# Factors Limiting Salmonid Population Viability in North Olympic Peninsula Streams

**Common factors shared by most streams:**

Degraded riparian condition
Lack of in-channel Large Woody Debris
Water quality: temperature, sediment problems
Water quantity: high winter flows, low summer flows
Degraded estuarine conditions: food, cover, water quality
Stormwater impacts
Culvert blockages to fish passage
Floodplain loss
Channel instability

## Factors specific to Streamkeepers' streams—listed from east to west:

**(JimmyComeLately:**
High winter flows
Channel aggradation
Riparian condition
Lack of LWD)
Please note: Jimmycomelately has been the site of extensive restoration efforts, and a number of these factors have been addressed.

**Johnson:**
Channelization, armoring, incision in has isolated lower stream from floodplain
Fish blockage problems
Poor riparian conditions in lower creek
Sediment and pollutant inputs from logging roads, irrigation ditch, stormwater
Loss of estuary functions

**Bell:**
Irrigation and development
Unscreened fish diversion
Low flow and diversions
Stormwater runoff
Channel choked by blackberries, watercress, reed canary grass

**Cassalery:**
Channelized, straightened, and isolated from floodplain
Animal access and riparian degradation cause siltation, WQ problems
Lack of LWD
Noxious weeds (reed canary grass, watercress) choke the stream
Degraded estuary with partially-blocking culvert at mouth

**Siebert:**
Lack of LWD
Riparian composition and age
Channel constriction
Hillslope erosion
Fish passage through old Highway 101 culvert

**Bagley:**
Land use – forestry/conversions
Culvert blockages
Peak flow effects/scoured channel
Bank erosion

**Morse:**
Lower reach is diked and armored
LWD deficiency
Truncated meander
Estuary changes
Stormwater runoff/peak issues

**Lees:**
Channel mouth
Impassable culverts
Floodplain impacts/roads
LWD issues
Bank erosion
Stormwater/landfills

**Ennis:**
Development in upper watershed
Mill site
Stormwater/ highway 101
Floodplain: mill site
Culvert @ Highway 101
Riparian conditions

**Peabody:**
Huge input from storm drains leads to flooding, sediment, pollutants
Impassable culverts
Riparian & floodplain disturbance
Lack of LWD

**Valley:**
Stormwater impacts
Land use u/s & d/s of Highway 101
Long culverted reach, from mouth upstream ~0.5 mile
Estuary is improving
Lower reach floodplain/riparian
Upper reach flood plain/riparian

**Dry:**
Wetland filling/draining for industrial/airport development
Increased stormwater runoff and stream rerouting into channel of inadequate size have led to severe erosion & sedimentation
Removal of mature forest cover in much of watershed adds to sedimentation & temperature problems
Lack of LWD and degraded riparian condition
Loss of off-channel habitat

**Indian:**
Timber harvest/development activities cause sediment inputs
Degraded riparian condition
No anadromous fish access due to lower Elwha River dam

**Salt:**
Culvert blockages
LWD deficiency
Water withdrawals
Riparian condition
Sedimentation
Loss of saltmarsh and floodplain due to road location

**Bear (Sol Duc tributary):**
Culverts
Riparian condition
Sedimentation
Upper wetland /off channel areas
LWD deficiency

**Lake (Sol Duc tributary):**
Riparian condition
LWD deficiency
Wetland/ off channel impacts
Land use
Failing septic systems

**Elk (Calawah tributary):**
Lower 0.8 miles: channel incision, lack of LWD and spawning gravel
Upslope erosion from logging, roads