

While much of the information noted in the following paragraphs is not within the scope of V.D.O.T. field surveys, it is presented to (1) provide the survey party with an awareness of such data requirements and (2) to suggest that the survey party obtain any part of the required data that is accessible to them.

The designer needs information on existing water quality, present and future water uses and the water quality standards for the stream. Some of this information is available in the water quality standards and criteria published by the State Department of Environmental Quality in fulfilling part of the requirements of PL-92-500. Physical, chemical and biological data for many streams are also available from State and Federal water pollution control agencies, the U.S. Geological Survey and from municipalities, water districts and industries which use the stream as a source of supply.

A description of existing water circulation patterns and the definition of the types and extent of potentially affected wetlands is necessary for the designer to assess the effects of each structure-fill configuration. Data on circulation, tides, water velocity, water quality and wetlands is available from the National Geodetic Survey, the U.S. Coast Guard, the Army Corps of Engineers, universities, Marine institutes as well as other state, federal, and local agencies and organizations.

Information on fish and fish habitat is often necessary in order to evaluate proposed channel modifications and to design replacement habitat. Fish and fish habitat information is available from State and Federal Fish and Game Agencies.

Sediment analysis of the material in the streambed and banks as well as proposed fill materials may be essential data for projects in critical water use areas such as near municipal or industrial water supply intakes.

Information on sediment transport is also vital in defining the suitability of a stream for most beneficial uses including fish habitat, recreation and water supply. Potential changes in the sediment transport rate resulting from construction must be thoroughly investigated for environmental impacts as well as channel stability.

It may be necessary for the highway agency to collect data at critical sites, if the required information is unavailable from other sources.

Data needs may be summarized as follows:

1. Information necessary to define the environmental sensitivity of the crossing, e.g., water use, water quality and standards and wetlands information.
2. Information necessary to determine the most environmentally compatible design, e.g., circulation patterns and sediment transport data.
3. Information necessary to define the need for and design of mitigation measures, e.g., fish habitat sediment analysis and water use and quality standards.