: Well, I have limited			
24	familiarity with that information because some			
25	of it is very new information that has not yet			
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)			
1	been published, and it's coming from a			
2	presentation that was made by Al Hicks of the			
3	DEC Endangered Species Unit at the			
4	Northeastern Natural History Conference in May			
5	of this year, of which a colleague of mine			
6	listened to. It happened that the following			
7	week, I was conducting a survey for something			
8	else, not for Indiana bat, on a site in the			
9	town of East Fishkill in southern Dutchess			
10	County with the colleague who attended Mr.			
11	Hick's presentation of the Natural History			
12	Conference. And my colleague, John Sullivan,			
13	pointed out that the Endangered Species Unit			
14	had been radio-tracking Indiana bats that were			
15	tagged with radios at an over-wintering site			
16	in Rosendale in I'd say this is central			

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Ulster County, Rosendale, southeast of here

some distance -- which proceeded to fly across

the Hudson River to the town of East Fishkill

# in southern Dutchess County, and use a group of -- as best we could determine and I want to underline this is secondhand information -- a group of large trees on an old farm, a former farm near a highway for summer roosting habitat, and potentially maternity habitat.

# \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

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Those trees, again if I understand correctly, are not, first of all, large numbers of very large trees in the middle of a forest, they're trees that look like they were planted, or at least cared for, along a highway in a farm road in an area that's rural, becoming suburban. Just as one example, and I don't know what the other available or unavailable information on Indiana bat speaks to. This one example indicates that this federally endangered species, federally-listed endangered species can use small groups of large trees in an area that is not a -- not an especially wild, untouched, unlogged type of area. And that led me to think that on the Belleayre Resort site, there are groups of trees that we saw during the site visit, for example on the first day of the site visit at the location of the hotel on the western site, which are, to my eyes, large enough and numerous enough to potentially be useable by Indiana bats. It's going to take someone with more Indiana bat expertise than me to

24	6-29-04-crossroads determine how important that is, but I think			
25	it's something that needs to be considered			
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)			
1	during this process of planning.			
2	MS. ROBERTS: One final question. We			
3	had an occasion or an opportunity to talk to			
4	Michael Kudish after the last hearing about			
5	his book, and there was some question that we			
6	had, looking at the map in the book, about			
7	whether there was old growth on this site or			
8	not, and I guess the Applicant's experts			
9	quickly dismissed it as not being there,			
10	looking at the map. Can you relate the			
11	conversation we had with the author and tell			
12	us about whether he could recall about whether			
13	there's old growth on the site.			
14	DR. KIVIAT: Dr. Kudish first looked			
15	at the small map in his book and said he			
16	wouldn't be able to tell from that small			
17	map			
18	MS. ROBERTS: He would not?			
19	DR. KIVIAT: He would not be able to			
20	tell from that small map where the old growth			
21	stand is in relation to the Belleayre Resort			
22	site boundary. He then looked at the large			
23	folded map in the book, and at some of his			
24	field notes, and he said he thought that most			
25	of the old growth stand that he had			

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identified, which was about a square mile and a half, was not on the resort site, however, because he had delineated that one-and-a-half square mile, old growth stand with a very small number of points, which he referred to as entry points in his book -- and the number doesn't stick in my mind but I think it was 7 or 11 entry points, a very small number of points for an area of about a thousand acres of forest -- he did that by interpolating so he can't say that the old growth forest does not extend onto the resort site in areas in between some of those entry points. He also said that if that were the case, it would be most likely to find old growth forest in areas of the site that are steep or rocky or otherwise which would have been difficult for logging equipment to gain access to. general, this is a very good point, that in most logging operations, the steep areas, the rocky areas, the areas that are hard to get to for other reasons are typically left unlogged because it's simply not economical to get in there and build a logging road and take the logs out.

# \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

I would suggest that there are, in several places on the resort site, very steep slopes and ledgy areas that may have been difficult or impossible to log, most of which Page 180

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5	I haven't seen and which could still support
6	old growth forest. Again, I think I'm not
7	stating that this old growth forest is
8	definitely on the site, I'm simply saying the
9	Applicant has not definitively answered the
10	question about whether or not there is old
11	growth forest on the site, and I think that's
12	one of this whole group of questions that
13	really does need to be addressed at this
14	stage.
15	MS. ROBERTS: I have nothing further,
16	your Honor, except a closing statement, but I
17	don't know if there's rebuttal or not.
18	ALJ WISSLER: Why don't you finish.
19	MS. ROBERTS: Your Honor, the level of
20	study undertaken in this DEIS is clearly,
21	based on Dr. Kiviat's testimony and Dr.
22	Burger's testimony, inadequate to insure that
23	there will be no adverse impacts to the
24	wildlife habitat on the site. As an example,
25	the bird survey which was done was not

adequate in that it didn't involve enough

visits to the site or enough points. The fact

that another survey was done in June, is I

guess a good thing and a bad thing. The good

news is that more species were found, 16

species were found, which is what we expected,

as Dr. Kiviat testified, and that it included

two special-concerned species is also not Page 181

surprising, given the fact that this site is wedged in between thousands of acres of state-owned land that has been protected.

I guess the bad news is that the survey was done by technicians at the wrong time of the day, for the most part, and at the wrong season, so that we suspect they actually missed several more species.

Dr. Burger testified that at least five or six visits should be conducted per site, per point over a two-year period. That was clearly not done here. We really don't know what part of Ms. Tuttle's day was spent just doing the bird survey, and we do know that the 2004 survey, that there were 32 points, and there were two visits done for each point; but again, only one of which was

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done during the morning hours when you're most likely to find the birds. Again, it was not done over two seasons.

I think reasonable people could argue whether we should do five visits or six, or six or eight, but I don't think it's reasonable to suggest that what was done in the DEIS is adequate for a site that is this large and has this much potential for habitat disruption -- that has this much diversity.

Even if you take the Applicant's maps that were submitted today that show the IBA Page 182

area and the site, that some of the site is not exactly in the IBA, clearly a large part of the site is in the IBA, and the other part is adjacent to it.

It's no surprise that there's an IBA here. Just to reiterate, I don't know if this really came through in Dr. Burger's testimony, but IBA's are only designated for the cream of the crop, the top ten percent of the habitats in New York are eligible for IBA, and within those IBA's, this IBA that will be designated soon is the best in the state, and that's really not surprising because -- again, this

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site was purposely, as Mr. Ruzow testified this morning, the Applicant bought over time 13 separate parcels wedged right between state-owned land in a preserve that's been here for 100 years. It is not surprising that you're going to get an IBA that happens to be the best in the state.

Given the fact that a DEC staff person was actually on the technical committee that identified the IBA, it's even more surprising that the DEC would have accepted this DEIS, based on the inadequate bird survey alone.

Much the same could be said about the habitat survey that was done. As Dr. Kiviat has found and stated, it is simply not adequate for a site this size. Dr. Kiviat Page 183

himself found many species just walking around this site that were not listed on their survey lists. And as Dr. Kiviat testified, Spider Barbour also found two sedges, one of which he thinks is rare, and that's just walking around.

The suggestion that the habitat is homogenous and so it does not matter as much if it is disturbed, or that it might be

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actually a good thing to create more edge, really evidences such a fundamental lack of understanding of current sound scientific thinking in conservation, that I think Mr. Franke's testimony in this regard should be weighed carefully, and in large measure disregarded.

The fact is that our experts, virtually all of them have Ph.D's and are scientists and do this full-time, find that that a homogenous forest habitat is a worthwhile habitat to project; and that forest edge is not a good thing, and that the idea of conservation is not to encourage more edge, but to conserve, as Dr. Kiviat said, those rare species that were not even looked for.

Again, as Dr. Kiviat said, we're not opposed to development, but we do need to know what's out there so that if a development comes to this area that is, again, wedged, and Page 184

the Applicant knew, that this site is wedged right between state-owned lands -- that we need to know exactly where this development is going to be located. You can't buy property smack dab in the middle of the state property

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 (WILDLIFE ISSUE)

and then cry fowl when you're asked to perform at least an adequate environmental assessment, because the resources on that state land belong to everyone.

So we do, again, feel like we have raised substantive and significant issues because what's in here in terms of the surveys and the habitat simply is not a basis for which you or the Commissioner can ultimately make a decision on whether or not there are adverse impacts to the habitat. We certainly contend that there are, and at least, that we don't have enough information to determine the nature of those impacts.

ALJ WISSLER: Ms. Bakner.

MS. BAKNER: Thank you, your Honor.

First of all, we would like to observe with respect to CPC 73, which is the publication that Dr. Burger provided, that this does not appear to be a federal regulation or requirement, or a state regulation or requirement, and I believe the question that, perhaps it was your Honor asked of Dr. Burger was: Is there a standard or a regulation or Page 185

25 something that exists to tell you what the

## \*\*\* rough draft \*\* rough draft\*\*\* (WILDLIFE ISSUE)

requirements are for monitoring bird

populations? So I'm just observing for the

record that these appear to be abstracts of

studies that were done and that they can in no

way be construed as a regulation or even a

quidance document.

The opponents argue that we haven't proved a negative, that we haven't proved what's not on the site, all we have shown is what's on the site based on what they feel are inaccurate studies. The Department of Environmental Conservation requested that we do studies. We retained consulting engineers, people who do these studies on a regular basis. They advised us as to how the studies should be done. We did the studies, we submitted them to DEC and DEC determined that they were complete. Whether Dr. Kiviat agrees or disagrees, does not raise an issue of -- a substantive and significant issue, or in any way indicate that the Commissioner lacks a record on which to base a decision under SEQRA. It was determined to be complete and adequate for public review.

I'd like to turn to Dr. Futyma for a

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1	6-29-04-crossroads second. Dr. Futayma, you are a doctor of
2	botany?
3	DR. FUTYMA: Yes.
4	MS. BAKNER: Dr. Futyma, did you spend
5	11 days on the site in the fall of `99?
6	DR. FUTYMA: At least 11 days, yes.
7	MR. RUZOW: Did you spend one day on
8	the site in the spring of 2000?
9	DR. FUTYMA: At least one day, yes.
10	MS. BAKNER: Do you stand by your
11	determination with respect to the plants that
12	were found on the site as a part of your site
13	investigations?
14	DR. FUTAYMA: I stand by their
15	identification, yes.
16	MS. BAKNER: We do have a doctor on
17	the site. I think that Ms. Roberts forgot
18	him, but I do want to point out that he is a
19	doctor and has a doctorate.
20	MR. RUZOW: His background. You have
21	his background.
22	MS. BAKNER: Mr. Ruzow asked you what
23	is your background, where you worked.
24	DR. FUTYMA: I worked at the New York
25	State Museum as a researcher in botany.
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
	215
1	MR. GERSTMAN: Is that current?
2	DR. FUTYMA: No, that was prior to
3	working for the LA Group.
4	MS. BAKNER: Mr. Franke, the nearest
	Page 187

5	6-29-04-crossroads recorded rattlesnake den, how far away from
6	our site is that?
7	MR. FRANKE: Approximately ten miles.
8	MS. BAKNER: Did you check with DEC on
9	their records? How did you find out where the
10	nearest site was?
11	MR. FRANKE: That was information
12	obtained from the Department.
13	MS. BAKNER: From the department. In
14	your discussions with Ms. Tuttle who did the
15	rattlesnake survey, did she indicate that
16	there was any evidence of any rattlesnake
17	presence on the site?
18	MR. FRANKE: No.
19	MS. BAKNER: I'm going to come back to
20	the rattlesnakes in a second.
21	Mr. Robbins, I know you haven't been
22	with us before.
23	MR. ROBBINS: Correct.
24	MS. BAKNER: However, Christon
25	Robbins' resume was entered into the record
	<pre>*** rough draft ** rough draft***     (WILDLIFE ISSUE)</pre>
1	when his colleague, Mr. Stephen Seymour was
2	here. He's also with Lawler, Matusky &
3	skelly.
4	Mr. Robbins, people have indicated
5	that when you came to the site and did your
6	survey, you saw a certain number of bird
7	species; do you recall what the number of bird
8	species were?

9	6-29-04-crossroads MR. ROBBINS: We saw a total 75
10	different bird species.
11	MS. BAKNER: Of those 75 bird species,
12	how many of those were new species that had
13	not been put forth in the DEIS before?
14	MR. ROBBINS: 16 total.
15	MS. BAKNER: Of the 75 species that
16	you saw and I'm not sure how to ask this
17	question inside out but how many species
18	that we saw previously that the LA Group staff
19	saw previously
20	MR. RUZOW: That had been reported in
21	the DEIS.
22	MS. BAKNER: did you not see when
23	you were out there?
24	MR. ROBBINS: There was a total of 13
25	that we did not see that were recorded in the
	*** rough draft ** rough draft***
	(WILDLIFE ISSUE)
1	DEIS.
2	MS. BAKNER: So essentially there were
3	some give and take, if you will; some you saw,
4	they didn't see, some they saw, you didn't
5	see?
6	MR. ROBBINS: That's correct.
7	MR. RUZOW: Is that a normal
8	experience in terms of your experience with
9	site visits, that on certain days you'll hear
10	certain species or be able to observe certain
11	species and on following days or later days
12	not be able to observe them?

13	6-29-04-crossroads MR. ROBBINS: Yes, that is the case on
14	occasion. And it also has to do with the
15	years there's certain things that can cause
16	observations of certain species one year that
17	you may not see the following year.
18	MS. BAKNER: It was noted that somehow
19	you all did your survey at the wrong time of
20	the day; is that correct?
21	MR. ROBBINS: We conducted surveys on
22	two consecutive days, starting early in the
23	morning, continuing throughout the day so we
24	could report the species that we saw over an
25	entire day. The surveys were initiated at no
	<pre>*** rough draft ** rough draft***   (WILDLIFE ISSUE)</pre>
1	later than 7 a.m. One day we started before
2	6 o'clock in the morning and recorded through
3	until noon.
4	MS. BAKNER: Do you recall, Mr.
5	Robbins, how you decided you were going to set
6	things up for those two days? Did you go out
7	ahead of time to take a look at the site?
8	MR. ROBBINS: Yes, we did, we made a
9	site visit in May, I believe May 17th, to do a
10	reconnaissance to determine where we were
11	going to set up our point counts.
12	MS. BAKNER: It's also been suggested
13	that you somehow you technicians went out at
14	the wrong time of the year; is there any truth
15	to that statement?
16	MR. ROBBINS: No, early June is a good
	Page 190

17	6-29-04-crossroads time to record breeding birds and habitats in
18	this area.
19	MS. BAKNER: Last time we heard from
20	Mr. Seymour how many bird surveys and other
21	surveys he has done. Have you had a limited
22	experience in doing bird surveys or do you do
23	a lot of them?
24	MR. ROBBINS: The group that I went
25	out with, there were four of us have done an
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
	219
1	extensive number of bird surveys I cannot
2	count. And two of the have folks who were out
3	on both those days, bird on their off times.
4	They travel all over the country, they spend
5	their vacations birding so
6	MS. BAKNER: Mr. Franke, Mr. Kiviat
7	has indicated that
8	ALJ WISSLER: Dr. Kiviat.
9	MS. BAKNER: Sorry. Dr. Kivat has
10	indicated that we have somehow extolled the
11	virtues of edge effect in our document without
12	recognizing the importance of interior species
13	in forested areas. Is that an accurate
14	reflection of the Draft Environmental Impact
15	Statement in your opinion?
16	MR. FRANKE: No, the Environmental
17	Impact does state clearly, I believe it's page
18	3-104, where it says: "The proposed project
19	can potentially result in a decrease in
20	numbers of local populations of forest

Page 191

	6-29-04-crossroads
21	interior species."
22	MS. BAKNER: So in your opinion, did
23	we give inappropriate deference to the
24	importance of interior forests or interior
25	species?
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	220 MR. FRANKE: It's clearly recognized
2	in the DEIS.
3	MS. BAKNER: Did we ever claim
4	anywhere in the DEIS that displaced species
5	would fly off and happily find a home
6	somewhere else?
7	MR. FRANKE: No. It's stated in here
8	that if suitable habitat is not available,
9	there's potential for mortality due to
10	intraspecific or interspecific complication
11	for habitat resources.
12	MS. BAKNER: In your opinion, would
13	DEC have accepted a document that made such a
14	ridiculous statement?
15	MR. FRANKE: I don't want to speak for
16	the Department but it's my belief they
17	probably would have not.
18	MS. BAKNER: Beetle habitat. We
19	introduced the letter into the record from the
20	Natural Resources. I'm just going to ask you
21	again, if you can, Mr. Franke, is this a
22	protected or endangered or threatened species
23	of beetle?
24	MR. FRANKE: No, it's not.
	Page 102

Page 192

25	6-29-04-crossroads ALJ WISSLER: What is he referring to?
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
	221
1	MS. BAKNER: Applicant's Exhibit
2	ALJ WISSLER: It's something that's
3	in?
4	MR. FRANKE: New York Natural Heritage
5	Program.
6	MS. BAKNER: What are we doing down
7	around Birch Creek basically in terms of the
8	project?
9	MR. FRANKE: For Birch Creek, we have
10	one bridge to be constructed for the entrance
11	road at Friendship Road, a bridge spanning the
12	creek itself. Second of all, would be the
13	replacement of the existing Winding Mountain
14	Road bridge over Birch Creek.
15	MS. BAKNER: So we're essentially
16	disturbing an area that's already been
17	disturbed, and the other area we're merely
18	bridging across it in order to have an access
19	road into the site?
20	MR. FRANKE: That's correct.
21	MS. BAKNER: Was that access road into
22	the site chosen for any particular
23	environmental reason?
24	MR. FRANKE: The exact location,
25	there's avoidance of some wetland areas
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	222

2	into consideration when siting that access
3	road.
4	MS. BAKNER: Was it placed at that
5	location due to avoidance of visual impacts
6	from Route 28?
7	MR. FRANKE: An alternative access
8	road off of Lasher Road was evaluated during
9	the design process and was abandoned as an
10	alternative because of potential visual
11	impacts from Route 28, yes.
12	MR. RUZOW: Your Honor, he was reading
13	from Applicant's Exhibit 13, the letter from
14	the Natural Heritage Program.
15	ALJ WISSLER: Thank you.
16	MS. BAKNER: Mr. Franke, do you recall
17	the Draft Environmental Impact Statement
18	looking at the issue of Indiana bats?
19	MR. FRANKE: Yes, it did.
20	MS. BAKNER: Basically, the
21	information that you had was that the
22	hibernaculum was a substantial distance from
23	our site?
24	MR. FRANKE: That's correct. I
25	believe that was in response to conversations
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	223 between our staff and a gentleman from DEC, Al
2	Hicks, mentioned previously by Dr. Kiviat.
3	MS. BAKNER: Mr. Franke, and also Mr.
4	Futyma, Dr. Futyma it's a universal problem
5	of mine. We're back to the old growth issue Page 194

6	here as much as we try to have tried to
7	address this on a number of occasions in a
8	number of different ways. Dr. Futyma, are you
9	aware, given your extensive look at the site,
10	of any old growth on the site; are you aware
11	of any such thing?
12	DR. FUTYMA: I did not see anything
13	that to me appeared to be old growth. I'm
14	familiar with the higher elevation old growth,
15	say around the top of Belleayre, did not see
16	anything like that on the site, that kind of
17	stunted forest, especially with a lot of
18	yellow birch in it what is on the top of
19	Belleayre and I didn't see anything like
20	that on the site.
21	As far as a more lower elevation type
22	of forest that would be old growth, I'm
23	familiar with that kind of forest from various
24	other sites in New York and other states, and
25	I did not see anything that to me looked like
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	could be old growth. Too many places all over
2	had indications to me of logging.
3	MS. BAKNER: Mr. Franke, is that also
4	consistent with your experience on the site?
5	MR. FRANKE: Yes, it is.
6	MS. BAKNER: We're going to do
7	something a little unusual.
8	Mr. Frisenda, can you come up here.
9	We're hearing again and again, we didn't look
-	Page 195

10	hard enough, we didn't look hard enough. We
11	followed all the acceptable procedures and we
12	had the consultants out there looking at
13	things on site, particularly rattlesnakes,
14	which, you know, everyone takes very seriously
15	given their status as an endangered species.
16	Mr. Frisenda, I think everybody here
17	is familiar with you. You're just a lay
18	person. What did you do before you retired.
19	MR. FIRSENDA: Before I retired? I
20	didn't know I retired. I was in commercial
21	aviation, I had my own business on a couple of
22	occasions, varied background.
23	MS. BAKNER: So up wouldn't claim to
24	be any kind of a specialist on snakes?
25	MR. FIRSENDA: Nope.
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	(WILDLIFE ISSUE) 225
1 2	(WILDLIFE ISSUE)  225 MS. BAKNER: Can you explain to me the
	(WILDLIFE ISSUE) 225
2	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with
2	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.
2 3 4	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.  MR. FRISENDA: I've been all over that
2 3 4 5	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.  MR. FRISENDA: I've been all over that mountain since 1958 on a weekend basis, and
2 3 4 5	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.  MR. FRISENDA: I've been all over that mountain since 1958 on a weekend basis, and full-time for the past 30 years I've lived up
2 3 4 5 6 7	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.  MR. FRISENDA: I've been all over that mountain since 1958 on a weekend basis, and full-time for the past 30 years I've lived up here; and my wife, my children and I have been
2 3 4 5 6 7 8	(WILDLIFE ISSUE)  225  MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.  MR. FRISENDA: I've been all over that mountain since 1958 on a weekend basis, and full-time for the past 30 years I've lived up here; and my wife, my children and I have been up there together and on separate occasions.
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2 3 4 5 6 7 8 9	MS. BAKNER: Can you explain to me the familiarity that you and your family have with respect to this particular site.  MR. FRISENDA: I've been all over that mountain since 1958 on a weekend basis, and full-time for the past 30 years I've lived up here; and my wife, my children and I have been up there together and on separate occasions.  MS. BAKNER: Have you ever been to portions of the site that were sunny or open

14	side of the mountain summer, spring and fall.
15	MS. BAKNER: Are you generally
16	conversant in the physical appearance of a
17	rattlesnake?
18	MR. FRISENDA: I would say generally,
19	yeah.
20	MS. BAKNER: Have you or any member of
21	your family ever during any time they were out
22	on these properties seen anything that was
23	that looked like or had any of the
24	attributes of a rattlesnake?
25	MR. FRISENDA: I have neither seen,
	<pre>*** rough draft ** rough draft***    (WILDLIFE ISSUE)</pre>
1	nor heard anything that would resemble a
2	rattlesnake.
3	MS. BAKNER: Thank you very much, Mr.
4	Frisenda, I really appreciate it.
5	Your Honor, we have done an
6	appropriate we have undertaken an
7	appropriate examination of the flora, fauna on
8	the site. We requested LMS to go out and do
9	an additional bird survey, not because we
10	thought that anything that we had done before
11	was deficient, but just because it's this time
12	of year now, and if it was ever to be done, we
13	really felt we had to do it now.
14	As I'm sure is apparent, opposition is
15	often about delay, it's often about
16	suggesting
17	MR. GERSTMAN: Judge Page 197

18	MS. BAKNER: suggesting that there
19	are things that should have been done that
20	weren't done, and for certain things you only
21	have a limited time frame. So what we decided
22	to do was have them go out and do the survey
23	because June only comes once a 12 months.
24	So I guess the only point we're making
25	is the suggestion by even a qualified person
	*** rough draft ** rough draft*** (WILDLIFE ISSUE)
1	227 such as Dr. Kiviat, that more should have been
2	done does not rise to a substantive and
3	significant issue, and there really have been
4	no showing, including the most recent
5	suggestion that a sedge that couldn't be
6	identified was somehow significant. There's
7	really been no showing that there's any
8	species out there that we didn't adequately
9	consider as part of the DEIS, or as part of
10	the habitat analysis.
10	•
12	So with that, Mr. Ruzow, is there anything you would like to add?
13	
14	MR. RUZOW: No.  MR. GERSTMAN: Can we have a minute or
15	two?
16	ALJ WISSLER: Yeah, like really just a
17	minute.
18	(4:42 - 4:43 P.M BRIEF RECESS
19	TAKEN.)
20	MS. ROBERTS: Mr. Alworth, you can
21	stay there.
<u>-                                    </u>	Page 198

	0-29-04-Cr055r0au5
22	Tom Alworth has testified before, but
23	as you know your Honor, he has also done bird
24	research in his other life, and we just wanted
25	to comment on June being an acceptable time to
	<pre>*** rough draft ** rough draft***   (WILDLIFE ISSUE)</pre>
1	228 do bird survey work; and Dr. Burger testified
2	that it was not an opportune time because the
3	birds are sitting on their nests and I just
4	wanted Mr. Alworth to give an opinion about
5	whether June is an acceptable time, or the
6	best time.
7	MR. ALWORTH: June are resident birds.
8	So if the question is are resident birds
9	June is the time to look for them because they
10	are in fact nesting at that time. That
11	doesn't include other birds that may be moving
12	through and using that habitat through
13	migration, which is also important; but if
14	you're looking for nesting resident birds,
15	June is the time to do it. The problem is,
16	they do tend to be much more quiet, less
17	territorial singing. They're secretive around
18	their nests, so that does argue for a more
19	intense survey in June to really identify who
20	is using the site to nest.
21	***ANOTHER 70 PGS. NEEDED TO BE
22	SCOPED***

23

24

\*\*\* rough draft \*\* rough draft\*\*\*