Fish Habitat Survey Definitions

Riffles

LOW GRADIENT RIFFLE - "LGR"
Shallow reaches with swiftly flowing turbulent water with some partially exposed substrate; gradient <4%, substrate is usually cobble dominated.

HIGH GRADIENT RIFFLES - "HGR"
Steep reaches of moderately deep, swift, and very turbulent water, amount of exposed substrate is relatively high; gradient is >4%, and substrate is boulder dominated.
Cascade

CASCADE - "CAS"
The steepest riffle habitat, consisting of alternating small waterfalls and shallow pools; substrate is usually bedrock and boulders.

BEDROCK SHEET - "BRS"
A thin sheet of water flowing over a smooth bedrock surface; gradients are usually variable.
Flatwaters

**RUN - "RUN"**

Swiftly flowing reaches with little surface agitation and no major flow obstructions; often appears as flooded riffles; typical substrate consists of gravel, cobble, and boulders.

**STEP RUN - "SRN"**

A sequence of runs separated by short riffle steps; substrate is usually cobble and boulder dominated.
GLIDE - "GLD"

A wide uniform channel bottom; flow with low to moderate velocities; lacking pronounced turbulence; substrate usually consists of cobble, gravel, and sand.

Deleted:

large obstructions

POCKET WATER - "POW"

A section of swift flowing stream containing numerous boulders or other large obstructions which create eddies or scour holes (pockets) behind the obstructions.
EDGEWATER - "EDW"

Quiet, shallow area found along the margins of the stream, typically associated with riffles; water velocity is low and sometimes lacking; substrate varies from cobbles to boulders.
Main Channel Pools

**STEP POOL - "STP"**

A series of pools separated by short riffles or cascades; generally found in high gradient, confined mountain streams dominated by boulder substrate.

**TRENCH/CHUTE - "TRP"**

Channel cross-sections typically "U" shaped with bedrock or coarse grained bottom flanked bedrock walls; current velocities are swift and the direction of flow is uniform.
MID-CHANNEL POOL - "MCP"

Large pools formed by mid-channel scour; the scour hole encompasses more than 60% of the wetted channel; water velocity is slow, and the substrate is highly variable.

CHANNEL CONFLUENCE POOL - "CCP"

Large pools formed at the confluence of two or more channels; scour can be due to plunges, lateral obstructions or scour at the channel intersections; velocity and turbulence are usually greater than those in other pool types.
Scour Pools

PLUNGE POOL - "PLP"

Found where stream passes over a complete or nearly complete channel obstruction and drops steeply into the streambed below, scouring out a depression; often large and deep; substrate size is highly variable.

CORNER POOL - "CRP"

Lateral scour pools formed at the bend in the channel; these pools are common in the lowland valley bottoms where stream banks consist of alluvium and lack hard obstructions.
Formed by flow impinging against a partial channel obstruction consisting of large woody debris; the associated scour is generally confined to <60% of the wetted channel width.

Formed by flow impinging against a partial channel obstruction consisting of a root wad; associated scour is generally confined to <60% of the wetted channel width.
**LATERAL SCOP POOL - "LSBk" BEDROCK FORMED**

Formed by flow impinging against a bedrock stream bank; associated scour is generally confined to <60% of the wetted channel width.

**LATERAL SCOP POOL - "LSBo" BOULDER FORMED**

Formed by flow impinging against a partial channel obstruction consisting of a boulder; the associated scour is generally confined to <60% of the wetted channel.
Backwater Pool

DAMMED POOL - "DPL"
Water impounded from a complete or nearly complete channel blockage (debris jams, rock landslides or beaver dams); substrate tend toward smaller gravel and sand.

CORNER POOL - "CRP"
Typically found in the summer, these pools will dry up or have very little flow; mainly associated with gravel bars and may contain sand and silt substrate.
**BACKWATER POOL - "BPB" BOULDER FORMED**

Found along channel margins and caused by eddies around a boulder obstruction; these pools are usually shallow and are dominated by fine-grain substrate; current velocities are quite low.

**BACKWATER POOL - "BPR" ROOT WAD FORMED**

Found along channel margins and caused by eddies around a root wad obstruction; these pools are usually shallow and are dominated by fine-grain substrate; current velocities are quite low.
**BACKWATER POOL - "BPL" LOG FORMED**

Found along channel margins and caused by eddies around a large woody debris obstruction; these pools are usually shallow and are dominated by fine-grain substrate; current velocities are quite low.

* References:

Coyote Creek Riparian Station and the San Francisco Estuary Institute originally prepared this protocol for the Clean Water Team. Originally adapted from the California Department of Fish and Game’s *California Salmonid Stream Habitat Manual*. 2nd Edition by from G. Flosi. and F.L. Reynolds. This SOP reflects changes made in 2006 by the Clean Water Team.