

Protecting Shoreline Habitat

Columbia Valley Conservation Action Planning Forum

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Shoreline Management Guidelines for Fish and Wildlife Habitats

Windermere Lake (2009), Columbia Lake (2010) (EKILMP)

1. Foreshore inventory and mapping
2. Fish and wildlife habitat assessment
3. Shoreline management guidelines

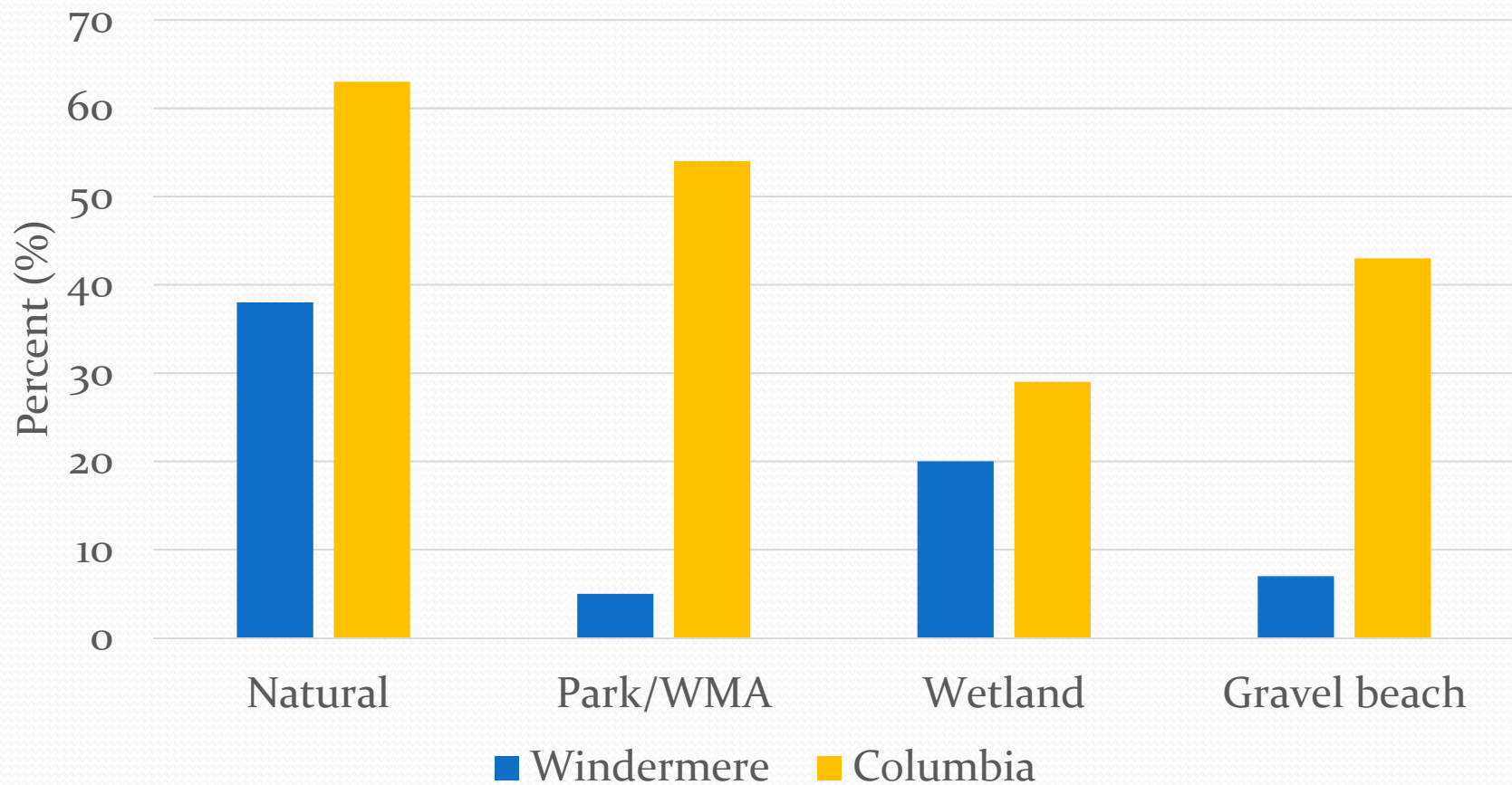
Colour Zone	Description
Very High	Conservation use. Ck mouths, wildlife corridors, wetlands, grasslands, burbot spawning, mussel beds
High	Sensitive to development
Moderate	Maintain general living habitats. Stay above HWM
Low and Very Low	Concentrate development



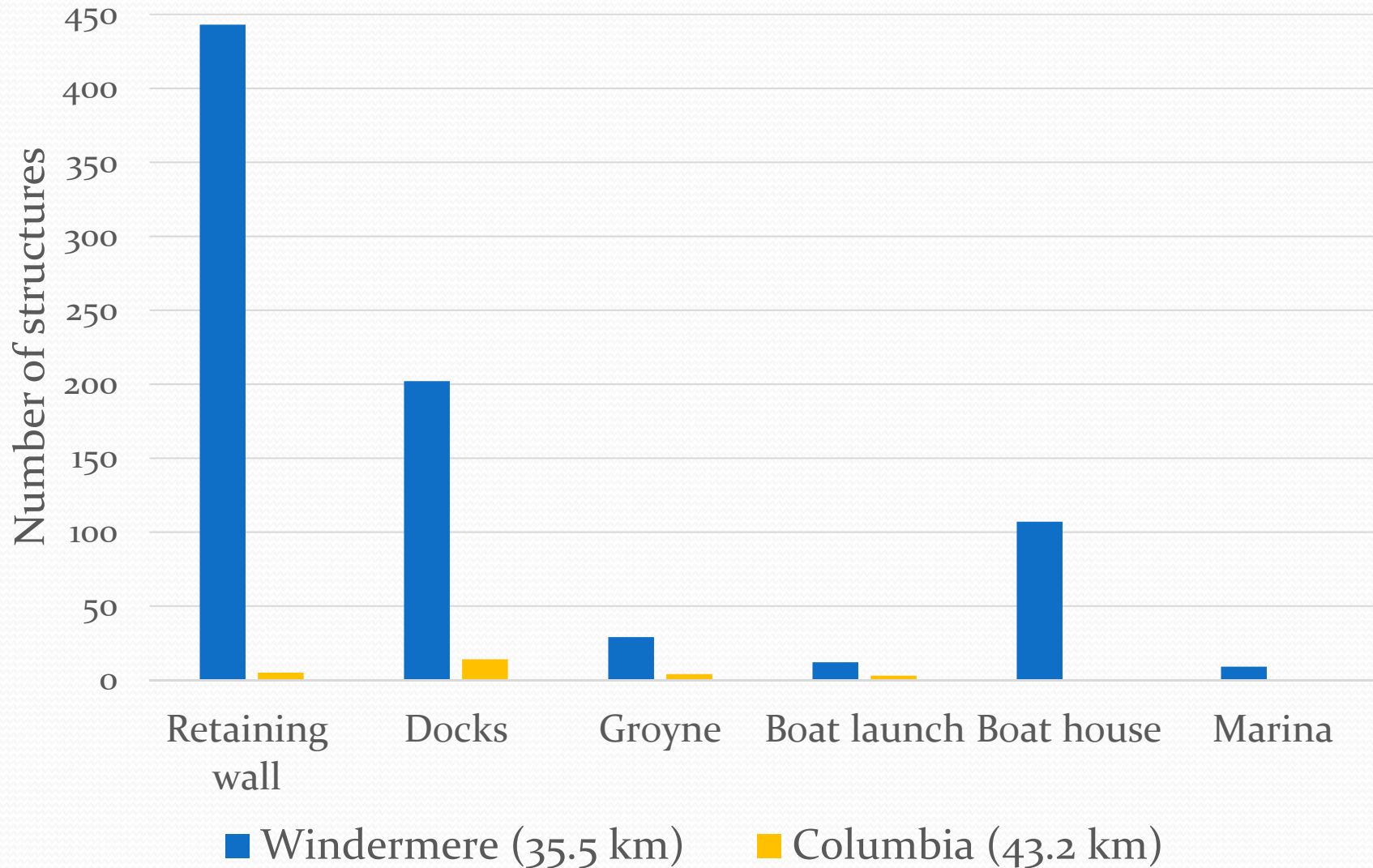
Potential fish stressors

1. Loss of rearing habitat from urbanization
 - Littoral zone for young-of-year and juveniles (forage and cover areas)
2. Competition and predation
 - Altered population due to habitat changes
 - Non-native fish introductions

Habitat attribute examples



Habitat modification examples



Fish relative abundance (%)

Shoreline habitats, summer & fall sampling

Species type	Species	Windermere (n= 3607)	Columbia (n=6774)
Native	General minnows	3.7	32.4
Native	-Redside Shiner	87.6	64.2
Native	-Northern Pikeminnow	0.1	0.3
Native	Sucker spp.	0.3	0.7
Native	Sculpin spp.	0.4	0.1
Native	Mountain whitefish	0.6	1.3
Native	Bull Trout	0.1	-
Native	Kokanee	0.6	-
Non-native	Pumpkinseed sunfish	1.2	0.7
Non-native	Largemouth bass	5.3	0.2



Recommendations

1. Education on Shoreline Guidelines
2. Enforcement so development is in accordance with Guidelines, and that environmental approvals are obtained.
3. Restore areas to increase ecological value.
4. Prepare Guidelines for other areas under pressure.
5. Address invasive fish species issues:
 - Through public education,
 - Increase daily catch limits for Large Mouth Bass (currently daily quota is 8 in Windermere Lake, elsewhere closed to fishing).