

DRAFT ENVIRONMENTAL ASSESSMENT

URBAN STREAM RESEARCH CENTER Unincorporated Warrenville, Illinois

Prepared by

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In Partnership with

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EXECUTIVE SUMMARY

This Draft Environmental Assessment (Draft EA) was prepared under the requirements of the National Environmental Policy Act (NEPA) (42 USC 4321 *et seq.*) to consider and disclose any potential significant impacts to the quality of the human environment that may arise from the proposed construction of the Urban Stream Research Center (USRC) along the West Branch DuPage River, unincorporated Warrenville, DuPage County, Illinois. This proposed project is a component of the proposed ecological enhancement of a portion of the West Branch DuPage River, in accordance with National Oceanic and Atmospheric Administration (NOAA) Grant Award No. FNA07NOS4630002, DuPage River Restoration.

The overall goal of this project is to build a facility that will allow the Forest Preserve District of DuPage County (FPDDC) to meet its objectives to:

1. Augment the population densities and increase the diversity of freshwater mussel and non-game fish species that are in decline or extirpated in the West Branch DuPage River,
2. Evaluate the success and impacts of ongoing habitat restoration and remediation projects along the river,
3. Improve the success of urban aquatic habitat restoration and enhancement, and
4. Provide educational opportunities for the public and other groups.

The grant recipient, DuPage County Stormwater Management Division, proposes to construct a research and education center on the publicly owned Roy C. Blackwell Forest Preserve. The preferred alternative, Urban Stream Research Center – New Constructed Facility (see Section 3 for more details), was created through input from the Forest Preserve District of DuPage County, the public, and NOAA.

Currently there are no facilities within Illinois to support common freshwater mussel propagation and augmentation. Freshwater mussels will be propagated at the USRC in order to augment the population densities and increase the diversity of native freshwater mussel species and non-game fish species. Additionally, the USRC will promote and encourage interdisciplinary research between universities and local, state, and federal conservation agencies (e.g., FPDDC, Natural History Survey, Illinois Department of Natural Resources, U.S. Fish and Wildlife Service, U.S. Geological Survey).

The proposed project would not result in significant adverse environmental impacts. Short-term, temporary, and localized construction-related impacts to air quality and increases in noise from the use of construction equipment are anticipated. However, over the long-term, the research center would benefit fish and wildlife, help to enhance the area's natural resources, and provide opportunities for research and educational programs.

1. PURPOSE AND NEED FOR PROJECT CONSTRUCTION

NOAA has prepared this Draft Environmental Assessment (Draft EA), under the requirements of the National Environmental Policy Act (NEPA), to evaluate and determine potential impacts to the quality of the human environment that may arise from the implementation of the preferred alternative for the Urban Stream Research Center, unincorporated Warrenville, DuPage County, Illinois.

The proposed project is located on the publicly owned Roy C. Blackwell Forest Preserve (part of the Forest Preserve District of DuPage County) near the confluence of the West Branch DuPage River and Springbrook 1 Creek (a small tributary) in unincorporated Warrenville. Overall, Blackwell Forest Preserve is 1,367 acres; the proposed Urban Stream Research Center (USRC) would be sited on approximately 7.5 acres in the south section of the Blackwell Forest Preserve. The proposed location is northeast of Springbrook 1 Creek, approximately 100 yards upstream of the West Branch DuPage River, northeast of the existing Cenacle Building, and west of Sand Pond (Figure 1).

The overall goal of this project is to build a research facility on the West Branch of the DuPage River in order to: propagate freshwater mussel species to augment the population densities and increase the diversity of native freshwater mussel species and non-game fish species; evaluate the success and impacts of ongoing stream and habitat restoration and remediation in the DuPage River watershed area; improve the success of urban aquatic habitat restoration and enhancement; and provide educational opportunities for the public, conservation groups, and research institutions thereby benefiting fresh water mussel species, other wildlife, habitat areas, and public communities along the West Branch of the DuPage River.

This location for the USRC was chosen due to its proximity to the West Branch and Springbrook 1 Creek – which offers an extensive *in situ* research environment. The proposed research facility is also in close proximity to other park amenities, lighting, existing preserve road access, parking facilities, and a trail system. This allows for easy public accessibility.

The project is part of an overall river enhancement and restoration approach proposed in the West DuPage River Watershed Plan (CBBEWL, 2005). Specific goals of the West DuPage River Watershed Plan include:

- Improve fish spawning, mollusk, and macroinvertebrate habitat along a 4-mile stream reach,
- Increase dissolved oxygen in the 4-mile reach by creating riffle/pool sequences,
- Provide the public improved recreational canoe/boating access on the river by removing man-made obstructions and improving access to the stream corridor for fishing, hiking, birding, and other passive activities, and
- Enhance the water quality in the 4-mile reach to meet the county's goal of a fishable/swimable stream.

This project would support the biological enhancement component of the West DuPage River Watershed Plan.

There are approximately 13 freshwater mussel research/propagation facilities within the U.S. and most facilities focus on federal and state threatened and endangered species within specific watersheds. Currently, there are no facilities within Illinois to support common freshwater mussel propagation and augmentation.

At the proposed USRC, freshwater mussels and the non-game fish species that mussels depend on for part of their reproductive cycle will be reared, as well as various other historical species. Specific species targeted will be common freshwater mussels that occur downstream of Fawell dam within the West Branch DuPage River. These species include: plain pocketbook (*Lampsilis cardium*), fat mucket (*Lampsilis siliquoidea*), and Wabash pigtoe (*Fusconaia flava*). Other species such as the common giant floater (*Pyganodon grandis*) and the white heelsplitter (*Lasmigona complanata*) may also be propagated. The ellipse (*Venustaconcha ellipsiformis*) will be collected from the Fox River watershed due to its low abundance within the Des Plaines River basin.

Research activities will include improving the understanding of microhabitat needs for species survival, improving the success of species re-introductions, and evaluating the success of habitat restoration techniques in urban aquatic environments. Therefore, the USRC will facilitate habitat restoration projects in DuPage County, species re-introduction in restored stream environments, and advance stream ecological research, outreach, and education.

The proposed center would have a single story masonry research facility with a small asphalt associated parking lot. Proposed best management practices (BMPs) to be implemented include rain gardens, bioswales, and a wet detention basin (Figure 2). The approximate area of the facility would be 6,000 square feet, which would include an aquatic laboratory, mechanical room, vestibule, lobby, men's and women's restrooms, office/multi-purpose room, assembly/storage room, mechanical room, and storage area (Figures 3 and 4). The estimated cost of construction is \$2.5 million. Please note that the USRC is still in its planning stages and the construction cost is subject to change.

1.1 Public Participation

The public had opportunities to review and comment on the initial proposed project during the development of the West Branch DuPage River Watershed Plan. The DuPage County Department of Economic Development and Planning (EDP) and the Forest Preserve District of DuPage County held a public meeting on October 2, 2005 to provide a forum to explain the proposed project, as well as several other proposed projects along the West Branch, and to seek public input. In addition, the public had an opportunity to comment on the proposed project during the public review period for the DuPage County Division of Stormwater Management's West Branch DuPage River Watershed Plan. The draft plan was released for public comment on January 3, 2006; the public comment period closed on February 1, 2006. The final plan was approved by the DuPage County Stormwater Management Board on February 7, 2006. The DuPage County Division of Stormwater Management maintains a public website with information on the West Branch River Restoration (DuPage County, 2006).

This Draft RP/EA will be available to the public for 30-day review and comment for a period. The document will be available for viewing at <http://www.dupageco.org/swm>.

1.2 Administrative Record

The administrative record for this project is maintained at:

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2. ENVIRONMENTAL SETTING/AFFECTED ENVIRONMENT

The proposed project is located in unincorporated Warrenville, DuPage County, Illinois, along the West Branch DuPage River on the Roy C. Blackwell Forest Preserve (SW ¼ Section 26, Township 39N, Range 9E). The project is on public land owned by the Forest Preserve District of DuPage County (Figure 1). The property, which is part of a parcel of land called the Cenacle, was recently acquired by the Forest Preserve on May 30, 2008. The Cenacle property is approximately 42 acres and was previously used as a retreat house and spirituality center. Currently, the Cenacle building is vacant and no longer utilized.

As the Urban Stream Research Center (USRC) building and associated programs would be administered and maintained by the Forest Preserve District of DuPage County, project locations alternatives were limited to the publicly owned properties in the county (i.e., the DuPage County Forest Preserves). There are few geographically suitable areas for the facility that are located near aquatic environments and also meet infrastructure and water needs of the facility. The location for the USRC was chosen due to its proximity to the West Branch DuPage River and Springbrook 1 Creek. In addition, it is also located near other park amenities, which will allow for easy accessibility by the public.

2.1 Physical Environment

The average annual temperature in northern Illinois is 48°F, with average winter highs of mid-forties and lows in the teens. Average summer highs for the state are in the 80s, with average lows in the 60s. Precipitation in the state ranges from more than 48 inches in the south to less than 32 inches in the north (State of Illinois, 2006).

Glacial activity created the local geological setting; the watershed is located at the boundary between two glacial moraine systems. The river lies in the outwash plains, consisting of stratified sediments from sand to boulder size.

The soil series mapped at the proposed site is well drained Fox silt loam, 2-5% slopes (327B). Fox soils are formed in thin loess and in loamy alluvium or just in loamy alluvium overlying stratified calcareous sandy outwash on outwash plains, stream terraces, valley trains, kames, and glacial moraines (Web Soil Survey).

There are two aquifers present in this area; the upper glacial outwash aquifer and the lower limestone bedrock aquifer (MWH, 2008). The direction of groundwater flow is to the south-southwest in the upper aquifer and southwest in the lower aquifer (both aquifers flow toward the West Branch DuPage River).

The West Branch DuPage River watershed covers approximately 127 square miles and after meeting up with the East Branch DuPage River, eventually flows into the Des Plaines River (part of the Mississippi River watershed). Primary land cover types in the West Branch DuPage River watershed, which is nearly fully developed, are residential, commercial, and open space. Kress Creek is a major tributary of the 32-mile long West Branch DuPage River. There are two in-stream dams along the West Branch including Warrenville Dam upstream of Warrenville Road,

and Fawell Dam upstream of Ogden Avenue. In addition, the modified McDowell Grove Dam at the McDowell Grove Forest Preserve is also located along the West Branch. Water sources for the river include groundwater and surface run-off, as well as input from sewage treatment facilities. The average flow of the West Branch DuPage River is 40 cubic feet per second (cfs). During periods of normal flow, it is about 60 feet wide and 2 feet deep.

2.1.1 Water Quality

Water quality in the river is impacted due to factors such as elevated phosphorus, nitrogen, and chloride levels. Other water quality stressors include sediment, total dissolved solids, and fecal coliform bacteria (CBBEWL, 2005). Three Rivers Environmental (2006) conducted biological community survey and water quality sampling in the West Branch, adjacent to Blackwell Forest Preserve. This study found most of the parameters were below the Illinois EPA standards, with the exceptions of fecal coliform (*E. coli*) and phosphorus. Although phosphorus standards only apply to lakes and reservoirs, being aware of high phosphorus levels in the watershed can assist in controlling blue-green algal blooms. High levels of *E. coli* may cause gastrointestinal illness, skin rashes, and ear and eye infections from contact with the contaminated water. Elevated levels of *E. coli* may be related to livestock and wildlife excrement, failed on-site wastewater disposal systems, and urban runoff.

2.1.2 Water Sources

Sources of water for research projects conducted at the Urban Stream Research Center would include the West Branch DuPage River, Springbrook 1 Creek (a small tributary of the West Branch that is located adjacent to the project site), and a new groundwater well. The proposed new groundwater well would be drilled to a depth of approximately 250 feet (the upper aquifer) and would have a 6-inch casing. The proposed groundwater well would be located downgradient of the DuPage County Landfill/Blackwell Forest Preserve Superfund site (EPA ID: ILD980606305) (“Mt. Hoy”). Currently, Mt. Hoy is utilized for recreational activities (e.g., hiking, tubing) by the general public.

The DuPage County Landfill/Blackwell Forest Preserve Superfund site is centrally located within Blackwell Forest Preserve. Construction of Mt. Hoy commenced in 1965. Approximately 1.5 million cubic yards of household refuse and light industrial waste were deposited in the landfill between 1965 and 1973, creating Mt. Hoy which is approximately 40 acres and 150 feet above the original ground surface (USEPA, 2003). Several groundwater monitoring wells were installed around the Blackwell Landfill site and monitored quarterly.

Groundwater monitoring at the Blackwell Landfill site has consisted of a total of 21 sampling events during the Remedial Investigation, the Feasibility Study, the Quarterly Groundwater Monitoring Program, and the Long Term Groundwater Monitoring Program (MWH, 2008). Table 1 summarizes the 21 sampling events conducted at the Blackwell Landfill site to date.

Table 1
Groundwater Sampling Events Conducted at Blackwell Landfill Site

Round	Date	Event Number
Remedial Investigation		
First Round	September 1991	-
Second Round	January 1992	-
Feasibility Study		
First Round	June 1995	-
Quarterly Groundwater Monitoring Program		
First Round	November 1997	1
Second Round	July 1998	2
Third Round	October 1998	3
Fourth Round	February 1999	4
Fifth Round	May 1999	5
Sixth Round	August 1999	6
Seventh Round	November 1999	7
Eighth Round	February 2000	8
Long Term Groundwater Monitoring Program		
First Round	March 2001	9
Second Round	December 2001	10
Third Round	September 2002	11
Fourth Round	June 2003	12
Fifth Round	March 2004	13
Sixth Round	March 2005	14
Seventh Round	December 2005	15
Eighth Round	September 2006	16
Ninth Round	March 2007	17
Tenth Round	March 2008	18

Source: MWH Americas, Inc. (2008)

A total of 26 detection, compliance, and piezometer wells are included in the long-term monitoring program. Ten of these wells are located in close proximity to the eastern boundary of the proposed USRC location. MWH Americas, Inc. sampled seven upper aquifer wells and four lower aquifer wells in March 2008 at the DuPage County Landfill/Blackwell Forest Preserve Superfund site located approximately 860 feet northwest of the proposed Urban Stream Research Center location. Samples were analyzed for volatile organic compounds (VOCs) on the Target Compound List (TCL), phenol, and water quality parameters (i.e., chloride, sulfate, and total dissolved solids [TDS]). None of these parameters was detected in the 10 wells near the eastern boundary of the USRC, with exception of TDS, sulfate, and chloride. All detected concentrations of TDS, sulfate, and chloride were below the exceedences standards (MWH, 2008; Appendix A).

Twenty-one sampling events have occurred within the Mt. Hoy site since 1991. Since 1997, a total of 18 rounds of groundwater monitoring have taken place. The purpose of the monitoring program is to ensure that contaminant levels in groundwater do not increase to a level that could jeopardize either human health or the environment; evaluate the effectiveness of the treatment/containment components on the landfill; detect changes in the chemical composition of groundwater at and adjacent to the site; and demonstrate that natural attenuation continues to be an effective remedial strategy for impacted water. MWH Americas, Inc. conducted a review of historic data and observed an overall trend of decreasing concentration and decreasing total number of detections of the contaminants of concern. Samples collected from compliance wells during the March 2008 sampling event did not contain VOCs, which indicates that no contamination is migrating off the landfill/Blackwell Forest Preserve Superfund site in either the upper or lower aquifer (MWH, 2008).

As evidenced by sampling results (MWH, 2008), remedial activities at the Superfund site have been shown to be protective of human health and the environment. Relevant remedial actions include capping of the landfill, a leachate collection system, off-site treatment and disposal of the leachate, monitored natural attenuation of groundwater, and long-term groundwater and leachate monitoring. The Forest Preserve is the owner and operator of the site, and as such, is responsible for the clean-up actions and long-term monitoring (USEPA, 1998).

2.1.3 Wetlands/Waters of the U.S.

Planning Resources Inc. (PRI) (2008) completed a wetland delineation along the portion of the West Branch DuPage River between Riverside Road and Main Street Warrenville, DuPage County, Illinois (Exhibit 7, Appendix C). The wetland delineation study area covered a larger area (a total of approximately 90 acres) than that of the proposed location for the Urban Stream Research Center (totaling approximately 7.5 acres). The delineation study area includes an approximately 1,200-foot section of the Springbrook 1 Creek tributary starting at its confluence with the West Branch DuPage River, and it also encompasses the approximate 7.5 acres for the proposed USRC project.

Eight wetlands, five waters of the U.S., and associated fringe wetlands were identified within the larger wetland delineation study area (PRI, 2008). Only one wetland (referred to as “Wetland 3” in the PRI report) and a portion of Springbrook 1 Creek are within the site boundary for the proposed USRC building location (Figure 5, Plan C1.0, and Plan C4.0). This wetland is an approximately 0.104-acre fringe wetland, which directly abuts the eastern bank of Springbrook 1 Creek and is dominated by reed canary grass (*Phalaris arundinacea*). Because the wetland delineation was conducted outside the growing season, an updated plant inventory was conducted during the growing season by PRI on September 9, 2009 (Appendix C). The wetland qualifies as a Regulatory Wetland under the DuPage County Stormwater ordinance, and as such a 50-foot buffer is required. Any impacts to the wetland and/or buffer must be mitigated. A Wetland Determination letter dated April 16, 2009 from Ms. Jenna Fahey of DuPage County Division of Environmental Concerns (DEC) is included in Appendix D.

2.2 Biological Environment

The proposed location for the USRC building is comprised of a relatively open grassy area with a few trees and shrubs. The area is dominated by Kentucky bluegrass (*Poa pratensis*), common plantain (*Plantago major*), timothy (*Phleum pratense*), poison ivy (*Toxicodendron radicans*), Tartarian honeysuckle (*Lonicera tatarica*), common buckthorn (*Rhamnus cathartica*), white mulberry (*Morus alba*), black cherry (*Prunus serotina*), and green ash (*Fraxinus pennsylvanica subintegerrima*). A complete plant species inventory (2009) conducted by Scott Kobal, Forest Preserve District of DuPage County plant ecologist, of the approximately 42-acre Cenacle property within Blackwell Forest Preserve is included in Appendix B.

Three Rivers Environmental Assessments (2006) conducted limited biologic sampling of a section of the river valley of the West Branch DuPage River (the USRC project site is located within the sampled section of river valley) in 2005. The assessment included sampling for small mammals, reptiles, amphibians, fishes, aquatic macroinvertebrates, benthic organic matter, and crayfishes. Although the climatic conditions during this sampling period were not considered representative of a normal year because of drought, the preliminary results of the assessment appear to be consistent with similar evaluations performed in the past. Based on the preliminary results of the sampling, it appears that the species richness is low. There are no special status species on the proposed project site; the 2005 surveys by Three Rivers Environmental Assessments found no state or federal threatened or endangered species. Dominant animal species are listed in Table 2.

Table 2
Dominant Animals

Common Name	Scientific Name
Mammals <ul style="list-style-type: none"> ▪ Deer mouse ▪ Raccoon 	<i>Peromyscus maniculatus</i> <i>Procyon lotor</i>
Amphibians/Reptiles <ul style="list-style-type: none"> ▪ Common Garter Snake ▪ Western Chorus Frog 	<i>Thamnophis sirtulis</i> <i>Pseudacris triseriata</i>
Fish <ul style="list-style-type: none"> ▪ Carp ▪ Bluntnose Minnow ▪ White Sucker 	<i>Cyprinus carpo</i> <i>Pimephales notatus</i> <i>Catostomus commersoni</i>
Invertebrates <ul style="list-style-type: none"> ▪ Rusty Crayfish ▪ White Tail-splitter 	<i>Orconectes rusticus</i> <i>Larmipna corniplinata</i>

Source: Three Rivers Environmental Assessments, 2006

2.3 Cultural Resources

Midwest Archaeology Research Services, Inc. (MARS) (2009) conducted a Phase I archaeological reconnaissance survey of approximately 7.5 acres of land on June 24, 2009. One small prehistoric site (11-Du-523) and one isolated chert flake (Isolated Find 1) were recorded (Figure 3, Appendix E). A MARS 36 CFR 61 – qualified historian determined the recordings to be ineligible for the National Register of Historic Places and recommended project clearance. A copy of the Phase I survey was submitted to the Illinois Historic Preservation Agency (IHPA) for review and clearance. The IHPA provided a response letter dated October 7, 2009 which included a determination that no significant historic, architectural, and archaeological resources are located in the project area (Appendix D).

2.4 Human Environment

The approximately 7.5 acre site is comprised of vacant land with an open grassy area and a few trees and shrubs. It is in close proximity to the West Branch DuPage River, Springbrook 1 Creek, and Forest Preserve amenities (e.g., trails, archery range, and existing parking). The Urban Stream Research Center would share a sizeable parking lot with the archery range in addition to electrical utilities. The site would be served by municipal water for potable water and an on-site septic system. There are no anticipated hazards to environmental health as a result of the proposed project.

2.5 Socio-Economic

Table 3 summarizes the study area populations for Warrenville, DuPage County, and Illinois in 1990, 2000 and 2007. The City of Warrenville population increased 15.3% from 1990 to 2007, with a slight decline in recent years from 2000 to 2007. DuPage County has experienced a greater growth rate than Warrenville and the State of Illinois since 1990.

Table 3
Study Area Population in 1990, 2000, and 2007

	Illinois	DuPage County	Warrenville
1990	11,430,602	781,666	11,333
2000	12,419,293	904,161	13,363
2007	12,825,809	926,228	13,063
% Change 1990-2007	+ 12.2%	+ 18.5%	+ 15.3%

Source: 1990 and 2000 U.S. Census Data, and 2007 American Community Survey, U.S. Census Bureau

The City of Warrenville has a racial and ethnic composition similar to that of DuPage County (Table 4). The racial makeup of the city is 89.1% white, 2.4% African American, 0.3% Native American, 3.4% Asian, <0.1% Pacific Islander, 3.5% from other races, and 1.3% from two or more races. Hispanic or Latino of any race comprises 10.1% of the population. White residents are the majority of the population in Illinois, DuPage County, and Warrenville. DuPage County

and Warrenville have a smaller percentage of African American residents than the state of Illinois as a whole.

Table 5 summarizes median household income and percent of individuals below the poverty level for the proposed project area. In 1999 the median household income for DuPage County (\$67,887) was 45.7% greater than that of the State of Illinois (\$46,590). The median household income for Warrenville (\$62,430) was 33.9% greater than that of the State of Illinois, but 8.7% less than DuPage County. The percent of individuals below the poverty level in DuPage County (3.6%) and Warrenville (1.6%) were much lower than the state average (10.7%).

DuPage County has a diverse business community, with major employers in the technology, manufacturing, retail, warehousing and logistics, and health care industries. Two national laboratories, Argonne National Laboratory and Fermi National Accelerator Laboratory, are located within DuPage County. Over 130 major corporations have headquarters in DuPage County, including six Fortune 1000 companies.

Table 4
Study Area Racial and Ethnic Composition- 2000

	Illinois		DuPage County		Warrenville	
	Total	%	Total	%	Total	%
Total Population	12,419,293		904,161		13,363	
White	9,125,471	73.5	759,924	84.0	11,910	89.1
Black or African American	1,876,875	15.1	27,600	3.1	319	2.4
American Indian/Alaska Native	31,006	0.2	1,520	0.2	39	0.3
Asian	423,603	3.4	71,252	7.9	459	3.4
Native Hawaiian/ Pacific Islander	4,610	<0.1	217	<0.1	5	<0.1
Some other race (alone)	722,712	5.8	28,166	3.1	463	3.5
Two or more races	235,016	1.9	15,482	1.7	168	1.3

Source: 2000 U.S. Census Data. U.S. Census Bureau

Table 5
Economic Indicators - Census 2000

	Illinois	DuPage County	Warrenville
Median Household Income-1999 (dollars)	46,590	67,887	62,430
Percent of Individuals Below Poverty Level in 1999	10.7	3.6	1.6

Source: 2000 U.S. Census Data

3. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

The proposed alternatives for the Urban Stream Research Center were evaluated as part of the process of developing the West DuPage River Watershed Plan. All watershed plan alternatives for ecological improvement of the river were evaluated based on multiple criteria, including:

- Conformance to the Countywide Stormwater Management Plan
- Conformance to the Countywide Stormwater and Flood Plain Ordinance
- Water quality enhancements as a result of individual projects
- Environmental impacts associated with the proposed projects

3.1 No-Action Alternative

The no action or “do nothing” alternative is where the present conditions are not changed. Thus, under this alternative, DuPage County would not undertake any activities to construct the Urban Stream Research Center. The no action alternative does nothing to augment the population densities and increase the diversity of freshwater mussel and non-game fish species that are limited or extirpated in the West Branch DuPage River. It would not evaluate the success and impacts of ongoing habitat restoration and remediation projects along the river. It would not improve the success of urban aquatic restoration and enhancement. It would not provide educational opportunities for the public and other groups (e.g., conservation groups, researchers, other governmental agencies). Therefore, the no action alternative is not preferred for this project.

3.2 Preferred Alternative (Proposed Project) – Urban Stream Research Center (New Constructed Facility)

After careful consideration of this project’s objectives and need (Section 1) and anticipated environmental consequences (Section 4), the National Oceanic and Atmospheric Administration (NOAA) and DuPage County Stormwater Management Division selected the construction of the Urban Stream Research Center (New Constructed Facility) located within the publicly owned Roy C. Blackwell Forest Preserve, unincorporated Warrenville, DuPage County, Illinois as the preferred alternative. This alternative consists of construction of a new research center located on approximately 7.5 acres within the southern portion of the Roy C. Blackwell Forest Preserve, northeast of Springbrook 1 Creek and approximately 100 yards upstream of the West Branch DuPage River (Figure 1).

This location was chosen because of its close proximity to the West Branch DuPage River, Springbrook 1 Creek, and existing Forest Preserve amenities. This location will allow for easy access to the facility by staff, researchers, and the public. There are few geographically suitable areas for the facility that are located near aquatic environments, meet infrastructure and water needs of the facility, and are located on publicly owned properties in the county.

The Urban Stream Research Center would have a single story masonry research facility with a small asphalt associated parking lot. Proposed best management practices (BMPs) include rain gardens, bioswales, and a wet detention basin (Figure 2). Native vegetation would be seeded, and native prairie restoration surrounding the facility is also proposed. The utilization of rain barrels are also proposed as part of the BMP treatment train. The approximate area of the facility would be 6,000 square feet, which would include a vestibule, lobby, men and women's restrooms, office/multi-purpose room, an aquatic laboratory, assembly/storage room, mechanical room, and storage (Figures 3 and 4).

There are no such facilities in Illinois, and this would be an excellent opportunity for DuPage County to:

- Provide specific simulated environmental conditions for living aquatic organisms by creating the capabilities to monitor and regulate water quality parameters and chemistries, flow rate, temperature, and light exposure controls to create specific environmental conditions in the aquaria.
- Provide accommodations for research, data collection, observations and analysis of the physical and biological parameters concerning aquatic organisms, their life cycles, and specific physical and biological microhabitat parameters within a wet laboratory.
- Provide for the captive rearing and acclimation of aquatic organisms through the utilization of aquaria, isolation tanks, isolated outdoor diversion channels, and in-stream isolation zones in field restored microhabitats.
- Allow for the Forest Preserve District of DuPage County to meet its objectives for urban aquatic habitat restoration and enhancement (see Executive Summary).
- Allow for the West DuPage River Watershed Plan goals to be achieved (see Section 1).

3.3 Alternatives Considered, but not Analyzed in Detail

Urban Stream Research Center – Modification of Cenacle Building: This option would entail utilizing the existing building, which would require costly rehabilitations. The reuse of the Cenacle Building would present challenges such as fire suppression, asbestos abatement, and achieving safety and building code requirements. This alternative would exceed the amount of the NOAA grant, and therefore is not a preferred alternative.

Urban Stream Research Center – New Constructed Facility located in DuPage County: This option would require constructing a new research center located on a geographically suitable area located on a publicly owned property in DuPage County which is located near an aquatic environment and meets the infrastructure and water needs of the facility. Several locations were considered; however no other location was as cost effective and provided the same benefits as the preferred alternative.

4. ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

The proposed project would result in the construction of the Urban Stream Research Center (USRC), leading to enhanced habitat for native animals, improved populations of native mussels and non-game fish, and increased educational opportunities. Any potential impacts at the proposed USRC would be short-term and due to construction activities. No violations of environmental protection laws at the state, federal, or local level are anticipated. The project manager would ensure that all applicable permits are obtained prior to project implementation, and that all permit requirements, as well as applicable environmental laws and regulations, are followed.

The majority of the structures on the Cenacle property would be demolished and all parking areas would be removed and restored to green space (Plan C4.0). The Forest Preserve District of DuPage County would coordinate demolition. A detached garage that could be utilized for additional storage may be left in place. The existing asphalt driveway would be narrowed and converted into a new recreational trail. The Batavia Road driveway would be removed and the new recreational trail would intersect with Batavia Road at the Rockwell Street intersection. USRC access would be via Blackwell Forest Preserve off Butterfield Road, including 24-hour access to the facility as needed for scientific research. The existing bridges over the West Branch and Springbrook 1 Creek would be left in place for trail users. Any other structures associated with prior uses of the Cenacle property would not be refurbished or reused due to the limitations of the NOAA grant.

4.1 Physical Environment

Minimal impacts are expected to the physical environment. Approximately 2.6 acres would be disturbed at the proposed location of the USRC facility. The proposed grading work would take place on existing higher ground and would not impact wetland, floodplain, or riparian areas. There would be no impact to the existing on-site wetland. Any disturbed wetland buffer would be re-vegetated with native vegetation. The remainder of the riparian and wetland buffer areas would be preserved without impact.

Selective tree and shrub clearing would need to take place where the proposed USRC would be located (Figure C1.0). The majority of the existing trees and shrubs are black cherry (*Prunus serotina*), silver maple (*Acer saccharinum*), European buckthorn (*Rhamnus cathartica*), and box elder (*Acer negundo*). Black cherry, silver maple, and box elder are native species; however, they have very low coefficient of conservatism values (1, 0, and 0, respectively). This indicates that these species demonstrate little fidelity to any remnant natural community. Further, none of these are desirable because they are considered to be fast growing weedy species that have the ability to shade out more desirable species. European buckthorn is a highly aggressive, non-native, invasive species which will grow in full sun or shady conditions, and it will aggressively spread forming dense thickets. Buckthorn commonly out-competes native species for nutrients, light, and moisture. Numerous existing trees will remain around the periphery of the site and native prairie restoration is proposed surrounding the USRC facility.

Green spaces (depicted in Plan C4.0), created by the demolition of structures on the Cenacle property and removal of existing parking areas, would increase wildlife habitats and, in turn, increase passive and active recreational utilization and educational opportunities. The implementation of water quality best management practices (BMPs) would reduce and filter stormwater. Thus, impacts to water quality would be minimized by the use of the proposed BMPs.

All areas utilizing water quality BMPs (e.g., rain gardens, bioswales, wet detention basin), in addition to the disturbed areas surrounding the BMPs, would be seeded with native vegetation. Native plants require less maintenance because they rarely need to be watered, and they do not require fertilizer because they are accustomed to the drastic climatic variability in this area. In addition, native prairie species have more extensive root systems that more deeply penetrate the soil. As a result, water infiltration is increased, runoff is decreased, and water quality is improved.

The mussels to be propagated at the USRC would provide a variety of ecosystem services that are critical to the health of aquatic systems. Healthy mussel communities help stabilize stream bottoms due to their burrowing nature. Their shells provide stable habitat for macroinvertebrates, as well as spawning habitat for fish. Mussels remove bacteria and excess nutrients from the water and recycle those nutrients to make food available for other aquatic species. Mussels also filter water, which results in a cleaner waterway.

4.1.1 Water Quality

The USRC is part of an overall restoration project along the DuPage River (CBBEWL, 2005). Restoration activities are anticipated to markedly improve aquatic habitat conditions. The proposed project is anticipated to lead to improved water quality as discussed above in Section 4.1.

4.1.2 Water Sources

Three sources of water for the USRC would include the West Branch DuPage River, Springbrook 1 Tributary, and a new groundwater well. Water from these sources would be used for the aquariums and laboratory purposes, whereas municipal supplied water would be used for potable water needs.

The USRC design intends to access Springbrook 1 Creek water by basin sump, pump, and tank storage system. Water from the West Branch would either be hauled in by a tanker or pumped in by a portable pump, and water from the new groundwater well would be pumped. Water would be discharged through a circulation system. There are no anticipated effects of the use and discharge of this water.

Within urbanized stream environments, water sources and quality parameters are strongly influenced by stormwater and treated sewage effluent discharges within the sub-watershed drainages. Specific knowledge of sewage treatment technologies and resultant

water chemistries of effluent discharge are of major interest concerning the suitability and tolerance of aquatic species being introduced. The Wheaton Sanitary District (WSD) is located approximately 3.5 miles upstream of the proposed site and has an excellent performance history regarding achieving or exceeding state compliance standards for sewage treatment and effluent discharge (Wheaton Sanitary District). WSD is committed to excellence, a strong monitoring program and ecological stewardship. Thus, the use of downstream water treated by the WSD will not negatively impact humans or animals exposed to the water used at the USRC.

The proposed groundwater well would be located down-gradient of the DuPage County Landfill/Blackwell Forest Preserve Superfund site in the upper aquifer. MWH (2008) concluded that this aquifer is not contaminated. Thus, the use of water from this well for laboratory needs would not pose a risk to the human and ecological environment.

4.1.3 Wetlands/Waters of the U.S.

One regulatory wetland (totaling approximately 0.104 acres) and a portion of Springbrook 1 Creek are within the limits of the proposed USRC building location (PRI, 2008). While there are no anticipated impacts to the wetland and/or Springbrook 1 Creek, it is anticipated that the wetland buffer will be impacted due to underground utility work (Figure 5 and Plan C4.0). A bore and jack 185 feet long will be necessary for a 12-inch steel casting pipe for the 6-inch watermain. A bore and jack 160 feet long will be necessary for an 8-inch steel casting pipe for a 3-inch gas main. The buffer impact will be mitigated, and re-vegetated with native vegetation. Construction should not occur under wet conditions. Native seeding and re-vegetation should occur between April 15th and May 31st or November 1st until snow cover not exceeding 2 inches or ice coverage. If seeding occurs after May 31st or during the dryer portions of May, supplemental watering will be required.

4.2 Biological Environment

Consultations with Illinois Department of Natural Resources (IDNR), U.S. Fish and Wildlife Service (USFWS), and the Forest Preserve District of DuPage County (FPDDC) were conducted, and no impacts are anticipated to federal or state threatened or endangered species (Appendix D).

Wills Burke Kelsey Associates, Ltd. (WBK), formerly Christopher B. Burke West, Ltd., requested consultation and sign-off from IDNR for the presence of any State-listed Threatened or Endangered Species, Illinois Natural Area Inventory (INAI) sites, dedicated Illinois Nature Preserves, and/or registered Land and Water Reserves that may be impacted from the proposed project. The IDNR uses a web-based program, Ecological Compliance Assessment Tool (EcoCAT) that allows the consulting firm to input project information/boundaries and receive a preliminary report about the potential State-Listed Threatened or Endangered Species, Illinois Natural Area Inventory (INAI) sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves located in or near the project area. The EcoCAT response from March 25, 2008 states that the

Black-Crowned Night Heron (*Nycticorax nycticorax*), Henslow's Sparrow (*Ammodramus henslowii*), Heart-leaved Plantain (*Plantago cordata*), and Kirtland's Snake (*Clonophis kirtlandi*) may be in the vicinity of the project. The IDNR responded to the request terminating the consultation on March 27, 2008, indicating that the proposed project will have no adverse effects on the resources in the vicinity.

Planning Resources Inc. (PRI) requested consultation and sign-off from the USFWS for the presence of any Federally-Listed Endangered or Threatened Species under Section 7 of the Amended Endangered Species Act of 1973 that may be impacted from this project. A response from the USFWS was received on December 9, 2008 indicating the proposed project will not likely adversely affect any federally listed threatened or endangered species.

The Forest Preserve District of DuPage County completed an Internal Action Report for the presence of Endangered and Threatened Species Review on March 13, 2008. The results indicated the presence of Black Crowned Night Heron (*Nycticorax nycticorax*) near the project area. The FPDDC indicated that this species is unlikely to be disturbed as a result of the proposed project because sufficient habitat is available throughout the West Branch DuPage River corridor and specific habitat enhancement for threatened and endangered species are being created near the project area.

Three Rivers Environmental Assessments (2006) conducted biologic sampling along a section of the river valley of the West Branch DuPage River (which includes the approximately 7.5-acre project area) in 2005. This study indicated that the area does not contain a diverse species population or number of animals (i.e., the species richness is low). Any animals within the project area will be temporarily disturbed during construction, but there is ample room for migration to adjacent areas in the preserve.

4.3 Cultural Resources

Although one small prehistoric site and one isolated find were identified during the Phase I archaeological reconnaissance survey (MARS, 2009) within the proposed Urban Stream Research Center footprint, neither finding is eligible for the National Register of Historic Places. A October 7, 2009 letter from the Illinois Historic Preservation Agency (IHPA) documents the IHPA's finding that no significant historic, architectural, and archaeological resources are located in the project area (Appendix D). Thus, there are no anticipated impacts to cultural resources as a result of the USRC project.

4.4 Human Environment

Groundwater from the upper aquifer beneath the proposed site would be used for laboratory needs. Based on available data (Appendix A), there are no health issues associated with this use. According to MWH (2008), sampling results from compliance wells during the 2008 monitoring event confirm that no contamination is migrating off site from the Blackwell Landfill site in either the upper or lower aquifer. Thus, treatment/containment components of the landfill are effective at preventing the release

of contaminants to groundwater. The monitoring results (MWH, 2008) also indicate that natural attenuation has been effective in reducing contaminant concentrations in groundwater. Laboratory results were consistent with past monitoring results, and continue to show a trend of decreasing number of VOC analytes and decreasing VOC concentrations.

There would be some impacts to air quality and noise during the project construction. The construction area would be closed to the public during project construction to avoid public health and safety hazards.

There would not be any impacts to Forest Preserve recreational and educational activities on the project site during the construction process, as the property was recently acquired by the Forest Preserve and has not been utilized for such activities. The existing Forest Preserve amenities associated with Blackwell Forest Preserve adjacent to the proposed site would not be affected and would be open in accordance to their normal operations guidelines, and schedules.

Once the building is completed, the public, school classes, and other groups would have the opportunity to participate in educational programs at the USRC. The USRC would provide an opportunity for interdisciplinary research, accommodate instructional coursework for in-stream and watershed education programs, and provide a unique opportunity for the public to learn about urban stream systems. Benefits would be foreseen for all residents of DuPage County and individuals who visit Blackwell Forest Preserve.

One of the goals of the USRC is to provide a field station where universities and colleges would have a laboratory to conduct research on the urban stream restoration management and research challenges associated with the Clean Water Act. The USRC facilities would enable staff and researchers to move between stream and aquatic lab environments for research and observation while minimizing transfer of living organisms and facilitating minimal stress and biological disruptions to organisms during transfers between environments. Such transitions and research capabilities are essential to the adaptive management process in restoration ecology.

The newly constructed USRC would enhance existing park amenities in the following ways:

- Utilities brought to center would complement the archery range;
- Educational opportunities would be facilitated through shared parking and integration of facility exterior amenities;
- Connection to municipal water would provide water to the center, archery range and picnic area, and
- Existing parking facilities at the archery range in addition to new parking facilities would accommodate large groups using the research center.

4.5 Socio-Economic

Residents in the vicinity of the project area would not experience any negative long-term impacts as a result of the activities associated with the proposed project. Due to the localized nature of the project within Blackwell Forest Preserve, there would be no activities that influence the long-term social structure or character of the immediate community. Short-term impacts to the adjacent community are primarily associated with minor noise during the construction phase of the proposed project.

There are no minority groups within the project area, and no discrimination against Title VI groups would occur as a result of the proposed project. The proposed improvements would not exert high or disproportionate adverse impacts upon low-income populations. The project would comply with all the requirements stated in the “Americans with Disabilities Act (ADA) Accessibility Guidelines.”

Area employers would not experience any negative long-term or short-term impacts as a result of activities associated with the USRC.

4.6 Cumulative Impacts

The actions of the preferred alternative (Section 3.2) would have no substantial impacts on adjacent lands or natural resources. When considered with other unrelated activities that are planned within the area or within the same timeframe, the preferred alternative is not anticipated to have adverse cumulative effects. Direct and indirect negative impacts of this alternative would be short-term and would only occur during the construction period. Impacts would occur from constructing the new Urban Stream Research Facility building and associated parking lot and utilities. The construction would result in temporary air, noise, and visual impacts due to increased volume of vehicles at the proposed site, on local roads, in addition to temporary loss or disturbance of vegetation.

Construction activities would take place on existing higher ground and would not impact wetland, floodplain, or riparian areas. Temporary impacts to the wetland buffer are anticipated due to underground utility work. In addition, selective tree and shrub clearing would occur; however, the majority of the species currently located on the site are undesirable, weedy, and/or invasive species. The impacted/disturbed areas will be re-vegetated with native species. Therefore, the overall plant community will be improved.

The project area will be contained from contact with the West Branch DuPage River and Springbrook Tributary #1 via a double row of silt fence along the floodplain boundary. A stormwater pollution plan, silt and tree protection fencing, erosion control blanket and sediment logs would be implemented to control and restrict the release of sediment and reduce soil erosion.

The USRC is part of an overall restoration project along the DuPage River (CBBEWL, 2005); this project would support the biological enhancement component. Over the long-term, the research center would facilitate habitat restoration projects in DuPage County,

species re-introduction in restored stream environments, and advance stream ecological research, outreach, and education. Restoration activities are anticipated to markedly improve aquatic and wildlife habitat conditions, lead to improved water quality, and enhance the area's natural resources.

Once the building is completed, aquatic species recovery activities can take place in order to propagate freshwater mussel species and augment the population densities and increase the diversity of native freshwater mussel species and non-game fish species; evaluate the success and impacts of ongoing stream and habitat restoration and remediation in the DuPage River watershed area; improve the success of urban aquatic habitat restoration and enhancement. In addition, the public, school classes, and other groups would have the opportunity to participate in educational programs at the USRC. The USRC would provide an opportunity for interdisciplinary research, accommodate instructional coursework for in-stream and watershed education programs, and provide a unique opportunity for the public to learn about urban stream systems. Benefits would be foreseen for all residents of DuPage County and individuals who visit Blackwell Forest Preserve.

Adverse impacts are not anticipated as a result of the preferred alternative, rather the proposed project will complement and enhance current and/or future projects within the DuPage River watershed. The proposed project is part of a larger environmental restoration and clean up effort along the West Branch to improve water quality, stream habitat, wildlife, and recreational activities.

Restoration/Clean up Efforts Along the West Branch DuPage River:

Portions of the West Branch DuPage River were contaminated by radioactive waste that originated from the West Chicago Rare Earths Facility. This facility operated between 1932 and 1973 and produced both non-radioactive elements and radioactive elements such as thorium, radium, and uranium. Kerr-McGee bought the facility in 1967 and operated it until it closed in 1973. Surface run-off and facility discharges entered into Kress Creek and the West Branch via a storm sewer, which resulted in contamination. The United States Environmental Protection Agency (USEPA) mandated the radioactive waste clean up of portions of Kress Creek and the West Branch DuPage River in DuPage County, which shall require a basic level of restoration. Tronox, formerly Kerr-McGee, has successfully removed contaminations within the upstream reaches of the West Branch and has restored stream sections within these reaches. Continued clean up and remediation along the West Branch is planned, however a completion date is not known at this date due to financial restrictions. The County has obtained grant funds through the National Oceanic and Atmospheric Administration (NOAA) to further enhance the ecological restoration of Kress Creek and the West Branch DuPage River once clean up activities have been completed.

Water Quality Projects along the West Branch DuPage River:

Currently there are two dam removal/modification projects along the West Branch DuPage River, which include the Warrenville Grove Dam and the McDowell Grove Dam. Dams have negative impacts on the health of river and stream systems. Dams

impact the effect of physical (e.g., velocity of water flow, temperature), chemical (e.g., amount of dissolved oxygen in the water), and biological (e.g., aquatic organisms) components of the river systems. It was found that these dams severely impacted water quality and limited fish passage and recreational activities. The purpose of the dam removal/modification projects would be to improve the ecological health of an impounded segment of the West Branch. These projects would restore the natural ecological functions and processes of a free-flowing river segment, decrease barriers to fish migration and mussel dispersion, improve the aquatic habitat, and improve sediment transport within the river system. These sections of the river channel would be restored with native vegetation, enhancing wildlife habitat and the plant community. Both dam removal projects are identified as a priority within the DuPage County West Branch DuPage River watershed, and key components in improving the water resources of the West Branch.

5. COORDINATION AND CONSULTATION

DuPage County Stormwater Management Division has consulted with all appropriate local, county, state, and federal agencies and officials to obtain required clearances for proceeding with the proposed project, including:

- U.S. Fish and Wildlife Service, Chicago Ecological Services Field Office: Endangered Species Act, Section 7 consultation
- Illinois Department of Natural Resources, Office of Realty and Environmental Planning: State threatened and endangered species consultation
- Forest Preserve District of DuPage County: State threatened and endangered species consultation
- Illinois Historic Preservation Agency: Historic Preservation Act of 1966, Section 106 consultation
- DuPage County Department of Economic Development and Planning: DuPage County Wetland verification in accordance to the DuPage County Stormwater Ordinance

Letters from the U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, and the Forest Preserve District of DuPage County indicating that the proposed project is expected to result in negligible impact to federal and state threatened and endangered species are included in Appendix D. A letter from DuPage County Department of Development and Economic Concerns regarding wetlands and associated buffers and a letter from the Illinois Historic Preservation Agency regarding cultural resources are also included in Appendix D.

No problems are anticipated with procuring permits for the proposed project. The project manager would ensure that project implementation and monitoring are in compliance with all applicable laws, regulations, and permit conditions. Project construction activities would not commence until the grantee had obtained all required permits.

6. LIST OF AGENCIES, ORGANZATIONS, AND PERSONS CONSULTED

Below is a list of the agencies, organizations, and persons consulted by the DuPage County Stormwater Management Division, Forest Preserve District of DuPage County, and Wills Burke Kelsey Associates, Ltd. (formerly Christopher B. Burke Engineering West, Ltd.) in developing the proposed project.

- Kansas Dept. of Wildlife and Parks: Byron Simmons
- Missouri State University: Dr. Chris Barnhart, Professor of Biology
- Loyola University, Center for Urban Environmental Research and Policy,
Chicago, Illinois: Dr. Nancy Tuchman, Dr. Chris Peterson, and Dr. John Kelly
- Wheaton College, Wheaton, Illinois: Dr. Fred Van Dyke, Director of
Environmental Studies
- DuPage County Stormwater Management Board
- Illinois Natural History Survey, Champaign, Illinois: Jeremy Tiemann
- Illinois Department of Natural Resources (IDNR), Division of Ecosystems and
Environment: Rick Pietruska
- Illinois Department of Natural Resources: Robert Rung and Steve Pescitelli
- Illinois Historic Preservation Agency: Ann Haaker, Deputy State Historic
Preservation Officer
- Midwest Archaeological Research Services, Inc. – Consultant to DuPage County
Stormwater Management Division
- Virginia Aquatic Wildlife Conservation Center, Buller Station Hatchery, Virginia:
Nathan Eckert
- Virginia Tech, Unit Leader at Wildlife (Mussels) Research Unit: Dr. Neves,
Professor of Fisheries and Wildlife Science
- Northwestern University, Chicago, Illinois: Dr. Kimberly Grey
- Shedd Aquarium, Chicago, Illinois: Rodger Kloccek , Senior Conservation
Biologist; George Parsons, Director of Fishes; Allen LaPointe, Director of
Water Quality; Bob Wengel, Life support Systems
- Wisconsin Department of Natural Resources, Fisheries/Mussel propagation: Tony
Brady
- University of Illinois, Center for Water as a Complex System: Dr. Bruce Rhoads,
Department Head and Dr. Edward Herricks, Department of Civil and
Environmental Engineering
- U.S. Department of Commerce, National Oceanic and Atmospheric
Administration: Sarah Morison, Rebecca Arenson, and Paula Bizot (Office of
Response and Restoration); Marguerite Matera and Gwendolyn McCarthy
(General Council for Natural Resources)
- U.S. Fish and Wildlife Service, Chicago Ecological Services Field Office: John
Rogner, Field Offices Supervisor
- U.S. Fish & Wildlife Service, Genoa National Fish Hatchery, Genoa, Wisconsin
- Jake Wolf Memorial Fish Hatchery, Topeka, Illinois

7. LIST OF PREPARERS

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8. REFERENCES

- Christopher B. Burke Engineering West, Ltd. 2005. *Draft West Branch DuPage River Watershed Plan. Prepared for DuPage County Division of Stormwater Management, DuPage County, IL.*
- Forest Preserve District DuPage County. 2009. Plant Inventory by S. Kobal, Cenacle Grounds in Blackwell Forest Preserve.
- Midwest Archaeological research Services, Inc. 2009. *A Phase I Archaeological Reconnaissance Survey of 7.5± Acres of Land in the Blackwell County Forest Preserve, DuPage County, Illinois.* Cultural Resource Management Report No. 1602.
- MWH Americas, Inc. 2008. *Long-term Monitoring Report, Tenth Round (March 2008), Blackwell Forest Preserve Landfill Site, DuPage County, Illinois.* File No. 4050581.
- Planning Resources Inc. 2009. *Wetland Report, Urban Stream Research Center, Warrenville, Illinois.* Project Number P208051-00.
- State of Illinois. 2006. Climate of Illinois. Retrieved from, <http://www.sws.uiuc.edu/atmos/statecli/General/Illinois-climate-narrative.pdf>. 4p.
- Three Rivers Environmental Assessments (prepared by Donovan B. Henry, Brooks M. Burr, and Lennie J. Pitcher), LLC. 2006. *Biological Inventory of West Branch DuPage River, DuPage County, Illinois.*
- United States Census Bureau. 2000. Retrieved from, <http://www.census.gov/>.
- United States Environmental Protection Agency, Region 5 Superfund. 1998. *IDL980606305, OUI, Warrenville, Illinois. Record of Decision: DuPage County Landfill/Blackwell Forest Preserve.* Retrieved from, <http://cfpub.epa.gov/supercpad/cursites/csitinfo.cfm?id=0500606>
- United States Environmental Protection Agency, Region 5 Superfund. 2003. *First Five-Year Review Report for DuPage County Landfill/Blackwell Forest Preserve Site.*
- Web Soil Survey. Retrieved from, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- DuPage County, Illinois, Stormwater Management Division. 2006. Information on West Branch DuPage River Watershed Plan. Retrieved from, http://www.dupageco.org/dec/generic.cfm?doc_ID=2316&CFID=2631568&CFTOKEN=52424910.

Wheaton Sanitary District. Retrieved from, <http://www.wsd.dst.il.us/>.