



Operational & Secondary Losses


See document(s): [WAC Jan 2015 Meeting.mmap](#)


1 WAC

1.1  Operational Impacts - Direct changes in river hydrology, hydraulics, sediment/nutrient supply and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation.


1.2  Secondary Wildlife Losses - The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport stemming from the construction, inundation, and/or operation of the hydropower system

2 WDFW


2.1  Operational Impacts - Direct changes in river hydrology, hydraulics, sediment/nutrient supply and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation and **include transmission impacts**.


2.2  Secondary Impacts: The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport stemming from impacts to anadromous fish from the construction, inundation, and/or operation of the hydropower system.

3 KTOI


3.1  Operational Impacts - Direct changes in river hydrology, hydraulics, sediment and nutrient availability and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation.


4 BPT

4.1  Operational Losses- Direct changes in river hydrology, hydraulics, sediment/nutrient supply, and/or transport that cascade throughout the ecosystem to alter physical and ecological processes and vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels, which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation.


4.2  Secondary Wildlife Losses- The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport , stemming from the construction, inundation, and/or operation of the hydropower system.


5 USRT

5.1  Operational Impacts --- Direct changes in river hydrology, hydraulics, sediment/nutrient supply and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels, which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation **and include transmission impacts.**


5.2  Secondary Impacts: The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport stemming from impacts to anadromous fish from the construction, inundation, and/or operation of the hydropower system.


6 CSKT

6.1  Operational Impacts - Direct changes in river hydrology, hydraulics, sediment/nutrient supply and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation **and include transmission impacts.**


6.2  Secondary Impacts: The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport stemming from impacts to anadromous and resident fish from the construction, inundation, and/or operation of the hydropower system.


7 ODFW

7.1  Operational Impacts - Direct changes in river hydrology, hydraulics, sediment/nutrient supply and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, and vegetation communities, that directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels that cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation **and include transmission impacts."**


7.2  "Secondary Impacts: The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport stemming from impacts to anadromous fish from the construction, inundation, and/or operation of the hydropower system.


8 MDFWP

8.1  Operational Impacts - Direct changes in river hydrology, hydraulics, sediment and nutrient availability and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels which cause shoreline erosion and a loss of biological productivity. Operational impacts are expressed over time and will continue for the life of the hydropower system operation.

8.2  Secondary Wildlife Losses - The cumulative and ongoing loss of wildlife and their habitats resulting from the impacts of human land uses associated with the construction, inundation, and/or operation of the hydropower system.

9 CTGR

9.1  Operational Impacts- Direct changes in river hydrology, hydraulics, sediment/nutrient supply and/or transport that cascade throughout the ecosystem to alter physical and ecological processes, vegetation communities, which directly affect fish and wildlife communities. Operational impacts can also occur within reservoirs as a result of fluctuating water levels which cause shoreline erosion. Operational impacts are expressed over time and will continue for the life of the hydropower system operation and include transmission impacts.

9.2  Secondary Impacts: The indirect reduction in wildlife communities and/or their habitats from changes including, but not limited to food web alterations, habitat availability, or nutrient availability/transport stemming from impacts to anadromous fish from the construction, inundation, and/or operation of the hydropower system.

10 Bonneville

10.1 With respect to operational losses, the assessments for construction and inundation considered all habitat losses up to and including full reservoir pool levels. To the extent reservoir operations adversely affect habitat, those impacts generally occur below full pool level, and have largely been mitigated. The Program should therefore limit its call for operational loss assessments to circumstances where FCRPS operations cause impacts above the full pool reservoir elevations, or locations above or below reservoirs where operations contribute to habitat erosion or depletion.

10.2 The concept of including some version of "secondary impacts" is without any supporting documentation or precedent we can find. There is also the related complexity of secondary gains in that most areas in the region's ecosystems remain occupied, with possibly new or different species than what was there prior to hydrosystem development, but nonetheless, filled with wildlife. Presumably these gains would be used to offset any secondary losses.

11 F&W Committee

11.1 Construction and Inundation Wildlife Losses - The wildlife losses that resulted from the flooding and inundation of the area up-river from the construction area of a federal hydropower system dam

11.2 Operational impacts - The direct changes in river hydrology, hydraulics, sediment/nutrient supply and transport downstream of the hydropower dam. These changes cascade throughout the ecosystem to alter vegetation communities, physical and ecological processes, directly affecting fish and wildlife communities. Operational impacts can also occur above hydrosystem dams, within reservoirs, as a result of fluctuating water levels causing shoreline erosion. Operational impacts are expressed over time and will continue for the life of the federal hydropower system dam.

11.3 Secondary Wildlife Impacts - The indirect reduction in wildlife communities beyond the up-river extent of the inundation area of a hydropower dam caused by blocking or substantially diminishing fish passage of the dam resulting in food web and ecosystem changes for wildlife populations. The impacts are ongoing unless fish passage can be restored