Wildlife Site Characterization Report

February 2023

Two Rivers Solar Project

Prepared For:

Boralex US Development LLC
39 Hudson Falls Road
South Glens Falls, NY 12803

Prepared By:

TRC Inc.
10 Maxwell Drive, Suite 200
Clifton Park, NY 12065

TABLE OF CONTENTS

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

Notation	Definition
BCA	Bird Conservation Area
BCC	Bird of Conservation Concern
Boralex	Boralex Inc.
CBC	Christmas Bird Count
EAF	Environmental Assessment Form
ECL	Environmental Conservation Law
ECOS	Environmental Conservation Online System
ERM	Environmental Resource Mapper
ESA	Endangered Species Act
FE	Federally Endangered
FT	Federally Threatened
HPSGCN	High Priority Species of Greatest Conservation Need
IBA	Important Bird Area
IPaC	Information for Planning and Consultation
MRLC	Multi-Resolution Land Characteristics
MW	Megawatt
NLCD	National Land Cover Database
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
NYBBA	New York Breeding Bird Atlas
NYCRR	New York Codes, Rules, and Regulations
NYNHP	New York Natural Heritage Program
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSOA	New York State Ornithological Association
ORES	Office of Renewable Energy Siting
PEM	palustrine emergent
PFO	palustrine forested
Project	Two Rivers Solar Project
Project Area	Two Rivers Solar Project totaling 6,435 acres of leased, private land
PSS	palustrine scrub-shrub
SE	State Endangered
SGCN	Species of Greatest Conservation Need
SOSC	Species of Special Concern
SPCN	Species of Potential Conservation Need
ST	State Threatened
SWAP	State Wildlife Action Plan
U.S.	United States
USACE	U.S. Army Corps of Engineers

Notation	Definition
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WMA	Wildlife Management Area
WRP	Wetlands Reserve Program
WSCR	Wildlife Site Characterization Report

Table I-1-1. Required Information Locations in Wildlife Site Characterization Report

Reg Stipulation	Documentation	Located
900-1.3 (g)(1)	At the earliest point possible in the applicant's preliminary project planning, the applicant shall conduct a wildlife site characterization summarizing existing public information on bird, bat, and other species, including, but not limited to, New York's Environmental Assessment Form Mapper, New York Natural Heritage Program, United States Fish and Wildlife Service Information for Planning and Consultation and ECOS databases, New York's Environmental Resource Mapper, Nature Explorer, and Biodiversity and Wind Siting Mapping Tool, eBird, Audubon Christmas Bird Counts, United States Geological Survey breeding bird surveys, the current New York Breeding Bird Atlas III program, New York State Ornithological Association, local birding organizations, Bat Conservation International's database on bat species ranges, New York State Department of Conservation bat information.	Section 2.0
900-1.3 (g)(1)(i)	NYS threatened or endangered species or Species of Special Concern documented at the proposed facility, access roads, interconnections, connecting lines, from available data sources. A subset of New York State threatened, or endangered species identified within the last five (5) years shall be provided.	Section 3.6.1
900-1.3 (g)(1)(ii)	For each listed animal species documented from available data sources, provide an evaluation of current habitat suitability for those species at the project site.	Sections 3.1 through 3.6
900-1.3 (g)(1)(iii)	Landscape features and resources of potential concern within five (5) miles of the facility that may function to funnel or concentrate birds and bats, with a focus on NYS threatened or endangered species, during migration or for feeding, breeding, wintering, or roosting activities, such as national wildlife refuges, wildlife management areas, grassland focus areas, core forest blocks (contiguous areas of one hundred fifty (150) acres or larger), Audubon Important Bird Areas, high elevation mountaintops, prominent ridgelines, forested riparian areas, known hibernacula, records of caves and mines, or other significant habitat areas.	Sections 3.1 through 3.6
900-1.3 (g)(1)(iv)	Geographical, topographical, and other physical features within five (5) miles of the facility, interconnections, connecting lines, and access roads.	Section 3.3
900-1.3 (g)(1)(v)	National Wetlands Inventory and NYSDEC mapped wetlands, streams, waterbodies, state forests, parks, land use, and other available information relevant to siting the facility.	Sections 3.1, 3.2, 3.4
900-1.3 (g)(1)(vi)	A review of National Audubon Society climate change modeling for listed bird species documented in the wildlife site characterization, and review of other climate change models relevant to listed bird species and other wildlife species documented at the facility site, as available.	Section 3.7

1.0 Introduction

1.1 Project Description

Boralex US Development LLC, a wholly owned subsidiary of Boralex Inc. (Boralex), is developing the Two Rivers Solar Project (the Project), a 200-megawatt (MW) alternating current (AC) ground mounted solar facility, located in the Towns of Brasher and Massena in St. Lawrence County, New York, situated south of Raquette River and north of the St. Regis River and bisected by New York State Route 37C (Appendix A, Figures 1 and 2).

The Project Area consists of land leased from owners of private property and currently makes up approximately 6,435 acres (Project Area). The Project Area represents the larger area in which the Project will be sited. As discussions are ongoing with area landowners, the Project Area may change over time. The Project Area reflected in the desktop analyses and mapping includes all parcels that Boralex is currently investigating for the Project. For the purposes of this report, the Study Area is defined as the Project Area and a 5-mile buffer (exclusive of Canadian territory), consistent with Section 1.3(g)(1) of the Section 94-c regulations. Figure 1 depicts the location of the Project Area and Figure 2 depicts the location of the Study Area (Appendix A).

TRC was contracted by Boralex to prepare this wildlife characterization in accordance with the Final Chapter XVIII, Title 19 of the New York Codes of Rules and Regulations (NYCRR) 900-1.3(g) regulations (Section 94-c) under the New York State Office of Renewable Energy Siting (ORES) program. This requires the submittal of a wildlife characterization during the early stages of planning and development process for the Project to determine the need and scope of wildlife surveys. Tetra Tech previously prepared a Wildlife Site Characterization Report for the Two Rivers Solar Project on behalf of Boralex in 2021. Since then, new land was added to the Project and therefore TRC was contracted to update the Two Rivers Solar Project Wildlife Site Characterization Report to be consistent with the most recent Project Area boundary.

1.2 Objectives

The objectives of the Wildlife Site Characterization Report (WSCR) include the following:

- Characterize wildlife species with the potential to occur within the Project Area by summarizing existing public information on bird, bat, and other species.
- With respect to New York State (NYS) threatened or endangered species or Species of Special Concern (SOSC), this WSCR includes an evaluation of the following within the Project Area:
    - Species observations within the last five years and associated habitat suitability;
    - National Wetland Inventory (NWI)-identified and New York State Department of Environmental Conservation (NYSDEC)-mapped wetlands and waterbodies;
    - Land use and vegetation cover types; and
    - A review of National Audubon Society climate change modeling for listed bird species documented within the Project Area.

- With respect to NYS threatened or endangered species or SOSC, this WSCR includes an evaluation of the following within the Project Area and Study Area:
  - Geographical, topographical, and other physical features including prominent ridgelines and high elevation mountaintops; and
  - Landscape features, resources of potential concern, and significant natural communities including Wildlife Management Areas (WMAs), National Wildlife Refuges (NWRs), core forest blocks, Audubon Important Bird Areas (IBAs), known hibernacula, wildlife concentration areas, grassland focus areas, forested riparian areas, and potential roosting habitat.

2.0 Methods

This WSCR was developed to assess the potential for federally and state-listed species and species of greatest conservation need (SGCN) and species of special concern (SOSC) to occur within the Project Area and Study Area. The methodology used was consistent with the ORES Final Regulations.

The characterization was completed through desktop-based analysis by examining publicly available sources and submitting Project-specific agency regulatory information requests. Within this report, federally listed species are defined as those that are federally endangered (FE), federally threatened (FT) or listed as a Bird of Conservation Concern (BCC) by the USFWS. NYSDEC-listed species include those that are State Endangered (SE), State Threatened (ST), or listed as Species of Special Concern (SOSC). The publicly available resources used in the desktop analyses, as identified in the Section 94-c regulations, are listed as follows:

- Google Earth Pro 2020;
- Multi-Resolution Land Characteristics (MRLC) Consortium National Land Cover Database (NLCD);
- New York Ecoregion Maps;
- New York Natural Heritage Program (NYNHP);
- NYSDEC Environmental Assessment Form (EAF) Mapper;
- NYSDEC Environmental Resource Mapper (ERM);
- NYSDEC Animal Species Databases;
- NYSDEC Atlases for Reptiles, Amphibians, and Fish;
- NYSDEC State Wildlife Action Plan (SWAP);
- NYSDEC Grassland Focus Areas mapping;
- NYSDEC Freshwater Wetland mapping;
- NYSDEC Nature Explorer;
- NYSDEC WMAs mapping;
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
- Grassland Focus Areas;
- USDA Ecoregion Maps;
- U.S. Geological Survey (USGS) Protected Areas Database of the United States (PADUS);
- USGS Hogansburg and Raquette River New York 7.5-minute quadrangles;
- USFWS NWI mapping;
- USFWS NWR mapping;
- USFWS Information for Planning and Consultation (IPaC) report;
- USFWS Northern long-eared bat hibernacula and maternity roost tree locations;
- Bat Conservation International’s database;

- New York Breeding Bird Atlas (NYBBA);
- Audubon IBA;
- Audubon Christmas Bird Count (CBC);
- National Audubon Society 'Survival By Degrees' climate change model;
- Journal of Fish and Wildlife Management;
- USGS Breeding Bird Survey (BBS);
- Cornell Lab of Ornithology eBird Database; and
- New York State Ornithological Association.

Data sources were assessed for the entire Project Area, with the exception of CBC and BBS data which reported the nearest CBC survey area and BBS route, respectively. The ECOS and eBird databases were reviewed at the county level.

In addition to the sources used during the desktop review, field surveys were conducted within portions of the Project Area for grassland breeding birds, wintering grassland raptors, and wetlands and waterbodies. Although not required by Section 94-c regulations for the WSCR, these surveys were conducted in anticipation of a request from ORES.

Wintering grassland raptor surveys were conducted within a 4,248-acre (wintering grassland raptor survey area) within the Project Area in accordance with the latest NYSDEC Survey Protocol for State-listed Wintering Grassland Raptor Species, dated August 2021 (NYSDEC Survey Protocol; NYSDEC 2021), the Winter Raptor Survey Work Plan – Two Rivers Solar Project dated October 15, 2021, and revised on December 14, 2021 (Stantec, 2021). Surveys were conducted between mid-November 2021 and mid-April 2022. The results from the wintering grassland raptor surveys indicated observations of [redacted]

Breeding bird surveys were conducted within a 3,608-acre area (breeding bird survey area) within the Project Area from May 3, 2022, to July 20, 2022. An avian study plan was submitted to ORES in compliance with 19 New York Codes, Rules and Regulations § 900-1.3(g)(4) on March 1, 2022. ORES reviewed the avian study plan, which was prepared consistent with the NYSDEC Survey Protocol for State-listed Breeding Grassland Bird Species (NYSDEC 2022a). The results from the breeding bird surveys indicted [redacted] There were also [redacted]

Wetland and waterbody delineations were performed within a portion of the Project Area, approximately 1,831 acres, that includes the anticipated footprint of the facility. The surveys were conducted from September 26 to November 8, 2022, in accordance with criteria set forth in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (United States Army Corps of Engineers [USACE] 2012). The results from these surveys are being used to inform facility design which will, once completed, be submitted to the ORES and NYSDEC as part of ongoing Section 94-c pre-application consultation.

3.0 Results

The results section of this report is separated by data regarding wildlife observations and those related to the presence of wildlife habitat, which could be indicative of use of the Project Area by listed wildlife species.

3.1 Land Use and Vegetation Cover

Based on land cover and vegetation classification data, woody wetlands (29.41 percent), agriculture (consisting of planted hay) (26.10 percent), and deciduous forest (20.73 percent) are the primary land uses within the Project Area. Table 1 summarizes land use and vegetation cover types within the Project Area and Study Area. Figure 3 illustrates land use and vegetation cover types within the Project Area (Appendix A).

Table 1. Land Use and Vegetation Cover Types within the Project Area and Study Area

Land Use/Vegetation Cover Type	Acres within Project Area	Percentage of Project Area	Acres within the Study Area	Percentage of the Study Area
Pasture/Hay	1,678.90	26.10	14,265.87	13.82
Cultivated Crops	274.77	4.27	1,189.42	1.15
Deciduous Forest	1,333.87	20.73	24,207.58	23.45
Evergreen Forest	217.08	3.37	9,834.67	9.53
Mixed Forest	221.96	3.45	3,615.95	3.50
Woody Wetlands	1,892.17	29.41	28,606.25	27.71
Emergent Herbaceous Wetlands	348.00	5.41	3,078.02	2.98
Shrub/Scrub	108.64	1.69	1,129.38	1.09
Grassland/Herbaceous	5.91	0.09	931.61	0.90
Barren Land	2.85	0.04	34.91	0.03
Open Water	26.77	0.42	6,623.80	6.42
Developed, Low Intensity	41.80	0.65	2,664.85	2.58
Developed, Medium Intensity	17.98	0.28	1,696.45	1.64
Developed, High Intensity	2.22	0.03	713.53	0.69
Developed, Open Space	262.15	4.06	4,653.95	4.51
Total	**6,435.08**	**-**	**103,246.24**	**-**

Source: MRLC Consortium 2019.

Land use and vegetation cover types within the Study Area reflect a decrease in agriculture land use (from approximately 30 percent of the Project Area to approximately 15 percent of the Study Area) and an increase in undeveloped forest vegetation cover (from approximately 27 percent of

the Project Area to approximately 37 percent of the Study Area) in comparison to the Project Area. There is an increase in developed land use (low, medium, high, and open) from the Project Area from approximately 5 percent to 9 percent in the Study Area (MRLC Consortium 2016).

3.2 Wetlands and Waterbodies

According to initial desktop review, 1,084.54 acres of NWI-features were identified within the Project Area (USFWS 2022a; Appendix A, Figure 4). The USFWS NWI is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). Wetlands identified by the NWI were used as a reference guide to conduct a more informed field survey of the demarcation or delineation of wetlands and streams, which could be subject to federal and state regulation. According to the NYSDEC, 21 mapped NYSDEC freshwater wetlands (969.92 acres) and six mapped NYSDEC freshwater streams were identified within the Project Area (NYSDEC 2022b).

Additionally, on behalf of Boralex, TRC conducted a wetland and waterbody survey on a portion of the Project Area (Wetland Survey Area). Based on the results of a wetland delineation survey, 131 wetlands were identified within the Wetland Survey Area. There were 52 wetlands with palustrine emergent (PEM) characteristics, 62 with palustrine scrub-shrub (PSS) characteristics, and 30 with palustrine forested (PFO) characteristics (TRC 2022). Based on the results of a waterbody delineation survey within the Wetland Survey Area, a total of six ephemeral waterbodies (totaling approximately 0.65 linear miles) were identified (TRC 2022). In addition, there are no mapped NYSDEC freshwater wetlands within the wetland and waterbody survey area (NYSDEC 2022b; Appendix A, Figure 5).

Identified wetlands and waterbodies may be considered jurisdictional and subject to regulation pursuant to NYSDEC 900.1-3 (e) and (f), respectively. The ultimate authority to determine wetland and stream boundaries and jurisdiction lies with the USACE and the State.

3.3 Geographic, Topographic, and Physical Features

The Project Area is relatively flat, ranging from approximately 190 to 250 feet above mean sea level. In general, topography slopes gradually down from southwest to northeast. The Study Area consists of relatively flat river floodplain mixed with some small hills. Elevations range within the Study Area from approximately 160 to 380 feet above mean sea level.

The Project Area is located within the St. Lawrence Lowlands Level IV Ecoregion (83d) within the Eastern Great Lakes Lowlands Level III Ecoregion (83) of the Eastern Broadleaf Forest (Continental) Province (Bailey 1995; Bryce et al. 2010). The Study Area is located within the St. Lawrence Lowlands Level IV Ecoregion (83d) and the Upper St. Lawrence Valley Level IV Ecoregion (83e) within the Eastern Great Lakes Lowlands Level III Ecoregion (83) of the Eastern Broadleaf Forest (Continental) Province (Bailey 1995; Bryce et al. 2010). The Eastern Great Lakes Lowlands ecoregion surrounds the highland ecoregions of northern New York State. Valleys and lowlands are underlain by interbedded and erodible limestone, shale, and sandstone rocks. The topography and soils of the lowlands have been shaped by glacial lakes and episodic glacial flooding forming glacial lakes, marine plains, and scattered low ridges. The Upper St. Lawrence Valley ecoregion consists of more rolling and elevated terrain between the narrow Black River and the Tug Plateau (Bryce et al. 2010).

3.4 Classified Lands and Resources of Potential Concern

Classified or protected lands under the purview of various federal, state, county, or local designated jurisdictions occur within both the Project Area and the Study Area. The only protected or classified lands identified within the Project Area include 187.87 acres of a St Lawrence NY, wetlands reserve program (Table 2; Appendix A, Figure 7), however the Project will be sited to avoid developing within this area. Two classified lands within the Study Area and adjacent to the Project Area (not within the Project Area), include the St. Regis Indian Reservation and the Brasher Falls State Forest (Appendix A, Figure 7).

Table 2. Protected and Classified Lands Identified within both the Project Area and Study Area

Classification	Acres within Project Area	Acres within Study Area
Federal		
Wetlands Reserve Program, St. Lawrence, NY	187.87	759.01
Total	**187.87**	**759.01**

Source: PADUS 3.0.

Wetlands Reserve Program (WRP)

The wetlands reserve program is a voluntary program that provides technical and financial assistance to eligible landowners to restore, enhance, and protect wetlands. The agreement is through 30-years, perpetual easements, or restoration cost-share agreements. The main goal of the WRP is to restore wetland functions and values to their natural conditions while maximizing wildlife habitat. The WRP parcel that is located within the Project Area is situated within the central portion of the Project Area (Appendix A, Figure 7).

3.5 Significant Habitat Areas

The Project Area and Study Area contain core forest blocks and forested riparian habitat that may function to funnel or concentrate birds and bats during breeding, migration, and wintering periods. No significant natural communities were identified within the Project Area; however, one significant natural community was identified within the Study Area according to the NYSDEC's Environmental Resource Mapper (NYSDEC 2022b; Appendix A, Figure 6). Additionally, the Project Area and Study Area are located within the St. Lawrence River Valley Grassland Focus Area (Audubon, 2022d).

3.5.1 Core Forest Blocks

Core forest blocks are defined as contiguous blocks of mixed, deciduous, or evergreen forest and forested wetlands totaling 150 acres or larger. According to the NLCD, approximately 1,352.80 acres of core forest blocks are located throughout the Project Area and approximately 29,167.12 acres (inclusive of the 1,352.80-acres in the Project Area) of core forest blocks are located within the Study Area (Appendix A, Figure 8). Core forest blocks are important for sensitive wildlife, including bat species and forest songbirds. The fragmentation of large forests by new

development reduces or eliminates core forest and is a leading driver of biodiversity loss. Fragmentation decreases forest habitat quality, disrupts wildlife movement, and facilitates the spread of invasive species (NYNHP 2019).

3.5.2 Forested Riparian Habitat

The Project Area contains 372.09 acres of forested riparian habitat, and the Study Area contains 6,572.89 acres (inclusive of the 372.09-acres in the Project Area) of forested riparian habitat (USFWS 2022a; Appendix A, Figure 4). For the purposes of this analysis, forested riparian habitat is defined as NWI-identified PFO wetlands adjacent to rivers and streams.

3.5.3 Natural Communities

According to the NYSDEC, there are no significant natural communities located within the Project Area; however, there is one significant natural community, within the Study Area (Appendix A, Figure 6). The Cobble Shore Wet Meadow is located at the Wiley Dondero Canal South adjacent to the St. Lawrence River and is situated four miles north of the Project Area (NYSDEC 2022b). The Cobble Shore Wet Meadow is classified as a significant natural community because it is defined as a Rare Community Type.

3.5.4 Grassland Focus Area

Audubon's Grassland Bird Conservation Program identifies eight Grassland Focus Areas throughout New York State to focus the Grassland Bird Conservation efforts on regions of the state that have the highest likelihood of sustaining grassland bird populations on a long-term basis and where conservation efforts are most likely to be effective. Determination of the Grassland Focus Areas consisted of analyzing data from the second New York BBA to identify regions supporting core populations of grassland birds where capture at least 50 percent of the blocks that grassland birds were found in. The Project Area and Study Area are located within the Focus Area 5, the St. Lawrence River Valley Grassland Focus Area (Audubon, 2022d).

3.6 Wildlife

The Project Area and Study Area primarily consists of pasture and hay lands, forested woodlands, agricultural lands, wetlands, and waterbodies. The vegetation communities and land uses within the Project Area and Study Area support numerous species of birds, mammals, reptiles, amphibians, fish, and insects. Several of these wildlife species known to, or expected to, occur in the Study Area are considered special status species. Special status species include federally listed species protected pursuant to the Endangered Species Act (ESA); NYS-listed threatened, endangered, or SOSC; and NYSDEC High Priority Species of Greatest Conservation Need (HPSGCN), Species of Greatest Conservation Need (SGCN), and Species of Potential Conservation Need (SPCN).

3.6.1 NYSDEC ERM and NYSDEC EAF Mapper

The NYSDEC ERM and NYSDEC EAF Mapper were reviewed to determine the presence of state-listed threatened and endangered species within the Project Area (NYSDEC 2022b,d). These databases indicated the potential presence of listed plant and animal species. Two species that were specifically identified were [redacted] and [redacted]

[redacted] To obtain a full species list, consultation with NYSDEC is needed, which will be completed as development of the Project progresses. Table 3 provides a summary of these species, listing status, habitat requirements, and whether suitable habitat exists within the Project Area. The presence of suitable habitat within the Project for the identified species was evaluated based on the presence of matching land cover classes and wetland/waterbody habitat as detailed in sections 3.1 and 3.2.

Table 3. NYSDEC ERM and NYSDEC EAF Mapper Review Results

Common Name (Scientific name)	Status[1]	Source	Habitat	Potential Suitable Habitat Identified within the Project Area
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted] s	[redacted]
[redacted]				

3.6.2 USFWS ECOS and IPaC

The USFWS Environmental Conservation Online System (ECOS) database was reviewed to determine the listed species believed to or known to occur in St. Lawrence County (USFWS 2022b). The ECOS database indicated the potential presence of [redacted] the monarch butterfly (*Danaus plexippus*), a candidate species, the tricolored bat (*Perimyotis subflavus*), a proposed FE species, and the little brown bat (*Myotis lucifugus*), a species that is under review, within St. Lawrence County.

The USFWS Information for Planning and Consultation (IPaC) database was reviewed to determine the listed species that have the potential to be located within the Project Area (USFWS 2022c). The IPaC database indicated there are no FT or FE species that have the potential to be located within the Project Area (Appendix B). The IPaC database indicated that there is one candidate species, the monarch butterfly, that can potentially be affected by activities within the Project Area. Eleven migratory bird species were identified within the Project Area as USFWS BCCs through this search (Appendix B).

Table 4. USFWS IPaC List of BCC Species

Common Name (Scientific name)	Status[1]	Habitat	Potential Suitable Habitat Identified within the Project Area
[redacted]	[redacted]	[redacted]	[redacted]
Belted Kingfisher (*Megaceryle alcyon*)	BCC	Streams, lakes, bays, coasts; nests in banks. During winter and migration, may be found in almost any waterside habitat, including the edges of small streams and	Yes

Common Name (Scientific name)	Status[1]	Habitat	Potential Suitable Habitat Identified within the Project Area
		ponds, large rivers and lakes, marshes, estuaries, and rocky coastlines; seems to require only clear water for fishing. During breeding season, more restricted to areas with suitable dirt banks for nesting holes.	
Black-billed Cuckoo (*Coccyzus erythropthalmus*)	BCC	Breeds in thickets and scrub-shrub habitats, often on edges of woodlands and marshes; uses dense cover (shrubs and young trees) during migration.	Yes
Blue-winged Warbler (*Vermivora pinus*)	BCC	Breeds in shrublands, scrubby areas, thickets, and forest edges. During migration they rest and forage in open woodlands, shrublands, thorn forests, gardens, and parks.	Yes
Bobolink (*Dolichonyx oryzivorus*)	BCC, HP	Breeds in grasslands and occupies grasslands and marshes during migration.	Yes
Canada Warbler (*Cardellina canadensis*)	BCC, HP	Breeds in mature hardwood forests and dense shrub-scrub riparian habitats, prefers moist habitats, streams and wetlands; similar during migration.	Yes
Chimney Swift (*Chaetura pelagica*)	BCC	Open sky, especially over cities and towns. Forages in the sky over any kind of terrain, wherever there are flying insects. Now most common over towns and cities; within its range, few forests remain with hollow trees large enough to serve as nest sites.	Yes
Eastern Meadowlark (*Sturnella magna*)	BCC, HP	Open fields and pastures, meadows, prairies. Breeds in natural grasslands, meadows, weedy pastures, also in hayfields and sometimes in fields of other crops. Winters in many kinds of natural and cultivated fields.	Yes
Evening Grosbeak (*Coccothraustes vespertinus*)	BCC	Breeds in coniferous and mixed forests. In migration and winter, may be equally common in deciduous groves in woodlands and semi-open areas.	Yes
[redacted]	BCC	Open woodlands, brushy clearings, marshes and bogs.	Yes
Wood Thrush (*Hylocichla mustelina*)	BCC	Deciduous woodlands, breeds in understory of woodlands, in areas with tall trees; in migration found in various woodlands.	Yes

Common Name (Scientific name)	Status[1]	Habitat	Potential Suitable Habitat Identified within the Project Area
[1]BBC=Bird of Conservation Concern; ST= NYS Threatened; HP = High Priority Species of Greatest Conservation Need			

3.6.3 Listed Bat Information – Bat Conservation International and NYSDEC

According to the NYSDEC ERM, there are no known occurrences for bat species within the Project Area or Study Area. Bat Conservation International's bat range maps indicated that [redacted]

According to the NYSDEC's [redacted] Occurrences by Town document, there are no known maternity roost trees or hibernacula within the Project Area. [redacted] (NYSDEC 2022f).

3.6.4 NYSDEC – Nature Explorer

The NYSDEC Nature Explorer database was reviewed within the Project Area and its surrounding area. The results indicated that there are two species that have the potential to be within the Project Area, which are the Iowa Darter (*Etheostoma exile*) and the Yellow Lampmussel (*Lampsilis cariosa*). These species were last documented in St. Lawrence County in 2018 and 2000, respectively (NYSDEC, 2022e).

3.6.5 NYSDEC – Nature Explorer Cornell University eBird

The Cornell University eBird dataset, a comprehensive record of bird species identified by qualified birders throughout the world, was reviewed. There were six hotspots identified within the Study Area, all of which were along the St. Lawrence River, approximately four miles north of the Project Area. The six hotspots indicated that 153 different species were identified within the last five years (2018-2022) (eBird, 2022). Table 5 summaries the species identified within the six hotspots.

Table 5. Cornell University eBird Observations from 2018-2022 for Hotspots within the Study Area

Alder Flycatcher	**American Black Duck (HP)**	American Crow	American Goldfinch
American Pipit	American Redstart	American Robin	American Tree Sparrow
American Wigeon	American Woodcock	[redacted]	Baltimore Oriole
Bank Swallow	Barn Swallow	Barred Owl	Belted Kingfisher
Black Scoter	Black-and-white Warbler	Black-billed Cuckoo	Blackburnian Warbler

Black-capped Chickadee	Black-crowned Night-Heron	Blue Jay	Blue-gray Gnatcatcher
Bobolink (HP)	Bohemian Waxwing	Broad-winged Hawk	Brown Creeper
Brown Thrasher (HP)	Brown-headed Cowbird	Bufflehead	Canada Goose
Canada Jay	Caspian Tern	Cedar Waxwing	Chestnut-sided Warbler
Chimney Swift	Chipping Sparrow	Cliff Swallow	Common Goldeneye
Common Grackle	[redacted]	Common Merganser	Common Raven
Common Redpoll	[redacted]	Common Yellowthroat	[redacted]
Dark-eyed Junco	Double-crested Cormorant	Downy Woodpecker	Dunlin
Eastern Bluebird	Eastern Kingbird	**Eastern Meadowlark (HP)**	Eastern Phoebe
Eastern Screech-Owl	Eastern Towhee	Eastern Wood-Pewee	European Starling
Field Sparrow	Gadwall	Glaucous Gull	[redacted]
Golden-crowned Kinglet	Gray Catbird	Great Black-backed Gull	Great Blue Heron
Great Crested Flycatcher	Great Egret	Greater Scaup	Green Heron
Hairy Woodpecker	Herring Gull	Hooded Merganser	House Wren
Iceland Gull	Indigo Bunting	Killdeer	Least Sandpiper
Lesser Black-backed Gull	Lesser Scaup	Lesser Yellowlegs	Lincoln's Sparrow
Magnolia Warbler	Mallard	Marsh Wren	Merlin
Mourning Dove	Mourning Warbler	Mute Swan	Nashville Warbler
Northern Cardinal	Northern Flicker	[redacted]	Northern Pintail
Northern Rough-winged Swallow	Northern Shrike	Northern Waterthrush	**Olive-sided Flycatcher (HP)**
Orange-crowned Warbler	[redacted]	Ovenbird	[redacted]
Philadelphia Vireo	Pileated Woodpecker	Pine Grosbeak	Pine Siskin
Purple Finch	Purple Martin	Red-breasted Grosbeak	Red-breasted Merganser
Red-breasted Nuthatch	Red-eyed Vireo	Red-tailed Hawk	Red-winged Blackbird
Ring-billed Gull	Ring-necked Pheasant	Rock Pigeon	Ruby-crowned Kinglet
Ruby-throated Hummingbird	Ruffed Grouse	Sanderling	Savannah Sparrow
Scarlet Tanager	Semipalmated Plover	**Semipalmated Sandpiper (HP)**	[redacted]
Snow Bunting	Snow Goose	Snowy Owl	Solitary Sandpiper
Song Sparrow	Spotted Sandpiper	Surf Scoter	Swainson's Thrush

Swamp Sparrow	Tennessee Warbler	Tree Swallow	Turkey Vulture
Veery	Warbling Vireo	White-breasted Nuthatch	White-crowned Sparrow
White-winged Crossbill	Wild Turkey	Willow Flycatcher	Wilson's Warbler
Wood Duck	Wood Thrush	Yellow Warbler	Yellow-bellied Sapsucker
Yellow-rumped Warbler			
NYSDEC 2022c: SE = State Endangered ST = State Threatened SOSC = Species of Special Concern HP = High Priority Species of Greatest Conservation Need			

3.6.6 USGS Breeding Bird Survey (BBS)

The USGS BBS database is a long-term cooperative effort between the USGS Patuxent Wildlife Research Center and Environment Canada's Canadian Wildlife Service to monitor the status and trends of North American bird populations. This effort is conducted by qualified birders and is timed to occur during the peak of the breeding bird season, typically the mid-June timeframe.

There is one survey route that intersects the Study Area, the Hopkinton route (61103), which is approximately one mile south of the Project Area. A review of the five most recent survey years, 2018-2022, found 69 species of birds to be present along the route (Table 6) (USGS 2022). Given the proximity of this route and presence of similar habitat, it is assumed that any of these species could occur within the vicinity of the Study Area. There are no records from 2020 or 2022.

Table 6. USGS BBS Data from 2018-2022 (61103 - Hopkinton), St. Lawrence County, New York

Species Common Name	2018	2019	2021
Canada Goose	9	10	10
Mallard	0	6	0
Wild Turkey	0	7	4
Rock Pigeon	0	6	6
Mourning Dove	7	12	8
Ruby-throated Hummingbird	0	2	2
American Woodcock	4	0	0
Wilson's Snipe	0	1	0
Ring-billed Gull	0	1	0
Great Blue Heron	1	0	0
Turkey Vulture	2	0	0
Yellow-bellied Sapsucker	5	3	8
Downy Woodpecker	0	0	1
Hairy Woodpecker	1	0	0
(Yellow-shafted Flicker) Northern Flicker	0	0	1

Species Common Name	2018	2019	2021
Great Crested Flycatcher	1	1	0
Eastern Kingbird	2	3	0
Yellow-bellied Flycatcher	0	0	1
Alder Flycatcher	0	2	1
Least Flycatcher	0	0	3
Eastern Phoebe	4	2	4
Blue-headed Vireo	3	0	1
Warbling Vireo	1	6	3
Red-eyed Vireo	37	25	15
Blue Jay	3	9	23
American Crow	13	25	12
Tree Swallow	1	15	5
Barn Swallow	6	6	1
Black-capped Chickadee	3	1	5
White-breasted Nuthatch	0	3	0
Golden-crowned Kinglet	1	0	0
Eastern Bluebird	2	0	1
Veery	3	5	1
Hermit Thrush	2	3	6
Wood Thrush	1	0	0
American Robin	46	58	40
Gray Catbird	6	3	3
Brown Thrasher	2	1	1
European Starling	49	96	94
Cedar Waxwing	0	1	1
House Sparrow	1	9	6
Purple Finch	1	0	3
American Goldfinch	4	2	0
Chipping Sparrow	5	1	15
(Slate-colored Junco) Dark-eyed Junco	1	0	0
White-throated Sparrow	1	0	1
Song Sparrow	11	8	15
Swamp Sparrow	3	0	3
Eastern Towhee	0	0	1
Bobolink (HP)	0	2	0
Eastern Meadowlark	0	0	1
Baltimore Oriole	3	1	0
Red-winged Blackbird	34	44	39
Brown-headed Cowbird	1	0	0
Common Grackle	27	42	35
Ovenbird	3	10	18
Northern Waterthrush	0	0	1
Black-and-white Warbler	1	0	2
Common Yellowthroat	6	6	6
American Redstart	0	0	1
Northern Parula	0	1	0

Species Common Name	2018	2019	2021
Magnolia Warbler	0	1	0
Blackburnian Warbler	0	1	1
Yellow Warbler	2	4	3
Chestnut-sided Warbler	2	5	6
Pine Warbler	0	0	5
(Myrtle Warbler) Yellow-rumped Warbler	1	2	4
Black-throated Green Warbler	0	0	1
Rose-breasted Grosbeak	2	5	2

3.6.7 Audubon Important Bird Areas and Christmas Bird Counts

The Audubon Important Bird Areas (IBA) are places that have significant importance to a multitude of bird species. The IBA Mapper identified the nearest location to be Brasher Falls and Bombay Forests, located within and southwest of the Project Area. This approximately 46,000-acre area includes Brasher and Bombay State Forests, which make up a large reforestation complex. The site includes extensive contiguous forest that supports a suite of breeding forest birds and over 4,500 acres of wetlands (Audubon 2022a).

The Audubon Christmas Bird Count (CBC) is conducted each year between December 14 and January 5 to monitor the population of birds in North America. The counts occur within a 15-mile diameter of a predetermined center point. The nearest CBC location is the Massena-Cornwall location at the center junction of Route 131 and Alcoa Access Road, Massena, New York. This location overlaps with the western portion of the Project Area. Data was reviewed from 2019 to 2021 survey years to obtain a baseline for the typical species present. Data from 2018 and 2022 was unavailable. A comprehensive list of species can be found in Table 7 (Audubon 2022b).

Table 7. Audubon CBC Data for the Massena-Cornwall Location from 2019 to 2021

Species Common Name	2019	2020	2021
Snow Goose	0	8	1502
Canada Goose	425	5593	8054
Mute Swam	0	8	7
Trumpeter Swan	0	3	29
Tundra Swan	7	24	5
Wood Duck	0	0	6
Gadwall	20	67	57
American Black Duck (HP)	17	102	135
Mallard	690	1508	617
Northern Pintail	0	25	58
Redhead	0	0	3
Ring-necked Duck	0	1	3
Greater Scaup	0	5	5
Lesser Scaup	0	0	15

Species Common Name	2019	2020	2021
Bufflehead	2	0	26
White-winged Scoter	0	1	0
Long-tailed Duck	0	1	0
Common Goldeneye	410	473	299
Barrow's Goldeneye	0	0	1
Hooded Merganser	1	69	149
Common Merganser	768	3392	353
Red-breasted Merganser	20	10	149
Ruffed Grouse	0	2	0
Wild Turkey	124	309	62
[redacted]			
Double-crested Cormorant	0	2	1
[redacted]			
Red-tailed Hawk	11	18	8
Rough-legged Hawk	2	12	2
Ring-billed Gull	1	1	35
Herring Gull	2628	3103	2899
Iceland Gull	2	2	4
Lesser Black-backed Gull	4	1	0
Glaucous Gull	6	1	1
Great Black-backed Gull	1253	496	300
Rock Pigeon	685	1011	526
Mourning Dove	101	240	111
Great Horned Owl	0	2	0
Snowy Owl	0	0	1
Barred Owl	1	3	2
Red-bellied Woodpecker	1	1	0
Downy Woodpecker	38	59	24
Hairy Woodpecker	21	40	14
Northern Flicker	7	1	3
Pileated Woodpecker	9	12	5
American Kestrel	0	1	2
Merlin	0	1	1
[redacted]			
Northern Shrike	2	4	2
Blue Jay	243	255	148
American Crow	2712	497	995
Common Raven	13	17	6

Species Common Name	2019	2020	2021
Black-capped Chickadee	390	682	213
Red-breasted Nuthatch	31	2	2
White-breasted Nuthatch	71	101	41
Brown Creeper	2	12	1
Carolina Wren	1	3	1
Golden-crowned Kinglet	4	2	0
Ruby-crowned Kinglet	0	1	0
Eastern Bluebird	0	8	21
American Robin	13	7	163
European Starling	805	925	1943
American Pipit	0	1	0
Bohemian Waxwing	0	6	0
Cedar Waxwing	16	91	89
Snow Bunting	0	217	0
American Tree Sparrow	208	111	87
Dark-eyed Junco	106	87	94
Harris's Sparrow	13	0	0
White-throated Sparrow	13	2	12
Song Sparrow	2	1	1
Northern Cardinal	71	106	21
Red-winged Blackbird	1	2	1
Brown-headed Cowbird	0	9	5
Pine Grosbeak	0	34	0
Eastern Meadowlark (HP)	1	0	0
House Finch	2	31	13
White-winged Crossbill	0	10	0
Common Redpoll	0	1299	3
Hoary Redpoll	0	3	0
Pine Siskin	0	15	0
American Goldfinch	126	168	274
Evening Grosbeak	0	21	0
House Sparrow	128	72	21

3.6.8 NYSDEC Bird Conservation Areas and Breeding Bird Atlas

The nearest NYSDEC Bird Conservation Area (BCA) is the Upper and Lower Lakes Wildlife Management Area (WMA), located approximately 31.5 miles southwest of the Project Area. The WMA is a developed wetland complex hosting a diverse range of bird species including songbirds, shorebirds, gamebirds, as well as rare species (NYSDEC 2005). Due to the distance from the Study Area, data from this BCA is not included in this report.

The New York Breeding Bird Atlas III (BBA) is a statewide inventory of the birds breeding in the state. The Project Area falls within the following blocks, Raquette River NE, Hogansburg NW, Hogansburg CW, and Raquette River CE. Table 8 presents the confirmed, observed data collected and available in the BBA (BBA, 2022).

Table 8. Breeding Bird Atlas III Data in the vicinity of the Project Area

Common Name	Year Observed
American Redstart	2022
Pileated Woodpecker	2021
Bohemian Waxwing	2021
Common Goldeneye	2021
Great Cormorant	2021
Eastern Bluebird	2021
Common Redpoll	2021
[redacted]	[redacted]
Rough-legged Hawk	2021
Northern Shrike	2021
Gadwell	2020
[redacted]	[redacted]
Red-tailed Hawk	2022
Common Raven	2022
Canada Goose	2022
Mallard	2022
Killdeer	2022
Great Blue Heron	2022
Turkey Vulture	2022
Savannah Sparrow	2022
Cedar Waxwing	2021
American Goldfinch	2021
Rough-legged Hawk	2021
American Black Duck	2021
Common Goldeneye	2021
Common Merganser	2021
Great Cormorant	2021
American Crow	2021
European Starling	2021
American Wigeon	2020
Green-winged Teal	2020
Bufflehead	2020
Hooded Merganser	2020

Common Name	Year Observed
[redacted]	[redacted]
Belted Kingfisher	2020
Hermit Thrush	2020
Purple Finch	2020
Dark-eyed Junco	2020
White-crowned Sparrow	2020
Rusty Blackbird	2020
Osprey	2020
Song Sparrow	2020
Cliff Swallow	2020
Yellow Warbler	2020
Red-necked Grebe	2020
[redacted]	[redacted]
Great Egret	2020

3.6.9 New York State Ornithological Association (NYSOA)

The NYSOA maintains a database of New York state ornithological records through the compilation of field reports from dedicated birders throughout the state. The NYSOA website provides a searchable archive of the quarterly publication of The Kingbird, which provides field reports from birders regarding migration and breeding data in the state. The NYSOA did not have any current data from the last five years (2018 to 2022) in St. Lawrence County (NYSOA, 2022).

3.7 Climate Change

The National Audubon Society 'Survival by Degrees' climate change model assesses the vulnerability of over 600 avian species to climate change. According to the model, the summer and winter range and distribution of each bird species presented in this document is vulnerable as a result of an increase in ambient air temperature ranging from 1.5-3.0˚C. The model results indicate that each species range and distribution will shift, expand, or contract as a result of increased global temperatures. Climate threats include increases in fire weather, spread of urbanization, and an increase in spring heat waves and heavy rain events that can impact nests and young birds (Audubon 2021c). Table 9 includes the climate vulnerability for listed bird species that have the potential to occur within the Project Area per data from the last five years.

Table 9. Climate Vulnerability for Listed Species that have the potential to occur within the Project Area

Common Name	Seasonal Range within the Project Area	Overall Species Vulnerability Status for each Warming Scenario			
		Current	+1.5 °C	+2.0 °C	+3.0 °C
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Common Name	Seasonal Range within the Project Area	Overall Species Vulnerability Status for each Warming Scenario			
		Current	+1.5 °C	+2.0 °C	+3.0 °C
[redacted]					

Source: Audubon 2022c.

Aside from the National Audubon Society 'Survival by Degrees' climate change model, no regional- or species-specific climate change models or model results were identified for the wildlife and fish species presented in this document.

Based on a review of the National Audubon Society 'Survival by Degrees' climate change model, the seasonal range of the for listed bird species that have the potential to occur within the Project Area has the potential to be minimally impacted as a result of increased climate warming. However, in conjunction with the Project type and scope, it is unlikely that implementation of the Project would result in a substantial increase (+1.5-3.0˚C) in ambient air temperature, by which suitable habitat range and distribution would be affected. No Project-specific climate change models have been developed to date; however, numerous modeling techniques can be applied in the event that species-specific results are required for Facility implementation.

4.0 Conclusions

This document is intended to provide sufficient information to the ORES and NYSDEC to determine whether occupied habitat for special status species and migratory bird species exists within the Project Area or whether additional surveys are required. Based on this desktop review and field surveys, the following conclusions were identified that should be considered to inform project design which will, once completed, be submitted to the ORES and NYSDEC as part of the Section 94-c application:

- Wetlands and waterbodies have been identified throughout the Project Area through a desktop review and may be considered jurisdictional and subject to regulation pursuant to NYSDEC 900.1-3 (e) and (f), respectively. A wetland and waterbody delineation was conducted within a portion of the Project Area in September to November 2022.
- [redacted]
- [redacted]
- The IPaC database indicated that there are no FT or FE species that have the potential to be located within the Project Area.
- Surveys for grassland breeding birds and winter raptor use have been conducted in 2022 and from 2021-2022, respectively, within part of the Project Area.
- The development of the Project would not contribute to the effects of climate change portrayed in current models. Instead, the development of the Project would be beneficial in preventing the loss of current wildlife species' ranges within the region.

5.0 References

Audubon. 2022a. Brasher Falls and Bombay Forests. Retrieved December 19, 2022, from https://www.audubon.org/important-bird-areas/brasher-falls-and-bombay-forests.

Audubon. 2022b. Christmas Bird Count. Retrieved December 19, 2022, from https://netapp.audubon.org/CBCObservation/CurrentYear/ResultsByCount.aspx.

Audubon. 2022c. Survival by Degrees: 389 Bird Species on the Brink. Retrieved December 19, 2022, from https://www.audubon.org/climate/survivalbydegrees.

Audubon. 2022d. Grassland Bird Conservation Program. Retrieved December 21, 2022, from https://ny.audubon.org/conservation/grassland-bird-conservation-program.

Bryce, S.A., Griffith, G.E., Omernik, J.M., Edinger, G., Indick, S., Vargas, O., and Carlson, D. (2010). Ecoregions of New York (color poster with map descriptive text, summary tables, and photographs): Reston, Virginia, U.S. geological Survey, map scale 1:1,250,000. Retrieved December 17, 2022, from http://ecologicalregions.info/data/ny/NY_front.pdf.

eBird. 2022. Hot Spots. Retrieved December 16, 2022 from https://ebird.org/hotspots?env.minX=-75.842369&env.minY=44.049702&env.maxX=-74.5252609999999&env.maxY=45.010991&yr=all&m=.

Environmental Laboratory. (1987). Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. U.S. Army Corps of Engineers: Waterways Experiment Station; Vicksburg, MS.

Multi-Resolution Land Characteristics (MRLC) Consortium. (2016). MRLC Viewer – All National Land Cover Database 2016 Contiguous United States Land Cover. Retrieved December 19, 2022, from https://www.mrlc.gov/.

New York State Ornithological Association (NYSOA). 2022. Records and Reporting. Retrieved December 19, 2022, from https://nybirds.org/NYSARC/RecordsSummary.htm#downloads.

New York Breeding Bird Atlas III (BBA). 2022. Priority Blocks. Retrieved December 17, 2022, from https://ebird.org/atlasny/effortmap.

New York State Department of Environmental Conservation (NYSDEC). 2005. Bird Conservation Areas – New York State, April 13, 2005. Published by NYSDEC, Albany, NY. Retrieved December 19, 2022, from https://www.dec.ny.gov/animals/25341.html.

New York State Department of Environmental Conservation (NYSDEC). 2021. New York State Department of Environmental Conservation Survey Protocol for State-listed Wintering Grassland Raptor Species. August 2021.

NYSDEC. 2022a. Survey Protocol for State-listed Breeding Grassland Bird Species. Prepared by New York State Department of Environmental Conservation.

NYSDEC. 2022b. Environmental Resource Mapper. Retrieved December 17, 2022, from https://gisservices.dec.ny.gov/gis/erm/.

NYSDEC. 2022c. List of Endangered, Threatened, and Special Concern Fish and Wildlife Species of New York State. Retrieved December 19, 2022, from https://www.dec.ny.gov/animals/7494.html.

NYSDEC. 2022d. Environmental Assessment Form Mapper. Retrieved December 19, 2022, from https://gisservices.dec.ny.gov/eafmapper/.

NYSDEC. 2022e. Nature Explorer. Retrieved December 19, 2022, from https://www.dec.ny.gov/natureexplorer/app/.

NYSDEC. 2022f. [redacted] Occurrences by Town. Retrieved December 23, 2022, from https://www.dec.ny.gov/docs/wildlife_pdf/[redacted]

Stantec Consulting Services Inc. (Stantec). 2021. Winter Raptor Survey Work Plan – Two Rivers Solar Project, St. Lawrence County, New York. (rev. December 14, 2021). Prepared for Boralex US Development LLC.

TRC. 2022. Wetland and Stream Delineation Report, Two Rivers Solar Project. December 2022.

U.S. Army Corps of Engineers (USACE). (2012). Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, 162 pp.

U.S. Fish and Wildlife Service (USFWS). (2022a). National Wetlands Inventory. Retrieved December 19, 2022, from https://www.fws.gov/wetlands/.

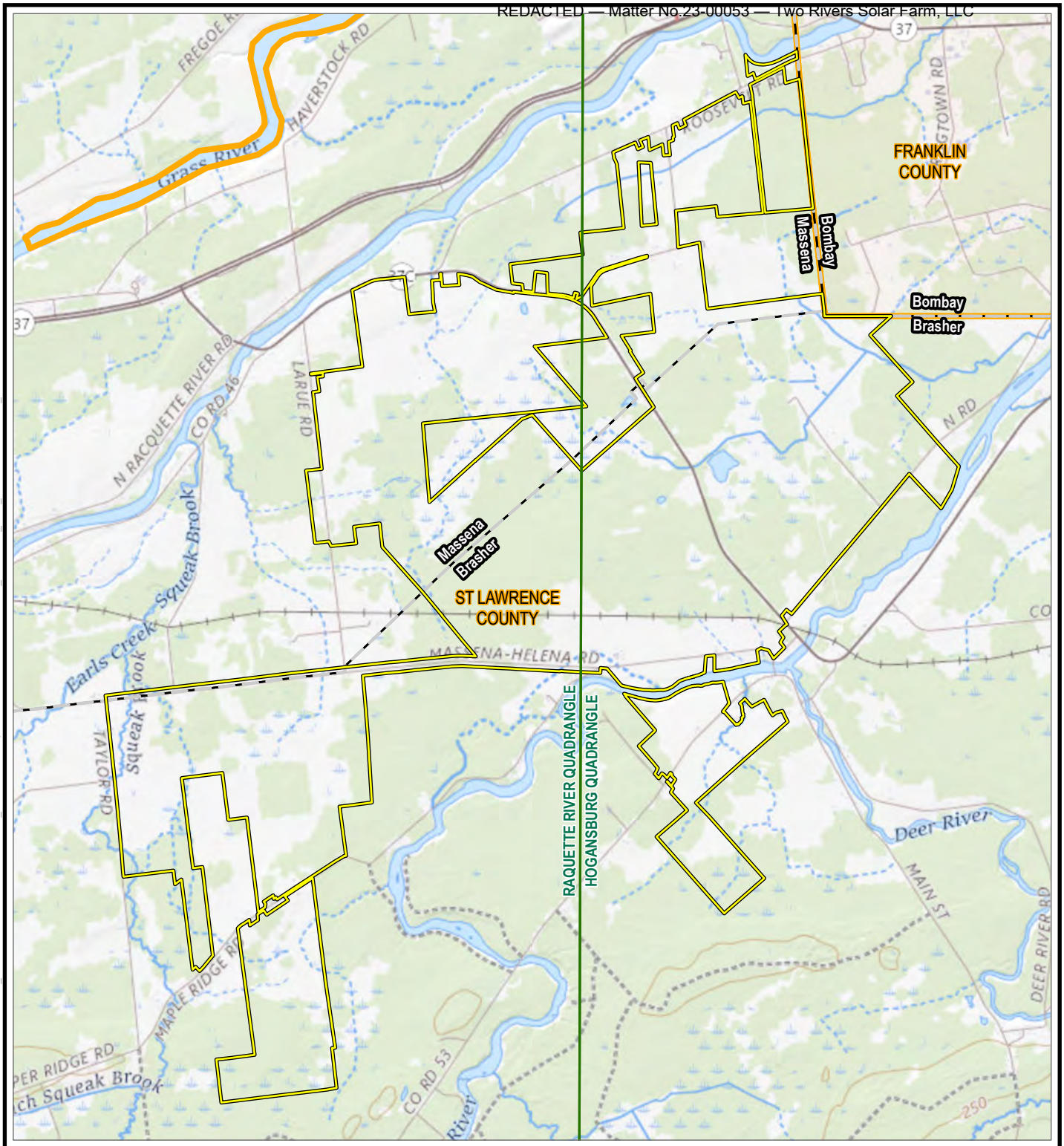
USFWS. 2022b. Environmental Conservation Online System. Retrieved December 19, 2022, from https://ecos.fws.gov/ecp/.

USFWS. 2022c. Information for Planning and Consultation. Retrieved December 19, 2022, from https://ipac.ecosphere.fws.gov/.

United States Geologic Survey (USGS). 2022. North American Breeding Bird Survey – Hopkinton Route (61103). Retrieved December 17, 2022, from https://www.pwrc.usgs.gov/bbs/RouteMap/Map.cfm#.

Appendix A: Figures

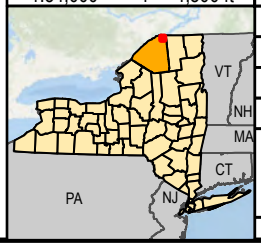
Figure Number	Figure Name
1	Project Area Location
2	Study Area Location
3	Land Cover in Project Area
4	NWI Resources in Project Area
5	NYSDEC Resources in Project Area
6	Ecoregions and Natural Communities in Study Area
7	Protected or Classified Lands in Study Area
8	Core Forest Blocks in Study Area



PROJECT AREA
MUNICIPAL BOUNDARY
COUNTY BOUNDARY
USGS 24K QUADRANGLE

BASE MAP: ESRI USGS TOPOGRAPHIC MAP
DATA SOURCES: USGS, ESRI, TRC, NAIP

0 2,250 4,500
FEET
1:54,000 1" = 4,500 ft



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

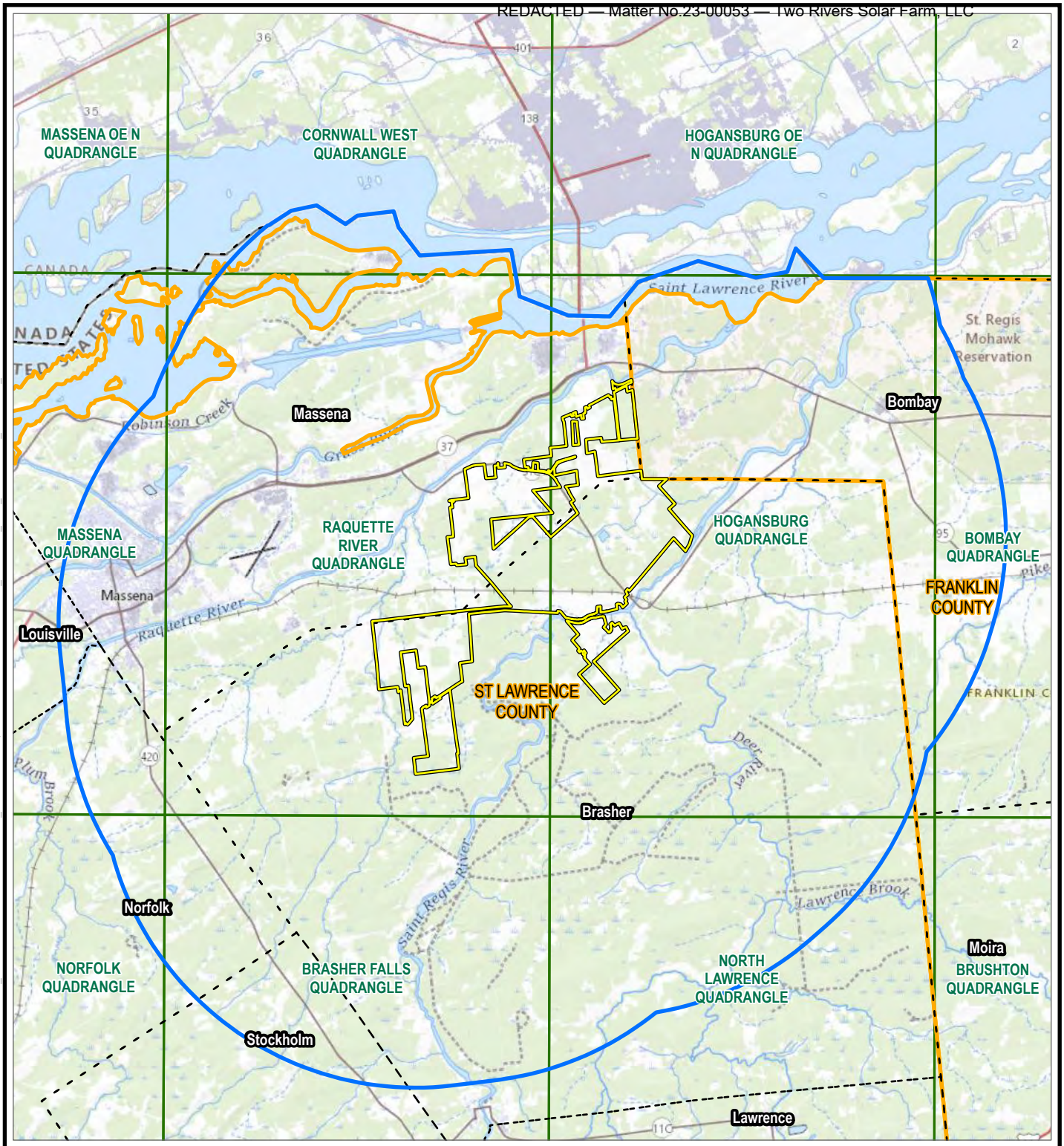
TITLE:
PROJECT AREA LOCATION

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		**FIGURE 1**
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TWORIVERS_FIGURES

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE NEW YORK EAST FIPS 3101 FT US; MAP ROTATION: 0
-- SAVED BY: MRAYMOND ON 12/26/2022 15:21:33 PM; FILE PATH: T:\1-PROJECTS\BORALEX\513349_TWORIVERS\12-APRX\TWORIVERS_FIGURES.APRX; LAYOUT NAME: TWORIVERS_94CWSCR_FIG1_PROJECTLOCATION_8X11

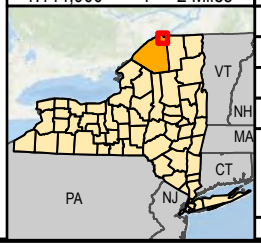


PROJECT AREA
5-MILE STUDY AREA
MUNICIPAL BOUNDARY
COUNTY BOUNDARY
USGS 24K QUADRANGLE

BASE MAP: ESRI USGS TOPOGRAPHIC MAP
DATA SOURCES: USGS, ESRI, TRC, NAIP

N

0 1 2
MILES
1:144,000 1" = 2 Miles



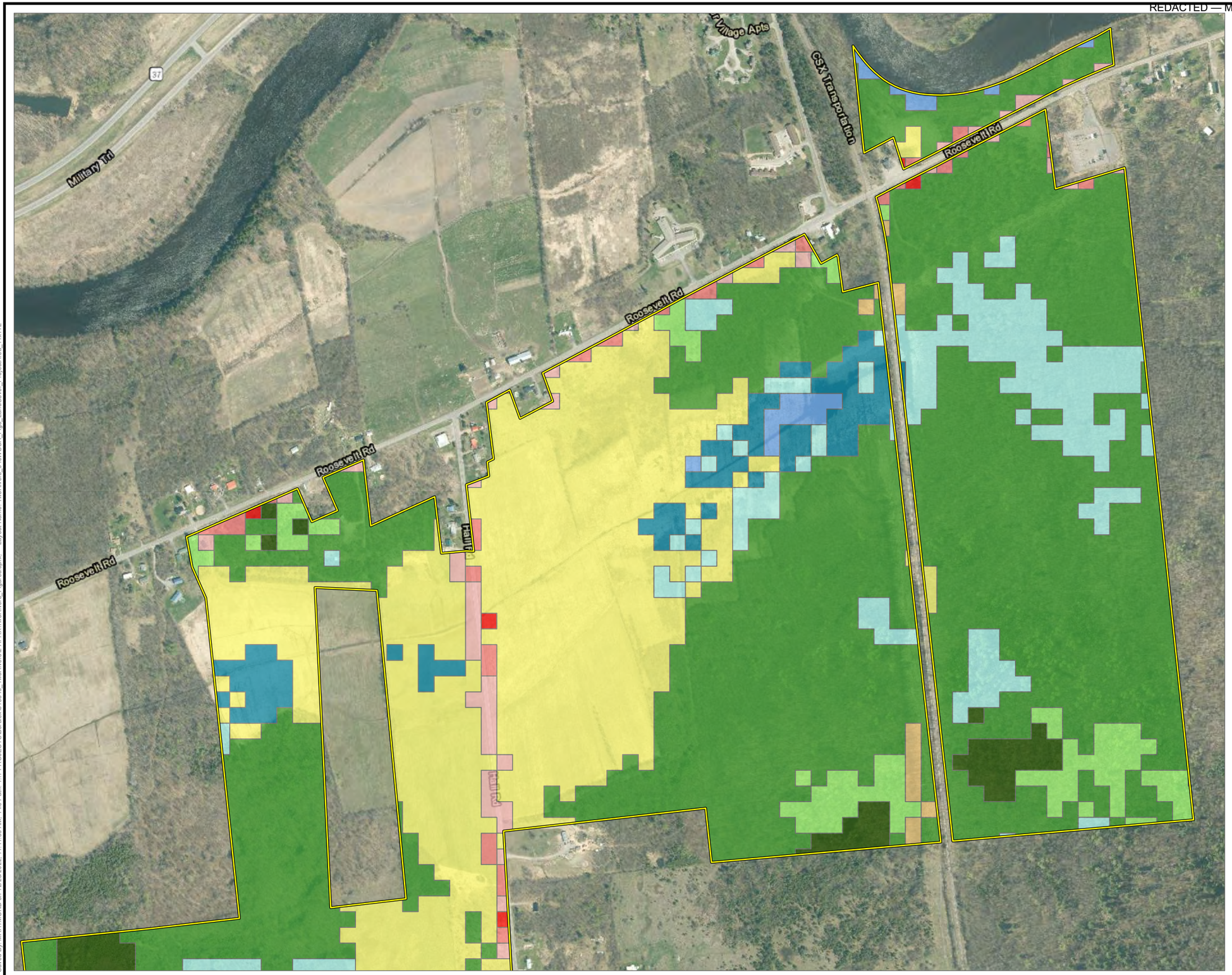
PROJECT: **BORALEX**
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE: **STUDY AREA LOCATION**

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		**FIGURE 2**
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

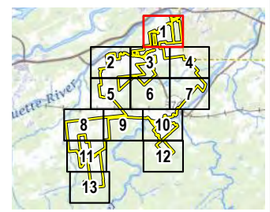
FILE: TWORIVERS_FIGURES



- PROJECT AREA
- OPEN WATER
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.

1:7,200
1" = 600 ft
0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
LAND COVER IN PROJECT AREA

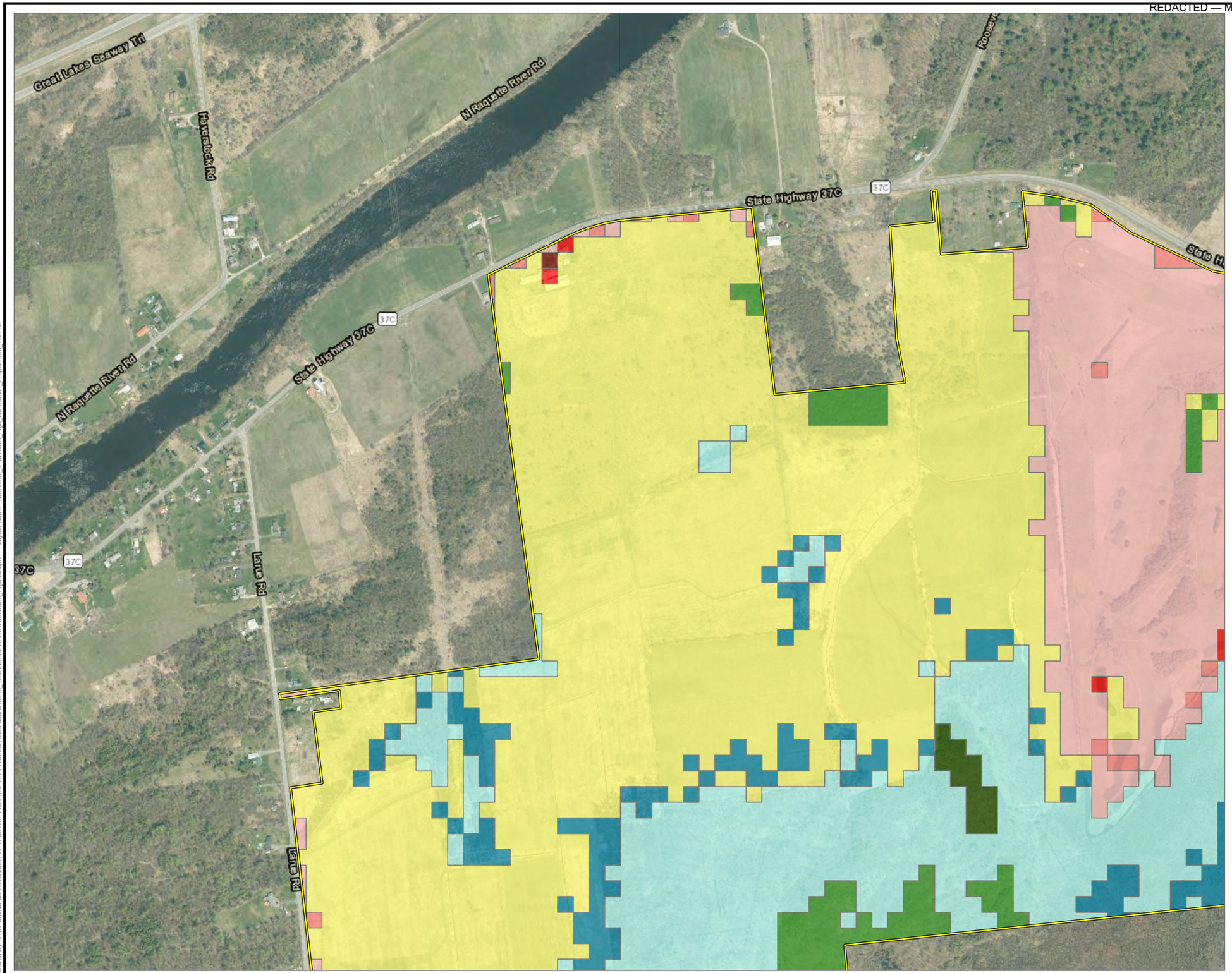
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 3
SHEET 1 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

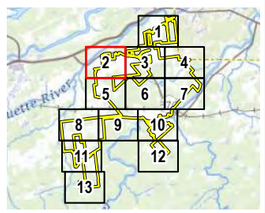
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US. Map Rotation: 0
Saved By MRAYMOND on 12/29/2022 11:41:39 AM. File Path: T:\PROJECTS\Services\513349_TwoRivers\2-4ARPX\TwoRivers_Figures.aprx Layout Name: TwoRivers_94cW\SCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- DEVELOPED, HIGH INTENSITY
- DECIDUOUS FOREST
- EVERGREEN FOREST
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
LAND COVER IN PROJECT AREA

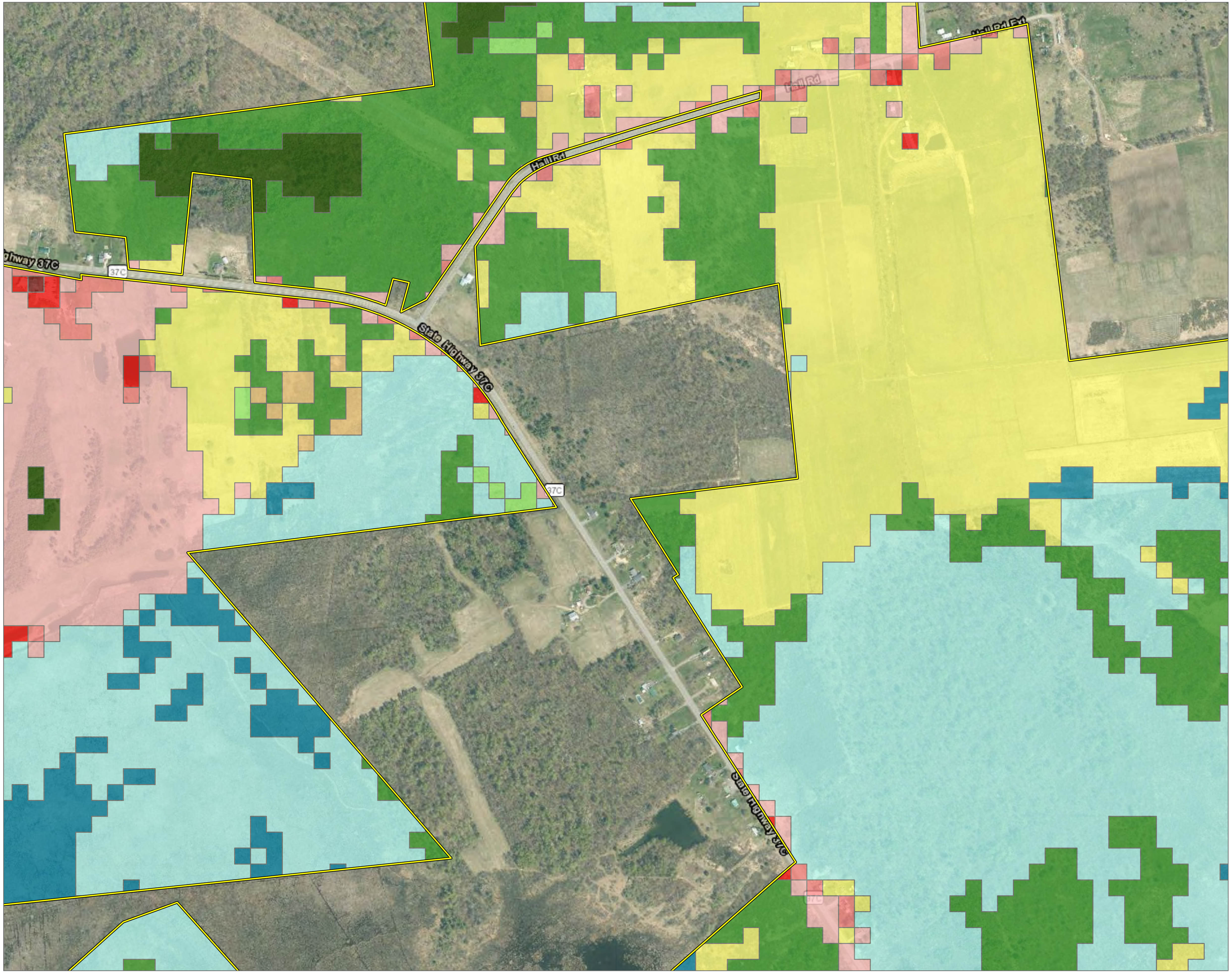
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 2 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US - Map Rotation: 0
Saved By MRAYMOND on 12/6/2022 11:41:39 AM - File Path: T:\PROJECT\Boralex\513349_TwoRivers\10-APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_94dWSCR_Fig3_LandCover_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

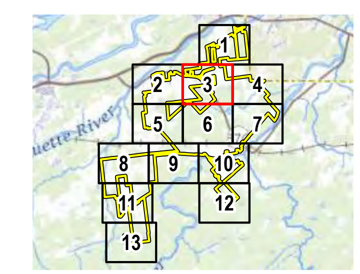


PROJECT AREA
DEVELOPED, OPEN SPACE
DEVELOPED, LOW INTENSITY
DEVELOPED, MEDIUM INTENSITY
DEVELOPED, HIGH INTENSITY
MIXED FOREST
DECIDUOUS FOREST
EVERGREEN FOREST
SHRUB/SCRUB
PASTURE/HAY
EMERGENT HERBACEOUS WETLANDS
WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.

N

1:7,200
1" = 600 ft
0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

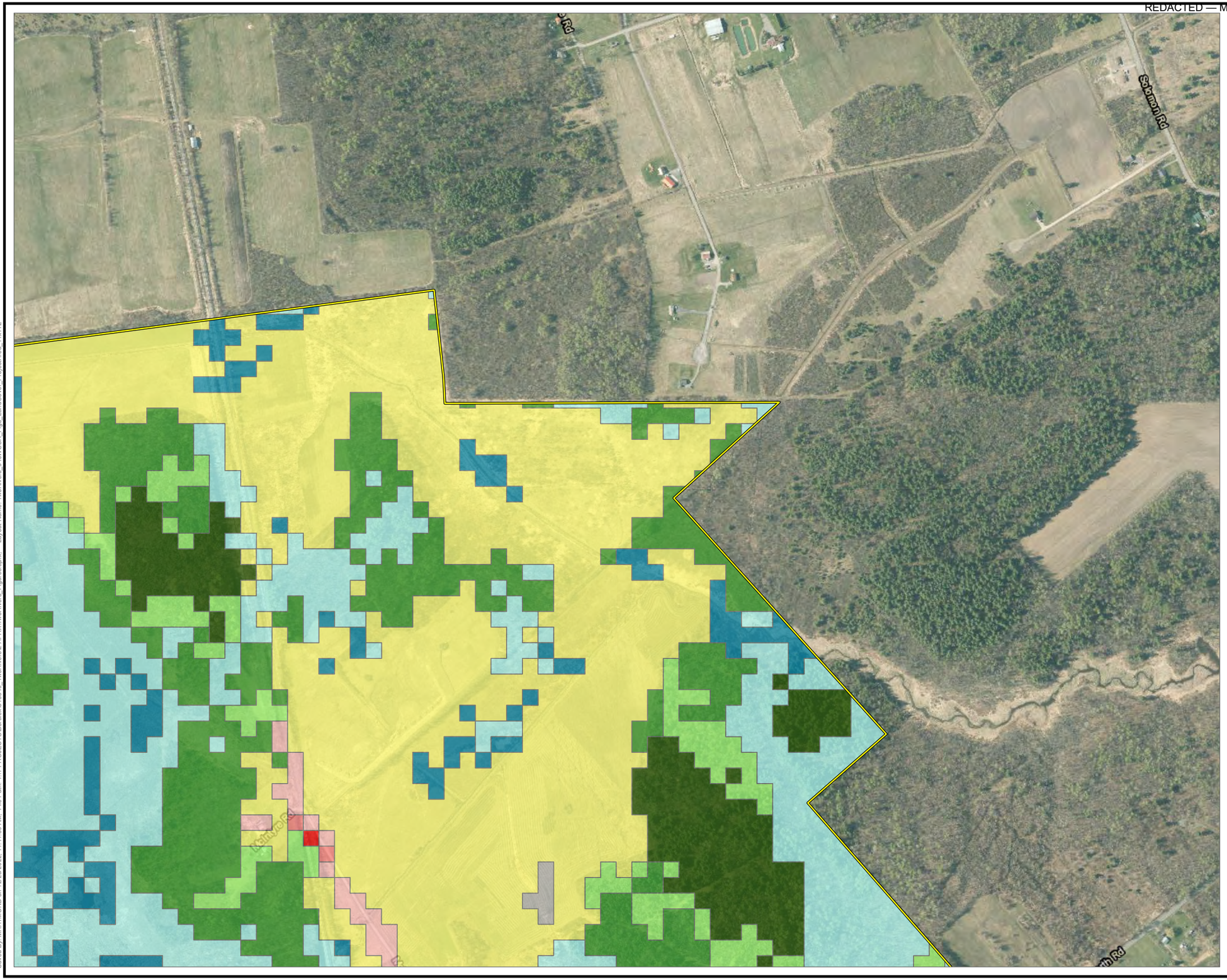
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 3 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

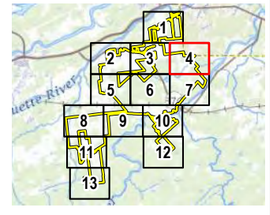
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
-- Saved By: MRAYMOND on 12/26/2022, 11:41:39 AM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- BARREN LAND (ROCK/SAND/CLAY)
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

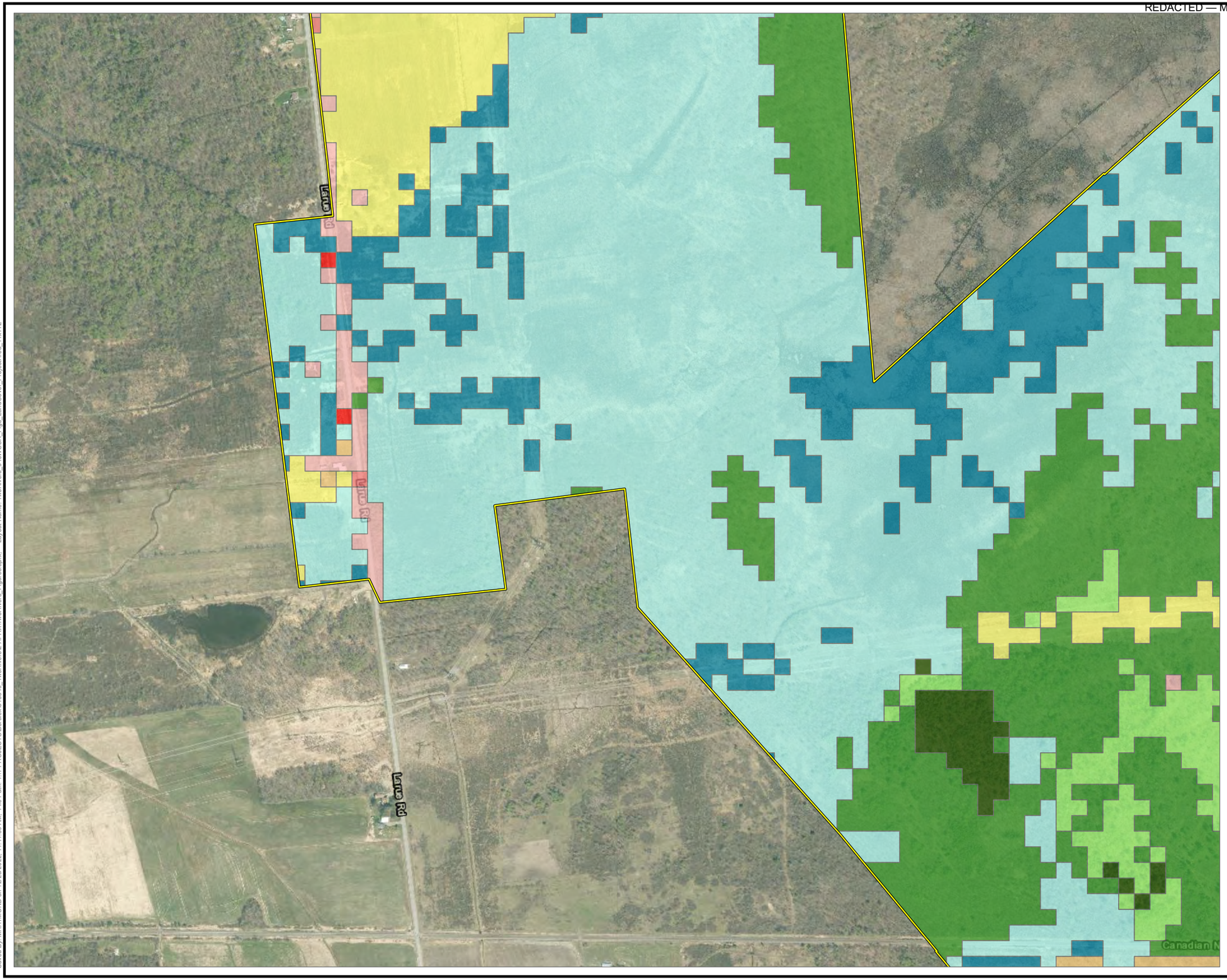
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 4 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

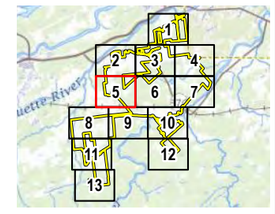
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FUS; Map Rotation: 0
Stored By: MRAYMOND on 12/29/2022 1:41:39 AM - File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_9-4x9_LandCover_ProjectArea_11x17L



- PROJECT AREA
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

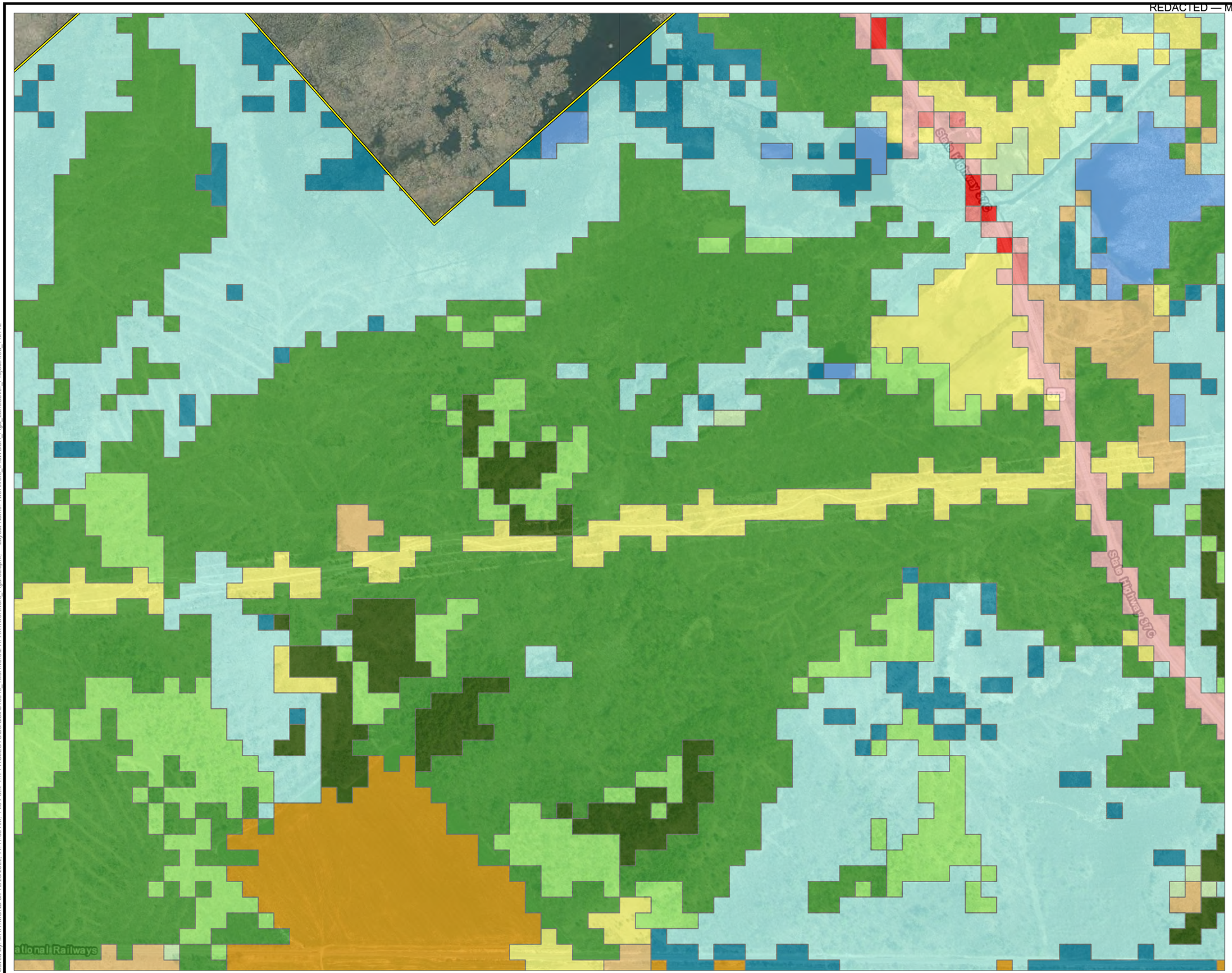
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 5 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

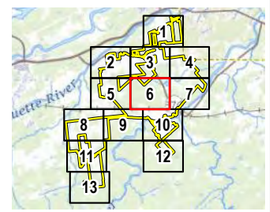
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US. Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 11:41:39 AM. File Path: T:\PROJECTS\Boralex\513349_TwoRivers\3-4\APRX\TwoRivers_Figures.aprx Layout Name: TwoRivers_9-4xVSCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- OPEN WATER
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- GRASSLAND/HERBACEOUS
- PASTURE/HAY
- CULTIVATED CROPS
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

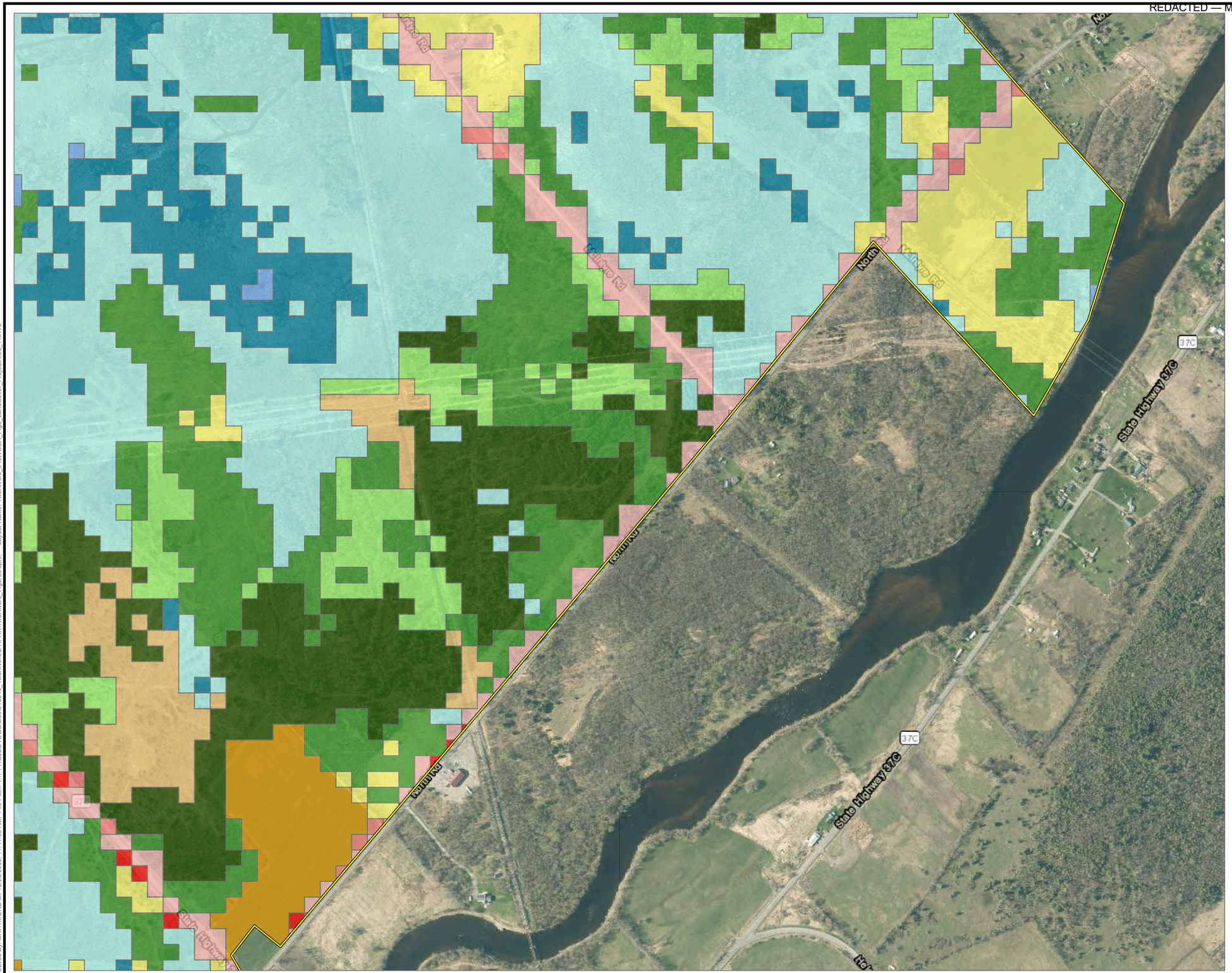
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 6 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

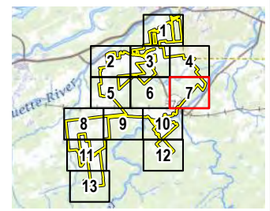
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 11:41:09 AM; File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_9-4x9\SCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- OPEN WATER
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- PASTURE/HAY
- CULTIVATED CROPS
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

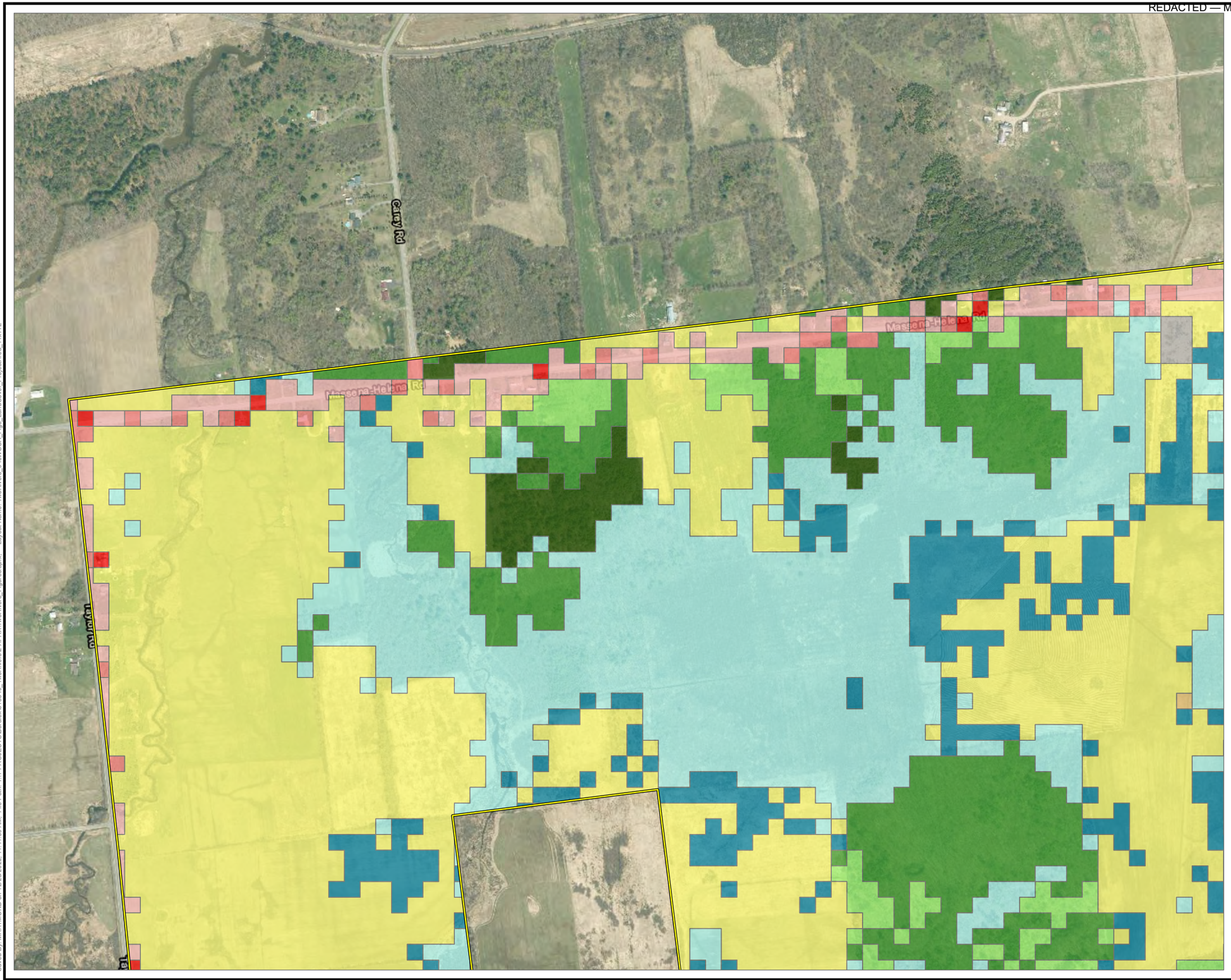
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 7 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

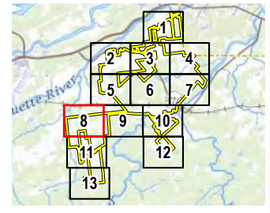
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 11:41:39 AM; File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\2-A\PRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_9-inchVSCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- BARREN LAND (ROCK/SAND/CLAY)
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
LAND COVER IN PROJECT AREA

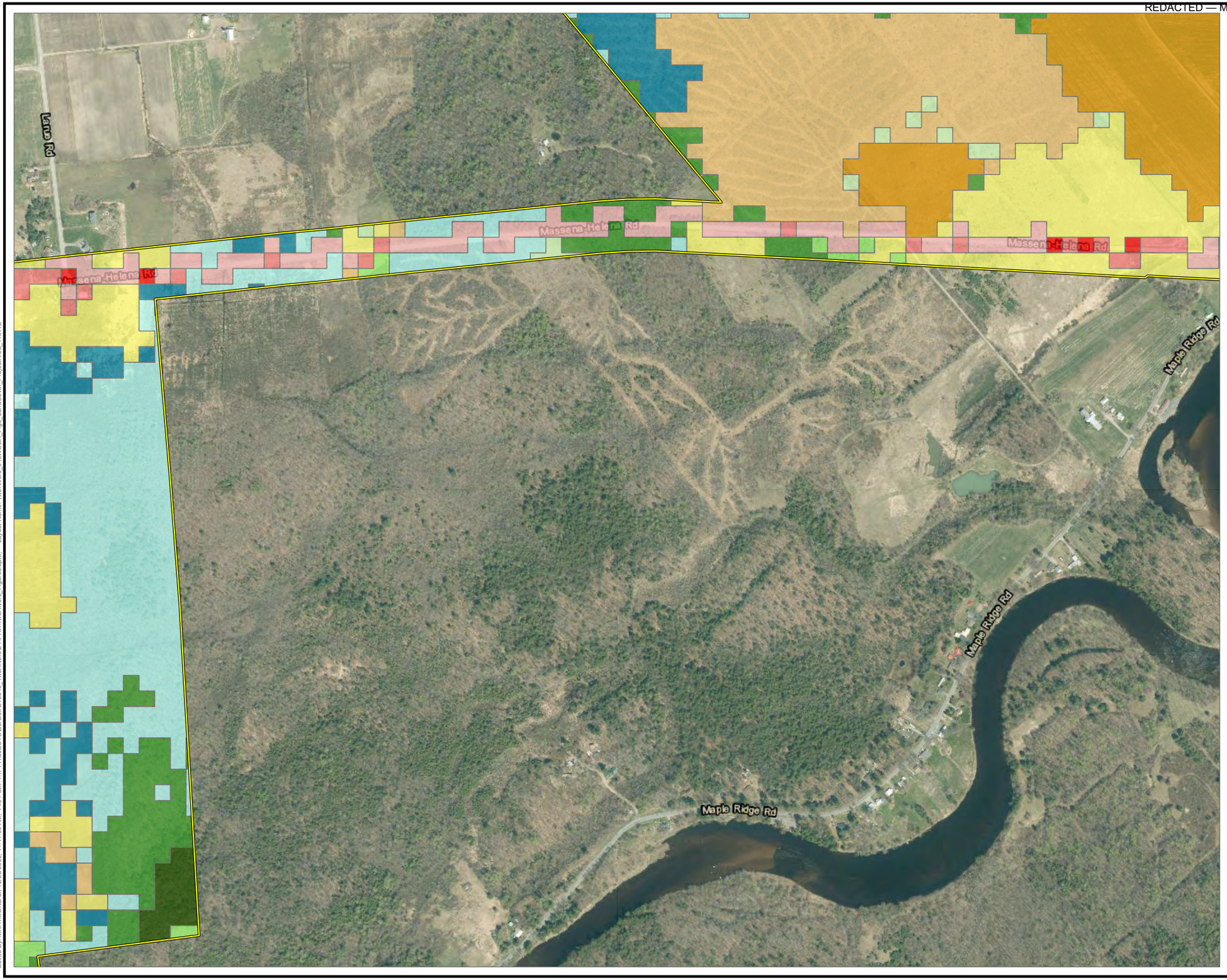
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 8 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

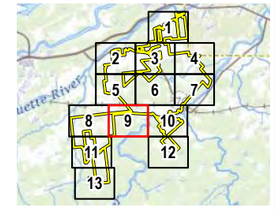
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By MRAYMOND on 12/29/2022 - 11:41:39 AM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94dWSCR_Fig3_LandCover_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC



- PROJECT AREA
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- GRASSLAND/HERBACEOUS
- PASTURE/HAY
- CULTIVATED CROPS
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

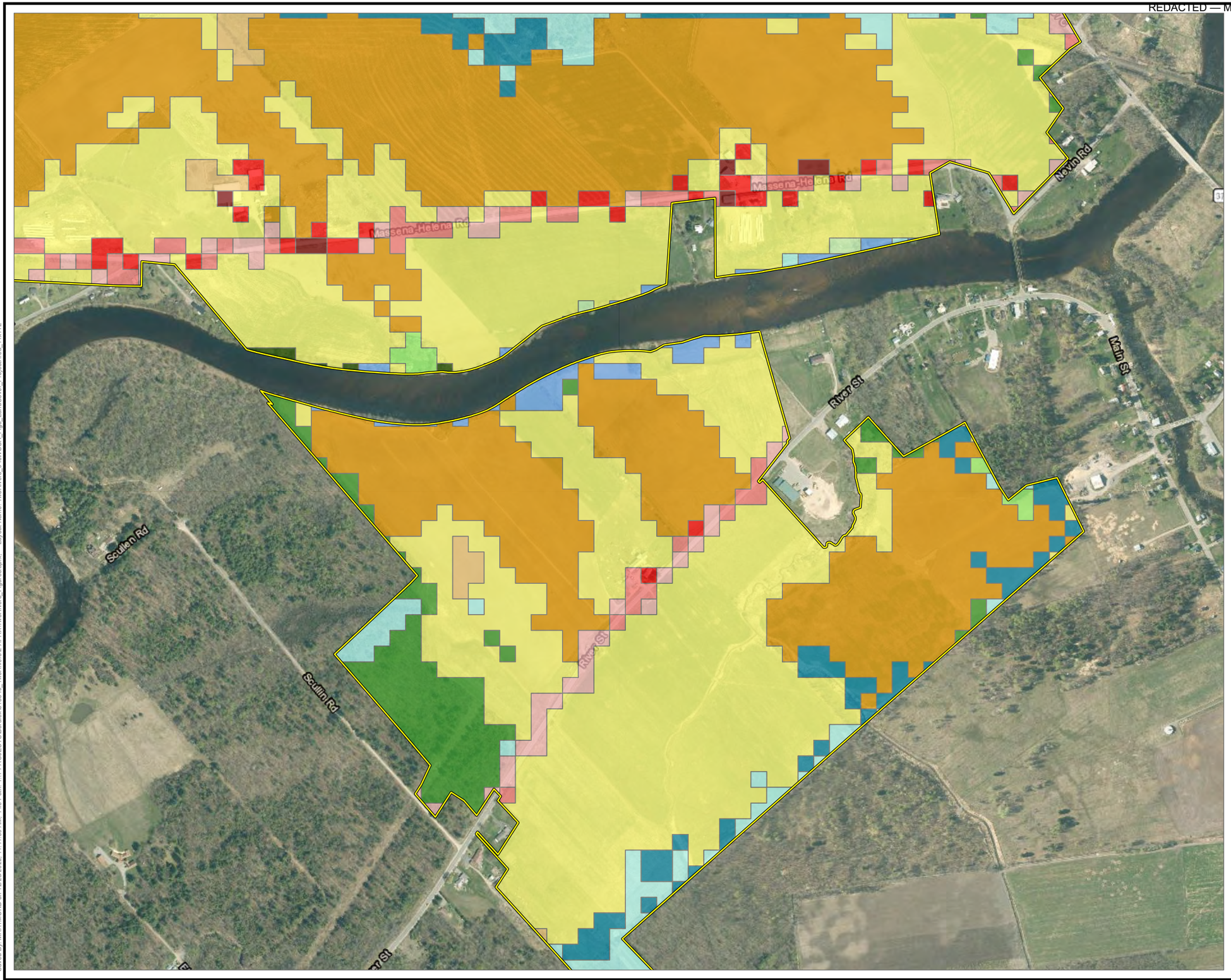
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 9 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

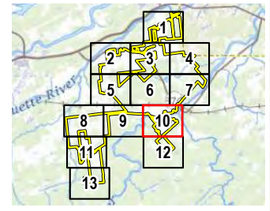
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FT US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 11:41:39 AM; File Path: T:\PROJECTS\Services\513349_TwoRivers\2-4 PRJ\TwoRivers_Figures.aprx; Layout Name: TwoRivers_9 of 13_LandCover_ProjectArea_11x17L



- PROJECT AREA
- OPEN WATER
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- DEVELOPED, HIGH INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- SHRUB/SCRUB
- GRASSLAND/HERBACEOUS
- PASTURE/HAY
- CULTIVATED CROPS
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
LAND COVER IN PROJECT AREA

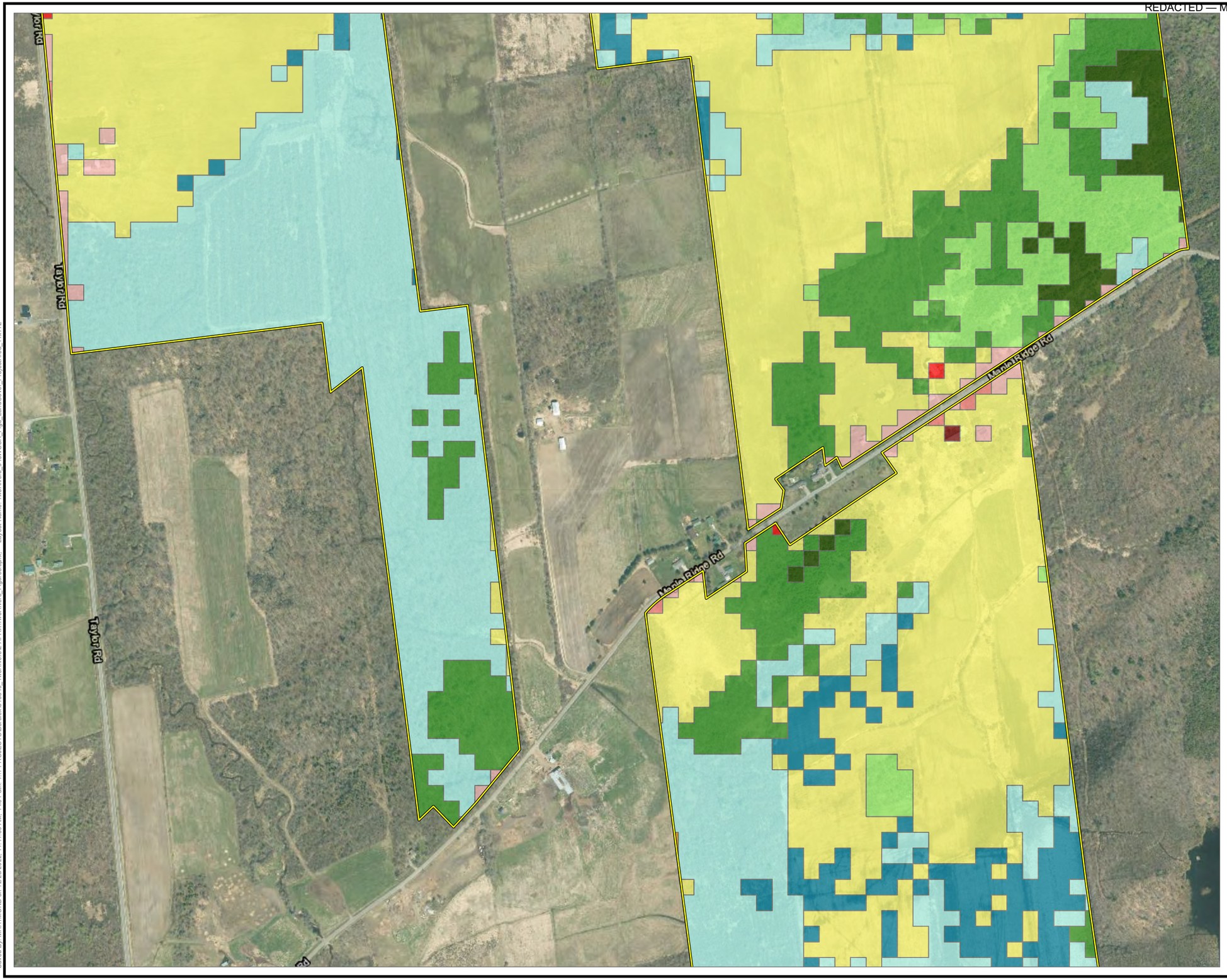
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 10 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

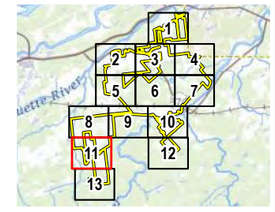
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 11:41:39 AM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-ARR\TwoRivers_Figures.aprx; Layout Name: TwoRivers_9-4x9WSCR_Fig3_LandCover_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC



- PROJECT AREA
- DEVELOPED, OPEN SPACE
- DEVELOPED, LOW INTENSITY
- DEVELOPED, MEDIUM INTENSITY
- DEVELOPED, HIGH INTENSITY
- MIXED FOREST
- DECIDUOUS FOREST
- EVERGREEN FOREST
- PASTURE/HAY
- CULTIVATED CROPS
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

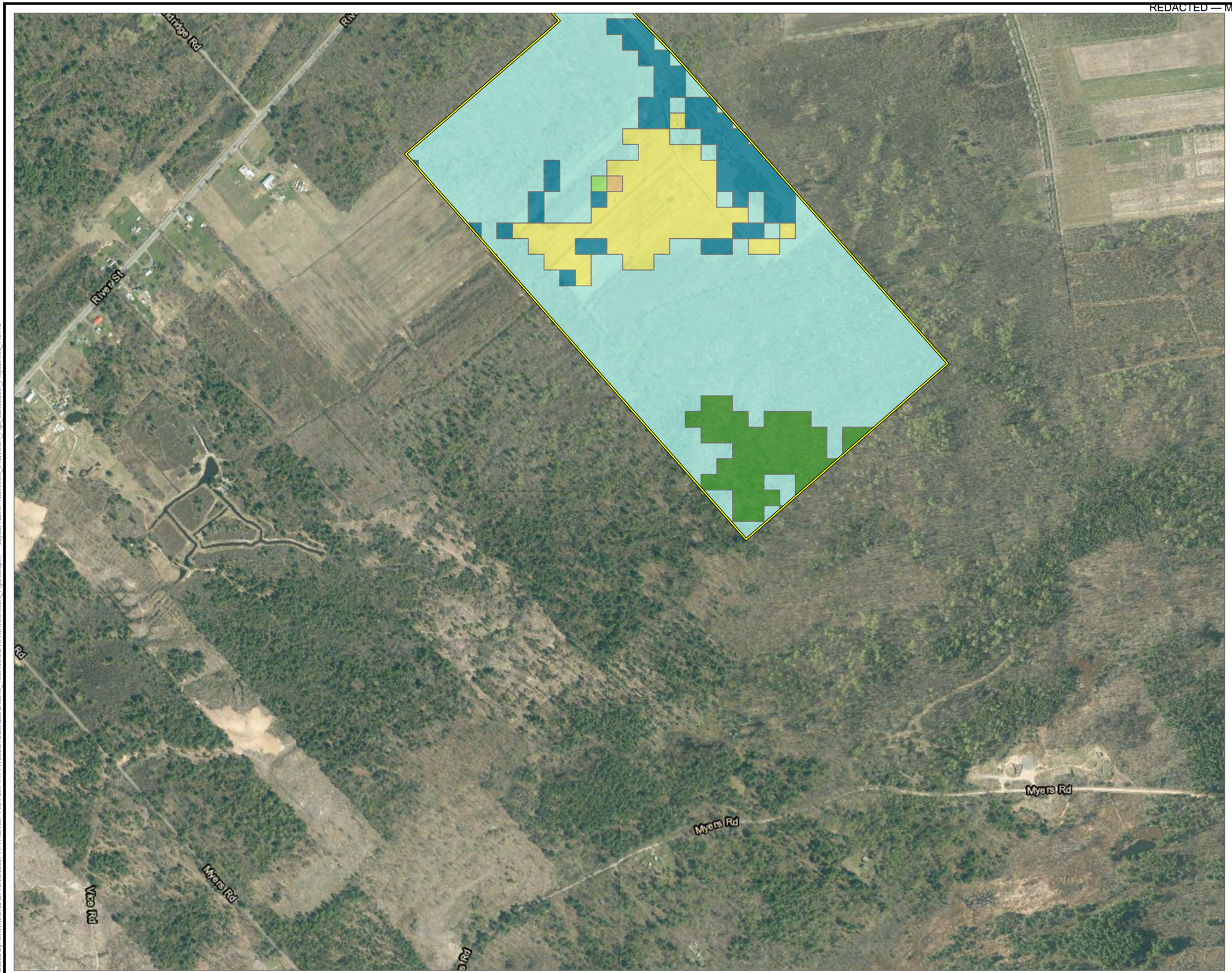
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 11 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

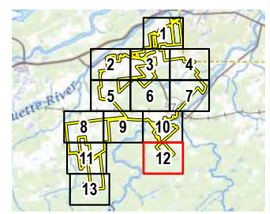
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FUS; Map Rotation: 0
Stored By: MRAYMOND on 12/29/2022 - 11:39 AM - File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_94xMVSCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- MIXED FOREST
- DECIDUOUS FOREST
- SHRUB/SCRUB
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

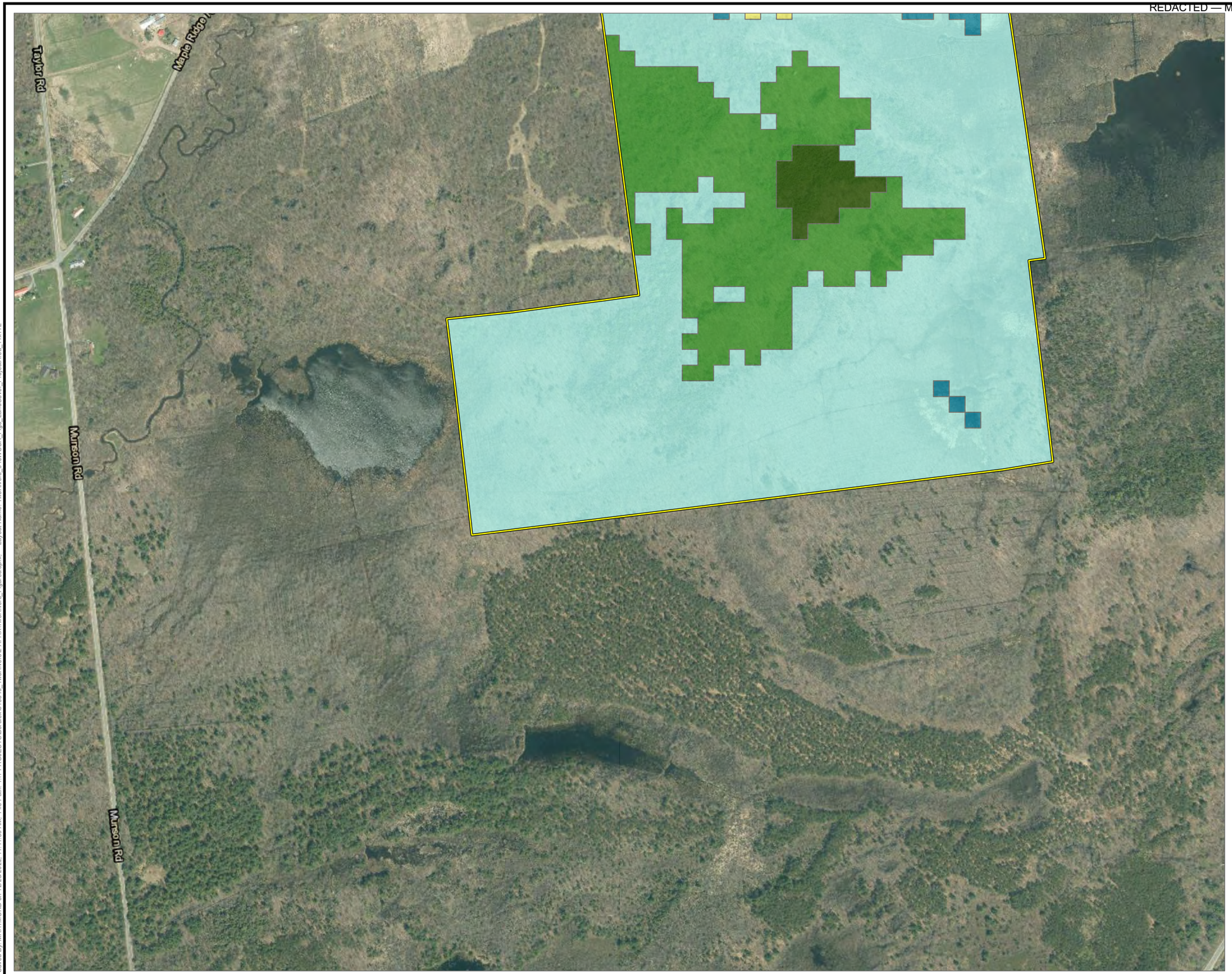
TITLE:
LAND COVER IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 3**	
APPROVED BY:	H. VAILLANT	***SHEET 12 OF 13***	
DATE:	DECEMBER 2022		

10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

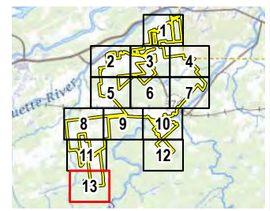
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US. Map Rotation: 0
Saved By: MRAYMOND on 12/20/2022 11:47:39 AM - File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_8x14VSCR_Fig3_LandCover_ProjectArea_11x17L



- PROJECT AREA
- DECIDUOUS FOREST
- EVERGREEN FOREST
- PASTURE/HAY
- EMERGENT HERBACEOUS WETLANDS
- WOODY WETLANDS

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NLCD 2019.



1:7,200
1" = 600 ft
0 300 600
FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
LAND COVER IN PROJECT AREA

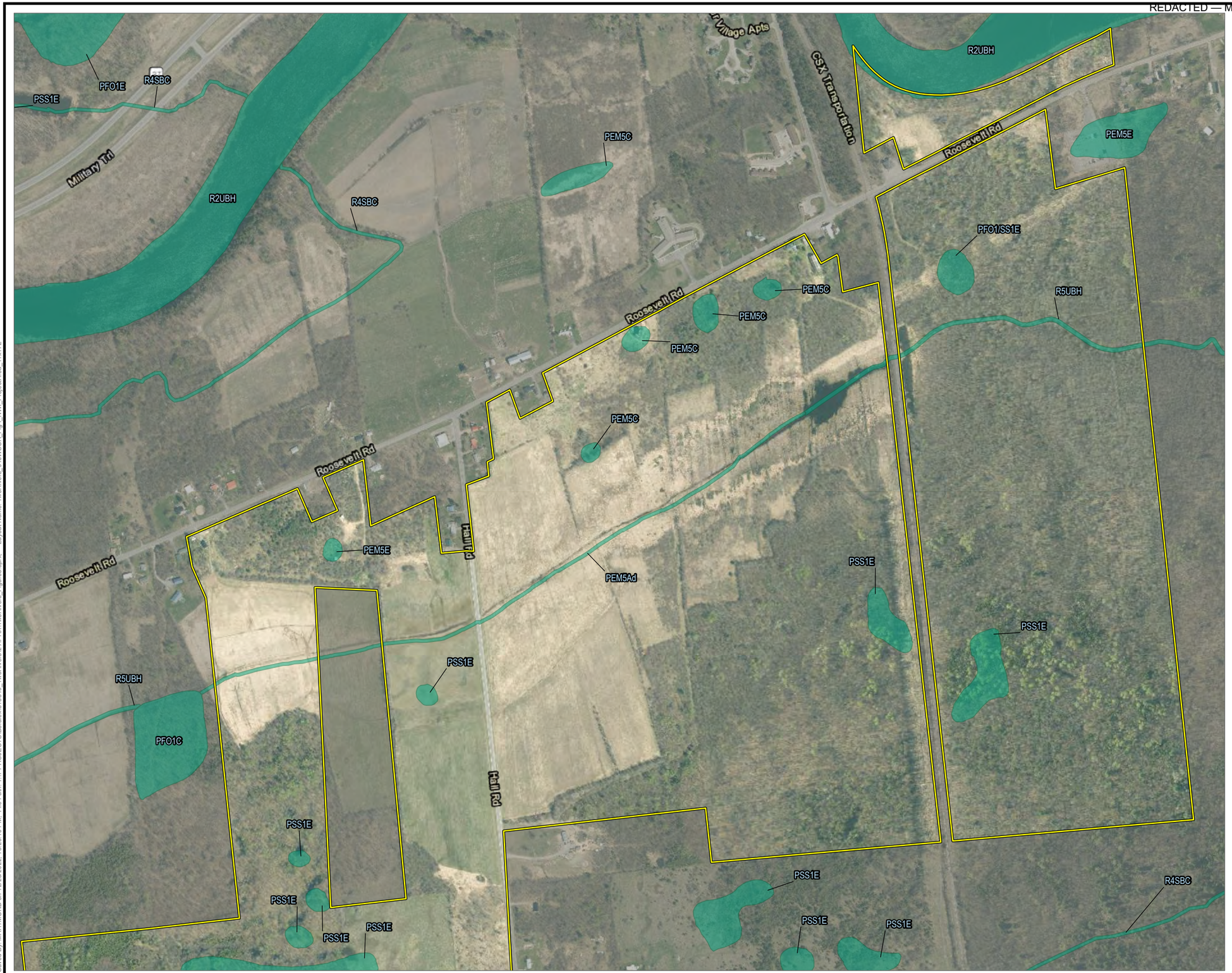
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 3
SHEET 13 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

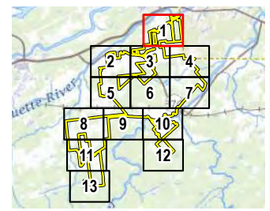
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FEET US; Map Rotation: 0
Saved By: MRAYMOND on 12/20/2022 11:41:39 AM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_9x4cWSCR_Fig3_LandCover_ProjectArea_11x17L



PROJECT AREA

NWI WETLAND

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

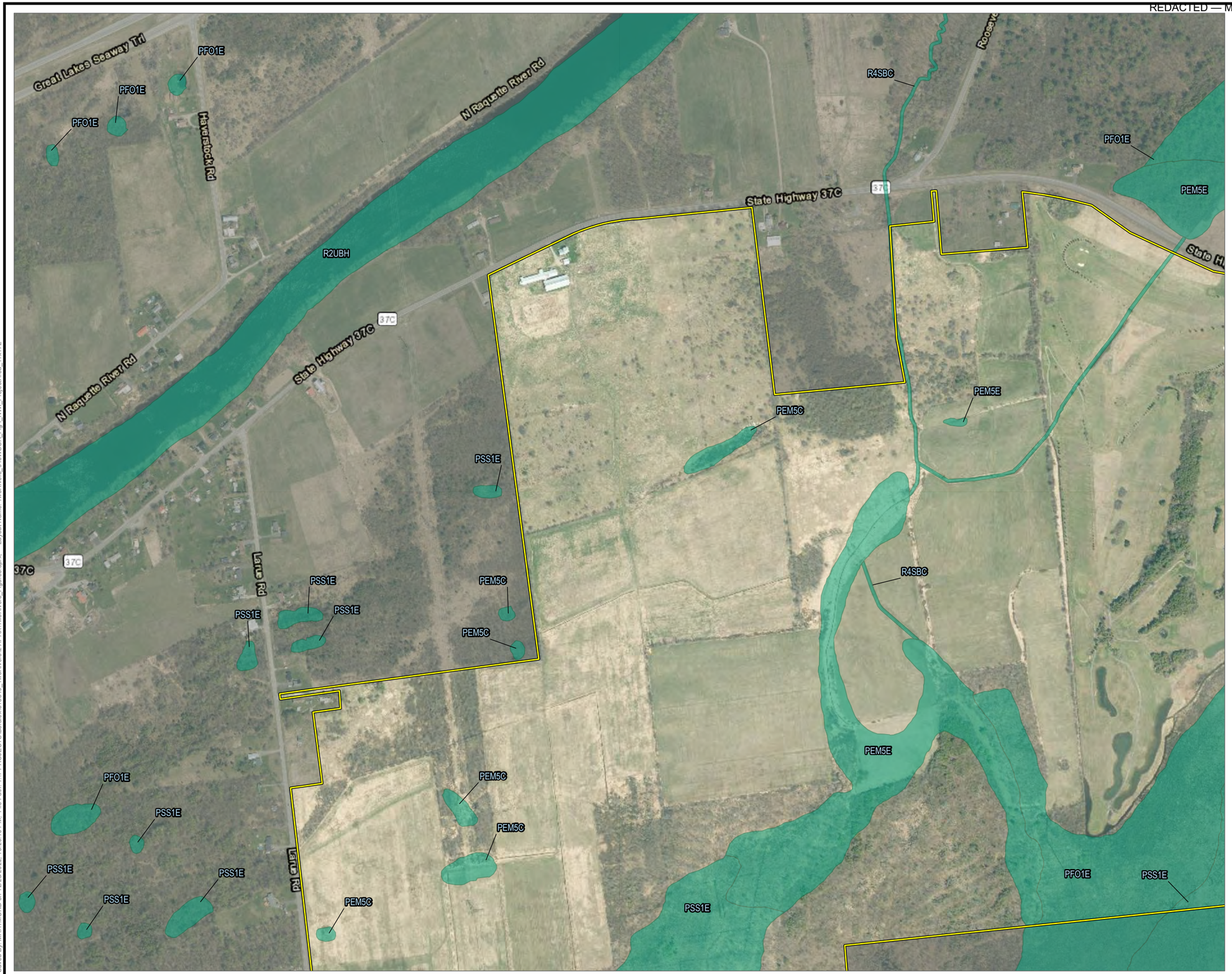
TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 1 OF 13***	
DATE:	DECEMBER 2022		

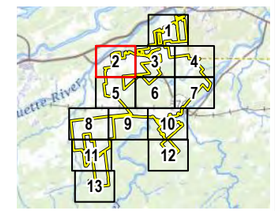
TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FUS; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 13:26:10 PM; File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\2-4\APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cMSCR_Fig4_NWI_ProjectArea_11x17L



NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft
0 300 600
FEET

PROJECT AREA
NWI WETLAND

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 4
SHEET 2 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: AKAILAS on 12/20/2022 12:26:10 PM; File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

PROJECT AREA

NWI WETLAND

PFO1E
PSS1E
PEM5E
PUBHx
R4SBC
PEM5Ad
R2UBHx
PSS1/EM5C
PSS1A
PSS1Ed
PSS1/EM5Bd
Hall Rd
State Highway 37C
37C

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS

1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 3 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FT US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 13:26:10 PM; File Path: T:\PROJECTS\Solar\513349_TwoRivers\3-4-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_24x36_NWI_ProjectArea_11x17L

PROJECT AREA

NWI WETLAND

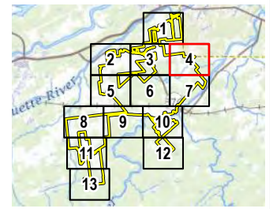
PSS1E
PEM5Ad
PEM5E
R4SBC
PFO1E
PFO1/SS1E
R2UBHx
R5UBH
PSS1A
PSS1/EM5Bd
McIntyre Rd
Solomon Rd

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS

N

1:7,200
1" = 600 ft

0 300 600
FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

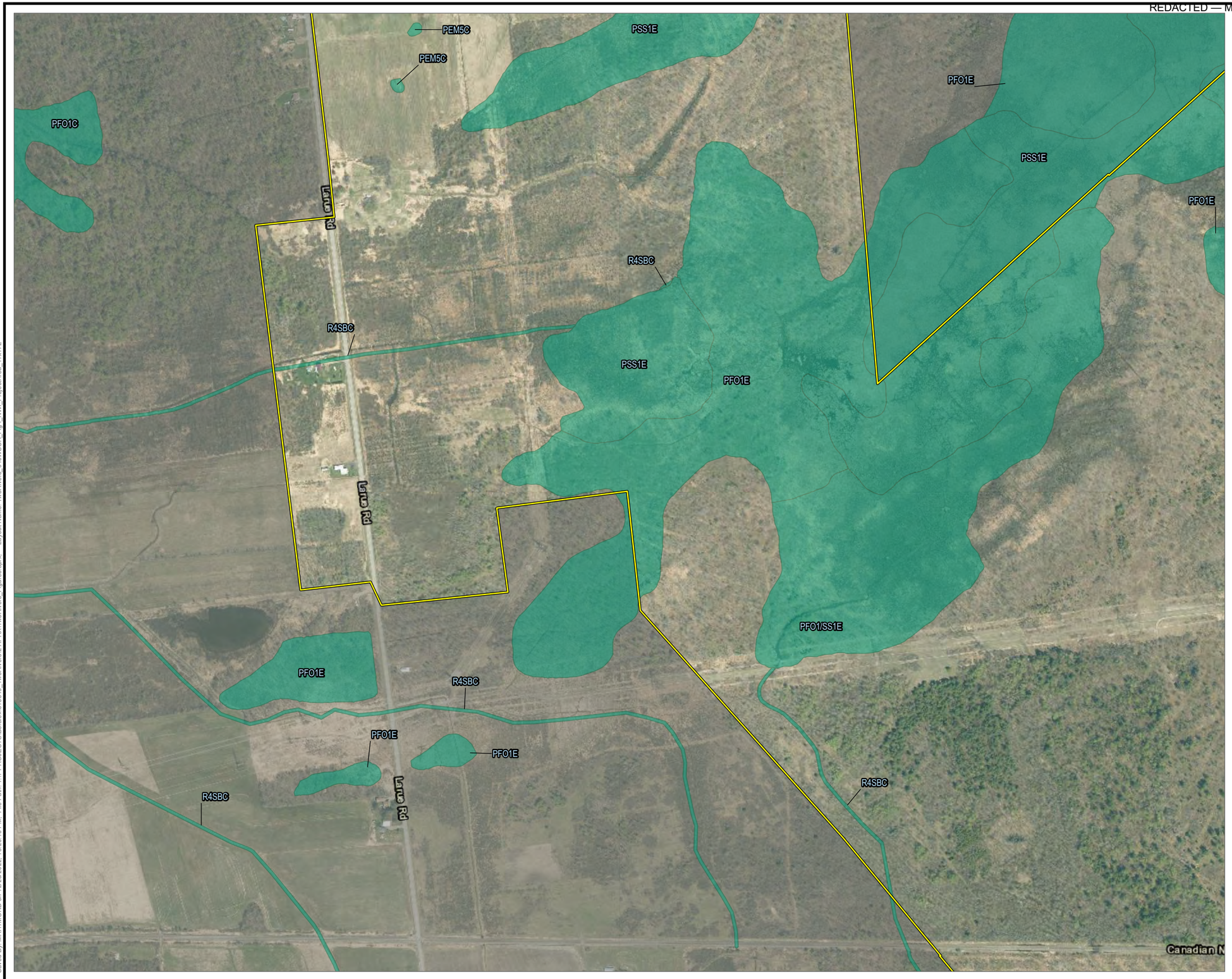
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 4
SHEET 4 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

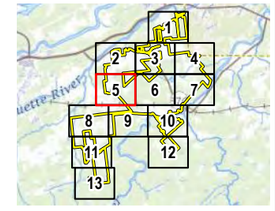
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/20/2022 12:26:10 PM; File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L



PROJECT AREA

NWI WETLAND

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 5 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

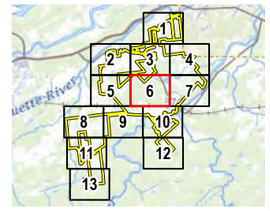
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 13:26:10 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-A\PRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L

PSS1E
R4SBC
PSS1E
PUBHx
PSS1E
R2UBHx
PSS1E
PFO1E
PSS1Ed
State Highway 37C
PFO1E
PFO1E
PUBHx
PSS1E
PUBHx
PUBHx
PFO1E
PFO1E
PEM5E
PFO1E
PFO1E
PSS1Cd
37C
PFO1E
PFO1E
PFO1E
PFO1E
PF01/SS1E
State Highway 37C
PFO1E
PFO1E
PFO1E
PSS1C
PSS1/EM5E
PFO1E
PSS1/EM5E
PFO1E
R4SBC
ational Railways

PROJECT AREA

NWI WETLAND

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 4
SHEET 6 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FT US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 13:26:10 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\3-4\PRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L

PROJECT AREA

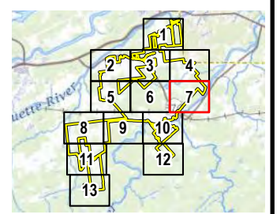
NWI WETLAND

PSS1/EM5Bd
R2UBHx
PSS1Cd
PSS1E
PFO1E
R4SBC
PSS1C
PUBHx
PSS1/EM5Cd
PUBHx
PSS1E
McIntyre Rd
North Rd
PSS1Cd
PFO1E
PSS1E
PSS1E
PSS1E
PSS1E
PSS1E
PSS1E
PSS1E
PEM5C
PSS1C
PFO1C
PSS1C
State Highway 37C
37C
PSS1E
PSS1E
PEM5E
PEM5E
PEM5C
R2UBH
PSS1E
PSS1E
PEM5E
PSS1E
PEM5E
PSS1E
PUBHx
PEM5E
37C
PSS1E
PEM5E
PSS1E
R4SBC
PSS1E
PUBHx

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS

N

1:7,200
1" = 600 ft
0 300 600
FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 7 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US. Map Rotation: 0
Saved By: ARAYMOND on 12/20/2022 12:35:10 PM. File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

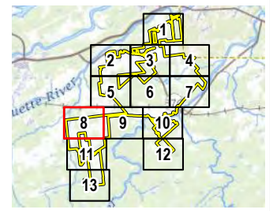
PROJECT AREA

NWI WETLAND

PFO1C
PFO1E
PSS1E
R4SBC
PEM5Bd
R2UBH
Gary Rd
Massena-Helena Rd
PEM5C
R5UBH
PEM5E
PFO1/SS1C

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS

1:7,200
1" = 600 ft
0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 4
SHEET 8 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FT US; Map Rotation: 0
Saved By: MRAYMOND on 12/9/2022 - 12:35:10 PM; File Path: T:\1 PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

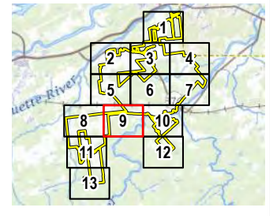
PROJECT AREA

NWI WETLAND

PFO1E
PFO1E
R4SBC
PSS1Ed
PFO1E
Lang Rd
Massena-Helena Rd
Massena-Helena Rd
Massena-Helena Rd
R4SBC
PSS1Ed
PFO1E
Maple Ridge Rd
R2UBH
PFO1C
PFO1E
PSS1E
PFO1E
PFO1E
R4SBC
Maple Ridge Rd
PFO1C
R2UBH
R3UBH
R5UBH
R4SBC
PSS1E
PFO1E

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS

1:7,200
1" = 600 ft
0 300 600
FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 9 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

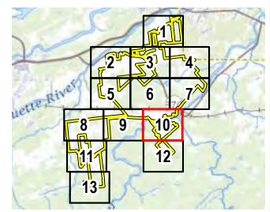
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Stored By: MRAYMOND on 12/29/2022 12:35:10 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94xWSCR_Fig4_NWI_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

PROJECT AREA

NWI WETLAND

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 10 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 13:26:10 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\13-4\APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig4_NWI_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

PROJECT AREA

NWI WETLAND

PEM5C
PFO1E
PSS1E
PFO1/4E
R5UBH
R4SBC
PEM5C
R4SBC
R4SBC
PFO1E
PFO1/SS1E
PUBHx
PUBHx
PEM5E
PUBHx
R5UBH
PUBHx
R4SBC
R5UBH
R4SBC
PEM5E
PSS1E
PSS1E
PEM5E
R4SBC
PEM5B
R5UBH
R5UBH
PEM5E
R5UBH
PFO1E
PFO1/SS1C
PEM5C
PSS1/EM5B
PEM5C
PEM5C
R4SBC
PEM5B
PFO1E

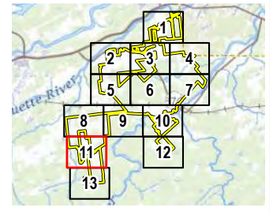
Taylor Rd
Maple Ridge Rd

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS

N

1:7,200
1" = 600 ft

0 300 600
FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NWI RESOURCES IN PROJECT AREA

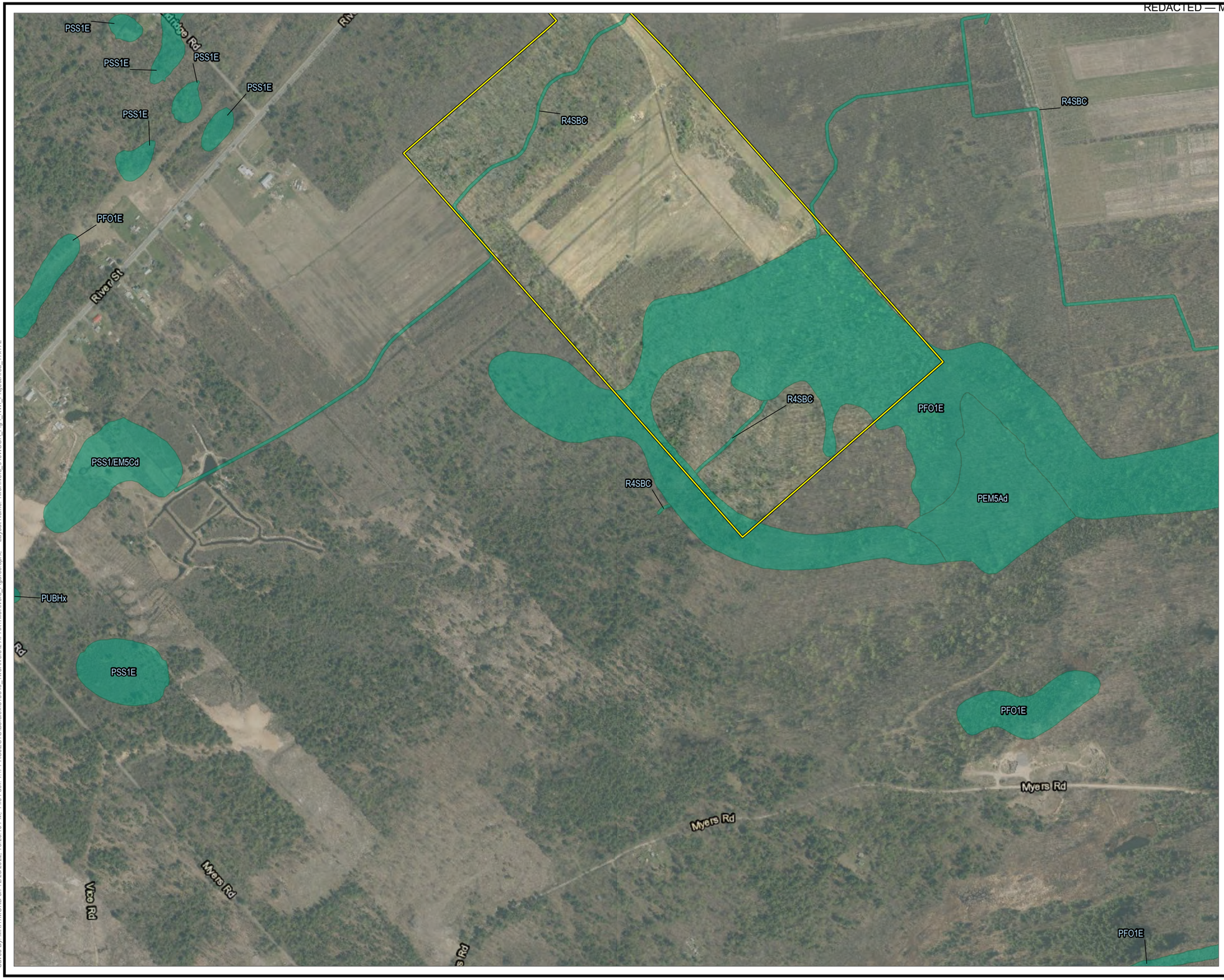
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 4
SHEET 11 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

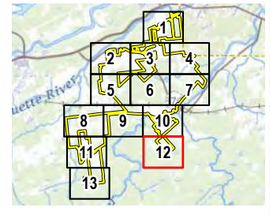
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 13:36:10 PM; File Path: T:\1 PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cMSCR_Fig4_NWI_ProjectArea_11x17L



PROJECT AREA

NWI WETLAND

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

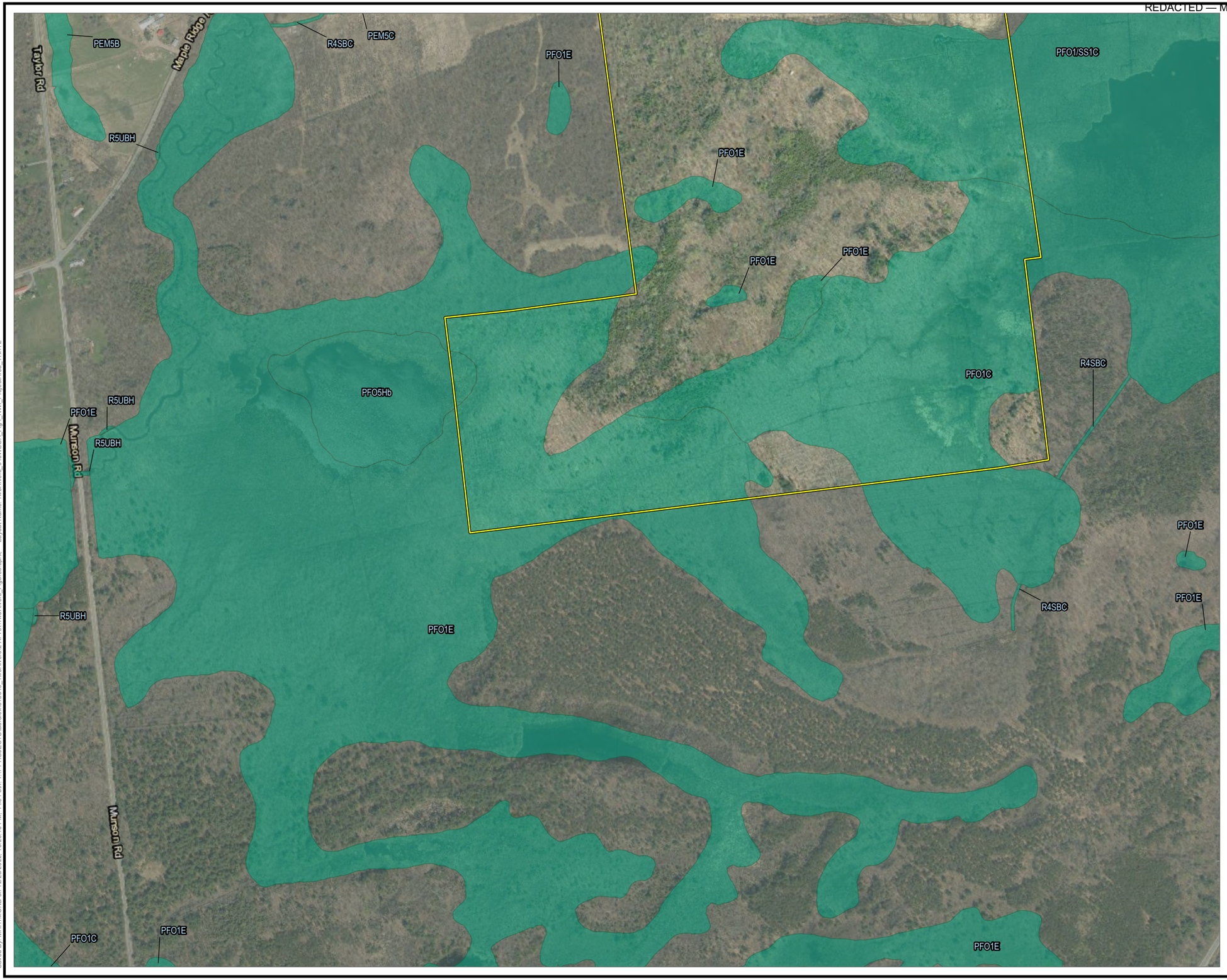
TITLE:
NWI RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 4**	
APPROVED BY:	H. VAILLANT	***SHEET 12 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

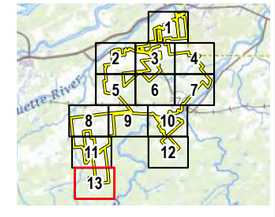
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Stored By: MRAYMOND on 12/29/2022 12:35:10 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers12_NWI_ProjectArea_11x17L



PROJECT AREA

NWI WETLAND

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NWI, USFWS



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:	**BORALEX** **TWO RIVERS SOLAR** **ST. LAWRENCE COUNTY, NEW YORK**
TITLE:	**NWI RESOURCES IN PROJECT AREA**
DRAWN BY: M. RAYMOND	PROJ. NO.: 513349
CHECKED BY: A. KAILAS	**FIGURE 4** ***SHEET 13 OF 13***
APPROVED BY: H. VAILLANT	
DATE: DECEMBER 2022	

10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

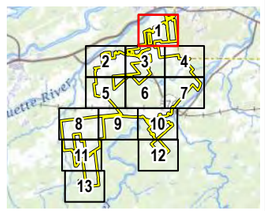
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Stored By: MRAYMOND on 12/20/2022 13:26:10 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\13-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cNWSCR_Fig4_NWI_ProjectArea_11x17L

NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 1 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

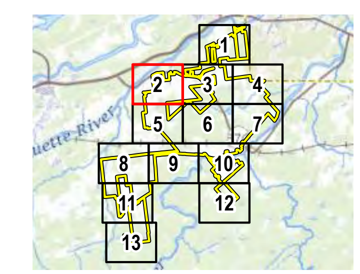
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 4:04:45 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\3-4APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cMSCR_Fig5_NYSDEC_Resources_Project&Area_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

- NYSDEC STREAM
- NYSDEC WETLAND
- PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



N

1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:	**BORALEX** **TWO RIVERS SOLAR** **ST. LAWRENCE COUNTY, NEW YORK**
TITLE:	**NYSDEC RESOURCES IN PROJECT AREA**
DRAWN BY: M. RAYMOND	PROJ. NO.: 513349
CHECKED BY: A. KAILAS	**FIGURE 5**
APPROVED BY: H. VAILLANT	***SHEET 2 OF 13***
DATE: DECEMBER 2022	

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

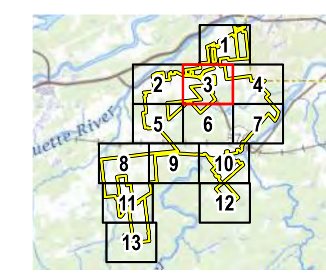
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
-- Saved By: MRAYMOND on 12/26/2022, 14:04:56 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig5_NYSDEC_Resources_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

NYSDEC STREAM
NYSDEC WETLAND
PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



N

1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 3 OF 13***	
DATE:	DECEMBER 2022		

TRC

10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

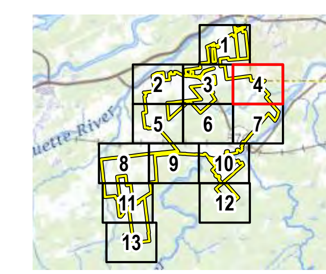
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
-- Saved By: MRAYMOND on 12/26/2022, 14:04:56 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig5_NYSDEC_Resources_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

- NYSDEC STREAM
- NYSDEC WETLAND
- PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



N

1:7,200
1" = 600 ft
0 300 600
FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

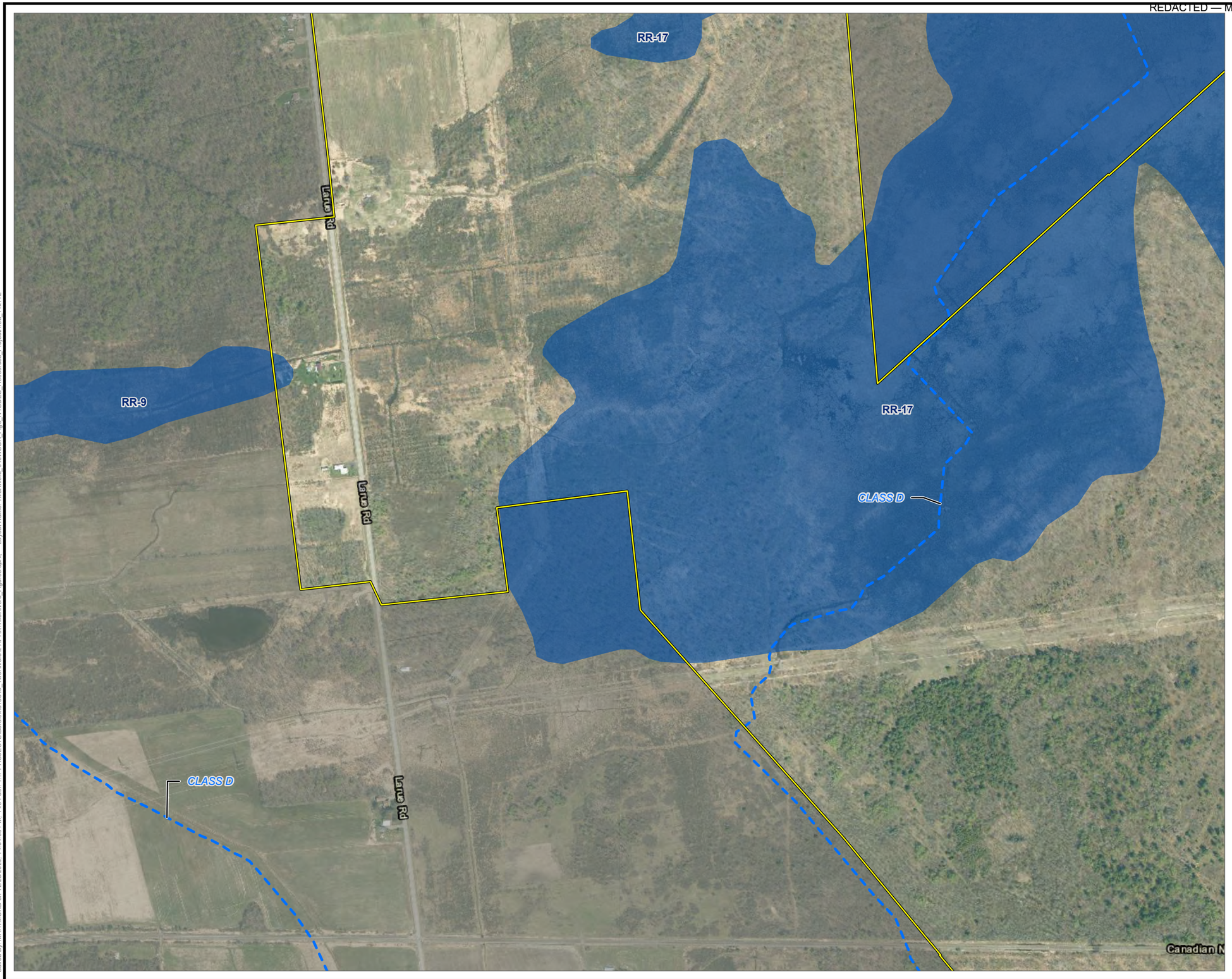
TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 4 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
-- Saved By: MRAYMOND on 12/26/2022, 14:04:56 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig5_NYSDEC_Resources_ProjectArea_11x17L

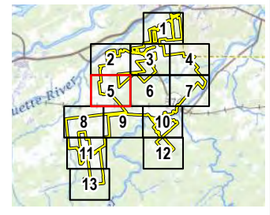


NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



1:7,200
1" = 600 ft

0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

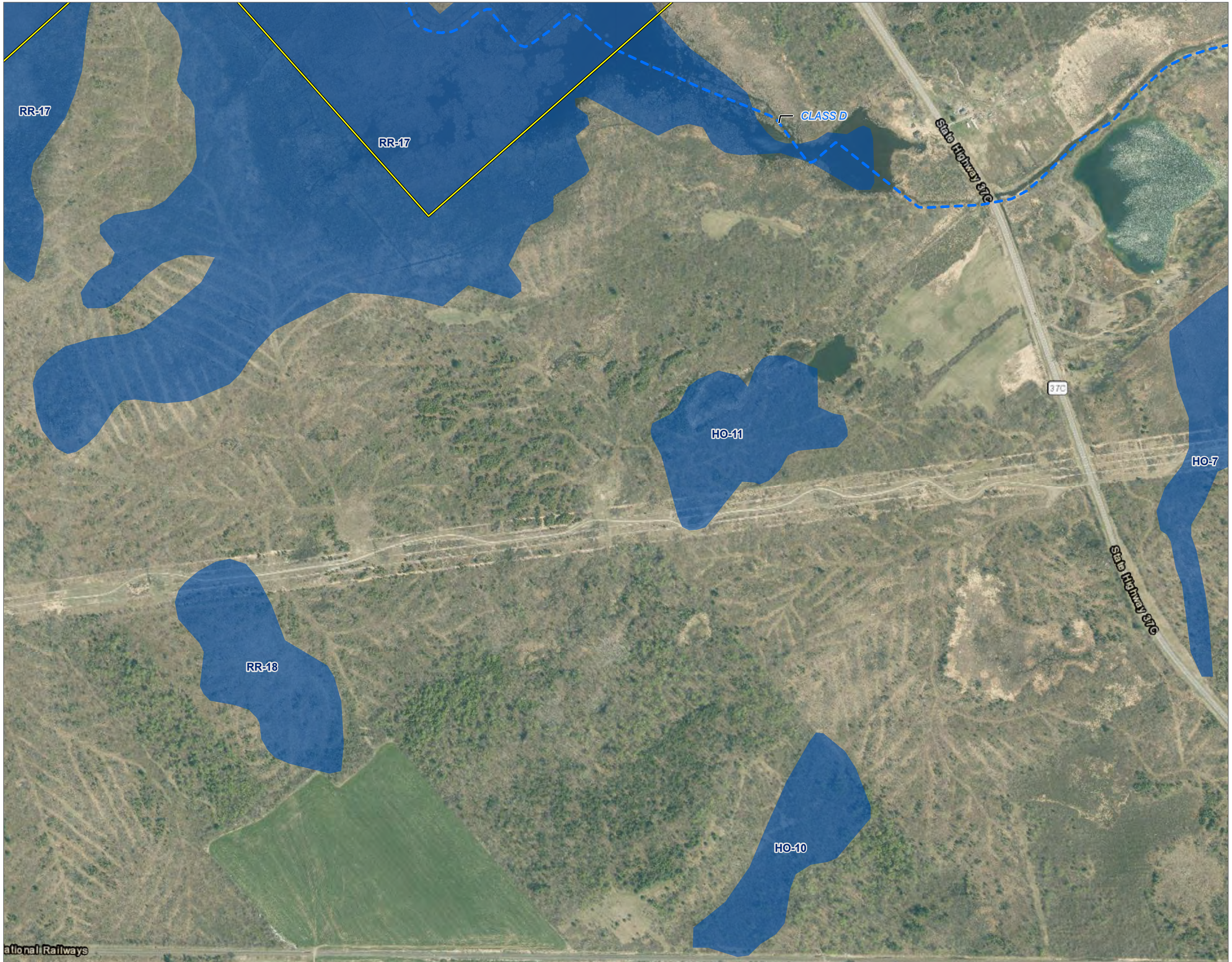
FIGURE 5
SHEET 5 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

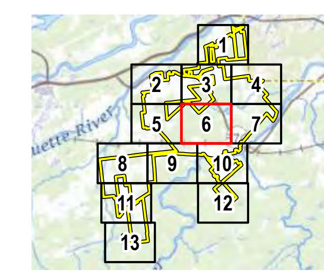
Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 4:04:45 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-A\PRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cMSCR_Fig5_NYSDEC_Resources_Project4Area_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC



NYSDEC STREAM
NYSDEC WETLAND
PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



N

1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:	**BORALEX** **TWO RIVERS SOLAR** **ST. LAWRENCE COUNTY, NEW YORK**
TITLE:	**NYSDEC RESOURCES IN PROJECT AREA**
DRAWN BY: M. RAYMOND	PROJ. NO.: 513349
CHECKED BY: A. KAILAS	**FIGURE 5**
APPROVED BY: H. VAILLANT	***SHEET 6 OF 13***
DATE: DECEMBER 2022	

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
-- Saved By: MRAYMOND on 12/26/2022, 14:04:56 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig5_NYSDEC_Resources_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 7 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
-- Saved By: MRAYMOND on 12/26/2022, 14:04:56 PM; File Path: T:\1-PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cWSCR_Fig5_NYSDEC_Resources_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

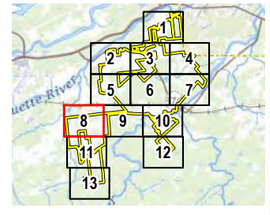
NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC

1:7,200
1" = 600 ft
0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

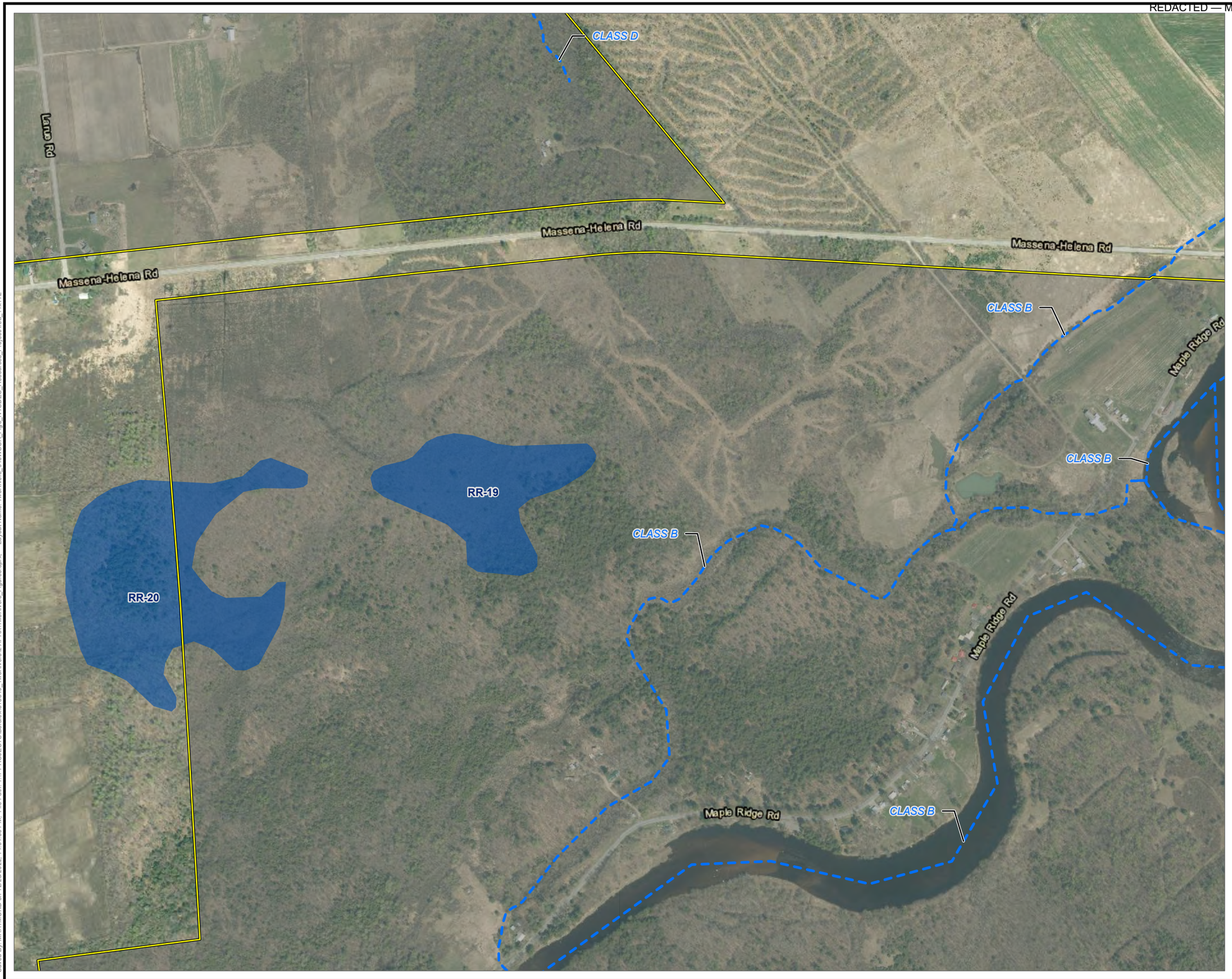
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 8 OF 13***	
DATE:	DECEMBER 2022		

10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US - Map Rotation: 0
Saved By: MRAYMOND on 12/5/2022 - 14:04:55 PM - File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\3-APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_94cMSCR_Fig5_NYSDEC_Resources_Project4Area_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

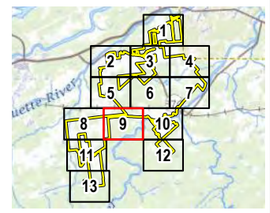


NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



1:7,200
1" = 600 ft

0 300 600
FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 5
SHEET 9 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FEET US; Map Rotation: 0
Saved By: AKAILAS on 12/20/2022 1:45:55 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cNYSCR_Fig5_NYSDEC_Resources_Project4Area_11x17L

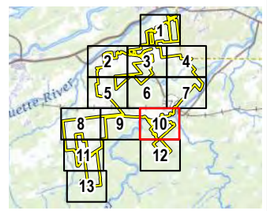
NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC

1:7,200
1" = 600 ft
0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

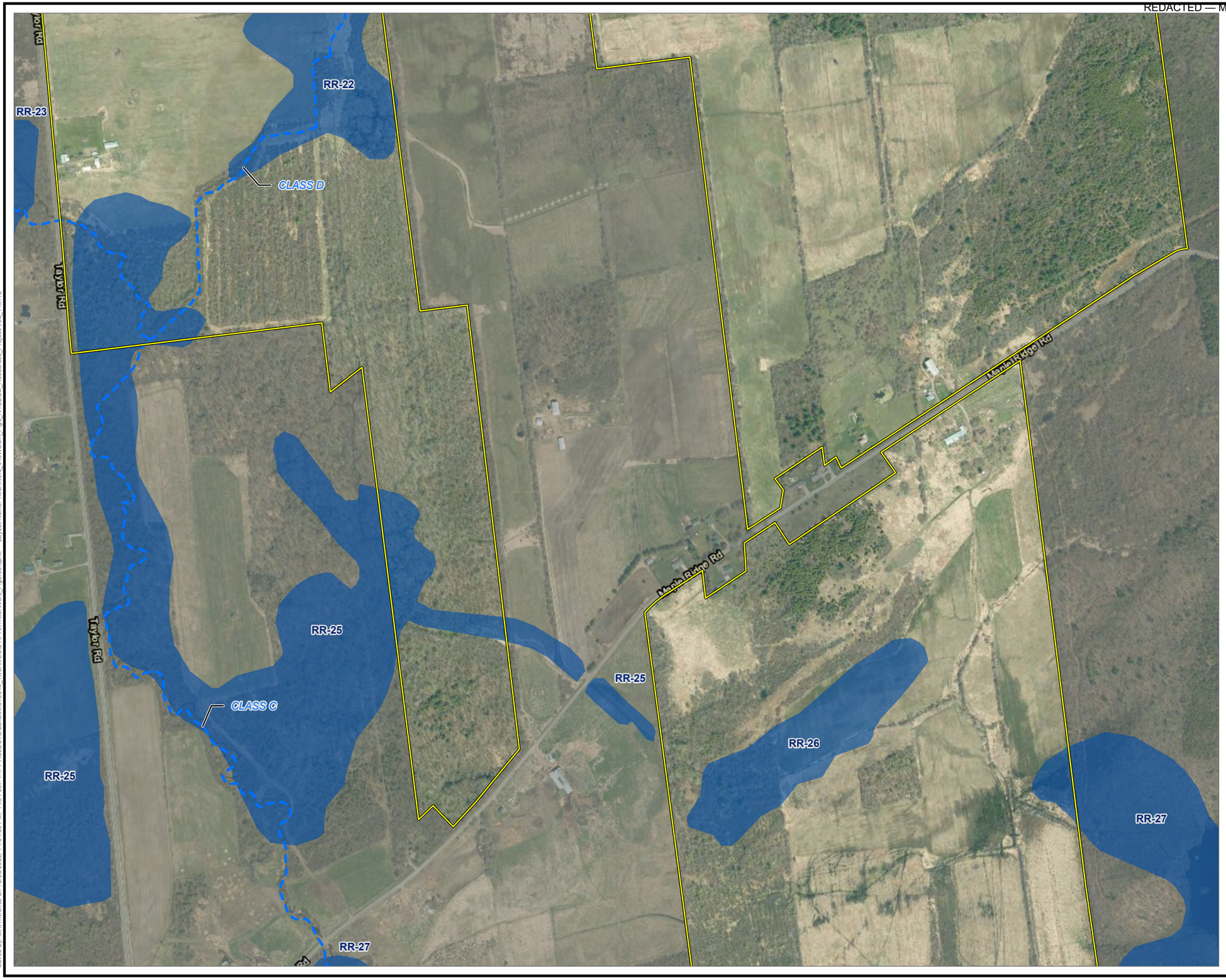
TITLE:
NYSDEC RESOURCES IN PROJECT AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 10 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 14:04:55 PM - File Path: T:\PROJECTS\Boralex\513349_TwoRivers\3-4\APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_94cWSCR_Fig5_NYSDEC_Resources_Project Area_11x17L



NYSDEC STREAM

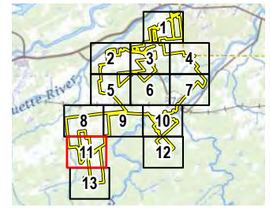
NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC

1:7,200
1" = 600 ft

0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

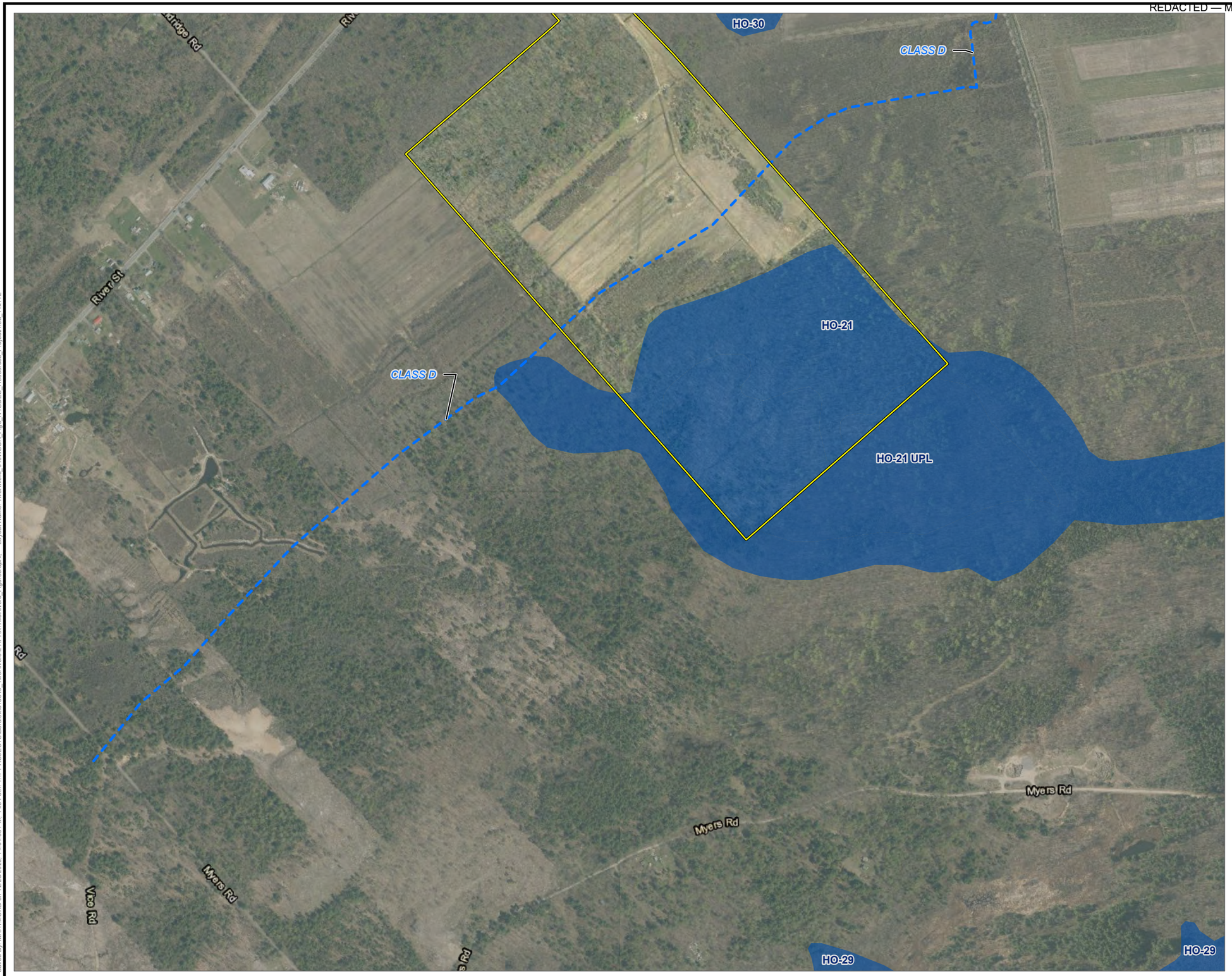
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 11 OF 13***	
DATE:	DECEMBER 2022		

10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 4:04:45 PM; File Path: T:\1 PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94cMSCR_Fig5_NYSDEC_Resources_ProjectArea_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC



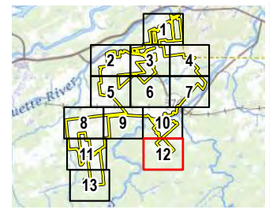
NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC

1:7,200
1" = 600 ft
0 300 600 FEET



PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

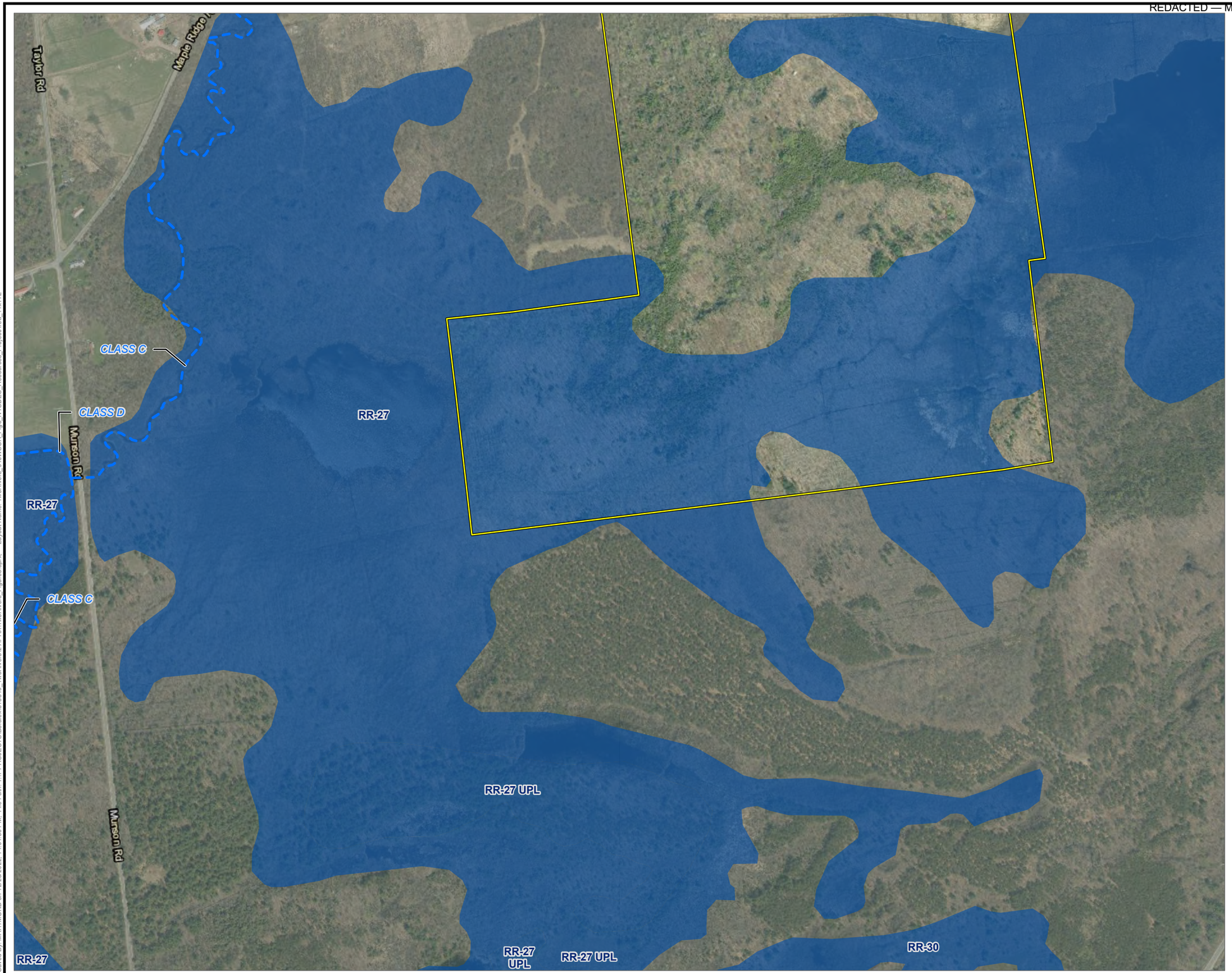
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 5
SHEET 12 OF 13

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US; Map Rotation: 0
Saved By: MRAYMOND on 12/20/2022, 1:45:56 PM; File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx; Layout Name: TwoRivers_94xMSCR_Fig5_NYSDEC_Resources_Project4Area_11x17L

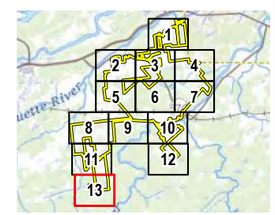


NYSDEC STREAM

NYSDEC WETLAND

PROJECT AREA

NOTES:
BASE MAP: ESRI "WORLD IMAGERY" ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYSDEC



1:7,200
1" = 600 ft
0 300 600 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
NYSDEC RESOURCES IN PROJECT AREA

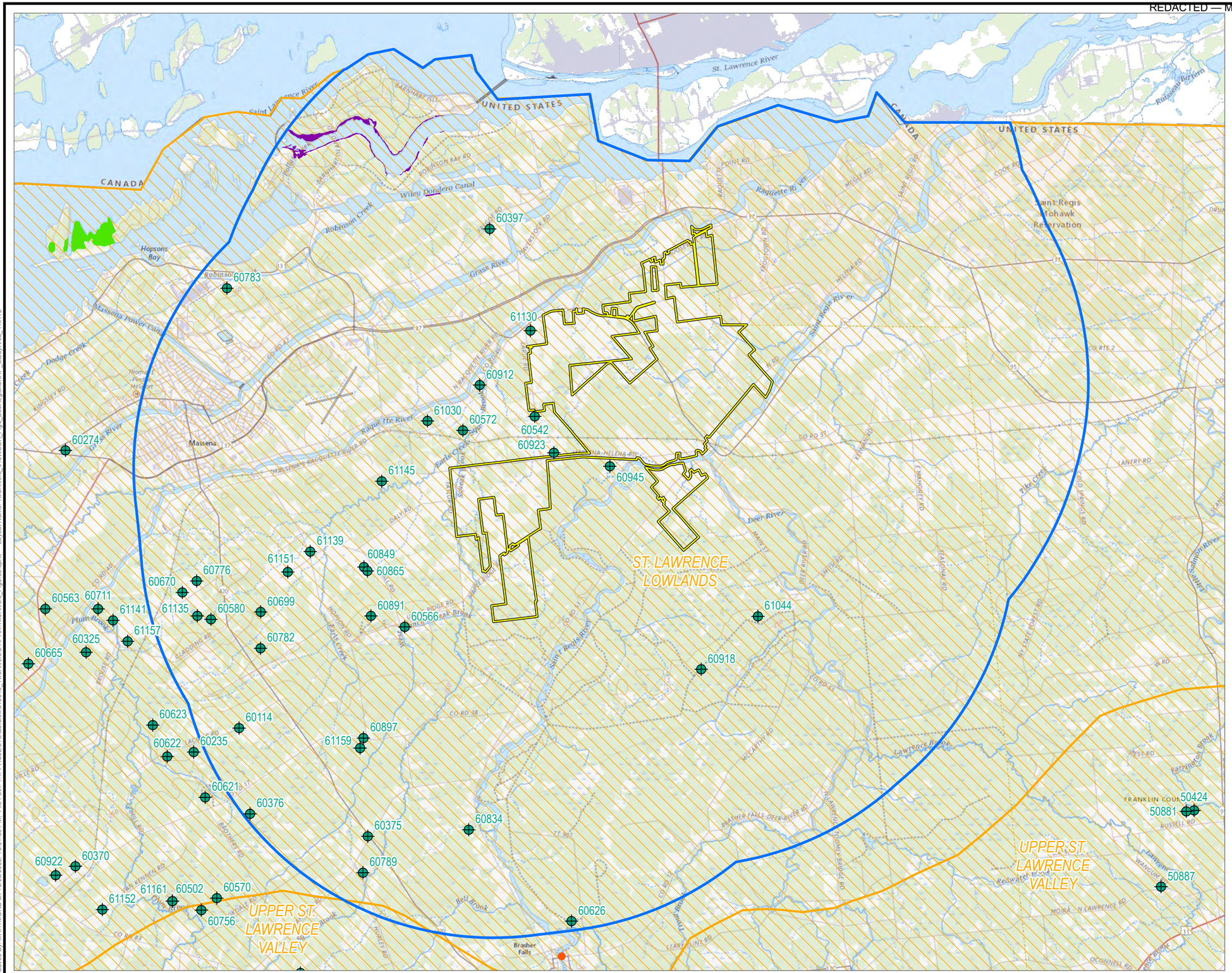
DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS	**FIGURE 5**	
APPROVED BY:	H. VAILLANT	***SHEET 13 OF 13***	
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US. Map Rotation: 0
Saved By: AKAILAS on 12/20/2022 1:40:35 PM. File Path: T:\1 PROJECTS\Boralex\513349_TwoRivers\12-APRX\TwoRivers_Figures.aprx Layout Name: TwoRivers_94xMSCR_Fig5_NYSDEC_Resources_Project Area_11x17L

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC



- NYSDEC MAPPED MINES AND QUARRIES
- PROJECT AREA
- 5-MILE STUDY AREA
- NEW YORK STATE ECOREGIONS

NATURAL COMMUNITIES

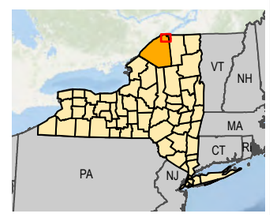
- COBBLE SHORE WET MEADOW
- MAPLE-BASSWOOD RICH MESIC FOREST
- SHORELINE OUTCROP

NYSDEC MAPPED MINES AND QUARRIES WITHIN 5 MILE STUDY AREA

MINE ID	STATUS
60376	PERMITTED
61159	PERMITTED
60891	PERMITTED
61151	PERMITTED
60375	RECLAIMED
60580	RECLAIMED
60626	RECLAIMED
60670	RECLAIMED
60897	RECLAIMED
60912	RECLAIMED
60923	RECLAIMED
60918	RECLAIMED
61135	RECLAIMED
60782	RECLAIMED
60397	RECLAIMED
60834	RECLAIMED

MINE ID	STATUS
60776	RECLAIMED
60849	RECLAIMED
61139	RECLAIMED
60699	RECLAIMED
60789	RECLAIMED
60572	RECLAIMED
61044	RECLAIMED
60945	RECLAIMED
61130	RECLAIMED
60114	RECLAIMED
60865	RECLAIMED
60783	RECLAIMED
61030	RECLAIMED
60566	RECLAIMED
61145	RECLAIMED
60542	RECLAIMED

NOTES:
BASE MAP: ESRI USGS TOPGRAPHIC ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, NYNHP, NYSGIS, NYSDEC (AUG 2022).



1:96,000
1" = 8,000 ft
0 4,000 8,000 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

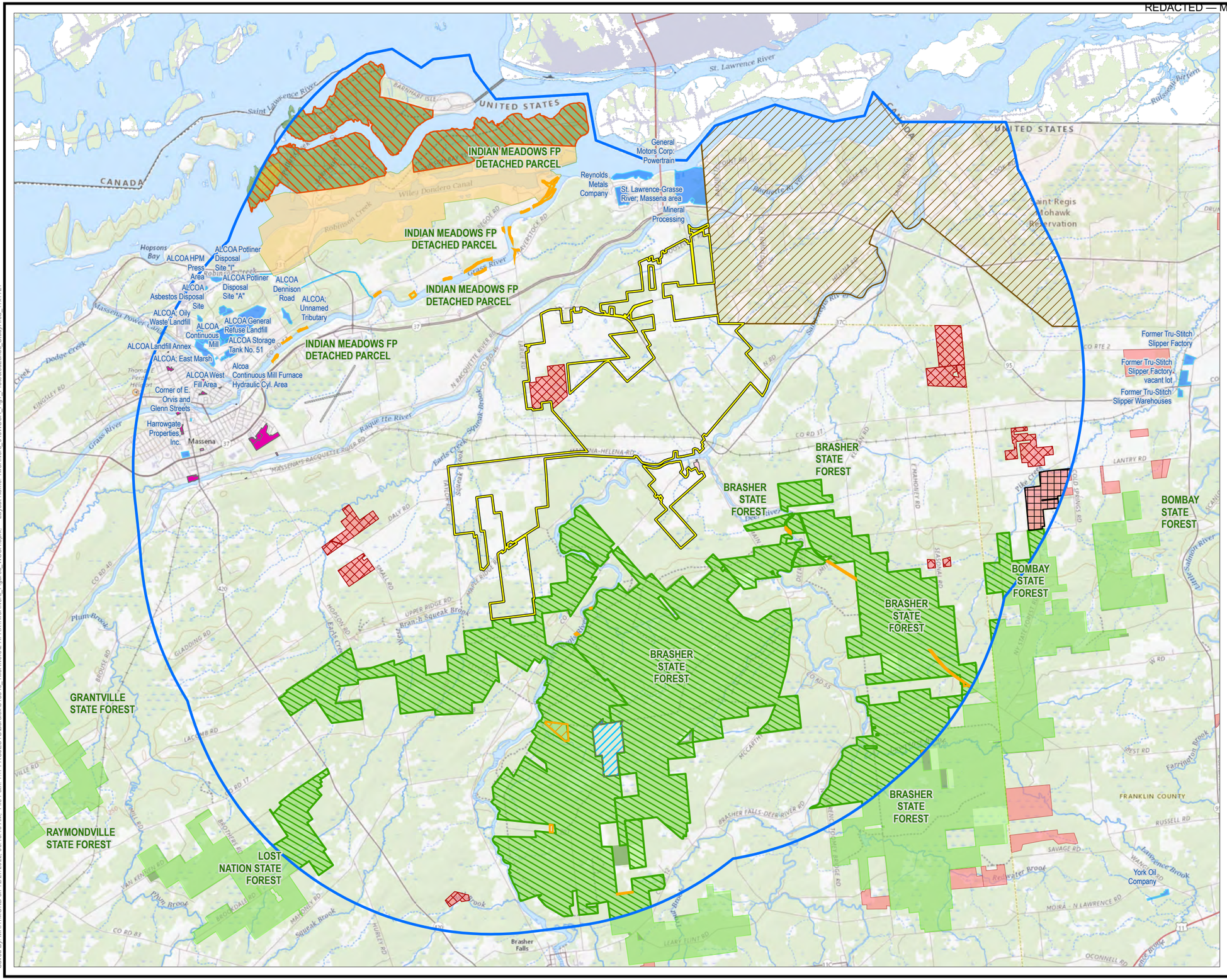
TITLE:
ECOREGIONS AND NATURAL COMMUNITIES IN STUDY AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		**FIGURE 6**
DATE:	DECEMBER 2022		

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

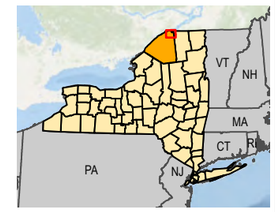
FILE: TwoRivers_Figures.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US Map Rotation: 0
Saved By: MRAYMOND on 12/20/2022 - 12:23:39 PM - File Path: T:\1_PROJECTS\Boralex\513349_TwoRivers\2-APRX\TwoRivers_Figures.aprx - Layout Name: TwoRivers_94xMSCR_Fig6_EcoRegionsNHP_StudyArea_11x17L



- PROJECT AREA
- 5-MILE STUDY AREA
- TOWN OF BRASHER LOCAL PARK
- VILLAGE OF MASSENA LOCAL RESOURCE MANAGEMENT AREA
- MASSENA VILLAGE LOCAL PARK
- SAINT LAWRENCE COUNTY LOCAL CONSERVATION AREA
- AGRICULTURAL CONSERVATION EASEMENT PROGRAM - WETLAND RESERVE EASEMENTS
- NRCS WETLAND RESERVE PROGRAM
- NYS CONSERVATION AREA
- NYS FOREST
- NYS STATE PARK
- ST. REGIS INDIAN RESERVATION
- CONSERVATION EASEMENT
- FEDERAL NON-RECREATION
- STATE CAMPGROUND
- STATE RECREATION
- REMEDIATION SITE BORDERS
- NYSDEC LANDS

NOTES:
BASE MAP: ESRI USGS TOPGRAPHIC ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, USGS, NYSGIS, NYSDEC, PADUS-3.0



1:96,000
1" = 8,000 ft
0 4,000 8,000 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
PROTECTED OR CLASSIFIED LANDS IN STUDY AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		**FIGURE 7**
DATE:	DECEMBER 2022		

10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures_WSCR.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FT US; Map Rotation: 0
Saved By: MRAYMOND on 12/22/2022, 2:35:10 AM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-A\RPX\TwoRivers_Figures_WSCR.aprx; Layout Name: TwoRivers_94cWSCR_Fig7_ProtectedLands_StudyArea_11x17Land

REDACTED — Matter No.23-00053 — Two Rivers Solar Farm, LLC

PROJECT AREA
5-MILE STUDY AREA
CORE FOREST BLOCKS

NOTES:
BASE MAP: ESRI USGS TOPGRAPHIC ONLINE SERVICE LAYER.
DATA SOURCES: TRC, ESRI, USGS, NLCD 2019

1:96,000
1" = 8,000 ft
0 4,000 8,000 FEET

PROJECT:
BORALEX
TWO RIVERS SOLAR
ST. LAWRENCE COUNTY, NEW YORK

TITLE:
CORE FOREST BLOCKS IN STUDY AREA

DRAWN BY:	M. RAYMOND	PROJ. NO.:	513349
CHECKED BY:	A. KAILAS		
APPROVED BY:	H. VAILLANT		
DATE:	DECEMBER 2022		

FIGURE 8

TRC
10 MAXWELL DRIVE
CLIFTON PARK, NY 12065
PHONE: 518-348-1190

FILE: TwoRivers_Figures_WSCR.aprx

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 FUS; Map Rotation: 0
Saved By: MRAYMOND on 12/29/2022 - 16:29:46 PM; File Path: T:\PROJECTS\Boralex\513349_TwoRivers\2-4\APRX\TwoRivers_Figures_WSCR.aprx; Layout Name: TwoRivers_94dWSCR_Fig8_CoreForest_StudyArea_11x17L11

Appendix B. IPaC Results

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

St. Lawrence County, New York

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699
fw5es_nyfo@fws.gov

3817 Luker Road
Cortland, NY 13045-9385

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
[redacted]	[redacted]
Belted Kingfisher Megaceryle alcyon This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 15 to Jul 25
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler Vermivora pinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Meadowlark Sturnella magna — Breeds Apr 25 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

[redacted]

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

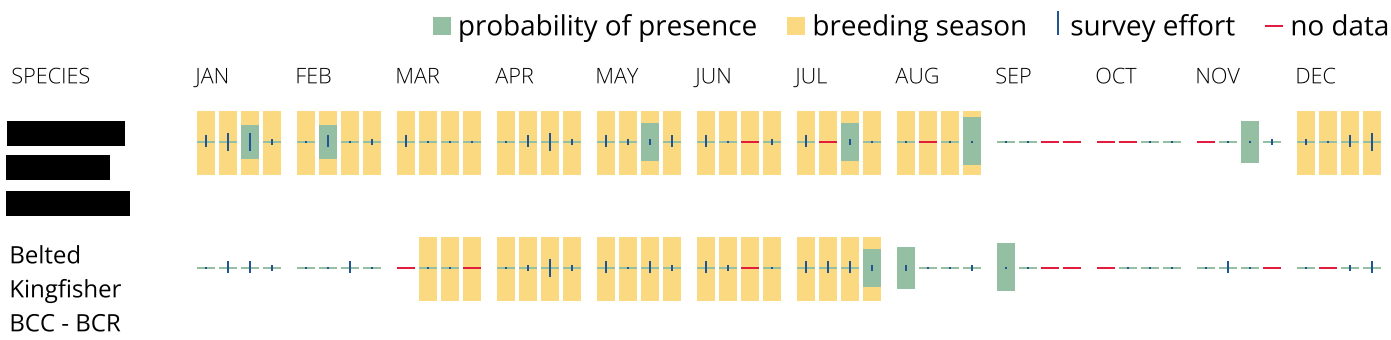
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

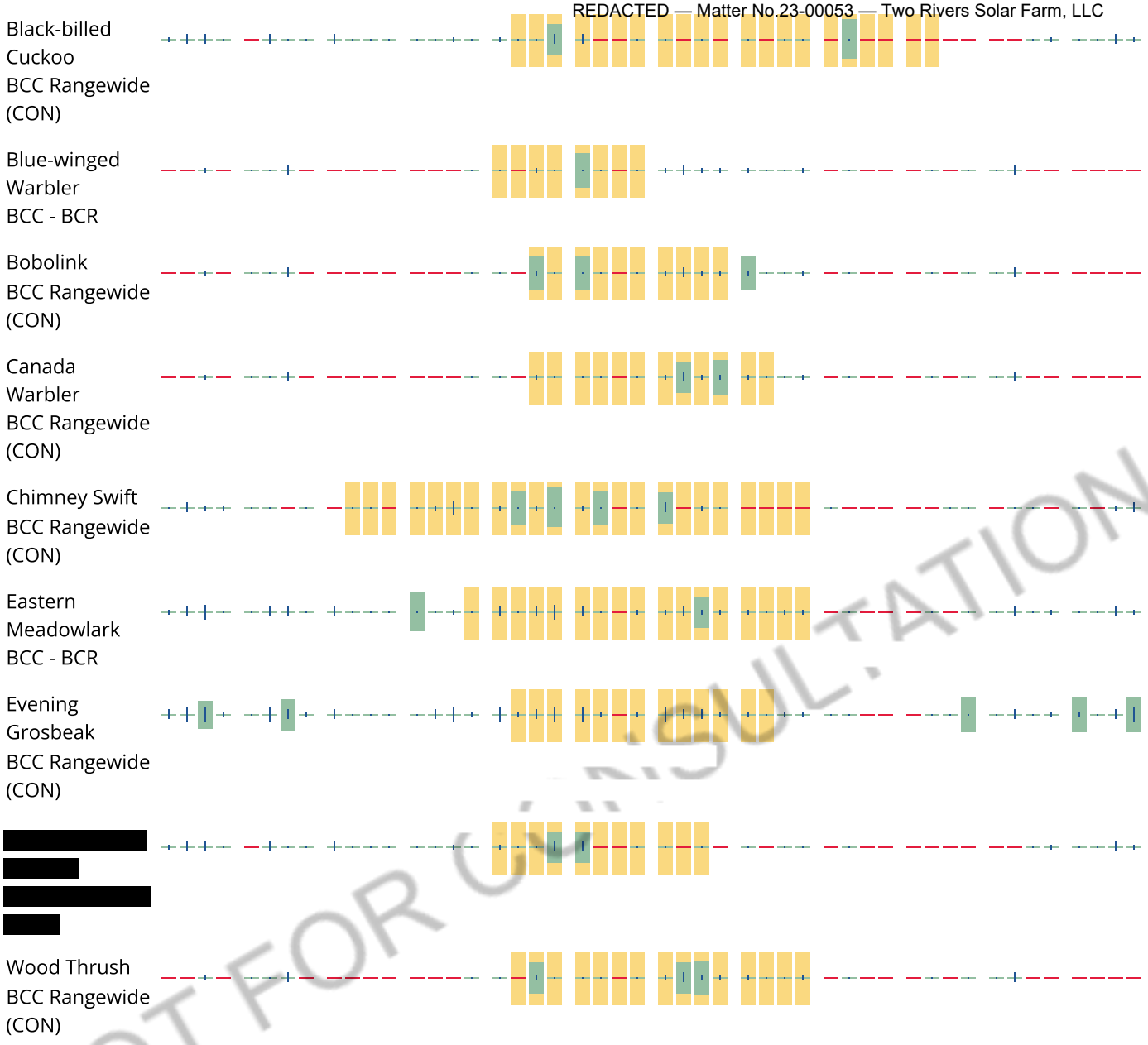
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or

submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.