

CODES FOR LLWW (LANDSCAPE POSITION, LANDFORM, WATER FLOW PATH, AND WATERBODY TYPE) DESCRIPTORS

Montana Natural Heritage Program, October 2013 (*modified from Tiner 2011*)

Waterbody Type:

1. Lake (LK):

Cowardin code equivalent: (L1)

2. Pond (PD):

Cowardin code equivalent: (PAB/PUB)

a. Potential modifiers for Lakes and Ponds:

Natural Lake (1)

Dammed River Valley (2)

Other Dammed Lake (3)

Excavated (4)

b. Potential Water Flow Paths for Lakes and Ponds:

Inflow (IN)

Outflow (OU)

Isolated (IS)

Throughflow (TH)

Example coding: A natural throughflow lake: **LK1TH**

3. River (RV):

Cowardin code equivalent: (R_UB/R_AB)

4. Stream (ST):

Cowardin code equivalent: (R_UB/R_AB/R4_)

a. Potential modifiers for Rivers and Streams:

i. Gradient Modifiers

Low Gradient (<2% slope) (1)

Middle Gradient (2%-4% slope) (2)

High (>4%) (3)

ii. Water Flow Modifier

Intermittent (4)

iii. Other Modifiers

Dammed (h)

Excavated (x)

b. Potential Water Flow Paths for Rivers and Streams:

Throughflow (TH)

Example coding: A high-gradient river: **RV3TH**

Landscape Position/Landform/Water Flow Path

1. Lentic (LE):

a. Potential modifiers for Lentic wetlands:

- Natural Lake (1)
- Dammed River Valley (2)
- Other Dammed Lake (3)
- Excavated (4)

b. Potential Landforms for Lentic wetlands:

- Basin (BA): Cowardin code equivalent (PEMA/C; PSSA/C; PFOA/C; PAB/PUB)
- Island (IL)
- Fringe (FR): Cowardin code equivalent (L2; P__B; PEMF; PSSF; PFOF; PUSA/C)

c. Potential Water Flow Paths for Lentic wetlands:

- Inflow (IN)
- Outflow (OU)
- Isolated (IS)
- Throughflow (TH)
- Bidirectional (**for L2 only)

Example coding: A lentic wetland along a natural lake with a basin landform and throughflow water flow path: **LE1BATH**

2. Lotic (LO):

a. Potential modifiers for Lotic wetlands:

i. Gradient Modifiers

- Low Gradient (<2% slope) (1)
- Middle Gradient (2%-4% slope) (2)
- High (>4%) (3)

ii. Water Flow Modifier

- Intermittent (4)

iii. Other Modifiers

- Dammed (h)
- Excavated (x)

b. Potential Landforms for Lotic wetlands:

- Basin (BA): Cowardin code equivalent (PEMA/C; PSSA/C; PFOA/C; PAB/PUB)
- Floodplain (FP): Cowardin code equivalent (PEMA/C; PSSA/C; PFOA/C)
- Island (IL)
- Fringe (FR): Cowardin (P__B; PEMF; PSSF; PFOF; _USA/C)

c. Potential Water Flow Paths for Lotic wetlands:

Throughflow (TH)

Throughflow-Intermittent (TI)

Example coding: A lotic floodplain wetland along a low gradient river or stream: **LO1FPTH**

3. Terrene (TE):

a. Potential Landforms for Terrene wetlands:

Basin (BA): Cowardin code equivalent (PEMAx/Cx; PSSA/C; PFOA/C; PAB/PUB; PUSA/C)**excavated and impounded Terrene wetlands should be classified as Basin

Island (IL)

Fringe (FR): Cowardin code equivalent (P__B; PEMF; PSSF; PFOF) **only if associated with a Pond

Slope (SL): Cowardin code equivalent (excludes (PAB/PUB; PUSA/C)

b. Potential Water Flow Paths for Terrene wetlands:

Inflow (IN)

Outflow (OU)

Outflow-Intermittent (OI)

Isolated (IS)

Isolated-Complex (IC)

Isolated-Inflow (II)

Isolated-Outflow (IO)

Throughflow (TH)

Example coding: A terrene wetland that is a slope wetland with an outflow water flow path:
TESLOU