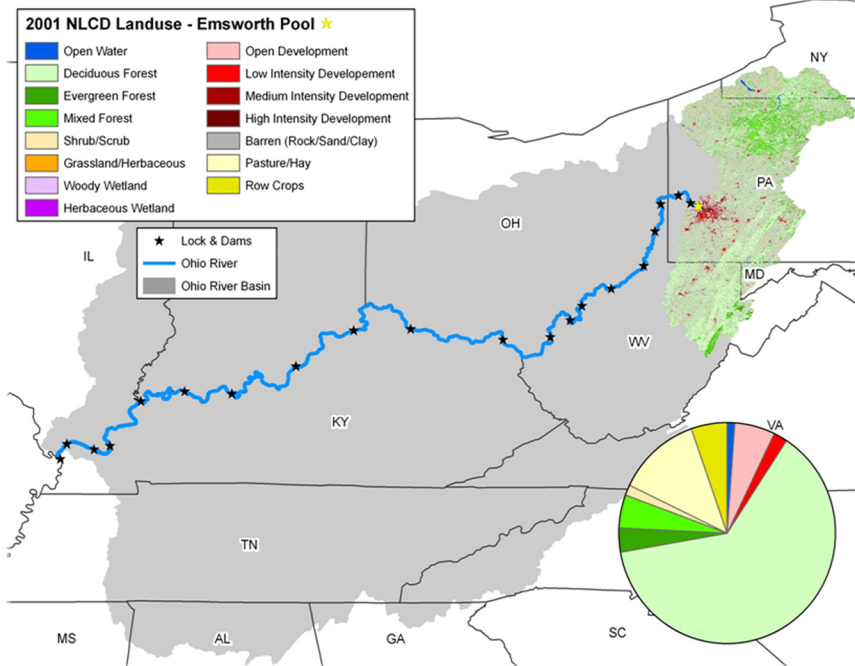
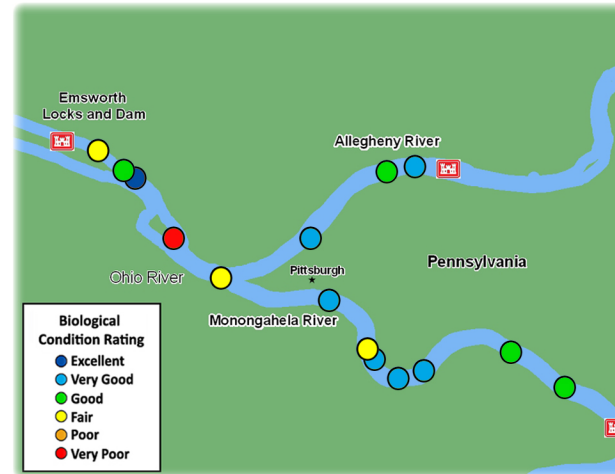
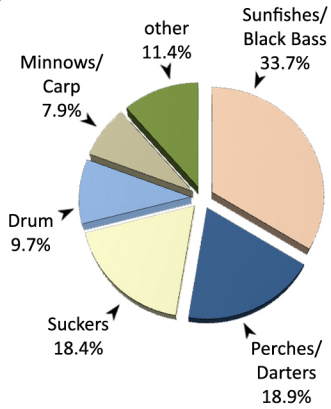


Emsworth Pool - 2007

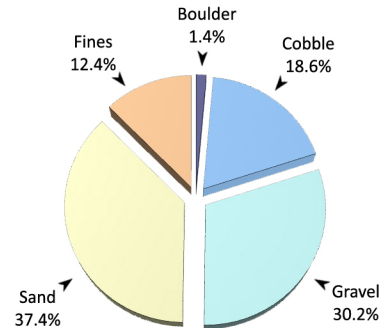
Emsworth Locks and Dam is the first lock system on the Ohio River below the confluence of the Allegheny and Monongahela rivers. The main stem portion of the pool is 6.2 miles long, extending from Pittsburgh Point (ORM 0.0) to Emsworth Locks and Dam (ORM 6.2). For the purpose of our biological assessment we extended this area beyond the confluence upstream to the first dams on the Allegheny (6.2 miles) and Monongahela rivers (11.2 miles). The pool averages 1,456 feet wide and 21 feet deep (ORSANCO 1994). The entirety of the pool lies in Pennsylvania, in an area where the immediate land use consists of residential and industrial development (9.2%). However, the larger area draining into the pool is largely forested (68.9%) with some agricultural uses (17.3%). The shorelines of the main stem portion of Emsworth is highly modified to inhibit erosion; the tributaries are also modified, but to a lesser extent.



walleye (*Sander vitreus*)



Locations of the 15 randomly chosen electrofishing sites in Emsworth Pool



smallmouth bass (*Micropterus dolomieu*)

Site Performance

Site No.	River Mile	Habitat Class	ORFIn Exp	ORFIn Obs	mORFIn Score
1	ALL 5.7	B	46.71	67.35	43.0
2	ALL 5.0	B	46.71	56.40	31.5
3	ALL 2.2	B	46.71	67.95	43.5
4	MON 10.8	B	46.71	62.91	39.0
5	MON 9.1	C	44.55	52.57	30.4
6	MON 6.3	B	46.71	65.32	41.3
7	MON 5.7	C	44.55	61.95	40.7
8	MON 4.8	C	44.55	66.03	44.1
9	MON 4.5	C	44.55	50.46	27.7
10	MON 2.6	C	44.55	64.87	43.1
11	OH 0.2	C	44.55	50.76	28.1
12	OH 1.9	B	46.71	34.98	8.8
13	OH 4.0	B	46.71	75.89	50.3
14	OH 4.3	C	44.55	56.13	34.4
15	OH 5.1	A	50.03	51.47	22.4

Average Pool mORFIn Score 35.2

Emsworth Pool - Results Overview

Sampling Results

Environmental Measures

Dominant Habitat Class: B/C - mostly coarse to mixed coarse/fine
Notable Measures: Marinas/docks and recreational uses dominate stretches of the "Three Rivers" area

Biological Measures

Total No. of Fish Species: 43
Average No. of Individuals: 175
Dominant Family (*minus herring/shad*): Sunfishes/Black Basses
Dominant Species (*minus gizzard shad*): bluegill
Pennsylvania Endangered Species: silver chub & river shiner
Rare Ohio River Mainstem Species: fantail darter & golden shiner
Notable Catch: muskellunge ("muskie") & white perch

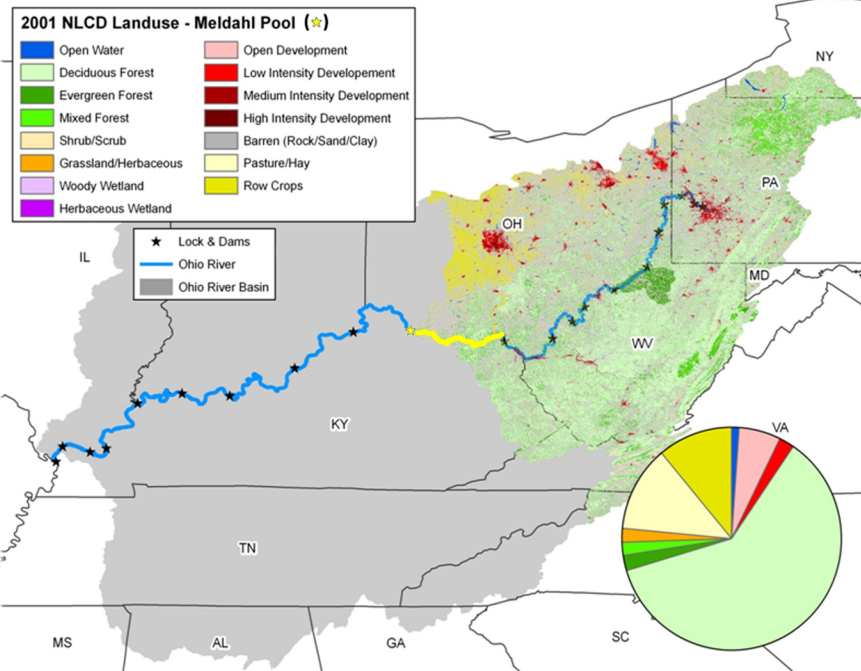
Assessment Results

Highest scoring ORFIn metric: No. of Intolerant species
Lowest scoring ORFIn metric: CPUE
Sites Above 25th percentile (i.e. mORFIn Score = 20): 15
Sites Below 25th percentile (i.e. mORFIn Score = 20): 0
Aquatic Life-Use Designation: Met

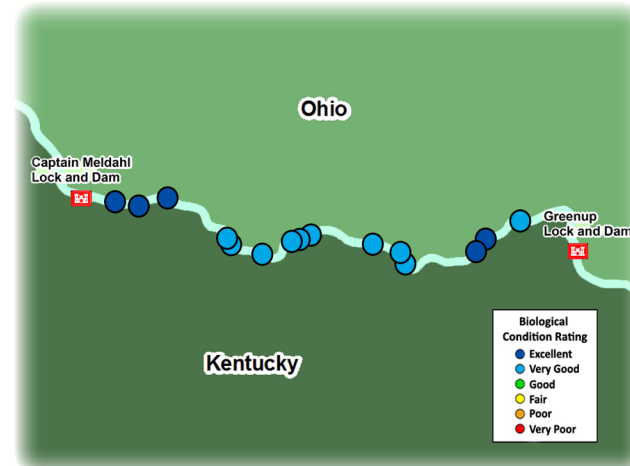
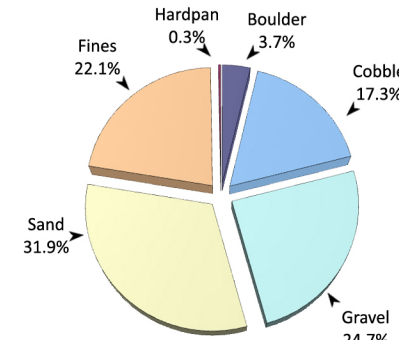
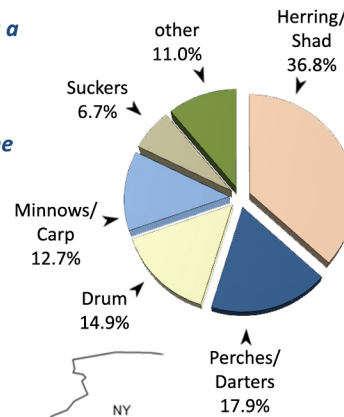
Overall Biological Condition Rating: Good

Meldahl Pool - 2007

The Meldahl pool is 95.2 miles long, extending from Greenup Locks and Dam (ORM 341.0) to Meldahl Locks and Dam (ORM 436.2). The pool has a gradient drop of 0.3 feet per mile, averages 1,603 feet wide and 23 feet deep. The pool flows adjacent to the states of Ohio and Kentucky. This scenic portion of the Ohio River has only a few small cities (Portsmouth, OH and Maysville, KY) and few anthropogenic impacts. The few impacts that do exist are agricultural (10.8%) and pastoral (12.1%) land uses. Deciduous forests are the dominant land cover (59.3%) as such, forested sandy shorelines are prevalent as well as increased instream woody cover. Meldahl receives water from one large tributary the Scioto River (OH), and several smaller creeks in Ohio (Ohio Brush, Eagle, and Whiteoak) and Kentucky (Tygarts and Kinniconick).



sauger (*Sander canadensis*)



Locations of the 15 randomly chosen electrofishing sites in Meldahl Pool



Forested shorelines and woody cover are a common sight within Meldahl pool, like this photo taken near Vanceburg, KY.



freshwater drum (*Aplodinotus grunniens*)

Site Performance

Site No.	River Mile	Habitat Class	ORFIn Exp	ORFIn Obs	mORFIn Score
1	356.2	C	44.55	70.36	47.65
2	363.6	D	41.80	76.99	60.00
3	365.7	C	44.55	77.46	55.13
4	378.6	D	41.80	61.00	42.91
5	380.4	C	44.55	68.60	46.19
6	384.9	D	41.80	59.24	41.25
7	395.1	C	44.55	64.12	42.47
8	396.6	B	46.71	63.99	40.18
9	397.4	C	44.55	69.21	46.70
10	404.8	D	41.80	61.70	43.55
11	410.0	C	44.55	73.19	50.00
12	410.6	B	46.71	68.43	43.90
13	423.5	D	41.80	71.01	52.89
14	427.9	D	41.80	75.04	57.68
15	431.2	D	41.80	69.68	51.30

Average Pool mORFIn Score 48.1

Meldahl Pool - Results Overview

Sampling Results

Environmental Measures

Dominant Habitat Class: D – shallow sand and fine substrates
Notable Measures: high occurrence of woody cover (13 of 15 sites)

Biological Measures

Total No. of Fish Species: 41
Average No. of Individuals: 244
Dominant Family (*minus herring/shad*): Perches and Darters
Dominant Species (*minus shad/shiners*): sauger
Threatened Species: river darter (OH)
Rare Ohio River Mainstem Species: gravel chub and fantail darter
Notable Catch: numerous freshwater drum

Assessment Results

Highest scoring ORFIn metric (*minus DELTs*): % Tolerants
Lowest scoring ORFIn metric: % Invertivores
Sites Above 25th percentile (i.e. mORFIn Score = 20): 15
Sites Below 25th percentile (i.e. mORFIn Score = 20): 0
Aquatic Life-Use Designation: Met

Overall Biological Condition Rating: Very Good