The purpose of this course is to provide the knowledge and skills required to participate in studies assessing physical habitat characteristics of streams. Techniques learned may be applied to a variety of programs including in-stream flow (e.g., IFIM), monitoring, restoration, habitat quality (e.g., HEP), and fish-habitat relationship studies. Classroom presentations (approximately 45%) are integrated with ample hands-on field activities (approximately 55%). Attributes characterized, measured, or identified include stream regional setting (ecoregion, watershed, hydrologic unit, and physiographic province), basin geomorphic properties, land cover types, hydrology, channel dimensions and roughness, channel structure and pattern, mesohabitat types, discharge, velocity, depth, substrate type and embeddedness, cover, bank condition, and riparian vegetation. Discussions and exercises will address additional topics as site selection, transect and sampling point placement, and reach mapping (cross-sectional, longitudinal, and plan views). From stream reach surveys, participants will complete a comprehensive written habitat assessment and classification for a nearby reach. Participants also will learn to operate equipment used to survey and measure habitat variables.

Objectives:

Upon completion of this course, you will be able to:

- Determine watershed regional setting and identification;
- Measure drainage basin characteristics;
- Take elevations using sight and laser level surveying equipment;
- Conduct cross-section and longitudinal profile surveys of a stream reach;
- Identify bankfull and determine bankfull elevations;
- Take substrate measurements by point-count and wet-sieving;
- Use spreadsheets to plot survey and substrate data;
- Take micro-habitat measurements;
- Determine discharge return interval and exceedance values; and
- Classify a stream reach using the Rosgen methodology.

Target Audience:

Personnel with minimal stream experience involved with habitat assessment projects.

*NOTE: This course is a pre-requisite to the CSP3210 Applied Fluvial Geomorphology-Level 1 course. This requirement can be waived on a case-by-case basis. This requirement applies ONLY to FWS employees.*
## Schedule: CSP3200 - Stream Habitat Measurement Techniques

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Session Information</th>
<th>Location</th>
<th>Session Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/23/2020</td>
<td>3/27/2020</td>
<td>Class begins at 8:00 AM on first day. Class ends at Noon on last day.</td>
<td>National Conservation Training Center (NCTC)</td>
<td><a href="mailto:michele_atha@fws.gov">michele_atha@fws.gov</a></td>
</tr>
</tbody>
</table>