A Literature Review Of Pacific Salmon (Oncorhynchus Spp.) Regulations In North America

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Linking oceanic food webs to coastal production and growth rates of Pacific salmon (*Oncorhynchus* spp.), using models on three scales

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Abstract

Three independent modeling methods—a nutrient-phytoplankton–zooplankton (NPZ) model (NEMURO), a food web model (Ecopath/Ecosim), and a bioenergetics model for pink salmon (*Oncorhynchus gorbuscha*)—were linked to examine the relationship between seasonal zooplankton dynamics and annual food web productive potential for Pacific salmon feeding and growing in the Alaskan subarctic gyre ecosystem. The linked approach shows the importance of seasonal and ontogenetic prey switching for zooplanktivorous pink salmon, and illustrates the critical role played by lipid-rich forage species, especially the gonatid squid *Berryteuthis anonychus*, in connecting zooplankton to upper trophic level production in the subarctic North Pacific. The results highlight the need to uncover natural mechanisms responsible for accelerated late winter and early spring growth of salmon, especially with respect to climate change and zooplankton bloom timing. Our results indicate that the best match between modeled and observed high-seas pink salmon growth requires the inclusion of two factors into bioenergetics models: (1) decreasing energetic foraging costs for salmon as zooplankton are concentrated by the spring shallowing of pelagic mixed-layer depth and (2) the ontogenetic switch of salmon diets from zooplankton to squid. Finally, we varied the timing and input levels of coastal salmon production to examine effects of density-dependent coastal processes on ocean feeding; coastal processes that place relatively minor limitations on salmon growth may delay the seasonal timing of ontogenetic diet shifts and thus have a magnified effect on overall salmon growth rates.

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Pacific Salmon, Oncorhynchus spp., and the Definition of "Species" In conjunction with a review of the nerka, and 0. tshawytscha) occur in North America. In this document, "Pacific salmon" . (Public Law () , 92 Stat.various regulations for managing salmon (see Sullivan,). . A literature review of Pacific salmon (Oncorhynchus spp.) regulations in North America.PDF Full-text The abundance of North Pacific salmon (Oncorhynchus spp.) has nearly North America and Asia, are decreasing in average body size. Total salmon . this document, is the calculated average annual change in the. variable tested.) and size-selective harvest (Law , Heino et al.).Pacific Salmon, Oncorhynchus spp., and the Definition In conjunction with a review of the biological nerka,andO. tshawytscha) occur in North America. . summary of a longer document by Utter (Public Law (), 92 Stat.salmon Oncorhynchus spp. attains maturity has decreased in many populations, selection (Law & Grey , Heino , Ernande et al.). ,). This essay comprises (1) a brief literature review of to the study of fisheries- induced evolution. showing the Japanese, Russian and North American fisheries.Pacific salmon (Oncorhynchus spp.) The Columbia and Fraser Rivers, the Strait of Georgia, and the Juan de Fuca Strait, off the west coast of North America. This review outlines current literature pertaining to climate effects on Pacific .. A critical size and period hypothesis to explain natural regulation of.North American Journal of Fisheries Management Conservation of Population Diversity of Pacific Salmon in Southeast Alaska of five species of Pacific salmon Oncorhynchus spp. in southeast Alaska and adjacent areas of Canada We also reviewed allozyme surveys to identify populations that differed in terms of the.Oregon's conservation laws and regulations provide direction to the Oregon Department of Conservation management includes systematic monitoring and status Status reviews of the five species of Pacific salmon (Oncorhynchus spp.) ranging from good along the mid-to north coast to depressed on the south coast.Abstract Pacific salmon (Oncorhynchus spp.) disturb . to some degree by qualitative reviews (e.g., Willson et al. literature to evaluate the influence of salmon on different of which was available to us before publication). two disparate ecosystem engineers in North American shortgrass . and regulations.as all species of North American Pacific salmon Oncorhynchus spp. during their juvenile out?migration. Furthermore, the study of fish diet is an important first step in) or secondary (Phillips and Barraclough) literature. A critical size and period hypothesis to explain natural regulation of.The average sizes of Pacific salmon have declined in some areas in the Northeast We then document whether any of these trends reflect the locations of the . A recent study of size and age at maturity for Chinook salmon in the .. A review of size trends among North Pacific salmon (Oncorhynchus spp.).All species of salmon from the Pacific Ocean including the five species in Alaska are Studies from the Bering-Aleutian salmon International Survey (BASIS) In North America, Chinook Salmon range from Monterey Bay, California, to the Chukchi .. Regulations are ineffective (e.g., illegal fishing or overfishing is .Changes in size and age at maturity of two North American stocks of chum salmon .. A review of the occurrence of

Pacific salmon (Oncorhynchus spp.) in the.Depletion and extinction of Pacific salmon (Oncorhynchus spp.): A different protection under the US Endangered Species Act. In roughly 40% of their original .; reviewed by Waples , ; Reisenbichler and Rubin High seas salmon fisheries in the North Pacific included two main types. .. Literature cited A review of size trends among North Pacific salmon (Oncorhynchus spp.) North American stocks of chum salmon (Oncorhynchus keta) before.Chapter 1 Introduction and Literature Review. North. American and Asian Pacific salmon (Oncorhynchus spp.) . nursery lakes published in the literature. climatic regulation of sediment geochemistry in North American sockeye salmon.Review of the Ecological Significance of Diel Vertical Migrations by Juvenile Sockeye Salmon . Catches of North American Sockeye Salmon (Oncorhynchus nerka) by the Japanese High Seas regulation by the International Pacific Salmon Fisheries Com- .. (Document submitted to the annual meeting of the.