Kees Bakker’s fascination with biology lies in understanding the mechanisms behind ecological processes, together with their relevance for natural selection and evolution. His early work at the University of Leiden in the fifties and sixties on intra- and inter-specific competition in Drosophila has become a classic example of sophisticated experimentation leading to insights which remain important in the development of ecology today. He followed the same approach later in his studies of parasite-host relationships, through which his school in Leiden earned international esteem. Topics such as host-habitat and host selection, parasitization behaviour (including host discrimination and superparasitism), host defence behaviour, optimal foraging and sex-ratio evolution, as well as intra- and interspecific competition were studied. In this work he strongly advocated to study individual organisms and their interactions to elucidate population processes instead of interpreting the results of a presumed process after it has taken place. He was able to show that such indirect approaches to ecological phenomena may easily lead to erroneous conclusions.

During the culmination of the dispute on density-dependent regulation he did not emotionally adhere to either the regulationist viewpoint or to the density-independent school. As on many occasions later on, he carefully studied the material provided by students of the opposing schools and came to the conclusion that, instead of being utterly contradictory theories, they contained important elements which, when being combined led to a better overall theory of population dynamics. His attitude to ecology is to develop a fully integrated approach to its study involving biosystematics, animal and plant ecology, environmental and evolutionary biology, and population genetics. Although most of his own work was based on laboratory studies, he always had a profound interest in ecological field studies and encouraged the interaction between laboratory and field experimentation. He critically guided both the field and laboratory work being done at his department and during discussions with his students he always tried to distinguish between the "nice to do" and "necessary to do" aspects of a project. He has reached his goal of working interdisciplinary in the establishment of the Department of Population Biology in Leiden.

In a certain sense, Kees Bakker is an ecological missionary. Perhaps his greatest ambition is to teach people, to enable them to understand the functioning of nature and to share his knowledge of ecology with