

- ### Phase II Proposed Sample Locations
- Proposed Phase II Sediment Sample
  - Proposed Phase II Pore Water Sample
  - ┌ Proposed Phase II Sediment and Pore Water Sample
  - 🐟 Phase II Young Of the Year (YOY) Bass
  - 🐟 Phase II Fish Tissue (Bluegill)
  - 🐟 Phase II Fish Tissue (Multi-Species)
  - Phase I Surface Water Transect (for reference)
  - Phase II Surface Water Transect
  - Lake Mile Marker (Miles Begin at Dix Dam)
  - 📍 Former Main Ash Pond and Current Landfill
  - 📍 Auxiliary Pond
  - 📍 E.W. Brown Station

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0 1,000 Feet



Notes:  
Lake miles begin at Dix Dam and extend Southward to the Hwy 52 Upper Herrington Lake limit

## Phase II Proposed Sampling for Lower Herrington Lake

### Herrington Lake Corrective Action Plan Phase 1 Technical Memorandum

### Mercer County, Kentucky

FIGURE 6-1B

Project:



Table 6-1: Phase II Proposed Sample Locations and Types  
 E.W. Brown Station Phase I Technical Memorandum Herrington Lake  
 Mercer County, Kentucky

Focus Regions ↓	Herrington Lake Areas		Number of Samples for Each Sample Medium								
			Young Of the Year (YOY)	Adult Fish <sup>b</sup>							
	Sampling Location ID	Location Description	Bass <sup>c</sup>	Bass	Catfish	Bluegill	Surface Water <sup>a</sup>	Sediment	Pore Water		
Curds Inlet	CI-1, Curds NB	Upper Curds Inlet	—	1	1	1	—	—	2		
	CI-2, CI-2.1, CI 2.2	Middle Curds Inlet	2				1	1	1	6	5
	CI-3, CI-3.1, CI 3.2		1				9	6			
	CI4	Lower / Mouth of Curds Inlet	2				2	3	2		
LHL Outside Curds Inlet	HQ-1	HQ Inlet	2	—	—	1	1	—	—		
	LHL-1	Rocky Run Embayment	2	1	1	1	2	—	—		
	LHL-2	Dix Dam	—	1	1	1	—	—	—		
	LHL-3 Cove	Lower Herrington Lake Main Channel Southside Cove	2	—	—	1	3	—	—		
	LHL-6 Cove	Lower Herrington Lake Main Channel Eastside Cove	2	1	1	1	3	—	—		
Total for each Sample Type =			12	4	4	6	13	18	15		
			Total # of proposed samples = 72								

**Notes:**

- a Water sampling during summer stratification will involve one sample for each stratified surface water layer.
- b Fish sampling will include the three main target species, bluegill, bass, and catfish. Larger bass and catfish samples will consist of single-fish or will be composited from 2–5 fish wherever required for sufficient sample volume. All bluegill samples will be composite samples.
- c One Young Of the Year (YOY) fish sample will consist of a minimum of 500 young bass, including largemouth and spotted (Kentucky) bass wherever available. If sufficient sample sizes are not reached within Curds Inlet, then the samples may be combined to reach the minimum sample requirement of 500 fish. The 500 fish samples are planned for the deformities assessment. YOY fish tissue residue samples will be whole body and will be comprised of approximately 10 fish in each composite sample with 12 samples (120 YOY fish).

**Acronyms:**

- # Number
- CI Curds Inlet
- ID Identifier
- NB North Bank
- LHL Lower Herrington Lake

Herrington Lake Young-Of-The-Year (YOY)  
FISH COLLECTION EFFORT FORM



Primary Fish Collector(s):	Notes:
Sampling Date(s):	
Weather Forecast:	
Air Temp:      Water Temp:	

**YOY Bass Sampling Region (circle one):**

Curds Inlet      HQ Inlet      LHL1(Rocky Arm)      LHL2(Dix Dam)      LHL3 Cove      LHL 6 Cove

Sample ID: e.g. (YOYBASS-001-LHL6), or (YOYBASS - 001TS - LHL6)	Sampling Location Description e.g. 50' north of C12, west shore	Sampling Method (Seine, Electrofish, Minnow Trap etc.)	Start Time (24hr clock)	Sampling Duration (in hrs)	Sample Size (N=)	No. in Photo <sup>a,b</sup> (N=)

**Notes:**  
a) For unaffected YOY Bass, a maximum of 100 individuals will fit within 20" X 10" image field, providing detailed imagery of both the left and right sides of the fish (two photos).  
b) For the YOY analytical subsample of approximately 10 YOY bass (minimum 5 grams total weight), detailed imagery will be captured of both the left and right sides of each individual (two photos) before they are frozen for shipment to the laboratory.

Herrington Lake Young-Of-The-Year (YOY)  
FISH HEALTH EXAMINATION FORM



Recorder:	Notes:
Primary Fish Health Assessor:	
Third-Party Assessor:	Photo #s:
Assessment Date(s):	# of YOY in sample:

YOY Fish Sampling Location:	Species distribution in sample (e.g. 80% percent largemouth bass):
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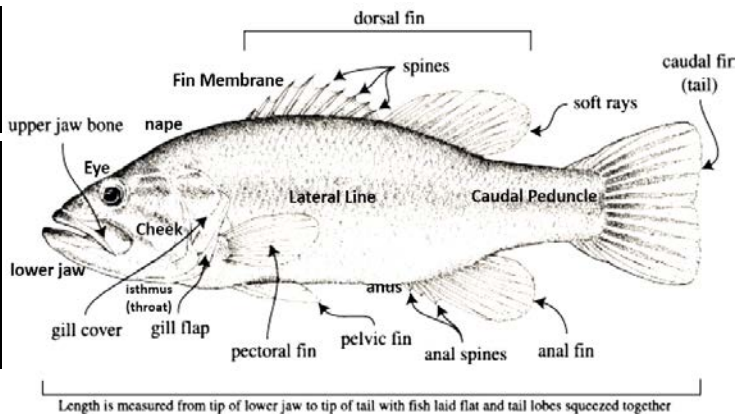
# of Normal Fish (no visible deformities): _____				<a href="#">Assessment Guide for YOY Centrarchidae</a> Eye abnormalities - including lens cataracts and exophthalmos  Fin irregularities - missing, misshaped, partly missing (aka vestigial)  Spinal curvature - kyphosis, lordosis, and scoliosis  Craniofacial defects - mouth, jaw, and gill cover Edema - fluid accumulation  Note: To avoid multiple-counting of fish with multiple deformities, this form counts the prominent deformity and digital images and details of specific fish will also be recorded.	
Fish Anatomy	Anatomical Anomaly	# of fish	Anatomical Anomaly	# of fish	
Eyes	Eyes both normal:				
	<b>Left</b>		<b>Right</b>		
	normal:		normal:		
	exophthalmic:		exophthalmic:		
	opaque:		opaque:		
	missing:		missing:		
Other (list):			Other (list):		

Fins	Fins all normal:		<b>Caudal fin (tail)</b>		<b>Anatomical Anomaly</b>	<b># of fish</b>
	<b>Left pectoral</b>		partly missing:			
	partly missing:		missing:			
	missing:		twisted:			
	twisted:		<b>Dorsal fin</b>			
	<b>Right pectoral</b>		partly missing:			
	partly missing:		missing:			
	missing:		twisted:			
twisted:		<b>Anal fin</b>		fins other (list):		
		partly missing:				
		missing:				
		twisted:				

Spine	Spine normal:		<b>Craniofacial</b>	Head Normal:	
	kyphosis:			mouth:	
	lordosis:			jaw:	
	scoliosis:			gill cover:	
	Other (list):			Other (list):	

Edema	normal:	
	Edema:	
	Other (list):	

Other (List)	_____		
	_____		
	_____		
	_____		



Herrington Lake Young-Of-The-Year (YOY)  
GROUP or INDIVIDUAL FISH - INSPECTION FORM



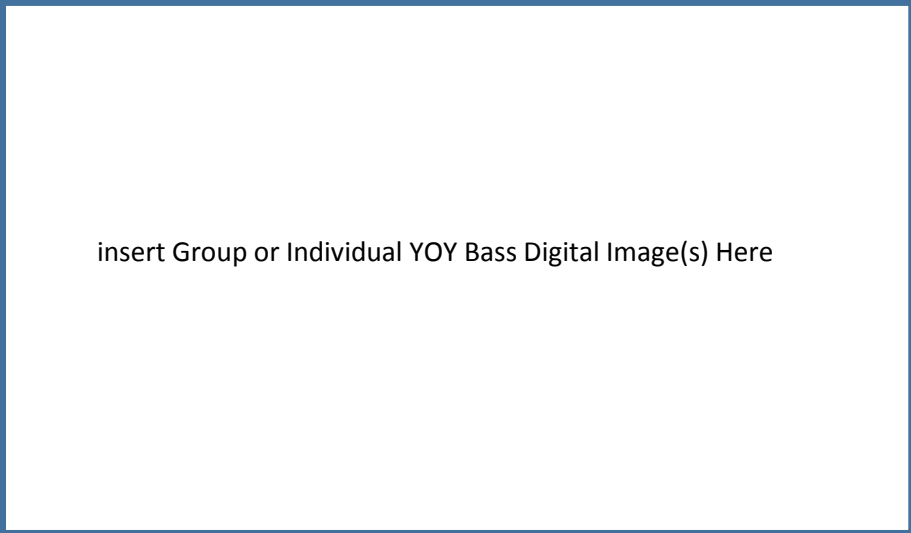
Recorder:	Notes:
Primary Fish Health Assessor:	
Third-Party Assessor:	
Assessment Date(s):	

Anatomical Category (e.g. spine, fin(s)):

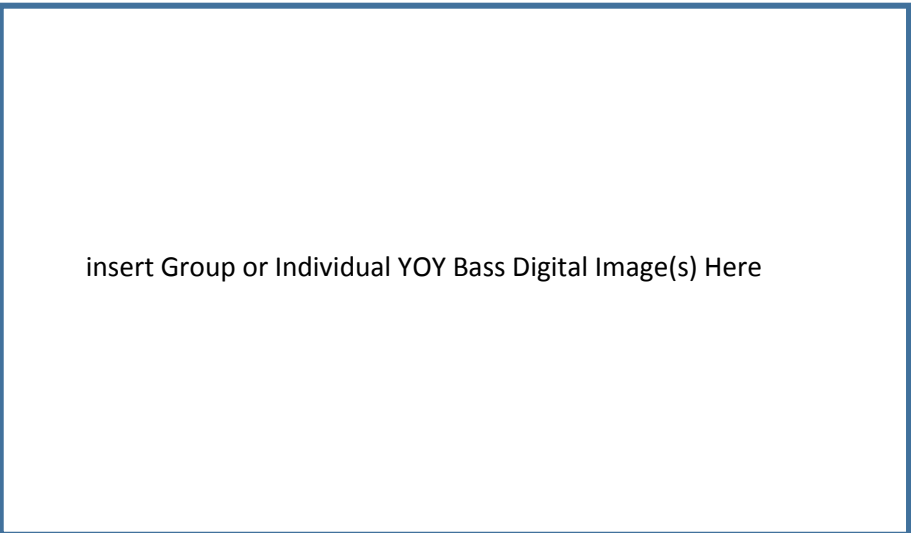
Examples From YOY Bass Sampling Region (circle one):					
Curds Inlet	HQ Inlet	LHL1(Rocky Arm)	LHL2(Dix Dam)	LHL3 Cove	LHL 6 Cove

Individual Sample ID:	Species:	Photo Number(s):
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Abnormality Description(s) (e.g. Top image displays right side tail deformity(ies)):



Abnormality Description(s) (e.g. Bottom image displays left side fin deformity(ies)):





Document ID:
Version #
Effective Date:
Page __ of __

### Herrington Lake Adult Fish Tissue Collection and Chain-Of-Custody Form

Study Lake or River:	Sampling Location ID (e.g. LHL-2):
Fish Sampling Location Description (e.g. Above Dix Dam):	
KDFWR Wildlife Collection Permit#:	Notes / Observations:
Date:	
Start Time:	
GPS Coordinates (or where they can be found if collected electronically):	
Investigators:	Weather at Start:

Flow status (circle one): runoff event    high flow    low flow    normal    other

Sample #	Fish #	Genus	Species	Length (mm)	Weight (grams)	Comments
	001					
	002					
	003					
	004					
	005					
	006					
	007					
	008					
	009					
	010					
	011					
	012					
	013					
	014					
	015					

Length (mm) of 75%tile of Longest Fish:	Total # Fish Collected in Sample:	
Collected by:	Date:	Time:
Relinquished by:	Date:	Time:
Received by:	Date:	Time:

## Herrington Lake Surface Water Collection and Profiling Data Form

Sampling Region (e.g. Curds Inlet):				Herrington Lake Transect Location (e.g. CI-1):			
GPS Coordinates (or where they can be found if collected electronically):							
Investigators:						Date:	
Water Quality Probe (e.g. YSI 650 MDS):						Start Time:	
Probe Calibration Date:				Weather at start:			
Secchi Disk Depth (in feet):				Water Depth (surface to bottom):			
Notes or Observations:				Stratification Layers for Reference: Epilimnion - Sunlight zone with higher DO and water temp. Metalimnion (Thermocline) - water temp and DO drops. Hypolimnion – Deep zone - lower stable DO and water temp.			
				Notes or Observations:			
YSI / SW Sample Depth (feet bws)	Dissolved Oxygen (DO in mg/L)	Conductivity (mS/cm)	Water Temperature (°C or °F)	pH	Stratification Layer (if known)	Surface Water Sample? (Y/N)	SW Sample ID

- Notes:
- °C          Degrees Celsius
  - °F          Degrees Fahrenheit
  - bws        below water surface
  - mg/L       milligrams per liter
  - mS/cm     milliSiemens per centimeter
  - pH         Potential of Hydrogen
  - Y/N        Yes or No

### Herrington Lake Sediment Collection Form

<b>Sampling Region</b> (e.g. Curds Inlet):	<b>Sampling Date:</b>
<b>GPS Coordinates</b> (or file location if collected digitally):	<b>Start Time</b> (Boat Launched):
<b>REH Investigator(s):</b>	<b>Weather at Start:</b>
<b>Dive Crew; Diver(s) down:</b>	

**Notes or Observations:**

Sample Location/ Transect	Sample Time	Water Depth (in feet)	Local Bottom Substrate (Rocky, Silty, etc.)	Field Dup or MS/MSD?	Jar #s and size collected	PW Peeper Deployed? (Y or N)	Sediment Sample ID	Location Notes

- Notes:
- °C     Degrees Celsius
  - °F     Degrees Fahrenheit
  - bws    below water surface
  - mg/L   milligrams per liter
  - mS/cm  milliSiemens per centimeter
  - pH     Potential of Hydrogen
  - Y/N    Yes or No

Sediment Collection / Pore Water Deployment Configuration Sketch and/or Relocation Notes: