

**ATTACHMENT G**



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# Limiting Factors Organized by Category

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**Category**      **Limiting Factor Numer and Name**

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## **Biological Stressors (#12)**

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- 100 Competition for nesting cavities
- 101 Competition from non-native animals
- 79 Cowbird parasitism
- 116 Disease, parasites and pathogens
- 102 Invasive aquatic animal species
- 103 Invasive aquatic plant species
- 136 Invasive invertebrate species
- 104 Invasive terrestrial animal species
- 105 Invasive terrestrial plant species
- 108 Nest predation
- 117 Predation by bullfrogs
- 107 Predation by invasive fish
- 109 Predation by non-native species

## **Climate Change (#13)**

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- 138 Change in soil moisture
- 137 Decreased/increased snowpack/snowmelt
- 120 Drought/decreased/increased precipitation
- 119 Edge of range change
- 111 Temperature change - air
- 139 Temperature change - water
- 118 Vegetation change

## **Disruption of Natural Disturbance Regimes (#7)**

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- 2 Altered disturbance regime - fire
- 3 Altered disturbance regime - floodplain
- 126 Altered disturbance regime - nutrient recycling
- 127 Altered erosional disturbance (e.g. due to revetments, rip-rap - not always along rivers)
- 128 Reduction of natural activity or grazing by animals (e.g. such as beavers on trees or deer on saplings)

## **Habitat Change, Degradation and Loss (#2)**

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- 1 Altered channel structure
- 4 Altered floodplain structure
- 5 Altered habitat structure
- 6 Altered soil condition/compaction/fill

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**Habitat Change, Degradation and Loss (#2)**

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- 7 Changes in plant and animal species population composition
  - 121 Changes in water regime
  - 122 Conversion of mature forest to early successional land cover
  - 25 Degradation or Habitat Loss - breeding habitat
  - 24 Degradation or Habitat Loss - feeding habitat
  - 23 Degradation or Habitat Loss - stopover habitat
  - 32 Degradation or Habitat Loss - wintering habitat
  - 37 Degraded channel conditions
  - 9 Disconnected or filled floodplain
  - 91 Eggs or larvae sensitive to changes in water level or flow
  - 40 Erosion (bank or upland)
  - 133 Filling of seasonally or permanently inundated areas (e.g., by intentional or natural deposition of sediment, rock or debris)
  - 31 Hardened Banks
  - 134 Increases in shade/cover
  - 15 Land use conversion and urbanization (e.g., to impervious, natural veg. to lawn, etc.)
  - 90 Larvae sensitive to changes in water level
  - 17 Limited in-channel wood
  - 49 Loss of hollow trees and large diameter, tall, newly dead snags
  - 18 Loss of or decreases of shade/cover
  - 135 Permanent inundation of land (e.g. dams)
  - 29 Reduction or lack of downed wood
  - 30 Reduction or lack of snags
  - 71 Reductions of quality and quantity of mineral sites
  - 38 Sedimentation
  - 60 Shrub encroachment
  - 35 Steepened banks
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**Habitat Fragmentation and Access (#3)**

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- 10 Habitat fragmentation (e.g. vegetation change, development - residential/parks/industrial)
  - 36 Loss or lack of habitat connectivity (e.g. culverts, roads, fences and other barriers)
  - 21 Roadkill and collisions with vehicles
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**Human Disturbance (#8)**

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- 113 Artificial lighting (especially night)
- 43 Disturbance at roosts (bats and birds)
- 8 Domestic animal impacts
- 129 Harassment (especially during nesting season)
- 39 High Human Use

<b>Category</b>	<b>Limiting Factor Numer and Name</b>
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### **Human Disturbance (#8)**

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- 27 Hook mortality from anglers
  - 68 Human disturbance at nests (of all species)
  - 112 Illegal collecting
  - 115 Noise (e.g. from construction, airport, industry, racetrack, etc.)
  - 28 Poaching
  - 130 Powerlines, communication towers and transmission poles
  - 97 Recreation impacts (e.g., trails, boats)
  - 114 Reflective windows (collisions by birds)
  - 59 Residential and other types of urban development
  - 131 Smells/human and pet scents
  - 132 Soil compaction
  - 51 Untimely bridge replacement / repair
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### **Pollution (#4)**

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- 123 Airbourne dust from distant sources
- 67 Eggshell thinning
- 11 Industrial effluent
- 16 Landscape pollutants-herbicides/pesticides/fertilizers
- 124 Road dust from traffic
- 125 Road maintenance pollutants
- 22 Stormwater and road runoff
- 33 Toxics in water column, sediments, or soils