



## A Comparison of Election Verification Methods: “Audit of Precincts” vs. “Sample of Ballots”

### Introduction

The entire state of Oregon uses a paper ballot/optical scan election system. The paper ballots are sent through the optical scan machines and the votes are tabulated using proprietary software.

Two different methods have been proposed for verifying the accuracy of election results: the “Audit of Precincts” method, in the current version of HB3270, and the “Sample of Ballots” method proposed by the Oregon Voter Rights Coalition. Both methods require hand counting a sample of paper ballots and comparing the result to the machine-counted result. The Audit of Precincts method randomly selects a small percentage of precincts to hand count (see Fig. 1). The Sample of Ballots method randomly selects a sample of ballots to count taken from the entire statewide population of ballots, without regard to precincts (see Fig. 2).

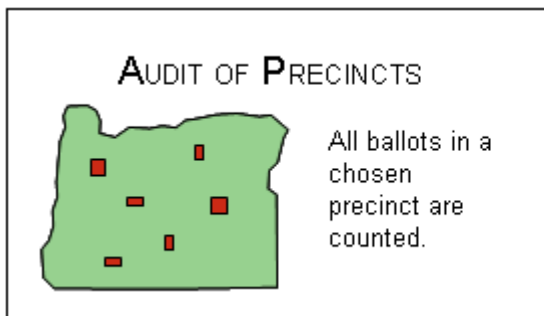


Fig. 1

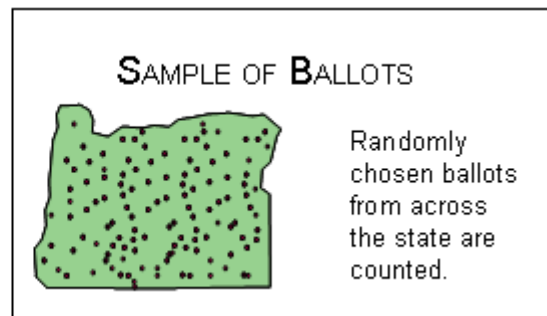


Fig. 2

### Comparison of Methods

In comparing the two methods, an analogy can be made to a patient who goes in for a health screening. The doctor explains that there are two options.

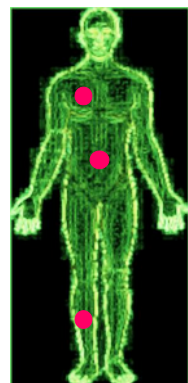


Fig. 3

In the first option (similar to the Audit of Precincts method), the patient can have a biopsy done of several randomly selected locations in the patient's body (see Fig. 3). These biopsies have a 100% chance of detecting problems in those locations, but nothing can be determined about the possibility of problems anywhere else in the patient's body.

In the second option (similar to the Sample of Ballots method), the patient can have a full body scan done, where every part of the patient's body has an equal chance of being tested (see Fig. 4). This option has a 99% chance of detecting problems, thus allowing a small amount of uncertainty in exchange for the ability to look at the entire body.



Fig. 4