

## EFFECTS OF THE EXXON VALDEZ OIL SPILL ON RIVER OTTERS IN PRINCE WILLIAM SOUND, ALASKA

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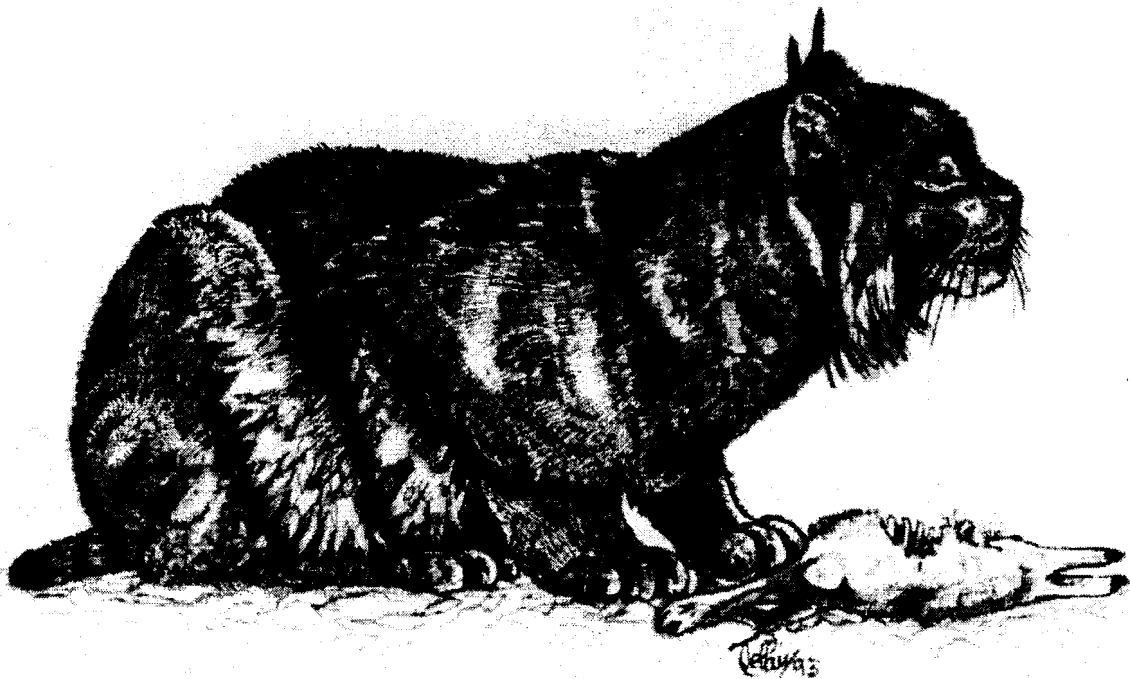
*Abstract:* Populations of river otters (*Lutra canadensis*) inhabiting marine environments in Prince William Sound, Alaska were adversely effected by the *Exxon Valdez* oil spill. Otters living in heavily oiled areas (Knight Island) differed significantly from those inhabiting nonoiled areas (Esther Passage) by selecting habitats differently, exhibiting extreme changes in diets, showing large differences in sizes of home ranges, and by expressing differences in body mass and blood values indicative of chronic problems. Population estimates of otters obtained from mark-recapture methods based on radioisotope labels of feces did not differ significantly between Knight Island and Esther Passage. Only overwhelming differences in population size, however, would have been detected by this method. Our assessment was further flawed by a lack of pre-spill estimates for otter populations. Nonetheless, otters abandoned latrine sites at a significantly higher rate from oiled areas than from nonoiled zones from throughout Prince William Sound, suggesting some population-wide effect. Likewise, differences in blood values observed for Knight Island and Esther Passage were confirmed for broad areas of Prince William Sound, and strongly suggest river otters experienced chronic effects, including compromised immune system resulting from the oil spill.

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