# Attachment 5

Adaptive Fisheries Mitigation Strategy

28th Meeting of the NECC
January 11-12, 2000

Presented by

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US Army Corps of Engineers – Rock Island District

# Upper Mississippi River - Illinois Waterway System Navigation Study

## ADAPTIVE MITIGATION STRATEGY

## FISHERIES

Rock Island District

28th NECC, Jan. 11-12, 2000

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## SIGNIFICANCE

- ✖ MODEL PARAMETERS
  - ✓ IMPACTS
    - ✓ SPATIAL
      - ✓ TEMPORAL
        - ✓ SPECIES

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## IMPACTS

- ✖ Pressure Changes
- ✖ Hull Shear Forces
- ✖ Drawdown
- ✓ Larval Entrainment Mortality
- ✖ Adult Entrainment
- ✖ Displacement
- ✖ Overwintering Habitat
- ✖ Spawning Habitat

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## SPATIAL SIGNIFICANCE

### MISSISSIPPI RIVER

- Pools 1-8
- Pools 9-15
- Pools 16-26
- Open River

### ILLINOIS WATERWAY

- Lower (ALT)
- Middle (LGR, PEO)
- Upper (STR, MAR, DRS, BRD, LCK)

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## Alternative J - YR 2040

IMPACT INDEX (EAL)
- 1000 to 5000
- 5000 to 15,000
- > 15,000

| | Species | Mississippi River | | | | | Illinois Waterway | | |
|---|---|---|---|---|---|---|---|---|---|
| | | USA-3 | 4-8 | 9-15 | 16-27 | Open River* | Lower | Middle | Upper |
| 1 | Pallid Sturgeon | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 2 | Blue Sucker | 0 | 0 | 0 | 4 | | 0 | 0 | 0 |
| 3 | Smallmouth bass | 1 | 4 | 14 | 32 | | 2 | 3 | 1 |
| 4 | Northern Pike | 48 | 172 | 421 | 60 | | 11 | 11 | 2 |
| 5 | Bigmouth buffalo | 5 | 5 | 58 | 177 | | 4 | 7 | 2 |
| 6 | Smallmouth buffalo | 14 | 15 | 162 | 495 | | 11 | 18 | 6 |
| 7 | Lake Sturgeon | 9 | 69 | 245 | 597 | | 31 | 57 | 0 |
| 8 | Largemouth bass | 1 | 121 | 400 | 919 | | 46 | 77 | 1 |
| 9 | Shovelnose Sturgeon | 7 | 113 | 401 | 978 | | 51 | 94 | 0 |
| 10 | Paddlefish | 32 | 161 | 550 | 1,311 | | 66 | 51 | 0 |
| 11 | Walleye | 256 | 441 | 916 | 1,870 | | 7 | 10 | 3 |
| 12 | Goldeye | 10 | 65 | 631 | 2,190 | | 29 | 49 | 0 |
| 13 | Blue Catfish | 0 | 0 | 569 | 2,274 | | 0 | 0 | 0 |
| 14 | Flathead Catfish | 58 | 492 | 1,647 | 3,840 | | 78 | 127 | 42 |
| 15 | River Carpsucker | 6 | 16 | 594 | 4,843 | | 206 | 332 | 98 |
| 16 | Mooneye | 8 | 29 | 1,159 | 5,215 | | 80 | 60 | 0 |
| 17 | Sauger | 191 | 261 | 6,215 | 6,502 | | 38 | 60 | 18 |
| 18 | Shorthead Redhorse | 13 | 30 | 3,676 | 7,648 | | 127 | 194 | 59 |
| 19 | Bluegill | 3 | 87 | 871 | 8,326 | | 263 | 372 | 114 |
| 20 | Channel Catfish | 236 | 665 | 4,884 | 28,012 | | 386 | 623 | 201 |
| 21 | Black Crappie | 635 | 1,032 | 5,421 | 29,071 | | 1,023 | 1,713 | 485 |
| 22 | White Crappie | 635 | 1,032 | 5,421 | 29,071 | | 1,023 | 1,713 | 485 |
| 23 | Spotted Sucker | 410 | 458 | 32,128 | 34,593 | | 1,671 | 2,605 | 0 |
| 24 | Freshwater drum | 237 | 467 | 11,357 | 35,003 | | 574 | 867 | 271 |
| 25 | White bass | 1,144 | 4,263 | 22,812 | 40,081 | | 480 | 810 | 121 |
| | PERCENT OF TOTAL IMPACT (BY RIVER) | 3,962 | 10,000 | 100,551 | 244,100 | 0 | 6,205 | 9,854 | 1,908 |
| | | 1% | 3% | 28% | 68% | 0% | 35% | 55% | 11% |

| | | | |
|---|---|---|---|
| TOTAL MISS. RIVER = | 358,613 | TOTAL IWW = | 17,968 |
| COMBINED TOTAL = | 376,580 | | |
| % MISS = | 95.2% | % IWW = | 4.8% |

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## TEMPORAL CONSIDERATIONS

BUILD AS-SOON-AS POSSIBLE

OPTIMIZED SCHEDULE

PROJECT INITIATION/COMPLETION

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# SPECIES SIGNIFICANCE

FORAGE - LOW SIGNIFICANCE

SPORT - HIGH SIGNIFICANCE

SPECIAL CONCERN - HIGH SIGNIFICANCE

COMMERCIAL - MED. SIGNIFICANCE

ROUGH - LOW SIGNIFICANCE

EXOTIC - LOW SIGNIFICANCE

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# COMMERCIAL HARVEST COMPARISON CATFISH (Flathead, Blue, Channel)

| Pool | A Avg Annual Rpt. Harvest (no. indiv.) | B Scenario J EAL YR-2040 | Compare (B/A) % |
|---|---|---|---|
| 4 | 9,262 | 99 | 1.07% |
| 5 | 6,088 | 142 | 2.34% |
| 5A | 3,613 | 105 | 2.91% |
| 6 | 5,998 | 236 | 3.93% |
| 7 | 21,839 | 156 | 0.71% |
| 8 | 37,968 | 419 | 1.10% |
| 9 | 72,152 | 501 | 0.69% |
| 10 | 52,972 | 563 | 1.06% |
| 11 | 41,433 | 544 | 1.31% |
| 12 | 27,016 | 620 | 2.29% |
| 13 | 84,624 | 854 | 1.01% |
| 14 | 38,478 | 3,131 | 8.14% |
| 15 | 13,586 | 887 | 6.53% |

| Pool | A Avg Annual Rpt. Harvest (no. indiv.) | B Scenario J EAL YR-2040 | Compare (B/A) % |
|---|---|---|---|
| 16 | 20,257 | 2,507 | 12.37% |
| 17 | 31,843 | 2,093 | 6.57% |
| 18 | 66,862 | 2,646 | 3.96% |
| 19 | 118,960 | 4,023 | 3.38% |
| 20 | 26,090 | 2,381 | 9.13% |
| 21 | 8,612 | 2,284 | 26.52% |
| 22 | 9,403 | 2,905 | 30.89% |
| 24 | 18,271 | 3,547 | 19.42% |
| 25 | 18,546 | 4,373 | 23.58% |
| 26 | 61,837 | 5,868 | 9.49% |
| Alton | 12,543 | 464 | 3.70% |
| LaGrange | 41,098 | 331 | 0.81% |
| Peoria | 14,863 | 419 | 2.82% |

| TOTAL | A Avg Annual Rpt. Harvest (no. indiv.) | B Scenario J EAL YR-2040 | Compare (B/A) % |
|---|---|---|---|
| MISS. | 886,747 | 40,884 | 4.61% |
| IWW | 68,504 | 1,653 | 2.41% |

**A** = 1985-96 Avg. Annual Commercial Catfish (Flathead, Blue, Channel) Harvest. (UMRCC Annual Harvest (lbs) converted to no. of individuals assuming an average weight of 2.2 lbs/individual)

**B** = Catfish Equivalent Adult Loss under Improvement Scenario J for YR 2040 model projection based on larval fish entrainment by tows.

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# MEASURES

## TRAFFIC REGULATIONS

- Scheduling
- Speed Regulation
- Alteration of Sailing Line

## STRUCTURAL MEASURES

- Off Bank Revetments
- Notched Wing Dams
- Converted L-Dikes
- Large Woody Debris
- Multiple Roundpoints
- Bullnose Dikes
- Chevrons
- Gravel Bars

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# MITIGATION

## SYSTEMIC ALTERNATIVES

- Fish Passage
- Modified River Regulation

## REACH SPECIFIC ALTERNATIVES

- Fish Rearing and Stocking (MSU's)
- Side Channel Improvements
- Backwater Improvements
- Island Creation

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# MONITORING

UP FRONT MONITORING

PERFORMANCE MONITORING

HABITAT UTILIZATION

IMPACT ASSESSMENT

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# EXAMPLE - MISS

| MISSISSIPPI | | | | |
|---|---|---|---|---|
| AVOID MINIMIZE | UNITS | | COST/UNIT | TOTAL |
| Large Woody Debris | 100 | ea | $1,000 | $100,000 |
| Chevron | 10 | ea | $100,000 | $1,000,000 |
| Gravel Bars (2 acres ea) | 5 | ea | $10,000 | $50,000 |
| Bullnose | 6 | ea | $190,000 | $1,140,000 |
| Off Bank Revetments (linear Feet) | 40000 | feet | $100 | $4,000,000 |
| Roundpoints | 2 | ea | $52,000 | $104,000 |
| Notched Wing Dams | 15 | ea | $10,000 | $150,000 |
| | | | **Avoid Minimize Investment** | **$6,544,000** |
| | | | **Monitoring (15%)** | **$750,000** |
| **MITIGATION** | | | | |
| **Fish Passage** | | | | |
| Plan Formulation | 1 | | $250,000 | $250,000 |
| L&D 19 | 1 | | $40,000,000 | $40,000,000 |
| **Water Level Management** | | | | |
| Pool 25 | 1 | | $9,000,000 | $9,000,000 |
| **Habitat Projects** | | | | |
| Side Channels (/1000 feet) | 52 | | $100,000 | $5,200,000 |
| Backwater | 7 | | $1,000,000 | $7,000,000 |
| Moist Soil Unit (/ acre) | 200 | | $20,000 | $4,000,000 |
| | | | **Mitigation Investment** | **$65,450,000** |
| **MONITORING** | | | **Monitoring (5%)** | **$3,272,500** |
| | | | **Mitigation Investment** | **$68,722,500** |

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# EXAMPLE - IWW

| ILLINOIS WATERWAY | | | | | |
|---|---|---|---|---|---|
| AVOID MINIMIZE | | UNITS | | COST/UNIT | TOTAL |
| | Large Woody Debris | 20 | ea | $1,000 | $20,000 |
| | Chevron | 2 | ea | $100,000 | $200,000 |
| | Gravel Bars (2 acres ea) | 2 | ea | $10,000 | $20,000 |
| | Bullnose | 2 | ea | $190,000 | $380,000 |
| | Off Bank Reventments (linear Feet) | 10000 | feet | $100 | $1,000,000 |
| | Roundpoints | 1 | ea | $52,000 | $52,000 |
| | Notched Wing Dams | 3 | ea | $10,000 | $30,000 |
| | | | | Avoid Minimize Investment | $1,702,000 |
| | | | | Monitoring (15%) | $255,300 |
| MITIGATION | | | | | |
| | Habitat Projects | | | | |
| | Side Channels (/1000 feet) | 10 | | $100,000 | $1,000,000 |
| | Backwater | 5 | | $1,000,000 | $5,000,000 |
| | Moist Soil Unit (/ acre) | 100 | | $20,000 | $2,000,000 |
| | | | | | $8,000,000 |
| MONITORING | | | | Monitoring (5%) | $400,000 |
| | | | | Mitigation Investment | $8,400,000 |

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# Upper Mississippi River - Illinois Waterway System Navigation Study

## ADAPTIVE MITIGATION STRATEGY

# DISCUSSION

Rock Island District

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# Alternative WOP - YR 2040

IMPACT INDEX (EAL)
- 1000 to 5000
- 5000 to 15,000
- > 15,000

| | Species | Mississippi River | | | | | Illinois Waterway | | |
|---|---|---|---|---|---|---|---|---|---|
| | | USA-3 | 4-8 | 9-15 | 16-27 | Open River* | Lower | Middle | Upper |
| 1 | Pallid Sturgeon | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 2 | Blue Sucker | 0 | 0 | 0 | 1 | | 0 | 0 | 0 |
| 3 | Smallmouth bass | 0 | -1 | 1 | 9 | | 6 | 11 | 5 |
| 4 | Northern Pike | 9 | -22 | 13 | 17 | | 42 | 48 | 8 |
| 5 | Bigmouth buffalo | 1 | -1 | 6 | 45 | | 18 | 29 | 11 |
| 6 | Smallmouth buffalo | 3 | -2 | 17 | 128 | | 50 | 82 | 31 |
| 7 | Lake Sturgeon | -1 | -8 | 13 | 151 | | 123 | 231 | 0 |
| 8 | Shovelnose Sturgeon | -1 | -13 | 21 | 248 | | 202 | 378 | 0 |
| 9 | Largemouth bass | 0 | -16 | 21 | 252 | | 184 | 335 | 8 |
| 10 | Paddlefish | -5 | -20 | 30 | 371 | | 281 | 231 | 0 |
| 11 | Walleye | 51 | -62 | 53 | 395 | | 30 | 48 | 19 |
| 12 | Goldeye | 0 | -8 | 63 | 479 | | 136 | 224 | 0 |
| 13 | Blue Catfish | 0 | 0 | 61 | 617 | | 0 | 0 | 0 |
| 14 | Flathead Catfish | 1 | -62 | 91 | 1,034 | | 308 | 557 | 235 |
| 15 | Mooneye | 1 | -4 | 131 | 1,177 | | 370 | 285 | 0 |
| 16 | Sauger | 35 | -33 | 357 | 1,406 | | 171 | 279 | 101 |
| 17 | Shorthead Redhorse | 4 | -4 | 439 | 1,524 | | 564 | 918 | 345 |
| 18 | River Carpsucker | 1 | -2 | 67 | 1,533 | | 935 | 1,535 | 560 |
| 19 | Bluegill | 0 | -13 | 61 | 3,133 | | 1,084 | 1,839 | 669 |
| 20 | Freshwater drum | 50 | -66 | 1,274 | 6,910 | | 2,532 | 4,131 | 1,567 |
| 21 | White bass | -113 | -574 | 1,187 | 7,509 | | 2,191 | 3,641 | 566 |
| 22 | Spotted Sucker | 88 | -64 | 3,689 | 7,576 | | 7,258 | 12,079 | 0 |
| 23 | Channel Catfish | 71 | -83 | 440 | 7,597 | | 1,543 | 2,797 | 1,139 |
| 24 | Black Crappie | 111 | -133 | 471 | 8,431 | | 4,762 | 7,758 | 2,722 |
| 25 | White Crappie | 111 | -133 | 471 | 8,431 | | 4,762 | 7,758 | 2,722 |
| | PERCENT OF TOTAL | 418 | -1,325 | 8,979 | 58,972 | 0 | 27,551 | 45,195 | 10,706 |
| | IMPACT (BY RIVER) | 1% | -2% | 13% | 88% | 0% | 33% | 54% | 13% |

TOTAL MISS. RIVER = 67,043 TOTAL IWW = 83,451

COMBINED TOTAL = 150,494

% MISS = 44.5% % IWW = 55.5%

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# Alternative B - YR 2040

IMPACT INDEX (EAL)
- 1000 to 5000
- 5000 to 15,000
- > 15,000

| | Species | Mississippi River | | | | | Illinois Waterway | | |
|---|---|---|---|---|---|---|---|---|---|
| | | USA-3 | 4-8 | 9-15 | 16-27 | Open River* | Lower | Middle | Upper |
| 1 | Pallid Sturgeon | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 2 | Blue Sucker | 0 | 0 | 0 | 1 | | 0 | 0 | 0 |
| 3 | Smallmouth bass | 0 | 1 | 5 | 12 | | 0 | 0 | 0 |
| 4 | Northern Pike | 16 | 62 | 154 | 23 | | 1 | 0 | 0 |
| 5 | Bigmouth buffalo | 2 | 2 | 22 | 70 | | 0 | 0 | 0 |
| 6 | Smallmouth buffalo | 5 | 5 | 63 | 198 | | 1 | 0 | 1 |
| 7 | Lake Sturgeon | 3 | 24 | 89 | 224 | | 3 | 1 | 0 |
| 8 | Largemouth bass | 0 | 44 | 148 | 350 | | 5 | 0 | 0 |
| 9 | Shovelnose Sturgeon | 2 | 40 | 145 | 367 | | 6 | 2 | 0 |
| 10 | Paddlefish | 11 | 59 | 206 | 508 | | 6 | 2 | 0 |
| 11 | Walleye | 90 | 168 | 361 | 755 | | 1 | 0 | 0 |
| 12 | Goldeye | 4 | 24 | 246 | 867 | | 3 | 0 | 0 |
| 13 | Blue Catfish | 0 | 0 | 212 | 876 | | 0 | 0 | 0 |
| 14 | Flathead Catfish | 21 | 178 | 606 | 1,469 | | 8 | 0 | 0 |
| 15 | River Carpsucker | 2 | 6 | 233 | 1,933 | | 24 | 0 | 7 |
| 16 | Mooneye | 3 | 11 | 458 | 2,070 | | 8 | 0 | 0 |
| 17 | Sauger | 67 | 99 | 2,441 | 2,607 | | 4 | 0 | 1 |
| 18 | Shorthead Redhorse | 5 | 12 | 1,430 | 3,041 | | 14 | 0 | 1 |
| 19 | Bluegill | 1 | 34 | 336 | 3,350 | | 47 | 0 | 7 |
| 20 | Channel Catfish | 83 | 242 | 1,825 | 10,790 | | 44 | 0 | 3 |
| 21 | Black Crappie | 216 | 386 | 2,123 | 11,637 | | 104 | 15 | 48 |
| 22 | White Crappie | 216 | 386 | 2,123 | 11,637 | | 104 | 15 | 48 |
| 23 | Spotted Sucker | 148 | 174 | 12,469 | 13,531 | | 167 | 0 | 0 |
| 24 | Freshwater drum | 84 | 179 | 4,562 | 14,278 | | 74 | 0 | 10 |
| 25 | White bass | 401 | 1,616 | 8,684 | 16,033 | | 50 | 5 | 15 |
| | PERCENT OF TOTAL | 1,380 | 3,754 | 38,942 | 96,627 | 0 | 674 | 42 | 141 |
| | IMPACT (BY RIVER) | 1% | 3% | 28% | 69% | 0% | 79% | 5% | 16% |

TOTAL MISS. RIVER = 140,702 TOTAL IWW = 858

COMBINED TOTAL = 141,560

% MISS = 99.4% % IWW = 0.6%

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# Alternative E - YR 2040

IMPACT INDEX (EAL)
- 1000 to 5000
- 5000 to 15,000
- > 15,000

| | Species | Mississippi River | | | | | Illinois Waterway | | |
|---|---|---|---|---|---|---|---|---|---|
| | | USA-3 | 4-8 | 9-15 | 16-27 | Open River* | Lower | Middle | Upper |
| 1 | Pallid Sturgeon | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 2 | Blue Sucker | 0 | 0 | 0 | 3 | | 0 | 0 | 0 |
| 3 | Smallmouth bass | 1 | 4 | 14 | 32 | | 0 | 0 | 0 |
| 4 | Northern Pike | 48 | 172 | 419 | 58 | | 3 | 0 | 0 |
| 5 | Bigmouth buffalo | 5 | 5 | 58 | 175 | | 1 | 0 | 0 |
| 6 | Smallmouth buffalo | 14 | 15 | 161 | 489 | | 4 | 0 | 1 |
| 7 | Lake Sturgeon | 9 | 68 | 243 | 585 | | 9 | 1 | 0 |
| 8 | Largemouth bass | 1 | 121 | 399 | 897 | | 14 | 0 | 0 |
| 9 | Shovelnose Sturgeon | 7 | 111 | 398 | 958 | | 15 | 2 | 0 |
| 10 | Paddlefish | 32 | 160 | 546 | 1,282 | | 19 | 2 | 0 |
| 11 | Walleye | 256 | 440 | 909 | 1,861 | | 2 | 0 | 1 |
| 12 | Goldeye | 10 | 65 | 629 | 2,171 | | 9 | 0 | 0 |
| 13 | Blue Catfish | 0 | 0 | 565 | 2,227 | | 0 | 0 | 0 |
| 14 | Flathead Catfish | 58 | 488 | 1,636 | 3,759 | | 23 | 0 | 7 |
| 15 | River Carpsucker | 6 | 16 | 593 | 4,723 | | 65 | 0 | 20 |
| 16 | Mooneye | 8 | 29 | 1,157 | 5,162 | | 24 | 0 | 0 |
| 17 | Sauger | 191 | 258 | 6,167 | 6,461 | | 11 | 0 | 3 |
| 18 | Shorthead Redhorse | 13 | 30 | 3,671 | 7,620 | | 39 | 0 | 10 |
| 19 | Bluegill | 3 | 85 | 859 | 8,067 | | 95 | 0 | 23 |
| 20 | Channel Catfish | 236 | 660 | 4,869 | 27,440 | | 120 | 0 | 35 |
| 21 | Black Crappie | 635 | 1,023 | 5,403 | 28,872 | | 305 | 15 | 102 |
| 22 | White Crappie | 635 | 1,023 | 5,403 | 28,872 | | 305 | 15 | 102 |
| 23 | Spotted Sucker | 410 | 458 | 32,187 | 34,203 | | 501 | 0 | 0 |
| 24 | Freshwater drum | 237 | 464 | 11,350 | 35,801 | | 185 | 0 | 51 |
| 25 | White bass | 1,144 | 4,234 | 22,650 | 39,893 | | 144 | 5 | 22 |
| | PERCENT OF TOTAL | 3,962 | 9,930 | 100,204 | 240,829 | 0 | 1,895 | 42 | 379 |
| | IMPACT (BY RIVER) | 1% | 3% | 28% | 68% | 0% | 82% | 2% | 16% |

TOTAL MISS. RIVER = 354,925 TOTAL IWW = 2,316

COMBINED TOTAL = 357,241

% MISS = 99.4% % IWW = 0.6%

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# Alternative F - YR 2040

IMPACT INDEX (EAL)
- 1000 to 5000
- 5000 to 15,000
- > 15,000

| | Species | Mississippi River | | | | | Illinois Waterway | | |
|---|---|---|---|---|---|---|---|---|---|
| | | USA-3 | 4-8 | 9-15 | 16-27 | Open River* | Lower | Middle | Upper |
| 1 | Pallid Sturgeon | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| 2 | Blue Sucker | 0 | 0 | 0 | 3 | | 0 | 0 | 0 |
| 3 | Smallmouth bass | 1 | 4 | 14 | 32 | | 1 | 2 | 2 |
| 4 | Northern Pike | 48 | 172 | 419 | 59 | | 7 | 7 | 4 |
| 5 | Bigmouth buffalo | 5 | 5 | 58 | 176 | | 3 | 4 | 7 |
| 6 | Smallmouth buffalo | 14 | 15 | 161 | 493 | | 8 | 12 | 20 |
| 7 | Lake Sturgeon | 9 | 68 | 243 | 593 | | 23 | 38 | 0 |
| 8 | Largemouth bass | 1 | 121 | 399 | 911 | | 33 | 55 | 4 |
| 9 | Shovelnose Sturgeon | 7 | 111 | 398 | 971 | | 38 | 62 | 0 |
| 10 | Paddlefish | 32 | 160 | 546 | 1,301 | | 49 | 34 | 0 |
| 11 | Walleye | 256 | 440 | 909 | 1,867 | | 5 | 7 | 11 |
| 12 | Goldeye | 10 | 65 | 629 | 2,184 | | 23 | 32 | 0 |
| 13 | Blue Catfish | 0 | 0 | 565 | 2,257 | | 0 | 0 | 0 |
| 14 | Flathead Catfish | 58 | 488 | 1,636 | 3,811 | | 54 | 92 | 107 |
| 15 | River Carpsucker | 6 | 16 | 593 | 4,802 | | 156 | 222 | 345 |
| 16 | Mooneye | 8 | 29 | 1,157 | 5,199 | | 63 | 38 | 0 |
| 17 | Sauger | 191 | 258 | 6,167 | 6,488 | | 28 | 42 | 64 |
| 18 | Shorthead Redhorse | 13 | 30 | 3,671 | 7,638 | | 90 | 139 | 216 |
| 19 | Bluegill | 3 | 85 | 859 | 8,233 | | 192 | 247 | 404 |
| 20 | Channel Catfish | 236 | 660 | 4,869 | 27,808 | | 272 | 447 | 548 |
| 21 | Black Crappie | 635 | 1,023 | 5,403 | 28,874 | | 797 | 1,124 | 1,724 |
| 22 | White Crappie | 635 | 1,023 | 5,403 | 28,874 | | 797 | 1,124 | 1,724 |
| 23 | Spotted Sucker | 410 | 458 | 32,187 | 34,455 | | 1,182 | 1,894 | 0 |
| 24 | Freshwater drum | 237 | 464 | 11,350 | 35,944 | | 410 | 603 | 996 |
| 25 | White bass | 1,144 | 4,234 | 22,650 | 39,989 | | 374 | 532 | 90 |
| | PERCENT OF TOTAL | 3,961 | 9,930 | 100,206 | 242,957 | 0 | 4,606 | 6,757 | 6,267 |
| | IMPACT (BY RIVER) | 1% | 3% | 28% | 68% | 0% | 26% | 38% | 36% |

TOTAL MISS. RIVER = 357,054 TOTAL IWW = 17,631

COMBINED TOTAL = 374,685

% MISS = 95.3% % IWW = 4.7%

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