North Shore Channel
0 of 114 positive: bighead carp
1 of 114 positive: silver carp

Cal-Sag Channel
0 of 114 positive: bighead carp
10 of 114 positive: silver carp

Lockport Pool Above Barrier
0 of 114 positive: bighead carp
2 of 114 positive: silver carp

Chicago Lock
0 of 114 positive: bighead carp
2 of 114 positive: silver carp

Lake Calumet
0 of 57 positive: bighead carp
0 of 57 positive: silver carp

Little Calumet River
0 of 57 positive: bighead carp
1 of 57 positive: silver carp
North Shore Channel
0 of 114 positive: bighead carp
1 of 114 positive: silver carp

Cal-Sag Channel
0 of 114 positive: bighead carp
10 of 114 positive: silver carp

Lockport Pool Above Barrier
0 of 114 positive: bighead carp
2 of 114 positive: silver carp

Chicago Lock
0 of 114 positive: bighead carp
2 of 114 positive: silver carp

Lake Calumet
0 of 57 positive: bighead carp
0 of 57 positive: silver carp

Little Calumet River
0 of 57 positive: bighead carp
1 of 57 positive: silver carp
## MRRWG Asian Carp eDNA Snapshot Results (2011)

### Location

<table>
<thead>
<tr>
<th>Location</th>
<th>Samples Collected</th>
<th>Silver Carp</th>
<th>Bighead Carp</th>
<th>Need to Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPA Lockport Pool Above Barrier (RM 296.2 to RM 300.6)</td>
<td>114</td>
<td>112</td>
<td>2</td>
<td>114 0 0 0</td>
</tr>
<tr>
<td>Chicago Sanitary &amp; Ship Canal (RM 300.6 to RM 304)</td>
<td>114</td>
<td>114</td>
<td>0</td>
<td>114 0 0 0</td>
</tr>
<tr>
<td>Chicago Lock to Bubbly Creek (Chicago Lock to RM 321.8)</td>
<td>114</td>
<td>111</td>
<td>2</td>
<td>114 0 0 0</td>
</tr>
<tr>
<td>Cal-Sag Above Confluence (RM 304 to RM 315)</td>
<td>114</td>
<td>104</td>
<td>10</td>
<td>114 0 0 0</td>
</tr>
<tr>
<td>O’Brien Lock to Acme Bend on Little Calumet North Leg (O’Brien Lock to RM 320.0)</td>
<td>57</td>
<td>56</td>
<td>1</td>
<td>57 0 0 0</td>
</tr>
<tr>
<td>Lake Calumet</td>
<td>57</td>
<td>57</td>
<td>0</td>
<td>57 0 0 0</td>
</tr>
<tr>
<td>Wilmette Controlling Works to North Branch Chicago River (Wilmette Pump to RM 333.4)</td>
<td>114</td>
<td>113</td>
<td>1</td>
<td>114 0 0 0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>684</strong></td>
<td><strong>668</strong></td>
<td><strong>16</strong></td>
<td><strong>684 0 0 0</strong></td>
</tr>
</tbody>
</table>

As of 31 January 2012
ACRCC Monitoring Workgroup eDNA Snapshot

The Monitoring and Rapid Response Workgroup (MRRWG) conducted an environmental DNA (eDNA) sampling event at the end of October 2011 called the “eDNA Snapshot” to obtain a comprehensive system-wide view of Asian carp DNA distribution in the Chicago Area Waterway System (CAWS) at one time.

During the eDNA Snapshot, monitoring agencies (USFWS and USACE) sampled the weekly monitoring stations, (North Shore Channel, Chicago Lock, Little Calumet River, Lake Calumet) as well as three additional sites (Lockport Pool above barrier, Cal-Sag Channel and the Chicago Sanitary and Ship Canal (CSSC) above the confluence), collecting 720 samples from seven sites over three days.

The difference between the number of samples collected (720) and the number of samples processed (684) is to account for “cooler blanks,” which is a quality assurance/control measure taken to ensure no contamination is occurring within the storage cooler of field samples. For example, each sampling batch of 120 samples will have six blanks, so the total number of actual samples collected and processed from the river is 114.

The Snapshot results indicate that, over a short period of time, silver carp DNA was distributed at several locations throughout the CAWS, but was not detected in Lake Calumet or the CSSC above the confluence of the Cal-Sag Channel. Asian carp eDNA has previously been detected at all locations that yielded a positive result in the Snapshot. Consistent with 2011 eDNA results, only silver carp DNA was detected (no bighead carp DNA was detected during this snapshot).

The snapshot sampling event was not designed to identify the specific sources of DNA in the CAWS. Potential examples of sources include multiple fish (live or dead), input from storm sewer discharge/combined sewer outfalls, fish-eating birds, and recreational/commercial vessels transporting fish or DNA. Additionally, what remains unknown is how the number of positive samples correlates to the strength of the DNA source. For example, 10 of 114 samples returned positive hits for silver carp DNA in the Cal-Sag Channel above the confluence of the CSSC, but at this point in time, the MRRWG is still working to understand the relationship between the number of hits and the DNA source (fish or other source).

The current Monitoring and Rapid Response protocol identifies the need for the results from one site to return one or more positive hits in three consecutive sampling trips to trigger a response action. The MRRWG puts more value on the repetition of positive hits at a site than the number of positive hits returned during one monitoring event. Response actions are triggered by a consistent pattern of DNA over several sampling occasions, indicating a potential affinity to the site by Asian carp or Asian carp DNA over time, and not in a single instant.

For more information on the Monitoring and Rapid Response Workgroup and to view the current Monitoring and Rapid Response Plan, visit www.asiancarp.us/monitoring.htm.