Schuylkill River Corps Project Platform

To support collaborative projects, such as our first endeavour, the River Corps Guides, we plan to create a digital platform for the various kinds of information Corps participants need. Such information might include photographs, video files, historical texts, oral histories and ethnographies (audio files), historical and real-time water and air quality data, bird sightings, fish caught, etc.

In a first visioning meeting, held at Bartram's Garden on 4/14/16, Bethany Wiggin (Penn Program in Environmental Humanities) asked Corps participants to "consider how collaborations with other River Corps members might augment what you're already doing, i.e., how can we as a collective hold up and support your initiatives. Please indicate **what kind of data [in that word's broad meaning as information]** (perhaps about the watershed's history, present, or future) you would find useful to build on what you already know about the LSR."

Seven Break-out Groups formed. Please report back in this document about the discussion your group had, paying particular attention to the kinds of information that your group identified as necessary for the River Corps projects, including the River Guides. Please take as much space as you need!

Bethany will use this information in **a meeting on 4/29** at UPenn to begin slowly to create a stable shared platform for our various kinds of data and information, with Pete DeCarlo (Drexel) and team members from Penn's Libraries Division of Digital Scholarship and the Price Lab for Digital Humanities. This is a long-term project that will be undertaken in baby steps, including your input in our shared google docs and folder.

Group 1 (Coryn's group)

Pete Decarlo, Drexel; Sophie Sarkar, National Park Service; Mariana Bergerson, John Heinz National Wildlife Refuge; Nikhil Anand, Penn; Coryn Wolk, Clean Air Council

Pete, Drexel: He/Drexel has expertise in air quality measurement and access to experts on water quality, public, students. Envisions having air quality measurements up and down the river and visualizing water/air data in a way that makes it accessible and understandable to the public. Possibly compare air/water data between different nature sites along the Lower Schuylkill--show how it changes depending on where a site is situated on the river and what's around it (ex: Bartram's vs Heinz NWR). Key ideas/needs are to have a common place to put air and water data and samples, and more coordination between groups taking and using that data.

Sophie, Park Service: Goals: get more people on the river recreating, and change the narrative of who is using the Schuylkill River. The upper Schuylkill has a ton of people rowing on it and that's what people generally think of as the main recreation/recreators on the Schuylkill. There is an underused dock at

Walnut St. We could make that dock more accessible either to enable the SRGC or as part of it. We'd need data on the demand and use of the dock.

Mariana, Heinz NWR: Existing Heinz programs: work with 3 schools, mainly in the classroom. Are planning to give kids access to boats at Heinz and make the dock more accessible. Also working on an official boat trail through the marsh. People don't know that you can boat in the Heinz, and there isn't a lot of interpretive info throughout about air/water quality. For example, they recommend that people don't eat the fish they catch there but don't explain why. Also working on vacant lots, green spaces.

Data they'd need: more air and water quality data and guidance for the public on how to interpret it.

Envisions River Rangers: youth and/or college students be trained in data interpretation and giving tours

Nikhil, Penn: Overall concept: exploring the question of what is the Schuylkill, as a constructed, changing entity? What is the river? Corps might benefit from learning/ sharing the biography of the river in time/ space. Second, what does the Schuylkill River mean to people who live near it, what could it mean?

Coryn, Clean Air Council: Clean Air Council has been doing research into existing energy infrastructure along the lower Schuylkill, its impacts on communities, and how proposed fossil fuel development could conflict with proposed green/train development. They plan to do more outreach to communities along the lower Schuylkill, both to inform them and as part of a planned listening project about what it's like to live near the refinery/petrochemical terminals. Haven't decided final product for listening project. Community members have said they want more live, detailed air quality data from the refinery and related infrastructure, as well as more general info about emissions and potential impacts. For this project, we also need to know what information communities along the lower Schuylkill have, what they'd like to share, and what they'd like to know. Would love to somehow work the stories from the listening project into the SRGC. Clean Air Council is part of Green Justice Philly, which has been talking about doing a "toxic tour" of the refinery and/or energy corridor for politicians and potentially other audiences. Could be led by SRGC members.

Attempted summary: Our group had a great combination of scientific/technical assets, experience in environmental education and training environmental educators, and developing and promoting public programming. Envision a project that gives the public air/water quality data and the ability to understand it, allows communities along the lower Schuylkill River to share their knowledge and experiences of the lower Schuylkill, and gets people out on the river and rethinking their ideas of what/who it's for.

Group 2 (Tricia's group)

(Sam, Symeon, Jeff, Gregg, Tricia)

Group 2 discussed the place of narrative(s) in forming *guides* along the LSR. Specifically, we want to avoid creating and perpetuating a master narrative of the LSR. Instead, it is imperative that we create a platform that offers a variety of different, community-curated stories along the river.
Experiences of health, illness, and safety, both individually and quantitatively around air pollution and the refinery may be useful in this regard. Specifically, we think it's important to consider people's conception of health. For instance, we are interested in the story of the refinery, and the different ways in which it contributes ⅔ of the city's pollution and fashioned Philadelphia as America's greatest "energy hub." We discussed the importance of critically analyzing *energy* along the Schuylkill--the river itself being a force. Moreover, we want to think about data about health that can unite different groups and offer various stakeholder perspectives and voices.

We discussed how it is imperative to document collective narratives, drawn from personal stories and memories. These narratives should be placed in a publicly-accessible and sustainable PPEH archive. In addition, we think that a mobile-friendly and communal living archive could allow people to create their own virtual exhibits. Good examples of this include *Liberianjourney.org* and Re-Place-Ing. Both use OMEKA platforms, and allow for people to share their own photos and oral histories.

Finally, our group discussed the importance of community partnerships and the possibility of tapping into project incubation funds at the Price Lab.

Group 3 (Tony's group)

Input from Kate:

From a landscape architectural perspective, it's customary to gather data from a stack of layers composed roughly of the following: geology (Atlantic Coastal Plain), soils (web soil survey), hydrology, plant life, wildlife and migrations, climate, local human culture, economy and various human statistics and networks which could include transit, demographics, histories. Along North American rivers, competing transit paths and industrial boom-and-bust legacies are common. Moreover, hard-edges and infrastructure that contain rivers as they pass through cities restrict the "pulsating" effect they have outside the human-built environment.

To me, two different kinds of information stand out as especially interesting in the Lower Schuylkill:

1) A list of the 10-20 most pervasive invasive plants and their cultural legacies. A) I reason that this area (specifically Bartram's and Woodlands) was a significant site for botanical research and

collection in the early-colonial U.S. - some of our most dominant invasives may have been introduced here out of the colonial project. B) In some cases, government and transit agencies have propelled the dominance of plants that are now invasive. Estuary areas that have undergone major earthwork for highways, trains and trenching have required ecosystem services such as quick slope-stabilization or “nitrogen-fixing”. Nitrogen-fixing is an attribute sought in cover crops as placeholders for potential future agricultural soils. In fact, even today the USGS soil survey still categorize and evaluate soils by their agricultural potential in the European tradition. Many invasives were introduced as cornerstones of earth-stabilization in large infrastructure projects in the 20th century - it would be amazing to know more about this. C) While invasive plants are a hot topic in every ecotone, in wet areas locally they seem to spread more quickly and with greater tenacity than in upland areas. Therefore they tend to visually dominate the landscape, offering an easy prompt to tour guides and attendees.

2) The history of capital in the Lower Schuylkill would be extremely interesting. I reason that the lower schuylkill is bracketed by large tracts of land, some of which are highly visible cultural/institutional landscapes, others of which are industrial or postindustrial - inaccessible or remote despite their highly visible neighbors. The histories of these tracts and their cultural and economic legacies would interest many audiences. I’d like to know what the borders of the oil refineries are, what companies occupy the space and what the current net annual income and total assets are for each property owner along the lower schuylkill. It would be amazing to see current information alongside economic data for each property from each decade in the 20th century. Information about the endowments of Penn, Woodlands, Bartram’s and other large institutions would be included, alongside any financial information about friends-of groups such as Cobbs Creek or Mt. Moriah (guidestar and Wikipedia should provide some of this info for non-profits and major corporations). I believe this information would show a boom-and-bust economic history, correlating to intense industrial intervention along the banks of the Schuylkill. I believe it would also suggest that large capital investments have been made along the Schuylkill banks. Moreover, the codes of private/institutional property are exaggerated along the Schuylkill banks when compared to city sidewalks - with very large areas either completely off-limits or recruiting members, participants, donors, etc.

Our group discussed ways to engage various audiences with different kinds of information access. We discussed useful precedents for possible future initiatives, such as birding apps that allow enthusiasts to “flock” to bird sightings.

Group 4 (Drew’s group)

Notes from Drew:
David Barnes (Penn) talked about the Lazaretto as a waterfront treasure about five miles downstream on the Delaware from the mouth of the Schuylkill. He used the term "storyscape" to describe what I took to be the framework for telling the Lazaretto's stories, and mentioned that he had used digital animation techniques in some of his work. Gaining access to the Lazaretto is currently complicated

(David's word?). The site extends to the river/waterfront, and there is a small island in the river directly in front of the Lazaretto's riverbank.
[David: “Storyscapes” is Ned Kaufman’s term for the way in which landscapes (natural and human-made) contain stories, which have to be coaxed out of them (by us) but have much greater power as part of the landscape than when divorced from place. My work at the Lazaretto has led me to advocate for preservation that evokes “layered” storyscapes—representing different themes in different eras of history—rather than a place frozen in one time period.]

Jess (PPEH Fellow) pointed out the rich folklore associated with sites along the river, and emphasized the importance of oral history in the creation of folklore. She talked about how digital mapping of cultural resources could make those resources accessible to those wishing to find them.

Zach (Bartram's Garden) mentioned the relationships among culture, "playspaces," and "public reluing..." or something (sorry -- handwriting breakdown).

Dorothy (Penn staffer, self-described "member of the General Public," and budding kayaker) mentioned people's interest in learning about tap water vs. bottled water. She also talked about a phone app for sites of interest in Haverford Twp with which she is familiar -- through it, a visitor can access specific information over her iphone for any number of sites in the Twp.

Drew (PWD) mentioned the surprising collection of historical images and maps at the Philadelphia Water Department, most accessible on-line at www.phillyh2o.org. PWD has a couple of operating facilities and sewer outfalls (large sewer overflow pipes) on the riverbanks that might be of interest to those boating on the river.

Someone mentioned all the interesting bridges over the Lower Schuylkill.

Jess talked about the "Curatescape" app (?) available through the Cleveland Historical Society. She or someone else mentioned the Baltimore "Neatline" which is apparently similar to the Cleveland app.
[**Jess: Yes! Curatescape is an open-sourced Omeka mapping program developed by Cleveland State U’s Center for Public & Digital Humanities and available to any organizations for purchase; Neatline has less functionality but is a free plug-in for server-side Omeka ... but means we DO need server space. Both -- but especially Curatescape -- are robustly used by public history & cultural organizations -- check out the incredible historic preservation maps & tours of Preserve Baltimore, the city hist-pres group! I think something like this could be *very* useful as a model for our database/public-facing interface ...]**

[After the group sessions, I spoke with Joel Fry (Bartram's Garden, and PWD intern in 1989). Joel and I reminisced about the several Schuylkill R. boat trips PWD organized in the early '90s. At the time, we chartered a flat-bottomed (?) or shallow-draft "party boat" called the "Holiday" from a marina near Penns Landing, and then one of us narrated a description of historic sites, industrial sites, and civil infrastructure (wastewater and transportation) we passed along the way. We motored all the way up to

the Fairmount Dam, then stopped at Bartram's for refreshments on the trip back to the marina. A third person reminded us that kayaks are already sometimes available from Schuylkill Banks.]

[**Jess's notes**]: would be incredible to build a shared data platform/archive/public interface that could support the following kinds of data (and beyond!):

- Oral histories + ethnographic and other field recordings [audio/video] (sync-able with the OHMS [Oral History Metadata Synchronizer] platform pinned to map locations & synced with photos, scanned artifacts, etc. [Curatescape and Neatline both allow this, and play well w/ Omeka]
- Objects [similar to how objects appear w/ Dublin Core metadata fields in Omeka]
- Scrolling feeds for environmental data (weather, pH levels, wildlife tracker stats, etc. -- feed from River Corps placed monitors, or crowdsourced from other groups' monitors?)
- Ethnographic/botanical/ethological observational data -- space for qualitative analysis pinned to either SPECIES (also will need a SPECIES index) and ALSO to PLACE
- Routes (see models like CURATESCAPE [from Cleveland's Center for Public & Digital Humanities] and Neatline [both are plug-ins for server-side Omeka!]) to allow anyone to curate their own TOUR or ROUTE through and across the following points -- sync w/ an app like Curatescape that "populates" map squares (like Yelp does) with all this flowing data, and allows choices between it for curation
- Sync w/ web & cultural programming (program/boating times, special events, parking & open hours info, etc.) for cultural & nature centers & spaces along the Schuyllkill
- Features that would "auto-curate" a public interface for **events/time** (e.g. stuff happening in/open on/season for May 15, 2017 -- could be species commonly seen, cyclical field notes from stuff last year, special events & happenings, RiverCorps tours, etc.; or, alternatively, by **1800's river history**, etc.) and also for **particular places** or **types of experiences** (e.g. could curate map by "amphibians," or by "sites of toxicity," bike route, etc.)
- Places [pinned w/ multiple photographs, recordings, etc.]
    - >> have this be able to be "crowd-sourced," i.e. updated by anyone in the Corps

* Database also needs to support a robust, in-house **controlled vocabulary** for **tagging** all of our entries, so that we can synchronize how things show up and get auto-curated based on users' searches in the app/interface; **this will also be really important to allow the collective database (i.e. the back-end of the system) to be usable by River Corps tour guides to curate their own analog tour experiences that other folks will be a part of**

* For in-person River Guide Tours: database will need a component to allow tour guides themselves to **download** and **arrange**/constellate/curate particular objects in the database (similar to Omeka's "exhibit builder mode"); but it would be great if the database/platform allowed a way for **tour-guides to use the database/interface to actually write scripts *with* and around the data objects (oral histories, field notes, scrolling PH live updated data) within the app**

It could thus look something like this, with the **Lettered Entries** representing objects (some scrolling/live updated) in the database

Hypothetical Tour: Schuylkill Refineries & Petrocultural History
By: Tourguide Marjorie Q.R. Peaches

4/18/2017

"Today, we'll be embarking on a tour of vernacular landscapes of industry along the Schuylkill. We'll start here, at the site of the refineries. [**A -- Historic Entry on Refineries]** -- These were built in XXXX by XXXX Corporation, following on the heels of …. Here, we can all put on our headphones to listen to Paula Jackson tell the story of childhood next door to the refineries, and the occupational culture that supported her dad's connection to the industry and her family's livelihood. [**B -- Paula Jackson Oral History**] You'll note, today, that under [**C -- Refinery Laws in Philly, 1990s]** the refineries have a careful environmental program in place to monitor impacts on the Schuylkill; but, today [**D -- Scrolling pH and other data for THIS POINT, e.g. the water right outside refinery for THE EXACT MOMENT IN TIME OF THE TOUR, 4/18/2017 9:25 AM]** we can see that -- yep: pH levels indicate that these programs are only somewhat efficient in controlling byproduct outflow into the Lower Schuylkill basin …"

- Also database should have the ability for tourguides either to **be able to see and comment on, or even give, each others' tour scripts**; or to lock them as private. This way database/map could also facilitate private or small-group (family, etc.) memory-keeping work as well as public tours?

[David, seconding Jess's notes: Our group discussed the ways in which digital resources and on-site, in-person activities/installations can create synergies, each fueling and enhancing the other. Virtual tours, Neatline/Curatescape maps, etc. can spark and spread interest, generate audiences for river tours, which in turn can fuel social media traffic, create more contributors for online maps/resources …. We felt a simultaneous dual approach might be more effective than a "physical first, then digital" approach.]

Group 5 (Sherry and Maura's group)

[Dan's notes:]

Our group discussed ways we might nurture and develop diversity among both guides and groups guided. In order to focus on developing the program's diversity, and to target funding sources supporting this, we discussed the importance of tracking demographic information on participants when possible.

- Create a core of volunteers trained to give tours with assistance of youth along the route

Another way to grow the program's openness to all would be to encourage youth participation on the tour provider side. In particular, if trained youth could be provided small stipends or some kind of to act as guides or guides' assistants (the latter being especially beneficial in tours on the water), these students could help encourage neighborhood and community involvement.

- Maybe offer a small stipend to encourage youth to join SRC as opposed to a different after school job
- Youth can be in place to set up with boats or other water activities so guides can focus solely on the tour
- Could turn into an internship program teaching youth how to use boats

Specific information to consider for the database could include plant, bird, and fish identification and natural histories, and the historical interactions of people on the river with wild things and places.

- Interdisciplinary research could be done on the tour, as part of the tour; known as 'citizen science" and this information can be used in the larger database (ie. water or soil testing, species identification, etc.)

In order to support the work some of us already do, it would be useful to have a way to easily connect groups associated with various interested organizations to guides, times, and equipment.

Group 6 (Gena's group) Mary, Elizabeth (Schuylkill Center for Environmental Education), Jacob, Susan, Gena (Drexel University)

(Mary's notes): We focused on how art could augment the work that other groups are doing, and focused on the idea of a water-based festival held once a year that could involve projections onto the water at night as well as tours and events that can bring more people into the conversation started here. It could also open up a space for face-to-face advocacy work and galvanizing more support for these water-based mapping projects.

We talked about design charrettes, story sharing, and citizen science projects happening then too.

Gena's notes:

We discussed river festivals that brought art and cinema together on the river could be used to make a statement - could be used to increase public awareness of political/environmental issues, especially issues relating to the health of the Schuylkill River and the entire Delaware River Watershed in general.

We discussed increasing access points to the river (actually bringing people down to the river and its shoreline to come in contact with the river, touch the river) could provide the potential:

- to get more people on the river

- to merge topics like the arts & humanities with the environment
- to be able to research water quality more easily
- to use the river for environmental education
- to facilitate adaptation/mitigation of the river
- to allow the mussels restoration project to be more visible, educating the public
- to facilitate having an Airbnb on the river

We also discussed that Bartram's Mile will be greatly increasing the numbers of people coming to the southern part of the Lower Schuylkill River and that Bartram's Garden could facilitate many of the access points and activities mentioned above.

Group 7 (Carolyn's group) Sheila (Water Dept), Vincent (Drexel Academy of Natural Sciences), Gerardo (UPenn Undergrad) and Carolyn (UPenn Grad)

How we are (or could be) on the river together:
Sheila: tracking water via documentation
Vincent: river as connecting trail between Drexel & Academy, Schuylkill not thought of as natural landscape, students use the trail and are not connected to river, how to bring what they do at the academy out to the river and build an experience on the trail for people to get out and get dirty and see what nature is. How to connect Academy & Drexel through the river?

Data:
From water department: right to know officer (Sheila) gets requests for all sorts of information – law requires that you write a very specific request for a specific record. This would be a good resource for the tours. How to make that information digestible for non-experts? Often the data isn't explained and is hard to understand but the water dept can provide appointments for explaining that data.
Tool on the website after storm water events, after every rain, about sewage and storm water.
Data.philly.gov (IT office at water dept)?
Vincent: develop curricula for Drexel students to see the river as natural (he wrote a class in collaboration with Schuylkill Development Center), as well as connect the Academy with Drexel through paths across the river. What sorts of wildlife are in river? What is public access?
Gerardo: Creation of an app – Hack-athon event at UPenn (hosts students who want to attend and program 24/7 for a whole weekend. Experts come and give workshops, potentially we could pitch a workshop or collaborate with a team there that takes on the challenge).

Post-meeting addition from Dan Garofalo, Penn Sustainability Director: It would be wonderful to have an easy way to observe & report the tidal cycles on the Lower Schuylkill - high, low, or medium; rising vs falling; spring or neap. Maybe this could be as simple as a mechanical sign or clock at the Bartram's dock set to 12 hour 25 minute cycles Or it could be an art piece that showed the phases of the moon, moon rise and moon set, and the tides (as they're all directly

related, this could serve as a mini-natural science lesson). Or it could be a series of flags and banners that automatically are lowered and raised and correspond to the tidal cycle.