NEW YORK STATE OF OPPORTUNITY. | NY Power Authority

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February 4, 2021

VIA ELECTRONIC FILING

Secretary Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Crescent Hydroelectric Project, FERC Project No. 4678-052
Vischer Ferry Hydroelectric Project, FERC Project No. 4679-049
Revised Study Plan Addendum

Dear Secretary Bose:

On May 3, 2019, the Power Authority of the State of New York (Power Authority), licensee of the Crescent and Vischer Ferry Hydroelectric Projects (Projects), FERC Nos. 4678 and 4679, respectively, filed a Pre-Application Document (PAD) and Notices of Intent to seek new licenses for the Projects. On June 10, 2019, the Federal Energy Regulatory Commission (FERC, or Commission) issued Scoping Document 1 (SD1) for the Projects' relicensing, and on July 10-11, 2019, FERC held scoping meetings and Project site visits. Agencies, non-governmental organizations, and other stakeholders provided their comments on SD1 and requested certain resource studies. On September 23, 2019 the Power Authority filed a Proposed Study Plan (PSP) with the Commission and held a PSP meeting on October 23, 2019. On January 21, 2020, the Power Authority filed a Revised Study Plan (RSP) detailing plans to conduct seven resource studies. On February 20, 2020 the Commission issued its Study Plan Determination (SPD), in which Commission staff recommended the addition of an American Eel Study, which was not included in the RSP.

In accordance with the Commission's SPD recommendation to conduct a study of American eel, the Power Authority undertook additional consultation with the U.S. Fish and Wildlife Service (USFWS) and the New York State Department of Environmental Conservation (NYSDEC) regarding a study plan for this effort. Following the guidance provided by Commission staff in the SPD, on November 19, 2020 the Power Authority met with the resource agencies on site at the Projects to collaboratively scope out potential eel sampling locations. Following that initial site visit, the Power Authority drafted a study plan outlining proposed study methods and sampling locations. The Power Authority shared this draft plan with the agencies, and a consultation call was held to discuss the initial draft plan on December 17, 2020. Based on comments received from the agencies, the Power Authority revised the draft study plan and again shared it with the agencies. Both the USFWS and NYSDEC responded via email that they were in agreement with the revised study plan. A record of agency consultation on this study is appended to the enclosed American Eel Study plan.

The Power Authority hereby submits the revised study plan for the American Eel Study to the Commission as an addendum to the RSP. This study, including any changes required by the Director under 18 C.F.R. § 5.15(c)(6) as appropriate, will be undertaken in 2021 and study results will be reported in the Updated Study Report (USR) in February 2022.

The Power Authority looks forward to continuing to work with the Commission, resource agencies, Native American nations, local governments, and members of the public on the relicensing of the Crescent and Vischer Ferry Projects. If you have any questions regarding the enclosed study plan, please do not hesitate to contact me. Information regarding the relicensing of the Crescent and Vischer Ferry Projects can be found at the Power Authority's relicensing website at http://www.nypa.gov/cvf.

Sincerely,

Cindy Brady

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Enclosures:

American Eel Study Plan (Addendum to RSP)

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AMERICAN EEL STUDY PLAN –
FOR THE

CRESCENT AND VISCHER FERRY HYDROELECTRIC PROJECTS
FERC NO. P-4678 AND P-4679

Prepared for:

NEW YORK STATE OF OPPORTUNITY. | NY Power Authority

Prepared by:

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February 2021

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APPENDIX A: CONSULTATION/CORRESPONDENCE SUMMARY

1 INTRODUCTION

The Power Authority of the State of New York (Power Authority or NYPA) is relicensing the Crescent and Vischer Ferry Hydroelectric Projects (FERC Nos. 4678 and 4679) (Projects). The Projects are located on the Mohawk River, about 4 and 14 miles, respectively, upstream from its confluence with the Hudson River in New York. The Power Authority is using the Federal Energy Regulatory Commission's (FERC or Commission) Integrated Licensing Process (ILP) as outlined in 18 C.F.R. Part 5.

In accordance with 18 C.F.R. §§ 5.5 and 5.6, the Power Authority filed its Notice of Intent (NOI) and Pre-Application Document (PAD) on May 3, 2019, which included the Power Authority's preliminary issues and studies list for the Projects. These studies included: 1) a water quality study; and 2) a recreation site inventory and condition assessment.

The Commission issued its Scoping Document 1 (SD1) on June 10, 2019. On July 10, 2019, the Commission conducted environmental site visits to each of the Projects in conjunction with the public scoping meetings on July 10-11, 2019 in Clifton Park, New York, where potential issues were identified by agencies, stakeholders, and the public. Subsequently, the Power Authority received comments on the PAD and the study plans, as well as requests for additional studies and additional information. The Power Authority reviewed these comments, study requests, and additional information requests and developed and filed a Proposed Study Plan (PSP) on September 23, 2019. The Power Authority held a meeting to discuss the PSP on October 23, 2019. Written comments on the PSP were received through December 23, 2019.

The Power Authority prepared a Revised Study Plan (RSP) in response to the verbal comments received at the Power Authority's PSP meeting and in subsequent discussions with agencies, as well as those comments submitted in writing. The RSP built on the studies that were initially proposed in the PSP. The Power Authority proposed seven first year, single season studies that were requested by stakeholders. Not proposed was an American eel study requested by state and federal agencies. On February 20, 2020 FERC issued its Study Plan Determination (SPD). In the SPD, FERC staff added an American Eel study to the list of required first year studies at the Projects. Since that time, the Power Authority has been consulting with state and federal fisheries agencies to design and scope an American Eel study. As part of study planning, Power Authority staff met on-site with agency staff to survey possible eel sampling and monitoring

locations. Following the site visit, the Power Authority drafted a study plan outline and met twice with the agencies to discuss the study methods outlined in the study plan outline. The following study plan describes the American Eel study planned for the Crescent and Vischer Ferry Projects in 2021. The consultation record for the development of this study plan is located below in section 2.1.11.

2 PROPOSED STUDY

2.1 American Eel Study

2.1.1 General Description of Proposed Study

The Power Authority will conduct an American Eel Study during the second study season of the Crescent and Vischer Ferry (CVF) Projects Relicensing: April through September 2021. Study efforts will include multiple sampling methods and target multiple lifestages over the seasonal period when American Eel are expected to be active in the vicinity of the Projects.

2.1.2 Geographic Scope

The geographic scope of this study includes the areas immediately downstream of the Crescent and Vischer Ferry dams as well as the Vischer Ferry impoundment.

2.1.3 Study Goals and Objectives

The goal of this study is to assess the presence and quantity of American Eel upstream and downstream of the Projects.

2.1.4 Relevant Resource Management Goals and Public Interest Considerations

NYSDEC's mission is "to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being." The natural resource management goals within the Mohawk River Watershed will be consistent with the Department's mission while focusing on protecting and enhancing fish and wildlife habitat and improving public access. There is a pre-proposal currently available for public review and comment which will elevate the American Eel from a species of conservation need to a species of special concern in New York State.[1]

2.1.5 Existing Information and Need for Additional Information

American Eel (*Anguilla rostrata*) is a diadromous species known to the Mohawk River and is native to all drainages in the state of New York. American Eel are the only catadromous species in the state of New York, meaning they typically spend most of their life inland and migrate out

[1] https://www.dec.ny.gov/regulations/34113.html

to sea to spawn. The catadromous life history of the American Eel necessitates long migrations up and down rivers to successfully complete their life cycle. American Eel spawn in the Sargasso Sea and their larvae then drift and migrate to coastal streams and enter North American estuaries, including the Hudson River. From there, most young eel (elvers) move upstream into freshwater rivers, lakes, and ponds. However, research has shown that some eels complete their life cycle entirely in brackish water habitats (United States Fish and Wildlife Service [USFWS], 2015). Other research indicates that eel movement between fresh water and estuarine zones may be regular and seasonal in nature, in response to low winter temperatures in the estuary (USFWS, 2015).

Although caught in low numbers in the past couple of decades, fishery surveys have continued to collect mature American Eel while sampling. There are also historical records of American Eel caught in the Mohawk River and adjacent tributaries, as referenced by Greeley (1935) in the Atlas of Inland Fishes of New York (Carlson et al. 2016): "…in waters above barriers eels are much less numerous, but sufficient numbers ascend the Mohawk…" and by Machut et al. (2007) that there were commercial harvests of eel above Cohoes Falls in the Mohawk River during the colonial period.

American Eel were caught in the main channel of the Mohawk River as far west as Herkimer, as well as in Schoharie and West Canada Creeks (Carlson et al., 2016). However, during a 2015 survey conducted by the NYSDEC, no American Eel were reported in five tributaries of the Mohawk River: Cayudutta Creek, Zimmerman Creek, Crum Creek, and Canajoharie Creek (the fifth tributary was not identified) (Limburg et al., 2015).

More recent records of American Eel presence in the Mohawk River come in the form of bycatch from other fish sampling efforts, usually black bass and other sportfish, but also Blueback Herring. There have been no concentrated efforts to sample American Eel in the Mohawk River. They have been caught as far upstream as downstream of the Blenheim-Gilboa Dam on the Schoharie Creek (NYSDEC Survey #490009) and downstream of Newport Dam on the West Canada Creek (NYSDEC Survey #688202). They have also been caught in high numbers (100 individuals) above the NYS Dam (FERC No. 7481) in its impoundment and included all mature adults, likely in their migration downstream to reach the Sargasso Sea (NYSDEC Survey #490012). American Eel have also been documented from the School Street Project (FERC No. 2539) fish community baseline study, including collections of eel

downstream of Crescent Dam. While often caught in small, limited amounts, American Eel have been caught in the project area of the Projects such as the tailwater of Vischer Ferry (NYSDEC Survey #418011).

The USGS conducted electrofishing sampling specifically for American Eel in 35 tributary streams during 2015-16 and no eels were observed or collected (email from Scott George (USGS) to Robert Daly (NYPA) 1/2/2020). The USGS also conducted an intensive general fish community survey electrofishing sampling at 20 tributary stream locations and no American Eel were observed or collected (email from Scott George (USGS) to Robert Daly (NYPA) 1/6/2020). While several of these sample sites are in the vicinity of the Projects, most of these sample sites are upstream of the Project areas. Presence of eels in these tributaries, however, would document that they migrated through the project areas during their upstream migration and would again need to pass through the project areas to complete their downstream migration.

Additionally, there is an ongoing USGS study to evaluate the status of American Eel populations in the Mohawk River basin; however, it is not expected to be completed until fall of 2021 and no data is currently available to the public for inclusion in the records. This study will use American Eel eDNA to determine presence and abundance based on a model created using known eel populations in other Hudson River tributaries. It does include sample sites on tributaries to the Mohawk, but the locations are not within the Projects' boundaries.

2.1.6 Project Nexus

The operation of the Projects has the potential to affect American Eel. Both Projects include constructed dam structures which pose a migratory hurdle for the American Eel in their upstream migration as elvers. While elvers may be able to ascend the dam face, they are also put at a higher risk of predation and will have to expend additional energy to do so. They may stage at the foot of the dam and then ascend by crawling up the face of the dam with slow and steady progress in order to surmount the dam and have access to upstream habitat. As mature adults, American Eel will again have to pass the Projects in order to complete their reproductive cycle as they migrate downstream, seaward.

2.1.7 Methodology

Task 1. Consultation

The Power Authority consulted with the NYSDEC and USFWS (Resource Agencies) regarding the sampling methods and gear types suggested by FERC in the Study Plan Determination. This discussion occurred while observing the habitat available and using the experience of the fisheries biologists participating. It was agreed that eel mops would not likely be an effective gear type for this environment, especially considering that eels, if present, would be low in density. Likewise, fyke nets could potentially be effective in the tailwaters, but maintenance would be difficult and concentrations of upstream migrating eels are unlikely. Additionally, fyke nets would not be an effective gear type in the impoundments. The only potential would possibly be in association with a tributary stream, of which few are present. Several sampling methods suggested by and discussed with resource agencies will be used to assess the presence and relative abundance of American Eel upstream and downstream of each Project, including nighttime observations, eel ramp traps, and nighttime electrofishing.

Task 2. Field Work

American Eel sampling will be conducted using three methods. As suggested by the Resource Agencies, during spring 2021, nighttime observations will be made in the tailrace and spillway area of each Project to document if upstream migrating elvers are present. Nighttime observations have proven to be an effective method of documenting the presence of American Eel when this lifestage is present. Typically, glass eel and elvers ascend obstacles by climbing over wetted surfaces at night during the spring. This behavior makes them more readily observable. It is unknown if these lifestages are present at the Projects, but nighttime observations for glass eels and elvers is one of the best ways to determine their presence and potential abundance. If eels are observed, it will provide insight on the use of the Mohawk River by this species. It is proposed that eel observations be made one night per week over a four-week period from mid-April through mid-May at each Project. Observations will occur in the tailrace and spillway of each Project on exposed, wetted surfaces where eels may be attracted and that can be safely accessed by field crews. Areas will likely include the dam face and other surfaces where trickle flows provide the proper climbing conditions.

Eel ramp traps will be deployed beginning in mid-May,. Eel ramp traps have proven to be an effective means of collecting upstream migrating eels. These devices use attraction flow to

direct eels to a wetted climbing substrate (i.e. ramp), where after climbing the ramp, they are collected in a basin or holding pen. The climbing substrate will be sized based on the expected size of the eels present and coordinated with the resource agencies. To maximize their effectiveness, ramp traps are best located in an area that is generally attractive to eels. This usually consists of areas with or adjacent to flow and with a physical feature that can act as a guide (i.e. shoreline, wall, or other structure).

Based on these preferred features, there are three potential sampling locations currently being considered downstream of each Project. With the exception of the area near the Lock channel at Vischer Ferry, these areas were observed during a site visit on November 19, 2020 with representatives from the USFWS and NYSDEC and are illustrated in Figures 1 and 2. The area near the Lock channel was later recommended by the USFWS and NYSDEC. While desirable, the logistics of these locations in terms of being able to maintain a functioning trap, reasonable access, and safety are currently being evaluated and will ultimately determine actual locations. Eel ramp trap sampling will begin in mid-May, 2021 and continue through September 30, 2021. It should be noted that the nighttime observations target small, early migrants while the eel ramp traps target larger elvers and yellow eels that are expected to migrate through the summer and early fall. Between the two methodologies, monitoring will essentially occur from mid-April through the end of September 2021.

The presence and relative abundance of eels upstream of Crescent dam will be determined from the sampling conducted below the Vischer Ferry Project dam where upstream migrating eel would likely be concentrated and increase their potential to be collected. The presence and abundance of eels upstream of Vischer Ferry cannot be determined using these same methods, as there is no dam immediately upstream of Vischer Ferry where upstream migrating eels would likely congregate and/or could easily be observed or trapped. Therefore, to assess eel abundance in the Vischer Ferry impoundment, nighttime boat electrofishing will also be conducted as recommended by the NYSDEC and USFWS. Two sampling events will occur, one night each in July and August. Target areas will be directed at potential eel habitat and may include rocky substrates, vegetated shorelines, and the mouths of tributary streams. To the extent practical, sampling will occur during darker moon phases when there is potentially more eel activity. Sampling effort will consist of six, 20-minute sampling runs per event, and will begin no earlier than 30 minutes after sunset. Only eels will be collected. While American Eel are very susceptible to electrofishing, they can be difficult to capture even though they are observed.

Therefore, all collection efforts will be focused on eels only. If eels are observed, but not captured, they will be documented.

Eels collected will be photographed, measured (total length and girth), weighed, and scanned for existing tags. If the eels are not tagged indicating a recapture, they will be tagged using Passive Integrated Transponder (PIT) tags to identify them should they be recaptured. If glass eels or small elvers are observed or collected, they will be enumerated and processed as appropriate, but may not be suitable for tagging due to their size.

Figure 1: Crescent Project Proposed Eel Sampling Locations

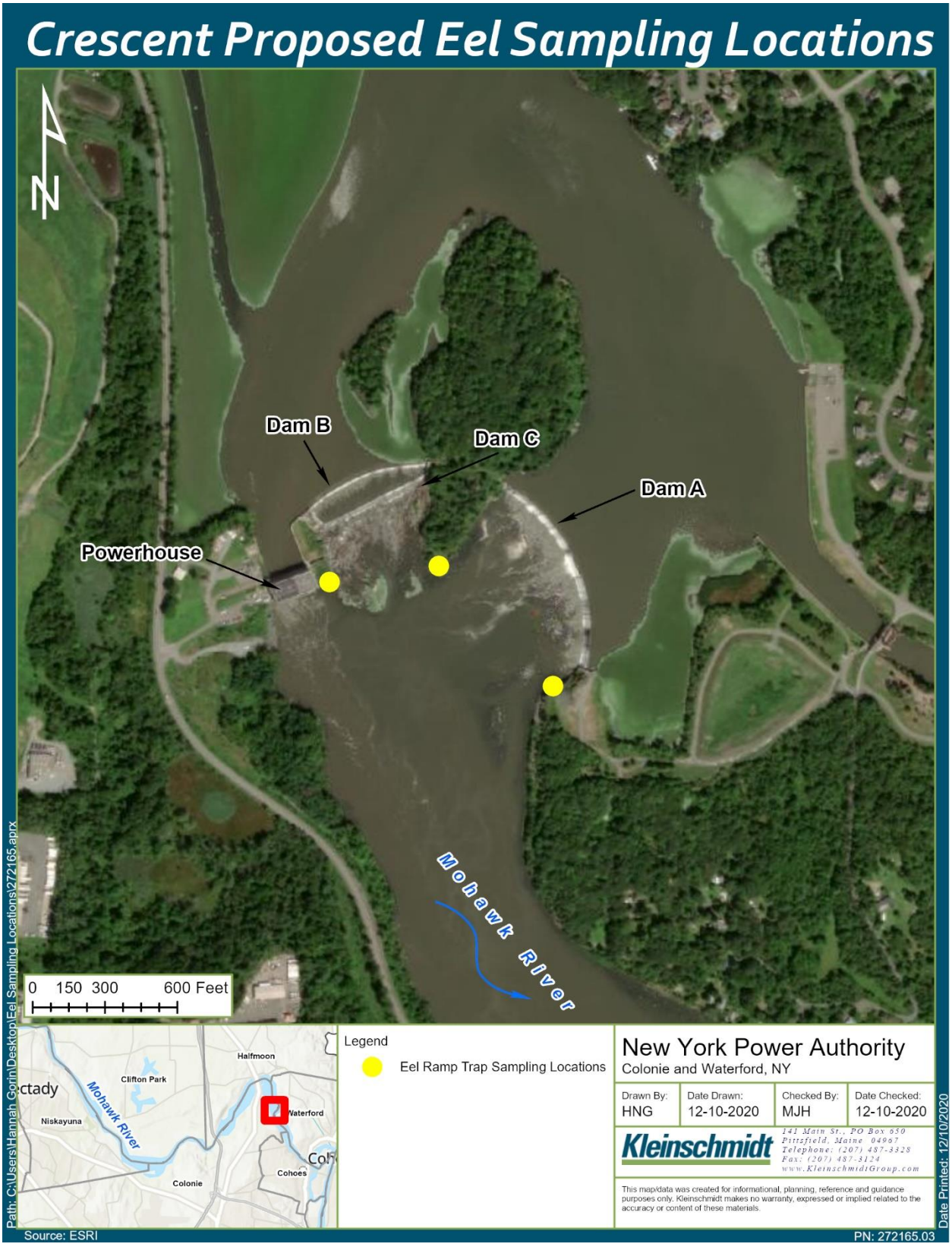
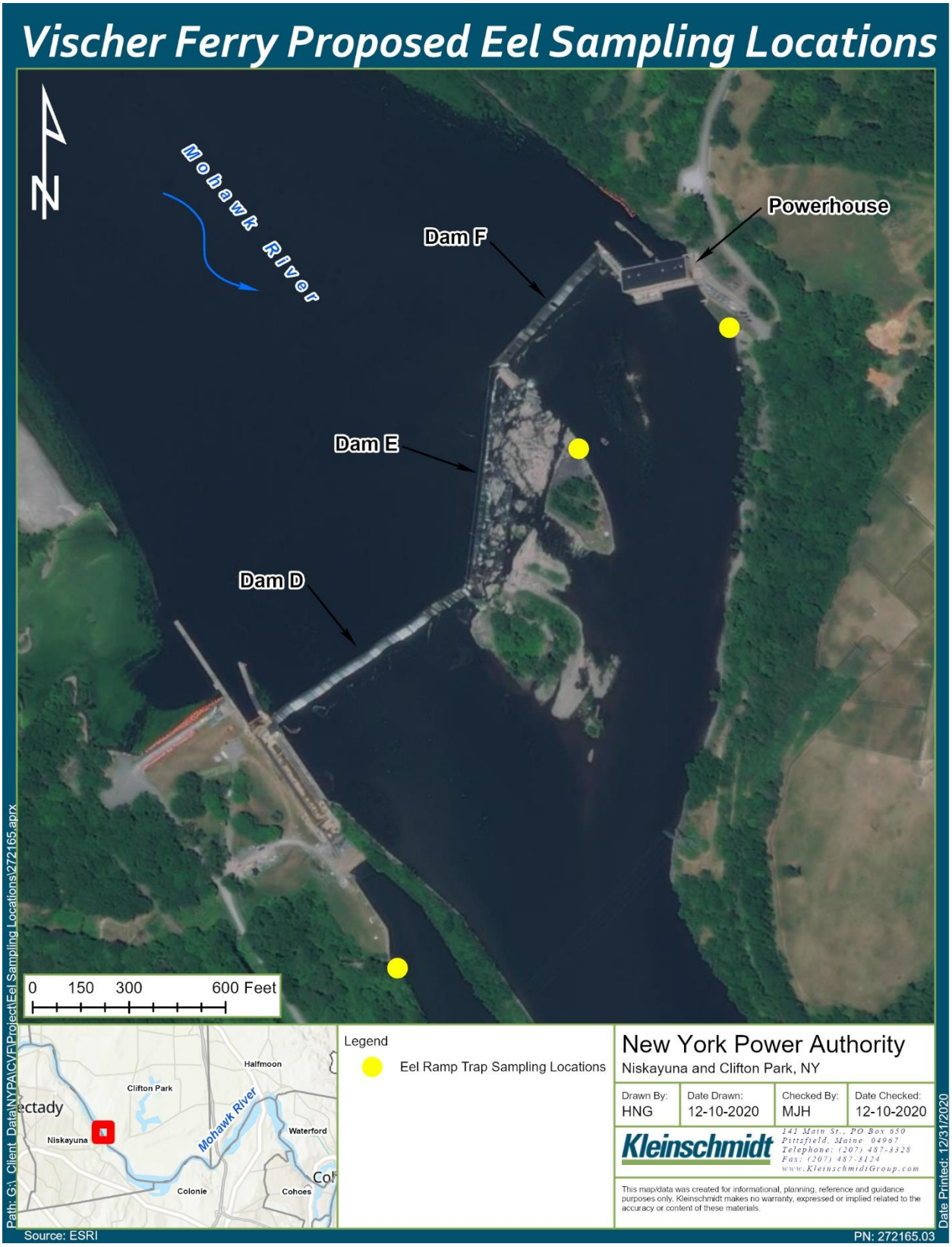


Figure 2: Vischer Ferry Project Proposed Eel Sampling Locations



Task 3. Data Analysis

The Power Authority will collect general information throughout the eel sampling season. Field observations will include air and water temperature, meteorological conditions (moon phase, cloud cover, precipitation, barometric pressure, etc.), river flow, and station operations. All sampling effort and eel collection data will be documented. Eel collection data will be presented both temporally and spatially. All sampling and observation locations will be displayed using GIS mapping.

Task 4. Study Report

The Power Authority will prepare a comprehensive American Eel Study report. The final study report will be included in the Updated Study Report (USR) which is scheduled to be filed with FERC in February 2022.

2.1.8 Proposed Deliverables and Schedule

The Power Authority proposes to perform this study in 2021. Study reporting will be conducted in accordance with the Process Plan and Schedule (18 C.F.R. § 5.6(d)(1)), as provided in the PAD, and the FERC's SD1.

Task	Schedule
Task 1. Consultation	November 2020-February 2021
Task 2. Field Work	April-September 2021
Task 3. Data Analysis	October-November 2021
Task 4. Final Study Report	December 2021

2.1.9 Level of Effort and Cost

The estimated cost for the American Eel Study is approximately $275,000.

2.1.10 References

Carlson, D.M., Daniels, R.A., and Wright, J.J. 2016. Atlas of Inland Fishes of New York. New York State Museum Record 7. Website: http://www.nysm.nysed.gov/common/nysm/files/atlasofinlandfishes.pdf. Accessed December 12, 2018.

Limburg, K., Baldigo, B., George, S., Ramirez, L., and Deyette, N. 2015. Hudson River Almanac. Department of Environmental Conservation. Website: https://www.dec.ny.gov/lands/102732.html. Accessed January 25, 2019.

Machut, L.S., K.E. Limburg, R.E. Schmidt, and D. Dittman. 2007. *Anthropogenic Impacts on American Eel Demographics in Hudson River Tributaries, New York*. Transactions of the American Fisheries Society. 136: 1699-1713. December.

United States Fish and Wildlife Service (USFWS). 2015. American eel biological species report. Website: http://www.regulations.gov. Accessed February 2019.

APPENDIX A CONSULTATION/CORRESPONDENCE SUMMARY

Meeting Minutes
Draft (11/19/2020)
Crescent and Vischer Ferry Projects
American Eel Site Visit

Date:	November 19, 2020
Re:	Evaluate Potential American Eel Collection Locations at Crescent and Vischer Ferry for 2021
Location:	Crescent and Vischer Ferry Hydroelectric Projects
Attendees:	NYPA - Cindy Brady, Tara Groom, Andrew Weinstock, Vincent Pezzulo NYDEC - Nicole Cain, Chris VanMaaren USWFWS - John Wiley, Arianna Ramirez Kleinschmidt - Mike Hreben

Notes:

The group met at the Crescent Project parking lot at 10:00 a.m. Safety and COVID-19 screening protocols were reviewed, and appropriate PPE was worn throughout the site visit. After visiting the Crescent site, the group proceeded to the Vischer Ferry site.

Open discussion occurred throughout the site visit regarding the FERC approved American Eel Study Plan. The focus of the discussion was to ensure that the 2021 field efforts are well conducted and accurately assess the potential of American Eel in the vicinity of the Projects. All agreed that the goal was to sample in a manner that would provide confidence in the results. Key points of the discussion were:

- FERC recommended using eel mops and fyke nets both upstream and downstream at each Project. All agreed that eel mops would not be an effective sampling method and that at best, fyke nets were questionable. These gear types typically target small elvers and glass eels when present in numbers. Consensus was that if eels are present, they would likely be larger.
- Eel ramp traps appear to be a more appropriate sampling gear.
- Reservoir sampling (i.e., upstream of each Project) will not be productive using the same gear types used downstream of each facility.
- Sampling in the VF tailrace could be considered the "upstream" component for Crescent.
- Sampling does not need to begin in early April and late May would likely be sufficient for a start date.
- To check for small, early season upstream migrants, several nighttime visual observation surveys could be conducted.

- Need to make sure sampling extends long enough into the eel migration season.
- Three locations downstream of each Project were discussed and are displayed on the attached figures.
- Should eels be collected, they will be marked/tagged to identify potential recaptures.
- Boat access to the Vischer Ferry tailrace may be constrained based on the type and installation time of the tailrace boat barrier. NYPA to follow-up.
- The group decided to think about the visit, distribute notes, and reconvene on a conference call to finalize the Study Plan. Any agreed upon difference to the FERC approved plan would be submitted to FERC for approval.

Figure 1: Crescent Project Proposed Eel Sampling Locations

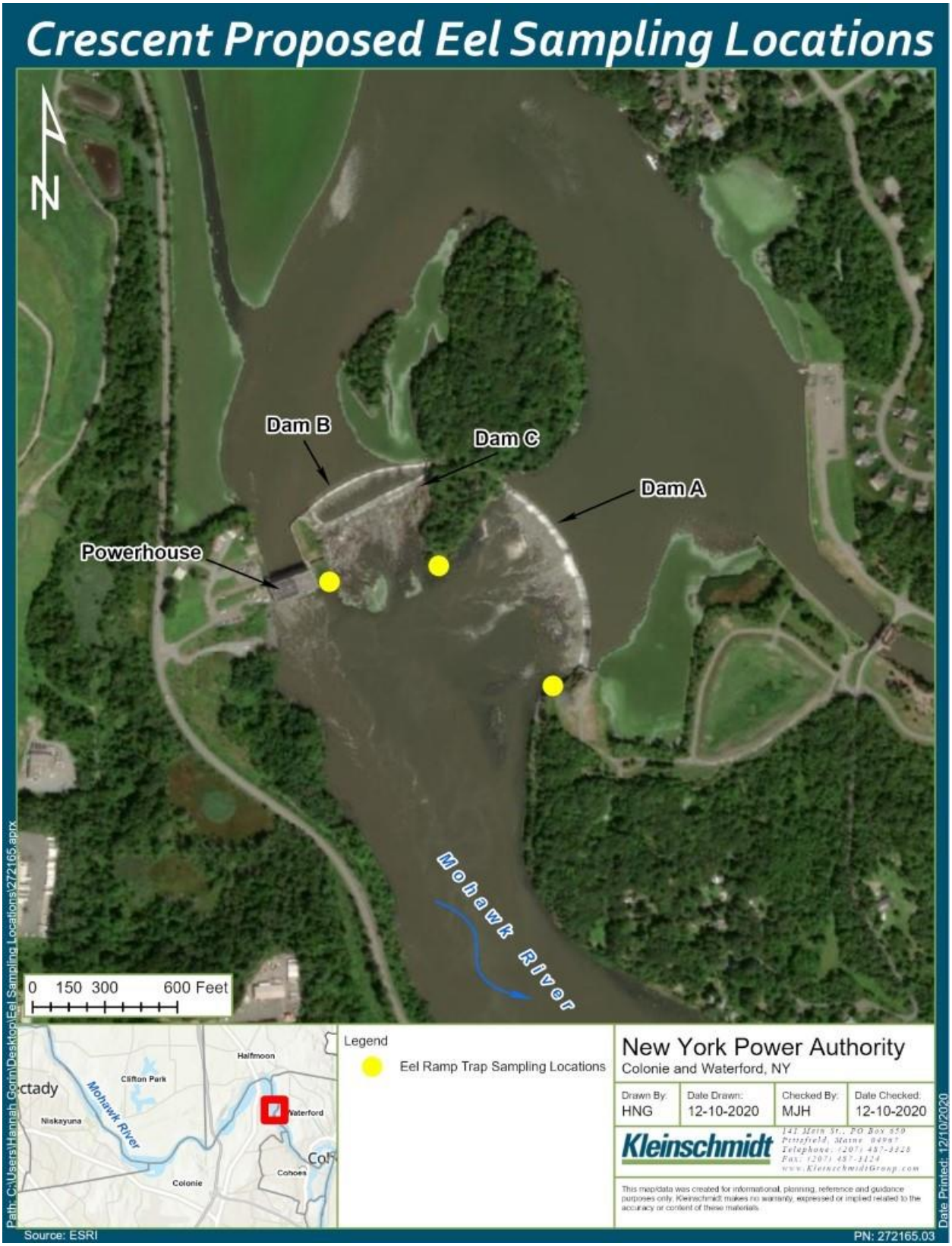
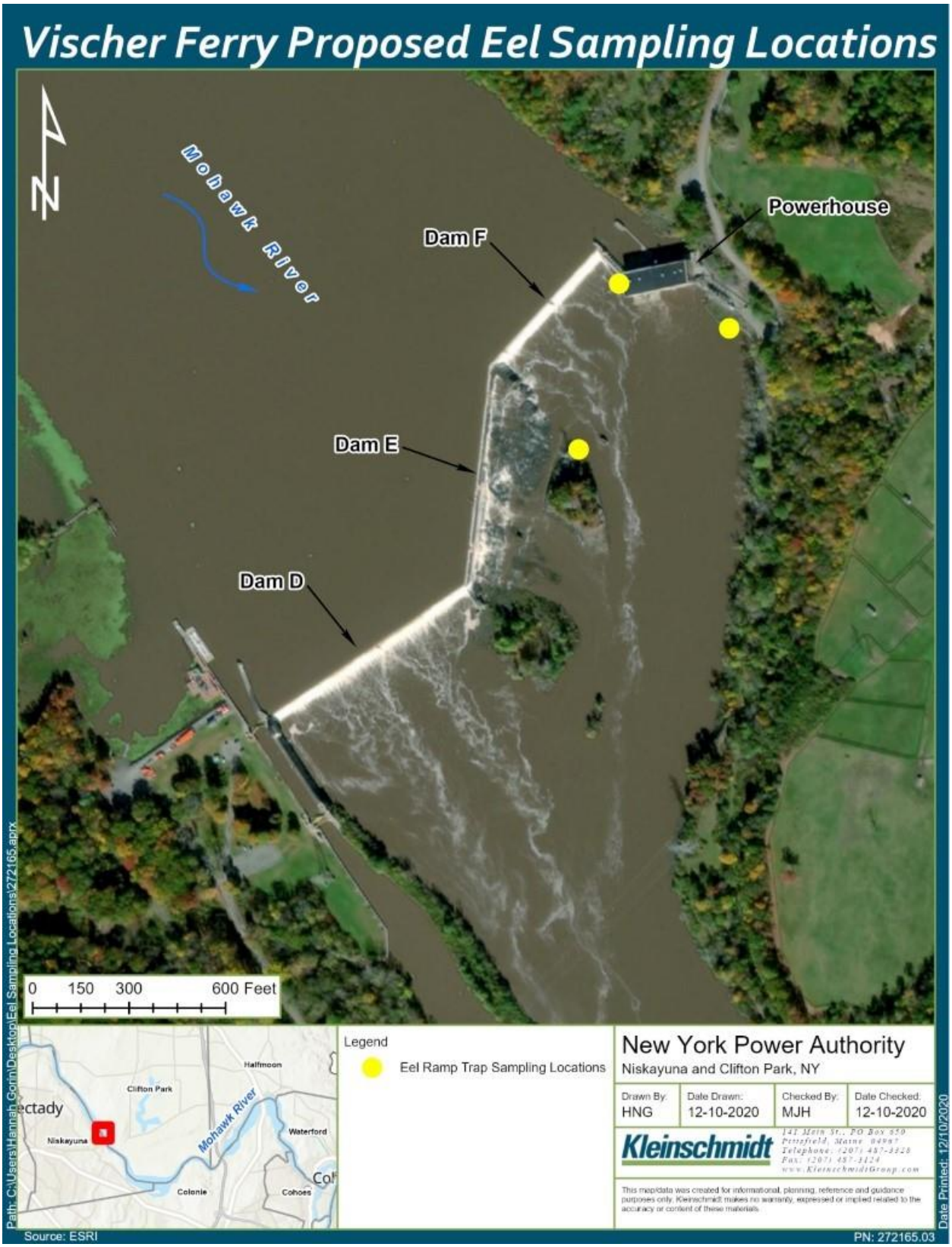


Figure 2: Vischer Ferry Project Proposed Eel Sampling Locations



CRESCENT AND VISCHER FERRY
Eel Study Plan Call Summary
December 17, 2020

Attendees:
NYPA: Andrew Weinstock, Rob Daly, Cindy Brady, Tara Groom, Vin Pezzullo, Jeff Gerlach
NYSDEC: Nicole Cain, Chris VanMaaren
USFWS: John Wiley
Kleinschmidt: Mike Hreben

Call Summary:
The group discussed the draft eel study plan outline that was distributed on 12/15/2020. The draft plan was developed based on consultation with the USFWS and NYSDEC (resource agencies) during the site visit on 11/19/2020. Mike Hreben walked group through the study design and then opened up the meeting for discussion. There were several changes the group worked through that were generally agreed to by all. These pertained to study schedule, sampling locations, and sampling methods.

Schedule – after discussion, there was general consensus among the group to conduct eel observations one night per week from mid-April until mid-May (4 weeks total). Additionally, eel ramp trap sampling would begin in mid-May. This modified schedule would allow some type of monitoring to occur from early spring until September 30. The draft plan originally included eel observations in May with eel ramp trap sampling beginning in June.

Sampling locations – the resource agencies collaborated after the 11/19 site visit and suggested that an eel ramp trap sampling location along the western shoreline immediately downstream of Vischer Ferry Dam. They felt that this would distribute the sampling locations over a wider area rather than concentrating them in the VF tailrace area. It would also allow for an alternative location since the area near the trash sluice may not be feasible.

Sampling methods – there was further discussion about adding some type of sampling upstream of the Vischer Ferry Dam. Boat electrofishing was discussed as potentially the most effective and would target rocky and weedy areas. The area near the Isle of Mohawks was specifically mentioned as having good eel habitat. The potential to use eDNA sampling was also mentioned. The group discussed ramp traps as the primary effort for the study but they would only pertain to the areas downstream of each Project.

The potential to collect small eels or observe and subsequently mark/tag them was discussed. It was agreed that upstream migrating eels may be too small to tag. The issue wasn't resolved but the general thought is that we are unlikely to collect or observe eels too small to tag (i.e. glass eels or small elvers) but we just don't know.

NYPA committed to revising the plan outline and getting it back to the resource agencies for review. NYPA also stressed that timing is important and that a study plan would need to be approved by FERC, so it will take time. USFWS & NYSDEC committed to writing a letter of support to FERC once we finalize the plan.

Toward the end of the call, USFWS noted that the main purpose of the study is to effectively sample to determine the relative abundance of eels at the Projects, and to use this information to assess whether the abundance of eels warrants passage.

From: Weinstock, Andrew <Andrew.Weinstock@nypa.gov>
Sent: Tuesday, January 5, 2021 4:05 PM
To: Wiley, John <john_wiley@fws.gov>; Chris VanMarren (chris.vanmaaren@dec.ny.gov) <chris.vanmaaren@dec.ny.gov>; Cain, Nicole E (DEC) <Nicole.Cain@dec.ny.gov>
Cc: Daly, Rob <Robert.Daly@nypa.gov>; Brady, Cindy <Cynthia.Brady@nypa.gov>; Groom, Tara <Tara.Groom@nypa.gov>; Jeff Gerlach <Jeff.Gerlach@nypa.gov>; VC Pezzullo <Vincent.Pezzullo@nypa.gov>; Mike Hreben <Mike.Hreben@KleinschmidtGroup.com>; Wendy Bley <Wendy.Bley@Kleinschmidtgroup.com>
Subject: Crescent and Vischer Ferry American Eel Study Plan

Hi John, Chris and Nicole,

During our phone conversation on December 17, 2020, we discussed the Crescent/Vischer Ferry American Eel Study Plan components, your field observations and recommendations on the plan. We revised the plan incorporating your recommendations and feel that we have a robust plan that will accurately determine the presence and abundance of American Eel at the projects. Please see the attached American Eel Study Plan. We are happy to communicate with you via email regarding concurrence of the plan, but if you feel an additional phone call is warranted, please let me know and we will gladly set one up. If you are satisfied with the plan, we would appreciate your concurrence to the plan via letter or email so we can send that along with the plan to FERC for their approval. Thank you everyone and Happy New Year.

Cheers,
Andrew

Andrew Weinstock
Environmental Fisheries Scientist

New York Power Authority
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White Plains, NY 10601
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Draft American Eel Study Plan Outline
Crescent and Vischer Ferry Hydroelectric Projects

Study Purpose

The purpose of this study effort is to assess the presence and relative abundance of American Eel upstream and downstream of the Crescent and Vischer Ferry (CVF) Projects.

Study Location

The study locations are the tailrace and spillway areas downstream of the Crescent and Vischer Ferry (CVF) Projects and the Vischer Ferry impoundment.

Study Methods

NYPA consulted with the NYSDEC and USFWS (resource agencies) regarding the sampling methods and gear types suggested by FERC in the Study Plan Determination. This discussion occurred while observing the habitat available and using the experience of the fisheries biologists participating. It was agreed that eel mops would not likely be an effective gear type for this environment especially considering that eels, if present, would be low in density. Likewise, fyke nets could potentially be effective in the tailwaters, but maintenance would be difficult and concentrations of upstream migrating eels are unlikely. Additionally, fyke nets would not be an effective gear type in the impoundments. The only potential would possibly be in association with a tributary stream, of which few are present therefore, several sampling methods suggested by and discussed with resource agencies will be used to assess the presence and relative abundance of American Eel upstream and downstream of each Project, including nighttime observations and eel ramp traps.

As suggested by the resource agencies, during spring 2021, nighttime observations will be made in the tailrace and spillway area of each Project to document if upstream migrating elvers are present. Nighttime observations have proven to be an effective method of documenting the presence of American Eel where this lifestage is present. Typically, glass eel and elvers ascend obstacles by climbing over wetted surfaces at night during the spring. This behavior makes them more readily observable. It is unknown if these lifestages are present at the Projects, but nighttime observations for glass eels and elvers is one of the best ways to determine their presence and potential abundance. If eels are observed, it will provide insight on the use of the Mohawk River by this species. It is proposed that eel observations be made one night per week over a four-week period from mid-April through mid-May at each Project. Observations will occur in the tailrace and spillway of each Project on exposed, wetted surfaces where eels may be attracted and that can be safely accessed by field crews. Areas will likely include the dam face and other surfaces where trickle flows provide the proper climbing conditions. Eel ramp traps have proven to be an effective means of collecting upstream migrating eels. These devices use attraction flow to direct eels to a wetted climbing substrate (i.e. ramp), where after climbing the ramp, they are collected in a basin or holding pen. The climbing substrate will be sized based on the expected size of the eels present and coordinated with the resource agencies. To maximize

their effectiveness, ramp traps are best located in an area that is generally attractive to eels. This usually consists of areas with or adjacent to flow and with a physical feature that can act as a guide (i.e. shoreline, wall, or other structure).

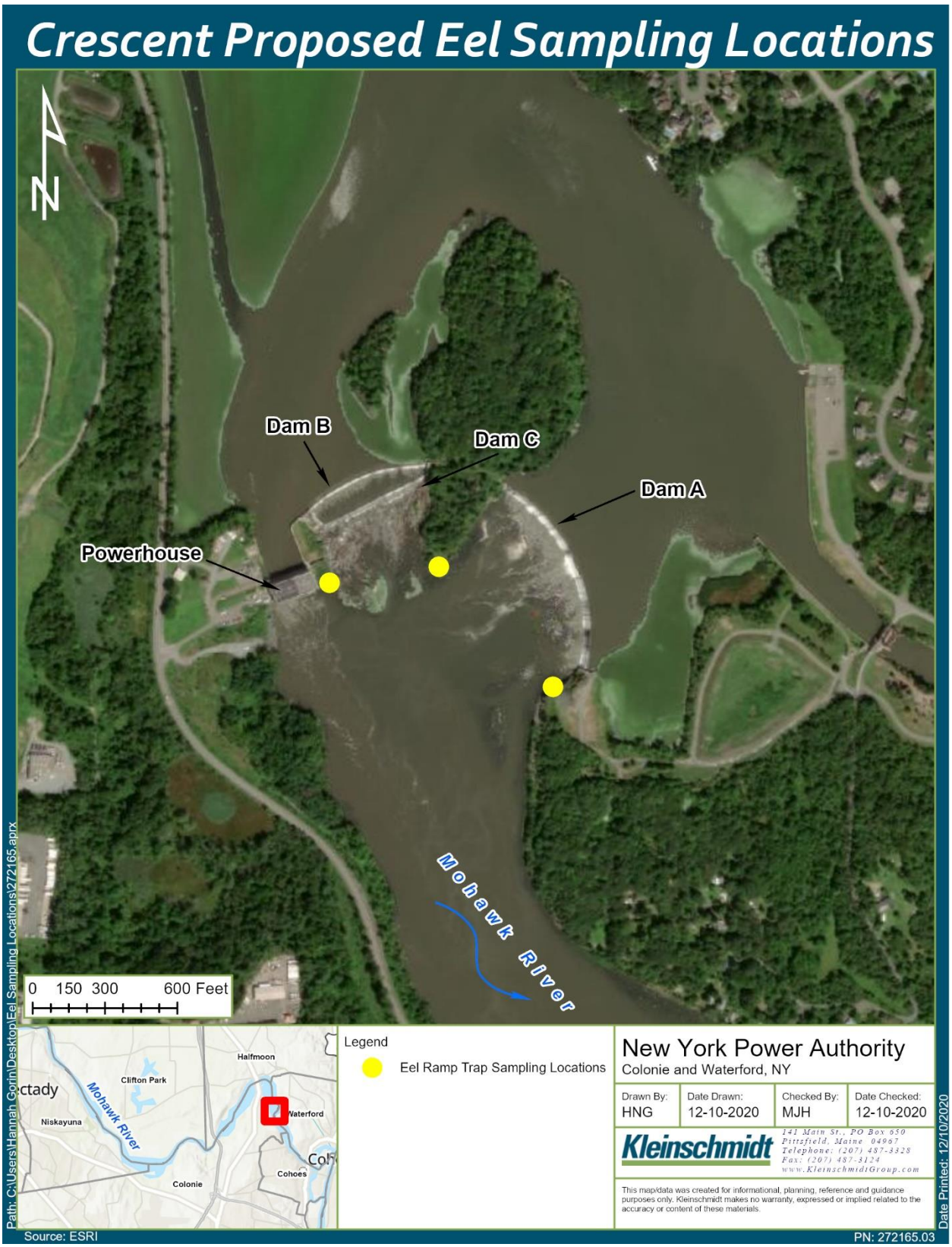
Based on these preferred features, there are three potential sampling locations currently being considered downstream of each Project. With the exception of the Lock channel at Vischer Ferry, these areas were observed during a site visit on November 19, 2020 with representatives from the USFWS and NYSDEC and are illustrated in Figures 1 and 2. While desirable, the logistics of these locations in terms of being able to maintain a functioning trap, reasonable access, and safety are currently being evaluated and will ultimately determine actual locations.

The presence and relative abundance of eels upstream of Crescent dam will be determined from the sampling conducted below the Vischer Ferry Project dam. The presence and abundance of eels upstream of Vischer Ferry cannot be determined using these same methods, as there is no dam immediately upstream of Vischer Ferry where upstream migrating eels would likely congregate and/or could easily be observed or trapped. Therefore, to assess eel abundance in the Vischer Ferry impoundment, nighttime boat electrofishing will also be conducted as recommended by the NYSDEC and USFWS. Two sampling events will occur, one night each in July and August. Target areas will be directed at potential eel habitat and may include rocky substrates, vegetated shorelines, and the mouths of tributary streams. To the extent practical, sampling will occur during darker moon phases when there is potentially more eel activity. Sampling effort will consist of six, 20-minute sampling runs per event. Sampling will begin no earlier than 30 minutes after sunset. Only eels will be collected. While American Eel are very susceptible to electrofishing, they can be difficult to capture even though they are observed. Therefore, all collection efforts will be focused on eels only. If eels are observed, but not captured, they will be documented.

If eels are collected, they will be photographed, measured (total length and girth), weighed, and scanned for existing tags. If the eels are not tagged indicating a recapture, they will be tagged using Passive Integrated Transponder (PIT) tags to identify them should they be recaptured. If glass eels or small elvers are observed or collected, they will be enumerated and processed as appropriate, but may not be suitable for tagging. It is proposed that eel ramp trap sampling will begin in mid-May, 2021 and continue through September 30, 2021. It should be noted that the nighttime observations target small, early migrants while the eel ramp traps target larger elvers and yellow eels that are expected to migrate through the summer and early fall. Between the two methodologies, a level of monitoring will essentially occur from mid-April through the end of September 2021.

As study planning continues and throughout the study period, the researchers will maintain contact with the NYSDEC which conducts a juvenile eel collection program on Hudson River tributaries. Monitoring the progress of NYSDEC's efforts will allow for potentially adjusting the sampling period for this study based on upstream progression of eels through the Hudson River.

Figure 1: Crescent Project Proposed Eel Sampling Locations



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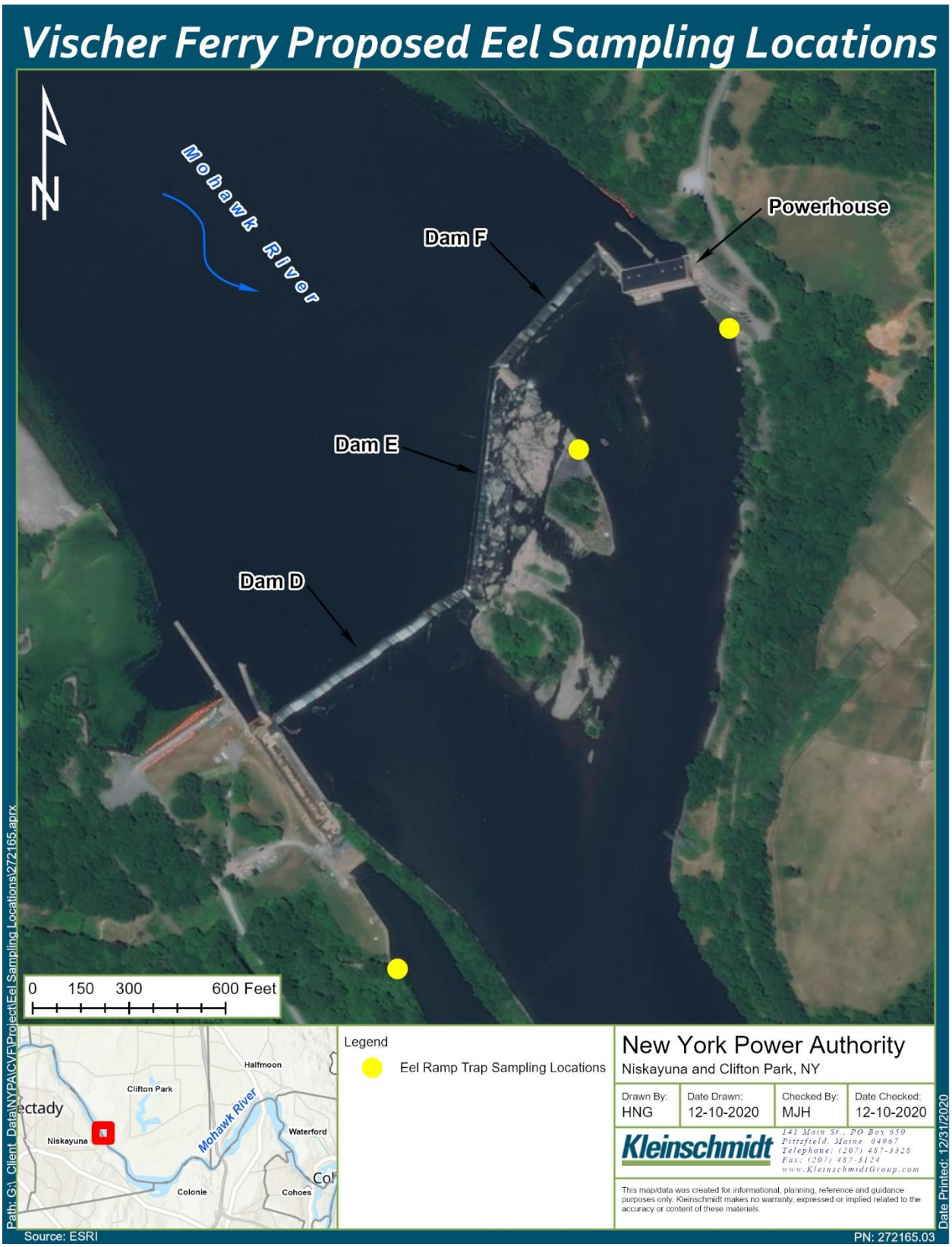

From: Wiley, John <John_Wiley@fws.gov>
Sent: Wednesday, January 20, 2021 4:05 PM
To: Andrew Weinstock <andrew.weinstock@nypa.gov>; Chris VanMarren (chris.vanmaaren@dec.ny.gov) <chris.vanmaaren@dec.ny.gov>; Cain, Nicole E (DEC) <nicole.cain@dec.ny.gov>
Cc: Daly, Rob <Robert.Daly@nypa.gov>; Brady, Cindy <cynthia.brady@nypa.gov>; Groom, Tara <Tara.Groom@nypa.gov>; Jeff Gerlach <Jeff.Gerlach@nypa.gov>; VC Pezzullo <Vincent.Pezzullo@nypa.gov>; Mike Hreben <Mike.Hreben@KleinschmidtGroup.com>; Wendy Bley <Wendy.Bley@Kleinschmidtgroup.com>
Subject: Re: [EXTERNAL] Crescent and Vischer Ferry American Eel Study Plan

Andrew,

I have reviewed the revised American Eel Study Plan. Thank you for your coordination on our site visit and follow-up calls regarding this topic. The plan as presented appears to address our conversations to date and notes points where ongoing consultation will be carried out througout the study period. Please feel free to submit to the FERC for their consideration after DEC provides their concurrence.

Cheers,
John

John J. Wiley, Jr.
Fish and Wildlife Biologist
U.S. Fish & Wildlife Service
Department of the Interior
North Atlantic-Appalachian Region

New York Field Office
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Office: 607-753-9334
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From: Weinstock, Andrew <Andrew.Weinstock@nypa.gov>
Sent: Tuesday, January 5, 2021 4:05 PM
To: Wiley, John <John_Wiley@fws.gov>; Chris VanMarren (chris.vanmaaren@dec.ny.gov)

<chris.vanmaaren@dec.ny.gov>; Cain, Nicole E (DEC) <nicole.cain@dec.ny.gov>
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From: Cain, Nicole E (DEC) <Nicole.Cain@dec.ny.gov>
Sent: Thursday, January 21, 2021 10:10 AM
To: Andrew Weinstock <andrew.weinstock@nypa.gov>; Wiley, John <john_wiley@fws.gov>; VanMaaren, Chris C (DEC) <chris.vanmaaren@dec.ny.gov>
Cc: Daly, Rob <Robert.Daly@nypa.gov>; Brady, Cindy <cynthia.brady@nypa.gov>; Groom, Tara <Tara.Groom@nypa.gov>; Jeff Gerlach <Jeff.Gerlach@nypa.gov>; VC Pezzullo <Vincent.Pezzullo@nypa.gov>; Mike Hreben <Mike.Hreben@KleinschmidtGroup.com>; Wendy Bley <Wendy.Bley@Kleinschmidtgroup.com>
Subject: Re: Crescent and Vischer Ferry American Eel Study Plan

Good morning Andrew,

My apologies for the time it took to do a review of the draft study. NYSDEC concurs with the contents of the draft study as presented. When you file with FERC, NYSDEC will be ready and willing to write a letter of support for the study should it be needed.

Nicole E. Cain

Biologist 1 (Ecology), Division of Fish & Wildlife

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