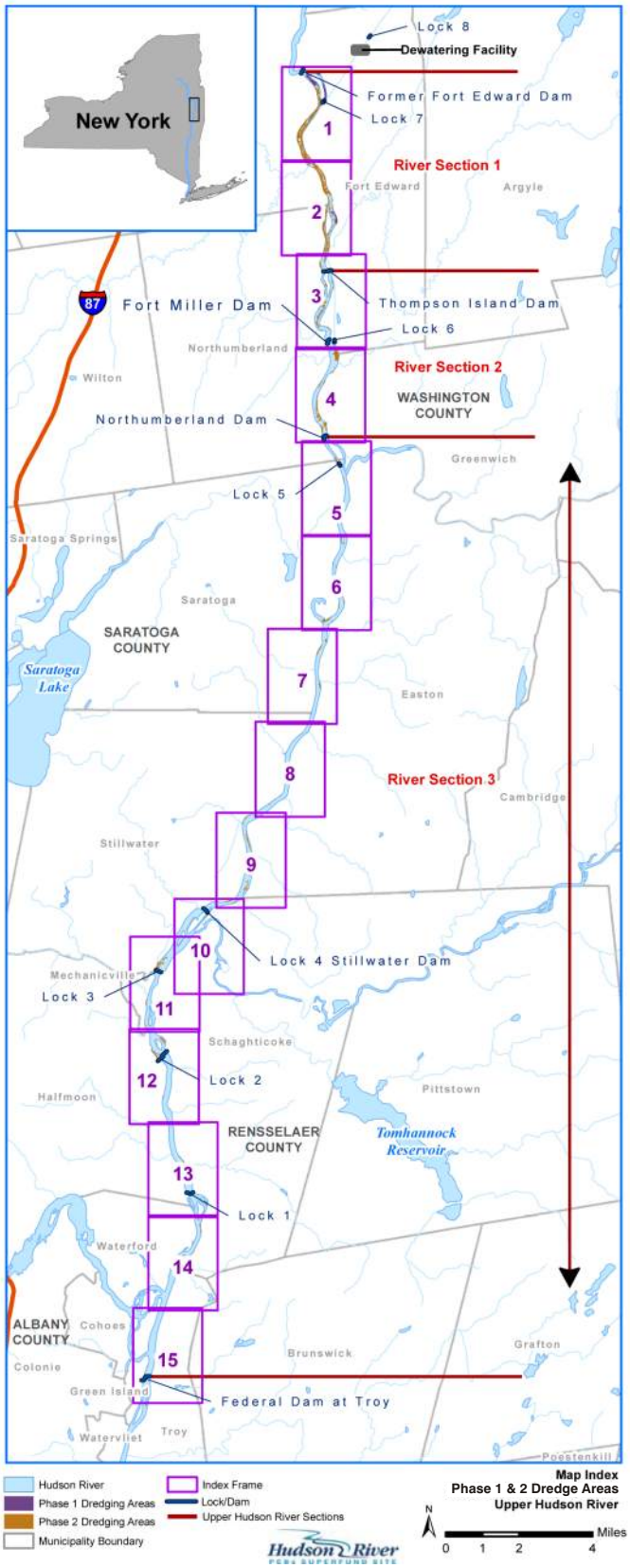
Hudson River PCBs SUPERFUND SITE

Region 2: NJ, NY, PR, VI • 290 Broadway, New York, NY 10007

Phase 2

Phase 2 Overview Factsheet

Spring 2011



Phase 2 Overview

In February 2002, EPA issued a Record of Decision (ROD) for the Hudson River PCBs Superfund site that calls for targeted environmental dredging of approximately 2.65 million cubic yards of PCB-contaminated sediment from a 40-mile section of the Upper Hudson River. PCBs, or polychlorinated biphenyls, are considered probable human carcinogens and are linked to other adverse health effects. The primary goal of the Hudson River PCBs cleanup is to protect people and the environment from unacceptable risks due to PCB-contaminated sediments in the Upper Hudson River.

The cleanup of the Hudson River will occur in two phases. Phase 1 of the project was conducted by General Electric Co (GE) with oversight by EPA from May to November 2009. During this phase, approximately 283,000 cubic yards was removed from a six-mile stretch of the Upper Hudson River near Fort Edward, New York. After an extensive evaluation by an independent panel of scientists and input from a broad range of stakeholders, EPA developed plans for the second part of the cleanup. Phase 2 will be conducted at full production to remove the remainder of the contaminated river sediment targeted for dredging; Phase 2, Year 1 targets the removal of approximately 350,000 cubic yards of sediment.

It is estimated that the second phase of the project will take five to seven years to complete.

Where will the dredging be done?

The ROD covers three sections of the Upper Hudson River: River Section 1 (from the former Fort Edward Dam to the Thompson Island Dam); River Section 2 (from the Thompson Island Dam to the Northumberland Dam); and River Section 3 (from the Northumberland Dam to the Federal Dam at Troy). Within the River Sections (see Map Index on page 4), dredging is conducted in areas of approximately five acres each, called "certification units" (CUs).

Phase 1 dredging was conducted in portions of River Section 1. Phase 2 dredging will begin with the areas that were not completed during Phase 1 and will continue downstream through River Sections 2 and 3. In 2011, dredging is expected to take place in CUs 9 through 30.

How were the dredge areas selected?

The dredge areas were identified using the results of a multi-year sediment sampling program conducted by GE that began in 2002 and generated more than 50,000 sediment samples taken from the bottom of the Upper Hudson River. The sampling data allowed EPA and GE to determine the distribution of the PCBs in the sediment, refine estimates of the amount of PCBs in the sediment, and establish river sediment characteristics (e.g., silt, sand, gravel). Phase 2 of the project was designed using the Phase 2 Dredge Area Delineation report (including the Phase 2 Intermediate and Final Design reports) and knowledge gained during Phase 1. In addition, in fall 2010, 3,900 sediment samples were collected, which provided additional data on the depth and location of PCBs. Some additional sediment sampling will occur as the project continues. Various project design reports are available on the project Web site at **www.epa.gov/hudson**.

Data and operations are constantly evaluated to ensure that the momentum of cleanup work in the river continues and that the biggest sources of ongoing contamination are addressed. During **Phase 2 dredging**:

- **Improved sampling methodology** will provide more accurate and complete information on the extent of contamination in the areas to be dredged.
- **Improved dredge design** will help to more accurately estimate the depth of contamination and account for the high degree of variability in the sediment layer.
- **Fewer dredge passes** (a maximum of two) will be used to minimize sediment re-deposition. EPA may require a third pass if a particularly high concentration of PCBs is unexpectedly discovered after the second pass.
- **Capping will be limited** to 11% of the total project area, not counting those areas where capping is the only option. Where capping is required, the vast majority of PCBs will be dredged before the area is capped.
- **Higher productivity** is expected, with the target of approximately 350,000 cubic yards during the first year of Phase 2 dredging.
- **Resuspension standards** will take into account both the concentrations of PCBs in the river water and the amount of PCBs moving downstream.

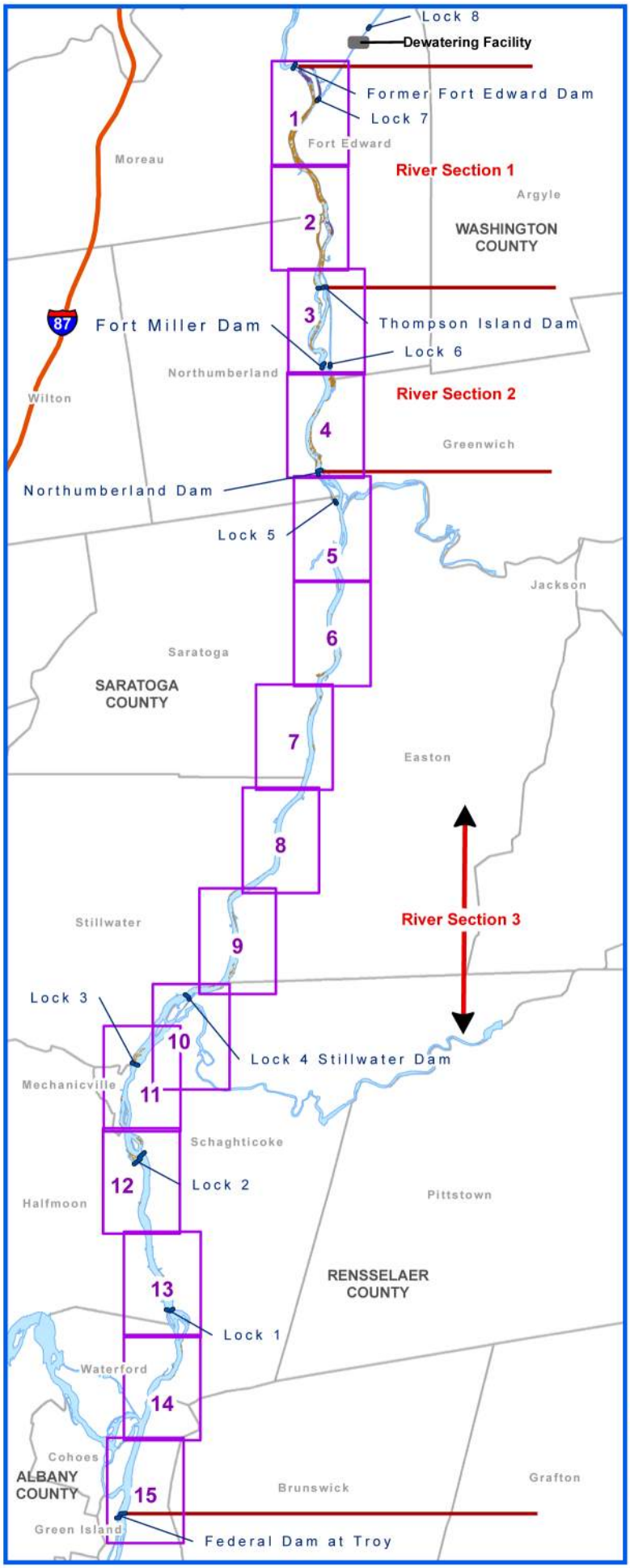
Performance Standards

Phase 1 allowed EPA and GE to evaluate project progress and make program adjustments to improve compliance with the project's technical requirements. The performance standards were designed to ensure dredging operations are done safely and public health is protected. Three engineering performance standards were created to protect water intakes and the environment: resuspension (transport of PCBs down river); residuals (PCBs left behind); and productivity (complete the project efficiently). Five quality of life performance standards were developed (air quality, noise, lighting, odor, and navigation) for the purpose of minimizing the effects of dredging on people, businesses, and communities. These standards will be re-evaluated and may be adjusted, as needed, as dredging operations move from the uppermost portions of the river into areas much further downstream.

In-River Monitoring

The Federal Safe Drinking Water Act standard of 500 parts per trillion (ppt) is used as the resuspension standard for the project. Compliance with this standard is monitored through an extensive river quality monitoring program at upstream, near-field (within 300 meters downstream of dredging), mid-field (approximately 1-2 miles downstream), and at far-field (greater than 2 miles downstream) locations. When resuspension or other performance standards are not met, GE will be required to conduct evaluations and adjust dredging operations. Air monitoring also occurs 24/7 during dredging operations. For quality of life issues such as odor, noise, or lighting, monitoring will occur regularly, as well as in response to complaints; and GE will be required to take action to address the issue.

Performance standard monitoring data is available on EPA's Hudson Dredging Data web site: www.hudsondredgingdata.com



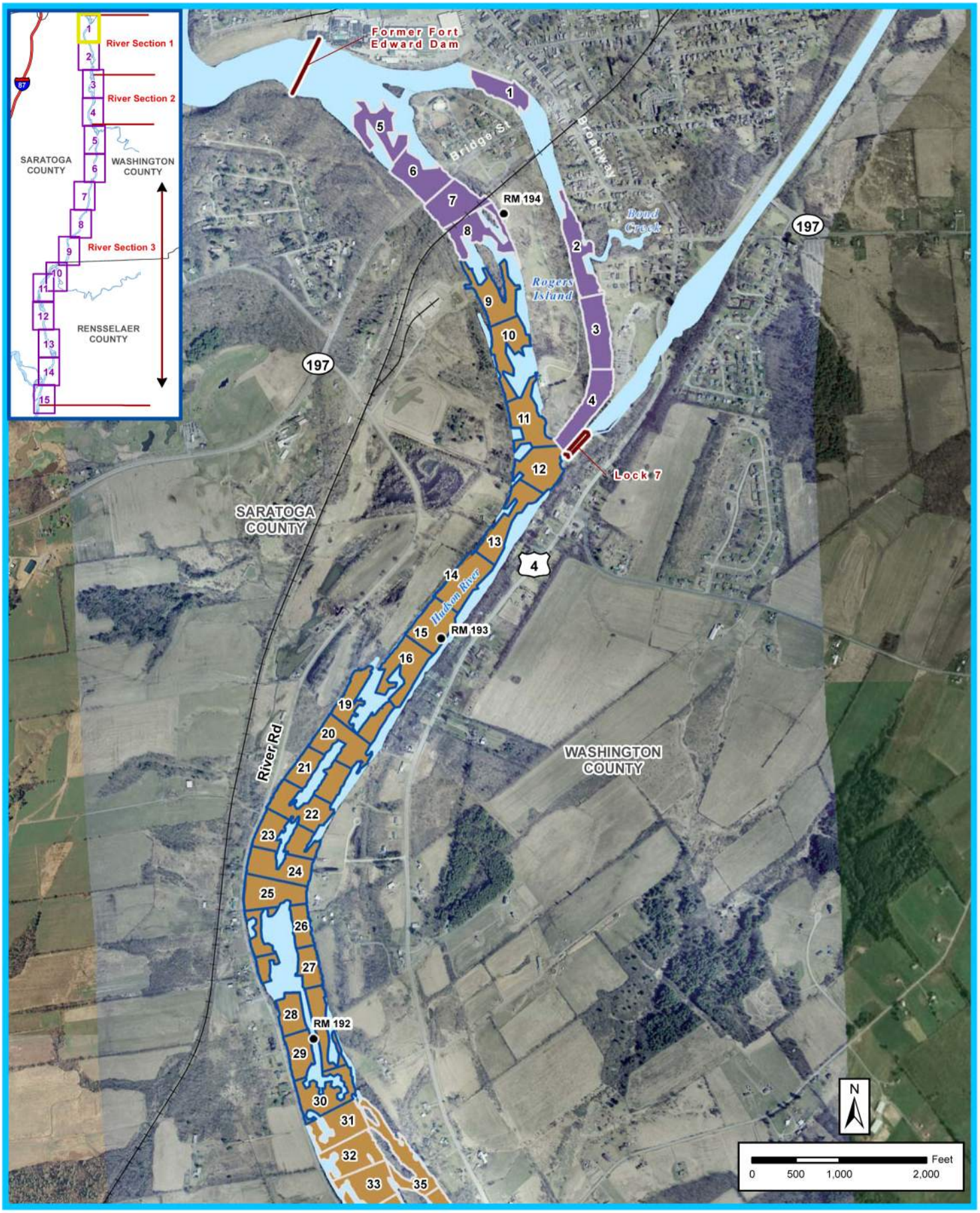
Map Index

LEGEND

- Index Frame
- Lock/Dam
- Upper Hudson River Sections
- Hudson River
- Phase 1 Dredging Areas
- Phase 2 Dredging Areas
- Municipality Boundary

0 1 2 4 Miles

N

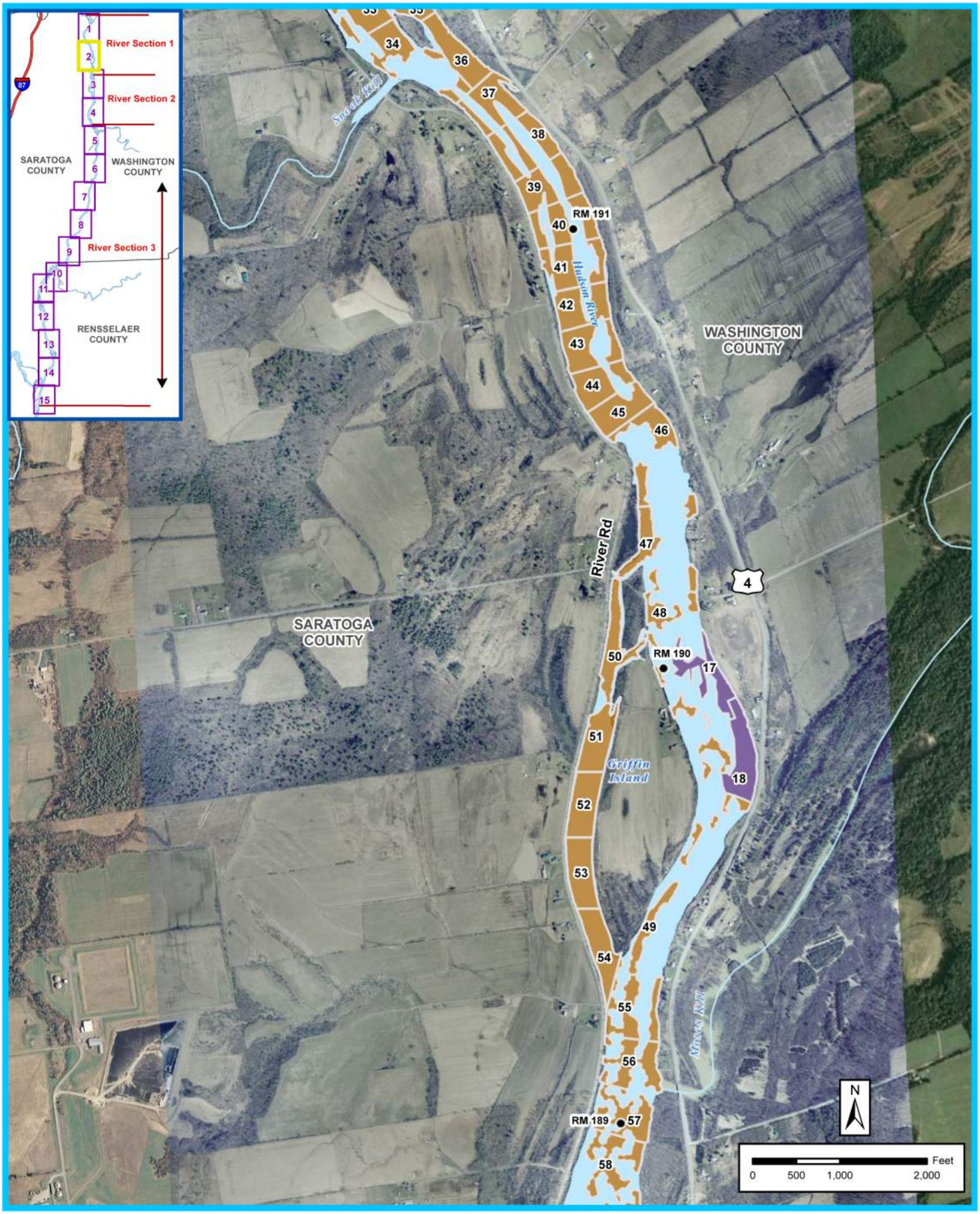


River Mileposts
Primary Railroads
Lock/Dam
Phase 2 Year 1 Dredge Areas
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 1

Aerial Photo Provided by GE April 22, 2007. River Flow at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

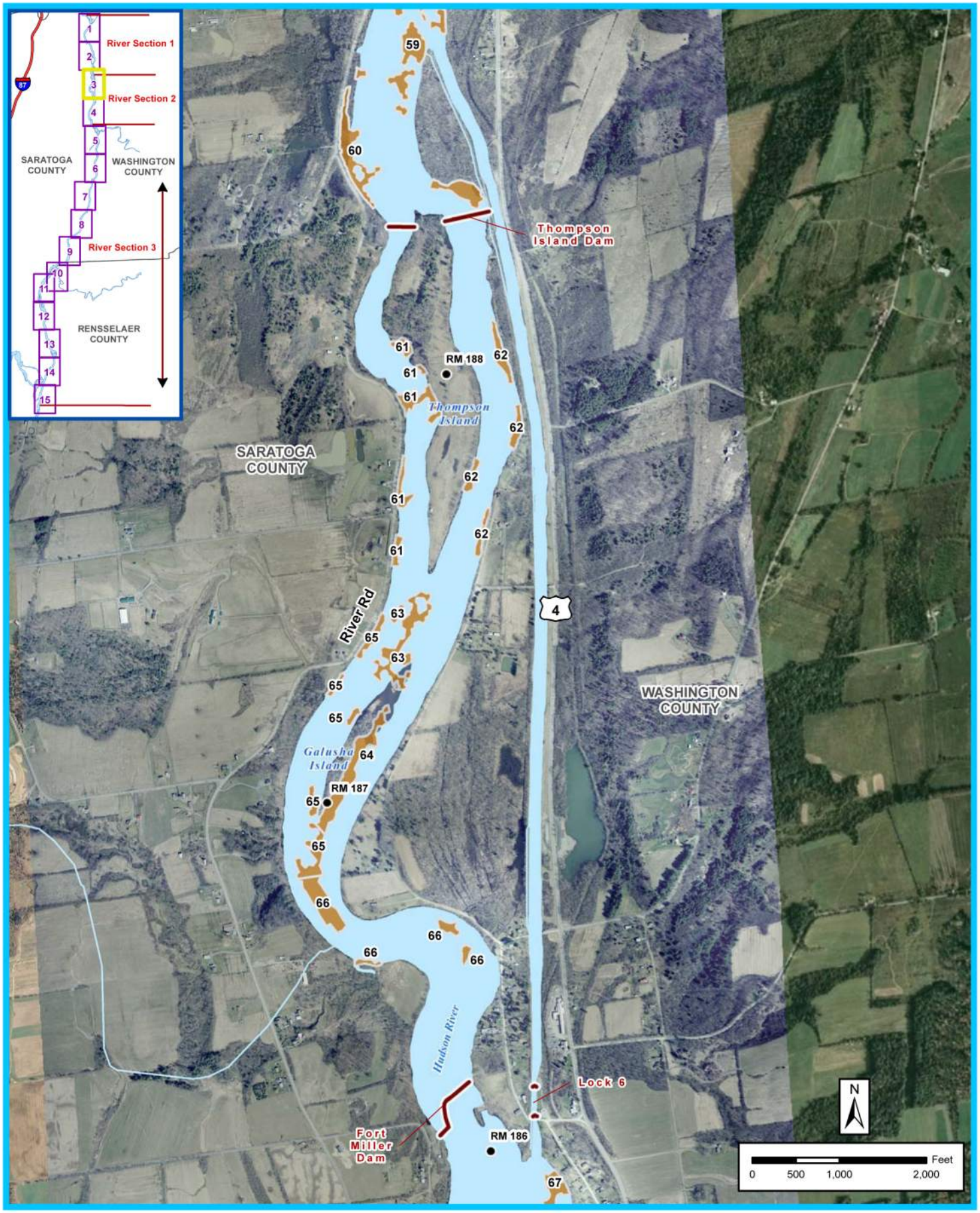


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 2

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

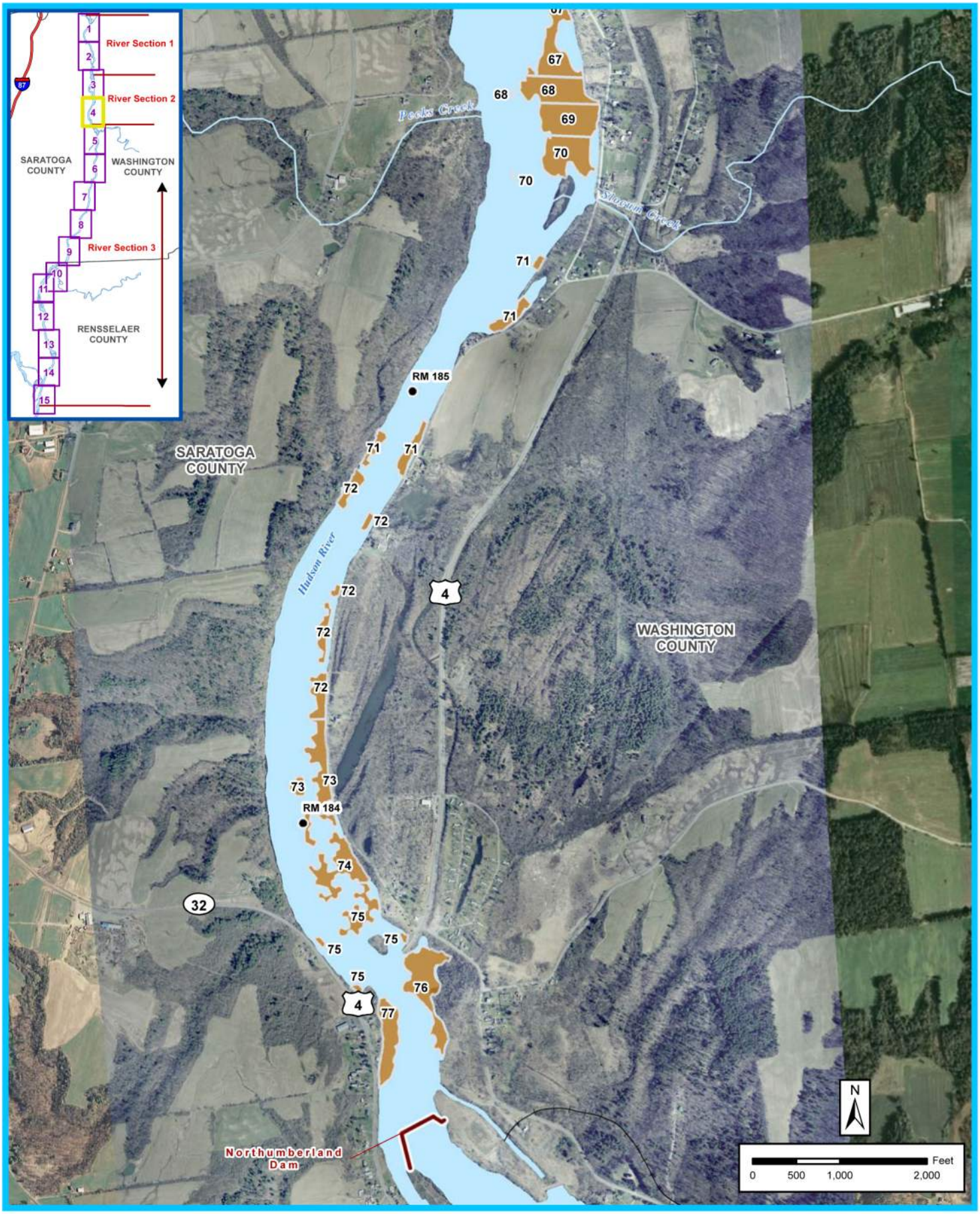


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 3

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

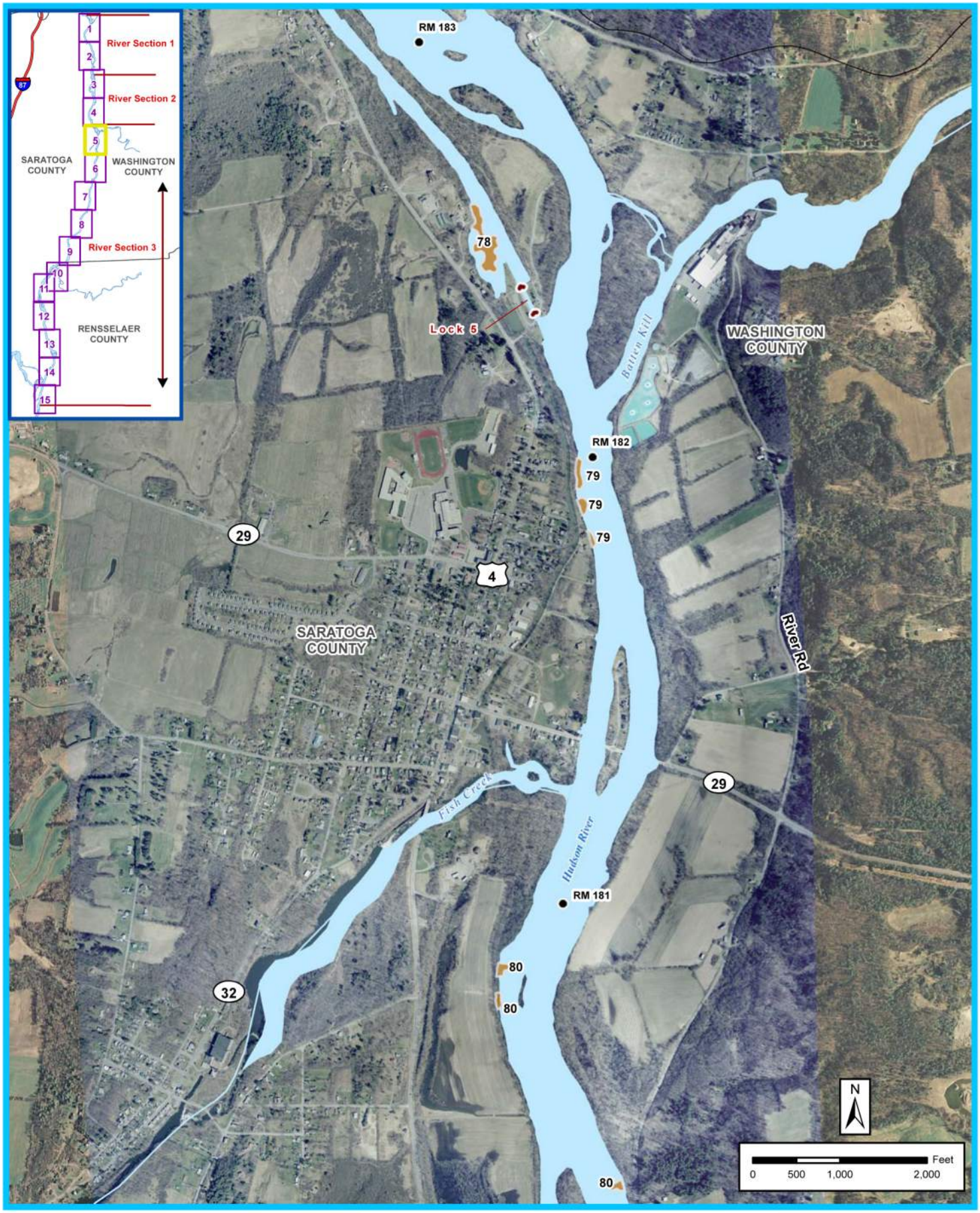


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 4

Aerial Photo Provided by GE April 22, 2007. River Flow at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

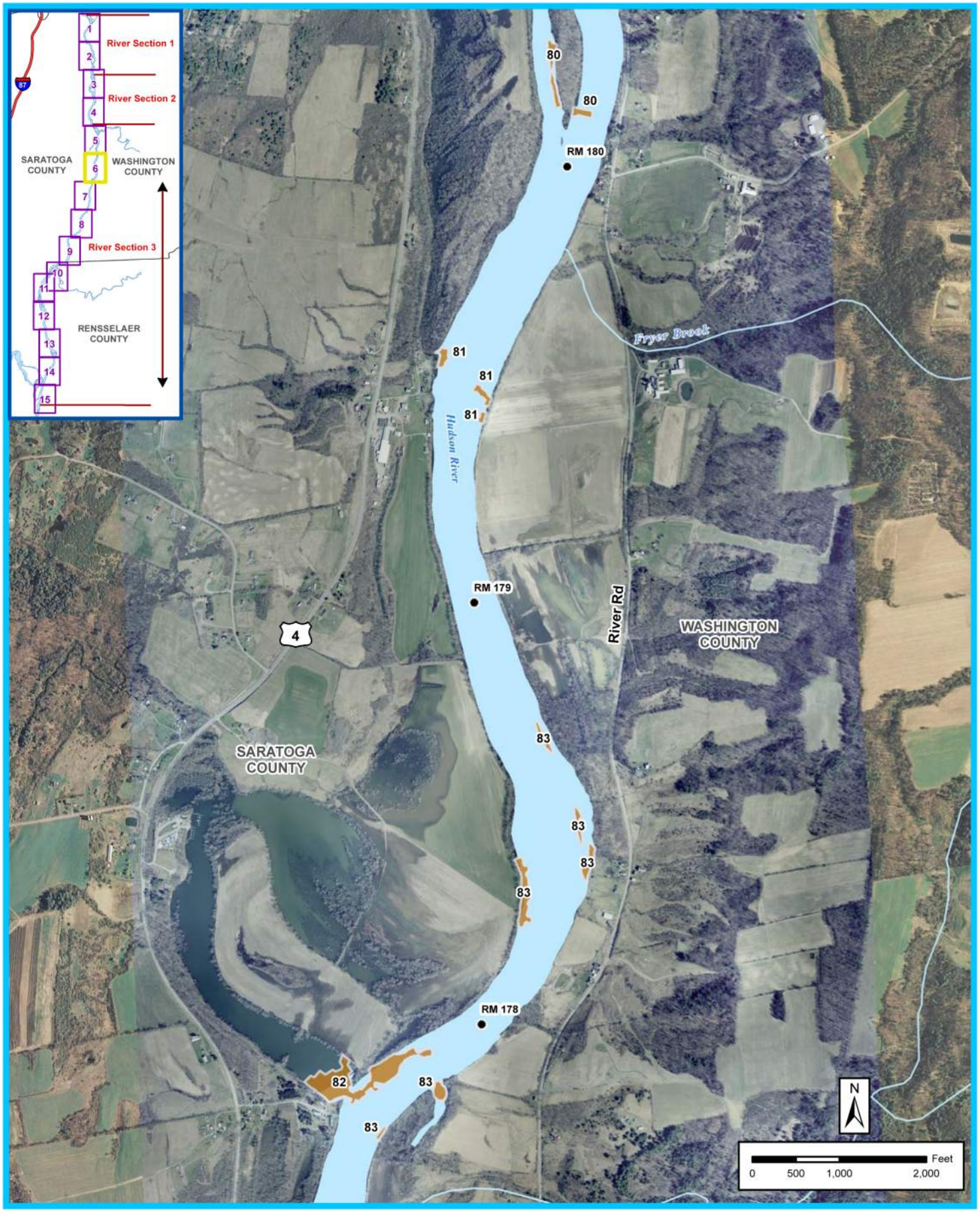


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 5

Aerial Photo Provided by GE April 22, 2007. River Flow at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

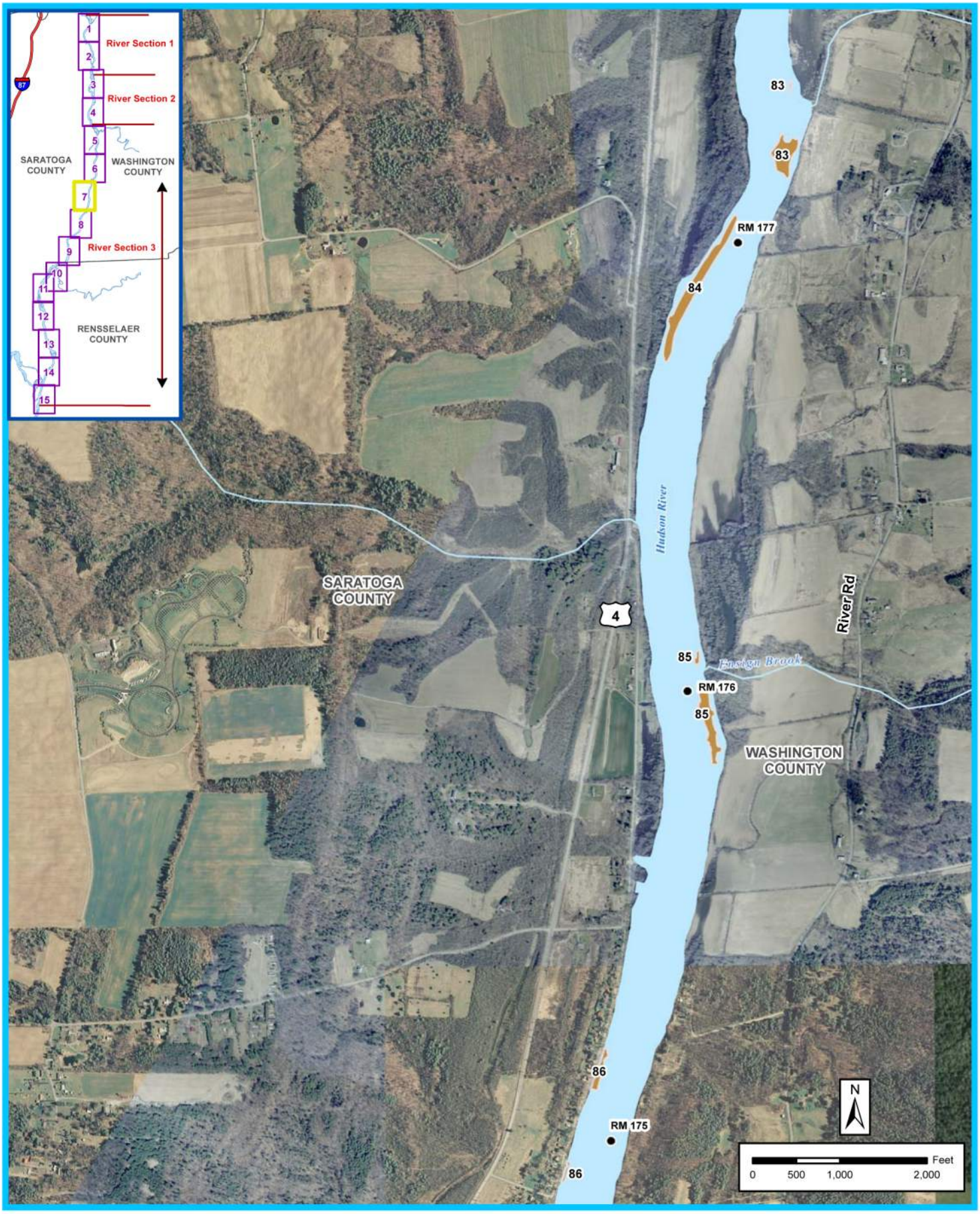


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 6

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

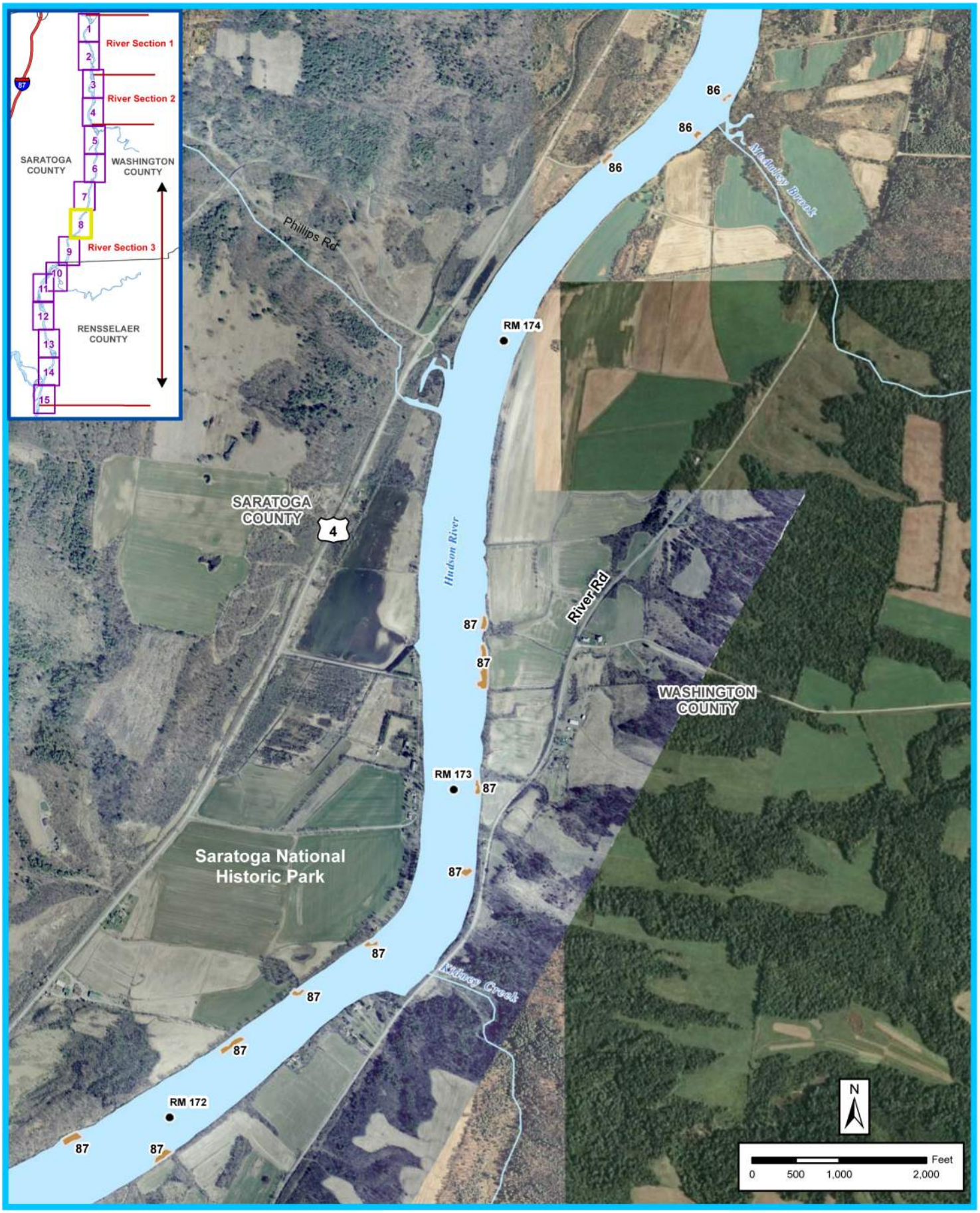


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 7

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

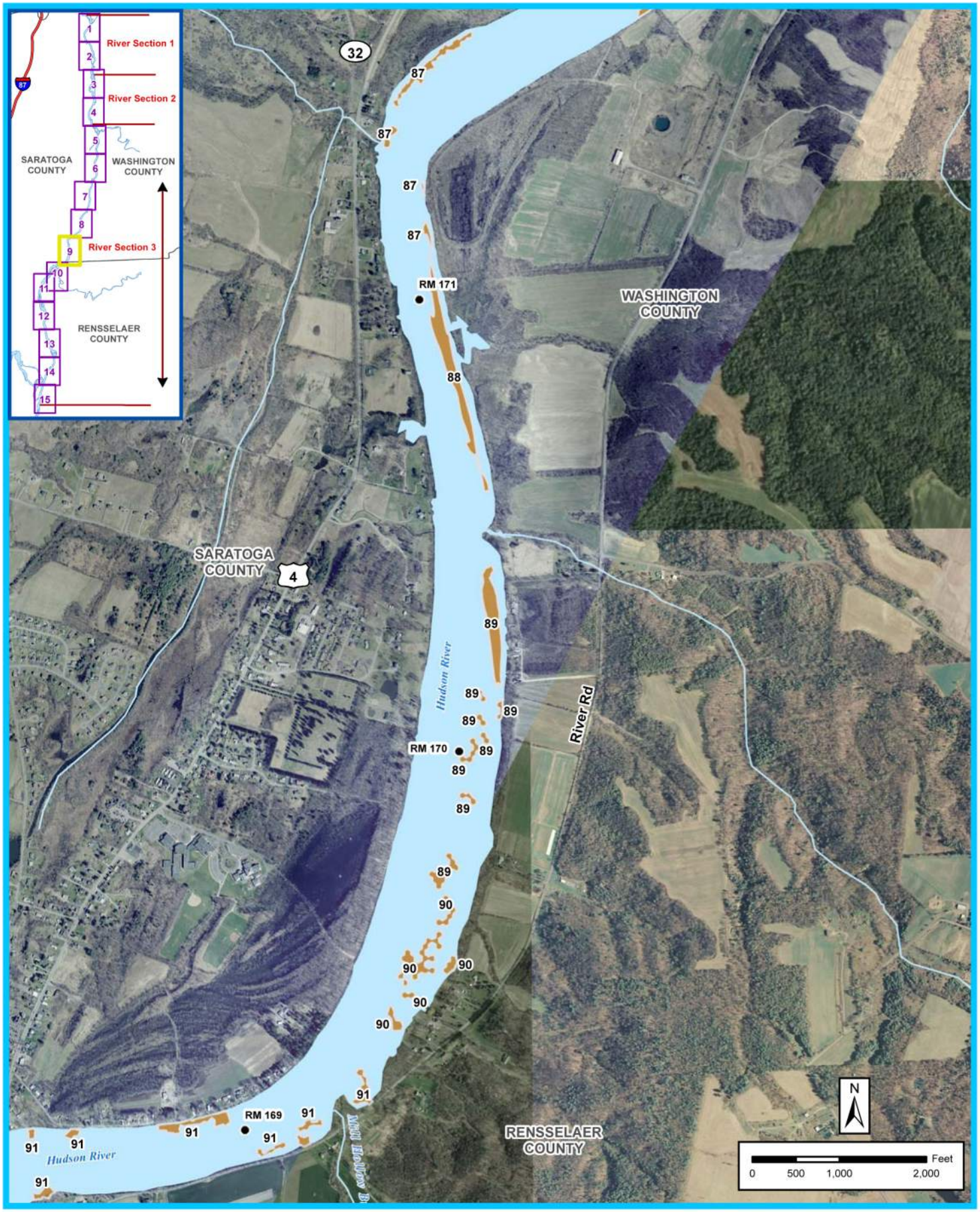


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 8

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

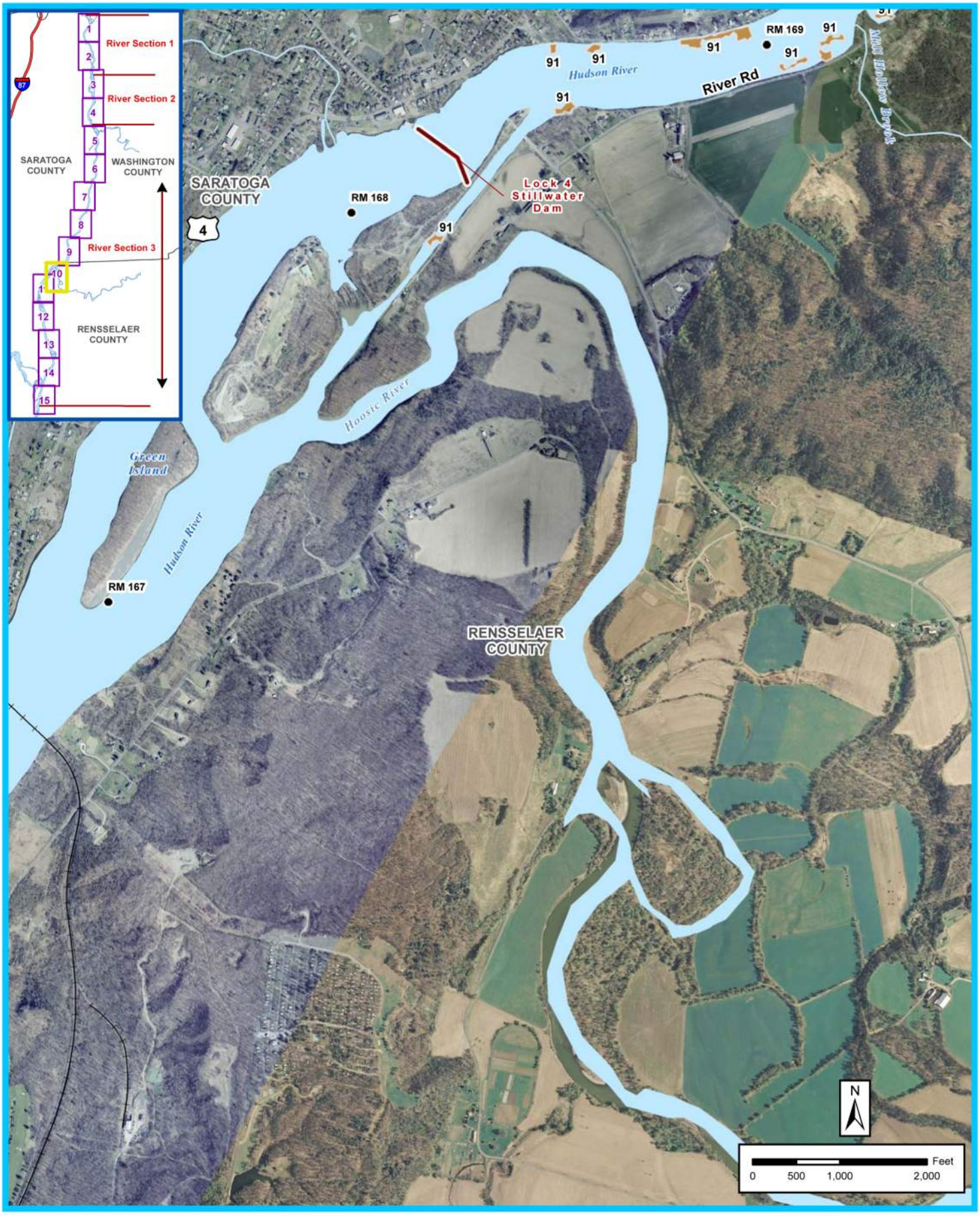


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 9

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

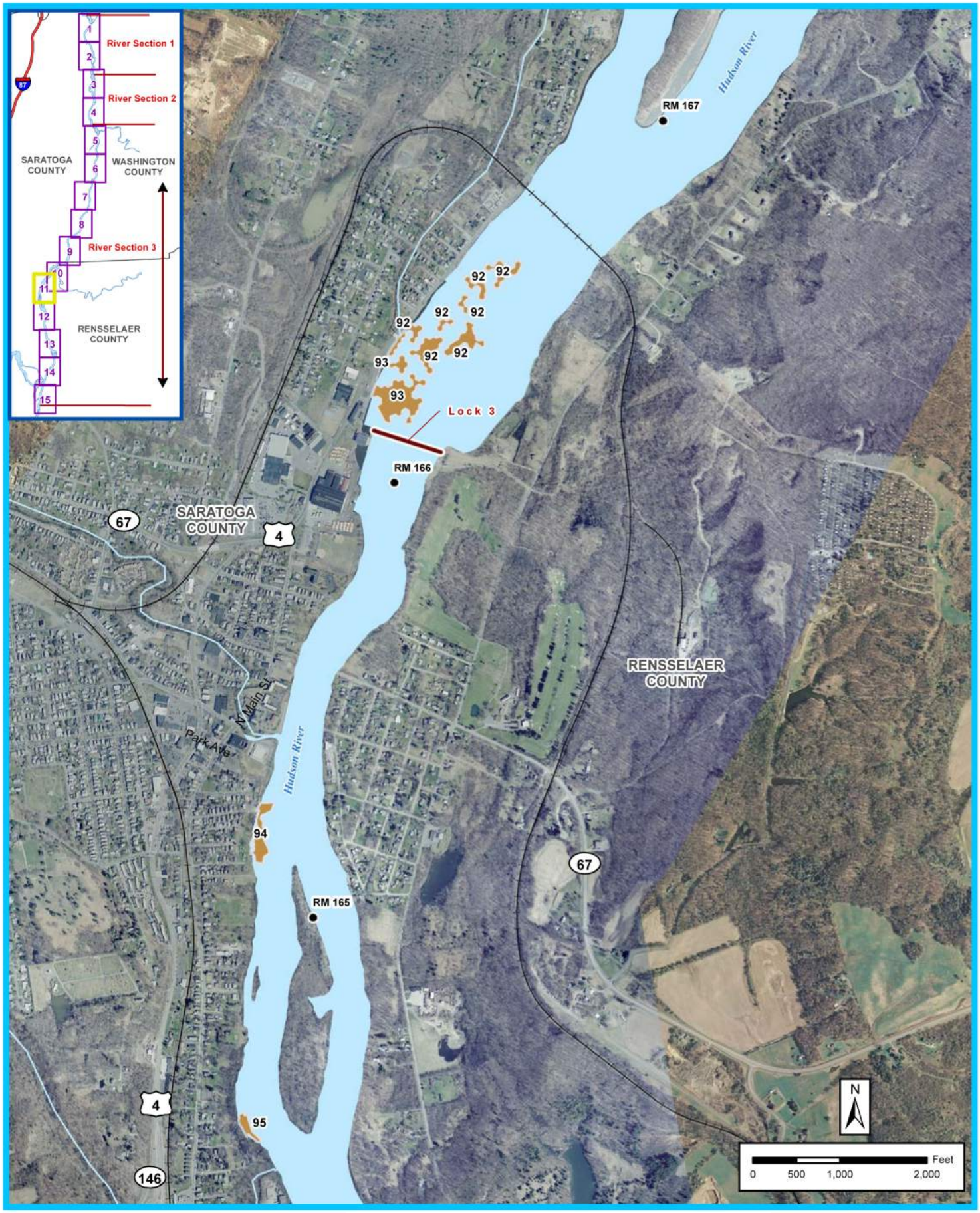


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 10

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

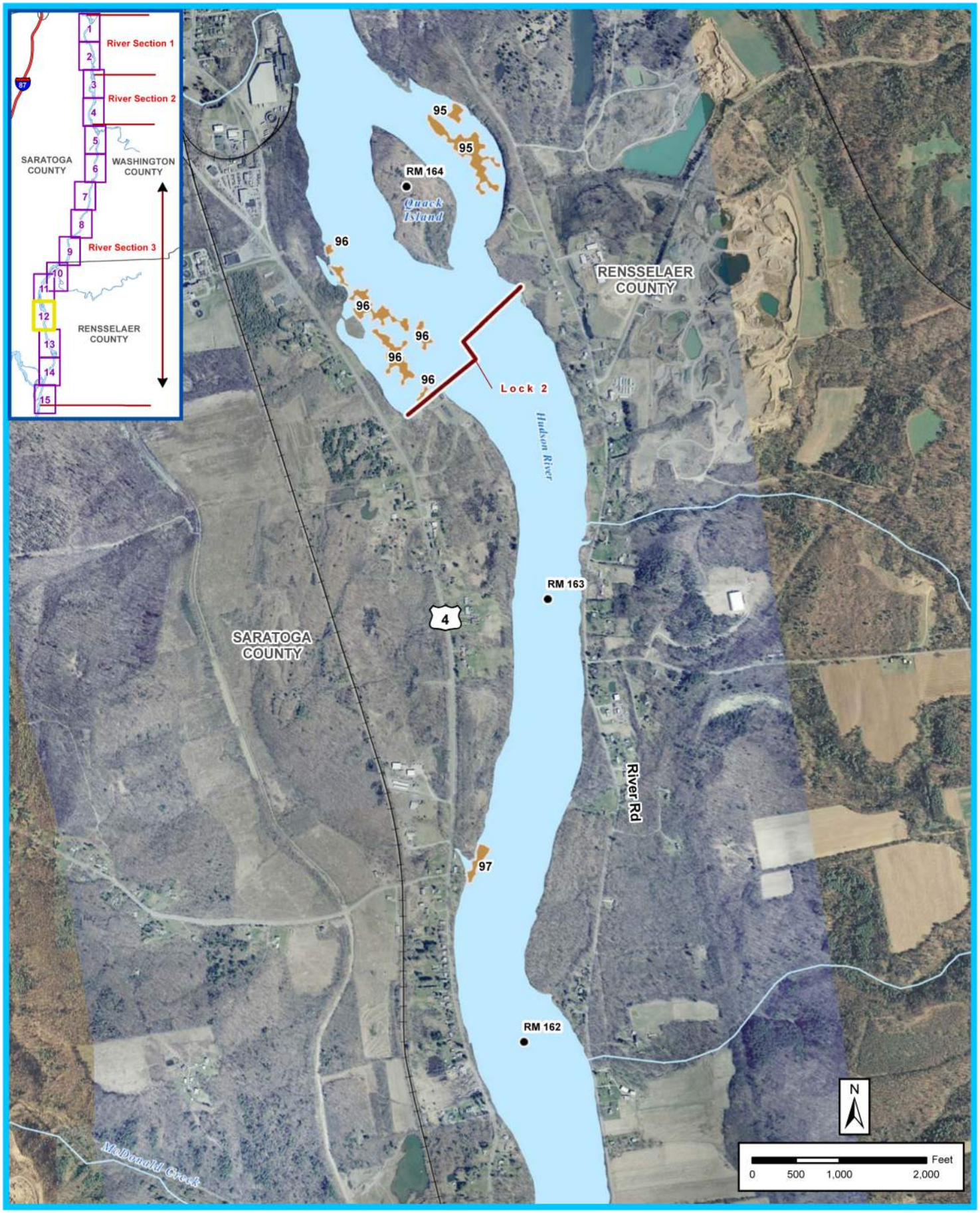


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 11

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

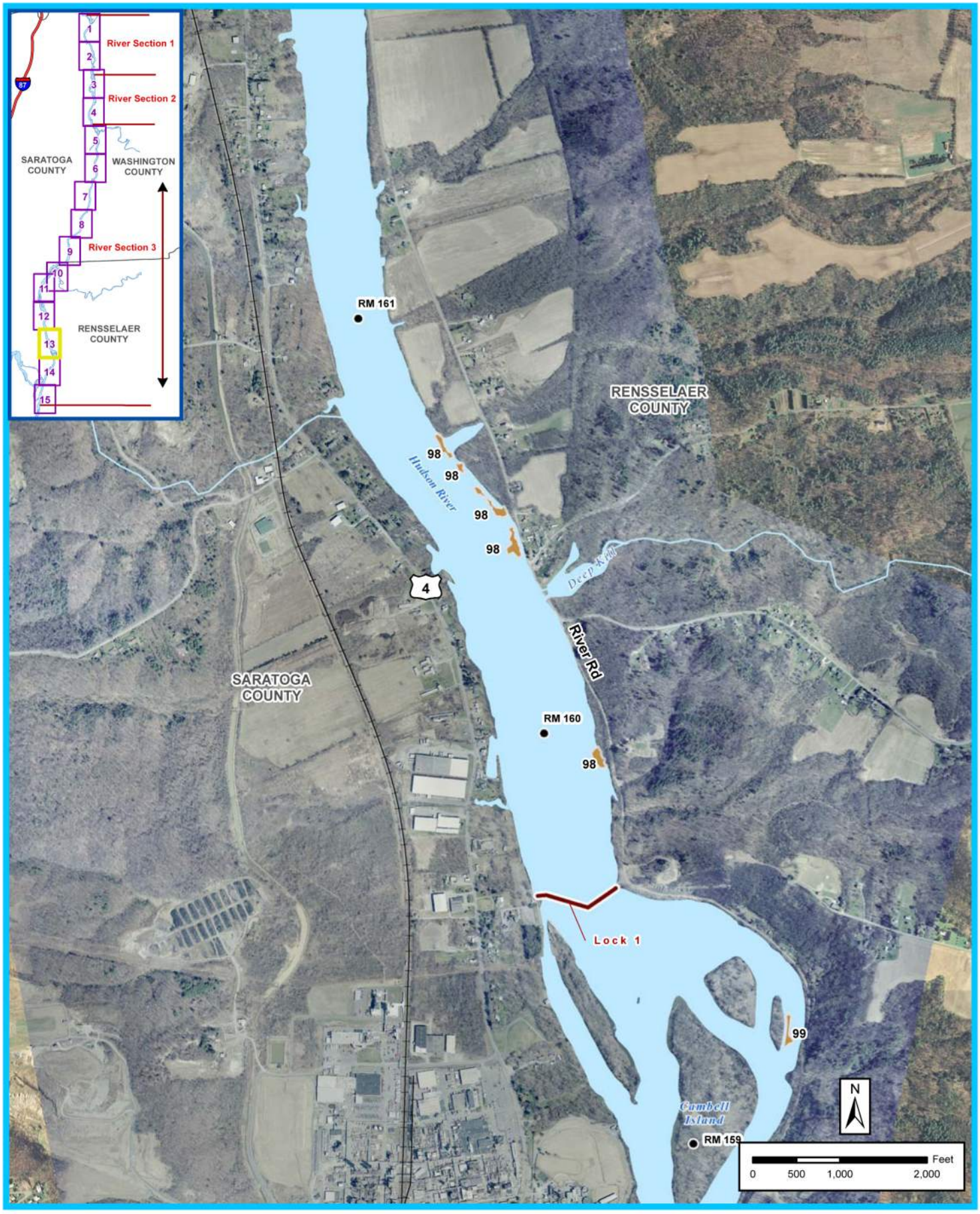


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 12

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

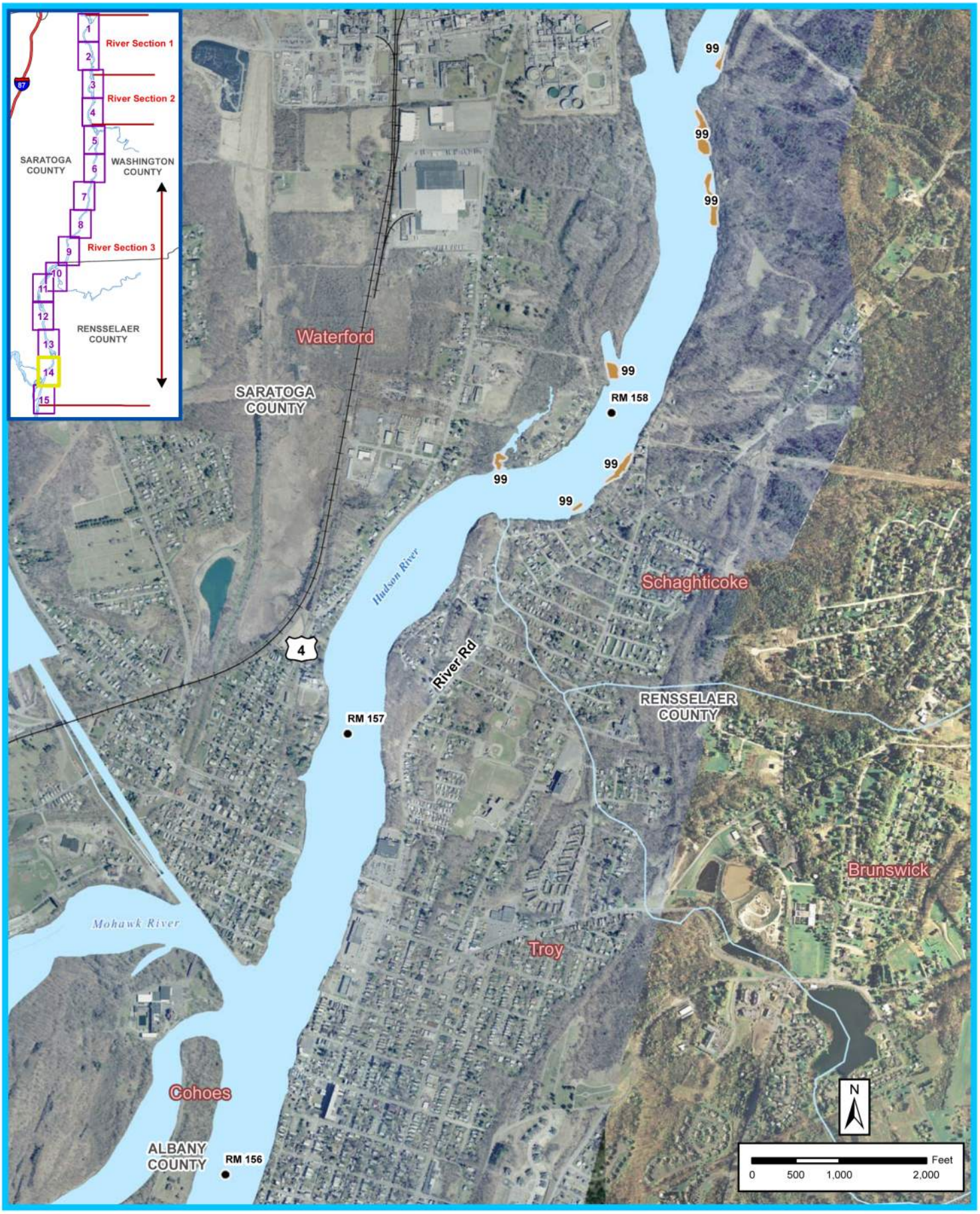


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 13

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River
PCBs SUPERFUND SITE

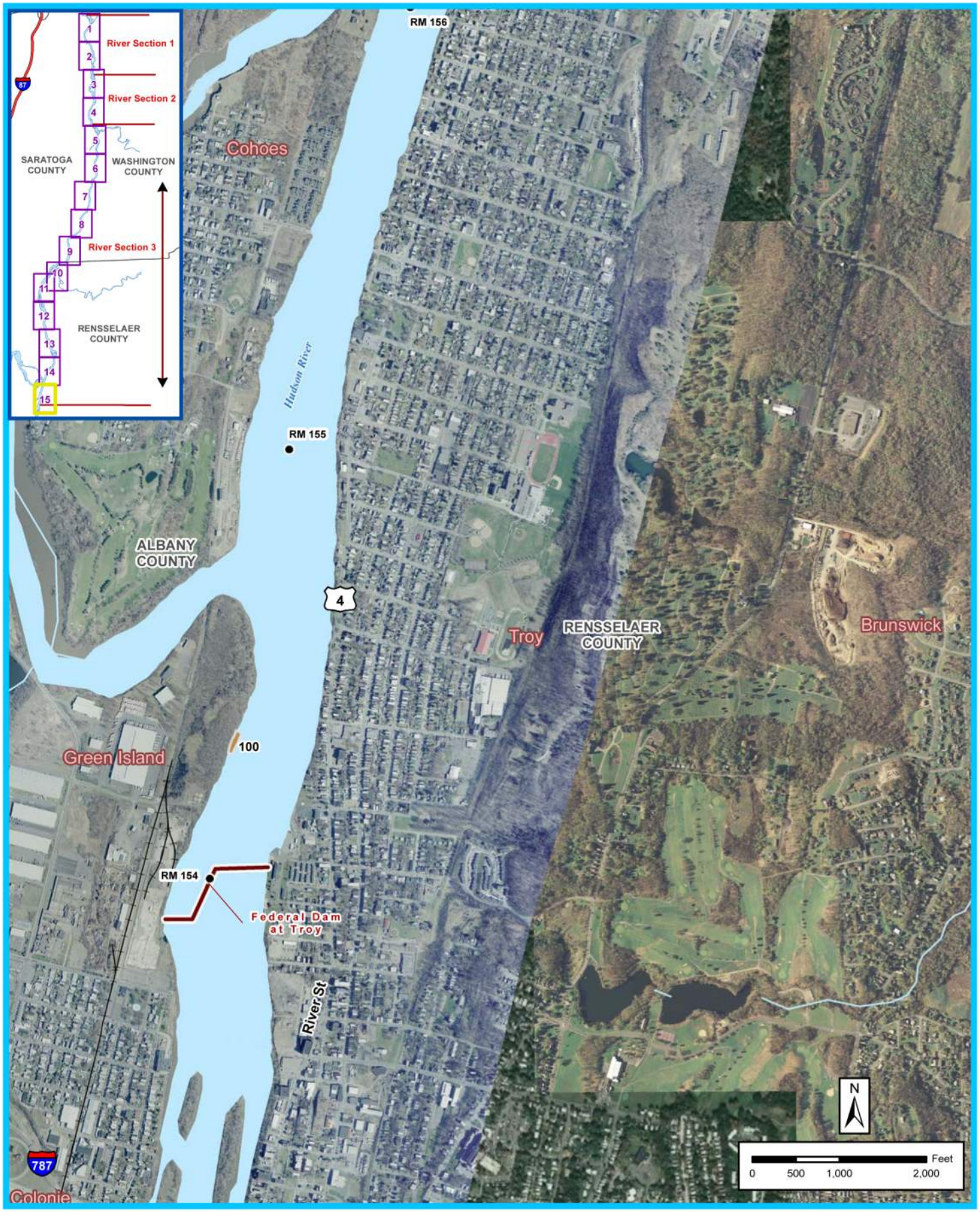


River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 14

Aerial Photo Provided by
GE April 22, 2007. River Flow
at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE



River Mileposts
Primary Railroads
Lock/Dam
Phase 1 Dredging Areas
Phase 2 Dredging Areas
Hudson River

Phase 1 and 2 Dredge Areas
Map 15

Aerial Photo Provided by GE April 22, 2007. River Flow at Time of Photo 18, 500 cfs

Hudson River PCBs SUPERFUND SITE

For More Information

EPA will continue the public outreach program for this project. The program includes maintaining the Hudson River Field Office, providing project information and meeting with riverfront residents living near the dredging areas. Visit*, call toll-free, or write to the Hudson River Field Office at the address below for more information.

EPA Contacts:

- **Dave King, *Director***
  Hudson River Field Office
  421 Lower Main Street
  Hudson Falls, NY 12839
  (518) 747-4389 or (866) 615-6490 Toll-Free
  hrfo@roadrunner.com

- **Larisa Romanowski, *Community Involvement Coordinator***
  Hudson River Field Office
  421 Lower Main Street
  Hudson Falls, NY 12839
  (518) 747-4389 or (866) 615-6490 Toll-Free
  hrfo@roadrunner.com

**The Field Office hours are Monday – Friday, 8:00 am – 4:30 pm, with evening hours by appointment.*

EPA Regional Public Liaison

EPA Region 2 has designated a public liaison as a point-of-contact for community concerns and questions about the federal Superfund program in New York, New Jersey, Puerto Rico, and the U.S. Virgin Islands. To support this effort, the Agency has established a 24-hour, toll-free number that the public can call to request information, express concerns, or register complaints about Superfund. The public liaison for EPA's Region 2 office is: George H. Zachos, U.S. EPA, Region 2, 2890 Woodbridge Avenue MS-211, Edison, New Jersey 08837, (732) 321-6621, Toll-free (888) 283-7626.