

CHAPTER VI

CONCLUSION AND RECOMMENDATION

This study has shown that tritium released to the environment has some ecological and biological consequences when evaluated in terms of human food chain effects. Rapid uptake of tritium occurs in vegetation, but because of higher rate of water utilization by plants, the absorbed tritium is rapidly lost by transpiration.

The half-residence time of tritium in soil is generally longer than in other components of the ecological system and relatively longer half-residence time in the soil extends in vegetation rooted in the soil. It is apparent that the movement of tritium in the soil will be a critical factor in tritium released into ecological system, because of long retention times and availability of the tritium pulse to biological systems during that period. The movement of ground water containing tritium is a distinct subject from soil water movements and should be discussed separately. Tissue-bound tritium can be determined by combusting the oven dried samples in

a stream of oxygen after the tissue water extraction and by condensing the combustion water for tritium determination. This data will provide the remaining tritium concentration in the plant tissue which will not be described here.

This research should be extended to the long-life cycle of the plants. Methods of study have to be adapted to suit the experiment such as for a big tree. The introduction of tritiated water into the tree can be done only by injection into the trunk of the tree.