Reach 5d (Below Conine to Schoharie Creek)

The lowest reach in the watershed, 5d is approximately 1.35 miles in length and runs nearly parallel with NY Route 23 in the Town of Prattsville. The reach ranges in drainage area from 71.2 mi^2 below Conine's, to 73.1 mi^2 at the confluence with the Schoharie Creek. A single tributary from the Cozy Hollow Road area contributes to the reach. The reach is located in Valley Zone I, which has an average valley slope of 1.2%. Valley morphology is characterized by moderately steep valley slopes and a "U" shaped glacial valley trough. Land-forms typically include lateral and terminal moraines, alluvial terraces, and floodplains. Land-form features result in a moderately entrenched stream channel through portions of the reach. The Batavia Kills floodplain is bordered by State Route 23 and Conine Road through the lower portion of the reach.

Stream Morphology/Stability

Overall, reach 5d exhibits signs of relatively good stability. The Phase I Inventory and Assessment did note several locations where stream channel disturbance appeared to be active, but the sites appeared to represent localized problems and not a broader instability problem in the reach. At the time of the inventory, 9% of the reach was found to have signs of erosion, with approximately 1.8 ft^2 of exposed streambanks present per foot of stream channel. One large exposure was noted along a high bank with two additional exposures along the low terrace. Due to the stable nature of the reach in 1997, the GCSWCD did not conduct detailed Phase III/IV assessments in this area.

Two monumented cross sections were established in this area in 1998 in order to classify the reach. The first classified as a C3 stream type and was re-surveyed in the summer of 2000 to determine if any changes had occurred at the section. As seen in **Figure VI-97**, approximately 25.7 ft^2 of material was lost from the cross section, with nearly 4.6 feet of lateral erosion along the right bank. The cross section should continue to be monitored frequently to determine if the instability is increasing.

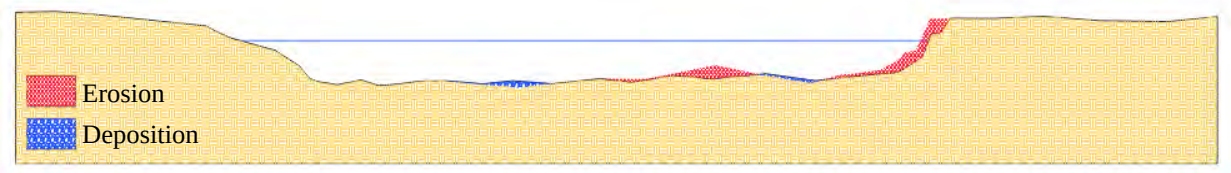


Figure VI-97: Overlay of "DuBois Camp" cross section 1998, 2000.

The second cross section is located downstream of the NY Route 23A bridge crossing, and the cross section classified as a B3c stream type. The channel material through the reach is dominated by a cobble-boulder mixture, and the GCSWCD inventoried extensive rip-rap armoring used in the past to protect the highway. This bank protection seems to be secure in most locations **(Figure VI-99a photo B)**.

A review of historical aerial photographs from 1959 to present, revealed a generally stable plan form through most of the reach. Channel planform adjustments in the reach appear to have been predominately in 2 isolated areas near the center of the reach **(Figure VI-98)** In the 1959 photograph (left, below) an significant side channel was developing approximately 2,450 feet upstream of the RT 23A bridge. This side channel extended upstream approximately 950 feet. By 1967, the side channel has enlarged and appears to be the dominant watercourse. The side channel had effectively cut off the larger and longer meander bend, thereby shortening the overall channel length. By 1980, the same section of the reach has reformed a single channel back in its original (1959) location. Between 1980 and 1995, the Batavia Kill has experienced minimal planform change at this site.

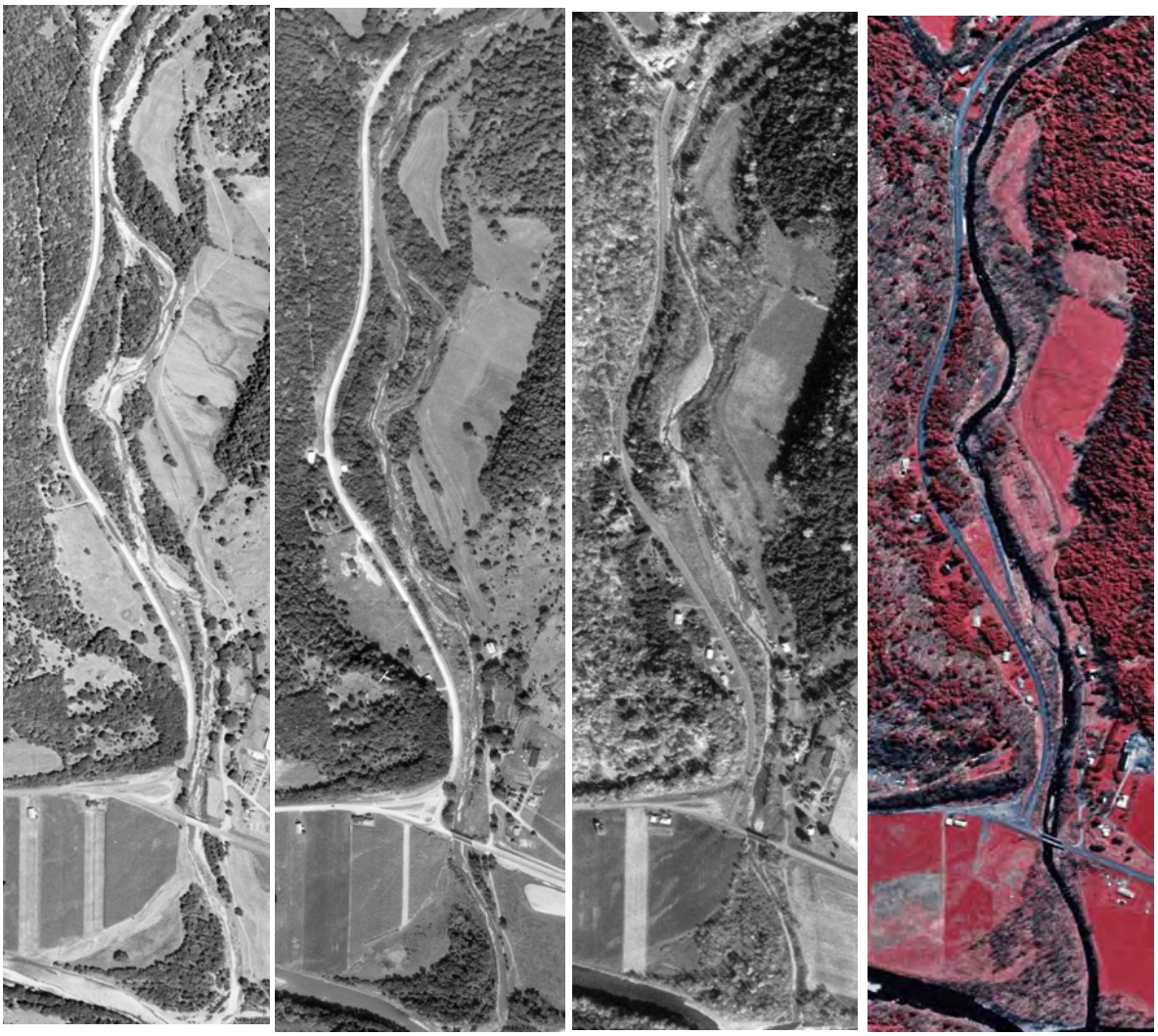


Figure VI-98: Historical aerial photograph progression, Reach 5c, left to right 1959, 1967, 1980, 1995.

Riparian Vegetation

The riparian condition in reach 5c has remained fairly consistent since at least 1959. In general, the riparian vegetation is in relatively good condition, with a good mix of trees, shrubs and herbaceous species. In several isolated areas **(Figure VI-99a photo A, H & Figure VI-99b photo D)** localized streambank erosion is actively degrading the riparian buffer, with the vegetation present not adequate to maintain bank stability. The change in density and type of vegetation in reach 5d has been minimal. Some Japanese knotweed is present.

Water Quality

While the GCSWCD did not specifically inventory any water quality issues in the reach, the presence of several residential structures, as well as NY Route 23, might provide opportunities for rehabilitation of on-site waste water treatment systems or stormwater runoff. Additionally, the GCSWCD is aware that several wells at the bottom of the reach have been reportedly contaminated by the Town of Prattsville salt storage. The town and county are working with the landowners to mitigate this situation, and a new Sand and salt shed was built under the watershed MOA. The GCSWCD is not aware of any concerns of this contamination impacting the Batavia Kill.

Infrastructure

The primary infrastructure issues in Reach 5d can be attributed in NY Route 23A and NY Route 23. As stated earlier, NY Route 23 runs adjacent to the stream channel and in several spots NYSDOT has installed hard armor to protect the right-of-way. This includes rock rip-rap, as well as a short section of concrete “stay-wall”. At the bottom of the reach, a free span bridge carries NY Route 23A over the creek. The bridge does not appear to be impacting stream form or stability, and it is being replaced. All activities associated with the transportation corridor must be done so as to prevent further entrenchment of the stream channel, or deflection of erosive forces downstream.

Habitat

While the GCSWCD did not conduct a detailed assessment of fisheries habitat, the Phase I Inventory and Assessment characterized the habitat as being in generally good condition. The reach as a fairly good riffle-pool streambed form, and in most areas there is good riparian buffer for shading the channel. The confluence with the Schoharie Creek appears stable, and passable to migrating fish.

Flooding Issues

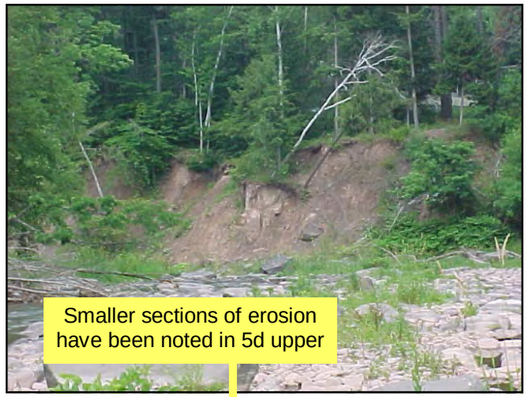
Other than streambank damage, the only other flooding issue the GCSWCD is aware of occurs at the bottom of the reach, just above the NY Route 23A bridge. In this area, there is a small cluster of homes located on the left floodplain, and during extreme flood events the landowners have reported flooding problems. During the January 1996 flood event, the stream overtopped its banks, resulting in property damage at the homes. No structural flooding was reported, but the landowners contacted the GCSWCD seeking assistance in having the creek dredged in the false belief that this would alleviate future flooding. The GCSWCD will evaluate this threat and identify “stream friendly” solutions for the landowners in the future.

Reach 5d Summary

Overall, reach 5d exhibits signs of being very stable, with only isolated areas of active erosion. The reach is characterized as being moderately entrenched, with sections of C and B stream types. Entrenchment is primarily the result of local topography. While some active planform changes have been observed in historic aerial photographs, this does not appear to be an active process at his time. Management activities associated with the state highways does have potential to degrade the reach, and care must be taken not to promote conditions that will lead to further instability.

Table VI-21: Management Recommendations Reach 5d.

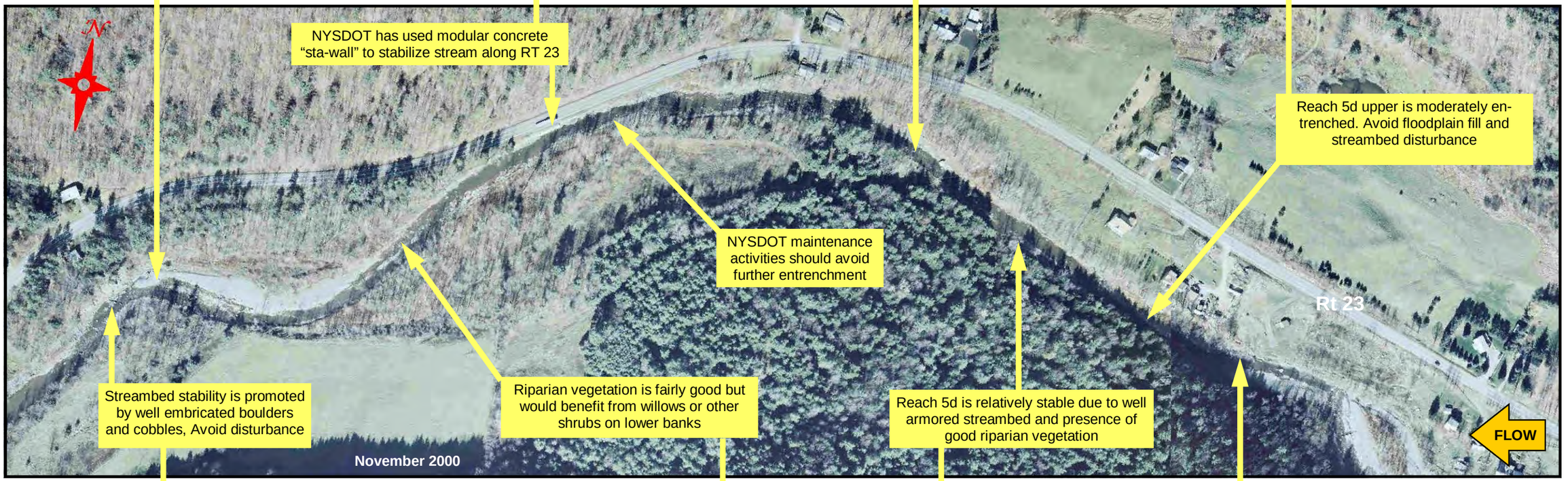
Reach 5d: Below Conine to Schoharie Creek.	
Intervention Level	Preservation
Stream Morphology	Reach 5d is currently relatively stable. While some minor erosion was inventoried, no signs of large scale instability were observed. The reach is somewhat naturally entrenched in several locations. Future management activities should be done so as to prevent further channel entrenchment, degradation of the stream bottom or deflecting of stream velocities into streambanks. In isolated areas, minor streambank shaping may be advisable in conjunction with new riparian plantings.
Riparian Vegetation	Some benefit could be realized by enhancing the riparian buffer in some sections of the reach. In some instances, minor bank grading should be completed first, followed by plantings of woody and herbaceous species. While Japanese knotweed is limited in this reach, its management should be prioritized highly to prevent a more extensive colony.
Water Quality	See General Recommendations
Infrastructure	No specific problems noted. Any future rehabilitation or other work on NY Route 23/23A must be done so as to avoid any further modification of the channel. GCSWCD will coordinate with NYSDOT on future bridge replacement to ensure necessary stream channel characteristics, currently functioning well, are maintained.
Habitat	See general recommendations
Further Assessment	Continue to monitor reach stability. No additional Phase III/IV assessment required at this time.


A


B


C


D




E


F


G

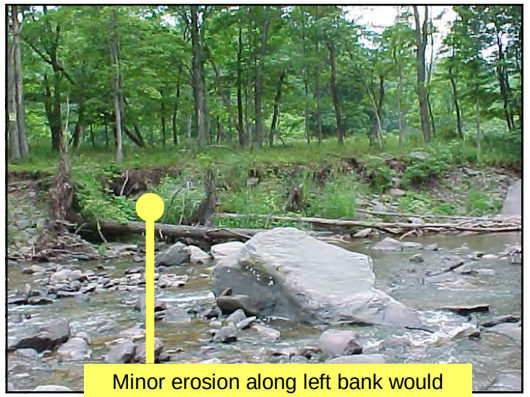
H

Figure VI-98a Reach 5d-Upper

A

B

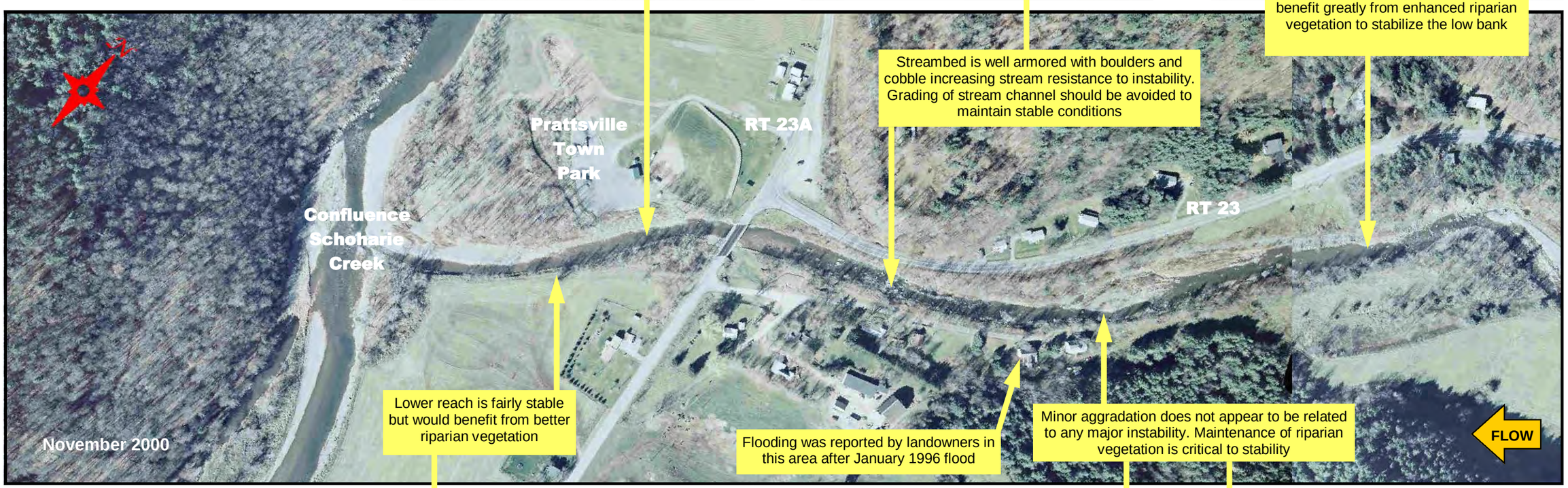
C



D

Minor erosion along left bank would benefit greatly from enhanced riparian vegetation to stabilize the low bank

Streambed is well armored with boulders and cobble increasing stream resistance to instability. Grading of stream channel should be avoided to maintain stable conditions



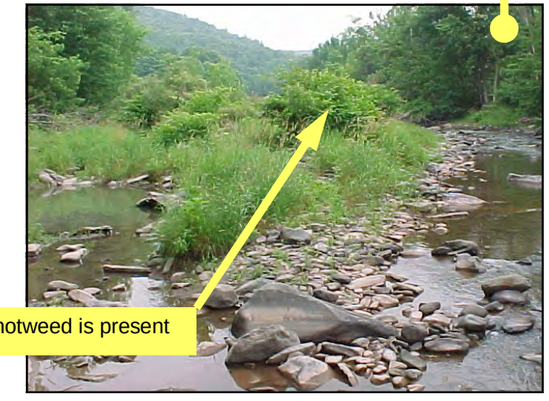
Lower reach is fairly stable but would benefit from better riparian vegetation

Flooding was reported by landowners in this area after January 1996 flood

Minor aggradation does not appear to be related to any major instability. Maintenance of riparian vegetation is critical to stability

E

F



G

H

Some Japanese knotweed is present

Figure VI-98b Reach 5d-Lower