Defining the prevalence and distribution of lymphatic filariasis (LF) in a country is a critical step in the development of a national program. In an effort to identify all of the communes in Haiti with active transmission of *Wuchereria bancrofti*, the Ministry of Health conducted a National Lymphatic Filariasis Survey using the immunochromatographic card test (ICT) in 2001. A substantial number of the communes in Haiti constitute areas of suspected low antigen prevalence and potentially active transmission; 10% (13/133) have percentages of antigen-positive children ranging from 5% to 9.9% and 63% (84/133) have percentages of antigen-positive children ranging from 0.1% to 4.9%. These observations have significant implications with respect to the cost and scope of a national LF program. In an effort to determine whether transmission is occurring in these low antigen prevalence settings, several communes were chosen for further study. Initially, antigen positive school children in these communes were identified by school surveys using the ICT. Houses within circular zones of set radii around the residences of antigen positive children were mapped using GPS. A random sample of these neighboring houses was selected for ICT testing and serum collection of all household members. To detect autochthonous cases of filarial infection, a questionnaire was administered to all individuals found to be antigen positive. Mosquito surveys were conducted on a limited basis. We applied this protocol in 5 Haitian communes that had low ICT prevalence (< 1%) in the initial National Lymphatic Filariasis Survey. In the five communes 64 (2.7%) of the 2,639 children tested in 31 schools were antigen-positive. Antigen prevalence by community ranged from 0% to 11.4%. Our aim was to develop a methodology to assess LF transmission status that is rapid, comprehensive and applicable to other endemic settings. The consensus of how to approach and tackle issues surrounding transmission will be vital to the continued success of the LF elimination program.