

“Sea-level rise and its impact”

North Pacific Anadromous Fish Commission (NPAFC)

NPAFC contribution to Part I of the UN Secretary-General report on “Oceans and the Law of the Sea”

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The NPAFC scientific community is aware of problems related to sea level rise, as predicted by the International Panel on Climate Change (IPCC) - up to 1.0 meters of global sea level rise in this century. Local sea level changes result from a combination of global average sea level and changes in coastal elevation due to local tectonic activity. Global average sea level rose about 1.5 cm over the past century, with the rate increasing over the past 20 years. The rate of change varied substantially by region and had considerable decadal-scale variability.

Recent projections suggest an increase of 1.5 to 2.0 cm over the next century, but do not include a recent information on the dynamics of ice melt. With these data, sea level increase by 1.5 m is estimated for the Pacific Northwest coast to range from 2 cm to 1.2 m. A higher rise is expected in areas with more rapid coastal subsidence, e.g., in the northern region.

The effect of sea level rise may be experienced differently by Pacific salmon in different habitats throughout the stream network. The main threats are as follows:

Sea-level rise will submerge estuarine habitats which may or may not be able to

The NPAFC scientists study estuary ecosystems and share information on estuarine morphology, hydrological regime and sedimentation processes to estimate their potential resistance to sea-level rise related effects to protect environmental and socio-economic impact of sea-level rise. Most recent progress in these studies took place in the Kamchatka Peninsula, Russia and the Pacific Northwest U.S.A.

Estuaries of the tidal-lagoon type are found the most susceptible