

**APPENDIX 1**

**Fish Collection Standard Operating Procedure**

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**FISH COLLECTION**  
**STANDARD OPERATING PROCEDURE**

Hudson River Natural Resource Damage Assessment

**HUDSON RIVER NATURAL RESOURCE TRUSTEES**

State of New York  
U.S. Department of Commerce  
U.S. Department of the Interior

June 2006

Project Manager Name (printed): \_\_\_\_\_

Signature: \_\_\_\_\_

Field Crew Leader Name (printed): \_\_\_\_\_

Signature: \_\_\_\_\_

Quality Assurance Coordinator Name (printed): \_\_\_\_\_

Signature: \_\_\_\_\_

**FIELD TEAM ACKNOWLEDGEMENT OF SOP REVIEW**

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## **Introduction**

This standard operating procedure (SOP) was developed by the New York State Department of Environmental Conservation (NYSDEC) to guide fish collection efforts undertaken in anticipation of the Hudson River natural resource damage Trustees' mink feeding study. This SOP focuses on the mechanics to be followed with respect to fish collection, temporary storage, shipment, record-keeping, and chain of custody and is based in part on the NYSDEC's general fish collection procedures.

## **Target Species and Site**

Common carp (*Cyprinus carpio*) is the target species. These fish will be caught in the Upper Hudson River between Fort Edward and Lock C-1 at Waterford.

## **Personnel and Oversight**

The Project Manager (Mr. Larry Gumaer of NYSDEC) will have overall responsibility for managing the implementation of this fish collection effort. It is anticipated that NYSDEC personnel experienced in fish collection efforts will undertake this task. NYSDEC personnel may be supported by appropriately trained staff from the U.S. Fish and Wildlife Service and/or the National Oceanic and Atmospheric Administration. The Project Manager will be responsible for ensuring that all personnel involved in this fish collection effort are adequately trained in the fish collection, handling, labeling, and transportation procedures described in this SOP, as well as in NYSDEC health and safety protocols. The designated Field Crew Leader (Mr. Chris Balk of NYSDEC) will be responsible for implementation of this SOP during the field collection effort and also will be responsible for health and safety requirements in the field.

## **Collection Procedures**

The goal of the anticipated collection effort is to catch and rapidly preserve approximately 1,400 kg of carp from the Upper Hudson River. The focus of collection efforts is on the bulk acquisition of the required quantity of fish from the correct stretch of the river and of the correct species. Information on location and collection date is important for record-keeping purposes. Bulk weight information is also important. Accordingly, the following procedures are to be followed:

1. The boat proceeds to the sampling location. Available carp are caught at that location by electrofishing. Electrofishing will continue at a particular location until, in the professional opinion of the electrofishing boat's captain and crew, further fishing at the site is unlikely to be sufficiently productive to warrant further effort. At that point, the boat will proceed to a different location and attempt to take carp there. Attachment 1 depicts anticipated sampling locations. In general, it is anticipated that sampling will occur starting at the most upstream locations and proceeding downstream. Carp will be kept in the boat's live-well until return to shore.
2. When fishing is complete at a particular location or when the boat's live well nears capacity, the boat shall return to shore. Immediately upon return, fish will be sacrificed by placement on dry ice. Fins, gills and tails will be removed from the fish, and groups

of carp from the same location shall be wrapped in a plastic bag or bags. Each bag shall be tagged and labeled in indelible ink with the following information:

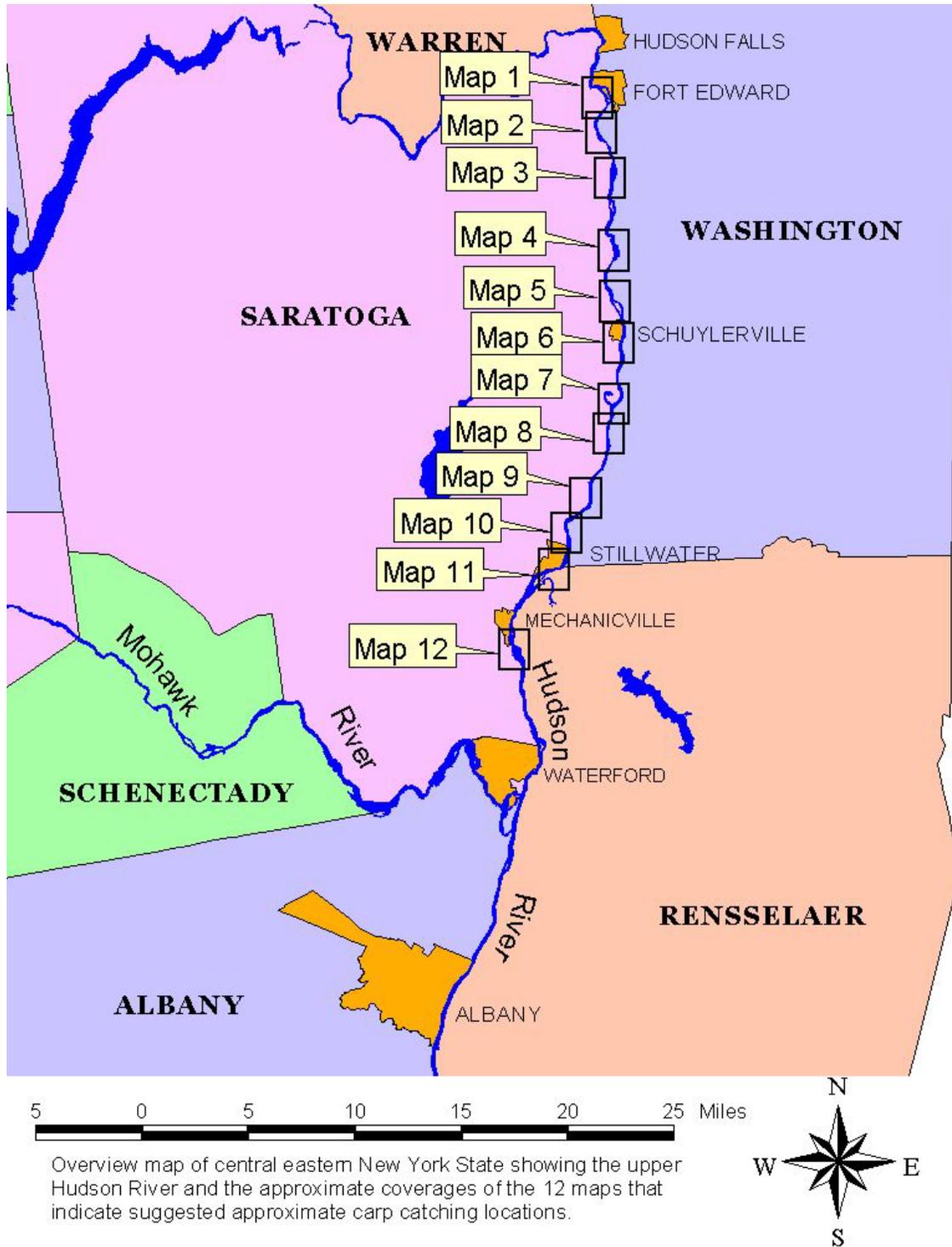
1. Bag ID number. This number shall have the format "MFS001", short for "mink feeding study, bag 1."
  2. Date collected, in the format YYYYMMDD (*e.g.*, 20060630 for June 30, 2006).
  3. Collection location, as indicated by the river mile or river mile range from which the fish were collected.
  4. Weight (to the nearest 100g).
3. The above information shall also be recorded on the Fish Collection Log form (Attachment 2). New Fish Collection Log forms shall be used for each collection date and shall be signed as indicated. If multiple Fish Collection Log forms are needed for a single day, they shall be sequentially numbered in the appropriate space on the form.
  4. The sampling location, as recorded on the Bag ID tags, shall be recorded on a photocopy of a topographic map or navigation chart of good quality. This map shall be attached to and kept with the Fish Collection Log forms used that day.
  5. After tagging, bagged fish shall be frozen on dry ice as soon as possible. Bagged fish and dry ice will be carefully proportioned into coolers to allow for rapid and thorough freezing of the fish. Personnel handling dry ice shall wear gloves and suitable eye protection. In no event will any fish remain unfrozen for more than 12 hours after collection. Fish will be kept on dry ice in the coolers until they are transported to a temporary storage freezer maintained by the New York Department of Environmental Conservation.
  6. Once at the temporary storage freezer, the bags of fish will be re-packed into rigid containers (coolers, cardboard boxes with Styrofoam inserts, or equivalent). (Dry ice shall not be kept in the temporary storage freezer.) Each container will be sealed with Chain of Custody tape to the extent that opening the box would require breaking of the tape. Each container shall be labeled with a unique identification number in the form of "MFSB001," short for "mink feeding study, box 1." Box labels shall also indicate the Bag ID numbers packed inside. As boxes are packed and sealed, appropriate entries will be made into the Chain-of-Custody and Field Collection Log forms.
  7. Prior to transport, the fish shall be stored in the temporary storage freezer. This freezer is located at:

Delmar Wildlife Resources Center  
56 Game Farm Road  
Delmar, NY 12054  
(518) 439-8082

The freezer is capable of maintaining a temperature of -20°C and shall be locked, save for those times when fish are actively being placed in it, or removed from it, or when other NYSDEC staff require access to the freezer for other projects.

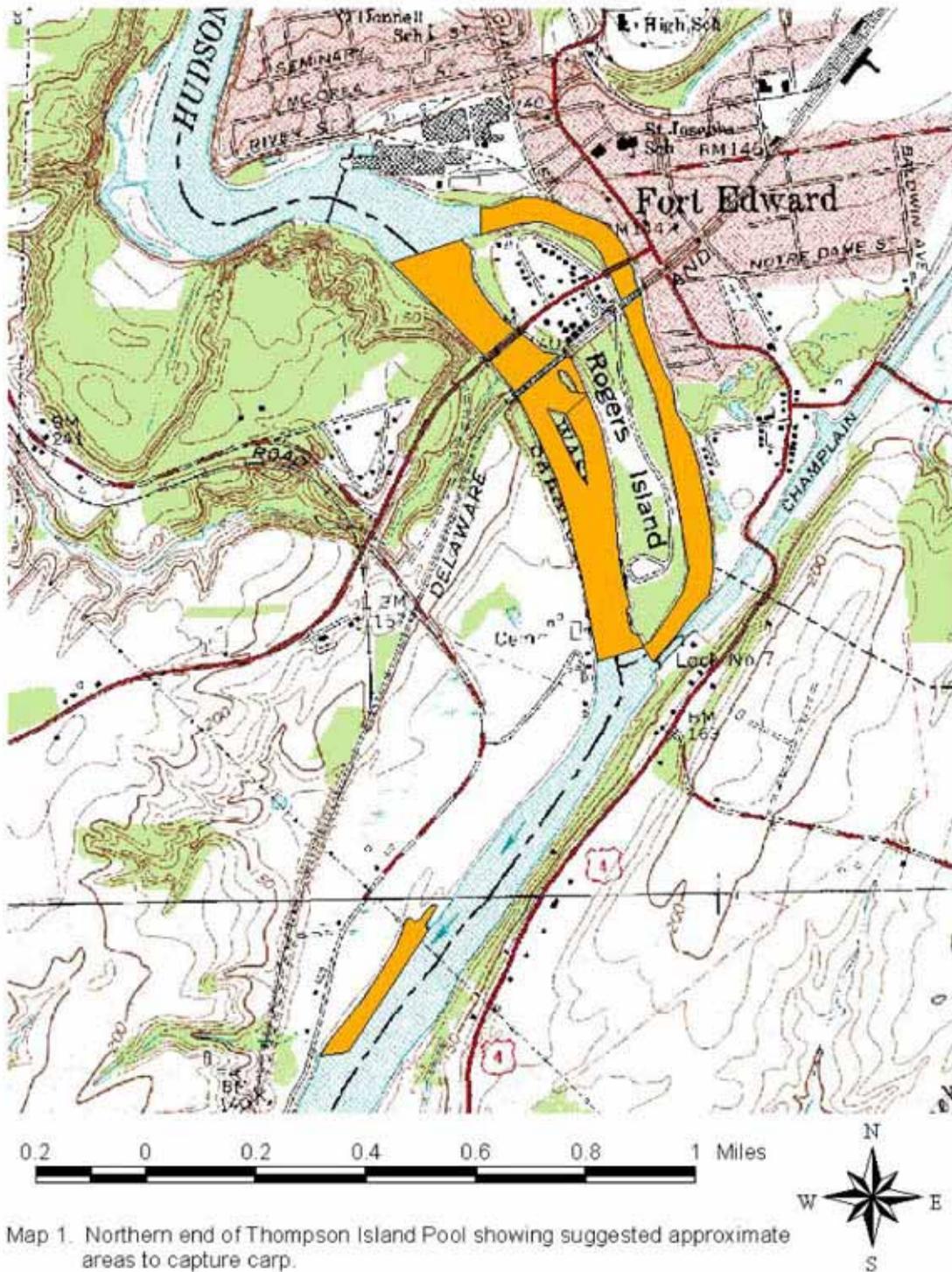
8. Transportation from the temporary storage freezer to the mink study facility will occur by freezer truck, using a temperature-validated service that will provide a record of temperatures at intervals no less than one hour. The truck will be capable of maintaining the frozen fish in a frozen state during transport and until delivery and is expected to have temperatures no higher than -4°C. After loading, the truck will remain locked until delivery.
9. Containers will be shipped to the mink study facility, care of the mink feeding study Principal Investigator.
10. The Chain of Custody forms (Attachment 3) and their associated Field Collection Log shall accompany the fish during delivery to the Principal Investigator. The forms will be placed in a clear plastic shipping window and securely attached to the inside of one of the shipping containers. A copy of all Chain of Custody and Field Collection Log forms shall be maintained by NYSDEC. Additional copies shall be sent to the mink feeding study Principal Investigator and to the Quality Assurance Coordinator.
11. Upon delivery to the mink feeding study facility, the fish containers will be inspected for contents against the Chain of Custody forms. Temperature of the freezer and general condition of the fish will be noted on the forms. Forms will be signed when receipt is verified of all bags. The fish will be placed into a -7°C freezer, where they will be stored until they are ground and mixed into a homogeneous blend for use in feed preparation.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



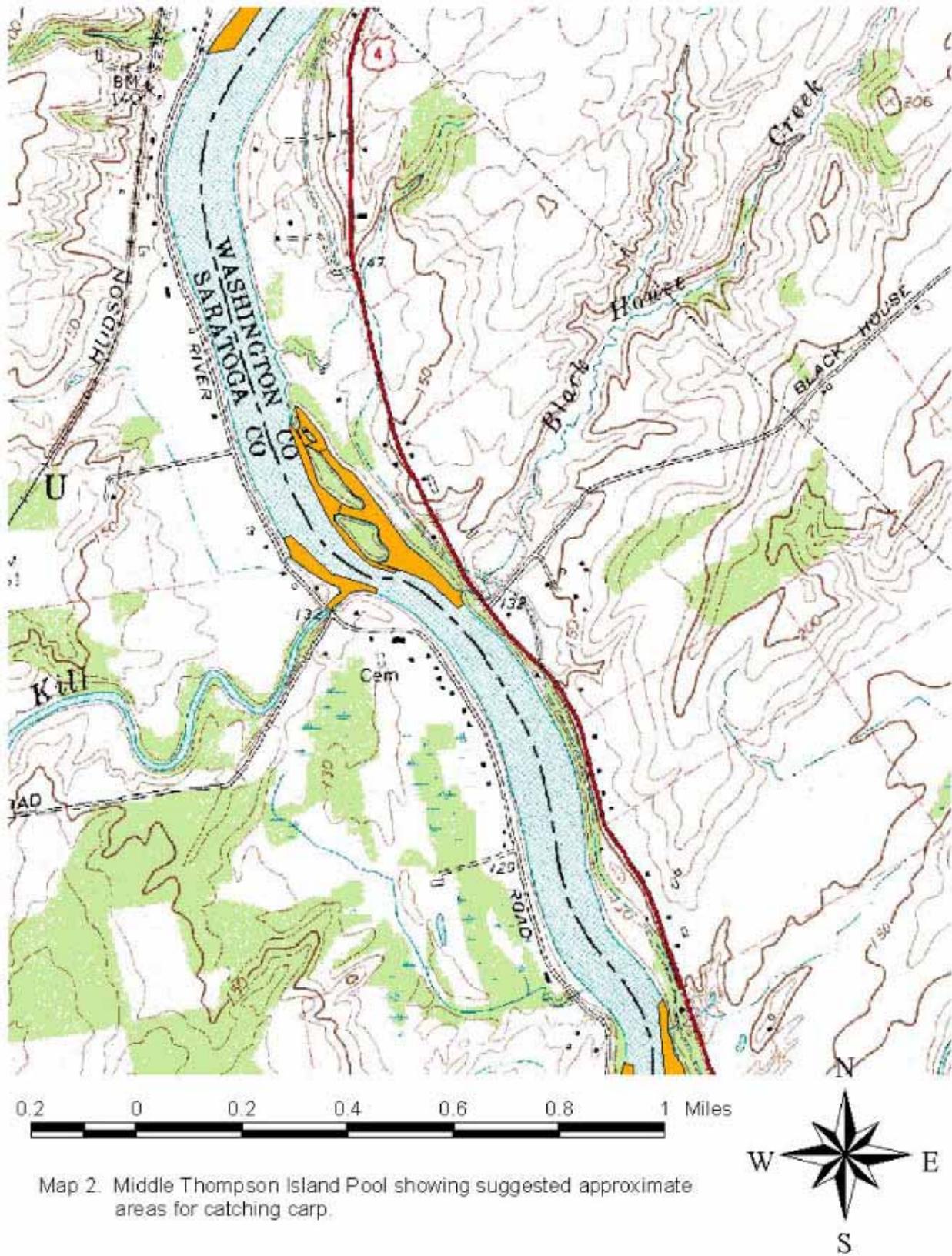
Overview map of central eastern New York State showing the upper Hudson River and the approximate coverages of the 12 maps that indicate suggested approximate carp catching locations.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



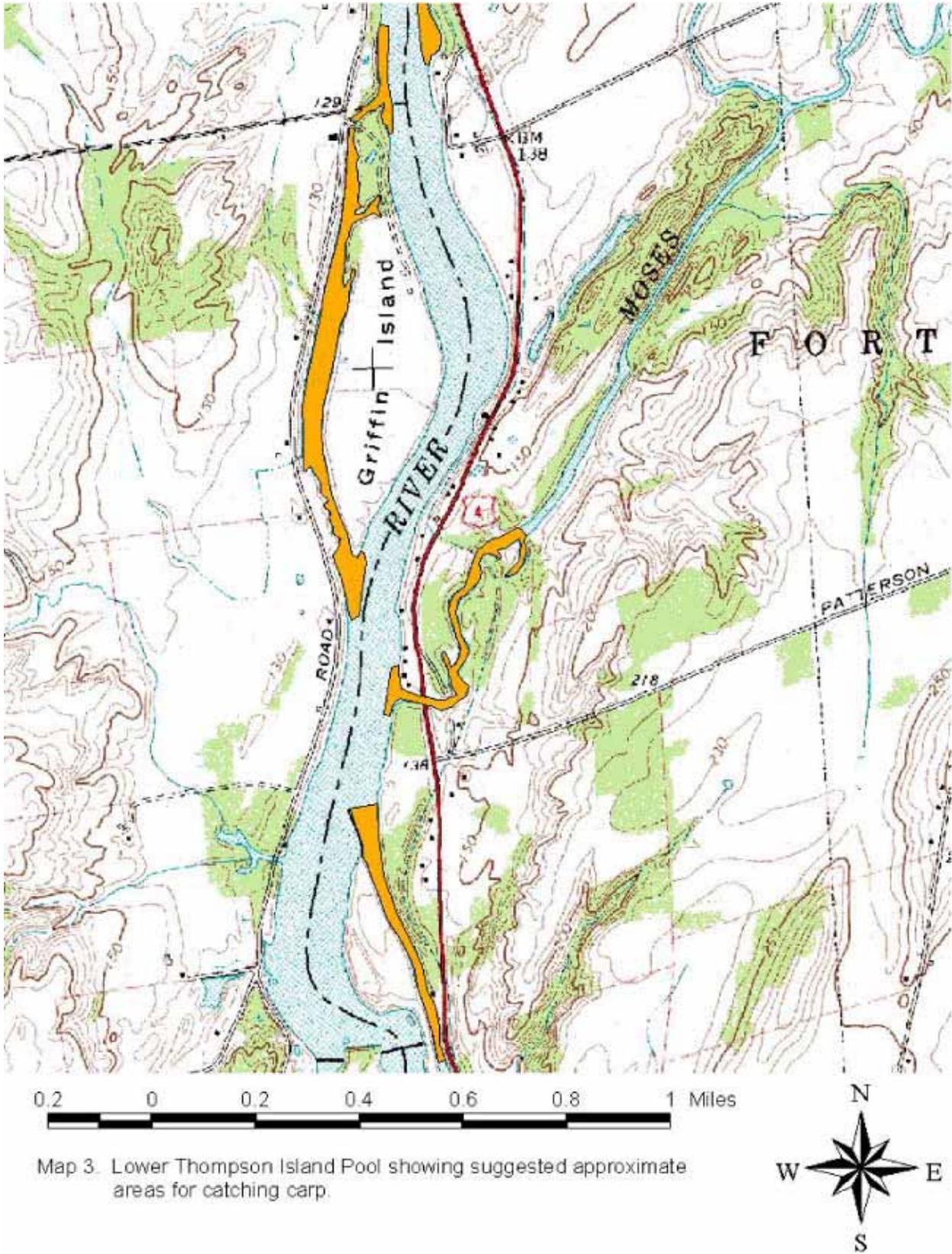
Map 1. Northern end of Thompson Island Pool showing suggested approximate areas to capture carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



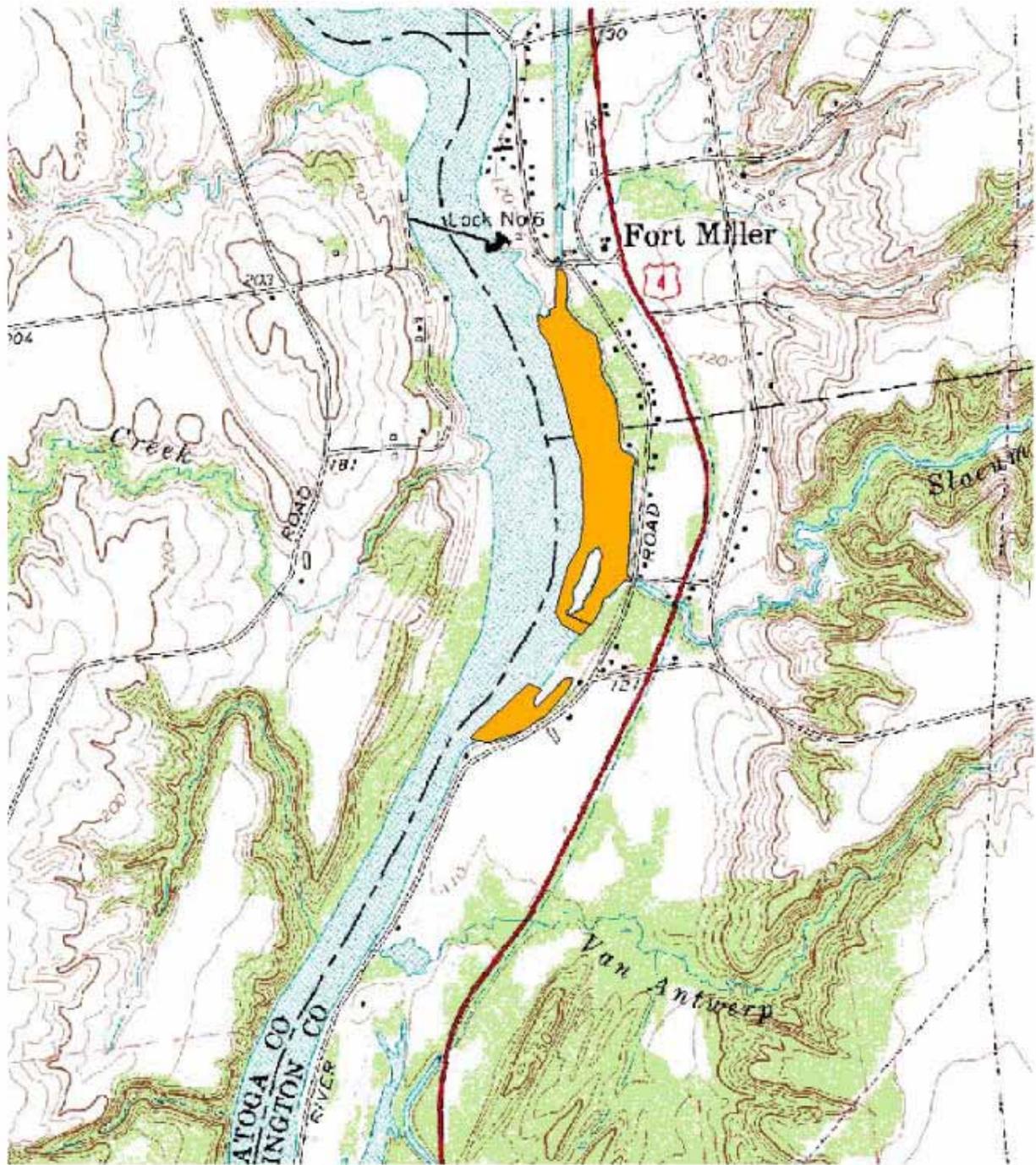
Map 2. Middle Thompson Island Pool showing suggested approximate areas for catching carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



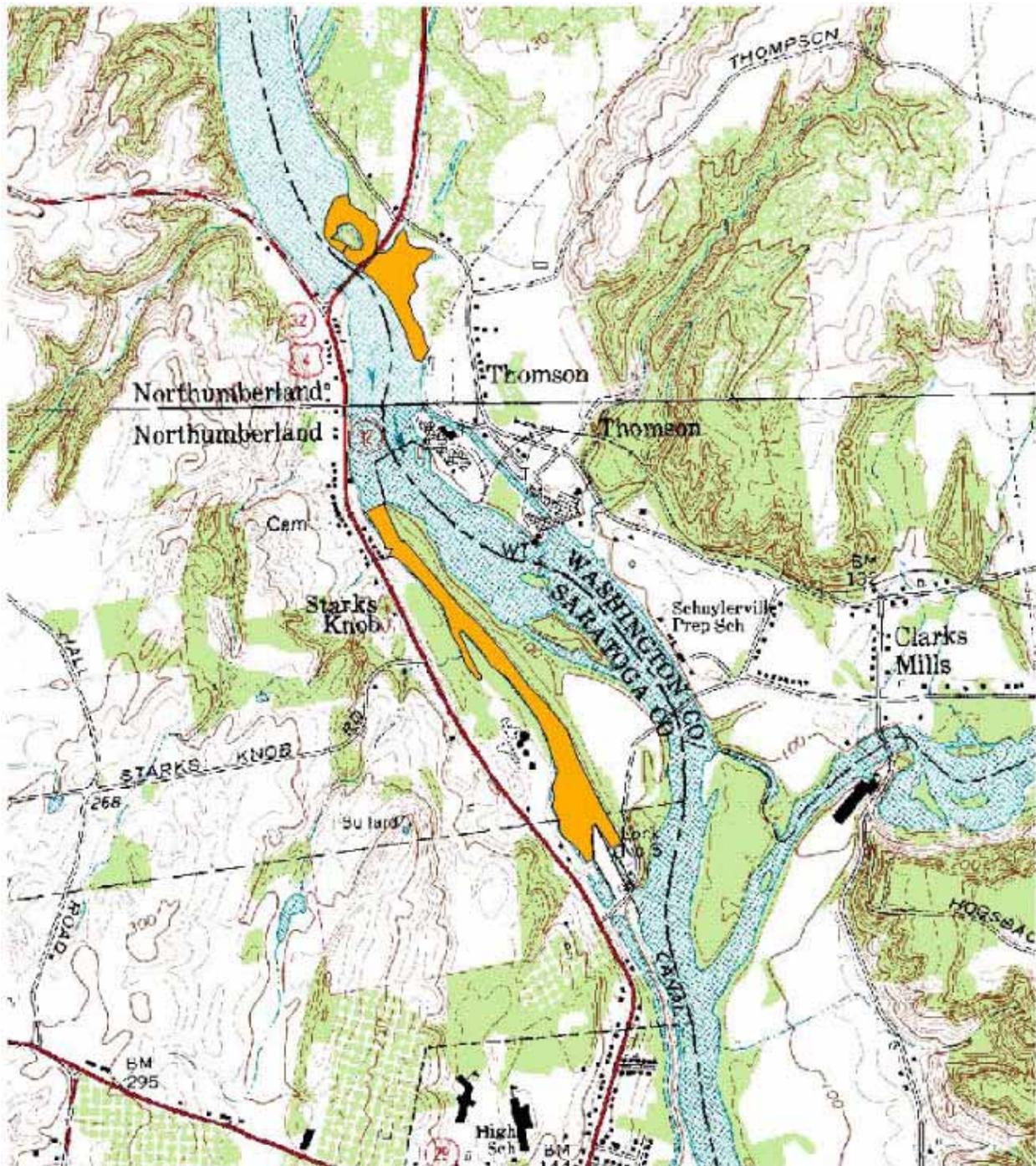
Map 3. Lower Thompson Island Pool showing suggested approximate areas for catching carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



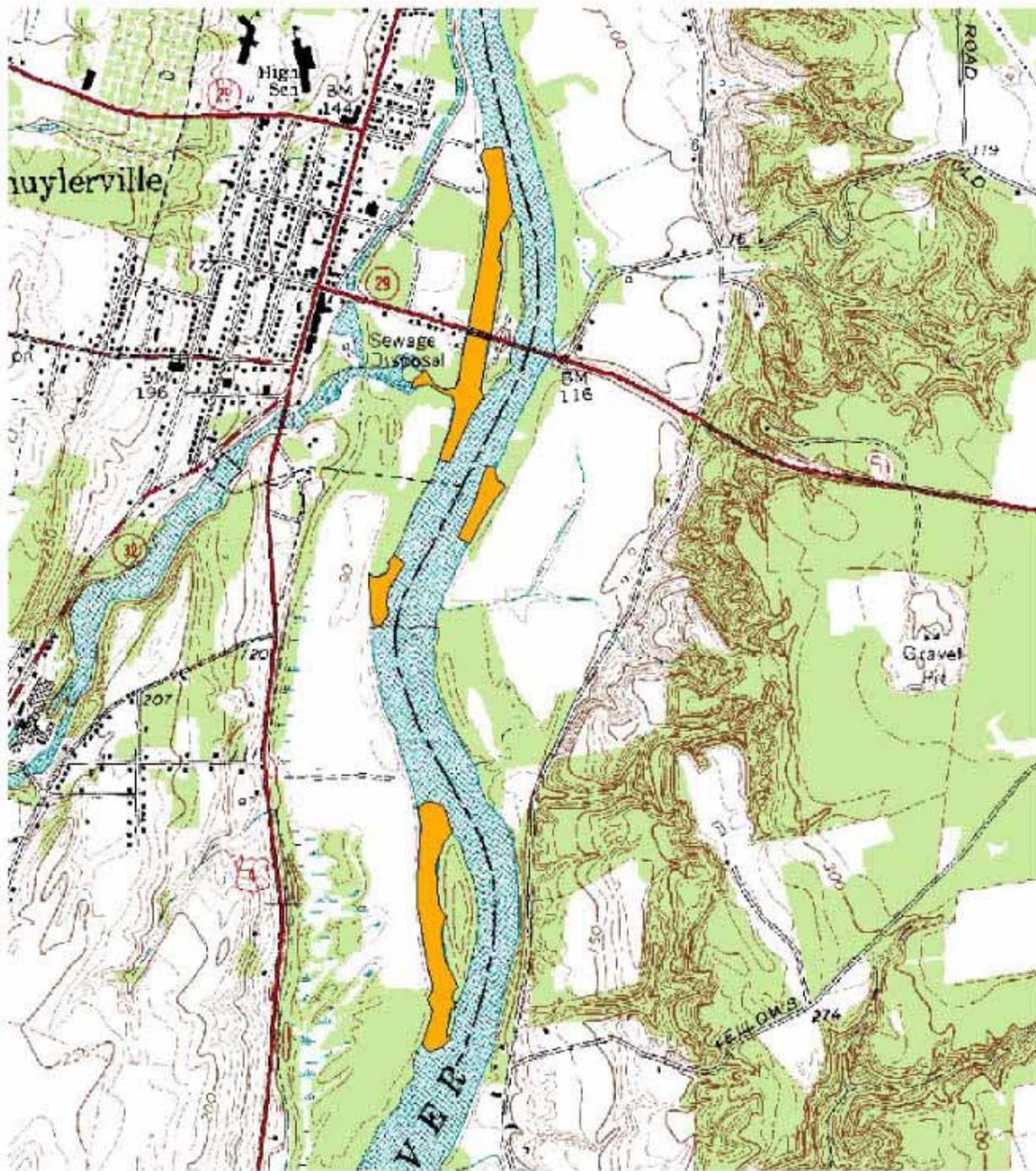
Map 4. Upper Northumberland Pool showing suggested approximate areas for catching carp

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



Map 5. Lower Northumberland Pool showing suggested approximate areas for catching carp

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS

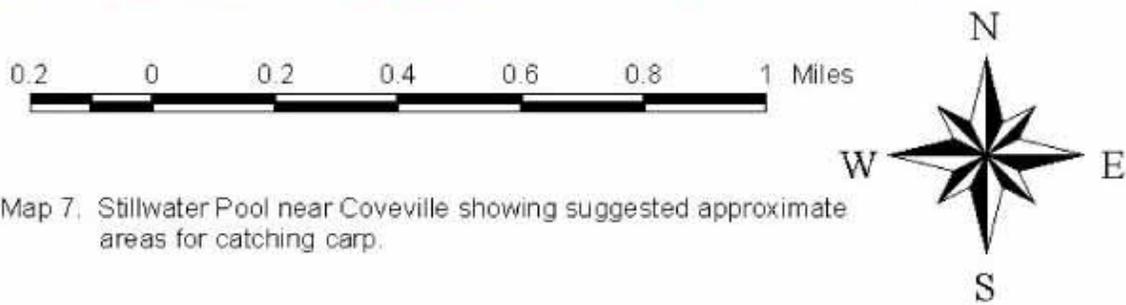
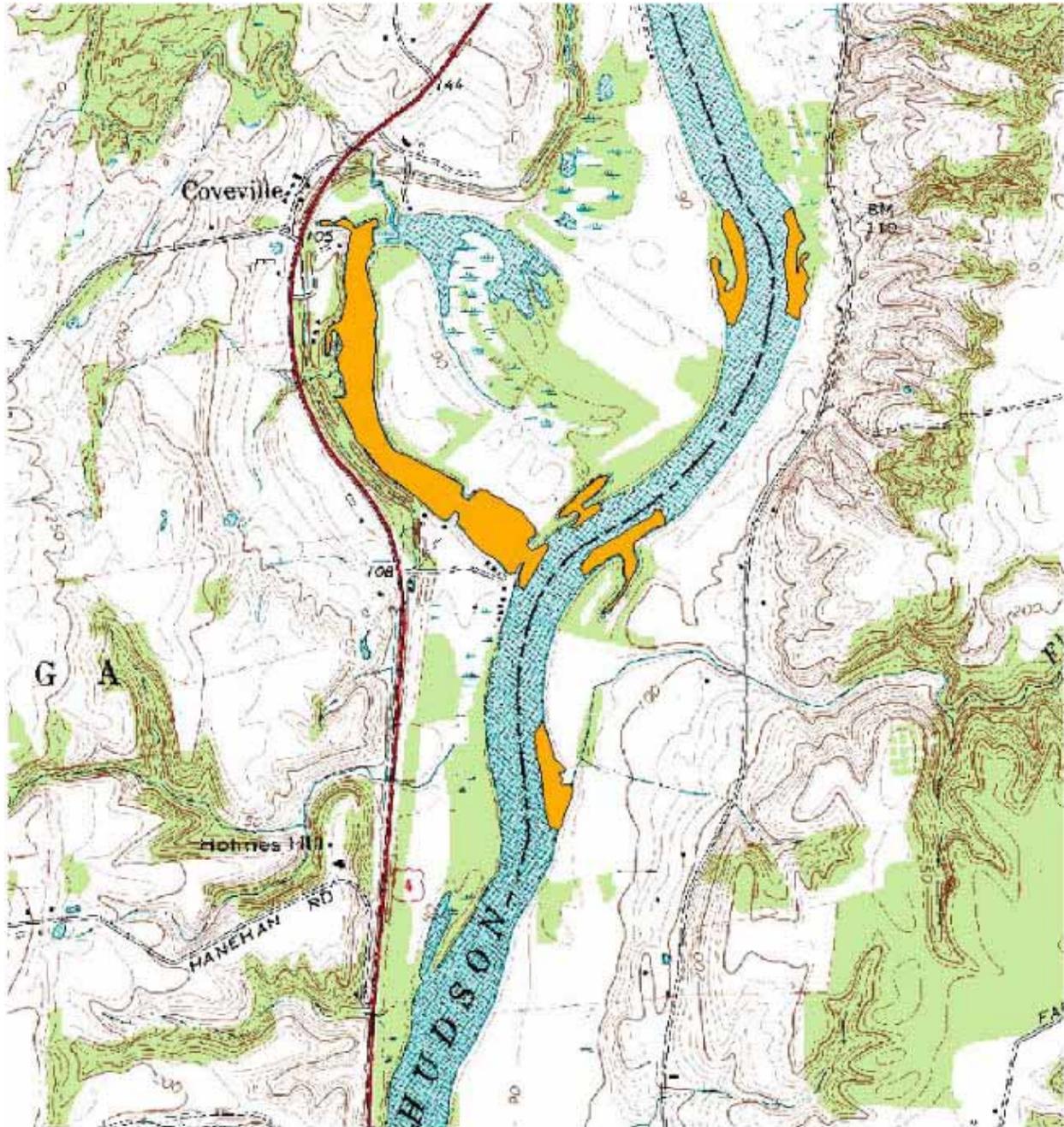


0.2 0 0.2 0.4 0.6 0.8 1 Miles

Map 6. Upper Stillwater Pool near Schuylerville showing suggested approximate areas for catching carp.

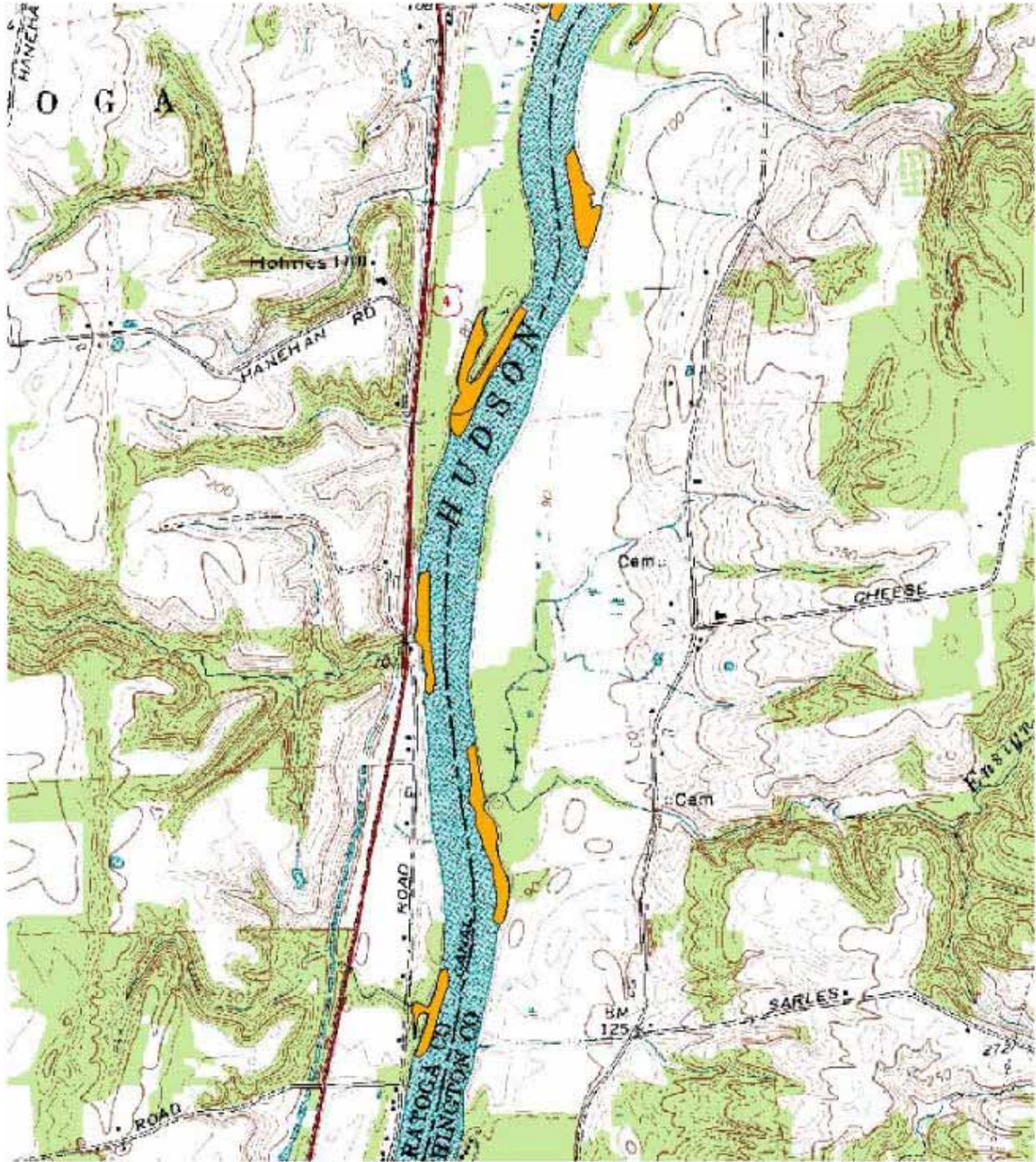


ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



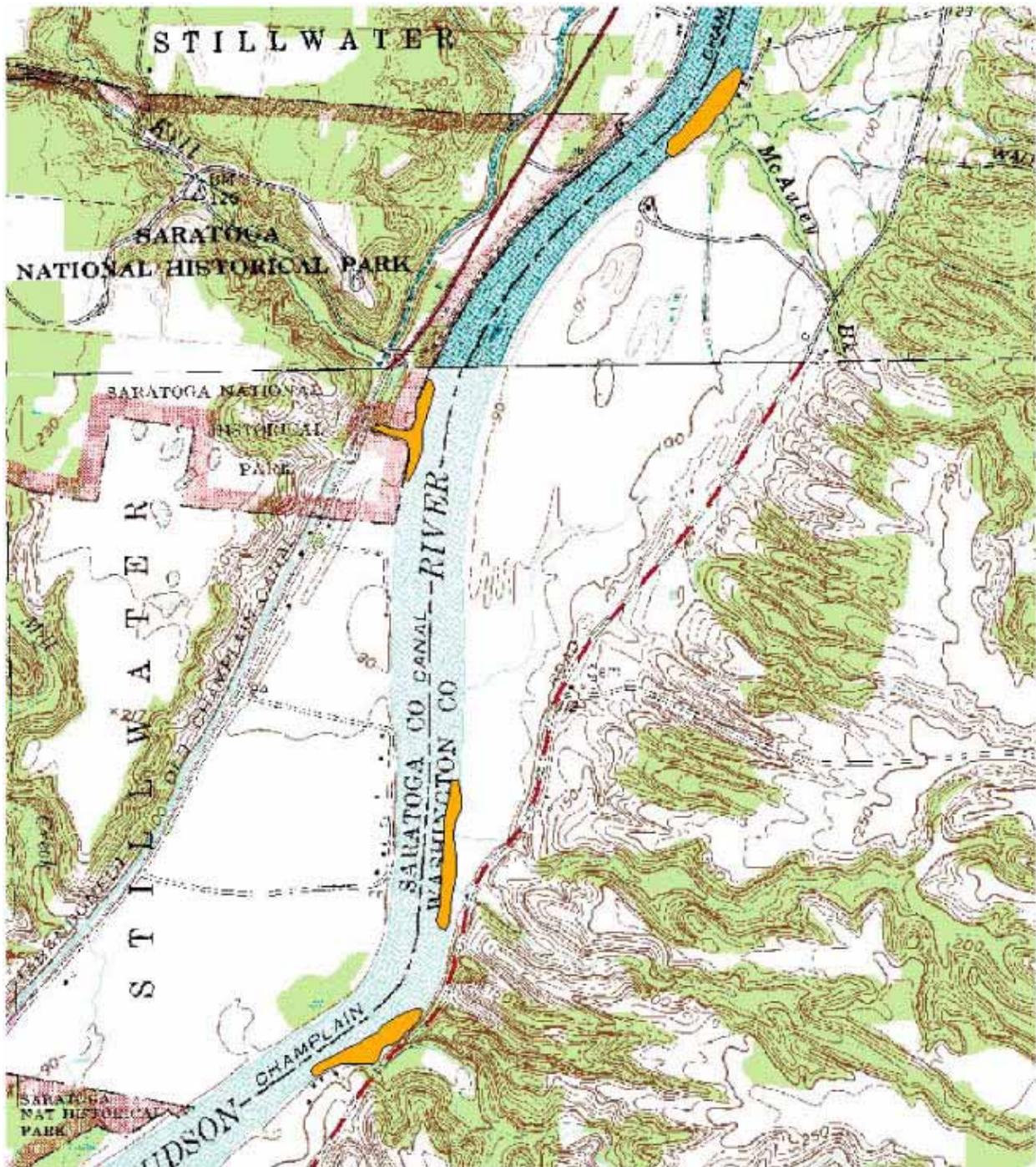
Map 7. Stillwater Pool near Coveville showing suggested approximate areas for catching carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



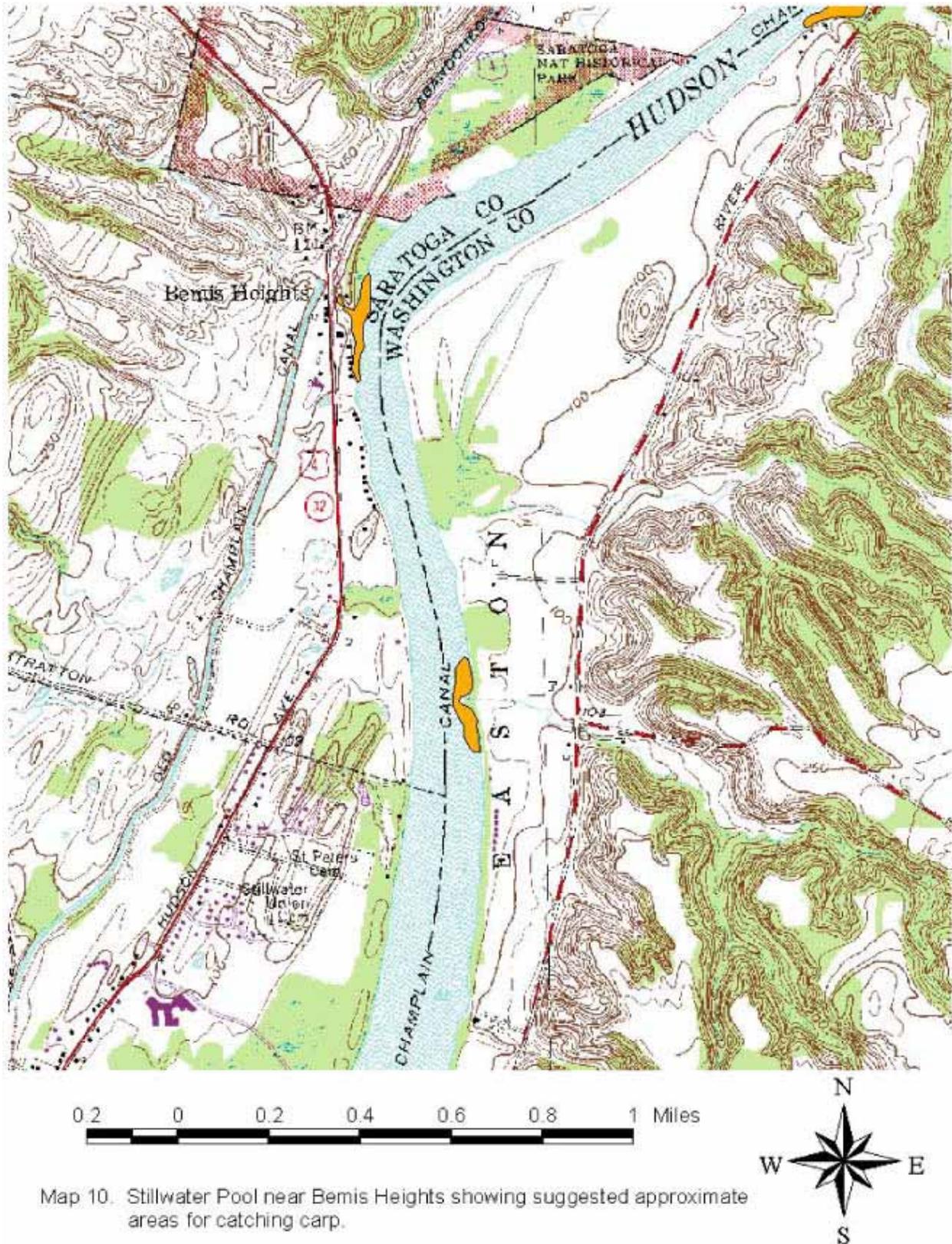
Map 8. Stillwater Pool below Coveville showing suggested approximate areas for catching carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



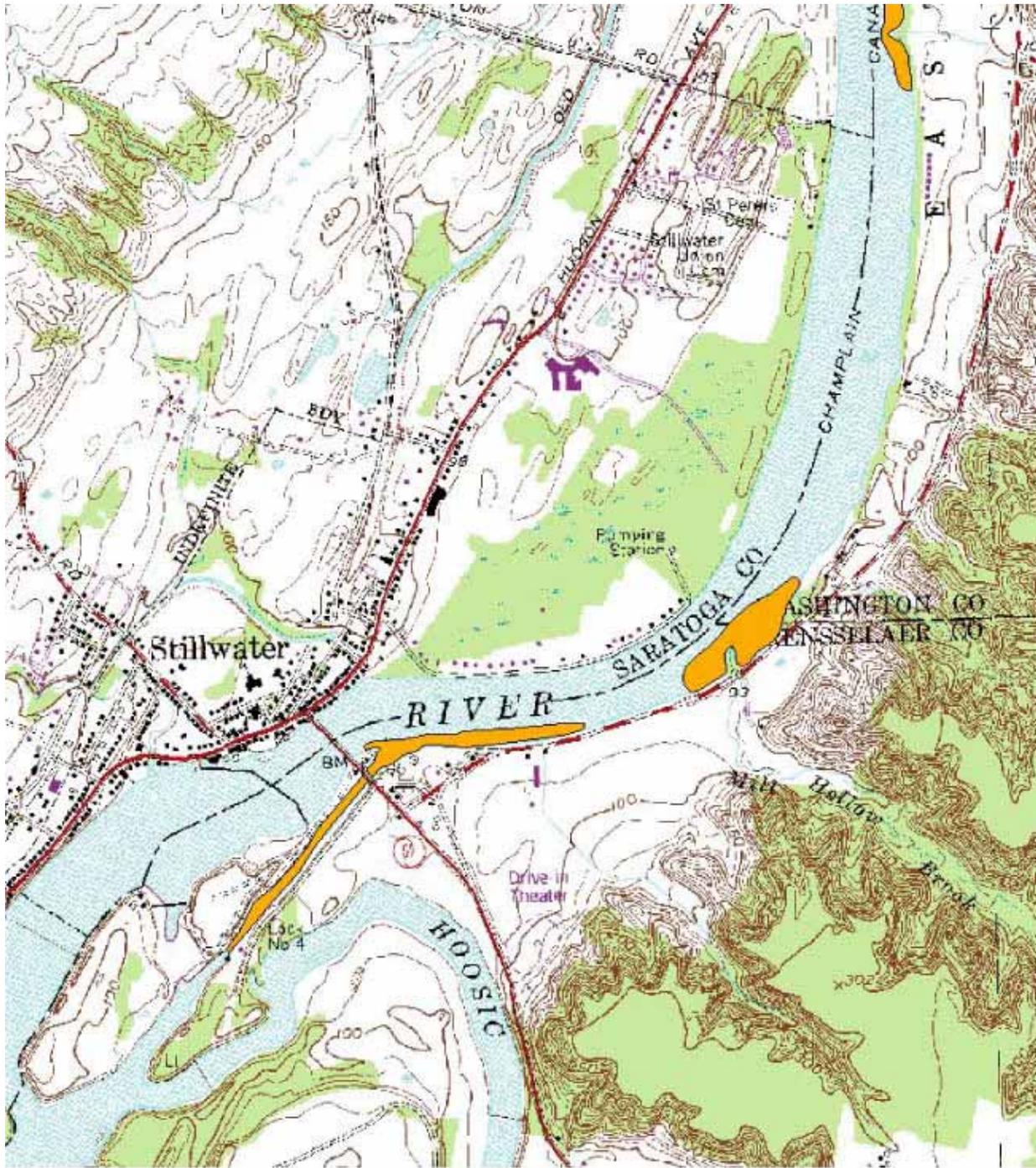
Map 9. Stillwater Pool near Saratoga National Historical Park showing suggested approximate areas for catching carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



Map 10. Stillwater Pool near Bemis Heights showing suggested approximate areas for catching carp.

ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS

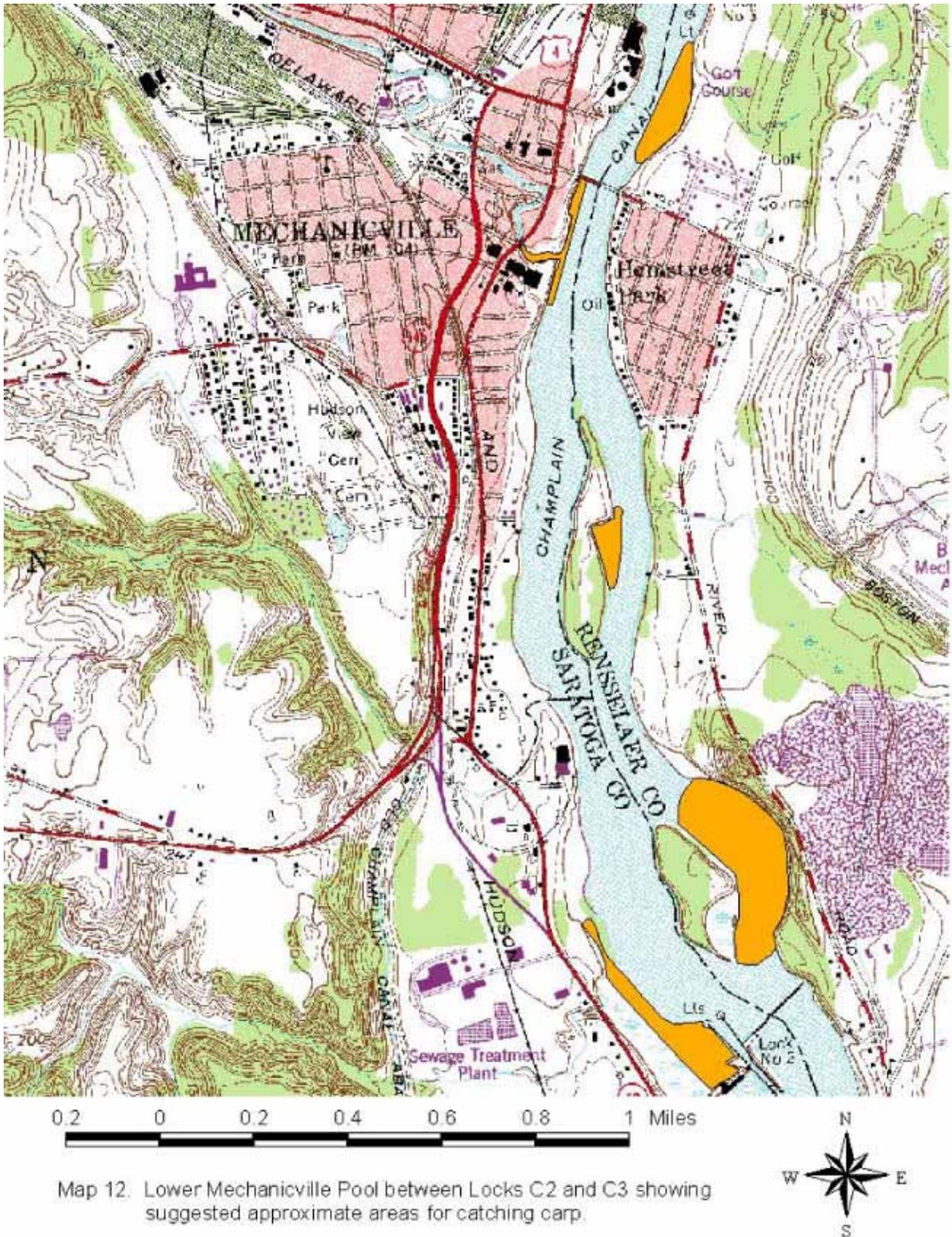


0.2 0 0.2 0.4 0.6 0.8 1 Miles

Map 11. Lower Stillwater Pool showing suggested approximate areas for catching carp.



ATTACHMENT 1 – POTENTIAL HUDSON RIVER CARP FIELD COLLECTION LOCATIONS



Map 12. Lower Mechanicville Pool between Locks C2 and C3 showing suggested approximate areas for catching carp.

ATTACHMENT 2 – HUDSON RIVER CARP FIELD COLLECTION LOG

Date: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Bag ID	Collection Location	Number of Fish	Weight (g)	Box ID	Notes

PRINT name of field crew leader: \_\_\_\_\_ Field crew leader signature: \_\_\_\_\_

PRINT name of data recorder: \_\_\_\_\_ Data recorder signature: \_\_\_\_\_

**ATTACHMENT 3 – CHAIN OF CUSTODY RECORD – COLLECTED FISH**

I, \_\_\_\_\_, of \_\_\_\_\_, collected the items noted below on \_\_\_\_\_.  
 [Print Name] [Print Affiliation Name] [Date]

Said sample(s) were in my possession and handled according to standard procedures provided to me prior to collection.  
 The sample(s) were placed in the custody of a representative of the New York State Department of Environmental Conservation on \_\_\_\_\_.  
 [Date]

I, \_\_\_\_\_, have received the above mentioned sample(s) on the date specified. I have overseen the packaging of the samples into boxes as indicated below. The boxes remained in my custody until subsequently transferred, prepared, or shipped at times and dates as attested to below.

\_\_\_\_\_ [Signature] \_\_\_\_\_ [Date]

Box ID	Box Contents (Bag IDs)	Field Collection Log (date and page no.)	Remarks

Second Recipient: (print name)  SIGNATURE:	Time & Date:	Purpose of Transfer:
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Third Recipient: (print name)  SIGNATURE:	Time & Date:	Purpose of Transfer:
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