#### UMRR HREP INSPECTION OF COMPLETED WORKS/TRIP REPORT 2016

- I. **PROJECT**: PEORIA LAKE HREP
- **II. AUTHORITY**: Upper Mississippi River System (UMRS) Environmental Management Program (EMP)
- **III. LOCATION**: Peoria Pool, Illinois River Miles (RM) 162.0 to 181.0, Peoria & Woodford Counties, IL
- IV. DATE OF FIELD VISIT: 7/5/16

#### V. PREVIOUS REPORTS:

Definite Project Report (R-6F) with Integrated Environmental Assessment. Peoria Lake Enhancement, Peoria Pool, Illinois Waterway. US Army Corps of Engineers, Rock Island District, June 1990.

Operation and Maintenance Manual. Peoria Lake Enhancement, Upper Mississippi River Environmental Management Program, Peoria Pool, River Miles 178.5-181.0, Woodford County, Illinois. US Army Corps of Engineers, Rock Island District, May 1998.

Post Construction Initial Performance Evaluation Report (IEPR6F). Peoria Lake Habitat Rehabilitation and Enhancement Project, Upper Mississippi River Environmental Management Program, Peoria Pool, River Miles 178.5-181.0, Woodford County, Illinois. US Army Corps of Engineers, Rock Island District, March 2001.

Post Construction Supplemental Performance Evaluation Report (PERS1), Peoria Lake Habitat Rehabilitation and Enhancement Project, Upper Mississippi River Environmental Management Program, Peoria Pool, Illinois River Miles 178.5-181.0, Woodford County, Illinois. US Army Corps of Engineers, Rock Island District, May 2002.

*Peoria Lake Habitat Rehabilitation and Enhancement Project, 2004 Performance Evaluation Report.* US Army Corps of Engineers, Rock Island District, September 2004.

| Name            | Office | Title                    | Number         |
|-----------------|--------|--------------------------|----------------|
| Thad Cook       | IL DNR | Site Technician          | (309) 246-8351 |
| Tony Colven     | IL DNR | Site Superintendent      | (309) 246-8351 |
| Tony Schoepke   | IL DNR | Site Technician II       | (309) 246-8351 |
| Kara Mitvalsky  | USACE  | Environmental Engineer   | (309) 794-5623 |
| Steve Gustafson | USACE  | Environmental Specialist | (309) 794-5202 |
| Ben Vandermyde  | USACE  | Forester                 | (309) 794-4522 |
| Tom Kirkeeng    | USACE  | Hydraulic Engineer       | (309) 794-5433 |

#### VI. ATTENDEES:

### VII. PROJECT GOAL & OBJECTIVES:

|                               | Project Goals and Objective   | S  |
|-------------------------------|---|--|
| Goals                         | Objectives  | Project Features   |
| Enhance<br>Wetland<br>Habitat | Increase reliable food production/resting area for waterfowl                            | FWMA water control and mast tree area  |
|                               | Increase diversity and extent of<br>submergent and emergent vegetation for<br>waterfowl | Barrier Island Complex   |
| Enhance<br>Aquatic<br>Habitat | Provide flowing side channel aquatic habitat  | Flowing side channel and<br>embankment in the East Rvr<br>and between Barrier and<br>Overburden islands. |

### VIII. MONITORING PLAN EVALUATION CRITERIA:

|                               |   |                         | POS                        | T-CONSTRUC  | TABL<br>TION QUA | E A-1<br>NTITATIVE ME         | ASUREMENTS                  |   |   |
|-------------------------------|---|-------------------------|----------------------------|---|------------------|-------------------------------|-----------------------------|---|---|
| Goal                          | Objective   | Alternative             | Enhancement<br>Feature     | Unit  | Initial<br>Value | Estimated<br>Current<br>Value | Target Value<br>at 50 years | Feature Measurement   | Annual Field<br>Observations by Site<br>Manager   |
|                               | Increase reliable   | Forested<br>Wetland     | Water control              | Acres of<br>vegetation  | 0                | 168                           | 168                         | Perform transects C, F, and G<br>vegetation (understory and timber)<br>survey | Estimate numbers of<br>waterfowl  |
|                               | and resting area  | Management<br>Area      | Mast tree area             | Acre  | 0                | 0                             | 10                          | Land use/land cover mapping   | Estimate survival of<br>plantings   |
| Enhance                       |   |                         | Aquatic<br>vegetation bed  | Acres of<br>aquatic<br>vegetation                                 | 0                | 0                             | 100                         | Perform transects A, B, C, D, and E vegetation (aquatic) survey               | Estimate acres of<br>emergent, submergent,<br>and floating vegetation                         |
| Wetland<br>Habitat            | Increase diversity<br>and extent of                       |                         |                            |   |                  |                               |                             | Perform transects A, B, C, D, and<br>E hydrographic soundings                 | Record erosion deposition<br>patterns   |
|                               | submergent and<br>emergent<br>vegetation for<br>waterfowl | Barrier Island          | Island vegetation          | Acre  | 0                | 10-12                         | 16                          | Perform transect I vegetation<br>survey                                       | Describe condition of<br>shoreline erosion, sprigs,<br>mat, cuttings, seedlings,<br>and cover |
|                               |   |                         | Improved water<br>quality  | mg/L<br>suspended<br>solids                                       | 100              |                               | 50                          | Perform water quality tests at stations UPL - A, B, and C                     | Describe presence of<br>suspended solids on lee<br>side of island                             |
|                               | Đ.:   |                         |                            | Acres of<br>flowing<br>channel<br>surface                         | 0                | 1                             | 20                          | Perform transect H (East River)<br>hydrographic sounding                      | Describe presence of<br>snags, channel<br>sedimentation, and<br>vegetation                    |
| Enhance<br>Aquatic<br>Habitat | Provide flowing side channel aquatic habitat              | Flowing Side<br>Channel | Side channel<br>excavation | Sq. ft of<br>cross-<br>sectional<br>area of<br>flowing<br>channel | 0                |                               | 500                         | Perform transects C, D, and E<br>(East River) hydrographic<br>soundings       |   |
|                               | wywano nawnat   |                         |                            | Velocity of<br>flowing<br>channel in<br>ft/s                      | 0                | 0.23-2.95                     | 1                           | Perform transects C, D, E (East<br>River) velocity measurements               |   |
|                               |   |                         | Mast trees                 | Acre  | 0                | 1                             | 2                           | Perform transect I vegetation<br>survey                                       | Describe condition of<br>shoreline, sprigs, cuttings,<br>and seedlings                        |

A Site Vicinity Map, the HREP Site Plan, and the Monitoring Plan plates are included in Attachment A. Site visit photos are included in Attachment B.

#### **IX. OBSERVATIONS:**

#### Forested Wetland Management Area (FWMA)

The FWMA is a 168 acre area adjacent to Goose Lake at the northern end of Peoria Lake. Three earthen levees and associated water control structures, and a pump station create three independently managed forested wetland areas.

The IL DNR would prefer to fill the site from October 1 through 10 each year. This should occur by pumping water from the inlet channel into Cell A, which would gravity fill to Cell B then Cell C through the stoplog structures. The system would then be drained in January to February one board at a time in each stoplog structure.

Berms were well maintained. Mowing occurs every other year in general in order to control woody debris and limit impacts to migrating butterflies such as monarchs.

River side berm is experiencing erosion upstream of the existing riprap. Additional riprap may be placed by the local friends group. A pile of discarded concrete is stockpiled at near the pump station.

Riprap located on the berm located closest to the river is heavily vegetated, including some trees. These trees should be removed. The IL DNR is aware of this, but due to budget constraints and a reduced staff has not been able to address this issue.

There are 3 stoplog structures. Each structure has four bays, each bay having a width of five feet, for a total opening of 20 feet. The flow opening was principally sized for flood operations, so that in the event of an overtopping event, each cell would be filled to within one foot of the top of berm before overtopping. This reduces berm damage during overtopping flood events. Wooden stoplogs had typically been used to manage water levels, but were difficult to manipulate. The IL DNR discovered that they needed only one gate opening in each structure to operate the system effectively for normal filling and emptying operations (not flood overtopping events). The Illinois River Valley Conservation Group hired Tom Rubel from Spring Bay, IL to construct 5 foot x 5 foot aluminum boards to slide into the stoplog gates. The single boards are slightly narrower than a traditional stoplog, but extend from the top to the bottom of the structure. Three boards per structure were constructed. Each bay on the north side of the structure is slightly smaller than the other three bays. This was discovered when the first board was installed at the structure nearest the river. The board would not easily fit, and was installed through the strength of the campground host, Larry. In this structure, the second bay from the north was left open. In the other two structures, the northern bay was left open since the new boards would not fit. Prior to installing the boards, the bottom was cleared of all silt and debris to the bottom of the structure, and roofing matting was added at the base to assist with a seal. These gates were installed in 2016. The gates are light enough that one person can lift the gate using a rope from the top, while another person assists from the bottom, then are light enough for two people to hand carry.

The pump station (30 hp, submersible-type pump with a capacity of 6000 gpm against a 12.5 foot dynamic head) was poorly maintained from 2000 to 2005. With a change in staff in 2005, this lack of maintenance was discovered and remedies were attempted, however, the pump would frequently fail, overheating after an hour or so of operation. Significant problems began in 2008. The pump was pulled in 2014 after several pump companies could not discover the problem. The Japanese built pump would require about a \$30,000 repair and would take over a year to get the parts. A temporary pump is being used. The temporary pump draws from the intake channel on a gravel slope and fills cell B, which then drains to cell C. The pump does not fill the cells in the desired time (10 day fill starting on October 1), but takes about 20 days to fill the two cells. Cell A is not being operated based on lack of water input. The IL DNR has considered moving the pump outlet to cell A after B and C have been filled, but by that time, the benefits of filling the cell are outweighed by the additional cost of pumping since it is later in the season. The IL DNR has a request in for a new pump which will cost approximately \$80,000, however, due to budget constraints, it is unknown when this new pump will arrive.

The electrical components of the pump station are maintained on a wooden structure near the campground. Water levels from the 2013 nearly reached the electrical components before water levels fell. This structure is still present, although not used since the pump has been pulled.

Hunting is generally prohibited within the three cells, although two blinds are set up for children or disabled hunters to use twice a week during the hunting season.

Limited mortality was observed in the three cells, with about 20% of the observed trees appearing stressed, which is less than anticipated in the project design. Some ash is growing in Cell A in the higher elevation areas, according to the IL DNR. Limited regeneration was noted in the other cells; less than 15% of the cells has advanced regeneration. In general, silver maple, black willow, green ash, and cottonwood were the predominant species. Most trees appeared to be around 50 years in age, which coordinates well with one of the highest floods on the Illinois (which occurred in the late 1940's), and likely caused significant tree mortality at that time.

Tree planting conducted by the IL DNR has noted that much of the new pin oak became chlorotic.

Duck houses have been placed throughout the cells, courtesy of the Illinois River Valley Conservation Group.

Bird response in the area has been good. Over the past 11 years, Mallard, Lesser Scaup, Canvasback, Redhead, Ring Neck Duck, Northern Pintail, American Greenwinged Teal, Ruddy Duck, Canada Goose, Bufflehead, Common Gallinule, Greater White-fronted Goose, American Coot, Blue Winged Teal, Hooded Merganser, and American White Pelican have been observed at the HREP. A Waterfowl Count data summary from Winter 2005 to Winter 2015 compiled by the Illinois Natural History Survey is included in Attachment C.

The channel leading into the system, where the water is obtained for pumping into the cells was very low. The IL DNR stated that it had been dredged out by heavy equipment staff in the summer of 2015. The channel is not connected to the Illinois River on the upstream end, by design, and is in fact very shallow. There were several bubblers that had been installed by volunteers, both in this channel (along with 3 wells in Unit B), that are attached to artesian wells. These help aerate the system for fish. One gar was noted during the inspection in some of the deeper water.

In years when the water level is low, and depending on funding, the IL DNR will disk the berm toes and plan millet or corn. The corn is generally eaten by deer prior to the waterfowl having a chance to consume the food source. The millet is successful for providing a food source. In years when there is a good wetland response in the unit, planting is not completed.

#### Mast Tree Plantings

Mast tree plantings appear to be successful at the site. Based on the as built drawings, it was difficult to determine which trees were planted where, however, based on the site visit, the following was determined:

#### Site near entrance gate on east side of Cell A:

This site was planted, generally in rows. The trees are surviving well in this area. The drawings indicated that some of these trees may be transplanted, and some were transplanted into the units, however, at this time, they would be too large to transplant. A small portion the planting has trees that are in need of reduction in natural competition; a thinning effort of soft-mast trees.

#### **Borrow Pits in Cell A:**

Trees were planted within this location, and several species were still surviving. Initially, this area had been mowed, but that has not occurred for several years. A TSI to include tree clearing of cottonwood and willows around the hard mast trees was conducted several years ago, but due to budget constraints a second TSI has not occurred. Based on the existing conditions, a removal of about 30% of the non-mast trees in this location would be a benefit to the planted mast trees in the area to promote survivability. Of the three tree species planted, swamp white oak was the highest is survivorship, best health, and structural development; largest trees seen were 20 feet tall and poorest in form or stunted trees were 8 feet tall. Northern pecan on average shows the highest stress due to overcrowding and limited light availability; tallest trees seen were 15 feet tall and the worst developing trees were 4 feet tall. From the limited walk in the planted area, no pin oak were seen. Cottonwood trees in the planting are on average 50 feet tall. Significant stress is apparent to the majority of the planted trees; stump sprouts are high in occurrence as well as flattened crowns and corked main leaders. Reduction in the canopy competition will be the first step to recovering the planted trees, then a follow up treatment of coppice and additional reduction in non-mast trees in the canopy will be needed for best success in maintaining existing planted trees. The treatments should be done in a five year period for best results; beginning this winter.

No other tree planting areas were known by the Site Manager.

#### **Barrier Island**

The Barrier Island was designed to provide a protected, wave-free zone to promote establishment of an aquatic bed. It has a 50 foot crown width at elevation 446, with an overall width of 182 feet at elevation 435. The borrow material for island construction was excavated from an adjacent borrow area.

The Barrier Island remains in place, and has grown in the downstream direction. Mature, tall trees including black willow, cottonwood, and silver maple were noted on the islands. One honey locust was identified. A significant amount of aster and bur cucumber was observed on the islands. No erosion was noted. Water birds were noted along the islands during the site visit.

The upstream end of the Barrier Island was set such that an opening between the constructed island and an existing island remains in the water. This area is very shallow at this time.

#### **Overburden Islands**

The overburden island had been constructed of silty material that was considered too poor to construct an island. The material was side cast and anticipated to degrade away over time. Instead, the overburden island has grown and has connected to an existing island. Vegetation on this island matched that of the Barrier Island.

#### **Flowing Side Channels**

The purpose of the flowing side channel project feature was to provide oxygenated flow to the side channel along with depth adequate to support aquatic habitat. There are two flowing side channels in the project, the East River channel and the Barrier channel. The East River channel was divided into two parts, from the rock closure structure upstream 2,250 feet, and from the rock closure structure downstream to the navigation channel, a distance of 1,300 feet. The entire East River channel is approximately 9,000 feet in length (only the lower portion – the "silt plug", was removed during construction). The Barrier channel was classified as a flowing side channel post-construction when the overburden island did not erode as expected, with the channel between the constructed islands remaining in place.

The Barrier channel between the overburden island and the barrier island has silted in according to the IL DNR. Low water conditions at the time of the site visit prohibited the ability to inspect the channel. The IL DNR estimated that about half of the depth has been lost.

There are two openings in the left bank of the East River. These allow access from the channel to the Woodford County Conservation area. The upstream opening is located 2,000 feet downstream of the channel entrance, and existed prior to project construction. The downstream opening is located between the downstream end of the East River dredging and the upstream end of the constructed island. From looking at surveys, historical aerial photography, and from discussion during the site visit, there was good agreement from the team that had these openings been eliminated (or at least, reduced) that the East River channel would have experienced less sediment deposition over the project life.

The constructed portion of the East River channel has experienced sediment deposition. The upper portion of the East River (non-constructed) has eroded. East River channel sections and a longitudinal bed profile, based on available surveys, are provided in Appendix D.

#### **Rock Closure Structure**

The rock closure structure was added as a project feature when it was apparent that overburden island would remain in place, resulting in a flowing side channel. The purpose of the rock closure structure was to allow for sediment traveling down the East River to continue past the Barrier channel and out into the Illinois River. It was constructed to a height of two feet below

flat pool, allowing for some flow (oxygen) in to the side channel for fisheries benefits. Riprap on the banks and the H piles were still in place for the rock closure structure.

### IX. CONCLUSION

Based on limited funding and resources, the IL DNR is doing a great job of maintaining the site within their capabilities, utilizing the help of a local friends group. The site cannot be fully operated at this time without a new pump, however the response in the units being maintained has been very good. The islands have not deteriorated, and all vegetation on the islands and within the units has responded well, with trees growing very well.

#### X. <u>RECOMMENDATIONS:</u>

- 1. TSI clearing: 30% reduction in soft-mast canopy in the first winter, in 1 or 2 years following the thinning, coppice the poorly developed hard-mast, then 2 years later conduct a second canopy reduction at a rate of 20% removal of soft-mast trees.
- 2. Riprap cleanup: Remove trees and vegetation from riprap
- 3. Pumps: Repair or replace existing pumps
- 4. Levee erosion: Monitor and repair levee erosion.

ATTACHMENT A Site Plan and Monitoring Plan Plates

Peoria Lake UMRR Habitat Rehabilitation and Enhancement Project







ATTACHMENT B Site Visit Photos

# Attendees



| Name            | Office |
|-----------------|--------|
| Thad Cook       | IL DNR |
| Tony Culven     | IL DNR |
| Tony Schoepke   | IL DNR |
| Kara Mitvalsky  | USACE  |
| Steve Gustafson | USACE  |
| Ben Vandermyde  | USACE  |
| Tom Kirkeeng    | USACE  |
|                 |        |

# Inlet Channel

# **Downstream View**

# **Upstream View**



# **Pump Station**

# **Electrical Components**



# **Pump House**



# Temporary Pump Location (note small rock)



# Berm

# South end berm looking west

# South end berm looking east



# Riprap (riverside berm)

# **Vegetation noted in riprap**



# Riprap\_Riverward Berm Cell C

# **Project Constructed**



# Added later by Friends of Project



# Moist Soil Interiors (typical)

• Cell A



# Moist Soil Interiors (typical)

# Cell B

Cell C



# **Stoplog Structures**





Note aluminum plates, structure with water and one without water





# Closure Structure and Flowing Side CHannel



# Barrier Island (typical vegetation, upstream end)



# Overburden Island (Downstream End)



# Mast Tree Plantings



# Birds around the island









#### ATTACHMENT C INHS Waterfowl Counts

|                             | Peoria Lake |          |           |           |           |          |          |           |          |
|-----------------------------|-------------|----------|-----------|-----------|-----------|----------|----------|-----------|----------|
|                             | Date        | 5-Jan-16 | 29-Dec-15 | 22-Dec-15 | 15-Dec-15 | 8-Dec-15 | 3-Dec-15 | 24-Nov-15 | 9-Nov-15 |
| Mallard                     | MALL        | 600      | 1,310     | 1,050     | 9,000     | 16,000   | 20,000   | 10,300    | 4,100    |
| American Black Duck         | ABDU        | 0        | 0         | 0         | 100       | 100      | 200      | 0         | 0        |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 1,000    |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 1,000    |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 200      |
| Lesser Scaup                | LESC        | 400      | 1,710     | 1,700     | 3,500     | 100      | 2,700    | 1,100     | 400      |
| Ring-necked Duck            | RNDU        | 0        | 225       | 0         | 0         | 0        | 0        | 0         | 0        |
| Canvasback                  | CANV        | 25       | 125       | 150       | 200       | 0        | 150      | 0         | 0        |
| Redhead                     | REDH        | 10       | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| Ruddy Duck                  | RUDU        | 0        | 200       | 700       | 2,200     | 1,300    | 4,225    | 1,100     | 12,000   |
| Canada Goose                | COGO        | 9,000    | 300       | 1,350     | 200       | 100      | 100      | 125       | 0        |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 100      | 0        | 0         | 50       |
| Common Merganser            | COME        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
|                             | TOTAL DUCKS | 10,035   | 3,870     | 4,950     | 15,200    | 17,700   | 27,375   | 12,625    | 18,750   |
| Common Gallinule            | CAGO        | 710      | 230       | 0         | 0         | 0        | 0        | 270       | 75       |
| Greater White-fronted Goose | GWFG        | 300      | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| American White Pelican      | AWPE        | 0        | 0         | 0         | 0         | 0        | 0        | 0         | 0        |
| American Coot               | AMCO        | 0        | 100       | 0         | 0         | 0        | 0        | 0         | 550      |

|                             | Peoria Lake |          |           |           |           |           |           |          |           |
|-----------------------------|-------------|----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|
|                             | Date        | 2-Nov-15 | 26-Oct-15 | 22-Oct-15 | 14-Oct-15 | 21-Sep-15 | 16-Sep-15 | 9-Sep-15 | 31-Aug-15 |
| Mallard                     | MALL        | 3,025    | 400       | 0         | 20        | 0         | 0         | 0        | 0         |
| American Black Duck         | ABDU        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Northern Pintail            | NOPI        | 1,000    | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Blue-winged Teal            | BWTE        | 0        | 0         | 100       | 0         | 0         | 0         | 0        | 0         |
| American Green-winged Teal  | AGWT        | 1,000    | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Lesser Scaup                | LESC        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Ring-necked Duck            | RNDU        | 300      | 100       | 0         | 0         | 0         | 0         | 0        | 0         |
| Canvasback                  | CANV        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Redhead                     | REDH        | 0        | 0         | 620       | 0         | 0         | 0         | 0        | 0         |
| Ruddy Duck                  | RUDU        | 4,800    | 500       | 0         | 0         | 0         | 0         | 0        | 0         |
| Canada Goose                | COGO        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Common Merganser            | COME        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Hooded Merganser            | HOME        | 0        | 0         | 1,220     | 0         | 0         | 0         | 0        | 0         |
|                             | TOTAL DUCKS | 10,125   | 1,000     | 50        | 20        | 0         | 0         | 0        | 0         |
| Common Gallinule            | CAGO        | 0        | 0         | 0         | 10        | 0         | 0         | 35       | 10        |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 5         | 0         | 0         | 0         | 0        | 0         |
| American White Pelican      | AWPE        | 0        | 5         | 300       | 520       | 5         | 320       | 0        | 0         |
| American Coot               | AMCO        | 500      | 50        |           | 20        | 0         | 0         | 0        | 0         |

#### Peoria Lake

|                             | Date        | 5-Jan-15 | 29-Dec-14 | 17-Dec-14 | 9-Dec-14 | 3-Dec-14 | 25-Nov-14 | 20-Nov-14 | 12-Nov-14 |
|-----------------------------|-------------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|
| Mallard                     | MALL        | 41,790   | 900       | 9,050     | 3,000    | 800      | 16,000    | 10,450    | 15,015    |
| American Black Duck         | ABDU        | 210      | 0         | 50        | 0        | 0        | 0         | 0         | 350       |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 200       |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Lesser Scaup                | LESC        | 0        | 300       | 410       | 300      | 50       | 1,500     | 300       | 2,700     |
| Ring-necked Duck            | RNDU        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Canvasback                  | CANV        | 0        | 0         | 275       | 1,500    | 0        | 2,500     | 100       | 0         |
| Redhead                     | REDH        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0        | 0         | 100       | 100      | 0        | 700       | 700       | 400       |
| Canada Goose                | COGO        | 7,900    | 800       | 4,310     | 3,300    | 1,800    | 2,300     | 1,750     | 0         |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Common Merganser            | COME        | 0        | 50        | 150       | 200      | 0        | 100       | 10        | 0         |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 30        |
|                             | TOTAL DUCKS | 49,900   | 2,050     | 14,345    | 8,400    | 2,650    | 23,100    | 13,310    | 18,695    |
| Common Gallinule            | CAGO        | 0        | 350       | 50        | 450      | 0        | 30        | 0         | 200       |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 0         |
| American White Pelican      | AWPE        | 0        | 0         | 0         | 0        | 5        | 0         | 0         | 0         |
| American Coot               | AMCO        | 0        | 0         | 0         | 0        | 0        | 0         | 0         | 200       |

|                             | Peoria Lake |          |           |           |           |           |           |           |          |
|-----------------------------|-------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
|                             | Date        | 5-Nov-14 | 29-Oct-14 | 20-Oct-14 | 16-Oct-14 | 23-Sep-14 | 16-Sep-14 | 11-Sep-14 | 3-Sep-14 |
| Mallard                     | MALL        | 6,500    | 3,050     | 500       | 600       | 0         | 0         | 0         | 0        |
| American Black Duck         | ABDU        | 50       | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Northern Pintail            | NOPI        | 0        | 110       | 0         | 0         | 0         | 0         | 0         | 0        |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Lesser Scaup                | LESC        | 8,700    | 10        | 0         | 0         | 0         | 0         | 0         | 0        |
| Ring-necked Duck            | RNDU        | 1,000    | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Canvasback                  | CANV        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Redhead                     | REDH        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Ruddy Duck                  | RUDU        | 3,500    | 500       | 10        | 10        | 0         | 0         | 0         | 0        |
| Canada Goose                | COGO        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Common Merganser            | COME        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Hooded Merganser            | HOME        | 10       | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
|                             | TOTAL DUCKS | 19,760   | 3,670     | 510       | 610       | 0         | 0         | 0         | 0        |
| Common Gallinule            | CAGO        | 0        | 0         | 0         | 0         | 0         | 0         | 10        | 0        |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0         | 0         | 0         | 0         | 0        |
| American White Pelican      | AWPE        | 30       | 0         | 0         | 5         | 0         | 15        | 70        | 0        |
| American Coot               | AMCO        | 3,300    | 500       | 25        | 0         | 0         | 0         | 0         | 0        |

|                             | Peoria Lake |          |           |           |           |           |          |           |           |
|-----------------------------|-------------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|
|                             | Date        | 8-Jan-14 | 30-Dec-13 | 23-Dec-13 | 19-Dec-13 | 12-Dec-13 | 6-Dec-13 | 27-Nov-13 | 19-Nov-13 |
| Mallard                     | MALL        | 15,000   | 25,000    | 26,400    | 40,300    | 65,000    | 15,300   | 175       | 8,000     |
| American Black Duck         | ABDU        | 150      | 250       | 100       | 205       | 0         | 200      | 0         | 0         |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Lesser Scaup                | LESC        | 0        | 0         | 0         | 0         | 0         | 400      | 300       | 0         |
| Ring-necked Duck            | RNDU        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Canvasback                  | CANV        | 0        | 0         | 0         | 10        | 0         | 0        | 0         | 0         |
| Redhead                     | REDH        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0        | 0         | 0         | 10        | 0         | 475      | 900       | 1,600     |
| Canada Goose                | COGO        | 30       | 110       | 700       | 140       | 50        | 0        | 0         | 0         |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 100       |
| Common Merganser            | COME        | 70       | 675       | 800       | 1,010     | 680       | 0        | 0         | 0         |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
|                             | TOTAL DUCKS | 15,250   | 26,035    | 28,000    | 41,675    | 65,730    | 16,375   | 1,375     | 9,700     |
| Common Gallinule            | CAGO        | 100      | 210       | 0         | 0         | 35        | 300      | 30        | 100       |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| American White Pelican      | AWPE        | 0        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| American Coot               | AMCO        | 0        | 0         | 0         | 0         | 0         | 0        | 100       | 0         |

|                             | Peoria Lake |           |          |           |           |           |           |           |          |
|-----------------------------|-------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|----------|
|                             | Date        | 14-Nov-13 | 8-Nov-13 | 28-Oct-13 | 23-Oct-13 | 14-Oct-13 | 25-Sep-13 | 13-Sep-13 | 3-Sep-13 |
| Mallard                     | MALL        | 600       | 600      | 3,100     | 5,300     | 600       | 0         | 0         | 0        |
| American Black Duck         | ABDU        | 0         | 0        | 0         | 50        | 0         | 0         | 0         | 0        |
| Northern Pintail            | NOPI        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Blue-winged Teal            | BWTE        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| American Green-winged Teal  | AGWT        | 0         | 200      | 0         | 0         | 0         | 0         | 0         | 0        |
| American Wigeon             | AMWI        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Gadwall                     | GADW        | 0         | 0        | 100       | 0         | 0         | 0         | 0         | 0        |
| Northern Shoveler           | NSHO        | 0         | 0        | 0         | 200       | 0         | 0         | 0         | 0        |
| Lesser Scaup                | LESC        | 0         | 100      | 0         | 0         | 0         | 0         | 0         | 0        |
| Ring-necked Duck            | RNDU        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Canvasback                  | CANV        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Redhead                     | REDH        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Ruddy Duck                  | RUDU        | 325       | 5,400    | 8,600     | 400       | 325       | 0         | 0         | 0        |
| Canada Goose                | COGO        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Bufflehead                  | BUFF        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Common Merganser            | COME        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Hooded Merganser            | HOME        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
|                             | TOTAL DUCKS | 925       | 6,300    | 11,800    | 5,950     | 925       | 0         | 0         | 0        |
| Common Gallinule            | CAGO        | 10        | 0        | 100       | 0         | 10        | 0         | 0         | 50       |
| Greater White-fronted Goose | GWFG        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Lesser Snow Goose           | LSGO        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| American White Pelican      | AWPE        | 0         | 0        | 20        | 105       | 0         | 0         | 400       | 0        |
| American Coot               | AMCO        | 100       | 1,200    | 3,000     | 810       | 100       | 0         | 0         | 0        |

|                             | Peoria Lake |          |          |           |           |           |          |           |           |
|-----------------------------|-------------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|
|                             | Date        | 8-Jan-13 | 2-Jan-13 | 27-Dec-12 | 19-Dec-12 | 12-Dec-12 | 6-Dec-12 | 26-Nov-12 | 20-Nov-12 |
| Mallard                     | MALL        | 9,100    | 50,500   | 500       | 1,050     | 4,000     | 900      | 4,600     |           |
| American Black Duck         | ABDU        | 0        | 0        | 0         | 0         | 0         | 0        | 50        |           |
| Northern Pintail            | NOPI        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| Blue-winged Teal            | BWTE        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| American Green-winged Teal  | AGWT        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| American Wigeon             | AMWI        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| Gadwall                     | GADW        | 0        | 0        | 500       | 0         | 0         | 0        | 0         |           |
| Northern Shoveler           | NSHO        | 0        | 250      | 0         | 0         | 0         | 0        | 0         |           |
| Lesser Scaup                | LESC        | 300      | 0        | 2,500     | 550       | 200       | 2,200    | 500       |           |
| Ring-necked Duck            | RNDU        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| Canvasback                  | CANV        | 500      | 2,310    | 800       | 0         | 0         | 25       | 0         |           |
| Redhead                     | REDH        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| Ruddy Duck                  | RUDU        | 200      | 0        | 7,850     | 1,710     | 1,320     | 13,400   | 3,800     |           |
| Canada Goose                | COGO        | 3,600    | 1,460    | 100       | 100       | 900       | 100      | 120       |           |
| Bufflehead                  | BUFF        | 0        | 0        | 0         | 0         | 0         | 50       | 0         |           |
| Common Merganser            | COME        | 1,605    | 920      | 300       | 0         | 0         | 0        | 0         |           |
| Hooded Merganser            | HOME        | 0        | 0        | 0         | 0         | 0         | 5        | 10        |           |
|                             | TOTAL DUCKS | 15,305   | 55,440   | 12,550    | 3,410     | 6,420     | 16,680   | 9,080     |           |
| Common Gallinule            | CAGO        | 750      | 0        | 300       | 55        | 0         | 0        | 0         |           |
| Greater White-fronted Goose | GWFG        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| Lesser Snow Goose           | LSGO        | 0        | 0        | 0         | 0         | 0         | 5        | 0         |           |
| American White Pelican      | AWPE        | 0        | 0        | 0         | 0         | 0         | 0        | 0         |           |
| American Coot               | AMCO        | 0        | 0        | 1,000     | 0         | 0         | 400      | 150       |           |

|                             | Peoria Lake |           |          |           |           |           |           |           |          |
|-----------------------------|-------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|----------|
|                             | Date        | 13-Nov-12 | 8-Nov-12 | 29-Oct-12 | 15-Oct-12 | 27-Sep-12 | 20-Sep-12 | 10-Sep-12 | 6-Sep-12 |
| Mallard                     | MALL        | 3,350     | 4,500    | 5,200     | 1,700     | 50        | 0         | 0         | 0        |
| American Black Duck         | ABDU        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Northern Pintail            | NOPI        | 0         | 0        | 0         | 0         | 50        | 20        | 0         | 0        |
| Blue-winged Teal            | BWTE        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 100      |
| American Green-winged Teal  | AGWT        | 0         | 0        | 0         | 0         | 0         | 100       | 0         | 0        |
| American Wigeon             | AMWI        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Gadwall                     | GADW        | 10        | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Northern Shoveler           | NSHO        | 0         | 0        | 0         | 0         | 0         | 0         | 20        | 0        |
| Lesser Scaup                | LESC        | 550       | 500      | 0         | 0         | 0         | 0         | 0         | 0        |
| Ring-necked Duck            | RNDU        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Canvasback                  | CANV        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Redhead                     | REDH        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Ruddy Duck                  | RUDU        | 5,320     | 2,200    | 900       | 2,600     | 0         | 0         | 0         | 0        |
| Canada Goose                | COGO        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Bufflehead                  | BUFF        | 50        | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Common Merganser            | COME        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Hooded Merganser            | HOME        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
|                             | TOTAL DUCKS | 9,280     | 7,200    | 6,100     | 4,300     | 100       | 120       | 20        | 100      |
| Common Gallinule            | CAGO        | 0         | 40       | 0         | 5         | 25        | 10        | 0         | 10       |
| Greater White-fronted Goose | GWFG        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| Lesser Snow Goose           | LSGO        | 0         | 0        | 0         | 0         | 0         | 0         | 0         | 0        |
| American White Pelican      | AWPE        | 0         | 0        | 20        | 110       | 125       | 1,500     | 200       | 400      |
| American Coot               | AMCO        | 400       | 900      | 0         | 20        | 0         | 200       | 0         | 0        |

|                             | Peoria Lake |          |           |           |           |          |           |           |           |
|-----------------------------|-------------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|
|                             | Date        | 4-Jan-12 | 28-Dec-11 | 23-Dec-11 | 12-Dec-11 | 7-Dec-11 | 30-Nov-11 | 21-Nov-11 | 15-Nov-11 |
| Mallard                     | MALL        | 5,000    | 3,450     | 1,500     | 1,000     | 5,400    | 6,210     | 1,000     | 5,400     |
| American Black Duck         | ABDU        | 100      | 10        | 0         | 0         | 0        | 0         | 0         | 0         |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 0         | 500      | 0         | 0         | 100       |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 500       | 0        | 200       | 500       | 0         |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Lesser Scaup                | LESC        | 0        | 100       | 0         | 0         | 600      | 300       | 0         | 200       |
| Ring-necked Duck            | RNDU        | 0        | 0         | 0         | 0         | 0        | 140       | 0         | 0         |
| Canvasback                  | CANV        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Redhead                     | REDH        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Ruddy Duck                  | RUDU        | 300      | 60        | 0         | 100       | 300      | 190       | 100       | 700       |
| Canada Goose                | COGO        | 100      | 50        | 0         | 0         | 100      | 0         | 0         | 0         |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 60       | 50        | 0         | 0         |
| Common Merganser            | COME        | 510      | 0         | 100       | 0         | 10       | 0         | 0         | 0         |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
|                             | TOTAL DUCKS | 6,010    | 3,670     | 1,600     | 1,600     | 6,970    | 7,090     | 1,600     | 6,400     |
| Common Gallinule            | CAGO        | 200      | 160       | 150       | 0         | 200      | 0         | 0         | 200       |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| American White Pelican      | AWPE        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| American Coot               | AMCO        | 0        | 0         | 0         | 200       | 0        | 0         | 200       | 70        |

|                             | Peoria Lake |          |           |           |           |           |           |          |           |
|-----------------------------|-------------|----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|
|                             | Date        | 1-Nov-11 | 24-Oct-11 | 17-Oct-11 | 10-Oct-11 | 22-Sep-11 | 12-Sep-11 | 6-Sep-11 | 30-Aug-11 |
| Mallard                     | MALL        | 200      | 1,000     | 700       | 170       | 0         | 0         | 0        | 10        |
| American Black Duck         | ABDU        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 100       | 0         | 0         | 0        | 0         |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 100       | 0         | 0         | 0        | 0         |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Lesser Scaup                | LESC        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Ring-necked Duck            | RNDU        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Canvasback                  | CANV        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Redhead                     | REDH        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Ruddy Duck                  | RUDU        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Canada Goose                | COGO        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Common Merganser            | COME        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
|                             | TOTAL DUCKS | 200      | 1,000     | 700       | 370       | 0         | 0         | 0        | 10        |
| Common Gallinule            | CAGO        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 5         |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0         | 0         | 0         | 0        | 0         |
| American White Pelican      | AWPE        | 0        | 0         | 200       | 0         | 1,000     | 0         | 100      | 0         |
| American Coot               | AMCO        | 300      | 100       | 0         | 0         | 0         | 0         | 0        | 0         |

|                             | Peoria Lake |          |           |           |          |           |           |          |          |
|-----------------------------|-------------|----------|-----------|-----------|----------|-----------|-----------|----------|----------|
|                             | Date        | 3-Jan-11 | 28-Dec-10 | 14-Dec-10 | 3-Dec-10 | 23-Nov-10 | 16-Nov-10 | 8-Nov-10 | 2-Nov-10 |
| Mallard                     | MALL        | 750      | 25,000    | 16,000    | 5,000    | 5,500     | 6,500     | 7,200    | 8,000    |
| American Black Duck         | ABDU        | 25       | 500       | 200       | 0        | 0         | 50        | 0        | 0        |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 0        | 1,100     | 2,000     | 500      | 200      |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 0        | 0         | 500       | 200      | 100      |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0        | 200       | 500       | 0        | 200      |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| Lesser Scaup                | LESC        | 0        | 0         | 0         | 3,000    | 3,300     | 2,400     | 0        | 0        |
| Ring-necked Duck            | RNDU        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| Canvasback                  | CANV        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| Redhead                     | REDH        | 0        | 0         | 0         | 50       | 0         | 0         | 0        | 0        |
| Ruddy Duck                  | RUDU        | 0        | 0         | 0         | 1,650    | 2,500     | 8,000     | 0        | 0        |
| Canada Goose                | COGO        | 0        | 0         | 0         | 500      | 50        | 0         | 0        | 0        |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 100      | 350       | 0         | 0        | 0        |
| Common Merganser            | COME        | 200      | 0         | 210       | 10       | 0         | 0         | 0        | 0        |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 60       | 0         | 0         | 0        | 0        |
|                             | TOTAL DUCKS | 975      | 25,500    | 16,410    | 10,370   | 13,000    | 19,950    | 7,900    | 8,500    |
| Common Gallinule            | CAGO        | 25       | 0         | 0         | 680      | 0         | 30        | 50       | 0        |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0        | 0         | 0         | 0        | 0        |
| American White Pelican      | AWPE        | 0        | 0         | 0         | 0        | 0         | 5         | 0        | 1,000    |
| American Coot               | AMCO        | 0        | 0         | 0         | 0        | 200       | 100       | 0        | 900      |

|                             | Peoria Lake |           |           |           |           |           |          |           |           |
|-----------------------------|-------------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|
|                             | Date        | 25-Oct-10 | 18-Oct-10 | 11-Oct-10 | 20-Sep-10 | 14-Sep-10 | 8-Sep-10 | 29-Dec-08 | 22-Dec-08 |
| Mallard                     | MALL        | 2,600     | 3,000     | 400       | 0         | 0         | 10       | 1,000     | 18,000    |
| American Black Duck         | ABDU        | 10        | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Northern Pintail            | NOPI        | 100       | 300       | 100       | 0         | 0         | 0        | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0         | 100       | 0         | 0         | 0         | 0        | 0         | 0         |
| American Wigeon             | AMWI        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Gadwall                     | GADW        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Northern Shoveler           | NSHO        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Lesser Scaup                | LESC        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Ring-necked Duck            | RNDU        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Canvasback                  | CANV        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Redhead                     | REDH        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0         | 0         | 50        | 0         | 0         | 0        | 0         | 0         |
| Canada Goose                | COGO        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Bufflehead                  | BUFF        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Common Merganser            | COME        | 0         | 0         | 0         | 0         | 0         | 0        | 200       | 75        |
| Hooded Merganser            | HOME        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
|                             | TOTAL DUCKS | 2,710     | 3,400     | 550       | 0         | 0         | 10       | 1,200     | 18,075    |
| Common Gallinule            | CAGO        | 30        | 0         | 0         | 0         | 0         | 0        | 100       | 100       |
| Greater White-fronted Goose | GWFG        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |
| American White Pelican      | AWPE        | 0         | 50        | 125       | 0         | 200       | 0        | 0         | 0         |
| American Coot               | AMCO        | 0         | 0         | 0         | 0         | 0         | 0        | 0         | 0         |

|                             | Peoria Lake |          |           |           |           |          |           |           |           |
|-----------------------------|-------------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|
|                             | Date        | 2-Dec-08 | 25-Nov-08 | 18-Nov-08 | 10-Nov-08 | 3-Nov-08 | 28-Oct-08 | 20-Oct-08 | 13-Oct-08 |
| Mallard                     | MALL        | 5,000    | 7,000     | 10,000    | 8,900     | 10,000   | 3,000     | 125       | 0         |
| American Black Duck         | ABDU        | 0        | 0         | 0         | 100       | 0        | 0         | 0         | 0         |
| Northern Pintail            | NOPI        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0        | 0         | 0         | 0         | 2,000    | 0         | 0         | 0         |
| American Wigeon             | AMWI        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Gadwall                     | GADW        | 0        | 0         | 0         | 0         | 1,000    | 0         | 0         | 0         |
| Northern Shoveler           | NSHO        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Lesser Scaup                | LESC        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Ring-necked Duck            | RNDU        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Canvasback                  | CANV        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Redhead                     | REDH        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Canada Goose                | COGO        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Bufflehead                  | BUFF        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Common Merganser            | COME        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Hooded Merganser            | HOME        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
|                             | TOTAL DUCKS | 5,000    | 7,000     | 10,000    | 9,000     | 13,000   | 3,000     | 125       | 0         |
| Common Gallinule            | CAGO        | 40       | 0         | 0         | 0         | 125      | 10        | 0         | 0         |
| Greater White-fronted Goose | GWFG        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |
| American White Pelican      | AWPE        | 0        | 0         | 0         | 50        | 0        | 0         | 100       | 0         |
| American Coot               | AMCO        | 0        | 0         | 0         | 0         | 0        | 0         | 0         | 0         |

|                             | Peoria Lake |           |          |          |          |           |           |           |           |
|-----------------------------|-------------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|
|                             | Date        | 16-Sep-08 | 9-Sep-08 | 2-Sep-08 | 2-Jan-07 | 27-Dec-06 | 18-Dec-06 | 13-Dec-06 | 27-Nov-06 |
| Mallard                     | MALL        | 0         | 0        | 0        | 200      | 400       | 900       | 3465      | 1300      |
| American Black Duck         | ABDU        | 0         | 0        | 0        | 0        | 0         | 25        | 35        | 0         |
| Northern Pintail            | NOPI        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| American Wigeon             | AMWI        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Gadwall                     | GADW        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Northern Shoveler           | NSHO        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Lesser Scaup                | LESC        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Ring-necked Duck            | RNDU        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Canvasback                  | CANV        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Redhead                     | REDH        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Canada Goose                | COGO        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Bufflehead                  | BUFF        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Common Merganser            | COME        | 0         | 0        | 0        | 150      | 0         | 0         | 0         | 0         |
| Hooded Merganser            | HOME        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
|                             | TOTAL DUCKS | 0         | 0        | 0        | 350      | 400       | 925       | 3500      | 1300      |
| Common Gallinule            | CAGO        | 0         | 0        | 0        | 5        | 75        | 0         | 770       | 0         |
| Greater White-fronted Goose | GWFG        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 0         |
| American White Pelican      | AWPE        | 0         | 15       | 0        | 0        | 0         | 0         | 0         | 0         |
| American Coot               | AMCO        | 0         | 0        | 0        | 0        | 0         | 0         | 0         | 100       |

|                             | Peoria Lake |           |           |          |          |          |          |           |           |
|-----------------------------|-------------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|
|                             | Date        | 22-Nov-06 | 13-Nov-06 | 8-Nov-06 | 1-Nov-06 | 6-Sep-06 | 5-Jan-06 | 29-Dec-05 | 19-Dec-05 |
| Mallard                     | MALL        | 200       |           | 2955     | 1900     | 0        | 4000     | 19500     | 24000     |
| American Black Duck         | ABDU        | 10        |           | 45       | 0        | 0        | 100      | 400       | 500       |
| Northern Pintail            | NOPI        | 25        |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0         |           | 0        | 0        | 40       | 0        | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0         |           | 1000     | 100      | 0        | 0        | 0         | 0         |
| American Wigeon             | AMWI        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Gadwall                     | GADW        | 0         |           | 500      | 100      | 0        | 0        | 0         | 0         |
| Northern Shoveler           | NSHO        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Lesser Scaup                | LESC        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Ring-necked Duck            | RNDU        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Canvasback                  | CANV        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Redhead                     | REDH        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Canada Goose                | COGO        | 0         |           | 0        | 0        | 0        | 20       | 700       | 200       |
| Bufflehead                  | BUFF        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Common Merganser            | COME        | 0         |           | 0        | 0        | 0        | 0        | 600       | 0         |
| Hooded Merganser            | HOME        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
|                             | TOTAL DUCKS | 235       |           | 4500     | 2100     | 40       | 4120     | 21200     | 24700     |
| Common Gallinule            | CAGO        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Greater White-fronted Goose | GWFG        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| American White Pelican      | AWPE        | 0         |           | 0        | 0        | 0        | 0        | 0         | 0         |
| American Coot               | AMCO        | 0         |           | 0        | 200      | 0        | 0        | 0         | 0         |

|                             | Peoria Lake |           |           |           |           |
|-----------------------------|-------------|-----------|-----------|-----------|-----------|
|                             | Date        | 13-Dec-05 | 30-Nov-05 | 21-Nov-05 | 17-Nov-05 |
| Mallard                     | MALL        | 19950     | 0         | 0         | 300       |
| American Black Duck         | ABDU        | 1050      | 0         | 0         | 0         |
| Northern Pintail            | NOPI        | 25        | 0         | 0         | 0         |
| Blue-winged Teal            | BWTE        | 0         | 0         | 0         | 0         |
| American Green-winged Teal  | AGWT        | 0         | 0         | 0         | 0         |
| American Wigeon             | AMWI        | 0         | 0         | 0         | 0         |
| Gadwall                     | GADW        | 0         | 0         | 0         | 0         |
| Northern Shoveler           | NSHO        | 0         | 0         | 0         | 0         |
| Lesser Scaup                | LESC        | 0         | 0         | 0         | 0         |
| Ring-necked Duck            | RNDU        | 0         | 0         | 0         | 0         |
| Canvasback                  | CANV        | 10        | 0         | 0         | 0         |
| Redhead                     | REDH        | 0         | 0         | 0         | 0         |
| Ruddy Duck                  | RUDU        | 0         | 0         | 0         | 0         |
| Canada Goose                | COGO        | 0         | 0         | 0         | 0         |
| Bufflehead                  | BUFF        | 0         | 50        | 0         | 0         |
| Common Merganser            | COME        | 0         | 0         | 0         | 0         |
| Hooded Merganser            | HOME        | 0         | 0         | 0         | 0         |
|                             | TOTAL DUCKS | 21035     | 50        | 0         | 300       |
| Common Gallinule            | CAGO        | 900       | 0         | 0         | 0         |
| Greater White-fronted Goose | GWFG        | 0         | 0         | 0         | 0         |
| Lesser Snow Goose           | LSGO        | 0         | 0         | 0         | 0         |
| American White Pelican      | AWPE        | 0         | 0         | 0         | 0         |
| American Coot               | AMCO        | 0         | 0         | 0         | 0         |

#### ATTACHMENT D

East River Historical Surveys



Alignment of East River Channel Longitudinal Profile



East River Longitudinal Bed Profile



**Cross Section Locations** 



Cross Section #1



Cross Section #8



Cross Section #11



Cross Section #14



Cross Section #23



Cross Section #35



Cross Section #40