

HEARING RE: ALGONQUIN GAS & ISLANDER EAST  
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1 scientific basis of permitting. So those are three or  
2 four of the points that I see.

3 A much better job of addressing the  
4 predominant fish that are here, when you present a  
5 table that's in this report to me and I have to add  
6 half the number of fish represented here from my  
7 knowledge, it doesn't make --

8 MR. O'NEILL: Dr. Stewart --

9 DR. STEWART: it doesn't make good  
10 sense, so --

11 MS. KATZ: Thank you.

12 MR. O'NEILL: Dr. Stewart, are you  
13 suggesting that FERC did not do an adequate job in  
14 doing this study? That there's --

15 DR. STEWART: Uh --

16 MR. O'NEILL: -- there are omissions in  
17 this study --

18 DR. STEWART: I would say there are many  
19 omissions. Just the table of the fish species that are  
20 entered in there --

21 MR. O'NEILL: Do you have any specific  
22 chapters or sections which you would criticize as being  
23 incomplete?

24 DR. STEWART: Yes. Again, I -- you

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1 know, I don't want to critique tradition too much, but  
2 especially the fishery resource chapter --

3 MR. ASHTON: Dr. Stewart, just one  
4 question --

5 DR. STEWART: Yes?

6 MR. ASHTON: are you talking about  
7 the Draft Environmental

8 DR. STEWART: Yes --

9 MR. ASHTON: -- Impact Statement --

10 DR. STEWART: Yes --

11 MR. ASHTON: -- of FERC?

12 DR. STEWART: No, this is the -- no,  
13 this is Islander East -- Islander East.

14 MR. ASHTON: Have you read -- I think  
15 the question was related to FERC's Draft Environmental  
16 Impact Statement.

17 DR. STEWART: I did read that and there  
18 was omissions there too, but I was mostly talking about  
19 the draft EIS.

20 MR. O'NEILL: Could you give us some  
21 specificity as far as what areas in this document you  
22 feel have -- the Islander East pipeline project draft  
23 environmental impact statement of March 2002, have you  
24 studied this document?

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1 A VOICE: This is the Islander East one

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3 A VOICE: Yes -- FERC yes --

4 MR. O'NEILL: Are there sections in this  
5 document which you consider to be incomplete? And if  
6 they are, would you please mention them specifically?

7 DR. STEWART: The document I have before  
8 me that Attorney Snook had said essentially was the  
9 same document --

10 MR. ASHTON: Well, I don't know what you  
11 have before you. Do you have the draft --

12 DR. STEWART: I don't have it with me --

13 MR. ASHTON: -- environmental impact  
14 statement --

15 DR. STEWART: I don't have it with me --

16 MR. ASHTON: Have you seen the draft  
17 environmental --

18 DR. STEWART: Yes, yes I have.

19 MR. ASHTON: Of FERC?

20 DR. STEWART: Yeah of FERC I've seen it  
21 -- or in part.

22 MR. EMERICK: Dr. Stewart, while I guess  
23 they're getting a copy of that, are you planning to  
24 offer your thoughts and wisdom with respect to the

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1 omissions that you see in that document to FERC?

2 DR. STEWART: I'd be glad to. This is  
3 the first time I've an opportunity to comment. Okay, I  
4 have it now.

5 MR. HEFFERNAN: Have you read this  
6 before, doctor? Have you seen this before?

7 DR. STEWART: Yes. I --

8 CHAIRMAN GELSTON: Do you know what's in  
9 that document?

10 DR. STEWART: Fairly well --

11 CHAIRMAN GELSTON: Do you know what's in  
12 that document?

13 DR. STEWART: No, not entirely, no.

14 MR. ASHTON: You haven't read the  
15 document?

16 DR. STEWART: I have read sections --  
17 the environmental sections. Right now I'm trying to  
18 look at the page --

19 CHAIRMAN GELSTON: You read something  
20 out of context without reading the whole thing and made  
21 a decision on it?

22 DR. STEWART: No.

23 CHAIRMAN GELSTON: When I read a book, I  
24 read the whole book.

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1 DR. STEWART: (Pause). I'm I'm  
2 trying to find the species table list here for  
3 fisheries.

4 CHAIRMAN GELSTON: Isn't there an index?

5 DR. STEWART: Um-hmm, that's what I'm  
6 on. Yes, the pages I did have in front of me were  
7 identical. For example, in the table of recreation,  
8 commercial important species of fish known to occur in  
9 the project area, we have and I'm going to  
10 concentrate on the marine species and diadromous  
11 (phonetic) species -- eels, menhaden, smelt, stripped  
12 bass, shad and sturgeon --

13 MR. ASHTON: What page are you referring  
14 to in the DEIS?

15 DR. STEWART: Page 3-46.

16 MR. HEFFERNAN: Dr. Stewart, you're not  
17 reading from that page 3-6 -- or whatever it is --

18 DR. STEWART: 3-46 --

19 MR. HEFFERNAN: The FERC report is what  
20 we're talking about.

21 A VOICE: This one.

22 MR. HEFFERNAN: Is that what you're  
23 reading from now?

24 DR. STEWART: Yes. The pages I had

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1 copies of were identical. Many of the species that I  
2 don't refute, but it's the omissions that are most  
3 glaring and some of the considerations, especially in  
4 light of the most recent fishery management plans for  
5 coastal states, American Eel, glacial stages are  
6 tremendously sensitive. If we were to look at just the  
7 diadromous omission here, we have species of shad, but  
8 they don't mention the two species, the Hickory Shad  
9 and the American Shad. They don't mention the salmon,  
10 or the river herring species, there are two species of  
11 river herring. Pollack, Sea Herring, they're abundant  
12 in Long Island Sound. Whiting and Tom Cod. And a host  
13 of the smaller species that really aren't commercially  
14 important but provide the food chain link which are the  
15 Rock Eels, the blennies, the shannies. And if we go  
16 over on the marine list, some of the predominant  
17 species that are omitted here, Sea Robin and Puffer,  
18 essentially benthic oriented fish that are very  
19 important --

20 MR. ASHTON: Well, wait a minute. Isn't  
21 there a little problem here of semantics --

22 DR. STEWART: No --

23 MR. ASHTON: -- I'm reading the title of  
24 that Table 3.4.1-1 as being recreational or commercial

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1 important fish species known to occur --

2 DR. STEWART: Right.

3 MR. ASHTON: The Puffer --

4 DR. STEWART: Well, okay --

5 MR. ASHTON: I would not classify as  
6 a recreational or commercial --

7 DR. STEWART: And they haven't been here  
8 for some time --

9 MR. ASHTON: Right. And so I think that  
10 there's -- to criticize -- you've got to look at the  
11 title of the table --

12 DR. STEWART: Alright --

13 MR. ASHTON: Isn't that fair?

14 DR. STEWART: Right and I'd offer that  
15 salmon was omitted here --

16 MR. ASHTON: What type of salmon --

17 DR. STEWART: Salmon is omitted here.

18 MR. ASHTON: What salmon? I see  
19 Atlantic Salmon here --

20 DR. STEWART: Well alright. Atlantic is

21

22 MR. ASHTON: I see eels here --

23 DR. STEWART: Yeah, I'm talking  
24 alright, Goose Fish -- please let me -- let me finish -

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MR. ASHTON: Okay --

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MR. ASHTON: Well --

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DR. STEWART: and see if you recognize these as commercially important fish -- Goose Fish, Totog (phonetic), the Blackfish. Dogfish compromise over 50 percent of the -- Dogfish are not represented. Skates are not entered into this common list. The crabs they mention as crab. Do you realize that there about six or seven crabs, including the Blue Crab, the Jonah Crab, the Green Crab that aren't even identified. So not that I want to be overly exhaustive

DR. STEWART: but in many cases this table just doesn't hit the nail on the head as far as I'm concerned --

MR. ASHTON: In fairness to the table, they do identify crab without identifying sub-species, but I think it may well be assumed that they're embracing several species under crab. And similarly under eels, they don't break that out as sub-species either --

DR. STEWART: But if you're addressing essential fish habitat to a major species recognized to

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1 the U.S. Department of Commerce or fisheries managers,  
2 then those should come to the --

3 MR. ASHTON: Engineers should not get  
4 into an argument with -- okay -- but my point is --

5 DR. STEWART: Yeah -- and as I would  
6 suggest, half of this table is somewhat, you know,  
7 erroneous and the other half is omitted --

8 MR. ASHTON: Or less than specific.

9 DR. STEWART: Right, right. So --

10 MR. ASHTON: Any other major areas you  
11 think are --

12 DR. STEWART: Well from our environment  
13 and from our financial standpoint and production future  
14 potential for Long Island Sound this is probably the  
15 most important. I look at exhaustive studies of grab  
16 samples and in-fauna data as important, but yet not the  
17 real key to what we're dealing with here. We're  
18 dealing with impacts for production like agriculture on  
19 land.

20 MR. HORNE: Thank you. Some questions  
21 about the effect of sediment on shellfish. To your  
22 knowledge, what depth of sediment will adversely affect  
23 oysters and clams? And I understand there may be a  
24 range of adverse effects. If you could give us a sense

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1 of what the depth of sediment would be for, you know,  
2 minor effects up to death basically?

3 DR. STEWART: Alright.

4 MS. KATZ: Just slide the microphone --

5 DR. STEWART: And I draw on my direct  
6 diving observations working with the Talmadge Brothers  
7 on some of their grow-out beds and my own business. I  
8 have a small aquaculture business I practice in the  
9 eastern Long Island Sound and I tend that with diving  
10 observation.

11 On a spat stage, 2 millimeters would be  
12 suffocating where you have very small larvae settling  
13 on a shell of culch and then growing to about, you  
14 know, less than a dime size, any smothering of that  
15 stage. Once they get one year old, they generally can  
16 withstand one or two millimeters. But reports that  
17 I've heard, some of the artificial sedimentation is  
18 sometimes up to five centimeters, seven centimeters  
19 deep, essentially three or four inches thick. It --  
20 (tape stopped) so it ranges from the very young  
21 attachment recruiting stage all the way up to adult. I  
22 think Dr. Zajac mentioned something like an oyster  
23 being able to survive two and a half inches. I don't  
24 think they could ever tolerate that if that were

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1 immediately discharged on top of them. Those are  
2 oysters that usually grow up -- they call them coon  
3 oysters (phonetic) -- and they might be down in  
4 sediment that deep -- but no oyster living on a flat  
5 bottom could tolerate that amount of sediment.

6 As a rule of thumb when we looked at the  
7 Talmadge Brothers and other company oyster beds to look  
8 at mortality, when they set their culch down, they'd  
9 have a third survival of that whole hundred-thousand  
10 bushels of oyster. The first third of the oysters on  
11 top were lost to predation by starfish and drills. The  
12 bottom third were lost due to sedimentation. And the  
13 middle third survived. So essentially, that was sort  
14 of a biological rule, that you lost a third by  
15 siltation. And these are beds that are cultured and in  
16 no way impacted by any artificial sedimentation.

17 MS. KATZ: Are clams more or less  
18 sensitive than oysters?

19 DR. STEWART: Well, clams have a  
20 different variety -- they're almost buoyant in their  
21 media so that they can burrow. Whether they can burrow  
22 up over a smothering -- certainly they couldn't burrow  
23 up through a berm 10 feet deep, but they do have the  
24 capability of moving in very soft silt or in hard sand.

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1       There are other species of clams too that are  
2       important. We have some surf clam that hasn't been  
3       mentioned or entered into the ledger here. Antarctica,  
4       which is the quahog, the mahogany quahog that they  
5       make, you know, clam soup broth out of. And there is a  
6       resource in Long Island Sound, it's not deep water  
7       harvested, but it is there, but -- (pause).

8                       MR. HORNE: You spoke -- and I'm afraid  
9       I was -- I was not as attentive as I should have been  
10      about sampling for pollutants in the sediment -- my  
11      understanding is that the vibra-core samples across the  
12      Sound were taken at one-mile intervals. What would you  
13      suggest would be an appropriate initial sampling  
14      frequency in order to pick up pockets of pollution that  
15      could then be explored more thoroughly by this radial  
16      approach you were talking about?

17                      DR. STEWART: Again because -- many  
18      other studies need to be balanced in their importance  
19      to how well you classify the environment. I had  
20      mentioned a half a mile, but certainly, you know, there  
21      are some stretches where you would need a half a mile  
22      and you know that the deposition basin isn't going to  
23      accumulate sediments. If it's a high erosional sand  
24      peak, you're not going to get a lot of sediment

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1 deposition there. Again, it's a method of coring,  
2 which is extremely important. When you take a  
3 pollutant sample, vibra-core --

4 MR. FITZGERALD: The question has been  
5 asked and answered.

6 DR. STEWART: Okay. And --

7 MR. HORNE: Thank you. And finally,  
8 this is getting back to Attorney Fitzgerald's question  
9 about the presence specifically of favorable shellfish  
10 habitat. In Exhibit F of Islander's submitted  
11 testimony -- this is a study I believe by Professor  
12 Pellegrino -- they discuss for several of their sample  
13 areas -- their study area stations there being  
14 favorable hard clam habitat, potential hard clam  
15 habitat supporting live hard clams, and it refers to a  
16 Figure 1 that shows the locations of these stations.  
17 Now in the copy that I received there was no Figure 1  
18 in it, so I don't know where those were. Did you  
19 receive a copy of Figure 1 showing where these stations  
20 are?

21 DR. STEWART: No. No, I read the report  
22 and I did not have that page either.

23 MR. HORNE: I might direct or request of  
24 the Council if they could direct the Applicant to

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1 provide that map to us so that we all could find out  
2 where these areas that are capable of supporting  
3 shellfish are that they've studied.

4 MS. KATZ: Can I just ask why when you  
5 cross-examined the Applicant, you didn't bring it up at  
6 that time, because that would have been a good time for  
7 the Applicant to produce it?

8 MR. HORNE: I --

9 MR. GOLDEN: Is this cross-examination  
10 of this witness or is this -- hopefully, you're asking  
11 questions --

12 MR. HORNE: I did ask questions --

13 MR. GOLDEN: -- of this witness on the  
14 testimony that he gave in his pre-filed testimony --

15 MR. HORNE: I'll --

16 MR. GOLDEN: -- and if you want to adopt  
17 him as -- I just want to get it focused a little bit  
18 more on --

19 MR. HORNE: Okay, alright --

20 MR. GOLDEN: -- this is not an open  
21 forum --

22 MR. HORNE: I apologize for doing that.

23 MR. GOLDEN: Sorry to interrupt --

24 MR. HORNE: That's fine. And to answer

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1 Miss Katz's question --

2 CHAIRMAN GELSTON: You do it more nicely  
3 than I would.

4 MR. HORNE: -- when I was cross-  
5 examining, I was focusing on Land Trust issues fairly  
6 strongly and did not have a chance to go as thoroughly  
7 through the submitted testimony. Unfortunately, I have  
8 other responsibilities in addition to preparing for  
9 this hearing, so I've been --

10 MR. ASHTON: We do too, but we  
11 understand what's going on.

12 CHAIRMAN GELSTON: Mr. Horne, you'll  
13 have a chance to put your own case on when it comes  
14 your time.

15 MR. GOLDEN: Right.

16 MR. HORNE: Thank you, Chairman Gelston,  
17 that's the end of my questions.

18 CHAIRMAN GELSTON: Thank you. The Town  
19 of Guilford?

20 MR. ANDRES: No questions, Mr. Chairman.

21 CHAIRMAN GELSTON: Thank you, Mr.  
22 Andres. The Town of Branford.

23 MS. GILSON: Thank you, Mr. Chairman. I  
24 have just a few questions. Mr. Stewart, you testified

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1 that you didn't read the entire DEIS. You're not a  
2 wetlands specialist, are you?

3 DR. STEWART: Not really.

4 MS. GILSON: So you wouldn't have relied  
5 on the wetlands section in forming your opinion, is  
6 that correct?

7 DR. STEWART: That's correct.

8 MS. GILSON: The same as --

9 MS. KATZ: You're going to have to do  
10 the microphone back and forth --

11 MS. GILSON: Okay. We can --

12 MR. ASHTON: Either that or cozy up --

13 MS. GILSON: Cozy up -- (laughter). And  
14 you're not similarly a specialist on the land -- impact  
15 on the Land Trust properties?

16 DR. STEWART: That's correct.

17 MS. GILSON: So you didn't have a need  
18 to make -- to read that section in preparing your  
19 testimony?

20 DR. STEWART: That's right.

21 MS. GILSON: The same with the other  
22 alternatives to the Applicant's project --

23 DR. STEWART: Yes. I thought it was  
24 assumed.

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1 MS. GILSON: So that's why you read the  
2 portions on the fish and benthic communities?

3 DR. STEWART: But I read a considerable  
4 amount of the rest.

5 MS. GILSON: Thank you. I just have a  
6 couple of questions. You spoke about -- in your direct  
7 testimony regarding the disturbance of the seafloor  
8 caused by the pipeline and you stated -- and I'm  
9 referring to Question 6 here -- that trenching through  
10 miles of this sediment will have an adverse effect.  
11 And I believe you heard the testimony that Islander  
12 East intends to plow a 20-foot wide trench across the  
13 Sound with two 20-foot piles of side-castings, about a  
14 75-foot swath across the Sound. And I wanted to ask  
15 you whether there would be a different adverse impact,  
16 in your opinion, caused by the plowing method as  
17 opposed to the dredging method of crossing?

18 DR. STEWART: Yes. The plowing would  
19 seem to be less intrusive and probably more controlled.  
20 Again, the dredging method involves some displacement,  
21 some uncontrolled re-dispersion of the sediment. The  
22 plowing creates a pretty consistent berm. If it's --  
23 you know, again I'm speculating, I haven't -- I haven't  
24 seen any videotape -- I would think some of these

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1 companies with the tremendous resources they have  
2 should have produced a documentary --

3 MR. GOLDEN: Well --

4 MR. FITZGERALD: Objection, the question  
5 -- the question has been answered --

6 DR. STEWART: I'm looking for that in  
7 the science. I'm looking for that, so I'm just  
8 speculating from my underwater observation of dredged  
9 material disposal and several other projects that we've  
10 been involved with, with tunnel dredging out-falls and  
11 things of that sort --

12 MR. GOLDEN: It's beyond -- it's going  
13 beyond --

14 DR. STEWART: Again, it's -- I would --  
15 I would be --

16 CHAIRMAN GELSTON: Miss Gilson, don't  
17 lead your witness into any other questions like that  
18 please.

19 MS. GILSON: Isn't this cross-  
20 examination? Yeah, I -- I hear your point, Mr.  
21 Chairman, and I respectfully take it, and I'll just ask  
22 a couple of other questions.

23 What is the effect of bentonite on  
24 lobsters?

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1 DR. STEWART: Again, I'm taking that  
2 from the literature because we started to look into  
3 that in the last week or two and I was provided some  
4 references. They have shown mortality in some of the  
5 mollusk, the tunacates and annelids at 50 parts per  
6 thousand and --

7 MS. KATZ: Fifty parts per thousand of  
8 bentonite?

9 DR. STEWART: Of bentonite. And that  
10 being laced with barium sulfate as one of the more  
11 important chemicals of bentonite. The effect on  
12 lobster -- and again what that drilling fluid is is a  
13 very heavy mud clay with a certain amount of --

14 MR. ASHTON: Excuse me one second. Is  
15 this based on your own investigation or a reading of  
16 the popular literature or what?

17 DR. STEWART: This is in two citations  
18 that I did look up and we found on --

19 MR. ASHTON: Fifty parts per thousand?

20 DR. STEWART: Let me --

21 MR. ASHTON: Because you testified 50  
22 parts per million a short time ago.

23 DR. STEWART: Parts per million -- parts  
24 per million which is even worse.

1 A VOICE: Right --

2 DR. STEWART: But there is --

3 A VOICE: Actually, it's not --

4 DR. STEWART: There's liters per --  
5 there's micrograms per liter here and -- excuse me, but  
6 there's several references -- there was a -- I take --

7 MS. KATZ: Before you continue, wouldn't  
8 you agree that micrograms per liter or parts per  
9 billion --

10 DR. STEWART: Well sort of yeah --

11 MS. KATZ: Thank you --

12 DR. STEWART: Well -- I'm not going to  
13 get into specific numerical numbers. I refer you to  
14 the articles, one of them done by --

15 MR. FITZGERALD: What --

16 DR. STEWART: -- Yalla Attima (phonetic)  
17 --

18 MR. ASHTON: Well, I think this is  
19 almost getting into hearsay --

20 DR. STEWART: No, no, no, this is  
21 scientific publication on lobster behavior --

22 MR. ASHTON: Well, I can go to the  
23 library and yank an article out, but that doesn't mean  
24 that I'm reciting the truth necessarily, that's my

1 point. Is there -- what is -- what is your area of  
2 competence to judge on that article?

3 DR. STEWART: Well, we're -- like I  
4 said, we're especially attentive now with the demise of  
5 the lobster in western Long Island Sound to any  
6 additive chemical. We're looking at pesticides, we're  
7 looking at chloride additions. We're looking at  
8 anything that compromises the physiology or the most  
9 dominant benthic organisms, the most valuable in Long  
10 Island Sound --

11 MR. ASHTON: Nobody is arguing that  
12 there's been a lobster die-off --

13 DR. STEWART: Right --

14 MR. ASHTON: -- there's a whole world of  
15 articles that I've seen -- (indiscernible) -- as to  
16 what's causing it. Thermal warming, fresh water -- you  
17 name it, it's there -- parasites. And as far as I  
18 know, no one knows what's going on at this stage. But  
19 that's irrelevant to the issue of the pipeline crossing  
20 --

21 DR. STEWART: Science is trying to  
22 narrow the window of responsibility.

23 MR. ASHTON: You should be testifying as  
24 to what you know, and that's what I think we want to

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1       come out of this thing.

2                   DR.    STEWART:       Well,    that's    --  
3       essentially, that's what I've been asked to do as far  
4       as lobster studies I've done in Long Island Sound and  
5       the behavior of the animals. And what I see there --

6                   MR. ASHTON: But is toxicology your bag?

7                   MS. GILSON: Perhaps I can --

8                   MR. ASHTON: You know, I'm a little bit  
9       concerned that you're getting into a field that --  
10      where you're really not -- you may be an expert, but  
11      not an expert in everything from silk stockings to  
12      toxicology.

13                  MR.    SNOOK:       As    counsel to    this  
14      particular witness, it is -- the witness in his CV  
15      indicates his specialty is in lobsters in particular,  
16      but I would point out that relying upon scientific  
17      articles --

18                  A VOICE: Right --

19                  MR.    SNOOK:       -- is part and parcel of  
20      giving scientific opinion. Under the laws of evidence  
21      -- and I don't see Mr. Tait here -- consequently -- he,  
22      unlike any of us in this room, is probably the only one  
23      who is truly competent to explore these articles, and  
24      they're part of what experts rely on in examining what

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1 happens to lobsters.

2 MR. ASHTON: I cannot -- (indiscernible)  
3 -- the level of expert -- it's outside of mine -- but  
4 my point is just because you're an expert in one thing,  
5 doesn't make you an expert in pulling articles off on  
6 everything under the sun. You know, there's got to be  
7 some confining of expertise --

8 DR. STEWART: May I respond? For some  
9 time I worked with the Undersea Research Program that  
10 dealt with manned submersibles and robotics and  
11 specific design to detect marine pollutants or Great  
12 Lakes pollutants, or pollutants around the world. We  
13 designed instruments to be able to sample them. I was  
14 the science director for the program. I worked on the  
15 radioactive waste studies for Mass Bay. I worked on  
16 the 106 sewer pollution project, dove in every  
17 continental shelf canyon with submersibles to sample  
18 marine pollutants, and worked and studied on ship board  
19 with the best in the country.

20 MS. KATZ: Just bottom line though, the  
21 amount of bentonite in seawater that the Applicant has  
22 indicated will be in the vicinity of the drill so to  
23 speak, have you knowledge of any studies on the amount  
24 -- of that amount of bentonite being toxic to lobsters?

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1 DR. STEWART: I could make some  
2 calculations and it falls definitely within the range,  
3 because if you look at the punch hole volumes, which  
4 are what, a couple of few hundred, and then the  
5 retrieval --

6 MS. KATZ: I guess I was looking for a  
7 yes/no.

8 DR. STEWART: No, I haven't calculated,  
9 but I would -- I would surmise that since there's  
10 500,000 gallons --

11 MR. FITZGERALD: Objection to surmise.

12 MS. GILSON: Well if I may point out in  
13 response to the OAG 7 interrogatory that's part of the  
14 record in this case, the Applicant stated that the --  
15 during the pipe -- that during the punch-out phase of  
16 the pilot hole there would be 455 barrels of drilling  
17 mud. Those are 40 -- what -- he testified 40-gallon  
18 barrels -- 42-gallon barrels -- and that during the  
19 pipe pull-back, 5,171 barrels of mud will be released  
20 right in the area. So given those calculations, sir,  
21 could you answer --

22 MS. KATZ: No, but -- just to take that  
23 one step further to refine my question, if you take  
24 that amount of bentonite, you look at the seawater

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1 dilution, you come up with parts per million or parts  
2 per billion bentonite, and have you found that that  
3 amount of bentonite in seawater is toxic to lobsters?

4 DR. STEWART: I'm sure it would be  
5 within a radius. Again, these are the questions that  
6 we have to ask --

7 MS. KATZ: Okay --

8 DR. STEWART: -- and get some  
9 authoritative results on.

10 MS. KATZ: I guess -- it's my fault, I  
11 should have asked it a little better -- have you done  
12 the calculation to determine if that amount of  
13 bentonite is toxic to lobsters?

14 A VOICE: And what radius --

15 MS. KATZ: And what radius?

16 DR. STEWART: No, because I --

17 CHAIRMAN GELSTON: No or yes?

18 DR. STEWART: No, I haven't done --

19 CHAIRMAN GELSTON: Alright, that's a no.

20 MS. GILSON: I just have one more  
21 question and it is regarding trenching. Given the  
22 fragile state of the lobster in Long Island Sound as  
23 you've testified to and given the effects of the  
24 trench, can you give any comment as to the cumulative

1 effects of two or three such crossings such as the  
2 Applicant has applied for?

3 DR. STEWART: It just compounds my  
4 original concern about a trench environment and its  
5 negative aspect on the ecology. Based on --

6 MR. ASHTON: Is it fair to say you're  
7 concerned when you don't know?

8 DR. STEWART: It's a three-fold concern.

9 MR. ASHTON: You're concerned, but you  
10 don't know.

11 A VOICE: No --

12 DR. STEWART: Well, I have strong  
13 evidence from past information that trenchings are poor  
14 habitats in the marine environment.

15 MS. GILSON: Thank you, I have nothing  
16 more.

17 CHAIRMAN GELSTON: Miss Gilson, thank  
18 you. The next one is State Representative Patricia  
19 Widlitz -- I don't see her here, so Mr. Small.

20 MR. SMALL: No questions, Mr. Chairman.

21 CHAIRMAN GELSTON: State Senator William  
22 Aniskovich -- he's not here. Save the Sound,  
23 Incorporated. Save the Sound, Incorporated? State  
24 Representative Peter Petronni --

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1 A VOICE: Panaroni.

2 CHAIRMAN GELSTON: Panaroni.  
3 Menunkatuck Audubon Society? Mark DeFelice? Tilcon &  
4 Branford Steam Railroad? Juniper Point Association?  
5 Edward P. Lang? Raymond J. Gincavage? Intervenors,  
6 Connecticut Stop the Pipeline?

7 MS. KATHERINE KENNEDY: Yes, I have two  
8 questions.

9 CHAIRMAN GELSTON: Kiki Kennedy -- or  
10 Katherine Kennedy. I'm sorry, ma'am.

11 MS. KENNEDY: That's alright, you can  
12 call me whatever you'd like, Chairman.

13 I just have a few questions for Dr.  
14 Stewart. In your testimony you say that there's a  
15 horizon of pollutants and pesticides. Could you please  
16 be specific as to what pollutants and pesticides that  
17 you think may be present in the corridor of the  
18 pipeline?

19 DR. STEWART: Sure. Again, some of  
20 our, you know, highly toxic compounds are cadmiums,  
21 chromiums, leads, mercuries, they've all been part of  
22 the industrial process in Connecticut. I just -- I've  
23 looked at the analysis of the pipeline sediment  
24 chemistry that is in the draft EIS and found them to be

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1 well represented. That's all I could say. Many, I  
2 suppose, have not been analyzed for. Some of the  
3 organic chlorides that may be, you know, from the  
4 pesticide era, they've been looking at heavy metals  
5 which are a little bit more easy to detect, so.

6 MS. KENNEDY: Are you aware of any  
7 specific industries that might have taken place in the  
8 Branford area over the last hundred years that might be  
9 considered worrisome or there should be specific  
10 efforts to look for those contaminates with maybe  
11 additional systems analysis?

12 DR. STEWART: Well, I don't -- I don't  
13 know which ones you're referring, Kiki, but in our  
14 dredge material analysis of New Haven Harbor, which is  
15 immediately adjacent, all --

16 MR. FITZGERALD: Objection to the New  
17 Haven Harbor.

18 DR. STEWART: Alright. Essentially it's  
19 relevant because New Haven is within the sediment  
20 transport distance, but again it's not this specific  
21 harbor.

22 MS. KENNEDY: I guess -- I was referring  
23 specifically to the heavy metal copper. My  
24 understanding is that --

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1 DR. STEWART: Yeah --

2 MS. KENNEDY: -- that was used in a lot  
3 of industry in and around the Stony Creek area. Could  
4 you comment on any concerns you have about that?

5 A VOICE: He testified he didn't know  
6 about --

7 CHAIRMAN GELSTON: He just testified he  
8 didn't know about that. Now why are you asking him  
9 again for?

10 DR. STEWART: Well, I didn't know about  
11 the industry, but I do know about copper in the  
12 environment and --

13 MS. KENNEDY: So I'll rephrase the  
14 question. Dr. Stewart, could you please comment on the  
15 effects of copper on benthic organisms and other  
16 aquatic life?

17 DR. STEWART: Well, the copper if it's -

18 -

19 CHAIRMAN GELSTON: Yes or no?

20 DR. STEWART: Yes. Copper is very  
21 lethal to lobster for one example because it's the --  
22 if copper is found in a holding pond, found in a  
23 lobster car, they die.

24 MS. KENNEDY: Could you please comment

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1 on how the installation process, whether it is the  
2 trenching or plowing method, may oxygenate the sediment  
3 and has the potential to release further pesticides and  
4 pollutants?

5 DR. STEWART: Well, I -- I think the  
6 operative here is re-exposure and re-transport of  
7 horizon or concentrations or depositions of heavy  
8 metals or pollutants. And again taking them from an  
9 anoxic sequestered bound to clay prohibitive  
10 environment and reactivating them again is the  
11 question, how many, what varieties, we don't know.

12 MS. KATZ: When they do maintenance  
13 dredging is it a similar type of phenomenon?

14 DR. STEWART: This -- I studied this for  
15 15 years along with Dr. Bohlen, and I had the part of  
16 looking at fisheries behavior and actually citing the  
17 directional drill disposal sites through robotics and  
18 submersible surveys all up the New England coast, so I  
19 do have some knowledge on that. And the practices  
20 which are done with the dredging project were very  
21 explicit. They had to use containment curtains if it  
22 was a high silt environment. The horizons in the  
23 harbor were exhaustively analyzed for sediment  
24 concentration zones. If they were above the criteria,

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1 as you heard Dr. Bohlen testify, they were disposed of  
2 upland, which I think is a bad idea, or they were often  
3 buried by digging a very deep trench and then laying  
4 them over as was the case with --

5 MR. ASHTON: Can we keep this confined  
6 to the area in question --

7 DR. STEWART: Right -- well, I'm --

8 MR. ASHTON: -- (indiscernible, overlap  
9 of talking) --

10 DR. STEWART: I'm telling you dredge  
11 material in the harbor was often laced with sediments  
12 that were highly contaminated.

13 MR. ASHTON: This is off --

14 DR. STEWART: The practice is --

15 MR. ASHTON: This is off --

16 DR. STEWART: -- of dredge material  
17 disposal --

18 COURT REPORTER: One at a time please --

19 MR. ASHTON: This is off of Tilcon  
20 loading dock --

21 CHAIRMAN GELSTON: Wait a minute, one at  
22 a time.

23 DR. STEWART: No, she was asking about  
24 dredge material.

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1 MS. KATZ: My follow-up question is you  
2 mentioned containment curtains to keep down the  
3 sediment --

4 DR. STEWART: Right --

5 MS. KATZ: -- are you aware of whether  
6 they're going to use containment curtains when they  
7 install the pipeline?

8 DR. STEWART: They didn't have any sort  
9 of protective shield --

10 MS. KATZ: Would you --

11 DR. STEWART: -- as far as the operation  
12 as I could see.

13 MS. KATZ: Would you recommend  
14 containment curtains?

15 DR. STEWART: If -- again it's an  
16 engineering if, and I don't know whether the industry  
17 is able to offer that, but I would recommend that, yes,  
18 if it were possible. But again, the difference being  
19 that this dredge material disposal was a combining  
20 process and then mounded over each other, so that the  
21 horizon tended to be buried by virgin clean material.  
22 This is a continual shallow water disturbance, so it's  
23 -- it's more important we understand what's going on.

24 MS. KATZ: Yeah. Dr. Stewart, where I'm

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1 coming from is if FERC decides to go ahead with this  
2 project, we as the Siting Council would like to make  
3 recommendations so it's done in the best possible way.  
4 And what I'm hoping to get from you is if you think  
5 that something would be beneficial to the process, then  
6 you know please tell us because then we can -- if we  
7 agree, we can incorporate that --

8 DR. STEWART: Okay.

9 MS. KATZ: -- so if something is helpful

10 --

11 DR. STEWART: Alright. Okay, I've got  
12 your question. And I would say on the route avoid  
13 areas where you may have found high concentrations, and  
14 if at all possible to make a slight deterrent. In the  
15 actual engineering operation, to provide some sort of  
16 envelopment that might keep sediments down. And in the  
17 immediate post-excavation route, to look at transport  
18 laterally and any horizons of sediments that may have  
19 been contaminated that show charging of new sediment  
20 deposition.

21 MS. KATZ: Thank you. Thank you, Mr.  
22 Chairman.

23 MS. KENNEDY: Just a few more questions.  
24 Hypothetically, should any of these heavy metals or

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1 pollutants be released into the water, what effect  
2 would this have on the local benthic communities?

3 DR. STEWART: Well, again it matters  
4 what concentration, what particulate form, whether  
5 incorporated into the food chain or in the sediments.  
6 It depends on the feeding mode and transport and  
7 concentration, but again -- again, this is what we'd  
8 have to study because we do not know and -- and it  
9 would be helpful.

10 MS. KENNEDY: And are there other  
11 wildlife around the area that would be affected that  
12 feed on these benthic organisms so that there would be  
13 concern about bio-accumulation?

14 DR. STEWART: Yes. Long Island Sound  
15 supports many of the important benthic fin fish. I'm  
16 talking about solely benthic fin fish, your winter  
17 flounder that feed off of little amphipods (phonetic),  
18 small mussels (phonetic), grazing fish, some of the  
19 hake, which go into -- not food product, but they go  
20 into the food chain which bio-accumulates, so -- so you  
21 have a -- again that anephloid layer comes into play,  
22 that's where everything -- the soup of that ocean mix  
23 gets transported up through the food web. So that's  
24 our concern, that it has that pathway.

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1                   CHAIRMAN GELSTON:     Miss Kennedy, how  
2 many more questions do you have?

3                   MS. KENNEDY:     Just a couple of more. I  
4 guess I wanted to have a sense since your primary area  
5 of research is lobsters, is what percentage of the  
6 lobsters have -- if you can give us a sense have been  
7 dying off and in what part of the Sound over -- or with  
8 relation to this particular corridor?

9                   MR. PHELPS:           Please bring that  
10 microphone over to you.

11                  DR. STEWART:    Okay. In '99 the lobsters  
12 started dying and the subsequent year from a point  
13 Norwalk west -- the western Long Island Sound  
14 population died, 95 percent. That was a loss to the  
15 industry of about three million dollars. We thought it  
16 was going to recolonize rapidly. It hasn't.

17                  Several studies are underway looking at  
18 contaminants, the effect on not only the adult  
19 population but the whole range of arthropod crustacea,  
20 which are the most important, all the crabs, the  
21 shrimp, the -- and related species. So that that  
22 population has been lost and it's not rebounding very  
23 rapidly and it appears as though all the lobster larvae  
24 had died in that causative event.

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1                   And so now we're much more sensitive and  
2 we're much more cautionary in our approach to how Long  
3 Island Sound restores that extremely productive habitat  
4 of western Long Island Sound. And this presents  
5 somewhat of a question, a very strong question mark  
6 into the recovery rate, the migration route,  
7 interference, or anything involved with lobsters. And  
8 lobsters by my studies, studies in the early 80's or  
9 70's show a high degree of migration of the eastern  
10 Long Island Sound, east and west.

11                   MR. O'NEILL: Dr. Stewart, are there any  
12 extraordinary ecological systems in and about the  
13 Thimble Islands which particularly concern you  
14 regarding this project?

15                   DR. STEWART: It's probably one of the  
16 most variable and unique I think along the coast of  
17 Connecticut as everyone knows that from a tourist sense  
18 and from an aesthetic sense, but it gives you -- if  
19 you're looking at diversity as one of the biological  
20 axioms of healthy environment, the Thimble Islands has  
21 soft mud bottoms, oyster reefs, it has rocky outcrops,  
22 it has numerous shelters from any wind, a tremendous  
23 fish habitat. So this is smack dab in the middle of  
24 one of the most highly valuable, multiple marine

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1 ecological environments there is on the coast of  
2 Connecticut.

3 MS. KENNEDY: And would you say that  
4 there is greater bio-diversity in this location  
5 compared to the location for the ELI alternative in  
6 Milford? How would you compare the two with regard to  
7 bio-diversity?

8 DR. STEWART: I haven't done that.

9 MS. KENNEDY: I guess my final question  
10 is are you familiar with a paper published in 1982 by  
11 Yalla Attima (phonetic) entitled the Effect of Drilling  
12 Muds on the Behavior of the American Lobster, which  
13 demonstrated that the toxicity of different drilling  
14 muds varied from immediately lethal to adult -- lethal  
15 to adult lobsters to apparently harmless to post-larval  
16 stages with a variety of intermediate effects? Are you  
17 familiar with this paper and can you comment on it with  
18 regard to the drilling muds issue what we were speaking  
19 about before?

20 DR. STEWART: Yes. Yes, I was made  
21 aware of this paper recently and I did read it. Yalla  
22 Attima was a colleague of mine back some time ago and  
23 this does describe some of the initial concerns about  
24 bentonite fluids and it does document toxicity to

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1 lobsters, especially larval forms, with a very small  
2 part per million percentage of drilling fluids.

3 CHAIRMAN GELSTON: And how were you made  
4 aware of that -- (indiscernible) --

5 DR. STEWART: The group that I've been  
6 involved with is doing a lot of internet searches and  
7 they actually uncovered it on the internet. And I  
8 actually -- I know three of the authors personally  
9 pretty well, so I talked to some --

10 CHAIRMAN GELSTON: Is that your last  
11 question, Miss Kennedy? We're in adjournment for 15  
12 minutes.

13 (Whereupon, a short recess was taken.)

14 CHAIRMAN GELSTON: William Lazine --

15 MR. FITZGERALD: Mr. Gelston, I'm sorry,  
16 am I going to get a chance to ask questions of Dr.  
17 Stewart based on the testimony that he gave?

18 MR. GOLDEN: Maybe after everybody else  
19 has cross-examined and you get --

20 MR. FITZGERALD: Oh, I'm sorry, I  
21 thought you were -- I thought you were calling on the  
22 next --

23 CHAIRMAN GELSTON: No --

24 MR. GOLDEN: No, no. There's more

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1 people --

2 MR. FITZGERALD: I'm sorry. Thank you.

3 CHAIRMAN GELSTON: Paul and Jacqueline  
4 Vierling Huang? North Haven?

5 MR. PAUL KOSCHWITZ: No questions, Mr.  
6 Chairman.

7 CHAIRMAN GELSTON: Thank you. Now, Mr.  
8 Fitzgerald, before I ask Mr. Snook to correct whatever  
9 he wants to correct of his witness, would you like to  
10 go back over and question him again?

11 MR. FITZGERALD: Thank you -- thank you,  
12 Mr. Chairman, and I apologize for losing track of the  
13 order. I would, yes. I just have a couple of short  
14 questions, which I hope we'll get short answers.

15 CHAIRMAN GELSTON: Mr. Fitzgerald, the  
16 gentleman on my right and the gentleman on my left just  
17 reminded me that on the bottom of my list, which I  
18 crossed off and put North Haven, it says Council  
19 questions, so let's start on -- Pam Katz, have you  
20 questions for the doctor more than you've already had?  
21 (Laughter). Don't laugh at me, folks.

22 MS. KATZ: No, I'm -- but thank you, Mr.  
23 Chairman. And I'll take that in the positive spirit  
24 which I'm sure you meant it.

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1 CHAIRMAN GELSTON: Pamela Katz, I would  
2 never do anything negative to you, you're much smarter  
3 than I am and a hell of a lot better looking.  
4 (Laughter). Phil Ashton?

5 MR. ASHTON: I do have a couple of  
6 questions if you'll forgive me, Mr. Chairman. Doctor -  
7 -

8 CHAIRMAN GELSTON: I forgive you.

9 MR. ASHTON: Dr. Stewart, you gave a lot  
10 of helpful testimony, especially as it relates broadly  
11 to Long Island Sound. We're faced with an issue here  
12 that obviously relates to Long Island Sound, but more  
13 specifically to the route of a proposed pipeline. And  
14 in that regard, I have a couple of questions.

15 The pipeline follows more or less a  
16 dredged channel. And that dredged channel is utilized  
17 by barges coming from the Tilcon Tomasso quarry, which  
18 I presume when loaded, pretty well fill that channel,  
19 they're pretty well down on the bottom. Would those  
20 barges as they move not disturb the sediment on the  
21 bottom each time the barges moved out of a harbor  
22 because of the suction of the barge, the action of the  
23 propeller or the tug?

24 DR. STEWART: It could be. I would

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1 suspect --

2 MR. ASHTON: From your knowledge --

3 DR. STEWART: Yes --

4 MR. ASHTON: -- of other channels --

5 DR. STEWART: Other channels --

6 MR. ASHTON: -- where you have loaded

7 ships --

8 DR. STEWART: Yes --

9 MR. ASHTON: -- coming in and out, isn't  
10 there some disturbance of the bottom sediment --

11 DR. STEWART: Yes --

12 MR. ASHTON: -- when a ship passes?

13 DR. STEWART: Yes.

14 MR. ASHTON: So that's a reasonable  
15 likelihood in this case --

16 DR. STEWART: Yes --

17 MR. O'NEILL: Mr. Ashton, just to  
18 clarify, we had a pending question before the applicant  
19 with respect to whether that channel was maintained and  
20 it hasn't been answered. Now Dr. Stewart, are you  
21 indicating from your knowledge that you do know it's a  
22 maintained channel?

23 DR. STEWART: No, he was asking me if I  
24 knew of suspended material being artificially in the

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1 column due to marine traffic and --

2 MR. O'NEILL: But I think he said it was  
3 a maintained channel --

4 MR. ASHTON: Well, I'm not sure I -- I  
5 won't qualify it as maintained --

6 MR. O'NEILL: Oh, okay.

7 MR. ASHTON: -- but there is a channel -  
8 - we'll let the applicant answer the question --

9 MR. O'NEILL: Well, I was going to ask  
10 Dr. Stewart if he knows whether that's a maintained  
11 channel or not?

12 DR. STEWART: I'm not certain, it may be  
13 self-maintained if you know what I mean, but --  
14 essentially the Corps would have to maintain the  
15 channel, they don't allow private dredging, but -- you  
16 know my experience has been with harbors that have been  
17 close to blockage because of siltation before dredging,  
18 one of our environmental concerns was too much self-  
19 disturbance because of tug and prop wash and barges  
20 causing excessive sedimentation because it wasn't  
21 dredged. It's much better to have a good flow in the  
22 channel and a harbor and no artificial sedimentation.

23 MR. O'NEILL: But there are channels  
24 that are private that are maintained by private

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1 entities other than the Corps of Engineers, aren't  
2 there?

3 DR. STEWART: Yes. I'm not certain  
4 whether Tilcon could -- or does -- I'm not familiar  
5 with their operation.

6 MR. O'NEILL: Okay, fine, thank you.

7 DR. STEWART: But it would be wise to  
8 rather than let it become --

9 CHAIRMAN GELSTON: Mr. Ashton.

10 MR. ASHTON: Wouldn't the same effect,  
11 more or less, occur from pleasure boating as they get  
12 into shallower water, even an outboard, don't they have  
13 the experience of running into shoal water and  
14 disturbing it, disturbing the bottom sediments?

15 DR. STEWART: Yes, but the degree of --

16 MR. ASHTON: I understand, but there's  
17 also a lot of recreational boating here --

18 A VOICE: That's right --

19 MR. ASHTON: -- you can almost walk from  
20 Long Island to Connecticut on the decks of the boats --

21 A VOICE: That's right.

22 MR. ASHTON: -- and insofar as they are  
23 operating, they may cause disturbance of sediment.  
24 When they anchor, they may cause disturbance of

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1 sediments, albeit in smaller quantities, it's the gross  
2 effect numbers times frequency times duration and so  
3 forth that causes all this. And wouldn't shellfishing,  
4 drag netting cause disturbance of sediments too?

5 DR. STEWART: You mean regular auto  
6 trawling?

7 MR. ASHTON: Yeah, trawling?

8 DR. STEWART: Yes, it -- it does to some  
9 degree, but again -- again, we did a study that the  
10 legislature asked us to do some years back on the  
11 effects of auto trawling on Long Island Sound, and I  
12 rode several auto trawls and videotaped the effects of  
13 auto trawls, and it's much of a misdemeanor, the doors  
14 do have some slight contact with the sediment surface,  
15 but an auto trawl flies on the bottom, it doesn't  
16 dredge and drag and re-suspend a lot.

17 MR. ASHTON: The surficial sediments do  
18 get disturbed --

19 DR. STEWART: Very little though because  
20 they're usually up off a chain, and a chain drag is  
21 very minimal, it only touches a certain point. So, I -  
22 - I had expected much more from an auto trawl to re-  
23 suspend than really the observation showed, so --

24 MR. ASHTON: And wouldn't --

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1 DR. STEWART: -- I agree with you but  
2 it's --

3 MR. ASHTON: Wouldn't flood waters  
4 coming off the local rivers here and elsewhere on the  
5 Sound cause disturbance to sediments and deposition of  
6 new sediments --

7 DR. STEWART: Yes --

8 MR. ASHTON: -- and possible pollutant  
9 transport and all the rest of it? And wouldn't storms  
10 cause sediment disturbance, particularly in the  
11 shallower waters?

12 DR. STEWART: They're the major spikes  
13 and peaks --

14 MR. ASHTON: Yeah. So that this is --  
15 there's a process, if you will, both natural and  
16 manmade that goes on that causes that bottom to be  
17 periodically disturbed?

18 DR. STEWART: Yes.

19 MR. ASHTON: What -- if you have an  
20 opinion, I'd be interested in it. Given that  
21 background as applied here, are you familiar enough  
22 with it to make a judgment as to whether the pipeline  
23 disturbance is large or small, and I'll let you use the  
24 non-quantitative terms, compared to the background that

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1 goes on, especially after a period of time? In other  
2 words, after day one there may be a lot of disturbance  
3 from the pipeline, but over some several years, how  
4 would you characterize that disturbance visa vie --

5 DR. STEWART: Alright --

6 MR. ASHTON: -- all of the other  
7 activities that go on?

8 DR. STEWART: If you'll let me speculate  
9 again without the papers that -- and defer to Dr.  
10 Bohlen who's a specialist in this field -- but my -- my  
11 gut feeling and from observing and diving throughout  
12 Long Island Sound environments --

13 MR. ASHTON: I'm especially interested  
14 in here now --

15 DR. STEWART: Right, right. Your  
16 shallow water environments down to 30 feet are re-  
17 suspended most dramatically by coastal storms,  
18 depending on the factor of the wind, the wave surge,  
19 this is where you get your primary sediment loading  
20 transport. Your fine silts tend to be deposited in  
21 deeper waters. It's a continual process. It's a  
22 continual flushing of near-shore environments.  
23 Organisms are much more adapted in that coastal zone to  
24 that disturbance, they've learned to live with it.

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1                   As you get into deeper water  
2 environments, I suspect that they tend to be more  
3 stable and not as prone to experiencing sediment  
4 disturbance because the wind forces and tidal forces  
5 just don't make it there.

6                   So those are the questions. If deep  
7 water animals are able to adapt or if they're more  
8 susceptible to a sediment disturbance because of a  
9 mechanical intrusion as opposed to on-shore the  
10 mechanical intrusion may somewhat be, you know,  
11 equivalent to major large storms. The point is that  
12 when you do have a mechanical intrusion into the  
13 natural geologically that's been laid out by decades of  
14 storms, you expose a certain cubic yardage to  
15 transport. So that's our concern. So for a period who  
16 knows of how long after that initial disturbance to a  
17 trench, a basin, there's going to be some return to the  
18 ordinary, but it's going to be transported east and  
19 west before it finally deposits.

20                   MR. ASHTON: I'm hearing you say there  
21 is some disturbance. I'm hearing you say you don't  
22 know what the effect would be. Is that fair to say?

23                   DR. STEWART: Right.

24                   MR. ASHTON: Thank you --

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1 DR. STEWART: I'm saying that the  
2 animals inshore probably are more used to it --

3 MR. ASHTON: Okay. More affected  
4 inshore probably, but you're not certain offshore. And  
5 I'm using the 30-foot --

6 DR. STEWART: Right --

7 MR. ASHTON: -- depth gauge --

8 DR. STEWART: Right, and again --

9 MR. ASHTON: -- as inshore, offshore --

10 DR. STEWART: -- it's the phyla  
11 organisms that we're concerned with. We're not  
12 concerned with the anephloid or the annelida worms,  
13 we're concerned with the mollusks that are subject to -  
14 - or we're concerned with the -- or the macro-algae  
15 that may be smothered too.

16 MR. ASHTON: Also -- one last question -  
17 - do not ships drag anchor in the deep water and have  
18 we not had a history of buoys dragging their anchor in  
19 deep water? I'm thinking specifically of the year the  
20 Sound was frozen over and a lot of navigation buoys  
21 were significantly moved and they had, I believe, if my  
22 memory is correct, a six-ton anchor which they dragged  
23 for several -- for long distances.

24 DR. STEWART: Yes.

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1 MR. ASHTON: Thank you.

2 CHAIRMAN GELSTON: Ed Wilensky.

3 MR. EDWARD WILENSKY: Just one question,  
4 Dr. Stewart. In this Draft Environmental Impact  
5 Statement for FERC, it talks about commercial fishing.  
6 And I gather from what FERC has said -- or this draft  
7 report has said that only one shellfish lease area  
8 would be directly disturbed. And they also recommend  
9 various procedures to prevent any further disturbance  
10 for other shellfish lease areas that would be in close  
11 proximity. And as they say -- the last sentence says  
12 we believe that these measures would effectively reduce  
13 and minimize impact on commercial fishing activities.  
14 Do you agree with their assessment on commercial  
15 fishing?

16 MR. SNOOK: Do you have a cite, sir?

17 MR. WILENSKY: Yes. It's page 5.6 under  
18 -- under commercial fishing conclusions and  
19 recommendations. It's the second paragraph. And what  
20 they're saying is there is only one shellfish bed that  
21 would be impacted and there are certain recommendations  
22 that they have to offset any additional problems that  
23 might ensue during the construction process. And my  
24 question is do you agree with this assessment?

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1 DR. STEWART: Well, I guess I'd have to  
2 return to my original cautionary point of looking at  
3 the fact that there is only one shellfish bed in the  
4 area, not precluding the potential for several new  
5 companies to establish productive grounds. So in part  
6 I'd say it sounds like a good mediation, suggestion,  
7 but -- but the long-run is that it does transect  
8 through potentially viably good shellfish grounds. And  
9 the fact that previous construction of this sort has  
10 proved to be somewhat negative by the fishermen and all  
11 this anecdotal information, that's why we're concerned,  
12 in what way can the ground be rehabilitated. The fact  
13 that you own a lease is not that you just have rights  
14 to that resource, you often spend hours and -- many  
15 many hours of man and horsepower husbanding that ground  
16 just like you till a field. You flatten it, you harden  
17 it, you put the shell down. So --

18 MR. WILENSKY: Are you saying --

19 DR. STEWART: -- that's why it's  
20 important.

21 MR. WILENSKY: -- that there are some  
22 areas that could be used in the future for shellfish  
23 beds, is that what --

24 DR. STEWART: I would say absolutely.