



Hudson River Background

- Headwaters – Lake Tear of the Clouds
- Length: 315 miles
- Watershed Area: 13,400 mi²
- Average freshwater discharge at The Battery: 21,500 cfs
- TZB at Mile 27



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The Hudson River is 315 miles long, with a watershed area of 13,400 miles squared and average discharge flow at The Battery of 21,500 cfs. The illustration shows the geographic extent of the Hudson River drainage basin. Below the dam at Troy, the Hudson River is technically an estuary since it is tidal up to that area. However, under typical river conditions salt water does not intrude much farther north than Bear Mountain.



Hudson River Conditions at Tappan Zee

- Approximately 14,000 ft wide
- Maximum Depth: 47 feet
- Cross-Sectional Area: 230,000 ft²
- Mean Tidal Range is 3.5 ft
- Extreme Tidal Range is 3.9 ft
- Average Peak Tidal Current: 2.3 ft/s



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Statistics for the Hudson River at the Tappan Zee Bridge, including depth, width, cross sectional area, and tidal range.



Program Objectives

- Gather data to assess project alternatives
 - Short-term construction impacts
 - Long-term operational impacts



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The Hudson River program is part of the overall environmental effort being undertaken for the study. One of the objectives of the program is to assess the impact of potential construction; another is to assess long-term operation implications.



Achieving Program Objectives

- Questions that need to be answered:
 - *Does TZ Bridge provide a unique habitat?*
 - *Is the habitat of potential new alignment typical of river or similar to existing bridge?*



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The Hudson River program is expected to address whether the existing bridge provides a unique habitat for aquatic species and if the habitat along potential new bridge alignments is typical of river conditions or comparable to that in the existing bridge vicinity.



Data Needs

- Other sampling programs provide “long river” data
- TZ program focuses on:
 - Vicinity of existing bridge
 - Potential rehab/new bridge alignments
 - River shorelines
 - Reference locations



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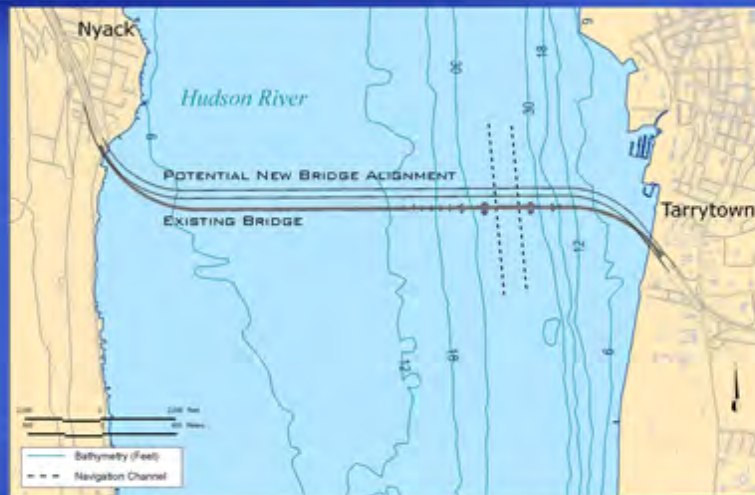


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To address these questions, data-gathering efforts are concentrated near the existing bridge and along the potential alignments of new bridges. Data is also collected near the river shorelines and at several reference locations.



Study Area



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The existing bridge alignment and a potential alignment of a new bridge.



Data Application

- Biological assessments
- Water quality assessments
 - Develop a computer model
- Sediment quality assessment



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Data is acquired to conduct biological assessments, address water quality impacts, and develop an understanding of sediment conditions near the bridge.



Sampling & Investigation Program

- Geophysical Program
 - Sampling, remote sensing, and lab analyses to characterize river conditions
- Ecological Surveys
 - Sampling, remote sensing, lab analyses, and visual observations



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The sampling program was divided into two principal sections: geophysical/hydrodynamic, and ecological.

