This thesis explores the use of marked stochastic processes in the context of delayed reporting of claims in non-life insurance. The focus is on estimating the intensity of the claim occurrence process using the ν-transform of the claim reporting process. The first part provides the theoretical background, including the introduction of the Poisson process and the concept of marking. The ν-transform is defined and a special case of the ν-transform is applied in an example. As well as there is presented an approach how to handle with truncated data. The second chapter applies these theoretical concepts to real-world data from Motor Third Party Liability insurance. The result is a formula for estimating the intensity of the occurrence process based on the estimated intensity of the claim reporting process and the estimated truncated conditional density of delays given reporting times. While the approach is computationally intense, it has practical applications in estimating claim reserves for insurance companies. Future work could expand on this approach by considering more complex cases, such as time-varying conditional distribution of delays or including on input nonhomogeneous Poisson, or even more complex processes. Finishing the claim reserve calculation would be also beneficial. Overall, this thesis contributes to the development of claim-by-claim reserving stochastic approaches and provides a well-arranged elaboration of the usage of ν-transform in claims reserving problems with truncated data.