



United States Department of Agriculture

One Team, One Purpose



# Food Safety and Inspection Service

Protecting Public Health and Preventing Foodborne Illness



Food Safety and Inspection Service:

One Year Assessment of nBPW



# The nBPW Factor

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# Food Safety and Inspection Service:

## Outline

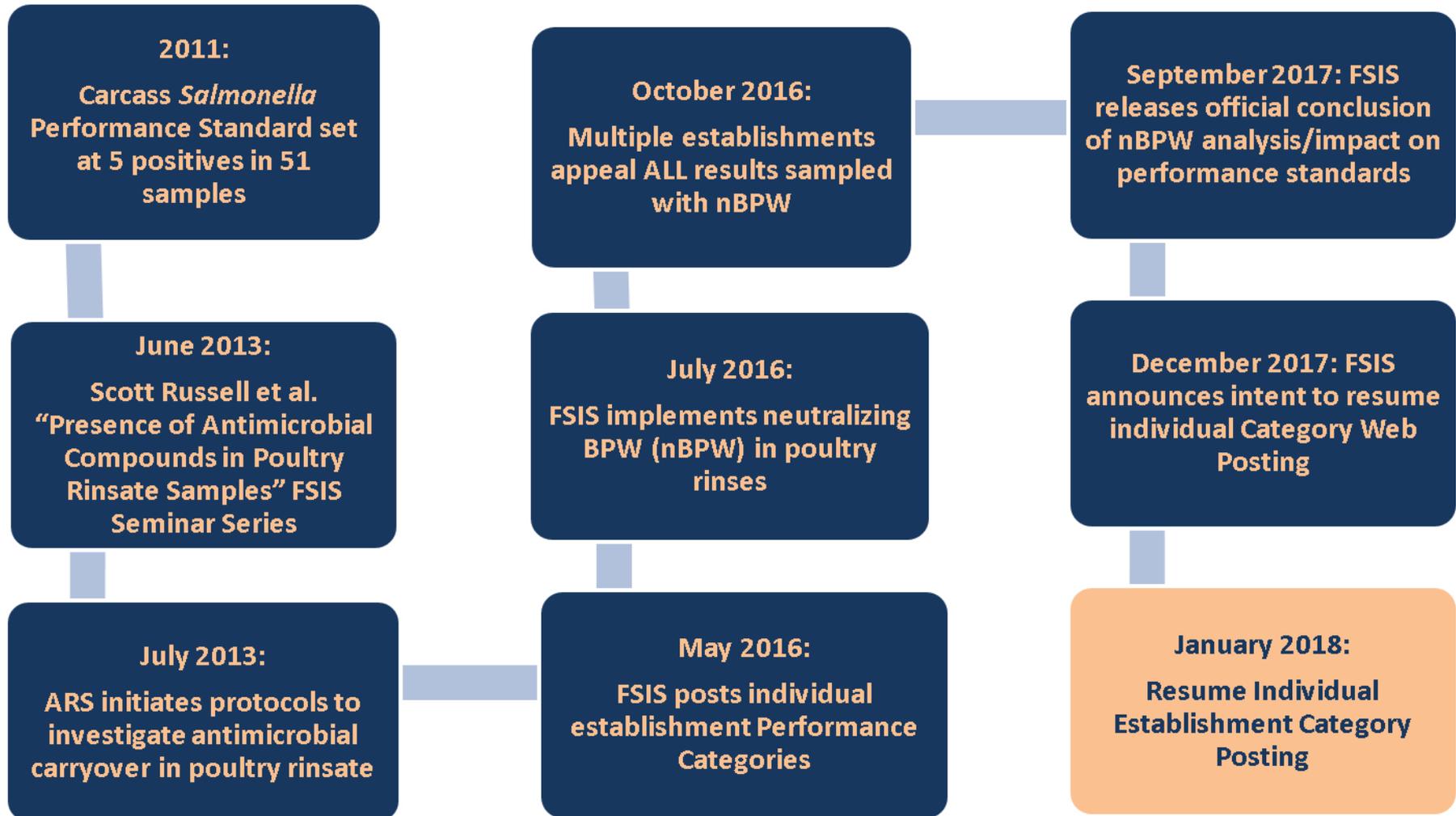
- I. Summary of Analysis
- II. Timeline
- II. Background
- III. ARS Research and FSIS Implementation
- IV. Aggregate Data
  - a. Carcasses
  - b. Parts
- IV. The Carcass Performance Standard
- V. Conclusions
- VI. Moving Forward

# Food Safety and Inspection Service:

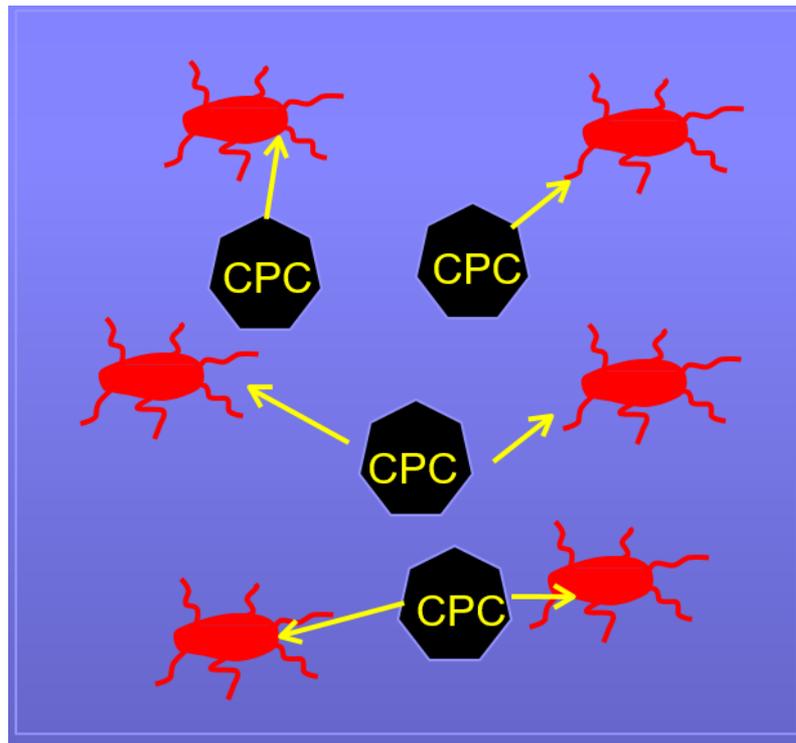
## Summary

- Implementation of nBPW identified a subset of carcass establishments with levels of *Salmonella* that were previously underreported through FSIS sampling
  - Parts sampling did not result in a similar increase
  - Comminuted poultry is sampled destructively (not rinsed), and is therefore unchanged by nBPW
- The carcass performance standard, however, remains unchanged even when recalculated with one year of nBPW data using the same parameters
- FSIS was not able to draw any conclusions about a particular processing aid as significantly impacting results more than another, nor identify any regional trends

# Food Safety and Inspection Service: Timeline of Events



Food Safety and Inspection Service:  
Scott Russell et al, 2013



**Bacteria in rinse solution may be vulnerable to inactivation by anti-microbial interventions that are carried over into the rinse solution (Russell et al 2013)**

# Food Safety and Inspection Service: Concern from Stakeholders

## Antimicrobials concealing Salmonella debate reignited

### Does Antimicrobial Spray Used by Poultry Industry Kill Salmonella or Just Hide It?

May 18, 2016 by [Carla Gillespie](#)

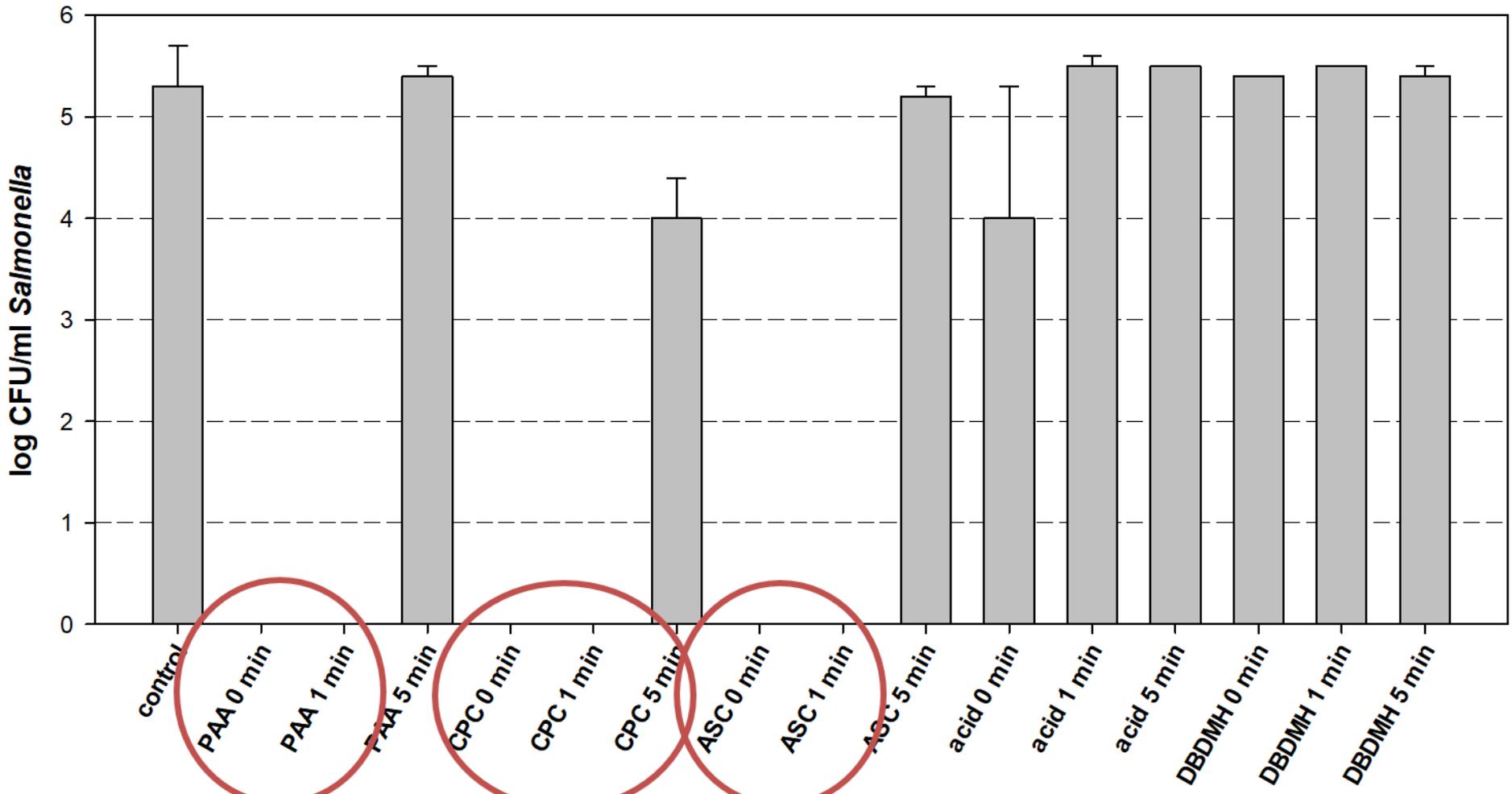
[Home](#) » [News](#)

NEWS | July 1, 2016

### Poultry Carcass Treatment Can Cause False- Negatives in Salmonella Testing: USDA Institutes “Fix”

# Food Safety and Inspection Service:

## ARS models carry-over impact on *Salmonella* Sampling



# Food Safety and Inspection Service: Addressing the Issue: ARS designs nBPW

- ARS developed and finalized a BPW formula with three added neutralizers (lecithin, thiosulfate and sodium bicarbonate) in order to address multiple classes of antimicrobial processing aids
- [FSIS Notice 41-16](#) introduced nBPW implementation in all projects previously using BPW for sampling as of July 1, 2016

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOOD SAFETY AND INSPECTION SERVICE  
WASHINGTON, DC

<b>FSIS NOTICE</b>	41-16	6/8/16
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**NEW NEUTRALIZING BUFFERED PEPTONE WATER TO REPLACE CURRENT BUFFERED PEPTONE WATER FOR POULTRY VERIFICATION SAMPLING**

**DO NOT START USING THE NEW NEUTRALIZING BUFFERED PEPTONE WATER FOR SAMPLING UNTIL JULY 1, 2016.**

**NOTE:** Inspection program personnel who conduct sampling are allowed 1 hour of official time to read this notice.

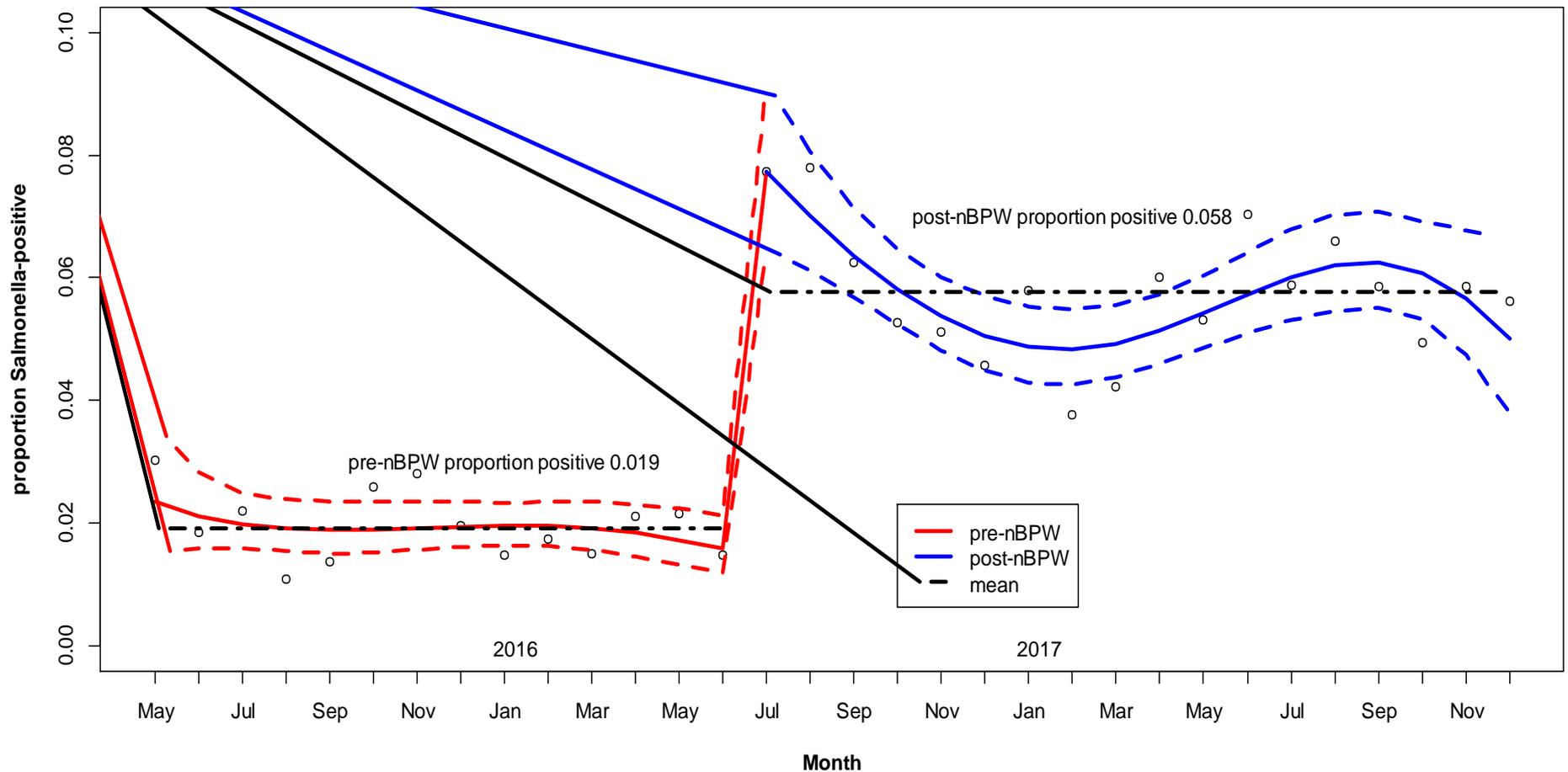
**I. PURPOSE**

This notice provides instructions to inspection personnel regarding the use of the new neutralizing buffer for verification sampling.



# Food Safety and Inspection Service: Observed Increase: *Salmonella* in Carcass Sampling

Proportion of *Salmonella*-positive carcass samples



# Food Safety and Inspection Service:

## Increase in *Salmonella* Positives Leads to Concerns

**September 2016:** Two firms submitted appeals of all sampling results collected with nBPW on the grounds that the new buffer was more “sensitive” than the BPW used to establish the performance standard.

**November 2016:** Individual establishment categories were removed from the FSIS webpage with a message noting that the removal was temporary, pending nBPW analysis.

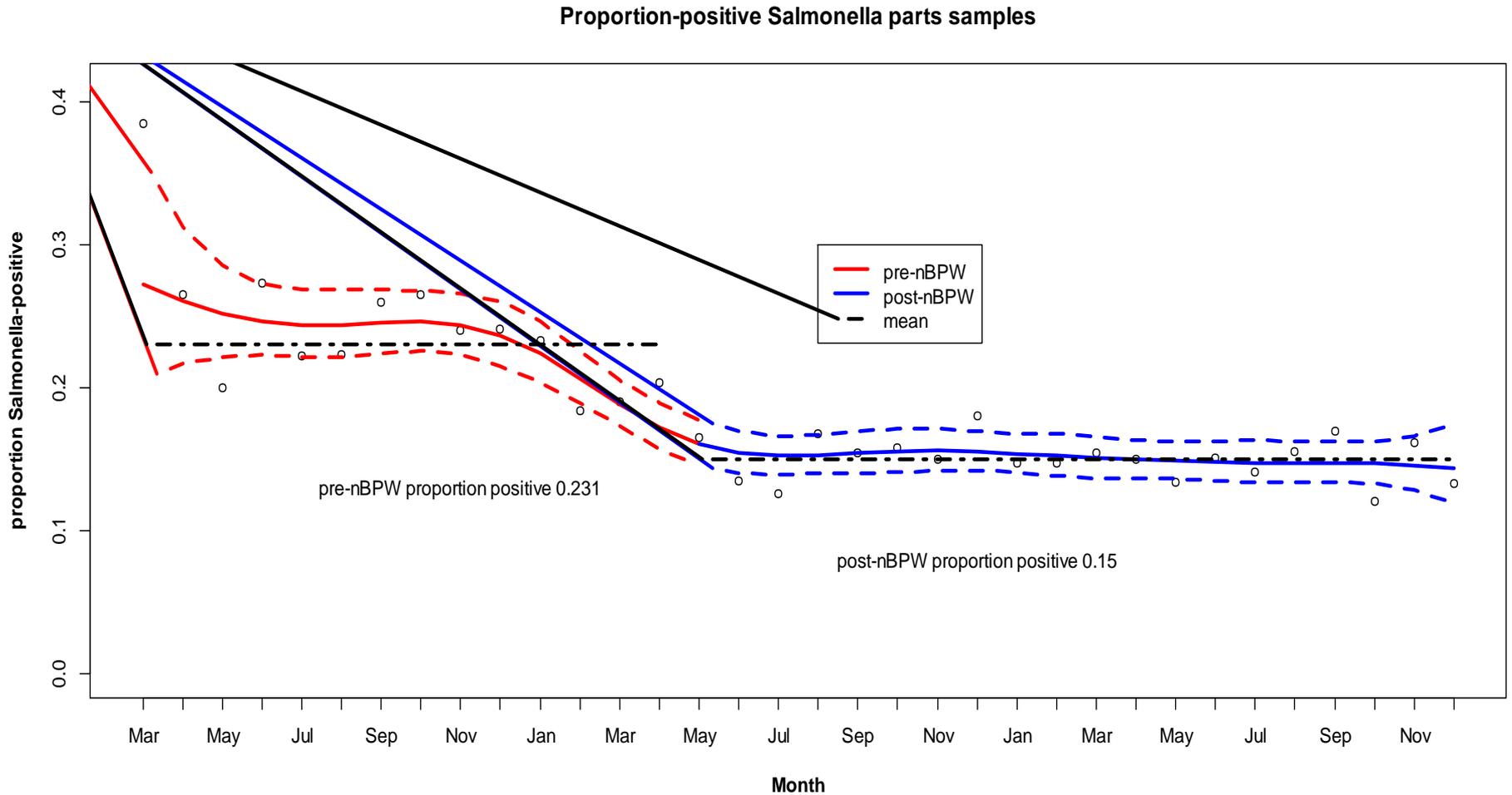
of fall basis

At this time only aggregate sampling results (not individual establishments) relative to process control for establishments producing raw chicken parts and comminuted poultry will be publicly posted. This information is being made available to the public on the FSIS website to inform consumers and to incentivize establishments to improve their performance.

### Sampling Results

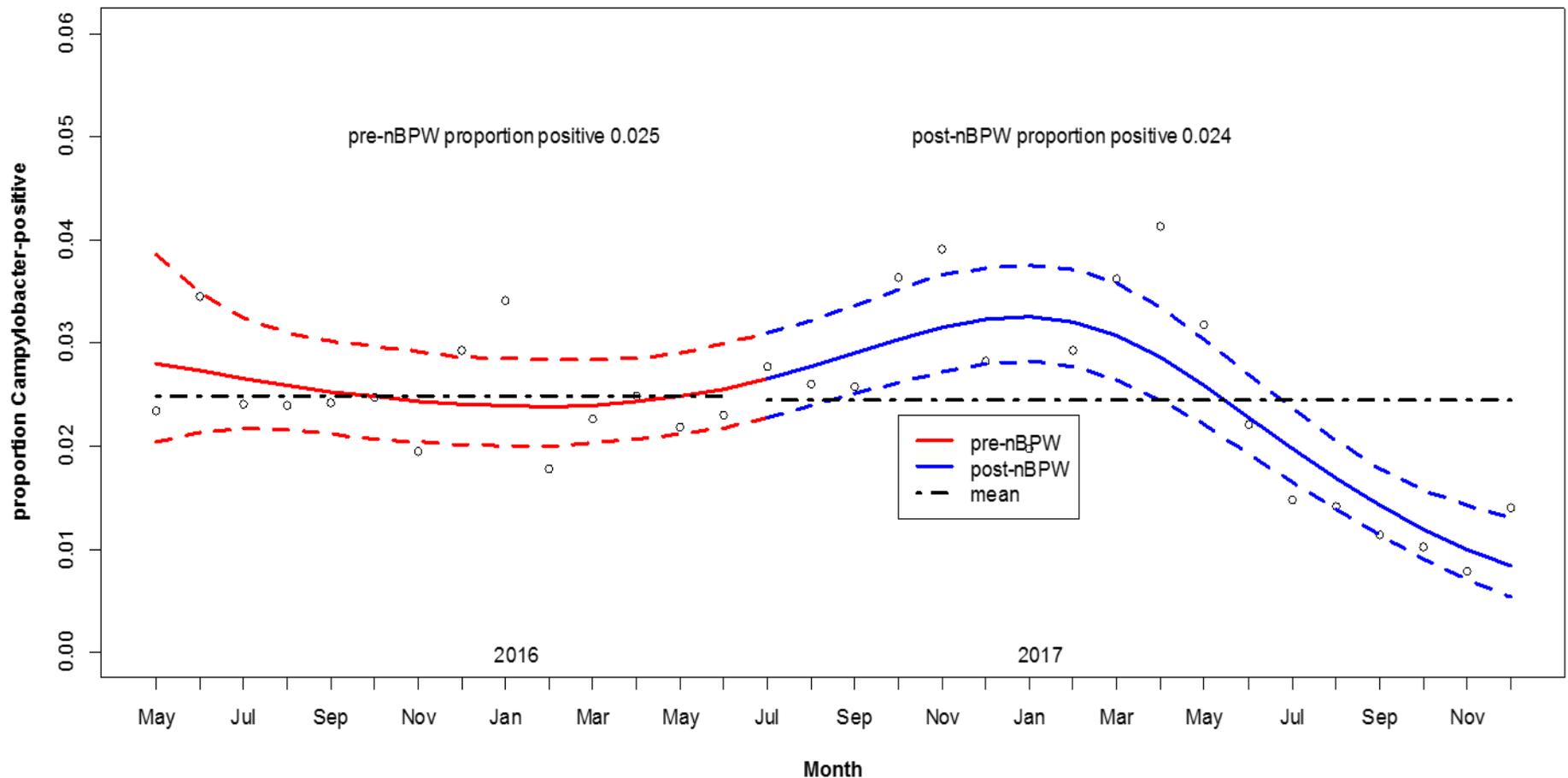
- **INDIVIDUAL ESTABLISHMENTS:** Temporarily unavailable; see this page for more information.
- **AGGREGATE DATA:** Aggregate *Salmonella* and *Campylobacter* Categorization for Young Chicken and Turkey Carcasses, Raw Chicken Parts, and N RTE Comminuted Poultry Establishments (Sep 4, 2016 through Nov 25, 2017)

# Food Safety and Inspection Service: Consistent Trend: *Salmonella* in Chicken Parts



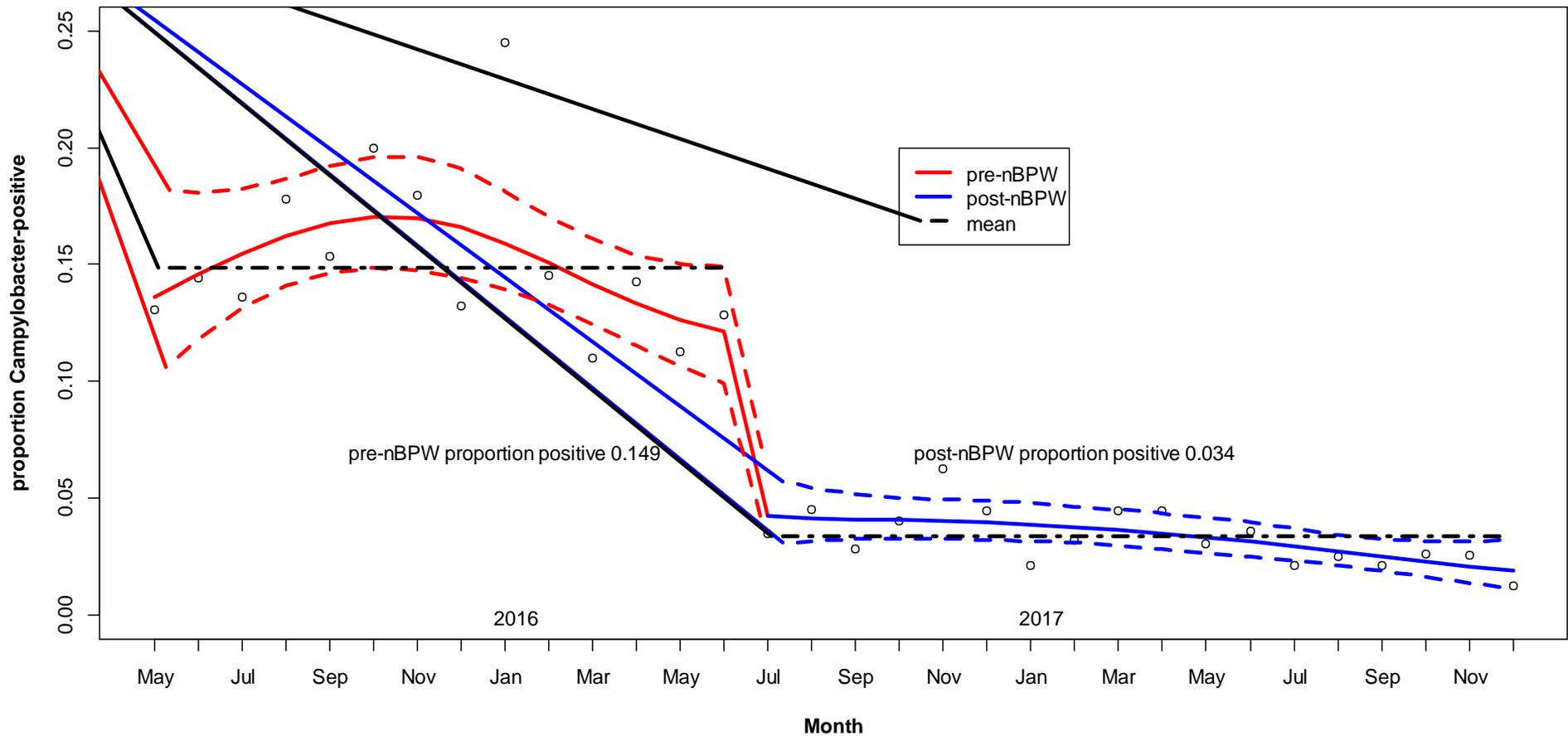
# Food Safety and Inspection Service: Observed Increase: *Campylobacter* in Carcass Sampling

Proportion of *Campylobacter*-positive carcass samples



# Food Safety and Inspection Service: Anomalous Decrease: *Campylobacter* in Chicken Parts

Proportion of *Campylobacter*-positive parts samples



## Food Safety and Inspection Service: The Carcass Performance Standard

- The volume-weighted average used to calculate the carcass performance standard in 2011 was **4.58%**
- The volume-weighted average from the first 12 months of nBPW was **4.74%**
- Using the new nBPW data in the Performance Standard Model with the same predicted reduction in illnesses, the standard would result in the same 5 positives allowed out of the set of 51

## Food Safety and Inspection Service:

### Conclusion

- The implementation of nBPW resulted in an increased recovery of *Salmonella* (as compared to the previous year of data using BPW) in carcass sampling
- This increase suggests that some carcass establishments had a higher *Salmonella* rate than FSIS sampling was able to capture due to the limitations of the previous buffer formula with regard to antimicrobials
- This increase does not impact the carcass performance standard, as it is mathematically consistent with the prevalence data used to develop the standard (and the corresponding risk assessment)

# Food Safety and Inspection Service:

## Moving Forward: December 15, 2017 Constituent Update

### FSIS to Resume Posting of Individual *Salmonella* Category Status for Poultry Carcass Establishments

FSIS began posting individual establishment categories for *Salmonella* performance standards for poultry carcasses in May 2016, as announced in the *Federal Register* (81 FR 7285). In November 2016, FSIS temporarily suspended the web posting of category status for individual carcass establishments to analyze the effect of the use of the new neutralizing Buffered Peptone Water (nBPW) on the *Salmonella* performance standards and to assess the implementation of follow-up sampling at Category 3 poultry carcass establishments. FSIS has concluded these analyses and will resume web posting of individual establishments' category status for *Salmonella* performance standards for poultry carcasses on Jan. 22, 2018. As discussed in the *Federal Register*, data support that public posting of establishment performance encourages establishments to make changes to address *Salmonella* (81 FR 7295-7296).

Example of Posting Format:

Establishment Number	Establishment Name	City	State	Product Class	Salmonella Category
P123456	Example Inc.	Your City	DC	Young Chicken Carcasses	3
P126543	Example Two Co.	My City	DC	Young Chicken Carcasses	NA
P345678	Example Three Inc.	This City	DC	Young Turkey Carcasses	2
P234567	Example Four Farms	One City	DC	Young Turkey Carcasses	1

LEGEND			
Salmonella Performance Category			
Product Class	Category 1	Category 2	Category 3
Young Chicken Carcasses	0-4.9%	>4.9-9.8%	>9.8%
Young Turkey Carcasses	0-3.5%	>3.5-7.1%	>7.1%

#### In This Issue

- 1 FSIS to Resume Posting of Individual *Salmonella* Category Status for Poultry Carcass Establishments
- 2 Fiscal Year 2017 Meat and Poultry Inspection Program Review Results Available
- 2 Policy Updates
- 3 FSIS Posts Updated Dataset on Import Rejections
- 3 FSIS Posts Aggregate Results for Chicken Parts, Comminuted Poultry and Poultry Carcasses Tested for *Salmonella* and *Campylobacter*
- 3 Export Requirements Updates
- 3 FSIS Announces Change on Assessing Antimicrobial Sensitivity for *Enterococcus*
- 4 USDA Provides Tips to Keep Holiday Food Safe at Home or When Traveling
- 5 Interagency Food Safety Analytics Collaboration: Release of a New Report on Foodborne Illness Source Attribution Estimates for 2013
- 6 FSIS Suspends Pulsed-field Gel Electrophoresis Analysis for *Listeria*

# Food Safety and Inspection Service: Moving Forward: Web Posting Resumes for Carcasses

## Salmonella Categorization of Individual Establishments Using Moving Windows for Young Chicken Carcasses and Young Turkey Carcasses

Reporting period for this data: **October 9, 2016–December 30, 2017**

- Use the up or down arrows to sort data based on any column heading.
- To filter results, enter criteria in the form associated with any column header.
- An **asterisk (\*)** indicates that a category status has changed since the previous monthly posting.
- The entire dataset is also available in [Excel \(xlsx\)](#) or [PDF](#).
- Establishments that produce 1,000 lbs. or less of each product per day, or slaughter 20,000 head or fewer of each species per year, are not included.
- Category definitions and contact information are presented after the table.

Establishment Number ▲▼	Establishment Name ▲▼	City ▲▼	State ▲▼	District Number ▲▼	Product Class ▲▼	Salmonella Category ▲▼
M: [REDACTED]	[REDACTED] CORPORATION	[REDACTED]	VA	80	Young Chicken Carcasses	1
M: [REDACTED]	[REDACTED] Inc	[REDACTED]	AR	35	Young Chicken Carcasses	1
M: [REDACTED]	[REDACTED] Corporation	[REDACTED]	MN	25	Young Chicken Carcasses	1
M: [REDACTED]	[REDACTED]	[REDACTED]	NC	80	Young Chicken Carcasses	1
M: [REDACTED]	[REDACTED] Corporation	[REDACTED]	WV	80	Young Chicken Carcasses	1
M: [REDACTED]	[REDACTED]	[REDACTED]	PA	60	Young Chicken Carcasses	1
M: [REDACTED]	[REDACTED]	[REDACTED]	SC	85	Young Chicken Carcasses	NA

\*Current establishment-specific info is displayed on the FSIS web-posting

# Food Safety and Inspection Service:

## Corporate Trends: Nov 2016 Post vs Jan 2018 Post

		Cat 2016			Cat 2017		
	Total est	1	2	3	1	2	3
Corporation A	32	28	4	0	24	7	1
Corporation B	23	18	4	0	17	6	2
Corporation C	10	4	4	2	0	0	11
Corporation D	10	8	2	0	6	3	1
Corporation E	7	6	1	0	6	1	0
Corporation F	9	4	5	0	8	1	0
Corporation G	3	3	0	0	1	1	1
Corporation H	5	4	1	0	2	1	2
Corporation I	5	5	0	0	3	3	0

## Food Safety and Inspection Service: Moving Forward

- FSIS awarded a commercial contract for the production of nBPW in 2017
- A full detailed analysis was performed as part of the *Salmonella* and *Campylobacter* Coordination Group (SCCG) Priority Projects. That manuscript is currently in clearance
- Long term: ARS looking into a formula that eliminates turbidity and allows the entire formula to be heat sterilized
- Lessons learned: 1) Commercial availability is a must, 2) All product classes and analytes require ample vetting, and 3) Formulation should consider ease of production and perception beyond GRAS designation

## Food Safety and Inspection Service: Moving Forward: Policy Impact

- Updated *Salmonella* Compliance Guideline coming out this year
- OPPD is developing additional resources for HACCP design with regard to *Salmonella* in poultry
- OPPD is working closely with OFO to communicate with establishments struggling to meet the standard(s)

Food Safety and Inspection Service:  
Questions?

Questions?