

UPPER DELAWARE COUNCIL MEETING MINUTES

February 7, 2019

The Upper Delaware Council held its monthly meeting on Thursday, February 7, 2019 at the Council office in Narrowsburg, NY. Chairperson Roeder called the meeting to order at 7:00 p.m. The Pledge of Allegiance and roll call followed.

In attendance: Town of Hancock-Fred Peckham, Town of Fremont-Jim Greier, Town of Delaware- Harold G. Roeder, Jr., Town of Cohecton- Larry Richardson, Town of Tusten- Susan Sullivan, Town of Lumberland- Nadia Rajs, Town of Highland-Andy Boyar, Town of Deerpark- David Dean, Damascus Township- Daniel Rutledge, Berlin Township- Alan Henry, Lackawaxen Township- Doug Case, Shohola Township- Aaron Robinson, Westfall Township-Michael Barth, National Park Service- Kristina Heister, Delaware River Basin Commission- Kenneth F. Najjar Ph.D., Commonwealth of Pennsylvania -Tim Dugan. Staff in attendance: UDC Executive Director- Laurie Ramie, Resource Specialist- Pete Golod, Secretary- Ashley Hall-Bagdonas. Absent: State of New York-Bill Rudge. Media- Rosie Starr, Peter Becker, Dave Hulse. Guests: Al Steppich, Heather Leach, Roger Saumure-Shohola Township, Ginny Dudko- Town of Deerpark, Carla Hauser Hahn, Don Hamilton.

Swearing In of 2019 Officers: Roeder welcomed Town of Delaware Deputy Supervisor Alfred Steppich. The 2019 elected officers: Chairperson Harold G. Roeder, Jr. and Secretary/Treasurer Alan Henry; took their oaths during a swearing-in ceremony officiated by Steppich. Vice-Chairperson Jeffrey Dexter was unable to attend. Roeder presented Steppich with a UDC lapel pin as a token of appreciation.

Presentation by Heather Leach: "Spotted Lanternfly": Leach is from Penn State, Department of Entomology. Her position is solely for the Spotted Lanternfly (SLF), she joked saying it looks like she has some job security. SLF is a new invasive pest, native to Asia. It is found currently in southeastern Pennsylvania. It was found there in 2014; based on the population levels they think it was actually there in 2011 or 2012 but no one was looking for it at that time. Currently, it has spread to four different states and has been detected in an additional three states. Leach was just in Massachusetts this morning and they have confirmed it's also been found there. Leach provided a map by New York State Integrated Pest Management Program which she explained does a really good job showing the status of the population. The blue areas are where you see an established population of SLF, Southeastern Pennsylvania and New Jersey. Combined that is 16 counties just added. Northern Delaware was recently added and a satellite population in Winchester Virginia. It's a fairly large population that is expanding but if you consider how long it has been here, they are keeping it a little contained at least. The yellow areas are everywhere they have detected a SLF or intercepted it. It doesn't mean SLF population is there, but it does mean that it's maybe a single dead adult in a vehicle. Those yellow areas mean that it's definitely a good hitch-hiker. It's getting into vehicles, it's getting into cargo and the ability of it to transport to a new area and potentially establish a new population is fairly high.

Leach passed around a handout on the life-stages and explained that the egg masses are the stage that we are in right now. They are fairly cryptic; it looks like a smear of mud. That is how they think it got into the U.S. in the first place. It's really hard to detect and no one was able to pick that up. When it hatches in the spring they have four instars or little nymphs before they turn into adults. The first three are black and white, the fourth is a little larger and bright red. They start to get obvious. At the adult stage they have their wings, are about an inch long, very colorful and easy to spot. The detection accuracy is somewhere around 96% from the public because it is extremely colorful and doesn't look like any other insect really. Usually when you see SLF, it will be with its wings closed over its back. It's not a moth, it's a plant hopper so it has really strong legs. If you poke it in the butt and it's hopping and has red hind-wings with spots it is probably a SLF. When it is startled it will show a red coloration on its wings. A lot of people when they see it and have not interacted with it will say "It's so beautiful". Leach said it is but she does have a hard time calling an invasive pretty. Leach provided pictures of the egg masses on grape vines, about the size of an adult. One inch to 1 ½ inch long. The egg masses are laid on any surface. They lay in the fall and hatch in the spring. They see SLF in orchards and infecting tree fruits with really high, dense populations of

adults feeding on the trunk of the tree. They are called indirect feeders. SLF are feeding on plant sap, not on the fruit itself. Leach also sees SLF in vineyards in really high numbers and this is where they are seeing the really serious economic damages to grape growers. They see them in incredible numbers, especially in late summer/early fall they start to accumulate on certain hosts. The host in the video provided in the Powerpoint was on an Oak tree outside of an airport. Really high numbers they think they start to become dependent on what's available in the landscape to feed. As other plants are beginning to go dormant they are choosing to feed on Silver Maple, Red Maple, Oaks and things that stick around a for a little bit longer. You can imagine for homeowners, if this is in their backyard, this is a big problem and stressor. SLF tend to climb to high surfaces. They were finding they were climbing up people's chimneys and falling down, they would generally die in that mix. One case a person had several SLF raining down into their home. Not only could they not go outside because they had so many SLF they were also coming into their home. Leach said she felt that was a serious invasion. SLF is affecting practically everyone in the quarantine zone. Businesses need to be compliant and get permits, homeowners and their quality of life, as well as tree-fruit and grape industries.

SLF is in the Hemipteran insect order, meaning it's closely related to cicadas, stink bugs and aphids. It has a piercing sucking mouth part and that's how it feeds. It sticks its black long mouthpart into the plant and feeds on the plant sap or plant phloem. As it's doing that it is getting a lot of nutrients from the plant that it wants, like nitrogen, but it is also getting a lot of other thing it doesn't want. That happens to be a lot of sugar, excess plant sap. It excretes honeydew as it's feeding. Aphids do the same thing. SLF are much larger insects with high accumulations you start to get really disgusting accumulations of honeydew. Leach provided a video of SLF feeding on a grape vine, not on the fruit but vine. As it feeds the SLF holds the honeydew in and eventually starts to secrete it. They will do this all day, all the time. If you are under a tree with a lot of SLF you are literally being rained down upon by this honeydew. You start to get an accumulation on the leaves of honey dew and colonization of sooty molds begins. This is a really good growing media for different bacteria's and fungi and black mold starts to grow on that surface. That's a big problem because that's a photosynthetic block. That leaf dies out; it dies back it can't photosynthesize anymore. Leach said they were originally worried about this in the grape and fruit industry. If they were going to start to get that mold on the grapes and apples people would not buy that kind of fruit. Now they are concerned about forest regeneration, specifically understory health, because they are starting to see the understory die out due to so much sooty molds. Sooty mold is also a nuisance problem. Leach provided a photo of a homeowner's deck. They had power washed the bottom step and she took a picture halfway through. Leach said still after power washing you can see you are not able to get all of the soot and black mold off. There have been reports of homeowners trying to sell their houses with overhanging decks and they are unable to sell because they have honeydew rain coming down.

SLF has a lot of different hosts and that is one of the really big problems. They have been reported on over 70 different plant species. If you are familiar with Brown Marmorated Stink Bug, they also have a really wide host range. That becomes a problem when you are trying to control it because you can't really target one plant species because they are all in the surrounding landscape. Leach said it's a little easier to talk about what they don't feed on which right now is Conifers. One of its preferred hosts is Tree-of-Heaven (TOH). It is really common throughout Pennsylvania and some spots of New York. TOH is an invasive tree, also from Asia. It grows in clones, so if you see one you will probably see lots of them. They are often found in disturbed areas along highways. TOH looks really similar to Sumac and Black Walnut. The easiest way to tell them apart is by looking at their leaves. The leaves are smooth which is different than Black Walnut, at the base of those leaflets there are little teeth. That is unique to TOH. Another way to tell is if you do any damage to that tree or crush the leaf it will smell like rotten peanut butter. A lot of control measures have been focused on TOH because it's an invasive weed and because it seems very attractive to SLF. When looking at TOH populations in Pennsylvania it's a little bit biased because they did so much sampling in the quarantine zone you will see for the most part TOH is limited to the Southern region, more populated areas and along highways. New York has similar maps and it is also found in more populated and disturbed areas if where you will find TOH. Leach provided a zoomed in map of Reading, Pennsylvania focusing on the "core" population. Many people ask her what is being done to control SLF. PA Dept. of Agriculture is focusing on that core population and trying to eliminate or at least decrease the population. USDA Aphis has an 18-km buffer (seen in grey in PowerPoint) all over that quarantine zone. What they are trying to do is build a moat around SLF and try to keep it from spreading even further. In each of those cases they are going out finding TOH. PA Dept. of Agriculture is removing the majority of those. USDA leaves them because they don't have the capacity to remove

them. The majority of those are killed, then they go in with the systemic insecticide and inject those trees and leave it. Again, those trees are going to be highly attractive to SLF and now they're poisoned. It will draw in a lot of SLF and you will end up with a lot of dead SLF. This method works pretty well; some people have stuck meter sticks into their piles of dead SLF at the base of a tree. Again, SLF is not host specific, at least not throughout their life-cycle. So while it's killing a lot of SLF it's not killing 100% of the population. That's why they continue to see the slow crawl. PA Dept. of Ag. and now NJ Dept. of Ag. are doing is a permit system. All businesses and organizations that are conducting any sort of business within that quarantine zone or in and out of the quarantine zone are required to get a permit. They go online to a Penn State link where you can take a training. If you get a 70% or higher then you get that permit. It ensures that business is inspecting their vehicles and anything they're transporting for SLF, they know what they are looking for and they are making sure that they don't have it. New York in particular is taking this permit system very seriously and starting to pull over vehicles and starting to issue fines if they are not appropriately permitted. Another thing Leach wanted to mention since this is a region that doesn't have SLF yet, is monitoring for SLF. In New York it's mostly NYDEC working with Partnership for Regional Invasive Species Management (PRISM) going around to TOH populations and wrapping those trees in sticky tape. It captures the nymphs that crawl up the base of the tree and it can be a good monitoring tool. That is mostly how they are monitoring areas that do not have SLF. In terms of Penn States Extension response, they now have a call center that is staffed throughout the year. You can call: 1-888-4BADFLY (1-888-422-3359) to report SLF. Anytime there is SLF outside of the quarantine zone they will send a strike team in. They go out, confirm that it was SLF and scout the rest of the area and make sure there aren't more. If there are then they eradicate the population. That really helps to not develop satellite populations all over the place.

Generally, with invasive species the first line of defense is insecticides. It is the fastest to kill them and what they have in their toolbox that they know will work. They are working on longer-term options such as natural enemies and trying to understand things that might kill them. They've gone out and done large insecticide trials. As mentioned, fruit growers are extremely affected by this. They've focused on insecticides for homeowners that are safe and efficacious for them to use and the same for grape growers and tree fruit growers. There are a number of insecticides they rate excellent and some they rate good controlling SLF. For homeowners this even includes organic options like neem oil and insecticidal soap. If you are using something, especially an organic compound, you need to re-treat often and have good coverage. That's a big issue; while they have things to kill SLF, it must be re-treated constantly. In Pennsylvania pesticides and insecticides applications were a site-used state. That means you don't have to have the insect on the label. So you can spray for an ornamental tree in the backyard and it can be for whatever insect you find on that tree. New York is a little different. You must have an insect on the label. When SLF gets to New York, Leach believes this will be a big hurdle. Generalist predators are attacking SLF in the U.S. Many people ask Leach about this. They tell her they see spiders eating SLF and homeowners buying commercially available praying mantises and releasing them in their backyard. It's cool to see but this is unlikely to control the SLF population.

Leach and team are also working the parasitoid angle; small wasps are going to lay eggs in which either the egg mass of SLF or another life stage of SLF. There is an introduced parasitoid to control Gypsy moth which did pretty well and is still present in Pennsylvania and throughout the Northeast. They are looking at 7% parasitism right now and it is very spotty depending what region in Pennsylvania you are in. It's encouraging and they are trying to see if they can help boost those numbers. They have several researchers that have gone to China and looked for native natural enemies to see if they can release them in Pennsylvania and elsewhere. They've found two different wasp species, which is very encouraging. Only one egg parasitoid has been recovered and that is called *Anastatus*. This is probably our best bet for longterm control. Unfortunately, at the conference that Leach was at this morning she just learned there seems to be some issues with it. It doesn't seem to be as host specific as they thought it was. It's not lining up exactly with SLF. They do have it in a quarantine facility and are currently looking at testing and whether they can get a permit to release it. The other one is a little less promising. It's a *Dryinus* species which attacks the second and third instars. It starts to lay their egg underneath the wing pad of the nymph and then it starts to get a sac as it expands. The instar is hopping around while larvae is growing inside of it. Once it is done growing on that nymph it leaves that area, spins a cocoon and over winters like that. Two additional exciting findings are that they found fungal pathogens that are attacking SLF.

Dr. Ann Hajek from Cornell University is leading this research. They have observed a *Beauveria* species this is very common for insect control. It is a fungi that eats them from the inside out and it starts to sporulate, meaning you start to see these white fuzzy insects. They are still trying to understand if they can use this as a control measure. It was just found this past year. The other one was found in high dense populations with SLF but it is extremely encouraging. It is closely related to the *Entomophaga* genus. It is the fungi that was responsible for killing a lot of those Gypsy moths off. They are excited about this and think it may be more host specific. They are still working on identifying the species. When it infects SLF it tells it to crawl up to a high area and it sews them to the tree. Once the SLF are sewn to the tree it dies, it starts to sporulate, all those spores go down below and infect the rest of the adults and nymphs under them. They have a lot of research going on at Penn State, USDA and other universities and are still trying to understand a lot about the biology and behavior. Unfortunately, most of the questions people ask about SLF Leach has to say "We don't know but we think...". They are feeling optimistic and feeling like they are catching up.

Hamilton asked with the severe cold we had last week, a few nights were -19°; if that would put any type of crimp in the SLF population. Leach said a lot of people have asked her that. SLF is also an invasive species in Korea. They have done some preliminary research on SLF before we even had it as a problem in Pennsylvania or the U.S. They found that it had to be at a sustained population of -13.9 Celsius, which is 7° Fahrenheit, for a whole month before you saw any egg mass mortality. It is unlikely even that severe dip in temperature affected survival. Golod said about two years ago he attended a meeting with Catskill Regional Invasive Species Partnership (CRISP) and that was the first time Golod had heard about SLF. He brought his report back to UDC to apprise them. About then they had given a time table of about a year before it would reach this area. Is there a new estimated time table of when SLF will make it here? Leach said there are really rough estimates on how much SLF has moved by itself and how much that zone has expanded over the years but also how likely it's going to get on shipments or on a train to spread. Leach doesn't think they have a great estimate unfortunately but she expects in the next couple of years, especially if you look at the population from 2018, they see SLF invading Philadelphia in much higher numbers. Thinking about the transport, and the people that are in that area, Leach thinks it's about to hit the Eastern seaboard. She was also talking earlier about how they didn't find it 2-4 years after it was already here, so the detection ability when it's in really low populations is really poor. They are working on attractants. They are working on how to better track and monitor it. Leach's guess is it's probably in other areas; they just don't know it yet. Golod asked how well the quarantine area has worked? Leach said most of what they are seeing is vehicle transport and they are seeing it expand within the quarantine zone but based on where it was originally it's still within that quarantine zone. They are pretty impressed and a little puzzled by what's happening. Their control measures are certainly helping; early detection is helping. So far they've done a pretty good job at keeping it in that quarantine zone and that's a good sign. Leach also mentioned a satellite population in Virginia in January 2018 was originally at one square mile. They employed control measures; even with those control measures at the end of the year in November they found it was at six square miles. So, controlling it even on small scale is extremely difficult. It's a very obvious insect but also cryptic. If you're not looking for it and you don't know what you're looking for it's hard to find.

Peckham said SLF is spreading to oaks, maples, he's assuming cherries and trees like that. This is a thriving logging industry. How can you possibly stop it from spreading through with logging trucks and shipments going all over the world? Leach said it's going to be really tough. The good thing right now, SLF is currently is really nonexistent in the logging industry. It's not until it gets more Northern regions we're going to see a problem with that. There are some early models that indicate maybe SLF can't establish in these more northern regions where there's a logging industry based on how long it takes them to feed and to lay their eggs. Inspections have been an ongoing challenge for them. Logging businesses, nursery and landscape supply businesses have to go through additional compliance and they must be inspected before they get shipped out-of-state. Those inspectors have a tough job because those egg masses with the mud is extremely cryptic. Steppich asked if SLF defoliate a tree like the gypsy moths? Leach said no, the gypsy moth caterpillars chew on the leaves and you see that serious defoliation. With SLF you start to see an unhealthy tree. On limbs that they are feeding on you will see dense populations just on one limb compared to another on the same tree. That limb will start to yellow but the whole tree doesn't defoliate generally. They are starting to see tree death in really unhealthy trees. Mostly that's limited to TOH and a little bit of Black Walnut. Steppich asked how will this affect farm crops like corn, sorghum and alfalfa. Leach said she thinks that the biggest thing there is going to be trade. We see that SLF are feeding on all of those crops that they're not really causing damage. It's kind of the same thing they are seeing in the tree fruit industry. You see those huge numbers of

populations on the apple trees but they feed there for about a week and then they leave. As of now they are not seeing any economic damage for tree fruit growers or corn, sorghum and alfalfa or any other grow crop. There are some unknowns. SLF may be toxic. Again, it has that bright coloration. There have been reports of some birds eating them and they will vomit afterwards. They don't know what that toxic compound is and haven't figured it out yet. Steppich asked how has SLF affected beehives and apiaries. Leach said they haven't noticed anything yet; the biggest area they are concerned with is there is a lot of insecticide used to control SLF including the use of systemic applications in the tree so again when they start to talk about SLF excreting honeydew that bees might be attracted to, but also if they're poisoned they're excreting the poison as well. They have looked into that and so far they haven't found any effects on honey bees or bumble bees. They are still trying to understand what the effect will be with yellow-jackets and ants which they see a lot more commonly but right now their assessment is really early so they are trying to determine the non-target effects. Boyar asked if SLF move by wind and cars. Leach said with vehicles there is a time in their life cycle when they are extremely mobile, they are flying everywhere and they get onto everything. If Leach was the tallest point in SLF's vicinity they are crawling and flying on her. The same thing happens with vehicles. She made a mistake in a high dense population, Leach couldn't believe her eyes she jumped out of the car and took pictures, went back to her car and her car door was open. She spent about an hour, locked in her car, with her window opened slightly taking the SLF out of her car. She had to make sure they were all out before she moved her vehicle. Certainly they are jumping and flying onto a lot of things and getting into equipment. The other things Leach has noticed is they are active during the day and when it gets a little bit colder at nighttime they tend to hunker down in nooks and crannies so that could be something like a vehicle especially if the vehicle is warm. Hahn asked is there transport in two stages? One in their egg stage on bark and the other as an adult? Leach said yes, and it's not good to transport adults. You ship up two females up to New York for example, it's less likely that they are going to establish because you don't know if they have mated yet. You don't know if they are going to be able to find a host and lay eggs. If you transport an egg mass, you have just send a new population up to New York. That egg mass stage is what they really want to educate people on. Unfortunately, it's the most cryptic of all of the life stages.

Robinson asked if there are any genetic modifications that they're working with? Leach said the closest thing is what they call RNA interference, which they are at the early stages of using. They inject SLF with RNA that attacks them in a way and kills them and would spread throughout the population. Dr. Julie Urban from Penn State, is researching and studying what's going on inside. So, they are feeding on that plant sap but that's not enough alone to sustain them. They actually have three separate organs inside their guts that the plant sap gets fed through and then those bacterium in their gut are feeding them. Dr. Urban is trying to understand how can you disturb that and basically starve them so they don't have those resources inside. Dugan asked at the conference Leach just attended were there any new findings on the relation to TOH that SLF need a feeding of it in their life cycle? Leach said that's a good question. When SLF was first a problem many people were saying SLF requires TOH to reproduce, it requires TOH to live, so focus on TOH and it will eliminate the population. Looking at it more, Dr. Miriam Cooperband of USDA-APHIS has been the lead on that. Cooperband has found that SLF can go from first instar (right when they hatch out of the egg) right through adult on eight different plant host species, including TOH but also butternut, sawtooth oak, hops and oriental bittersweet. They have yet to understand if they can lay viable eggs after that point. The frustrating thing is SLF is super weak and so easy to kill, they cannot keep them alive. Even on TOH die and they can't get them to mate and reproduce and lay eggs so there is still a key missing point of that life cycle that they don't understand. More and more it's looking pretty unlikely that they depend on TOH. Barth asked if there is a fear some of the research they are doing in China to bring back to the U.S. to kill SLF may cause another problem? Leach said certainly, the regulations are extremely tight. The two species they have right now are in a quarantine facility so they can't get out. They have to undergo testing on all sorts of related species to make sure they are not going to cause harm themselves. The time table on that is five to ten years depending on funding, political pressure and man-power. Hulse asked if this is historically similar to any other infestation Leach has ever heard of? She said this is a weird insect. She is an entomologist by training, this insect typically for entomologists is a trophy species. You go down to the tropics and you collect these big beautiful lanternflies, they're very colorful. The short answer is no, because it is so unique, it does have similarities to the gypsy moth, Emerald Ash Borer and Brown Marmorated Stink Bug and they can use those techniques that they used to kill those insects and bring them over to SLF. Overall, biology and behavior is very different, unfortunately they are kind of starting from the ground there. Hamilton asked how can people on the outskirts of this invasion be most helpful to Leach and her team in identifying things, slowing things down, locating TOH, etc.? Leach said all of what Hamilton mentioned (early detection) is extremely important. Make sure that the public understands that this is a threat, get signs up in parks and campgrounds, just to be on the lookout for it. Have the phone number or website to report if you see SLF. The

other part of that is NYDEC and other folks have already started to implement those measures. PRISM is working on mapping out TOH using iNaturalist and iMap. They are also trying to understand where TOH is related to areas that are likely to have a lot of human traffic or likely to have spread. So certainly along railways is where they expect to see SLF spread. This is a disturbed area, lots of TOH lining it and again, they are laying eggs on anything including maybe a railcar that's been sitting there for a while. If they have more scouts out there looking for SLF but also monitoring TOH throughout the season that's really helpful. Hamilton asked if the sticky bands were available. Leach said she knows that NYDEC is partnered with PRISM to monitor in New York. For Pennsylvania you can contact Department of Agriculture. Leach said you are welcome to contact her. They are changing the band system in New York. Roeder thanked Leach for her timely and important presentation and gave her a UDC lapel pin in appreciation. Ramie mentioned that Rosie Starr from WJFF radio was recording the presentation for her program "Farm and Country" to spread this vital information on SLF on her show which airs on Saturdays.

Approval of January 3rd Meeting Minutes: A motion by Henry, seconded by Rajs, to approve the January 3rd, 2019 meeting minutes was carried.

Public Comment on the Agenda: None.

Committee Reports: Committee reports were provided based on the meeting minutes. They were: Jan. 15th Water Use/Resource Management by Boyar; Jan. 22nd Project Review by Richardson, and Jan. 22nd Operations by Roeder.

Status Reports

Delaware River Basin Commission: Ramie shared that before Dr. Najjar reports she wanted to mention that this will probably be his last meeting with us as he is retiring on April 1st from the DRBC after 17 years. Dr. Najjar is the director of Water Resource Management for the DRBC. That means he is responsible for the review of projects under the jurisdiction of the DRBC as well as Water Resource planning activities including basin wide and watershed planning, water use and demand studies; water supply and sustainability planning; and the commission's water conservation and efficiency programs. Additionally, he assists in the implementation of the DRBC's Special Protection Waters anti-degradation program which exists in the Upper Delaware and he represents DRBC in watershed partnerships throughout the basin. In 2005 he received the Water Resources Association Government Award for his role in the development of the Water Resources Plan for the Delaware River Basin, which UDC participated in as well. Before he joined the DRBC Dr. Najjar held positions in environmental consulting in the private sector. He holds a Bachelor's Degree from City College of New York, a Master's from Massachusetts Institute of Technology, and a Ph.D. from Rutgers University. He is a licensed professional engineer in New Jersey and Pennsylvania, and has been an adjunct professor at Villanova University, The College of New Jersey, and the University of Pennsylvania. There is a party coming up for Dr. Najjar on March 14th at the Washington Crossing Inn in Pennsylvania if anyone is interested in celebrating his career. Najjar said he's been able to come up to these meetings once or twice a year and has enjoyed these lively discussions. Narrowsburg has special meaning as he spent a lot of time there in his youth going down river before he even knew that the nice cool water was coming from the reservoirs. Looking at the hydrologic report that was provided in the packet Najjar said there has been a lot of storage in the NYC reservoirs for the past two years. They did have a drought in 2016 which lasted two months. For the most part it's been pretty wet and the reservoirs have been pretty full. At the present time we have a combined storage of almost 260 billion gallons which is close to full and 35 billion gallons above the average. There is some snow equivalent in the upper watershed draining to the reservoir, though probably less than we've had in past years. The total average is about 98%. Najjar mentioned the Water Use / Resource Management presentation held on January 15th on Subcommittee on Ecological Flows that talked about the Montague target and he said that was a really good presentation. The salt front is 13 miles downstream. Najjar's experience over 17 years the movement and storage of water happens very quickly, it changes very quickly. Najjar said the DRBC has a public hearing on February 13th for dockets and resolutions including a resolution on the Water Resources program which Najjar works on to advance the work plan for the Commission over the next three years regarding water quality, water management, what DRBC does as well as reporting their conditions in the basin. It's posted on the website: <https://www.state.nj.us/drbc/meetings/upcoming/> Comments will be taken until close of business February 19th. The public hearing will be March 13th at 10:30 a.m. Najjar said this is a good primer for the DRBC if you want to review the Draft Resources Program FY 2019-2021 especially for details like flow management. On February 19th the

Subcommittee for Ecological Flows is meeting again at the DRBC office. The Regulated Flow Advisory Committee Meeting is meeting February 20th. The Water Management Advisory Committee is meeting February 21st, UDC is one of the members of the Water Management Advisory Committee. Regarding water quality, in 1989, this section of the Upper Delaware River and the middle Delaware were designated a special protection waters. It was an anti-degradation program that was later extended all the way down to Trenton to keep the water clean and have no measurable change to existing water quality. In the past few years (not this year) additional measurements were taken in the Upper Delaware. Any new proposals for discharges in the watershed are reviewed to make sure the quality is not changing. Also, the lower Delaware had been studied after it had been designated to see if it had changed five to ten years into and interesting results there is that the program does work in maintaining existing water quality. Some of the concerns about nutrients which they have everywhere in the Delaware River, especially in the non-tidal, where it is nutrient limiting, have held pretty steady or even decreased in some instances. It probably won't surprise anyone that they found an increase in chlorides along that stretch of the river largely due to road salting and other practices, so that is something they are watching. The probable excessive salt application can be managed better.

DRBC received a letter from the Governor of New Jersey, who is one of the commissioners on the DRBC, indicating comments on proposed rules on hydraulic fracturing and wanting to extend what the regulations would prohibit. Najjar said DRBC has received the letter just like UDC did, and will continue to look at the proposed rule making. DRBC has basically compiled a response document. The staff will work with the commissioners to thoroughly complete that process. Final rules will be voted on by all five commissioners, at a duly-noticed public meeting which at this point has not been scheduled.

Ramie asked if Najjar could address DRBC's funding situation with the State contributions. Najjar said the Pennsylvania budget was proposed by the Governor this week and he proposed an amount for the DRBC. They're not the amounts they reported to Operations. The federal government, though the federal government hasn't paid but one year in the last twenty for DRBC's operations. Governor Wolf has put \$893,000 into the budget, which is the fair share contribution for Pennsylvania plus \$154,000 for DRBC to operate the groundwater special protection area in the southeastern Pennsylvania where Pennsylvania does not have the authority under laws in Pennsylvania but the DRBC does. DRBC has been offering that program for about 20 years. So the total in the budget is \$1,047,000. Najjar also said it's been lower in recent years and that's just a proposal. The budget won't be passed until probably June. Robinson asked what Pennsylvania's contribution was the last fiscal year. Najjar said last year, Pennsylvania contributed \$217,000. Najjar said Delaware is the only state that has paid in recent years. New York has cut their contribution; they are probably down to 60%. New Jersey cut theirs but they are working to get it in their budget. Like Roeder has talked about figures being from 20 years ago, DRBC's numbers are also from about 20 years ago. Najjar wanted to stress that the commissioners and governors are the DRBC. When they go into this plan it has to be considered what can be done in light of reduced funding. Hamilton asked if that fair share amount was based on a percentage of a land area of the watershed that falls in each state? Najjar said some intelligent people back in the 90s decided how that would be; he's not certain but thinks it has to do with land area and also the amount of much activity. New Jersey and Pennsylvania pay the most. Delaware, being a smaller state than New York has a lower contribution because they don't have as much. But there's a fair amount of work. That's not the way it is in New York to activity practice charges that relate to the reservoirs and flow management. Roeder presented Najjar with a UDC lapel pin in appreciation for his appreciation for his service to the UDC and the council gave him warm applause.

NYS Dept. of Environmental Conservation: Rudge provided a Spotted Lanternfly Monthly Update which Ramie said was conveniently timed after tonight's presentation.

PA Dept. of Conservation & Natural Resources: Dugan said Governor Wolf made his budget address this week, the official public kick-off point of the budget season. There are numbers the Governor puts out, it works through to the legislative branch and back and forth, and hopefully by the end of June they can all come to some sort of an agreement before July 1st. In terms of DCNR there they are considering a slight increase; 7%. Dugan said we are coming through the mid-point of winter. After January it becomes planning season and preparing for activities for the year looking at insect and disease projects, resource management and infrastructure. Spring fire season is right around the corner. A big project for Bureau of Forestry starting this year will be the Strategic Plan. The last update

was 2007, prior to that it was 1995-1996. This will be a two-year process. Dugan also mentioned the Delaware State Forest District 2019 Activity Plan, which is still in draft form and goes over different activities that will occur in the forest district this year from recreation, timber management, road improvement, bridge projects, habit and invasive plants. This is a tool they use to hand out to a lot of their legislators and county liaisons throughout the district so they may have a quick snapshot. In the past Dugan has shared this with UDC. Once it is fully approved from Central Office he will email a copy out. Henry saw Spotted Lanternfly (SLF) on the Activity Plan and asked more about that. Dugan said the staff are monitoring for SLF like many other invasive pests. All of the DCNR fleet gets certified. In the dormant months right now, it's not as big of an issue. All DCNR employees had a brief training learning things like the life cycle, where they can be and what to look for. When an employee is going to be moving a vehicle they need to remember to remember to walk around and check that vehicle.

National Park Service-Upper Delaware: Heister said they are happy to be back. For the last two weeks service-wide, they have pretty much had all the same priorities. At NPS-Upper Delaware it was getting the park open. None of the parking lots were plowed, none of the walk-ways were shoveled. Roebling Bridge was closed. Even when they were back in operation they did not open immediately because no one could get into the parking lots and then it snowed, so that was their top priority. Heister said getting their people paid was their second priority. She is happy to say she has finally gotten everyone paid as of Monday, this week. They weren't allowed to pick up the mail or pay the bills so getting their utilities paid, getting their fuel filled, checking their facilities to make sure they didn't have burst pipes and checking the property for damages had to be done. Heister said they had the usual stuff you saw on the news, such as overflowing trash cans at the Roebling Bridge and people using the bathroom not in the bathroom. However, it's cold, it's winter, visitation is low, so Heister said they were one of the very lucky parks. In personnel actions Karen Henry retired during the shutdown. Each division has gotten together and reevaluated what's been missed and what needs to be picked up and Heister thinks without a doubt, for every division that is hiring and making sure everyone is staffed for the summer. Typically, you are reviewing your list of potential hires in January, and some of the certifications are expired. They will have to get them reestablished. Two major projects are moving forward with this year. One is a strategic plan, that is something that will involve the UDC. Also, NPS will be hosting the service-wide Wild and Scenic Rivers Steering Committee sometime in June. That is something Heister also hopes UDC will be involved in, in terms of talking with that team of National experts.

UDC Executive Director's Report: Earlier today Ramie, Roeder and Robinson met with Assemblyman Crouch from the 122nd District. Assemblyman Crouch was very receptive to all that they had to say and he gave an hour of his time. Crouch read through the UDC Funding Briefing Report and had some good suggestions for how UDC could pursue a state contribution to the operations fund. Ramie will talk about specifics at the Operations Committee. They also brought up some other topics of concern. They discussed the NYC emergency notification system. That is something of great interest to Assemblyman Crouch being further up river than we are. They also spoke briefly on cellular signals and the challenge of living in this rural area. Assemblyman Crouch and Roeder found that they have a lot in common, knowing many of the same people to their surprise. Ramie has decided to dub this mission the "Make the UDC Great Again" Tour. They have more meetings coming up, in fact February 8th at 11:00 they are meeting with Pennsylvania Representatives Jonathan Fritz and Mike Peifer in Honesdale as well as an aide from Senator Baker's office. Six members from the UDC will participate. On February 15th they have a meeting with newly-elected NYS Senator Jen Metzger in her 42nd District Middletown office with a delegation of seven. That will be an orientation session and opportunity to discuss issues. U.S. Congressman Antonio Delgado's field district director Amanda Boomhower has offered to meet with UDC here as they continue setting up their district office for Sullivan County. There was an article that appeared in the *Times Herald-Record* a few days ago that said that the transition had not gone so smoothly between Congressman Faso and Congressman Delgado and they weren't aware of a lot of the ongoing cases that Congressman Faso had been working on. Ramie used that as leverage to say UDC has issues and there were several situations Congressman Faso had been assisting us with that UDC would like to talk about. That's what prompted Boomhower's call. They have thrown out a few dates but it has not been finalized. Once it is Ramie will certainly let everyone know. The day after our last UDC meeting Ramie received a card from Rep. Faso dated Dec. 31st 2018 stating: "Laurie- It has been a pleasure to work with you and the UDC over the past two years. I wish you and your colleagues every success in your important work in the future. Best for 2019, John." [Not printed at taxpayers' expense]. Provided in the packet is a letter from Congressman Sean Patrick Maloney. He was responding more specifically to the government shutdown and his disappointment over that. Attached to that is the letter from the UDC which was the cover letter to sending UDC's

funding report. In the case of state lawmakers, we have requested individual meetings with them, since they are the ones that need to be involved with legislation. Based on that letter that went out to all 13 of our federal and state lawmakers, Ramie received a call yesterday from U.S. Senator Chuck Schumer's aide asking how they can help us. Ramie said all of this interest is greatly appreciated. We have two new alternates. Town of Hancock Tim Newman replaces Katt Judd and Westfall Township Roland Edwards, Jr. fills a long-standing vacancy. To Ramie's knowledge she's not expecting any other changes to the board although Hall-Bagdonas hasn't gotten member-appointment forms from every Town or Township. Ramie stated the Conflict-of-Interest disclosure statements are mandatory. They must be returned for UDC's nonprofit status and legalities. We are still missing forms from Peckham, Greier, David Peters, Sean Nearing, Jeff Dexter, Judy Kuhn Conklin, Bill Rudge, Michael Flaherty, Joe Canfield and Daniel Rutledge. In other administrative business, we had to call Don Bellotti from Riverside Mechanical when we had no heat on Jan. 30-31st. There was an issue with the burner motor which needed to be replaced. The total cost was \$345.05.

With regards to UDC's Federal Funding what we need to know now is what percentage of our annual \$300,000 we are entitled to apply for based on two Continuing Resolutions that covered the periods of Dec. 7th-21st and now Jan. 25th-Feb. 15th, interrupted by the 35-day federal government shutdown. Once UDC is provided with that figure from NPS, we need to develop a budget, work plan, and financial application package that conforms to that amount to execute Modification 11 to UDC's Cooperative Agreement. Even if we had that number, we've been advised that there is no actual funding available to tap until the Treasury Dept. releases it to the Dept. of the Interior, who then releases it to NPS, then to the Northeast Region, then to Upper Delaware Scenic and Recreational River, before it can filter down to the UDC. Heister asked Alexa Molnar, the Comptroller for the Northeast Region, who said the figure was "38% thereabouts". Heister suggests we wait until Feb. 15th to find out.

Updates on the Awards Banquet, Ramie is pleased to announce that U.S. Congressman Matt Cartwright has accepted UDC's invitation to deliver the keynote address at the 31st Annual Awards Ceremony on April 28th, at Central House Family Resort in Beach Lake, PA, 3 p.m. is the social hour 4 p.m. is the buffet dinner. Congressman Cartwright was elected in 2018 to represent Pennsylvania's re-districted 8th District after he formerly served as representative for the 17th District since 2013. UDC is also trying to secure a meeting with him to inform him who we are and what we do. We will begin soliciting nominations for the awards soon. Ramie included in the packets a news release she'll be issuing Feb. 8th with a photo that includes background information about UDC's 2019 officers.

Ramie mentioned in committee that the company that proposed and installed the outdoor siren system at the Gilboa Dam in Schoharie County had read Peter Becker's article which spoke of the UDC's interest in applying that technology to the NYC Delaware Reservoirs and got in touch with us to offer a presentation. Mid-State Communications is the business headquartered in Oriskany, NY which is the master distributor for Whelen Mass Notification. They weren't available for UDC's March meeting, but scheduled a conference call with Ramie on Jan 29th to get as much information as they could to tailor their presentation to meet our specific circumstances here. Ramie shared some of our correspondence with the NYC DEP, news about the consulting study that's currently underway to improve the notification system, copies of the inundation maps for the reservoirs, and other relevant information. They want to come back with a fleshed-out proposal based on all of that. Ramie is not sure if they are under the mistaken impression that UDC would be buying this service from them but Ramie of course told them "No". In the case of Schoharie County DEP paid and that's what we would support in this case as well. That presentation is pending and is a matter of would it come before or after Adam Bosch shares the results of the Schnabel Engineering recommendations for emergency notification system improvements. Ramie is hoping that would be in April. Richardson wanted to mention an article from Nov. 16, 2018 *Times Herald-Record* that was set aside for Feb. 26th Project Review committee on the Paradise fire out in California and the difficulty they had getting the word out to people evacuating and seeking shelter. Richardson read an excerpt from that article: "The Paradise fire once again underscored short-comings in warning systems. Gov. Jerry Brown signed a bill in Sept. requiring the development of statewide guidelines for Amber Alert-like warnings. And a few Northern California communities are moving to install sirens after some wine country residents complained they didn't receive warnings to evacuate ahead of a deadly wildfire...". Richardson said those of us that have been here a long time know that the city has not been a proponent of sirens but communities there realize a need and use for it. Ramie referred lastly to

the Calendar with a March preview as well. Right now we are lacking a presentation for the March meeting unless DEP comes back and says they are ready with those study results.

Old Business

Town of Highland Parcel #27.-9-1 Project Update: Ramie stated that we were asked to keep this issue on the agenda and asked if anyone had an update. Saumure said work is continuing on the site.

Other: Sullivan County Legislator and Town of Lumberland representative Rajsz had a brief update on the Barnes Landfill. The county is still waiting for a letter of Remediation from the DEC as to who can go on the site, what can be done and approximately how much it will cost. They are also waiting for the results of Department of Health well-testing study around the area.

Ramie said while we are still on the Town of Highland there is a time-sensitive matter that should be addressed to seek UDC member opinions. The Town of Highland has redone its entire zoning code and they just released it to UDC on Jan. 17th. They have a Public Hearing set up for Tuesday, Feb. 12th, which does not provide UDC's 45 days needed to review. UDC has been advised by the Town that they plan to vote on adoption of the code that night. Golod and NPS have been reviewing it and have found significant issues so we're hoping that UDC will be able to impact that schedule. Golod said along with the email from the Town Clerk on Jan. 17th about the Public Hearing they attached copies of the public hearing notice as well as the draft zoning. Golod followed up by asking them if what we received was a formal submission from the town for a substantial conformance review or simply for comments. If it was a submission for comments we asked what the final date would be for the Town to accept comments on the draft zoning law. It was also explained if it was a submission for substantial conformance review per the River Management Plan (RMP) we are granted 45 days to conduct a review on the Town's draft zoning law prior to making our initial recommendations to NPS regarding substantial conformance. UDC was told per the Town's supervisor, the town's public hearing will be scheduled Feb. 12th with the hope to adopt and we were asked to forward any comments by 3:30 p.m. Feb. 12th, the day of the public hearing. Golod has gone through the updated draft zoning law alongside the 2017 draft that was submitted both to the UDC and NPS, which was reviewed for substantial conformance. He made comments on the updated draft as well as the district schedule of use regulations and their zoning map. From a cursory review and not the formal substantial conformance review, as it stands the zoning draft would not substantially conform to the Land and Water Use Guidelines. Golod said we are within a ticking-time clock where they are looking for what would appear to be last comments prior to adopting this zoning. Rajsz asked if there were specific issues in the zoning. Golod said 16 of 22 objectives are not substantially conforming, which Heister said was also the conclusion of the NPS staff's preliminary look. There are a lot of inconsistencies in the draft zoning law and their schedule of district regulations. Definitions that are defined in the glossary that aren't mentioned anywhere within the zoning law itself and vice versa. Henry said didn't UDC not too long ago give the Town a TAG grant of \$10,000? Ramie said it was for this zoning code update. They did one version of this update and it was not approved. They scrapped that and started over. It's this second version that has so many issues. Henry said the Federal Government gave money to the UDC, which we gave to Town of Highland, through a TAG Grant and they are basically telling us to "pound salt". Ramie said we don't require adoption of the final code to satisfy the TAG requirements. They are seeking comments in this compressed time frame. Normally Golod reviews this, meets with NPS, and then he would present to the Project Review Committee where they would weigh any options on his review and add any comments or suggestions. It would then be forwarded to full council saying it conforms or that it doesn't. Golod is looking to UDC to guide him. Rajsz asked what the hurry is for them to vote on it that day? Golod said that is a good question. Henry said from what Golod and Heister shared it seems to be 60% non-conforming so you can at least send that information to them saying "A cursory review found it's 60% out of kilter. We only meet once a month and it needs to be reviewed by the Project Review Committee..." Golod suggests drafting a letter as early as tomorrow stating everything he just apprised UDC of and that 45 days is required per the RMP. Boyar stated there are citizens who are not sitting on the town board, who are aware that the proposed zoning is non-conforming and those objections will be raised on Tuesday. He would like to see what the public hearing accomplishes and those points will be made. The objectives should be met and we should have the courtesy of adequate time to review. Sullivan suggested stating in the letter to the Town we want it read into the public record of the public hearing. Golod said that he plans to attend the hearing and he believes Jennifer Claster of

NPS will also. Discussion ensued. A motion by Henry to draft a letter to Town of Highland to advise them UDC does not have the 45 days that is required for our review and asking them to hold off on making a determination until UDC has a chance to do our normal process. A cursory review also found it is 60% out of conformance. The motion was seconded by Rajsiz motion and carried unanimously.

New Business

Damascus Township Joint Comprehensive Plan Substantial Conformance Recommendation: Golod said at Project Review they reviewed Joint Comprehensive Plan for Damascus Township and the Committee found it substantially conformed, barring one objective; however Steve Adams was present that evening along with the Zoning Code Enforcement Officer, Ed Lagarenne and they assured us that they were going to add the one objective. That is a bullet statement regarding sewage treatment plants within the river corridor or not being in the river corridor. If any other changes occur post-adoption that would be subject to another Substantial Conformance Review. Motion by Peckham, seconded by Rajsiz to send a letter of Recommendation to Damascus Township was approved with one abstention by Rutledge.

Support Letter: Town of Tusten Green Waste Recycling Project: The Town of Tusten asked UDC for a letter of support for their application for funding to the DEC's 2019 Municipal Food Scraps Reduction, Food Donation and Food Scraps Recycling Programs to construct a Green Waste Recycling Plant. The stated goals of the project are to protect the environment, reduce, reclaim and recycle organic waste. Motion by Henry seconded by Boyar carried with one abstention by Peckham.

Input to PennDOT: Narrowburg, NY-Darbytown, PA Bridge Railing Painting Proposal: Ramie noted that she had circulated this proposal from PennDOT in advance regarding whether to paint the galvanized steel railing on the bridge. Many shared their opinions. Motion by Dugan to leave the railings as they are, seconded by Henry, carried.

Upper Delaware Council Inventory of Membership and Substantial Conformance Dates: Ramie said this came up when she was putting the State Funding Reports together. Roeder suggested we mention when each Town and Township became participating members of the Council. Golod did the research going through newsletters and historic documents, and included dates for substantial conformance. We think this is a great document to have. Richardson said there is a correction with Town of Cohecton. They were a member in 1988. Richard Guttzeit was a representative. Richardson came on in 1989. Ramie said they would double-check the data and issue an updated list.

Other: Peckham had information for NPS, in Buckingham Township, Adams Lake. DEP is ordering them to rehabilitate the Dam or take it down over the next few years because its spillway is dangerous. It's right off the river. It used to be a Girl Scout Camp.

Ramie reiterated asking everyone to review the UDC Inventory of Membership and Substantial Conformance Dates and confirm the information as the newsletters are quarterly so they did not necessarily record the exact date. Please check with your Towns and Townships.

Public Comment: None.

Adjournment: A motion by Henry, seconded by Rajsiz, to adjourn the meeting at 9:25 p.m. was carried.