CONSERVATION PLAN

APPLICANT: DARREN SMITH
PROJECT NAME: KISHWAUKEE RIVER
PROJECT NUMBER: 1710832 (SW17-0044)
COUNTY: McHENRY

The purpose of the dredging project is to remove sediment in creek. By removing sediment, it will allow existing field tiles to function, making farmland more productive.

This project will occur in the State of Illinois, McHenry County, Southeast part of Door Township Section 22 and 26 T.44 N. – R. 7 E.

Area of aquatic habitat effected ≤ 1.78 acres. That is 5280 linear feet x 14.6 feet wide = 77088 square feet or 1.78 acres. Area of riparian habitat is 0 as creek banks have been maintained. Note: the average width of the creek was determined by local surveys. You will find this in the fish survey from MCCD done in August of 2013 (see fish survey).

We are applying for General Permit #1 from McHenry County Stormwater Management. This ordinance allows for up to .05 miles of dredging to occur in unincorporated McHenry County. (North end of project – see dredging maps). It also allows for .05 miles of dredging to occur in incorporated McHenry County City of Crystal Lake (South end of project – see dredging maps).

It is suspected by Army Corp of Engineers that the Blanding's Turtle (threatened in Illinois) and the Iowa Darter fish (endangered in Illinois) could be in proposed dredging site.

1A. We have legal authority to dredge the creek. Control letters for adjacent property owners have been received, signed and are on file (See Exhibit A attached called Control Letters)

	Pin Number	Owner
1A.	13-22-476-006	Ying Ying Lin
	13-26-100-006	Ying Ying Lin
	13-26-100-007	Ronald and Bonnie Nunes
	13-26-100-002	Edwin and Colleen Voss
	13-22-476-004	Nicholas and Heather Skelton
	13-22-451-004	Lyle Haag
	13-26-300-017	Wilmette Laurel LLC
	13-26-300-018	Wilmette Laurel LLC
	13-26-100-004	Wilmette Laurel LLC

1B. Biological data for the Blanding's Turtle and Iowa Darter fish can be found in Exhibit B attached.

1C. We have applied for a General Permit #1 from McHenry County Stormwater.

Proposed Dredging Plan:
Equipment will be staged along creek bank. Nothing will be placed in the water except the dredging bucket. Access points are on map (see dredging maps). From Lucas Road, the access point is from the field entrance west of river.

The river will be dredged from point A to point B. (1450 feet). The spoils will be spread on west side of river. The river will be dredged to bridge from west side of river. Machines will cross at existing bridge and river will be dredged from point C to point D on east side of river (1190 feet). This concludes City of Crystal Lake incorporated area dredge.

The river will be dredged from point E to F on east side of river (1520 feet). The river will be dredged from point G to H on east side of river. Spoils to spread on east side of river (300 feet). The machines will be loaded and hauled to Doty Road to access point #2. River will be dredged from point I to J. Spoils will be spread on northeast side of creek (440 feet). Machines will cross Doty Road by way of access point #3. River will be dredged from point K to L. Spoils will be spread North east of river (380 feet). This concludes McHenry County area dredge.

There will be no machines, other than the bucket of the trac hoe, in the water at any time.

Mechanical dredging of the river channel will be the method for removing the spoils from river bottom. The spoils will be spread ≤ 2" across designated areas prescribed by FSA, NRCS, Planning and Development, Storm Water Management, City of Crystal Lake, Army Corp of Engineers' site plan. The spoils will be spread on adjacent fields (see dredging maps).

The equipment used to dredge will be a trac hoe with an extended arm with a 54" bucket to dredge the river.

The spoils will be loaded into scraper pans pulled by John Deere 4-wheel drive tractors. Tractor will haul spoils to designated area where it will be spread, allowed to dry, then chisel plowed into farm land.

Dredging will be done after September 30, 2017 as per Army Corp of Engineers' suggestion. This will limit any possible take and therefore lower the impact on the species. Dredging will stop in March or April when temperatures warm.

1D. The plan will minimize adverse effects on the listed species. Winter dredging will help minimize any Incidental Takes. The turtles will be hibernating in wetlands and the fish will be upstream. We expect less impact on the life cycles of these species because of the time of the year we are doing the project. Potential impacts and population reductions should be at a minimum.

Uncertainty comes and goes with the weather. A warm fall/winter can change the life cycle of turtles and fish. Warm weather changes all habits. If this should occur, we will wait until it gets cold. Perhaps January or February to insure the wild life is resting. Take numbers should plummet with the temperature. We do not know how many Blanding's turtles will be taken but I suppose a number of less than1 or more than 2 could happen.

The Iowa Darter is known to be upstream 2.2 miles and downstream 1.8 miles of the proposed project area. We are basing this on fish surveys taken in 2009. No

Iowa Darters were found at that time. We do not know how many Iowa Darters will be taken. A number of less than 2 or more than 4 could happen.

2. We do not know how many Blanding's turtles will be taken but I suppose a number of less than 1 or more than 2 could happen. We do not know how many Iowa Darters will be taken. A number of less than 2 or more than 4 could happen.

The funding will be done completely by me, Darren Smith. I farm all the land on either side of the creek and have since 1975.

2A. There will be no amount of habitat taken. It will be improved. The river will not be drained. The sediment will be lowered. There will still be the same amount of water in the bottom of it. There is approximately 3.7 miles of river that starts at the City of Woodstock. There are adjacent farms that have converted back to wetlands. NRCS will no longer allow any improvements. Also, the channel that goes east towards Route 14 will not be dredged, leaving another 40 acres of wetlands. Also, we are only doing parts of our channel. One mile to be exact, leaving 2000 plus feet untouched (See dredging maps).

The General Permit #1 allows for one mile of dredging. We are purposely avoiding areas because of wetland area between B and C. Between F and G is a natural gas pipeline. No dredging 60 feet of either side of pipeline. Between H and I enough fall exists that dredging is not needed. This works out in favor of the turtle and the darter. These are suggested areas to dredge but we do not have to. If we run into a hot area where turtles and fish are found, we will avoid the area and move further upstream. This is part of our built in flexibility as of the conservation program. Overall length of the creek from A to L is ≤ 7280 feet. We are dredging ≤ 5280 feet of river. The total amount of aquatic habitat for both species affected is ≤ 1.78 acres.

2B. The intent of project is to allow field tiles to function better. The creek will not be drained but rather lowered.

The filter strips are a part of the Mitigation plan for the Blanding's Turtle and Iowa Darter fish. Pollutants from farm fields such as Nitrogen, Potash and Phosphorous have adverse effects on the Blanding's Turtle and Iowa Darter fish.

(See habitat section in Exhibit B). Filter strips will help to mitigate this effect by stopping pollutants from entering water streams.

Management plans will change for this length of the Kishwaukee. Any area that is dredged will have filter strips planted on each side of the creek. The minimum width will be 30 feet from creek bank. The goal of the Conservation Plan is to leave this area better than what it was. By planting filter strips and seeding in pollinators, the goal is to provide an area for the turtles to multiply and establish an area for song birds, monarch butterflies and other wild life to prosper. We will plant a pollinator mix. Not limited to but including native grasses. Grasses include Canadian wild rye, little blue stem and sedges. Flowering forbs will be in the mix. Early, mid and late flowers. Sedge oats grama and common milkweed. These will be planted in late summer/early fall (August 1-October 1 of 2018). The seeds will be seeded at NRCS standards for filter strips. The work will be done by Darren Smith.

There are approximately 7.5 acres to seed at a cost of $650.00 per acre, or a total seed cost of $4875.00. An additional cost of preparing the ground and seeding will be an additional $200.00 per acre or $1500.00. Total cost to install filter strips will approach $6375.00. The farmer Darren Smith will pay for the seeds and plant them. It is extremely important that these seeds get planted and that the filter strips are created. Sediment plumes from field runoff and further sedimentation will slow by creating these strips. This will be a huge step in mitigation by creating a favorable environment for not only the Blanding's turtle but also all other habitat. We will not impact any wetlands as that is not in the plan to drain any. Rather our plan is to improve the farmed wetlands and to allow existing tile to do its job. The large red lines indicate the 30' wide filter strips (See attached Filter Strip Map).

2C. There will be sections of the river not dredged in this project. By avoiding these areas, we will minimize effects to the Blanding's turtle and Iowa Darter by dredging in winter months. We will not destroy any wetlands by dredging. All land is currently being farmed and will have no effects on nearby wetlands.

2D. McHenry County Conservation District has been contacted and will be doing the post monitoring of the project. Ed Collins can be reached at 815-678-

4532 ext. 8155 or Ecollins@mccddistrict.org. A survey is planned two years after dredging is complete which will be in 2020.

2E. Adaptive Management. If water is high in the river, we will wait for the land to drain and the level of water in the creek to fall. We have from November 1 to March 1 to do project area. If weather conditions are not favorable, we will wait. If we are halfway through the dredge and conditions deteriorate, we will stop and wait for them to improve. If turtles are found in an area, we will stop and skip that area. Sediment plumes are caused by high water and high flow. We can lessen that impact by waiting for conditions to improve, i.e. lower water/less flow.

2F. Darren Smith will fund minimization and mitigation. MBT Bank/Tom Heepke phone number #507-226-8460.

3. It is important for this dredge to take place. The river was last dredged in the early 80's. 37 years have passed. The river is silting in. The tiles no longer flow water as they are submerged. We are not trying to drain wetlands but trying to improve our farmed wetlands.

If the dredge is not allowed to happen, hundreds of acres will revert back to wetlands. The value of the land will decrease. Production from the land will continue to fall. It is our intent to work with Nature, giving the area more space through filter strips. Better management techniques will be implemented. This will allow us, the farmer, to do what we are good at; produce crops while giving Nature more space to prosper.

4. Blanding's turtle and Iowa Darter are found in many parts of the state. The Blanding's turtle is throughout eastern and upper Midwestern states in the United States. The Iowa Darter is found in 34 counties in Illinois (see attached maps for proposed dredging).

5. A. Participant in execution of conservation plan is Darren Smith;
B. Darren Smith is responsible for and obligated to time lines set forth in this conservation plan:

1) Insuring that no dredging take place before November 1 and stop in March/April when temperatures warm;
2) That all dredged spoils are spread in accordance with site plan at designated areas;
3) No stock piling of spoils;
4) Even spread ≤ 2 in designated areas;
5) Tilled into soil when conditions allow;
6) Progress report filed with IDNR 90 days after dredge is complete

Conservation plan done by Darren Smith

Dated: 9-5-17

Darren Smith

Darren Smith
14216 Thayer Road
Woodstock, IL 60098
815-482-7659
dsmith@wishcom.net

MCCD - NRM

FISH Survey
McHenry County Conservation District

10/25/2013

Area ID: LUM **Township:** Grafton T43N R7E **Section:** 3 Document# *FI2013K446*

Stream: *Kishwaukee River* **Basin:** Kish **Order:** Date of Survey: **8/30/2013**

Station: **Kish#3** Channelized? No **Location Comment:** West of Lussky Marsh

Water Condition: Slightly turbid

Vegetation: *A few patches of submergents*

General Comments:

IBI = 31

 # Species = 10

 # Fish = 43

Bottom: Rocky **Temp (water):** 61F **Temp (air):** 80F

Shore: Reed Canary Grass **Stream Current:** Moderate

Stream Width: 14.6 Feet **Water Depth:** 0.5 to 2 Feet

Collection Method: Backpack Shocker Stream Gradient: 0.85%

Collectors: Jablonski, Woodson, et al

Run Length = 586 Feet Acreage = .2 Time = 20 Min.

Family	Quantity	Common Name	E/T	Intolerant?	Species	Species Comments
Catostomidae - -						
	3	**White Sucker**			*Catostomus commersoni*	
Centrarchidae - -						
	5	**Green Sunfish**			*Lepomis cyanellus*	
	2	**Bluegill**			*Lepomis macrochirus*	
Cyprinidae - - -						
	1	**Central Stoneroller**			*Campostoma anomalum*	
	1	**Sand Shiner**			*Notropis ludibundus*	
	1	**Fathead Minnow**			*Pimephales promelas*	
	4	**Blacknose Dace**		X	*Rhinichthys atratulus*	
	19	**Creek Chub**			*Semotilus atromaculatus*	
Ictaluridae - - -						
	3	**Black Bullhead**			*Ictalurus melas*	
Percidae - - -						
	4	**Banded Darter**		X	*Etheostoma zonale*	
TOTALS =	**43**	**FISH**			**10 SPECIES**	

MCCD - LPNR

MACRO-INVERTEBRATE Survey
McHenry County Conservation District

2016

8/30/2016

Area ID/Preserve: LUM - Lussky Marsh **Township:** Grafton T43N R7E **Section:** 2 Document #: *MI2016K054*

Stream: *Kishwaukee River* **Basin:** Kishwaukee Date of Survey: **4/21/2016**

Investigator: Jablonski **Unit:** 1, 2 Start Time: **7:40 AM** Start End: **7:45 AM**

Water Conditions ~
Water Appearance: Brown
Water Odor: None
Water Turbidity: Slight

Stream Bottom:
0 % Bedrock
30 % Cobble
60 % Sand
0 % Boulder
10 % Gravel
0 % Silt
0 % Other
100 % TOTAL

Weather Conditions: Overcast
Temp (Water): 54 F
Temp (Air): 64 F
Surrounding Land Use: Agriculture
Stream Current: Moderate
Canopy Cover: 100 % shaded

Location Comment:
10 meters downstream of bridge; south of ag. field on Ballard Road

MBI= 6.25
 # Species = 11

General Comment/Notes:

Stream Embeddedness: 0-25%
Water Depth: 1 to 2 Feet
Stream Width: 28 Feet
Riparian Edge Vegetation: Brush and non-native ground layer

Stream Vegetation: None
Stream Gradient: 11 %
Habitat Sampled: Riffles, Leaf packs, Snag areas

 # Sub-sample = 100
 # Squares in Tray = 40
# of Squares Selected = 25
 # Organisms per Square = 4
 # Organisms in Tray = 160

Species	Quantity	Tolerance Index	Tolerance Value	Indicator Species	Species Comment
Class Oligochaeta (aquatic worms)	17	10	170	O	
Class Hirudinea (Leeches)	3	8	24		
Order Isopoda (Sowbugs)	1	6	6		
Order Amphipoda (Scuds or Sideswimmers)	35	4	140		
Order Trichoptera: Family Hydropsychidae (Hydropsychid Caddisflies)	11	5.5	60.5	T	
Order Trichoptera- other Caddisflies	1	3.5	3.5	T	
Order Coleoptera: Families Elmidae & Dryopidae (Riffle Beetles)	11	5	55		
Order Diptera: Family Chironomidae (Bloodworm Midges)	4	11	44	C	
Order Diptera: Family Chironomidae (Other Midges)	9	6	54		
Order Diptera – other flies	4	10	40		Empididae
Class Gastropoda (Right-handed Snails)	4	7	28		
TOTALS= 11 SPECIES	100	Organisms	625.0	Total Tolerance Value	

Quality Ratings ~

(Revised 2004; Illinois River Watch, College of DuPage, IL)

Quality	Taxa Richness	EPT Taxa Richness	MBI
Excellent	>= 14	>= 5	<=4.35
Good	12 - 13	4	4.36 - 5.00
Fair	9 - 11	3	5.01 - 5.70
Poor	7 - 8	2	5.71 -6.25
Very Poor	<= 6	0 - 1	>= 6.26
This Survey =	11 Fair	2 Poor	6.25 Poor

Indicator Composition ~

Organism	Count	Percent
E: Order Ephemoroptera (Mayflies)	0	0.00 %
P: Order Plecoptera (Stoneflies)	0	0.00 %
T: Order Trichoptera (Caddisflies)	12	12.00 %
C: Family Chironomidae (Bloodworms)	4	4.00 %
O: Class Oligochaeta (Aquatic worms)	17	17.00 %

This Survey = Indicator Subtotal: 33.00 %
All others : 67.00 %

MCCD - LPNR

MACRO-INVERTEBRATE Survey
McHenry County Conservation District

2016

8/30/2016

Area ID/Preserve: LUM - Lussky Marsh **Township:** Grafton T43N R7E **Section:** 2 Document #: *MI2016K053*

Stream: ***Kishwaukee River*** **Basin:** Kishwaukee Date of Survey: **4/21/2016**

Investigator: Jablonski **Unit:** Start Time: **8:05 AM**

Start End: **8:10 AM**

Water Conditions ~

Water Appearance: Brown
Water Odor: None
Water Turbidity: Medium

Stream Bottom:
0 % Bedrock
0 % Cobble
40 % Sand
0 % Boulder
10 % Gravel
50 % Silt
0 % Other
100 % TOTAL

Weather Conditions: Overcast
Temp (Water): 54 F
Temp (Air): 64 F
Surrounding Land Use: Old Field; water treatment plant
Stream Current: Moderate
Canopy Cover: 75 % shaded

Location Comment:
West of Lussky Marsh just east of Haligus Road; golf course upstream

MBI= *8.66*

 # Species = 11

General Comment/Notes:
Main stream bed

Stream Embeddedness: 51-75% **Stream Vegetation:** None
Water Depth: 1 to 2 Feet **Stream Gradient:** 46 %
Stream Width: 40 Feet **Habitat Sampled:** Leaf packs
Riparian Edge Vegetation: Brush and non-native grasses

 # Sub-sample =
 # Squares in Tray = 40
# of Squares Selected = 40
 # Organisms per Square =
 # Organisms in Tray = 129

Species	Quantity	Tolerance Index	Tolerance Value	Indicator Species	Species Comment
Class Oligochaeta (aquatic worms)	60	10	600	O	
Order Isopoda (Sowbugs)	5	6	30		
Order Amphipoda (Scuds or Sideswimmers)	18	4	72		
Order Odonata: Suborder Calopterygidae (Broadwinged Damselflies)	2	3.5	7		
Order Trichoptera: Family Hydropsychidae (Hydropsychid Caddisflies)	2	5.5	11	T	
Order Coleoptera: Families Elmidae & Dryopidae (Riffle Beetles)	4	5	20		
Order Diptera: Family Chironomidae (Bloodworm Midges)	23	11	253	C	
Order Diptera: Family Chironomidae (Other Midges)	1	6	6		
Order Diptera: Family Simuliidae (Black Flies)	1	6	6		
Order Diptera – other flies	7	10	70		
Class Gastropoda (Right-handed Snails)	6	7	42		
TOTALS= 11 SPECIES	129 Organisms		1,117.0 Total Tolerance Value		

Quality Ratings ~

(Revised 2004; Illinois River Watch, College of DuPage, IL)

Quality	Taxa Richness	EPT Taxa Richness	MBI
Excellent	>= 14	>= 5	<=4.35
Good	12 - 13	4	4.36 - 5.00
Fair	9 - 11	3	5.01 - 5.70
Poor	7 - 8	2	5.71 -6.25
Very Poor	<= 6	0 - 1	>= 6.26
This Survey =	11 Fair	1 Very Poor	8.66 Very Poor

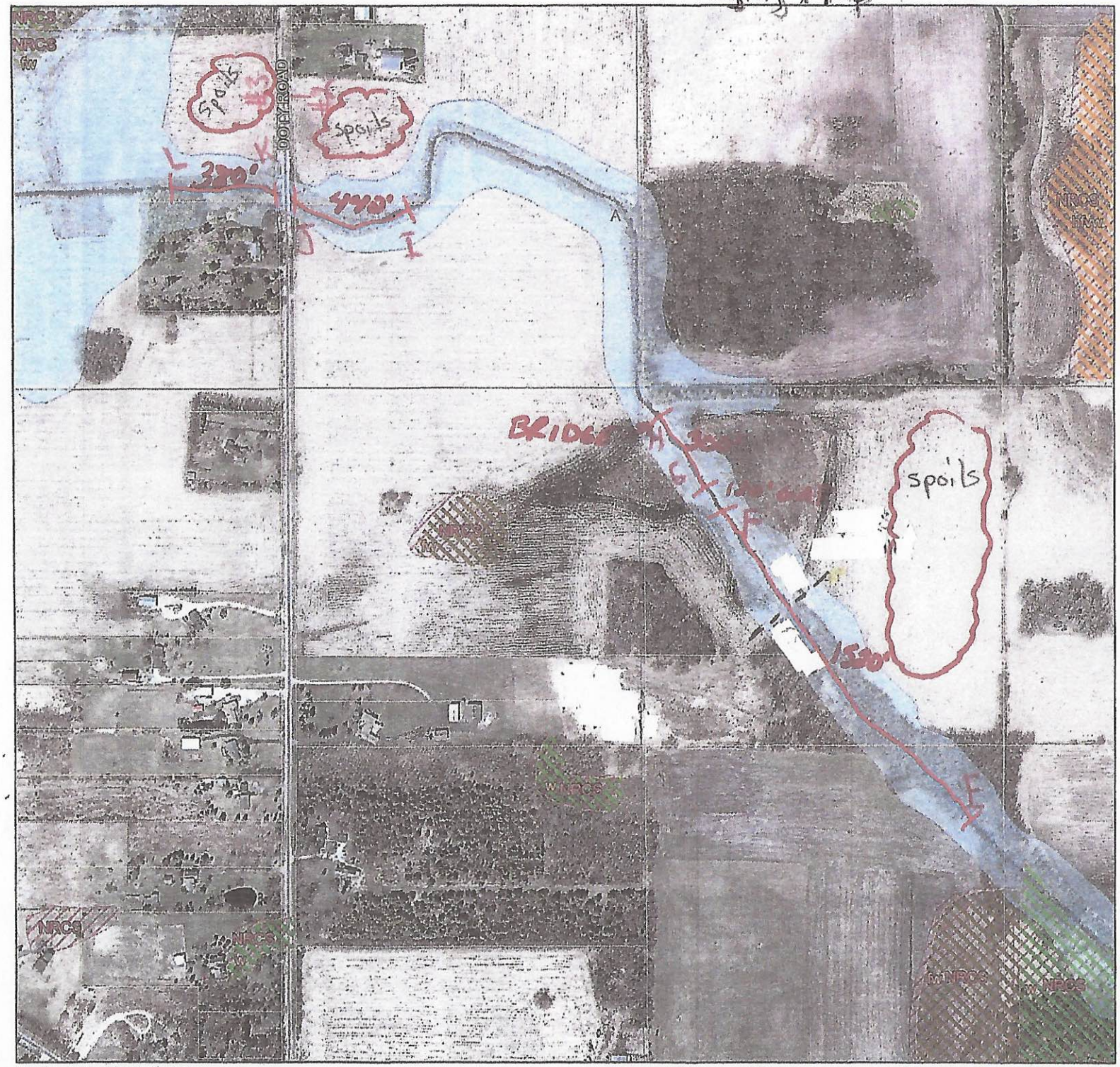
Indicator Composition ~

Organism	Count	Percent
E: Order Ephemoroptera (Mayflies)	0	0.00 %
P: Order Plecoptera (Stoneflies)	0	0.00 %
T: Order Trichoptera (Caddisflies)	2	1.55 %
C: Family Chironomidae (Bloodworms)	23	17.83 %
O: Class Oligochaeta (Aquatic worms)	60	46.51 %

This Survey = Indicator Subtotal: 65.89 %

All others : 34.11 %

Dredging Map



Name: _____

PIN: ____ - ____ - ____ - ____

Permit:

LEGEND

- Base Flood Elev. (DFIRM)

FEMA Flood Hazard (Nov 16, 2006)

- 0.2% Annual Chance
- 1% Annual Chance
- Floodway

2005 ADID Study

- ADID High-Func. Value Wetland
- ADID High-Quality Wetland
- ADID High-Quality Lake
- ADID Wetland
- ADID Lake
- ADID Farmed Wetland
- NRCS Wetlands

Dredge Spoils
<2" in Field

NOTES North
McHenry County

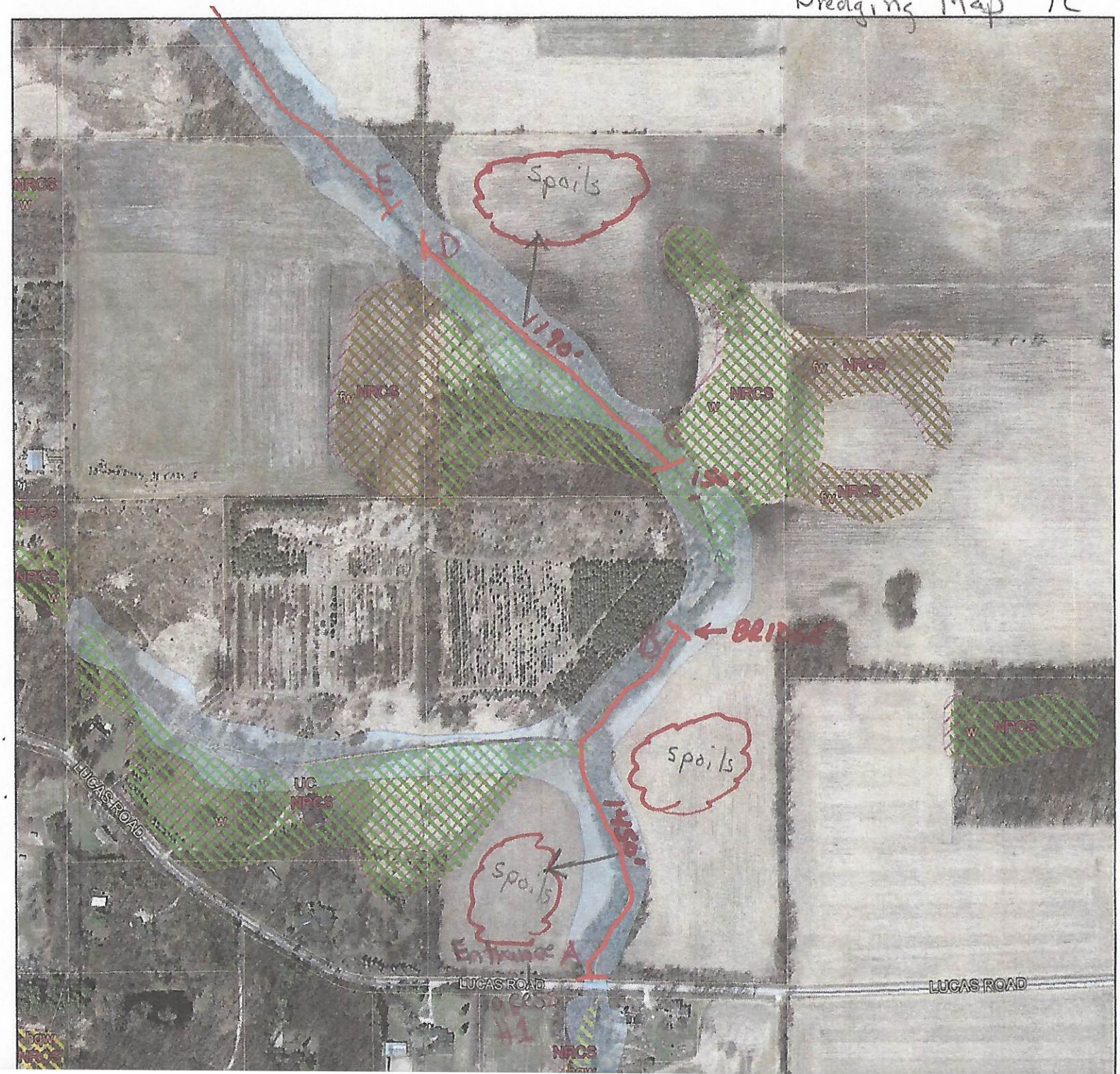
Map by: PDcount1 4/26/2017

1 inch = 500 feet

0 255 510 1,020 1,530

Feet

Dredging Map 1C



Name: _____

PIN: ____ - ____ - _____ - _____

Permit:

LEGEND

- Base Flood Elev. (DFIRM)

FEMA Flood Hazard (Nov 16, 2006)

- 0.2% Annual Chance
- 1% Annual Chance
- Floodway

2005 ADID Study

- ADID High-Func. Value Wetland
- ADID High-Quality Wetland
- ADID High-Quality Lake
- ADID Wetland
- ADID Lake
- ADID Farmed Wetland
- NRCS Wetlands

Dredge Spoils <2" in field

NOTES South

CITY OF CRYSTAL LAKE

Standing on Lucas Rd point A looking North

Standing between points A and B looking east
Notice Sediment

Stand at point B looking south

Standing at Point B looking North


Standing at point H looking south

EXHIBIT A

CONTROL LETTERS

To whom it may concern,

I, Ronald P. Nunes, do hereby authorize John Skerke and Darren Smith to conduct dredging on the Kishwaukee River on my property pin number 13-26-100007

Ronald D. Nunes Sr.

Ronald P. Nunes

13-26-100007

MAY - 8 2017

To whom it may concern,

I, Edwin Voss, do hereby authorize John Skerke and Darren Smith to conduct dredging on the Kishwaukee River on my property pin number 13-26-100002

Edwin Voss

13-26-100-002

MAY - 8 2017

To Whom It May Concern:

I, Nick Skelton, authorize Darren Smith and John Skerke to dredge the creek on my property. My pin # for said property is 13-22-476-004 located in McHenry County, Door Township, Illinois.

Date: 4/28/17

13-22-476-004

MAY - 8 2017

To Whom It May Concern:

I, Lyle Haag, authorize Darren Smith and John Skerke to dredge the creek on my property. My pin# for said property is 13-22-451-004, located in McHenry County, Door Township, Illinois.

Dated: 8-21-17

Lyle Haag

To Whom It May Concern:

I, Ying Ying Lin, authorize Darren Smith and John Skerke to dredge the creek on my property. My pin# for said property is 13-22-476-006 and 13-26-100-006, located in McHenry County, Door Township, Illinois.

Dated: 8-22-17 Ying Ying Lin

To Whom It May Concern:

I, Jackie Chan, authorize Darren Smith and John Skerke to dredge the creek on my property. My pin# for said property is _____ Located in McHenry County, Door Township, Illinois.

Dated: 8/28/17 Jackie Chan

13-26-300-018	13-26-100-004
13-26-400-009	13-26-200-006
13-26-400-007	13-26-300-023
13-26-400-011	13-26-300-017

EXHIBIT B

BIOLOGICAL DATA

Blanding's Turtle

Don't let the name fool you: I am anything but bland. I'm a smooth operator, known as 'the beautiful one' among my slow-moving friends. My bright yellow chin and throat leave all eyes on me, a true walking piece of art. And don't be fooled by my slow and steady gait; I am an agile and strong swimmer, allowing me to catch quick moving fish. Sushi anyone? I also enjoy crayfish, snails, frogs, insects and the occasional vegetable.

I am at risk throughout the Midwest due to loss of

what's new? more

3/29/2017
Chicago Wilderness Transition

7/28/2017
Chicago Wilderness Recognizes Excellence and Force of Nature Award Recipients

one region
one vision
one voice

my natural habitat. Please help me find a place to showcase my beauty.

The Blanding's turtle (*Emydoidea blandingii)* is regionally imperiled and spends a lot of its time in water, but is known to travel long distances over land. It matures slowly, not until age 14 to 20, and can live more than 80 years.

These turtles, considered semi-aquatic, depend on wetlands, grasslands and sunny wooded areas for survival. Habitat loss contributes to this species' decline, but Blanding's turtles are endangered in Illinois mostly due to low survival rates resulting from predation, poaching and road mortalities.

donate to this species

DID YOU KNOW?

- Females often have to travel up to two miles to find appropriate nesting grounds.
- Blanding's turtles overwinter in muddy bottoms of deep wetlands, backwater pools, ponds and streams.
- The shells of Blanding's turtles typically are 7-9 inches long.

IF YOU COULD DO ONE THING TO HELP...

Volunteer at nearby wetlands restoration areas.

Conservation organizations are always seeking volunteers to assist with their restoration programs and the community education efforts, as well as participants for group service projects. Supporting efforts to preserve the Blanding's turtle population will help to development conservation strategies for wildlife across the country, and will assist experts in acquiring the necessary tools for aiding our turtle friends.

SPECIAL THANKS

Chicago Wilderness works with two lead partners, **Illinois Natural History Survey**, and the **Illinois Department of Natural Resources**, to drive Blanding's turtle conservation efforts. The lead partners, in turn, coordinate with numerous other organizations across the region. The Blanding's turtle conservation effort is part of the Chicago Wilderness Priority Species Focus Area.

Sources: Lake County Forest Preserves

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

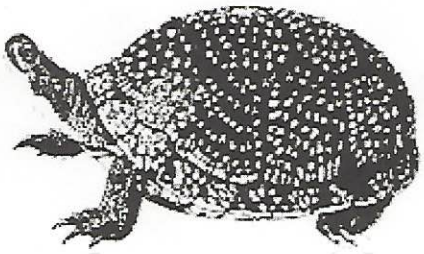
Blanding's Turtle Fact Sheet

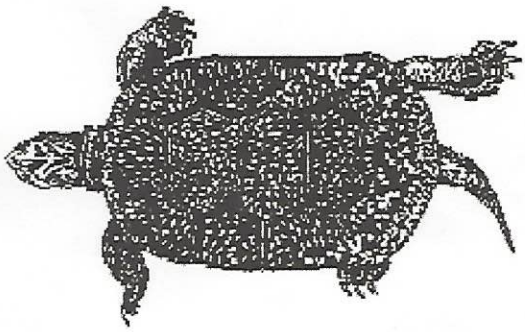
Blanding's Turtle

Emydoidea blandingii

New York Status: Threatened
Federal Status: Not Listed

Description





The Blanding's turtle is a medium sized turtle with an average shell length of approximately seven to nine inches and a maximum length of 10 inches. A distinguishing feature of this turtle is the bright yellow chin and throat. The carapace, or upper shell, is domed, but slightly flattened along the midline, and is oblong when viewed from above. The carapace is speckled with numerous yellow or light-colored flecks or streaks on a dark background. The plastron, or lower shell, is yellow with dark blotches symmetrically arranged. The head and legs are dark, and usually speckled or mottled with yellow. The Blanding's turtle is also called the "semi-box" turtle, for although the plastron is hinged, the plastral lobes do not shut as tight as the box turtle's.

Life History

Mating probably occurs in April and early May with nesting beginning in early June and lasting throughout the month. The clutch size varies from region to region. In New York, the clutch size ranges from 5-12 eggs with an average of eight. The Blanding's is a timid turtle and may plunge into water and remain on the bottom for hours when alarmed. If away from water, the turtle will close itself up within its shell. It is very gentle and rarely attempts to bite. It is very agile and a good swimmer.

The Blanding's turtle overwinters under or near water, in mud or under vegetation or debris. During the nesting season, a female Blanding's turtle may be found more than a kilometer from where it hibernated. It is omnivorous, eating crustaceans and other invertebrates, fish, plants, carrion and vegetable debris. It is capable of catching live fish. Blanding's turtles take 18-22 years to reach sexual maturity and may live to be 70 years old.

Distribution and Habitat

This species' range centers around the Great Lakes, and extends from central Nebraska and Minnesota eastward through southern Ontario and the south shore of Lake Erie as far east as northern New York, with a few disjunct populations in southeastern New York (Dutchess County), New England and Nova Scotia. Recent investigations in northern New York report the range of this

Journey with Nature
Blanding's Turtles

Many species hibernate, but the Blanding's turtle takes its deep sleep to a different level.

While most animals that hibernate choose to do so in deep caves and underground burrows, there is a native species that prefers the bottoms of lakes, marshes and wetlands.

The **Blanding's turtle** hibernates completely underwater from late October or early November until the early spring. The cold-blooded reptile only needs to burrow itself in cold, muddy bottoms to stay warm. Its metabolism also slows so little oxygen is needed and it doesn't have to search for food. Unlike most turtles, the Blanding's is quite happy in the cold water; on occasion it is seen slowly swimming underneath the ice in areas where they winter - like the Great Lakes. These turtles are also present in some of our preserves, such as **Merry Lea** and **Douglass Woods**.

Sometimes confused with box turtles, the Blanding's turtle is distinguished from other native turtles by its bright yellow chin and throat. Its shell, head and legs are dark in color, but mottled with yellow or light-colored dots. As a semi-aquatic species, the turtle spends significant time in the water and on the land. It dwells underwater during hibernation as well as to eat and mate. It will, however, return to land to nest and move from one body of water to another.

CHILDREN OF INDIANA NATURE PARK

A CELEBRATION OF THE HOOSIER BICENTENNIAL

PROTECTING THE BLANDING'S TURTLE

The Blanding's turtle is a gentle and timid creature that will either dive in a nearby body of water and remain submerged for hours, or pull itself into its shell when faced by predators. These defense mechanisms may work against its natural predators, but they unfortunately do not protect it from its biggest threat - man.

As a nomadic species, the shy turtle will wander and cross roads to get from one body of water to another. Road mortality is high. The Nature Conservancy's Maine Chapter is attemping to alleviate this issue by adding "Turtle Crossing" signs to various roads in the state that are popular pathways for turtles. But man contributes to other ways the turtle is battling for its existence. As with many other wetland species, habitat destruction and fragmentation is their main threat. As a state-endangered species, the Blanding's turtle's wetland habitats, terrestrial nesting sites and the corridors in which they move between should be considered in land development plans.

Learn about the Children of Indiana Nature Park, and be inspired to start your own journey with nature!

Blanding's turtle is also vulnerable because they tend to reproduce late in life. Females become sexually mature around eighteen years old while males mature around twelve. Hatchlings also have a low survival rates due to the appetites of nearby raccoons, foxes and skunks. If the hatchling can become an adult and survive within its habitat, the Blanding's turtle can live as long as 70+ years!

Hey kids! Do you have your deeds yet?

We're taking kids to an amazing new place. It's called OUTSIDE! Time spent outside with nature goes a long way toward creating a happy, healthy childhood. So we're giving kids a place they can call their own. Literally.

Click on the link to learn more!

BLANDING'S TURTLE QUICK FACTS

- **Scientific name**: Emydoidea blandingii
- **Size**: medium-sized; anywhere from 5 - 10 inches long
- **Physical characteristics**: bright yellow chin and throat; carapace, or upper shell, is domed and speckled with yellow or light-colored flecks or streaks
- **Range**: throughout eastern and upper midwestern states in the US
- **Habitat**: semi-aquatic; shallow lakes, ponds, wetlands; also seen in forests, woodlands
- **Diet**: mostly carnivorous; snails, insects, frogs, crayfish; feed mostly underwater
- **Lifespan**: could live up to 70 years
- **Predators**: raccoons, foxes and owls are their main predators in Indiana
- **Conservation status**: endangered in Indiana; vulnerable in other regions

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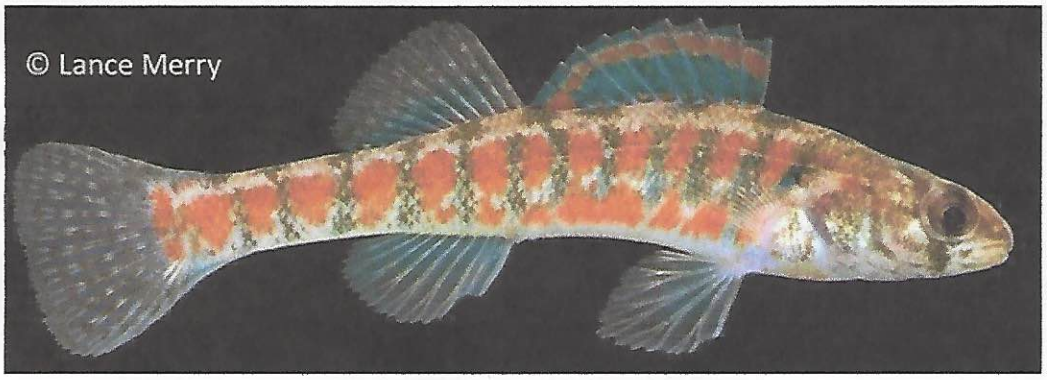
Iowa darter



Iowa darter
Etheostoma exile

Features and Behaviors

FEATURES

The Iowa darter averages about two and three-fourths inches in length. It is a brown or green-brown fish with eight to 10 dark marks on the back and 10 to 14 dark blotches on the side separated by red spaces. There is a dark, teardrop mark under the eye and a dark bar in front of the eye, as well as bars on the fins. The lateral line is short, extending to about the second dorsal fin. There are two spines in the anal fin. The cheeks have scales. The breeding male has a blue tint to the back, green side blotches separated by rust-red spaces, wide bands of blue and orange in the first dorsal fin and orange along the lower sides.

BEHAVIORS

The Iowa darter may be found in glacial lakes in northeastern Illinois, a few streams in northern Illinois and a few limestone quarries in Vermilion County. It lives in clear lakes, sloughs and creeks that have many aquatic plants. In streams it can be found in quiet pools over a mud or clay bottom with dead material and brush. Spawning occurs in April in shallow water over roots, vegetation or debris. The young Iowa darter eats plankton, while the adult feeds on immature insects and small crustaceans. This species is listed as threatened in Illinois, mainly the result of habitat degradation.

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Iowa darter biology

The Iowa darter migrates from deep to shallow water to reproduce, with the male usually migrating before the female. The breeding season varies depending on the location of the population, with those in Wisconsin spawning between late April and mid-June and those in Illinois and Michigan spawning from April to May in (5). When the male arrives in the shallow area, it establishes a territory which it protects from other males (2) (3). When a female enters the territory, the male swims around it in circles until the female eventually positions itself over a suitable spawning area (2) (3) (5). The female then vibrates her body to release the eggs onto the substrate while the male, which positions itself behind the female, fertilises them (2) (3). The average clutch of the Iowa darter contains around 250 eggs which develop for between 12 and 26 days before hatching (2).

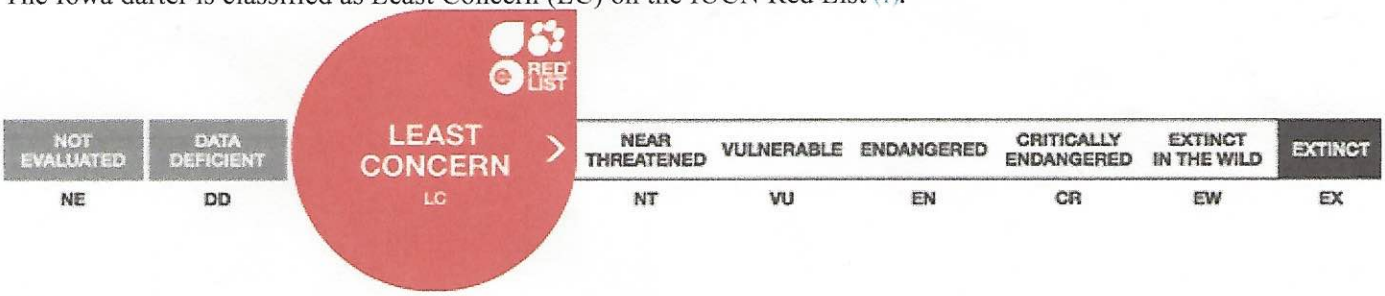
The diet of the Iowa darter is composed mostly of invertebrates such as copepods, water fleas and midge larvae (2) (3) (5). This fast-moving fish lacks a swim bladder (3) (5) and makes short, rapid movements to capture its prey (3). This relatively long-living fish species can live for up to two or three years (2).

Iowa darter habitat

The Iowa darter generally inhabits still or slow-moving water bodies, such as small rivers, streams (1) (2) (5), ponds and lakes (1) (2) where there is abundant vegetation (1) (2) (5). This fish is most common in slightly acidic water with a pH of 6, although it does not occur in any water with a lower pH than this (5).

Iowa darter status

The Iowa darter is classified as Least Concern (LC) on the IUCN Red List (1).



Top

Iowa darter threats

The Iowa darter has experienced a population decline in many areas throughout its range (1) (5), including Ohio and Illinois where the population is thought to have decreased due to agricultural pollution and other habitat modifications that have been caused by humans (5). This fish species is intolerant of pollutants, especially those that decrease the amount of aquatic plants within its habitat which are vital to its survival (5). The introduction of invasive species may also have reduced certain populations (1).

Top

Iowa darter conservation

There are not currently known to be any conservation measures in place for the Iowa darter and it is not thought to need any research or monitoring (1), although people who collect or keep this fish species are required to apply for a permit (2).
The Iowa darter is classified as endangered in Illinois (5).

On file is the Army Corp of Engineers letter of no objection. This letter was received May 25, 2017. It was determined that the project is in compliance with Federal Law. (See attached Exhibit C)

EXHIBIT C

Army Corp of Engineers
Letter of no objection

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
231 SOUTH LA SALLE STREET
CHICAGO, ILLINOIS 60604-1437

REPLY TO
ATTENTION OF:

May 25, 2017

Technical Services Division
Regulatory Branch
LRC-2017-00171

SUBJECT: Kishwaukee River Dredging, Multiple Properties, Woodstock, McHenry County, Illinois

John Skerke
11614 Lucas Road
Woodstock, Illinois 60098

Dear Mr. Skerke:

This is in response to your February 21, 2017 request that the U.S. Army Corps of Engineers issue a letter of no objection for the above-referenced activity. The subject project has been assigned number LRC-2017-00171. Please reference this number in all future correspondence concerning this project.

Following a review of the information you furnished to this office, including updated maps and description, and assuming your project is conducted only as set forth in the information provided, this office has determined that the subject project does not require a Department of the Army (DA) permit to complete the proposed work. Please be aware that any unpermitted discharge into an area within the jurisdiction of this office may result in civil or criminal enforcement under the Clean Water Act, 33 U.S.C. Sec. 1319.

This determination is valid for a period of 5 years from the date of this letter and covers only your project as depicted in the attached plans. Soil erosion and sediment controls (SESC) measures shall be implemented at the project site and properly maintained throughout construction of the project. Proper installation and regular maintenance of SESC measures will prevent construction materials from entering downstream locations.

It is your responsibility to obtain any required state, county, or local approvals for impacts to wetland areas not under the Department of the Army jurisdiction. For projects in incorporated areas of McHenry County, contact the certified community for information related to the ordinance. For projects in unincorporated areas of McHenry County, contact the McHenry County Department of Planning and Development at (815) 334-4560.