

## *Project*

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**Choli Lightfoot**, NMR-GP  
**Marge Myers**, NMR-GP  
**Henry Prellwitz**, University of Pittsburgh  
**Ken Tammimga**, Pennsylvania State University  
**Joel Tarr**, Carnegie Mellon University  
**Sue Thompson**, Carnegie Museum of Natural History

## *Community*

**John Dawes**, Western Pennsylvania Watershed Protection Program  
**Jeremy Parsons**, Pennsylvania State University  
**Richard Piacentini**, resident  
**Robert Rubinstein**, Swisshelm Park resident  
**Rita Schaier**, Friends of the Riverfront  
**Uzair Shamsi**, Chester Engineers  
**Marilyn Skolnick**, Sierra Club, Pennsylvania Chapter  
**Lois Winslow**, Edgewood Foundation and The Children's Museum

## *Government*

**Joan Blaustein**, Department of City Planning  
**Kathy Stadterman**, ALCOSAN  
**Claire Staples**, Urban Redevelopment Authority

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# Sustainable Open Space Roundtable Discussion, Table 1

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**Tammimga:** I am not sure why the landscape architects were pinpointed, because anybody can grab one of those fat markers around the table here and gesture. I think that's really what we are looking at. We are calling this a mini-workshop and there has really been quite a lot of discussion so far. What we would like to do is try to get some of that discussion winnowed down to some of the key ideas that can be mapped. If we have something that is not geographically based like, "I know [an area where] a boy scout troop [meets], but [it is] off the map, however," we could just write a little key note somewhere. We can jot down on any one of these maps some key ideas. This is far too much to do in an hour and a half, so perhaps a better way to [proceed] is to think of this [as] a graphic brainstorming session. Perhaps some of it has to do with the institution and the people we think can become involved in Nine Mile Run. Some of the cultural values might be expressed in the surrounding district or in the valley itself. Some historical features, natural and cultural heritage features in the valley itself are all inventory. I think what we would love to see is some ideas, also. How do we want to intervene in this particular valley? This is a unique creature. How would you like to deal with water quality? Do you have a favorite pet project you haven't been able to express in any of the previous workshops? If it has a spot on the map, let's put a red mark on it or a yellow mark or circle it and attach a little keyword to it [so] it is there for the record. The good people at the STUDIO will do their best to interpret it, and pull apart the spaghetti I hope forms over the next hour and a half on these maps. So that's it. I think it can be a free-for-all. The danger is (at least in this case, in terms of trying to be productive) is that we can let some of the discussion drift away into the air and not [record it] on paper. Choli, am I right in saying you really want to see something here?

**Lightfoot:** I think whatever people are comfortable with, right Reiko? If you are comfortable drawing, please do so. Also, we are recording what we say so things, hopefully, won't get lost if we come up with good ideas.

**Goto:** Yes.

**Parsons:** I am one of his (Ken Tamminga's) students at Penn State in landscape architecture, fifth year. I'm originally from Pittsburgh. In fact, I got beat up a lot down here.

**Thompson:** Mark it on the map.

**Tamminga:** So safety—you're into safety.

**Blaustein:** Should we start with introductions?

**Blaustein:** I am Joan Blaustein from the Department of City Planning. I have been working on this project for almost three years. I am coordinating the Department of Conservation of Natural Resources' Rivers Conservation Grant.

**Dawes:** I have a question, has that grant been made?

**Blaustein:** Yes. Work is underway.

**Dawes:** Can I ask the amount?

**Blaustein:** The amount from the state \$60,000. It is matched by \$60,000 in kind services from the City, the Carnegie Museum and CMU (Carnegie Mellon University). It is a total of \$120,000 in work. Actually, it's much more than that when you consider the amount of in kind services going into this. The assessment is just about finished. The insects have been trapped; the flora have been gathered and marked; the people who have been looking at the stream and the land are just about finished with it. They will spend the next couple of months looking at that data, collating it, and [the result] will be the preliminary findings everybody [will see] probably, in early January. From that data, a series of alternative recommendations [will be developed] for bringing this stream corridor back to a point yet to be determined. We are not sure what point in history we are trying to recreate; that is a whole set of circumstances we have not settled on, but [we wish] to restore it to a more natural state than it is now.

**Skolnick:** I am Marilyn Skolnick. I am the land use and growth management chair of the Sierra Club Pennsylvania Chapter. I am very interested in reclaiming brownfields, so this is a very interesting project.

**Myers:** I am Marge Myers. I am the assistant director of the STUDIO that is

sponsoring this project, and I am also a resident of Squirrel Hill. I have a teenage daughter who is very charmed by this project, too; she is interested in the ecological aspects of it.

**Paicentini:** Richard Piacentini. I am a resident. I live near the site.

**Stadterman:** Kathy Stadterman. I work for ALCOSAN, so I am familiar with the sewer problems, the sewer issues, and water quality issues.

**Lightfoot:** I am Choli Lightfoot. I am an intern on the Nine Mile Run Greenway Project, and I am a masters student of sustainable economic development at Carnegie Mellon University.

**Rubinstein:** Robert Rubinstein, resident of Swisshelm Park. I am interested in getting the water fairly cleaned up in the stream, keeping areas of it green (trying to keep them green) and to regreen some of the brownfield areas.

**Thompson:** I am Sue Thompson. I am a botanist at the Carnegie Museum of Natural History and, along with John Rawlins and other entomologists from Carnegie Museum of Natural History, we have been working on the Rivers Conservation Plan doing a baseline assessment of the flora and the insects there.

**Dawes:** My name is John Dawes. I administrate the Western Pennsylvania Watershed Protection Program for the Heinz Endowments.

**Prellwitz:** I am Henry Prellwitz, geology student at the University of Pittsburgh. I am doing a mineralogy study of the actual slag itself. When I was a kid, I got kicked off the dump [many times trying to play there when] it was still active.

**Goto:** I am Reiko Goto from the STUDIO for Creative Inquiry and also, I work with the Pittsburgh Children's Museum. Right now, I am teaching/visiting the Homewood Montessori School concerning the Nine Mile Run Project [which] I showed to some people this afternoon. These are some drawings of Nine Mile Run by fourth grade students. [This] is a dream picture; it [shows the] stream and trees and also, animals in the stream. Look at the stream; it has fish. And these are important, too—it has animals in the stream. This is very abstract; water going into the soil or slag.

**Schaier:** I'm Rita Schaier. I'm a member of Friends of the Riverfront.

**Tarr:** I am Joel Tarr. I am an environmental and urban historian at CMU, and I am also very involved in brownfields redevelopment. I act as a kind of historian of Nine Mile Run.

**Shamsi:** My name is Uzair Shamsi. I am a senior technical manager with Chester Engineers [and] I have been associated with Nine Mile Run for the last three years. In 1995 (two years ago in November) I completed a sewer study of the Nine Mile Run Watershed for ALCOSAN. I am also an adjunct faculty in the Department of Civil and Environmental Engineering at the University of Pittsburgh. I teach a GIS course and created a web site for that course. [In developing the web site,] I had to find a map that represented Pittsburgh because we were using Pittsburgh as a mapping example. Since I [already] had a map of Nine Mile Run, I [used it] on my web site. I live in Moon Township but was a student at Pitt, so I stayed in the Shadyside/Oakland area for three years.

**Staples:** I am Claire Staples, Squirrel Hill resident, user of the park and the slag heaps. I am also on the board of directors of the URA (Urban Redevelopment Authority).

**Tamminga:** My name is Ken Tamminga, I am an assistant professor of landscape architecture at Penn State and a research fellow with Carnegie Mellon University and the STUDIO on this DCNR project. Would you like to start rather formally by going around the table and pick an idea [to] break the ice on these maps, or as an idea that could be jotted down or recorded through that insidious device right there? Either way, it is okay. We want to hang on to these ideas so they don't float away. When the idea comes to you, feel free to grab a marker and jot it down. I think that is one way to start. Just go around the table and say, "I would like to see this," and somebody (whoever has the power of holding the marker) jot it down; let's see if we can get started that way. I would rather hear what everybody else has to say.

**Rubinstein:** I volunteer to start. It is the idea of cleaning up the stream. It has been talked about, it has been met [over], but I'm afraid after tonight's meeting, it loses momentum. I know there is still interest on the owner's and the developer's side to get that cleaned up, but it may turn out that if they go with the culverting option, they just put the decision off and it [will sit] for another 90 years.... Now that we have the momentum and a group of interested

people, what are the next steps? How do we build on this and make something actually happen? I don't know the answer, but it is something to layout.

**Tamminga:** Could you pick—there are all sorts of levels and water quality issues here. Tim pointed out some of them. We see another issue here today which is actually no flow, and a lot of it drops away into one of the big sanitary sewers. The stream is actually infiltrating into some of the sewer systems and going subsurface or dissipating somewhere. Henry, maybe you can elaborate on the geology; there are large stretches of [Nine Mile Run] where the little critters in the stream are just gasping for some water, and that is a bad scene as well.

**Prellwitz:** I guess the material in the stream is so coarse (the grain size of the material [in] the stream). You know the slag dump is so porous, the water is just percolating around grains and is disappearing under the surface in the summer anyway. As Tim said when a rainstorm comes, it is a whole different situation. Where Nine Mile Run goes underneath the cement Parkway bridge, there is a paved portion that is, maybe, 30 feet wide. During the summer, the stream is, maybe, 3 feet wide. I was down there during a rainstorm and it rained hard for about 20 minutes. Within 25 seconds, the water was 3 feet deep and 30 feet wide. It only took 25 seconds for it to come up.

**Thompson:** I haven't been in one of those situations, but that is what they say; that it just comes up immediately.

**Prellwitz:** It just comes up extremely fast, of course, there is too much water for the stream to go below the coarse material. I guess it is a matter of the runoff that [accumulates] so fast during a thunderstorm—upstream in Wilkinsburg, in Edgewood, in that area where there is so much cement that [the water] doesn't go under the ground—you get flash flooding. I had to run pretty fast a couple of times [to avoid it].

**Tamminga:** Can we turn that into an idea that is mappable? Like perhaps...can [we] say where that is happening? That is happening here (draws location on map).

**Prellwitz:** And above too.

**Stadterman:** Does it happen so much in Frick Park? That should be fine.

**Prellwitz:** If you compare [it] to the stream [flow] in Frick Park itself, the stream [in Frick] doesn't rise nearly as quickly.

**Tamminga:** It is really just this large urban zone.

**Prellwitz:** Nine Mile Run goes well north of the map area. It goes up into Wilkinsburg.

**Lightfoot:** That's all culverted.

(Discussion becomes confusing with many people speaking simultaneously.)

**Blaustein:** It comes from here primarily (above culvert) because everything is paved above here and it is going into the storm sewers and comes out here.

**Blaustein:** ...which is all paved. So everything is coming into the storm sewers.

**Piacentini:** Doesn't something have to be done to regulate the flow characteristics of the stream? If you are going to make it usable in any way?

**Prellwitz:** I can give an example of where Commercial Street...go down [to] the bottom of the valley where it goes over Nine Mile Run. [There] is a culvert there; I think that culvert may be about eight feet wide and six feet high and usually doesn't overflow. But sometimes (like in February and March) it will back up and the stream will flow over Commercial Street.

**Goto:** Can we [refrain from] talking all together [at the same time]? I think we will have trouble [with the] recording later on.

**Myers:** Well, I have a question. Maybe it is a kind of devil's advocate question. I would love [to see] a beautiful stream in Nine Mile Run, but in one of the meetings I [attended] someone told me when he was a little boy, one of his friends drowned in the stream because of the [flooding] you mentioned.

**Prellwitz:** [Discussion of flash flooding] ...and I have a feeling [it] would make some people just as comfortable if the stream sort of disappeared. In other words, if it was culverted or it just went underground, if it was never seen again—because along with a stream in an urban environment you have dangers. I don't know. I mean, could the stream be fixed to such a point where it was always two and a half feet high? Or you didn't have to worry about kids playing in it?

**Skolnick:** Why worry only about Nine Mile Run? Why not worry about every river? There are dangers and risks and we have to live with them. We don't ruin our environment just because one person drowned years ago. It is unfortunate, but...

**Blaustein:** Joel, in terms of regulating flow there has been some talk of the Fern Hollow Stream being buried under debris

when they built the Cathedral of Learning and the partial diminishment of the stream—because that is so far underground—it is so far below the level of Nine Mile Run. Do you know historically where that stream was [located]?

**Tarr:** Yes. We have maps that clearly show the distance of Fern Run and other streams. We have maps we are looking at from 1860 and 1870 that show a number of water courses scattered throughout Oakland, Squirrel Hill, East Liberty, and so on.

**Skolnick:** What about the Parkway? When was it built?

**Tarr:** I don't know about that. The great period of building sewers was between 1890 and 1920. This is when they put the main trunk sewers down and an operable combined system. It was at that time many of these streams were culverted and turned into sewers. You probably have all of the maps.

**Stadterman:** Yes, I think we looked at our system and identified 22 streams in our service area that had been culverted.

**Shamsi:** I think the high flow is not as much of a problem as the low flow for the water quality. For urban streams, flash flooding is very common. It is not particular to this watershed, it will be in every urban watershed, and there is nothing you can do about it. We build the land which is in a tributary and each and every inch of it is concreted and paved so that is why we get a lot of runoff from those areas.

**Thompson:** There is nothing you can do about that?

**Shamsi:** There are things that can be done such as building retention ponds and so on, but the water quality problem occurs because of the low flows. The water should remain in the stream, if it is going into the sewer because of infiltration or it is being diverted somewhere else at some of the upstream points, then even a little trickle of accidental sewage in that stream can make a big stink. So, it is the dilution factor that we don't have in this stream. I think we should give some consideration to the low flow aspect of it.

**Tarr:** Henry, when it is at a high flash flood stage does it damage the banks for instance? How high up does it go?

**Lightfoot:** There is one site we have been studying that has, I'd say, a 15 foot sheer wall where it has been eroded. That is only one of the areas. A number of areas have shown a smaller height of erosion, but there are 100 foot long or more sections where it is just eroding on the edges.

**Shamsi:** How often does it happen?

**Lightfoot:** It seems to happen everytime it rains.

**Skolnick:** Well only when it...it has to be pretty strong to start a...

**Prellwitz:** You have to get at least a half an inch of rain.

**Shamsi:** Half an inch of rain will bring a wall of water there fifteen feet high?

**Lightfoot:** It is not that the wall of water is 15 feet high, it is that it cuts out underneath the soil so that the soil is no longer supported underneath and it just falls.

**Skolnick:** It is a very young stream in terms of maturity, there are no meanders in it, it is straight.

**Lightfoot:** Some of those meanders have been taken out. It is not that they weren't there.

**Skolnick:** But what is there now acts as a young stream—when there is a lot of water it just erodes. Its natural inclination is to want to meander.

**Tamminga:** It is eroding through here quite badly, but there is a nice meander pattern here and some sand bar formations which are really nice to see. I am not sure if that material should be there because it is not coming from the upper watershed, it is mostly from Nine Mile Run itself. When you see this effluent down here, where is this material coming from? I can't imagine in the highly developed urban environment that is either grass or roof or road, that a lot of sediment areas exist. So, obviously there is some real down cutting to the stream going on. Consequently, the more down cuts, the more the storm flows want to stay. They don't want to dissipate their energy on a floodplain, they stay in and they bang up the sides and the meanders. So that is a real problem.

**Lightfoot:** And there aren't any floodplains so there is nowhere for it to go even if it wanted to, to slow down the water flow.

**Tarr:** How deep is it?

**Tamminga:** Well Ann Reily (who was here for a workshop) did some mental calculations out on site and [although] I don't recall the exact figures, she said it is much, much wider and deeper than it should be for an urban watershed this size. So it down cuts and during low flow situations you have a tiny stream in a very wide channel which is all wrong for this type of stream. So it is dysfunctional from a stream morphology point of view. In plan (points to map) this is channelized, this is hardened off with the cobble, this is channelized up there; in plan, the geometry is all wrong and the horizontal alignment is really strange.

*(Flood plain drawn on map)*



**Prellwitz:** That is the old natural flood plain there. When you get to the slag [you can see that] they covered it and blocked it off.

**Tamminga:** This is the historic flood plain?

**Prellwitz:** That part is, that part is not.

**Lightfoot:** Is this the current flood plain drawn on here Henry?

**Prellwitz:** As you went on towards the Mon, the original flood plain got wider and wider. You can see how wide it is at Duck Hollow.

**Thompson:** Slag plain.

**Prellwitz:** It's a slag plain now. I guess these floodplains are only underwater in a good 100- to 150-year flood.

**Tamminga:** A half inch of rain in a storm acts like a five-year storm instead of a one-year storm.

**Tamminga:** What color represents that?

**Tamminga:** So this is the big trunk sewer here, it criss-crosses. Should it follow this three dotted line here?

**Tamminga:** Okay, it veers off and then it hits the ALCOSAN main line. Then which way does it go?

**Tamminga:** That makes sense, so it comes down off the table and to ALCOSAN. And what was our premise about this?

**Shamsi:** This double line is actually a storm sewer.

**Tarr:** Do you know when that sewer was put in?

**Shamsi:** It is not recent. Around the 1930s.

**Tamminga:** Can you give us the proper wording of what is happening here?

**Unknown Speaker:** Duck Hollow is part of the original floodplain.

**Unknown Speaker:** Well how bad does it get now?

**Stadterman:** One thing that needs to be eliminated is sewage in dry weather. The trunk sewer should be fixed.

**Blaustein:** Brown.

**Stadterman:** Most of the sewer lines should be on there.

**Stadterman:** Down river.

**Stadterman:** The Chester study shows that it is dilapidated and at this point we have Wilkinsburg, Swissvale, and Edgewood all coming down through here and they are all coming down into the trunk sewer.

**Shamsi:** You are seeing two kinds of sewers: storm sewers and sanitary sewers. Sanitary sewers are bringing sewage from these areas and those areas upstream and they are combined sewers. [They are accommodating both stormwater and sanitation.] They were never built to carry all of the rain water; some rainfall water runoff was supposed to expel into the streams. That was the wisdom of the time when they were constructed and no one thought [they would result in] such a big problem. But anyway, they continue to function the way they were designed. They overflow in the nearest body of water. Since the municipalities cannot keep up with the maintenance, the sewers are worse condition than before and they are overflowing more often than they should. That is why all of the sewage that has been expelled from miles and miles of stream eventually shows up here. That is why we are seeing high bacteria counts.

**Schaier:** [Also,] aren't there separate sewers in these areas that should be carrying sewage only, but because they are cracked and leaking...

**Unknown Speaker:** That's in Wilkinsburg, right?

**Tamminga:** Those are called SSOs. Sanitary sewer overflows.

**Shamsi:** We recorded some portion of the sewers. We put a camera inside and tried to observe the structural condition. We didn't examine all the sewers in all of the municipalities, but wherever we looked we found it was in pretty bad shape. There was a lot of infiltration in the sewer from either the groundwater or Nine Mile Run itself.

**Piacentini:** Did you ever estimate what it would take to fix?

**Stadterman:** There was an estimate in the study.

**Lightfoot:** That was just for the trunk sewer, for the city.

**Shamsi:** That's right. I don't remember the number.

**Blaustein:** I think it was \$3 to \$5 million.

**Tarr:** Is that for correcting problems in the municipalities?

**Blaustein:** No, that is for just the city.

**Tarr:** But a lot of the infiltration is coming from upstream.

**Skolnick:** I went through John Schombert's files; I went through every piece of paper he had, and his opinion is that unless you deal with Edgewood, Wilkinsburg, Swissvale and parts of the city of Pittsburgh, you are never going to solve the problem.

**Tamminga:** Can we mention some long term and short term things we can jot on the map here so we all have a common vocabulary?

**Shamsi:** Three million, that is for the city for the trunk sewer.

**Schaier:** Does that eliminate any overflow into the stream?

**Stadterman:** It would probably still function as a combined sewer system.

**Lightfoot:** Isn't that the main sewer that the stream is flowing into? So that might help with the flow problems. I know there is also a major break up inside the culvert because I have seen it.

**Stadterman:** I have seen that too.

**Shamsi:** Yes, but it shouldn't dry the whole stream. Sewers have limited capacity as compared to the waters which are in the stream. I don't know what kind of effect it will make, but I think the low flows in this area may have something to do with the geology. The bed and the sides of the stream may be of material that is just not bringing enough base flow. The base flow keeps the rivers and the streams alive during dry weather and this stream is missing the base flow. Base flow is the water that travels underground and eventually shows up in the streams in dry weather. We see that this stream pretty much goes dry, so there are strata on both sides of the stream which are impermeable [which] can cut off the supply of water to the stream. But I am not a geologist.

**Skolnick:** What is the rock?

**Prellwitz:** The rock in the valley is shale. It is relatively impermeable.

**Blaustein:** It is fairly common in this region to have shale.

**Staples:** It is common in this region to have dry streams and for streams to dry out in the winter and mid-summer.

**Schaier:** Is there an area possible along the flood plain where it would be shallow and something could be dug up, for instance, a retention pond? I was just thinking of a solution that could solve a lot of the problems if possible. But if you had some sort of a pond somewhere, a retention pond, it might regulate the water flow because you could have it so it could fill up a certain amount to take care of any flood situations. Then, whenever the stream is low you could open up the gate, open up the dam, and let it flow so you would have a more regulated stream base. Also, I am not sure how this all works, but I know in certain ways you can put in microbes that would clean up water.

They have these processes in chemical plants where they have a retention pond and they have biological factors cleaning up the water. So if you had a pond, you would have a nice pond. Possibly, you'd have it cleaned up and you would have regulated water flow.

**Prellwitz:** If you had a big enough pond.

**Schaier:** I guess.

**Tarr:** Where would you put the pond?

**Shamsi:** I think that is an excellent idea. [A detention pond could store the water during high floods and release water slowly to augment low flows during dry weather.]

**Stadterman:** It is still going to be contaminated with sewage.

**Schaier:** The microbes would clean it up.

**Shamsi:** Just do the stormwater runoff.

**Stadterman:** Doesn't the stormwater have sewage in it, though?

**Shamsi:** Stormwater collected from the natural overland flow before it even....

**Stadterman:** Like not from this culvert.

**Shamsi:** There are separate storm sewers and separate storm sewers that bring just...

**Lightfoot:** Couldn't we run the high flow out of that culvert into a detention pond? It would still have some of the sewage problems, but at least it would stop the scouring. I know that is one of the big problems that people were talking about that would make remediation wetlands impossible; they would get washed out by flow.

**Skolnick:** I just want to say John Schombert believes that with these irrational rain storms nothing you can build is going to be able to contain that.

**Shamsi:** You are absolutely right. With that sort of storm event, you cannot build a large enough detention pond or a large enough culvert. You cannot do anything about it. The residents here see that very frequently.

**Lightfoot:** Couldn't we also suggest to upstream communities where a lot of the runoff into that culvert [originates], to have detention ponds near their large parking lots, near their large areas of runoff? So that it is not all concentrated down here in large ponds, but diversified in many small ponds.

**Stadterman:** I think Wilkinsburg has to do that, don't they? If they have SSOs around EPA mandate...if they have separate sewers. Under EPA, they have said that you can't have that. So they have to come up with solutions. So possibly, if Wilkinsburg has SSOs on this stream, they will have to come up with a solution.

**Skolnick:** Well, they don't have the money.

**Stadterman:** Well, I don't think EPA cares.

**Skolnick:** I know, but I think the reality of it is, "Okay, punish us. Send us all to jail." If you don't have the money, you don't have the money. John Schombert's solution is that they ought to form a municipal authority that would be able to float bonds and will be able to take care of the funding of this. The only thing is that Edgewood doesn't want to be included.

**Winslow:** I am from Edgewood and I am sorry, but I disagree with that. There must be a reason for that.

**Skolnick:** Yes they don't feel like they are part of the...they don't want to be associated with Willkinsburg...

**Winslow:** I don't think that is true.

**Stadterman:** Other people in this county just don't want to pay for it. This has been a problem for decades. They just want to ignore it.

**Tamminga:** Idealistically, there could be a myriad of smaller water recharge/infiltration areas up in the watershed. You had said before that it was urban and there was nothing you could do about it. Right away the red flags go up, but there are plenty of little things we can do about it to at least move in the right direction. You can experiment (and it is past experimental stage) with what we call open grade asphalt (porous asphalt). It needs to be maintained and it is a bit of a hassle but it can be done. At the edge of parking lots, you can [install] infiltration swales. [There is a fascinating program taking place in a Minneapolis neighborhood. Basically, they are removing the stormwater pipes from an existing postwar housing development.] They are using the backyards and front yards. They are getting federal and municipal funds. It is a long term but very fast moving program of education. The community is all behind it. Perhaps Minneapolis is 10 years ahead of some of these communities, I don't know. But I think this is about getting the ideas down and once in a while the red or green flags go up.

**Goto:** Does the community really know about the problem? When I asked children about Nine Mile Run and they [in turn] asked their parents, they wrote [that] Nine Mile Run is polluted because of the slag. I never said that during the class; it came from parents.

**Tamminga:** As opposed to themselves.

**Stadterman:** I don't think the municipalities have a good idea of what their sewer systems are doing.

**Skolnick:** Yes they do. John Schombert has been out there and talked to a lot of them.

**Stadterman:** They don't. Whose manholes are whose along there? It is very confusing.

**Tamminga:** And to some extent, they'd rather not know.

**Skolnick:** I was just going to say they don't have the money and they are not going to do anything.

**Tamminga:** This is where it starts to get fun and things start to overlap, so I will throw my one thing out on the table. I really love the vegetation in this area, so we are going to have to move your detention pond. And, Henry, there are some gorgeous shale formations in through here.

**Prellwitz:** And the bedrock is right under the stream.

**Staples:** There are some great stands of trillium through there.

**Tarr:** Where are the wetlands?

**Tamminga:** Okay, where might those wetlands be?

**Lightfoot:** There is one in here and then there is one in here.

**Skolnick:** Are they natural?

**Lightfoot:** We are unsure.

**Tamminga:** There is probably a seep situation in here.

**Winslow:** This turns into streams in the spring (about the one in Frick Park)?

**Tamminga:** Yes (talking about the one near the trailer). This is a real sweet little wetland; it is so fine that it probably.... We were looking today at whether it had hydric or glycolic soils of low chroma. It is definitely gray soil. It has all of the obligate wetland species. It has almost standing water and, again, we think it is a seep situation coming off here. So these are not riparian, but they are perched seeps. Beautiful. There is some tension here, because we could dig that down and create more detention or we could [remove] the ball fields here and we would have a social tension.

**Lightfoot:** When we were looking at this wetland (near trailer) there is an almost natural path off from the trail above it. I like that. People could look at the area but not have to tromp through it. This is very close to being off the path which I really liked because it afforded a good teaching place.

**Shamsi:** We were planning on building a detention pond here and want to move it out of here, fine. We can maybe use wetlands as detention ponds and when you do that you can actually cleanse the water. These wetlands can serve as little treatment plants; this has been tried very successfully in different areas. Divert the water there and grow different kind of vegetation and let the water detain there. It has a cleansing effect.

**Tarr:** My understanding of the wetlands option is that it is a very controversial option.

**Lightfoot:** Not necessarily.

**Skolnick:** Well, it breeds mosquitoes.

**Skolnick:** That is what you are going to hear from people.

**Tamminga:** Well-functioned wetlands, probably because they have a surrounding landscape base where they are kept in balance, have their swallows and so on. They have aquatic food chains...so that really shouldn't be a problem. But the study team that is looking at these things has done some preliminary numbers on this, and a wetlands would have to be really big. Preliminarily, let's just say it is much bigger than any flat that could be accommodated. Plus these constructed wetlands (that is what we are talking about when we talk about water treatment) are not very efficient at treating pathogens such as fecal coliform. They are great at taking out biological oxygen demand and nutrients and nitrogens.

**Thompson:** But we always talk about wetlands in the context of their water treatment capability. When we can't do that we say, "Okay, we can't have a wetland." Why not think of wetlands in terms of biodiversity and habitat enhancement? You can have a little wetland. So maybe it doesn't remove e. coli from the water if you only think about the sewage problems, but it enhances biodiversity and diversity of habitat.

**Tamminga:** So where would the wetlands have been before we screwed this up?

**Thompson:** Well, we have that little natural one and we have the little flood plain areas as well.

**Tamminga:** And before the slag came?

**Prellwitz:** They would have been in the flood plain.

**Tamminga:** We had a big flood plain riparian zone which was probably a wetland forest and probably not an emergent wetland the way we see here.

Those would be quite rare. These are probably forested wetlands. If you look at reference streams around this region, they tend to be forested with silver and red maple and some other species [predominating].

**Thompson:** Actually, the flood plain area up here is very strange because it is like an Asian forest. The dominate tree species is Siberian elm. They are huge, elms. The undergrowth is an introduced species of *Lonicera* (honeysuckle). If the Japanese came here, they would feel right at home. It is a very nice, well established, functioning ecosystem. It is just a strange grouping of plants. It is not what you find in a typical floodplain.

**Tamminga:** But you would find it in a typical backyard because if you go back 30 or 40 years ago, Siberian elm was all the rage to plant.

**Piacentini:** Where did you find the threatened species?

**Thompson:** Well, the hop tree is along the slag heap.

**Thompson:** No, it is all along here. Reiko, about up until here?

**Goto:** Yes, up until the old bridge, near the bridge.

**Thompson:** And they are at the base of the very exposed open slag piles at the parking area, and I assume, along the shale areas along the bank of the Mon as well.

**Tamminga:** So what is so great about the Hop tree?

**Thompson:** It is a Pennsylvania threatened tree. It is not too common and it seems to [prefer] drier habitats. The slag here may have encouraged its growth, up here, away from the shale slope right along the river. It came up here because of the slag.

**Skolnick:** How do you spell it?

**Thompson:** The common name is H-O-P tree. The scientific name is P-T-E-L-E-A.

**Skolnick:** But it is recognized as an endangered species?

**Thompson:** It is listed in Pennsylvania as a threatened species, which is a notch below endangered and above rare. But both threatened and endangered are protected and have to go through an environmental review process for any action that would destroy populations.

**Stadterman:** So what does the diversity of plant life look like along this bank?

**Stadterman:** Is there only one?

**Stadterman:** How about insect wise?



**Thompson:** We haven't done the species level identification yet to know what is happening.

**Thompson:** I think that is a decision for lots of other people. We will make recommendations. There are quite a few plants out there now that are invasive or potentially invasive; you would want to decrease their population. But there are other aspects of the population you could certainly encourage.

**Tamminga:** There are three or four quite invasive species and then other ones [considered] urban, gutsy trees like Ailanthus. They are not necessarily displacing other vegetation. We can take a live and let live attitude and they are just a great educational tool. These are the things that grow out of cracks in Brooklyn.

**Thompson:** I like that, 'urban, gutsy trees'.

**Tamminga:** So that is [a philosophy] we would like the public to help build.

**Stadterman:** If this was [converted to] a greenway, would [an attempt be made to preserve the existing vegetation?] Or would you [attempt] to radically change some of the non-native species?

**Piacentini:** Is there any kind of succession [occurring] on the slag heap?

**Thompson:** Yes.

**Piacentini:** Is it permanent or does it just cycle?

**Thompson:** Succession and climax only up to a stage. Obviously, some of these sites aren't going to [develop]. The whole theory of succession has been debunked [in a way]. Not everything grows to the typical climax forest. In some of these areas, we may have what would be the climax and it may be a climax that includes Ailanthus and Siberian elm and ash and some other first stages. [On one area of the slag slope (which we just finished a couple of weeks ago) we did two transects for comparative purposes, one down the slag slope and one down the natural shale slope on the other side.] We haven't even compared the data yet. And we had to drop Tim down on ropes.

**Dawes:** Who determined the million yards of slag to be moved?

**Thompson:** That was the developers, right?

**Blaustein:** Originally it was 4 to 5 million.

**Dawes:** When will that start?

**Blaustein:** Maybe next spring.

**Prellwitz:** It was supposed to start last June.

**Shamsi:** One thing that I would like to point out is that every time I come here I see a map like that and maps on the walls. This area you are working on covers only a little bit of the total watershed. There is a new concept called a watershed approach. Now, if this is the total Nine Mile Run watershed, we are looking at about 30 percent of the problem area. So, give some importance and some consideration to the areas which are not on this map. What happens in the upper watershed effects this [area of] study. [The Chester] map shows you a good picture of the entire watershed. There are ridges along these sides and it is sort of an ecosystem. So what happens anywhere on the periphery of the watershed effects the area we are discussing. Since I have the microphone, let me [amend what I said] about the urban runoff. I meant if it happens once every two years, we cannot do anything about that kind of flood. But if it happens on a daily basis or a monthly basis, those kinds of problems can be fixed.

**Tarr:** Let me make a comment about the watershed. We put a proposal in to EPA to do a watershed study (David Dzombak, Tim Collins and myself) and unfortunately it wasn't funded. One of the comments was that there was not enough theory. This is just a traditional kind of urban watershed problem. There is nothing new in it. But we could try again.

**Schaier:** Is it that common to have a stream culverted to this extent? I mean the majority of the stream is underground. Is that common?

**Shamsi:** Yeah, that is common in urban areas, especially in Pittsburgh.

**Tarr:** All over the East Coast. Look at New York City.

**Shamsi:** Now the Department of Environmental Protection has a special plan. It is called Act 167 stormwater management. Act 167 takes care of stormwater flooding problems. Every municipality in the Commonwealth is supposed to have a stormwater management plan in effect. But not all of the municipalities have implemented that. So that is where you can address the detention ponds. All of the developers of a plan are supposed to provide detention such that it will not adversely effect the post development conditions and, sometimes, to even fix the pre-development problems. The criteria vary from place to place.

**Skolnick:** But it didn't work on July 1st. Monroeville has one, but the storm just overwhelmed everything.

**Shamsi:** But that kind of rainfall is an act of God. We don't design to control anything like that.

**Stadterman:** The legislature is possibly looking into rewriting that act to make it stronger because they have seen that it doesn't work. They are looking to possibly update those regulations.

**Skolnick:** Another problem that has been found to exist is who is responsible for that detention pond once it is constructed. A developer will put it in, [but] who maintains it? That could be a real problem because if it is not maintained, then it cannot function.

**Shamsi:** That act is only applicable to new developments since most of this area has developed to its full extent. Do we have any developable land left so that entire area is developed, so it won't have much application in this case.

**Stadterman:** What is the Western Pennsylvania Watershed Program?

**Dawes:** It is a small grant program given to site specific projects like A and D on a small stream. The board of advisors [gives preference] to headwaters, but it is a program for something site specific. Another requirement would be another agency like DCNR. This is the right priority in terms of how you are working. You have the planning process done and access state funds and, if there is a need for a local match for a specific project within the watershed, we could provide those funds.

**Stadterman:** So you look at these intermunicipality programs....

**Dawes:** We would be interested in the process once it's broken down.

**Tamminga:** So we have a headwaters situation in Homewood?

**Dawes:** Right. I can see a lot of potential projects that would interest us.

**Tamminga:** There was an interesting series of workshops a couple weeks ago on the overall greenway system here in Pittsburgh as an idea. We had a representative from Homewood. This is a little off the topic, but it fits. They said they were extremely underrepresented with open space and ecological function and even pocket parks and playgrounds. So there is some, perhaps, unintentional racism in the distribution of ecological and urban space resources in Pittsburgh. The kids [play in] the streets. So, we would talk about the small dispersed infiltration

projects, not just detention ponds, but also infiltration splines those can happen in a scattered way all over. I guess my question to you is if we had a systems project that had some other projects, if it wasn't just one thing. Because we aren't just talking about one thing, we are talking about the developed watershed, small initiatives plus the sewers.

**Dawes:** We don't have the budget. We do have \$380,000 to work with distributed in \$5,000 to \$10,000 increments to leverage other agency dollars. Say if a local match was needed by a DCNR grant then we facilitate that process. That is the intent.

**Tamminga:** So we have about three or four minutes left until the official end and we have been talking a lot about water quality. I think that is great. It is a very important issue. Is there any other pet project or idea you would like to [record]? There are obviously many. Does somebody want to throw some things down on paper? What about butterflies?

**Goto:** [I am always thinking about habitat. How can this area support existing, living things? Not just the issue of dirty water—the can/cannot touch issues. I am not just thinking of a place for humans, but the other things that live there. I think this is the dream of the children, too. You know that from their drawings. I think this is a very natural, normal vision.]

**Tarr:** There are some deer down there.

**Tamminga:** Wild turkey. We came up to the trailer one time and saw a turkey walking around.

**Prellwitz:** Didn't Tim see a beaver too?

**Goto:** Right, Tim saw some beavers.

**Tarr:** He saw a beaver? Did he see it again? Was there another sighting?

**Lightfoot:** I believe there were two sightings, but I am not sure.

**Prellwitz:** It can't be pristine unless you take all of the slag away. Restore the original flood plain.

**Stadterman:** There are a lot of birds and things [to see out there].

**Stadterman:** And a bear.

**Stadterman:** [What uses do people see for the stream?] I mean, [how] do we look at the stream? [To what extent] do we want to remediate it? Do we want it pristine?

**Stadterman:** So [what uses do people see for the stream]? Do we want to let our dogs run free?

**Tamminga:** [Let's talk about the acoustic qualities of the place. There are certain places of retreat where you have a "pseudo-natural" environment. Where are those for you? Where do those spaces occur? Tim called them "immersive landscapes".] Are there any value in those?

**Winslow:** Oh very much. Especially in an urban area.

**Goto:** And the quietness, too. You cannot hear any traffic by the old bridge. That is very unusual in the city.

**Unknown Speaker:** The slag actually contributes to those qualities of having a quiet space.

**Tamminga:** As soon as you turn the bend here...the highway sound dissipates and, boy, it is quite nice. It is quite peculiar through here. It is an unreal landscape, but quiet. It is away. One of the slides Jack showed [addressed] this Dutch idea that some of the disturbances can actually contribute to biodiversity, this kind of local biodiversity. We have that here. There are quite a lot of plant species. The birds found in there are [indicative] of disturbed landscapes. They are edge species: blue jays, mocking birds, and so on. But for these people that is a wonderful kind of wildlife.

**Tamminga:** I would love to talk about landscape ecology which is my...what about the Monongahela River being attached to Frick Park. And why would we do that.

**Tarr:** That's what Mayor Murphy has [proposed].

**Tamminga:** What is his objective behind that though?

**Tamminga:** So this is a recreational, experiential thing?

**Tarr:** There is a hope to develop the edge all the way down.

**Tamminga:** Has anyone walked up here? (Further upstream along the Mon River from Nine Mile Run?) This is oak...hickory.

**Prellwitz:** This is a hillside that is so steep, you can't climb it.

**Tamminga:** It keeps on going as well. In fact, the trail stops up here and these people kind of own it. You don't feel like going through their backyard. It is much more spectacular here than right along the river. It is quite pristine.

**Stadterman:** So the idea of this greenway is to connect Frick Park to the river?

**Blaustein:** Because there aren't that many accesses to the river without a hard surface, there aren't many accesses to the river at all. There could be boat launches and sidewalks...

**Stadterman:** The river is very accessible...

**Tamminga:** So from a regional landscape ecology perspective, besides the human experience, the feeling is, "Hey, I am part of a system." The fact is, that I cannot get from an interior part to the river. Wow, what an awful idea. At least in Pittsburgh, because all of these great parks are islands. From an aquatic point of view, we have aquatic organisms that have a rough time getting up and down stream. We know that. We have bird life and butterflies that tend to use these little river valleys as a place of respite. We have what we could call the ecological node, that would be Frick Park. We have probably some small mammals that would love to use this and then come up and zip down along the Monongahela. It gets pretty dire down here, but...

**Goto:** When we think about this from the human point of view, we cannot touch the water and it is a long future to reach the things we are talking about. Until then, even creating some walkways near the stream is almost impossible right now. But think about other wildlife that find this area useful. Is this really...I mean is this valuable to think about? For humans, it is really a problem. It is too expensive. We are talking about the future, but plant-wise and animal-wise I don't think the water is really harming the wildlife except maybe fish and aquatic kinds. You know what this means. If we talk about water quality for humans, we should trash the stream. But if we think about the other side, it is so viable. The stream is existing there, that is why the area is green and nice. I can't really [express] a loud the balanced part.

**Tamminga:** There are all sorts of beautiful little places disbursed throughout the site. If you observe closely, there are all sorts of great things happening. And truly, Reiko is a master at finding those places. She says, "Come on over here and look at this." And you say, "Wow, I didn't know that existed here." That is part of urban ecology.

**Winslow:** We have good friends that own a boat, so I have been on this space. I have seen a blue heron and the river banks are beautiful. You would not believe this is an urban industrial place if you had just seen the riverbanks. Even though I might not eat the fish out of the river, everybody will tell you there is an amazing variety of fish that hadn't existed here before. They are existing; we may not be able to consume them yet, but the water quality has improved in some way and life can be sustained.

**Lightfoot:** I would like to ask a question. [Can anyone identify] the areas along the stream they wouldn't like to see compromised, a favorite spot? Some thing about the area that is very important to you or that you think is important to the surrounding communities?

**Winslow:** I think it is very important to have that quality, it's very hard to define. Frick Park and that whole area that goes down [towards Nine Mile Run] affords me and my friends a little touch of nature within walking distance. That is very important. That is quality of life.

**Prellwitz:** It think it is important to have access to the Monongahela River, too. It is hard to get to the rivers in this city. You have to wade through some industrial nightmares. But this gives you a corridor from Edgewood, Wilkinsburg, Swissvale directly to the river.

**Unknown Speaker:** There is an undisturbed area right in here; it is heavily wooded and has a stream running through it. I know everyone on that end of Swisshelm Park, that is very important to them that the area be maintained as is. Trails are not to be developed through there—no bike use.

**Lightfoot:** Is that the area that leads up to the community center?

**Unknown Speaker:** Yes.

**Lightfoot:** There is great, well it is not great ecologically, but there are great roses back there in the spring. There are huge brambles of roses there.

**Tamminga:** Multiflora rose—that is on the hit list.

**Prellwitz:** Is that hill over Duck Hollow part of the URA land, the one that has all of the oak and the hickory?

**Blaustein:** I am not really sure.

**Skolnick:** The Mon-Fayette is supposed to go over it. I have seen the renderings, and it is a disgrace.

**Tamminga:** So what do we say, no Mon-Fayette?

**Prellwitz:** If they are going to extend Frick Park down there, this is the hillside they ought to hang onto. Keep it the way it is—it is all natural. There are beautiful sandstone cliffs there.

**Tamminga:** What about Duck Hollow?

**Lightfoot:** It is funny; I talked to all of the residents that were home the day I was down there. Some love the neighborhood and some hate it and wish the city would buy it out.

**Stadterman:** Why do they hate it?

**Prellwitz:** It is hard to get out of there.

**Lightfoot:** They told me stories about [the era] when the slag was dumped. They had to wipe their [kitchen] counters three times a day. They are terrified it is going to happen again. Before it happens again, they would like the city to buy them out. Some people don't like the isolation; they feel trapped.

**Tamminga:** Last year [one of my students] surveyed all 18 residents as well. We greenway questions, slag questions, and social interaction questions. I got the feeling most of [the residents] were really happy to be there.

**Lightfoot:** They also said the property values are some of the lowest in the city. The houses in Duck Hollow are very cheap. People were worried about that, too.

**Tamminga:** But if you look at the houses themselves they are really quite well maintained. I think there is a pride of ownership, but an unstable situation [is created when they hear all this stuff]. I don't know why [the residents are fearful] because if they were bought out, that is eminent domain. They would get good market value price for [their property].

**Winslow:** One of the things that would be important to me is a natural space for our children. Children can see a stream that is artificial at the zoo or somewhere else, but to find a real stream within a city is an amazing thing—to have a wild open space for children to see is something you can talk about, but to experience [first-hand] is very rare.

**Shamsi:** I think it is the last natural stream remaining in the city. Everything else has been culverted.

**Schaier:** I don't like the little parking area down by Duck Hollow.

**Tamminga:** Should we improve it or get rid of it?

**Schaier:** Improve it.

**Winslow:** How would you improve it?

**Lightfoot:** I think it might benefit from some lights.

**Thompson:** Then paving.

**Lightfoot:** I don't think it is a safe area. People go down there and party at night.

**Piacentini:** Improvements and lighting attract people.

**Skolnick:** If you are going to have parking, you are going to have people coming by car. You need some facility to accommodate them. If you don't want people coming by car...

**Piacentini:** It would be nice if it could be left natural. No lights or parking lots.



**Lightfoot:** But there is one. People have a tendency to drive places, especially in this city. If they could drive somewhere, park, and walk along the stream to Frick Park, it might encourage use of the area.

**Winslow:** But do you want that? Lets think about that. Is it for the use of people or is it an open space?

**Lightfoot:** You yourself were talking about the importance for children. If Pittsburgh is going to sink a large quantity of funds into this area, it should have a regional draw or at least an all city draw, so the Pittsburgh tax payers will at least be able to access the area. I think a parking lot will [encourage] that.

**Tamminga:** But does a regional constituency mean it needs to become a manicured Schenley Park? Perhaps not. There are not a lot of greenways in Pittsburgh. I think there is one that was done in the mid-eighties.

**Tamminga:** [We are helping Pittsburgh define "greenway." If the small constituency—the surrounding neighborhoods—want to see it maintained natural, but built out carefully as a region, it needs to be controlled. You cannot have masses of parking. If you build a parking lot, they will come. That is what happens. You control the trailhead parking lots; it's quite a hike from down there, so you will need to invest some sweat.] A balance needs to be found between local private ownership and making it a place that all of Pittsburgh can be proud of. If anything significant is done here it will take Pittsburgh and more money.

**Goto:** I think more studies could be done. I don't think Mellon Park or Schenley Park [need to be studied]. This has more potential. What kinds of birds are there during the winter? What kind of butterflies are there? Really unknown. Even plants. Sue Thompson has been spending days and days [investigating these issues]. Even common plants and invasive plants [should be examined]. We cannot really judge it's value [until we study it in more detail.]

**Tamminga:** All of those thing have a story to tell. The Chinese elm over here; the hop tree over there; or the fritillary butterflies we see over here, or the red tailed hawks. The comparison and contrast that can be done with school groups is amazing. We have a wonderful resource right now in terms of urban ecology in the extreme. If we look at some of the key words you mentioned, a wild place wow, that is

**Blaustein:** Our definition of greenway? We have 7 or 8 [definitions].

interesting. As we start to look at this, we are coming to appreciate the slag. It has a lot of angst to it. All of this. There is a great human story in this and another theme.

**Tarr:** It has a lot of history, the salt works, the gas works, the golf course.

**Tamminga:** Wasn't there an old black baseball league?

**Tarr:** The Homestead Grays. That is not definite. We have pictures of the actual gas works and the nine hole golf course.

**Prellwitz:** There's a salt works down there. The salt water is in the sandstone, which could be about a thousand feet down. You just drill a hole in it and pump out water.

**Lightfoot:** The gas works was located here, near the Irish Center. Is that the one you were talking about?

**Tarr:** Look in this picture, this is the ninth hole of the golf course and there is a derrick right in front of it.

**Tamminga:** We have gone to the end of these streets surrounding the area. Not many of them function as parking lot trailheads. Most of them are just pedestrian access and some of them have no pedestrian access; they are just impenetrable or steep slopes. But where it is amenable and the slopes aren't that steep, almost everyone has a little informal path. I would think that those are special places for each one of these little neighborhoods enclaves.

**Tamminga:** There is a BMX course up there.

**Tamminga:** I just thought of John Stephen. There is a mountain biking ramp that is fabulous. We came down a little service road here and there were at least six or seven deer.

**Tamminga:** I have seen some shot-gun shells around.

**Stadterman:** The idea of public access needs to be considered because there are people fishing there regularly. That is what the parking lot is used for, during the day at least.

**Staples:** The children go up there a lot. There is an abandoned hunting blind...bales of hay...

**Staples:** I expect that people have been hunting there in recent years.

**Staples:** There is a deer stand.

**Staples:** I think the park has at least 15 or 20.