



July 29, 2015

PADEP

Attn: Mr. Bruce McClain (First class mail and electronic)
DEP Southeastern Regional Office
2 East Main St.
Norristown, PA 19401-4915

USEPA REGION 3

Attn: Ms. Charlene Creamer (First class mail and electronic)
1650 Arch Street
Mail Code: 3HS12
Philadelphia, PA 19103-2029

Re: Philadelphia Gun Club – Human Health and Screening Level Ecological Risk Assessment

The Delaware Riverkeeper Network (DRN) would like to submit these comments and concerns to both PADEP and the USEPA for your further considerations as both of your agencies review this above captioned report. We reserve the right to submit additional comment at a future time.

DRN recognizes that both the DEP Southeastern office and EPA's Region 3 offices forwarded this report to your respective technical staff and are awaiting their review and reports. We respectfully request that you forward these comments to those technical staffers so that they will be able to benefit from the additional information we are providing as well as more fully understand, and therefore may weigh, our concerns.

Regulatory Framework – 1.2

The report states that they are following USEPA's guidance for the assessment of this site. Is that guidance more comprehensive to natural resource protection than US EPA's Interstate Technology and Regulatory Council (ITRC) technical and regulatory guidelines for Characterization and Remediation of Soils at Closed Small Arms Firing Ranges and USEPA guidance relating to small arms firing ranges? Our concern is that the Philadelphia Gun Club (PGC) assessment is that the site was only assessed for lead. It is our understanding that, under ITRC guidance, in addition to lead, additional analytical parameters should include:

- Shot Contaminants of Concern include the following: Lead, Arsenic, Antimony, Copper, Tin, Zinc and Iron (IRTC);

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- Clay Target Contaminants of Concern include the following: PAHs, Lead, Arsenic, Cadmium, Chromium, Copper, Nickel, Mercury, and Zinc (Lobb, 2006);

Considering this site has been in operation since the 1800s as a trap shooting facility, we believe that it is highly likely that these additional contaminants would be on site and in the River. As such, DRN urges DEP and EPA to require the PGC to conduct that further analysis.

Where is sampling in the Delaware River?

There is no indication that any sampling was conducted in the Delaware River. How can any accurate conclusions be reached or a true and accurate ecological assessment be made of the impact from the shooting range on the Delaware River and all the aquatic, avian and mammalian species that depend on it without sampling river sediments and aquatic species, such as macroinvertebrates, fish, etc., and other species? Yes, there is a screening set up to discourage some of the lead shot from reaching the river, but a significant amount still today comes raining-down into the river (see YouTube below) and, considering that this shooting range has been operational since the 1800s, we believe that decades of accumulated lead is in the River sediment from periods of operation prior to the screening.

The PGC only conducted 10 riverbank samples (RB-1 through RB-7, RB-1S, RB-1E and RB-1N).

DRN recognizes that the River is a dynamic environment and tides and storms could have moved that lead shot and possibly clay pigeon debris well off-site making the impact of those contaminants difficult to assess. But the PGC should be held accountable and therefore mitigate for contamination still remaining just off their property. DRN has been advised that while PADEP's jurisdiction ends at the water's edge, USEPA has regulatory and jurisdictional oversight of the Delaware River. DRN urges both the DEP and EPA to require the PGC to conduct technically-sound and appropriate contamination sampling and assessments in the Delaware River.

Approach – 1.3

The PGC seems to be asserting that the entire site (uplands and riverbank – river not samples) will be safe. While some lead levels are reported to be below thresholds for residential and non-residential, lead contaminants at RB-1 and RB-1S were tested at 50,100 mg/kg and 36,000 mg/kg respectively. If acceptable non-residential levels for lead are at 800 mg/kg, how can levels 45 – 62 times that be considered safe – even if looking at it with conservative assumptions as the PGC claim they are? DRN urges DEP and EPA to require the PGC to remediate and restore this area.

Constituents of Interest – 2.4

As stated above under “Regulatory Framework,” why is lead the only constituents of interest? Under the ITRC guidelines, several other serious and significant contaminants are present in this type of land use. The entire Gun Club should be assessed for those other contaminants.

Comparison of Soil Data to Screening Levels – 2.4.1

Over 30% (82 of 264 samples) exceeded the non-residential threshold of 800 mg/kg. DRN requests that DEP and EPA require the additional evaluation that the PGC is seeking.

Potential for Lead in Soil to Leach to Groundwater – 2.4.2

The PGC found that groundwater contamination at all of the 4 sampling sites. DRN reviewed the planning sheets that showed the specific locations of the 4 test sites and ask both DEP and EPA if, in your opinions, these 4 sites, based on the technical guidance, are enough to comprehensively identify possible lead in the

groundwater. It seems to DRN that the location of MW-4 is significantly inland from where many of the lead sampling sites are located. As such, may be not detecting groundwater leaching toward the river.

Additionally, referring back to our comment above – considering the other likely contaminants typically found at tat trap shooting range, DRN urges DEP and EPA to require further groundwater assessment for the other stated potential contaminants.

Qualitative Evaluation of Adjacent Industrial Property – 2.5

The sampling data show lead contaminations from 12.4 mg/kg to as high as 6,660 mg/kg. The report discusses the industrial site adjacent to the Club, but there is also the Grupp property which is south of PGC and abuts it directly. Has any soils, groundwater, water supply or other samplings been taken from this property? Why wouldn't the PGC's report assess that adjacent property? DRN urges DEP and EPA to require that additional sampling.

Additionally, even though the other adjacent property is an industrial site, the threshold for non-residential is 800 mg/kg, so how can the PGC reach the conclusion that these lead levels are an “acceptable” potential hazard? Has that neighboring industrial property owner been notified of the likely contamination on their property? Would not this possible lead contamination (and possibly other contaminants from trap shooting range) impact future excavation or other future changes in that land use/capital improvements and resale value? Has this neighboring business' water supply been tested for lead and other contaminants? DRN disagrees with the PGC that these levels are acceptable and urges DEP and EPA to require a comprehensive site remediation and restoration.

Potential Exposure Pathways – 3.2

A point of clarification – the report states that “an exposure pathway is considered complete when all of these elements are present.” Does that mean that all 4 exposure pathways must be present in order to be considered complete? Is “completeness” a pre-requisite to presenting a human health or ecological risk (e.g. without all 4 of those exposure pathways there is no risk)?

This report seems to insinuate that only “incidental ingestion” and dermal contact are valid exposure pathways from this site. Inhalation as a pathway appears to have been dropped off the list. It is our understanding that as lead breaks-down, it becomes a white, powdery substance. As such, would not that likely become air-borne as the soils dry and get kicked-up by wind or other activity or through erosion?

Ecological Risk Assessment

DRN believes the PGC's report (page 7-2) mistakenly concludes that 1) there are “rare instances of aberrant lead shot from firearms” getting into the river and, 2) that there is a “low potential for adverse effects to ecological receptors due to lead exposure.”

6.1 – Site Background and Environmental Setting

It seems to DRN that PGC's report, by stating that the embankments are steep, the presence of a chain-link fence, and briars and obstructive vegetation (page 6-1) are present, is attempting to make the Delaware River waterfront seem inaccessible and un-inviting and therefore not in need of mitigation and restoration. In fact, this area of the river has considerable active recreation in and around it. The Columbus Country Club has a recreational boating dock just 700 feet downriver and there is a very large marina just 1 mile upriver – next to the Neshaminy Creek confluence. Recreational kayaker and fishermen are also able to access the near-shoreline while enjoying these navigable waters. The Neshaminy Creek State Park is only approximately ¼ mile away and, at low tide, walking the riverfront is a very popular family activity. Access

to and from the PGC or to and from the waterfront and the Delaware River is not impeded by the steep embankments, chain link fence briars and other vegetation, and large rocks at the bottom of the slope.

In fact, here is a short YouTube video showing a youth (10 or 11 years old) accessing the riverbank retrieving dead and dying pigeons during the Philadelphia Gun Club's annual **live pigeon shoot**. This footage is being offered to depict that the PGC waterfront property is easily accessible to and from the River and so steep embankments, fencing, and briars should be no reason not to remediated and restored as such. (<https://www.youtube.com/watch?v=mv-LqpT9Oqw>).

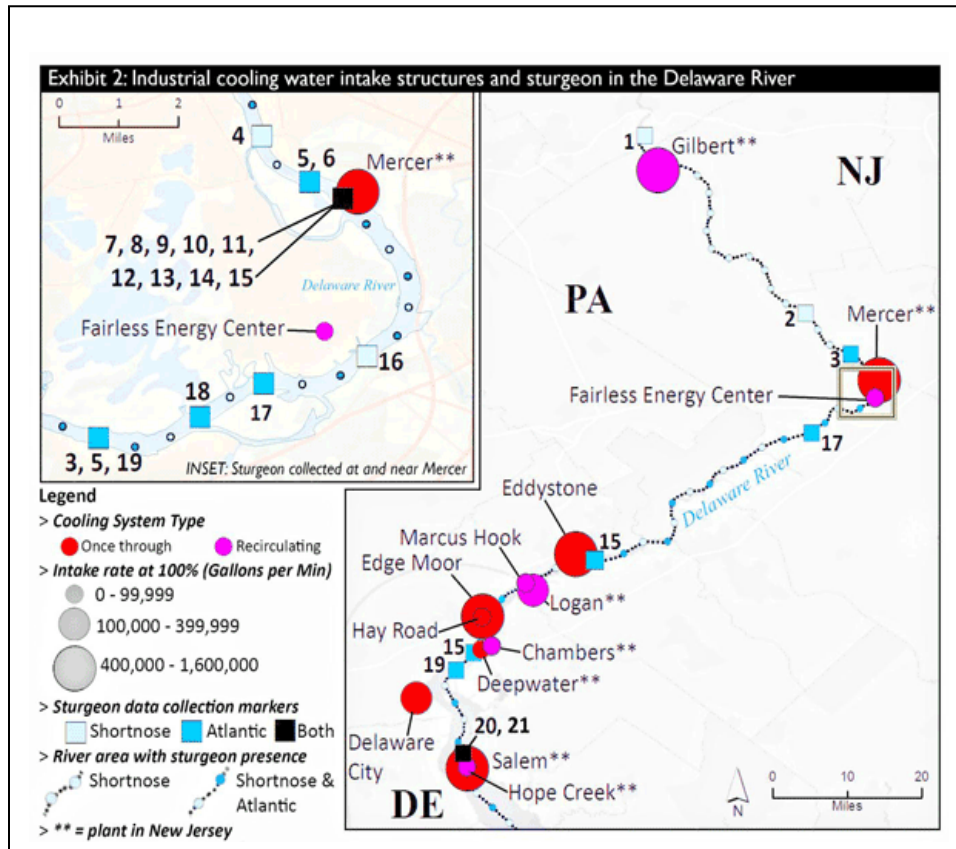
6.2.1 Threatened or Endangered Species and Species of Concern

This report DOES NOT present a full and true assessment of the wildlife that likely frequents this area. DRN urges DEP and EPA to require the PGC to 1) fully assess the resident and migratory aquatic, terrestrial and avian wildlife species in this reach of the Delaware River, and 2) reach-out to New Jersey Endangered and Nongame Species, Fish and Game programs and the Delaware Estuary Program so that a more comprehensive listing can be gathered of all species that might frequent, forage, migrate through this area. As stated below, there are Endangered species in this area of the watershed, but there is also more common species, such as carp, catfish and others that would likely be impacted by the highly contaminated areas of riverbank (RB-1, RB-1S). These species make up a significant part of the local food chain for area hawks, raccoons and other species, not to mention maybe even substance human fishermen off the docks of nearby Philadelphia. Additional video footage is available of a fox and a hawk attempting to retrieve a wounded pigeon. This footage is

There are known Bald eagles nests and foraging areas nearby in Camden, Delanco, Burlington Island, Rancocas Creek and Burlington County (<http://www.nj.gov/dep/fgw/ensp/pdf/eglrpt14.pdf>). Due to the increasing **Bald eagle** population in this area, their foraging territory may have expanded beyond their norm. Contacting these agencies and organizations to learn what their volunteer monitors are reporting could provide you that added insight and the much-needed additional information to make a full and accurate assessment of the potential contamination from the PGC.

There are also many **Osprey** nests and even some **Peregrine** falcons in this section of the river. The Bald eagle and these other carnivores routinely feed on fish species such as catfish and carp; both bottom feeders, in the vicinity of them PGC. If that is the case, there is a chance that lead ingested in these bottom feeders could work its way up the food-chain. Before DEP or EPA limit the scope of remediation at the Gun Club, DRN believes it's important to know ALL the species that feed, inhabit and migrate through this reach of the River.

Short-nosed and Atlantic sturgeon are also reported in this reach of the river – the Atlantic sturgeon was recently listed as an Endangered species. PGC's report makes no mention of sturgeon or any of the other hundreds of aquatic, terrestrial and avian species that uses this section of the Delaware River. Please see illustration (Exhibit 2) below. While it is referencing the impacts that power plant cooling water intakes has on Short nosed and Atlantic sturgeon, the value of this exhibit is that it depicts that both sturgeon species have been found in this section of the river. The PGC report makes no mention of these Endangered species.



According to the Delaware Estuary Program’s 2012 State of the Watershed, “The bottom line is that the Atlantic sturgeon’s recent endangered species listing reflects their poor population condition in the Delaware River and bay and the tremendous need for conservation intervention. In recent years, evidence of spawning in the Delaware has given us hope that population trends can be reversed with the protections that come with listing”

(<https://s3.amazonaws.com/delawareestuary/pdf/EstuaryNews/2012/SummerNews12.pdf>)

DRN urges DEP and EPA to require the PGC to fully assess the area in and around their property and their possible impact on Atlantic and Short nosed sturgeon.

Freshwater mussel populations may also exist in and around the PGC – but their report did not assess the shallow water, rocky bottom habitats in the Delaware River. There were once 300 species of freshwater mussels in the estuary. Today there is one. Every opportunity to protect this species should be made. According to the Delaware Estuary Program’s 2012 State of the Watershed report states:

“Freshwater mussels are the most imperiled of all animals and plants in North America. These animals are sensitive to a variety of problems, including pollution, dams, droughts, floods, loss of forests, overharvesting for their shells, and use by fishermen as bait. Of the 12 mussel species native to the estuary, only one is still believed to be relatively abundant, and their range is shrinking. The PDE is currently working with partners to restore these freshwater mussels to their native streams. In the fall of 2010, scientists from the PDE and The Academy of Natural Sciences of Drexel University discovered remnant mussel beds surviving in the Delaware River that show what historic conditions were like in most streams. These sizable beds contained many species, including some

rare types that were previously believed to no longer exist in Pennsylvania and New Jersey.”

What is the impact of lead on the filter-feeding freshwater mussel? There is certainty that lead shot from the PGC has, for decades, fallen into the Delaware River. Please view this short video of one of the PGC’s live pigeon shoots. Notice injured pigeon in this video. Notice too all the shotgun pellets falling into the river around the volunteers. Even though the PGC reports they are now only using steel shot, lead shot was used for most of the decades the club has been in operation.

<https://www.youtube.com/watch?v=W76vm4vTcr0>).

6.4 Comparison of Riverbank Soil Lead Concentrations to Ecological Benchmarks

This report fails to assess lead concentrations in the river sediment so the report’s conclusions that the lead concentrations are “below adverse effects are negligible” are suspect, if not invalid. Lead shot rained down on this section of river for decades. That must be assessed and mitigated. Riverbank samples RB-1 and RB-1S are highly contaminated and should be mitigated. Further, the overwhelming majority of the Riverbank sample results also exceed the Eco-SSLs:

- Plants – 7 of 10 exceedances
- Invertebrates – 2 of 10 exceedances
- Birds – 10 of 10 exceedances
- Mammals – 10 of 10 exceedances

It is DRN’s assertion that the only way that the PGC reached the “negligible impact” conclusion they did is because they did not assess the total impacted areas that their activities reach. DRN urges DEP and EPA to require the PGC to, using the scope and information provide herein, fully assess their total and cumulative impacts on the Delaware River, its watershed and uplands not fully characterized and assessed.

Thank you.

Sincerely,



Fred Stine
Citizen Action Coordinator