Ballot Audits - Methods	*Materials Needed*	*Notes*
Compare ballots printed to ballots used and spoiled	See Doug Jones Article	

Because the number of ballots actually counted may differ from the reported turnout, we must introduce a new figure into our accounting—the number of ballots unaccounted for.

$$S + P + X = B + F$$

S: Signatures in pollbook
P: Provisional ballots
F: Fleeing voters who did not vote
B: Ballots found in ballot box
X: Ballots improperly stuffed into ballot box

All quantities are non-negative. Nonzero F and X are indications of trouble

The proper measure of turnout is more complex than suggested here due to problems introduced by provisional ballots. Provisional ballots are included in the number of affidavits of eligibility, where that system is used, but they are excluded where poll-books are used. Postal voting adds additional complexity; an absentee ballot request serves as affidavit of eligibility, but because of postal delays and other losses, the number of ballot envelopes received should also be counted.

We can perform a similar check within each race on the ballot, adding the number of votes for each candidate to the number of abstentions in that race and the number of invalid votes (for example, overvotes). This sum should equal the number of ballots counted; where it does not, the difference provides a measure of the error in the count...

$$B = C + O + U$$

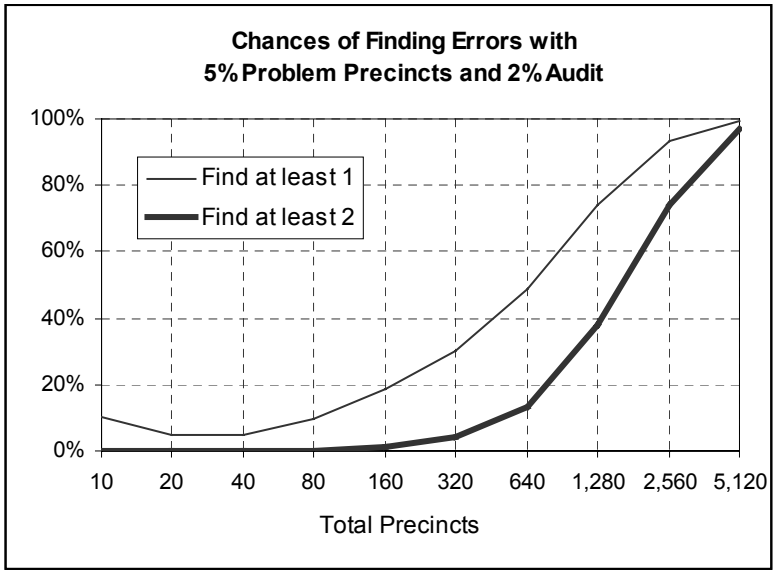
B: Ballots found in ballot box
C: Sum of votes for specific candidates
O: Number of overvotes
U: Number of undervotes

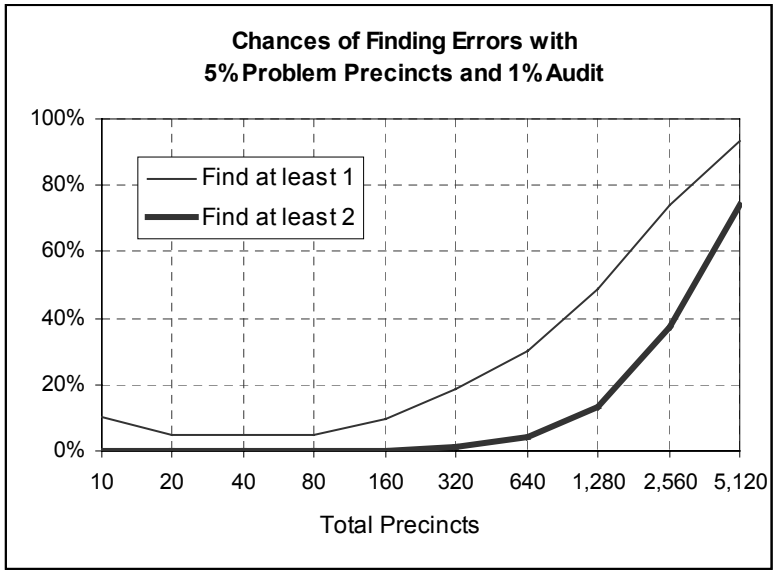
All quantities are non-negative

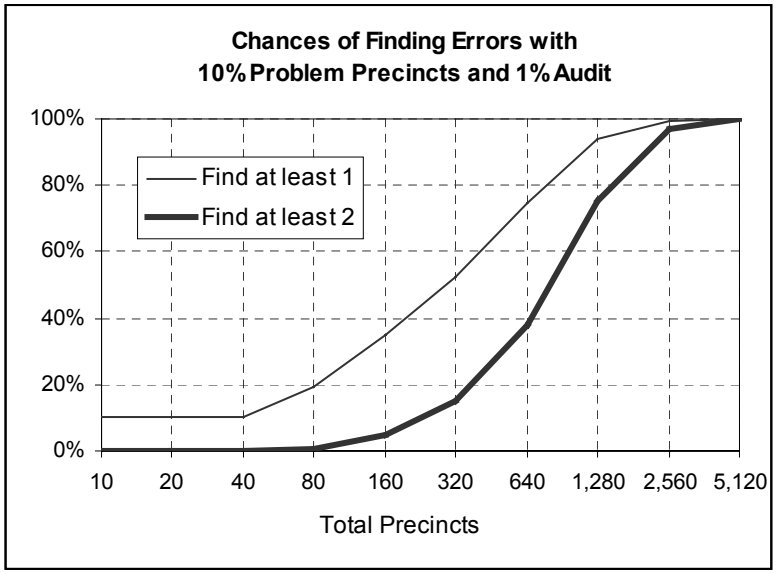
Auditing Elections: Exploiting the redundancy in election records to conduct useful audits and improve the system design process. Douglas Jones. 2004. http://www.cs.uiowa.edu/~jones/voting/cacm2004.shtml

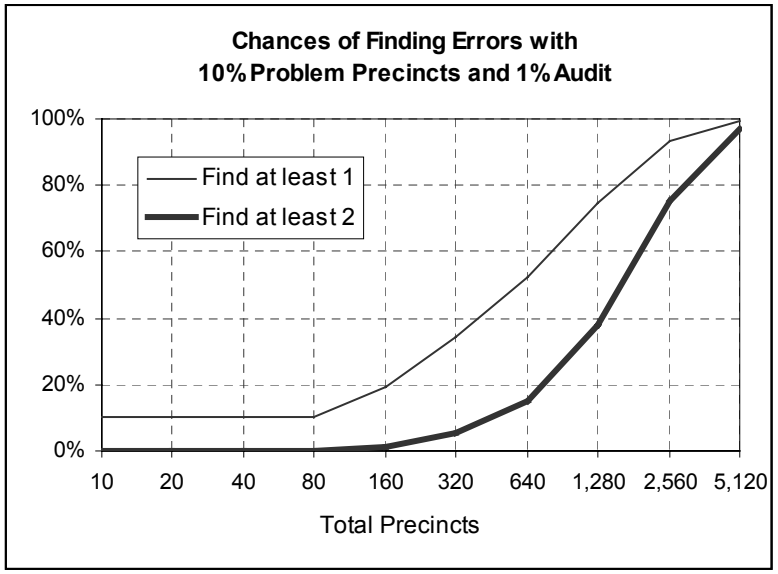
Vote Audits - Methods	*Materials Needed*	*Notes*
Compare totals of precincts votes to county totals	Precinct totals gathered at the precinct.	
Compare poll tapes to precinct totals	Poll tapes received in a FOIA (ORR)	
Compare precinct totals to total precinct voters	Poll books (ORR) Certified precinct totals and/or poll tapes	
Analyze official vote data, precinct level. Look for undervotes, phantom votes, other anomalies.	Certified vote totals and ballots cast, precinct level	
Compare vote data to registration data, looking for anomalies.	Certified vote totals Registration data	

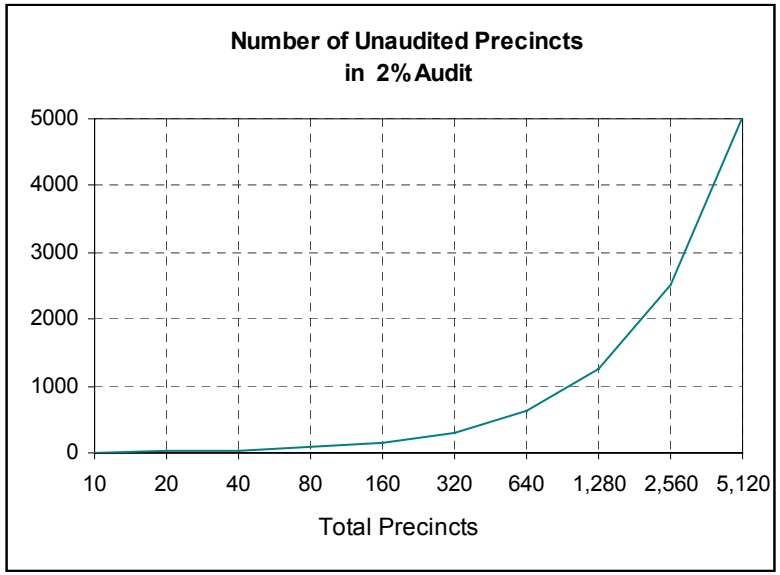
Machine Audits - Methods	*Materials Needed*	*Notes*
Hand count precinct ballots and compare to machine totals	State legislation requiring it. Or State legislation allowing, and counties doing it	

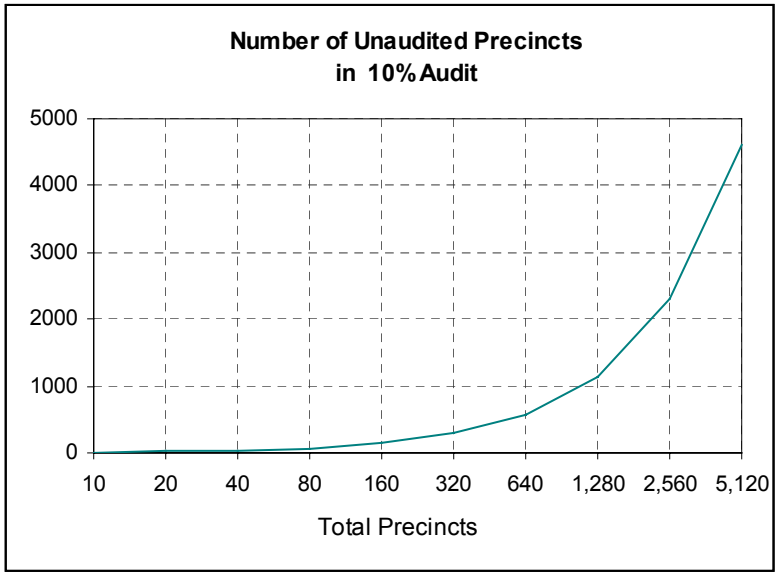


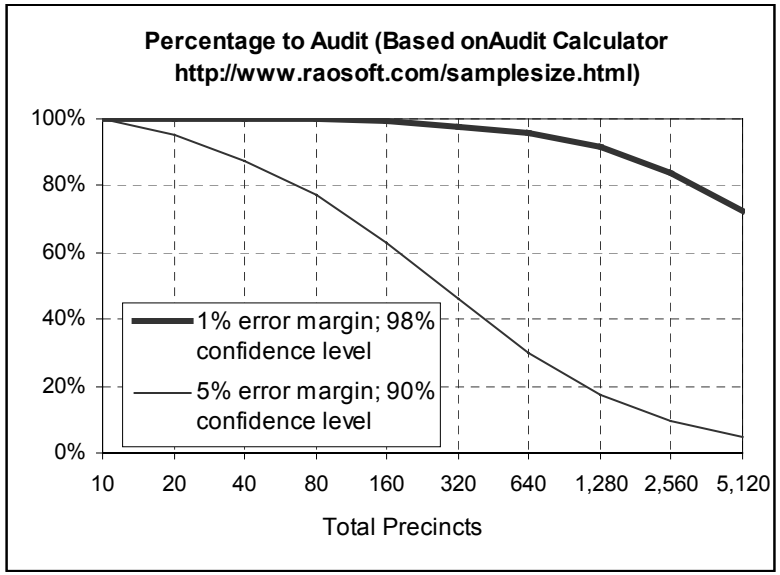


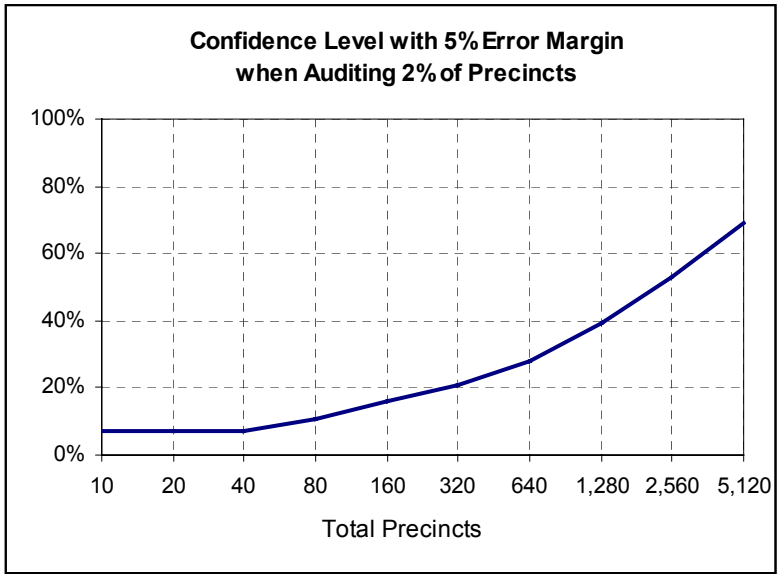












Total	Painted	Unpainted	Select	Chance of 1	How many?	Total	Painted	Unpainted	Select	Chance of 1	How many?
100	5	95	1%	5.0%		100	10	90	1%	10.0%	
100	5	95	2%	9.7%		100	10	90	3%	27.3%	
100	5	95	3%	14.4%		100	10	90	2%	19.0%	
100	5	95	5%	23.0%		100	10	90	5%	41.6%	