Delaware County 2024 General Post-Election Audit

Voting System Technical Oversight Program
Tuesday, December 3, 2024

Today's VSTOP Audit Team

- **Dr. Chad Kinsella**
  VSTOP Executive Director
  BSU Associate Professor of Political Science

- **Dr. Jay Bagga**
  VSTOP Senior Director
  BSU Professor of Computer Science

- **Matt Housley, MPA**
  Election Systems Audit Specialist

- **Marc Chatot, MS**
  VSTOP Manager

- **Austin Bilbrey, BA**
  Logistics Specialist

- **Spencer Drumm, MA**
  Election Systems Certification Specialist

- **Alisa Gray, MPA**
  Training and Assessment Specialist

- **Duncan Klemm, BA**
  IT Specialist

- **Gina Caravaglia, BS**
  Graduate Assistant for Training and Assessment

VSTOP Overview

The Voting System Technical Oversight Program (VSTOP) was founded by the Indiana Legislature in 2007 with funding from the Help America Vote Act (HAVA). While overseen by the Secretary of State, VSTOP is hosted at Ball State University in Muncie, Indiana.
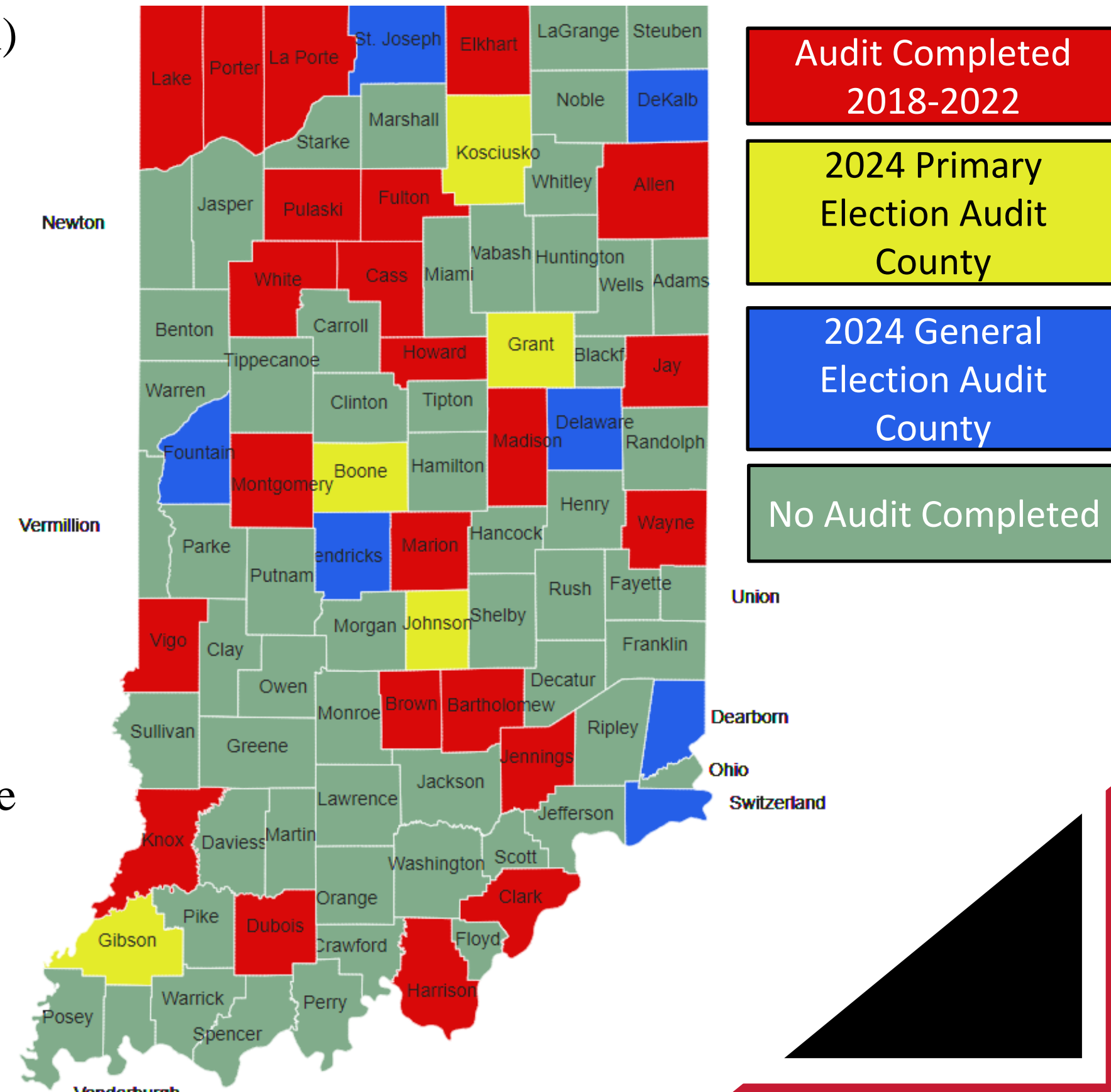
Since its creation, VSTOP has assisted the Indiana Secretary of State and Indiana Election Division with a variety of election administration functions. As election administration has expanded, VSTOP has taken on eight main activities and grown its staff to meet those needs.

A — Election Systems Inventory
Maintain an inventory of all election systems utilized in the State of Indiana.

B — Voting System Certification
Complete testing protocol for all voting systems and provide certification recommendations.

C — Electronic Pollbook Certification
Complete testing protocol for all ePB's and provide certification recommendations.

D — Random Audits
Deploy a randomized list of voting equipment across the state to be audited for proper functionality in odd years.

E — Post-Election Audits
Coordinate audit process for select counties to confirm the accuracy of voting systems and election outcomes.

F — Training and Assessment
Host a variety of training programs for election officials to meet Indiana Code compliance and expected proficiencies.

G — Technical Consulting
Serves as an as-needed election resource to interested organizations.

H — CEATS
Host the Certificate in Election Administration, Technology, and Security Program for county and state election officials.

VSTOP
Voting System Technical Oversight Program

- In 2018 Indiana authorized a pilot Risk-Limiting Audit (RLA) Program (Labeled as Post-Election Audit in Indiana Code). "Piloting" means that Post Election Audits are optional and there are minimal code requirements to the audit procedures while Indiana gains greater experience with the process.

- Supported by the EAC, NASS, NCSL, Brennan Center, Verified Voting and various State Government Institutions, RLA's are "the gold standard" of auditing procedures.

- VSTOP has conducted 31 PEAs (RLAs) in 30 Indiana Counties. Every audit has confirmed the outcome of contests selected for audit, affirming the accurate work of our County Election Officials and Administrators.

- Delaware County will be the 32nd Post-Election Audit and the 31st County Completed by VSTOP.

Audit Completed 2018-2022

2024 Primary Election Audit County

2024 General Election Audit County

No Audit Completed

Post-Election Audit Defined

"**Post-Election Audit (PEA)** means an audit protocol that makes use of statistical methods and is designed to limit to acceptable levels the risk of certifying a preliminary election outcome that constitutes an incorrect outcome."

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"A **Post-Election Audit (PEA)** means sampling ballots until the sample can show confidence to say that the election outcome was correct as reported."

-Matt Housley, VSTOP Election Systems Audit Specialist

"THE SOUP ANALOGY"

PEA Audit Type

- Delaware County uses MicroVote Systems which are Direct Recording Electronic (DRE) Voting Systems

- These systems have a Cast Vote Record (CVR) which is the digital record of the ballot, and a Voter-Verified Paper Audit Trail (VVPAT) which is the paper record of the ballot

- This allows us to complete a **Comparison Post-Election Audit**. In a Comparison Audit we are checking for machine accuracy and election outcome accuracy. The Audit will compare the CVR to the VVPAT ensuring that both records match.

Comparison Audit Terminology

- **Risk Limit** – The designated percent chance that the Audit would not detect a potentially incorrect election outcome. VSTOP has set the risk limit at **1%** for this audit. The risk limit cannot be 0% because that would result in every ballot being sampled, which is a recount, not an audit.

- **Confidence Level** – This is the percent the audit is confident that it would detect a potentially incorrect election outcome. VSTOP's intended Confidence Level is **99%** for this audit. The Confidence Level cannot be 100% because that would result in every ballot being sampled, which is a recount, not an audit.

- **Match Rate** – A Comparison Audit checks the CVR to the VVPAT to ensure that the machine correctly tabulated the votes correctly. All CVR Records should match their respective VVPAT Records. The audit should complete with a **100%** match rate.

- **Diluted Margin** – This describes the "closeness" of a contest. The smallest number of votes between candidates, divided by the total number of ballots cast in all contests.

- **Ballot Manifest/Inventory** – Details the location of the ballots and how many ballots are stored in said location. This is critical for selecting of sample ballots and ensuring we know where they are located.

- **Stark Audit Tool** - An Audit Software developed by Dr. Philip Stark from the University of California Berkley Department of Statistics. It is widely accepted, tested, and successfully implemented by a variety of State and Local Governments completing PEAs.

- **Random Seed Number** – Computers are not inherently random. The seed number assists the Audit Tool in selecting the Random Sample of Ballots. The audit team will have various individuals from the county and the public, participate in the rolling of a 10-sided die to generate a 20-digit number which ensures the sample is truly random.

Contests for Audit

President/Vice President of the United States

CANDIDATES	BALLOT VOTE TOTALS
Trump/Vance (R)*	24,836
Harris/Walz (D)	16,937
Oliver/Maat (L)	296
RFK Jr./Shanahan (WTP)	488
*Indicates Winner of Election	

Diluted Margin
18.29%

Risk Limit
1%
Confidence Level
99%

Expected Sample Size
56

Contests for Audit

Governor of Indiana

CANDIDATES	BALLOT VOTE TOTALS
Braun/Beckwith (R)*	20,869
McCormick/Goodin (D)	18,288
Rainwater/Hudson (L)	1,903
*Indicates Winner of Election	

Diluted Margin
5.98%

Risk Limit
1%
Confidence Level
99%

Expected Sample Size
170

Contests for Audit

Judge of the 46th Circuit Court No. 2

CANDIDATES	ELECTION DAY BALLOT VOTE TOTALS
Andrew Ramirez (R)*	23,467
Kimberly Dowling (D)	17,642
*Indicates Winner of Election	

Diluted Margin
13.49%

Risk Limit
1%
Confidence Level
99%

Expected Sample Size
76

Executing the Post-Election Audit

Prior to the actual audit, VSTOP works with county personnel to overview the process, select races to audit, prepare the ballot manifest and construct comparison sheet.

→

VSTOP enters the contest information into the Stark Audit Tool to obtain the projected amount of ballots needed to sample.

→

County personnel and members of the public generate a random 20-digit seed number.

→

VSTOP enters ballot manifest/inventory into the Stark Audit Tool to obtain the sample and location of ballots needed for audit.

→ →

→ → Distribute into audit assignments (indicated on the following slides).

→

VSTOP will identify and call out ballots for review

→

County Personnel will review selected ballots for match/no match or will skip ballot if wrong ballot type is presented

→

VSTOP will track match rate and display Comparison Sheet

Steps 6-8 are repeated until the initial sample is inspected for a 100% match rate.

↓

Match Rate is 100%
Audit is Complete

Audit Personnel Assignments

Assignment	Individual/Affiliation	Description
Audit Oversight and Observation	County Election Officials and VSTOP Directors	*Observing the PEA for Integrity and Assisting with Processes as Necessary*
VVPAT Rewinder Management	MicroVote and VSTOP	*Ensures that VVPAT Rewinder is set up and functioning properly for Ballot Review*
Ballot Review Prep and Ballot Calling	VSTOP and County Election Officials	*Ensuring that all needed VVPATs are in order and ready for Ballot Review*
Ballot Management	VSTOP and County Election Officials	*Responsible for handling all VVPATs, getting them on and off Rewinder, and properly storing VVPATs*
Ballot Review	VSTOP, MicroVote, and County Election Officials	*Three Audit members are responsible for viewing CVR and VVPAT Record to ensure Match. County Officials will do official callout to Tracking Team*
Comparison Sheet Set-Up and Ballot Review Tracking	VSTOP	*Responsible for tracking audit progress in the data spreadsheet*
Stark Audit Tool Operations	Matt Housley (VSTOP)	*Enters all required information into the auditing software*

Pre-Audit Meeting Closing

VSTOP — Voting System Technical Oversight Program

Thank you to Delaware County Clerk – Rick Spangler, Mary Ann Rees and the Clerk's Staff, and the County Election Board for volunteering to conduct a General PEA and working with VSTOP throughout the process.

Thank you to the Indiana Secretary of State's Office for authorizing this PEA and its support of this process as a another check on our Election Systems to ensure the highest levels of integrity in Indiana Elections.

Questions?

Generation of SEED Number!

VSTOP Team, Delaware County Election Personnel, Members of Media and The Public can assist in this part of the Post-Election Audit.

Again, this helps the Stark Audit Tool in drawing the Random Sample of Ballots.

This means that the sample of ballots is being generated at random live-time. No person can know in advance which ballots could will be selected for Audit.