

Transportation of Marine-derived Nutrients (MDN) onto Land by Anadromous Fish: A Case Study of Pacific salmon in Russian Far East

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Land and ocean are connected with each other through many pathways. Rivers are the major corridor of nutrients transportation between them. There have been many important studies in North America which demonstrate that anadromous fish, especially Pacific salmon (*Oncorhynchus* spp.) , play a significant role of transporting marine-derived nutrients (MDN) onto terrestrial ecosystems. But such salmon studies are not so many for Russian Rivers such as the Amur River. The purpose of this paper is to fill the gap of research between North America and Russia. Using the data of escapement of adult Pacific salmon to spawning areas in Russian Far East, the paper shows preliminary estimates as of how much marine-derived nitrogen (N) and phosphorus (P) are annually uploaded onto terrestrial ecosystems from the Northern Pacific. Fish breeding forest on land has been known to nourish the ocean with iron and other life-support matters. In contrast, this paper demonstrates a type of transportation of life-support matters in the opposite direction, i.e., from ocean to land.

Keywords: anadromous fish, marine-derived nutrients (MDN), Russian Far East, nutrients transportation