



# Safety and Environmental Performance Data for Industry Benchmarking 2019 Charts

Office of Offshore Regulatory Programs  
Offshore Safety Improvement Branch  
Safety and Environmental Management Systems Section  
OCS Performance Measures Program

“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”

# About the Data in This Presentation

- Primary data source: BSEE-0131 form, required to be submitted annually to BSEE by Oil & Gas (O&G) operators with Outer Continental Shelf (OCS) activities during the prior year (30 CFR 250.1929)
- Self-reported data collected on the form includes:
  - Company and contact information
  - Illnesses and injuries: DART (Days Away, Restricted, Transfer) and non-DART recordables, company vs contractor, production vs drilling vs construction, by quarter
  - Hours worked: company vs contractor, production vs drilling vs construction, by quarter
  - Number of EPA NPDES (Environmental Protection Agency, National Pollutant Discharge Elimination System) non-compliances
  - Number and volume of oil spills less than one barrel each (categorized as low volume spills)
- Other data used in this analysis and presentation are from the BSEE Technical Information Management System (TIMS) database:
  - Oil spills in two additional categories: 1) between 1 and 50 barrels each, and 2) over 50 barrels each (per 30 CFR 254.46, spills greater than 50 barrels volume have additional reporting requirements)
  - Oil and gas production
  - Platform count
  - Number of rigs and number of non-rig activities involved in drilling and related well operations
  - Wells spud
  - Losses of well control
  - Fires
  - Incidents of non-compliance (INCs)
  - Inspection metrics: visits, inspections performed, components inspected
- Aggregated data used to generate the charts in this presentation are also published in table format on BSEE.gov (<https://www.bsee.gov/summary-tables>)
- Industry may use the incident rates to compare their individual performance to the averages for all OCS O&G work.

# Overview of Calendar Year 2019 Data Set

- The graphs in this presentation, as well as the companion tables, are derived from multiple sources:
  - Data submitted by operators via the BSEE-0131 forms
  - Data required to be reported to BSEE via other means, such as eWell
  - Internal files and databases on inspectors and inspection processes
- Data from calendar year 2010 forward may be considered more complete than prior data, as 2010 was the first year that BSEE-0131 form submission was required (30 CFR 250.1929).
- 59 operating companies\* recorded production, facility closures and / or well operations in 2018 and were therefore expected to submit the BSEE-0131 form by March 31, 2019. BSEE received 58 forms for 98% participation. In 2018, the number of active operators (and BSEE-0131 forms received) was 58.

\* An operating company and all its subsidiaries are counted as 1 company in this analysis

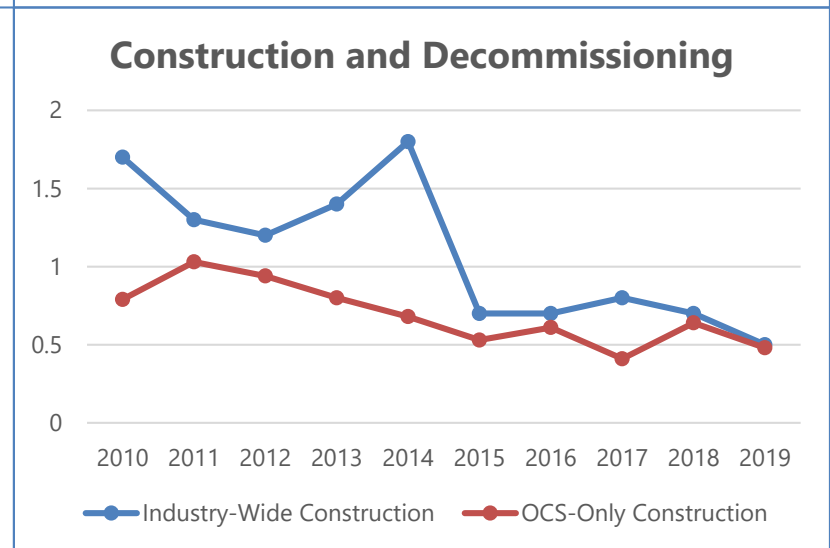
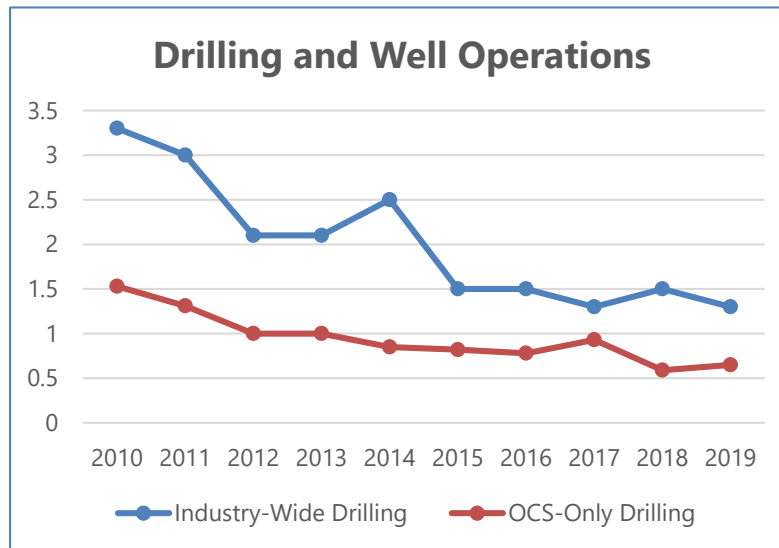
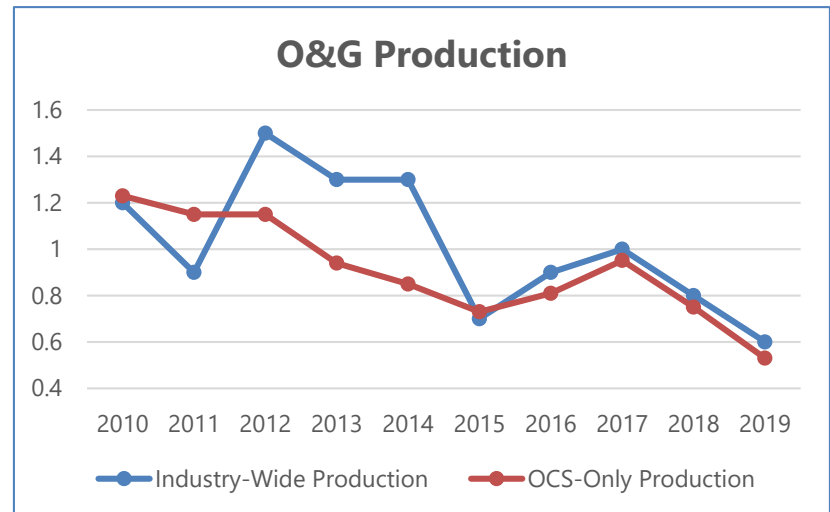
# Highlights of 2019 Data

- Production and total work hours increased in 2019 compared to 2018 by 6% and 3%, respectively
  - An increase in **contractor** work during production is responsible for the increase in total work hours (slide 8)
  - Even with these changes, the BOE produced per production work-hour remained like 2018 values (slide 9)
  - The number of work hours expended per well operation rose slightly in 2019 compared to 2018 (slide 10)
- Incident statistics
  - The fire incident rate increased to levels near peaks seen in the past 10 years (slide 16); further analysis indicates the rise from 2017 to 2019 is largely due to an increase in fires anticipated and controlled during hot work, as well living quarter / galley electrical and grease fires
  - For two years in a row, there have been no large volume (> 50 BBL) oil spills (slide 23)
  - While there was an uptick on the number and volume of oil spills of <1 BBL volume, the total volume of oil spilled overall has remained near their historic lows (slides 18-24)
- Safety statistics
  - The Total Injury/Illness rates for O&G Production on the OCS continued a decline in 2019. Clarifications to the reporting requirements for injury/illness data to BSEE were finalized for the 2019 reporting year to improve consistency in BSEE's calculation of Total recordable injury/illness records (Slides 5 and 12)
  - The rate for DART injuries also reflect a multi-year downward trend during OCS O&G Production. DART injuries involve Days Away, Restricted or Transferred for the injured employees, (Slide 13)
  - The Injury/Illness rate for Drilling and other Well Operations on the OCS (Total and DART) climbed in 2019 (Slides 5 and 14)
  - The injury/illness rates for O&G Construction activities decreased in 2019 back to levels associated with their historical lows (Slides 5 and 15)
- BSEE enforcement:
  - The number of inspected production components increased by 15% during 2019 while the number production INCs issued increased by 23%.
  - The number of well op inspections decreased by 4% while the number of well op INCs increased by 2.5%.
  - The production INC to component ratio (Slide 28) rose slightly while the production INC to inspection ratio (Slide 29) declined slightly.

# OCS vs Industry-Wide Injury/Illness Rates

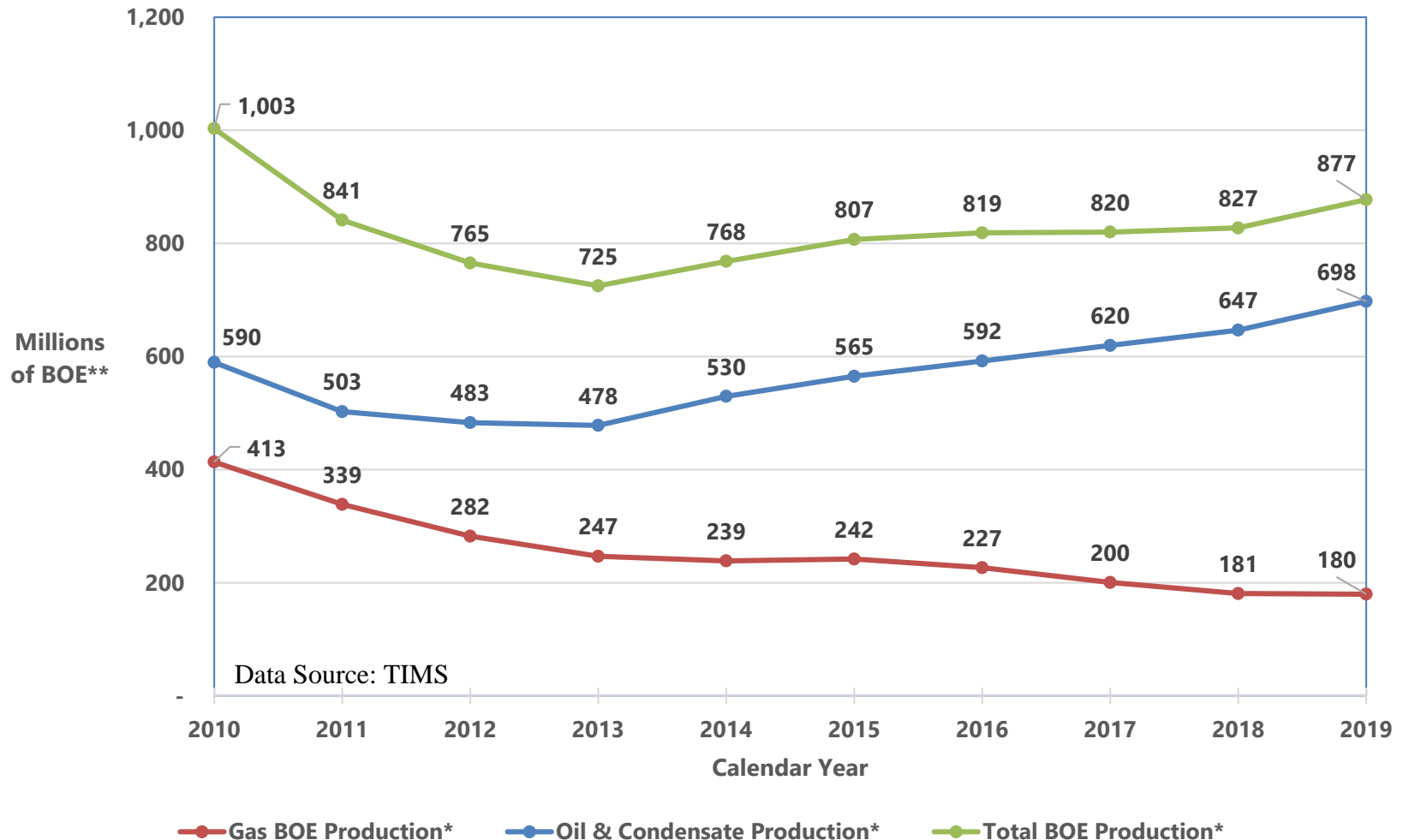
- The total injury/illness rates\* for all oil and gas (O&G) categories (production, drilling and construction) **on the OCS** are trending lower than the rates for the **United States O&G industry overall**.

(Sources of data: BSEE-0131 for OCS Total Recordables and BLS tables for Industry-Wide Total Recordables)



\* The industry-wide illness/injury rates are from the Bureau of Labor Statistics table: "TABLE 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, (various years)". Industry-wide equivalents: O&G Production - NAICS Code 211; Drilling and Well Operations - NAICS code 213111; Construction and Decommissioning - NAICS code 23712.. These rates use the same formula that BSEE uses, which is  $[DART + \text{non-DART recordables}] / [\text{total number of work hours}] * 200,000$ . Each set combines both DART and non-DART recordables (DART = Days Away from work, job Restricted, and job Transfer).

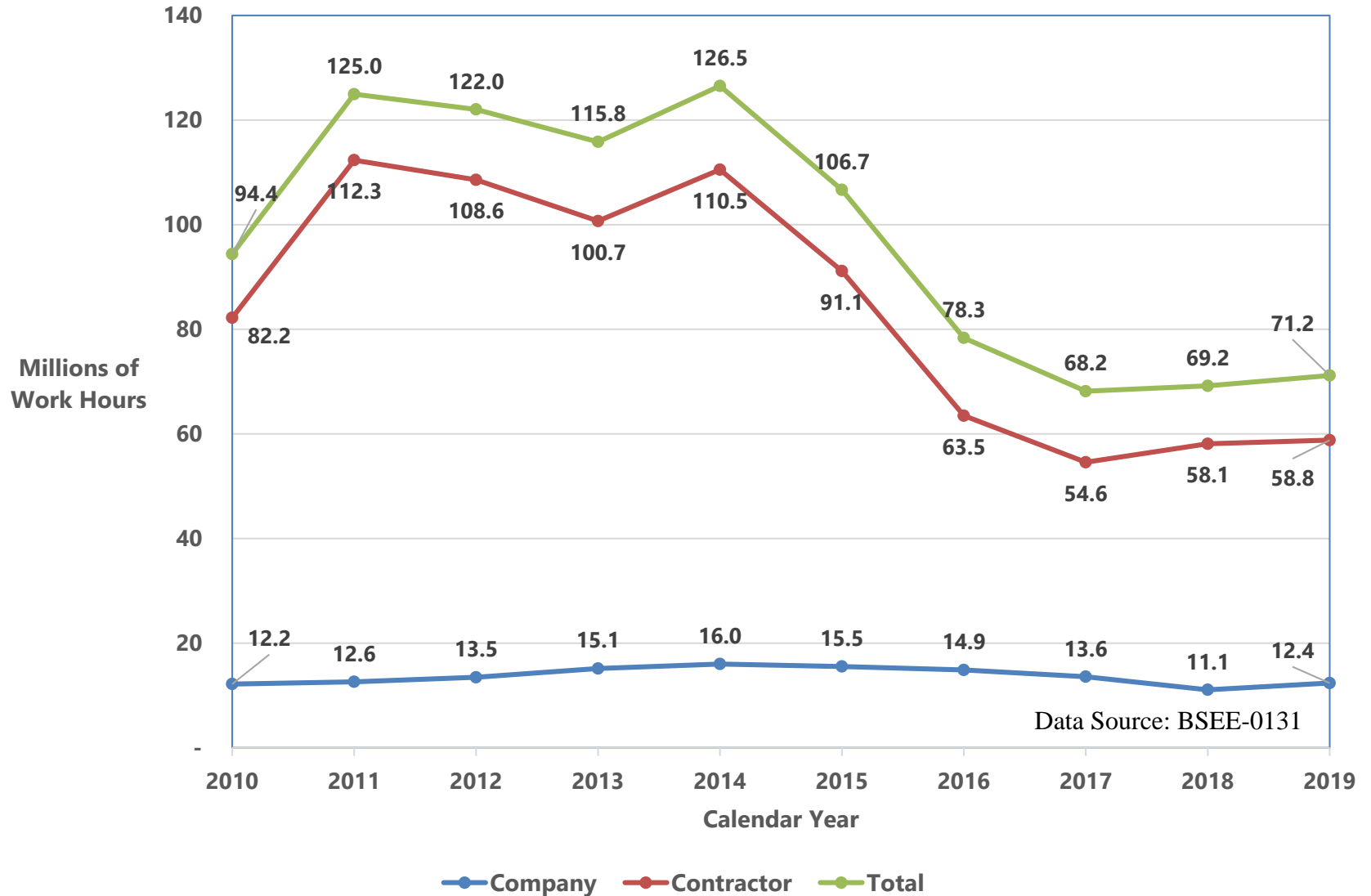
# Total OCS Oil and Gas Production



\* Production totals are updated periodically. Prior year totals shown here may differ from those shown in previous versions of this presentation.

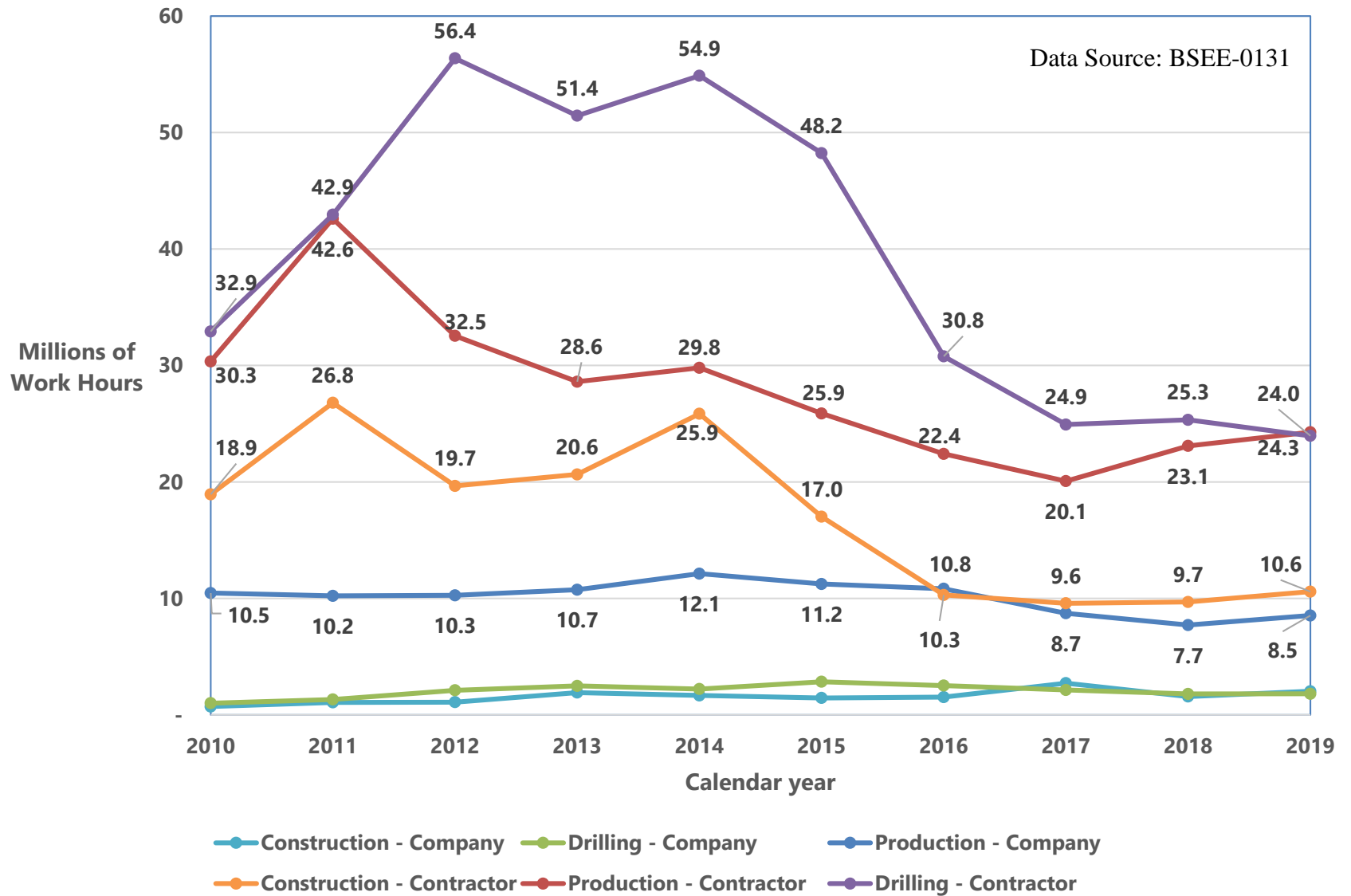
\*\* BOE = Barrels of Oil Equivalent. Gas production is converted into BOE so that it can be compared to actual barrels of oil. In 2019, the conversion factor used was 5.8 MCF per BOE.

# Total OCS Work Hours



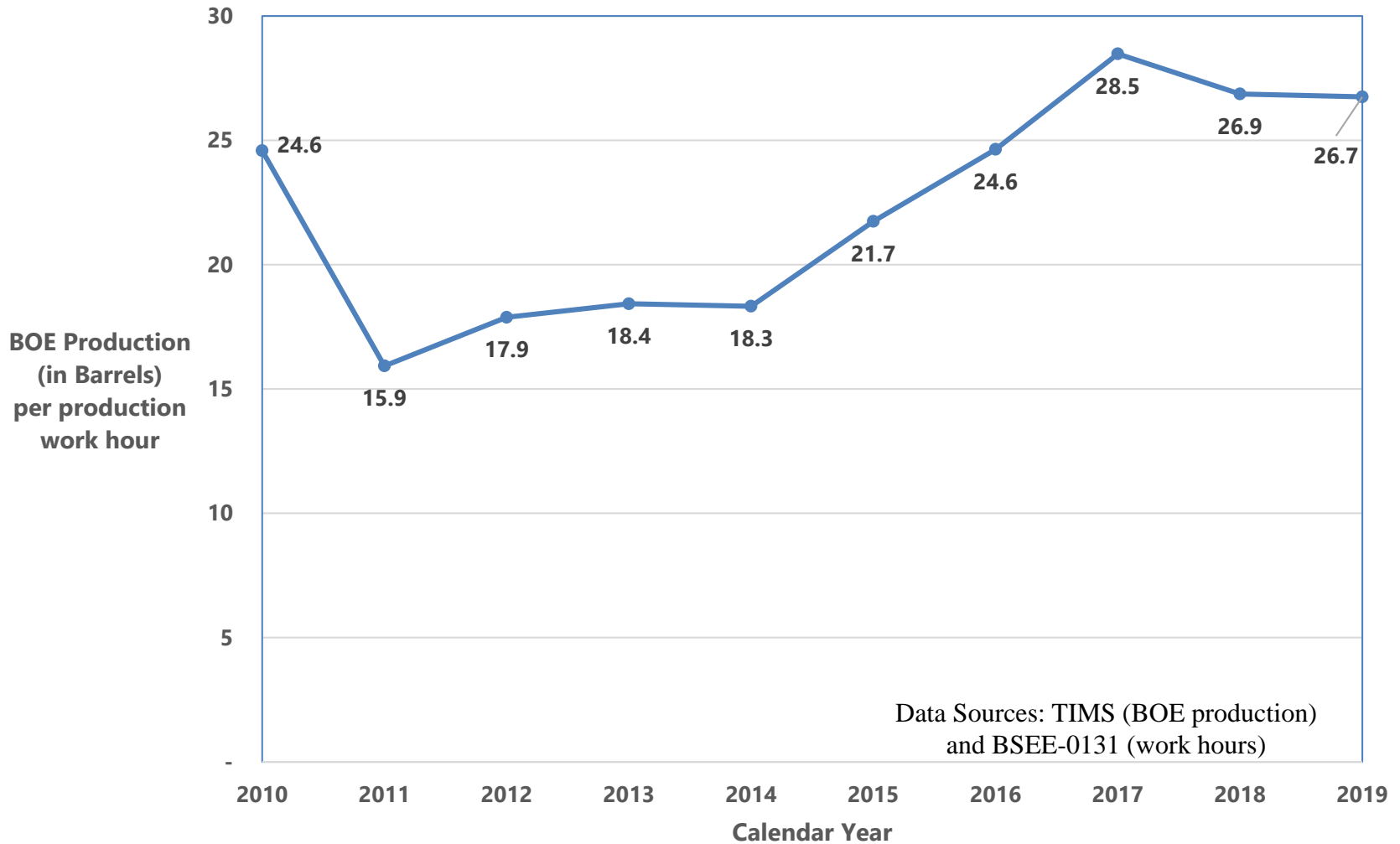
# Total OCS Work Hours

## Category, Company vs Contractor



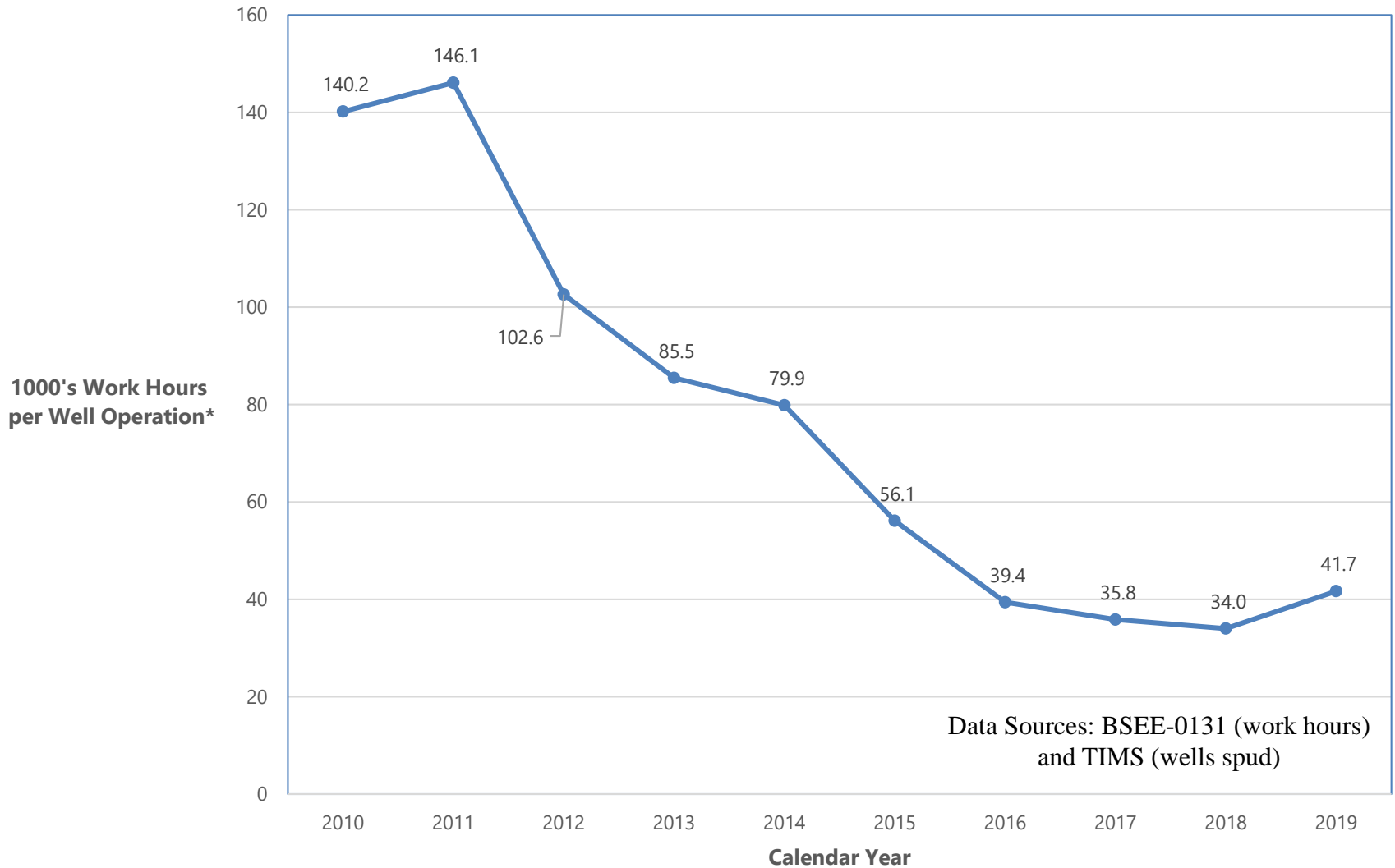


# BOE Production Per Production Work Hour\*



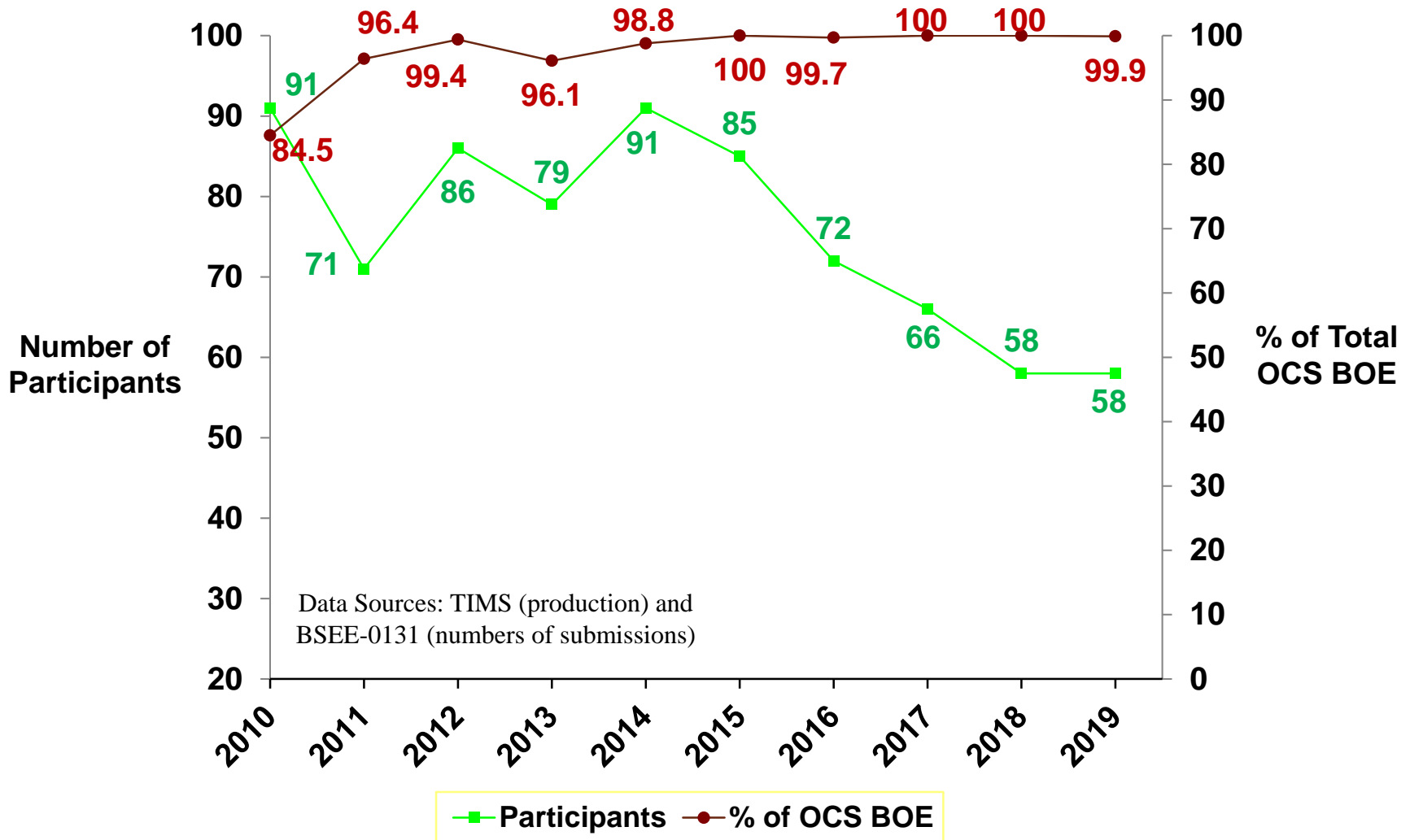
\* Production totals are updated periodically. Prior year totals shown here may differ from those shown in previous versions of this presentation.

# Work Hours per Well Operation\*



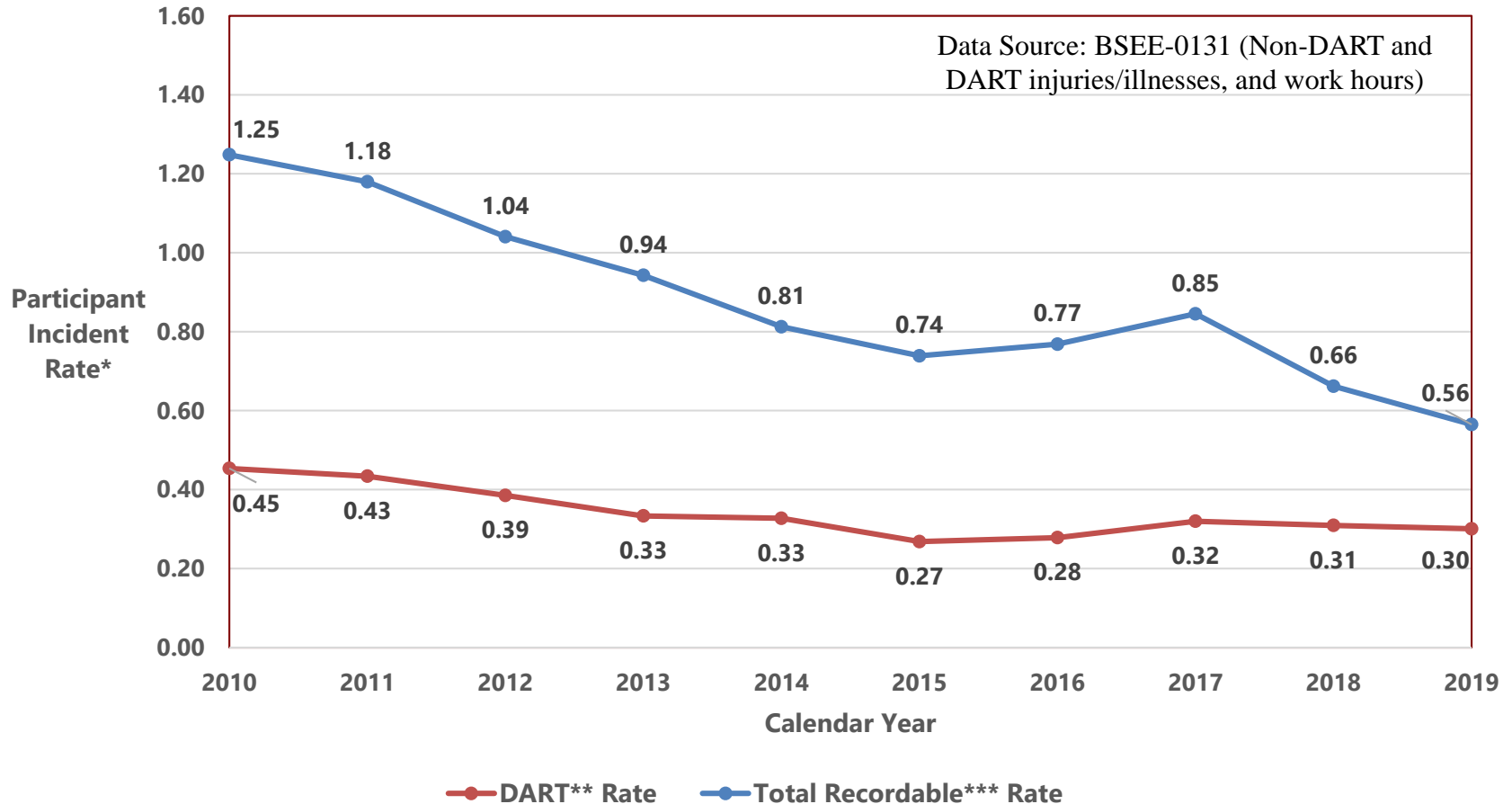
\* Work Hours reported for drilling and related well activities, divided by (# Participant Wells Spud + # Non-rig activities)

# OCS Performance Data Survey Participation\*



\*2010 was the first year that OCS Performance Measure Data were required by BSEE regulation (30 CFR 250.1929).

# Combined OCS Operations: Total and DART Recordable Incident Rates

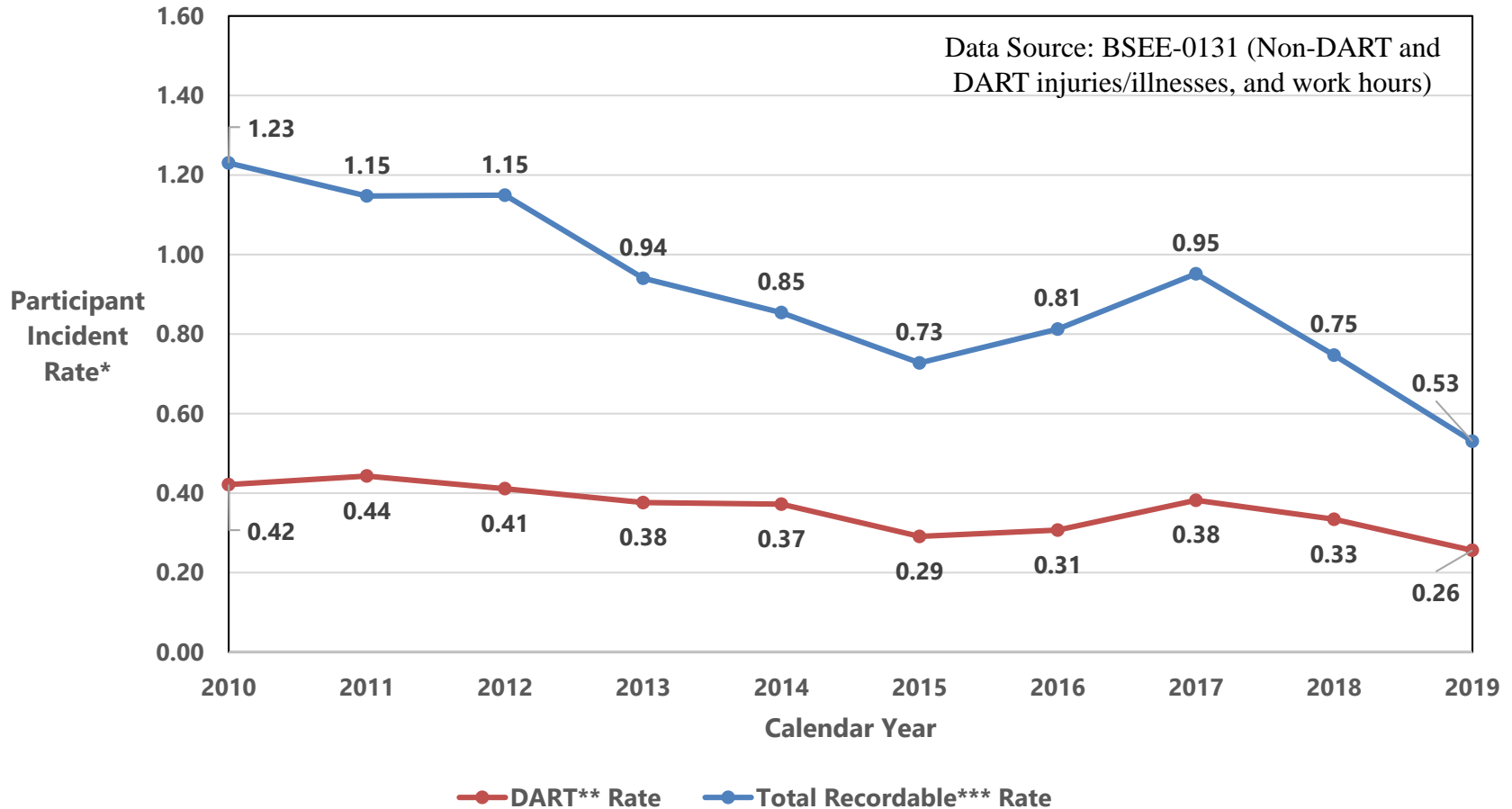


\* Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

\*\* DART = injury or illness leading to Days Away, Restricted duty or job Transfer

\*\*\* Total Recordable Incidents = the sum of DART and non-DART recordable injuries/illnesses. Beginning 2018 and finalized with a revised form in 2019, BSEE clarified that non-DART recordable injuries should be reported separately from DART recordable injuries. In the past some operators interpreted the "Recordables" line on BSEE-0131 as a request for "Total Recordables" and some interpreted it as a request for "Non-DART Recordables" since there was already a separate line for DART Recordable data (the form never specified whether to enter Total or non-DART Recordables).

# Production Operations: Total and DART Recordable Incident Rates

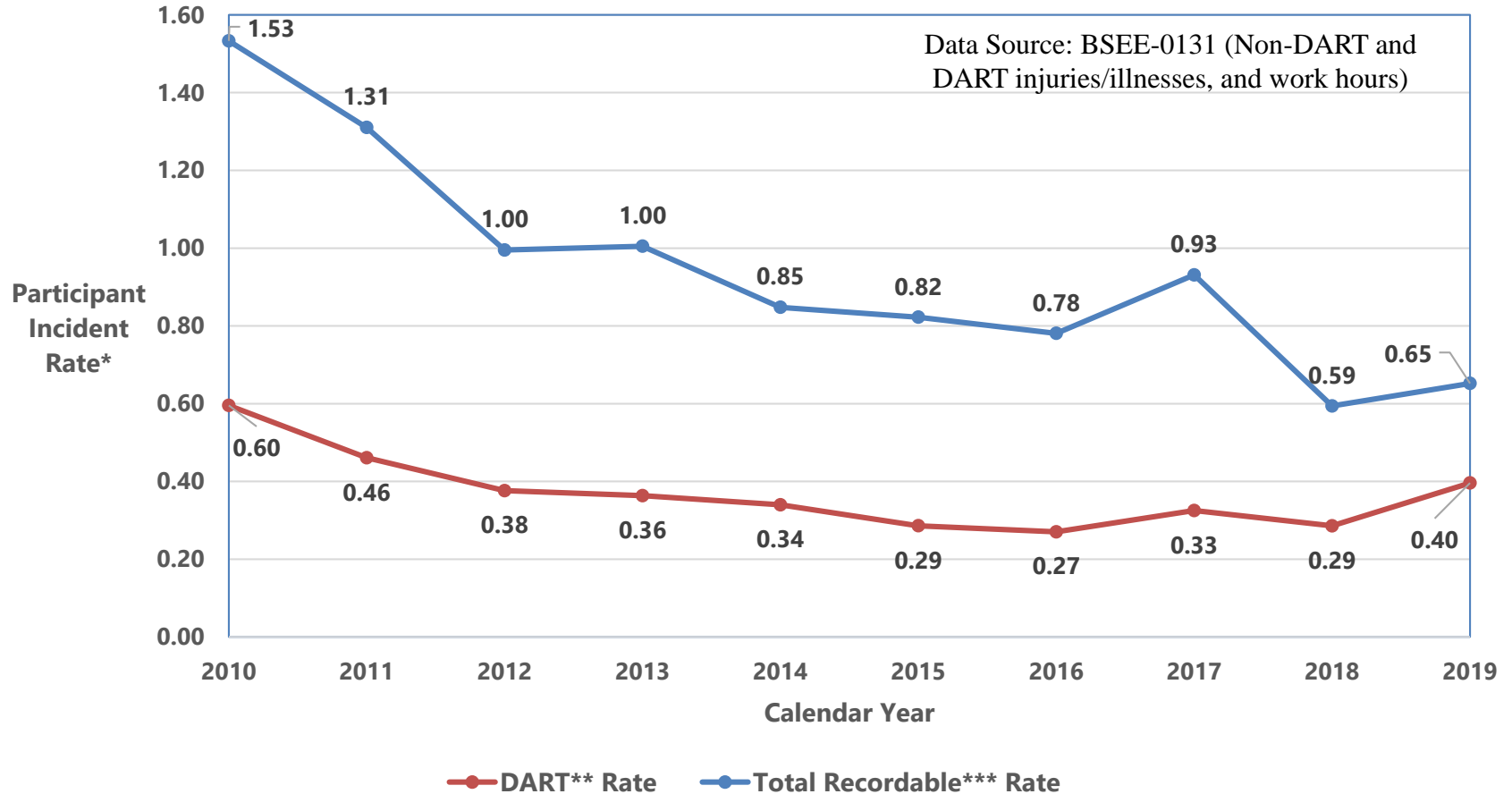


\* Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

\*\* DART = injury or illness leading to Days Away, Restricted duty or job Transfer

\*\*\* Total Recordable Incidents = the sum of DART and non-DART recordable injuries/illnesses. Beginning 2018 and finalized with a revised form in 2019, BSEE clarified that non-DART recordable injuries should be reported separately from DART recordable injuries. In the past some operators interpreted the "Recordables" line on BSEE-0131 as a request for "Total Recordables" and some interpreted it as a request for "Non-DART Recordables" since there was already a separate line for DART Recordable data (the form never specified whether to enter Total or non-DART Recordables).

# Drilling and Well Operations: Total and DART Recordable Incident Rates

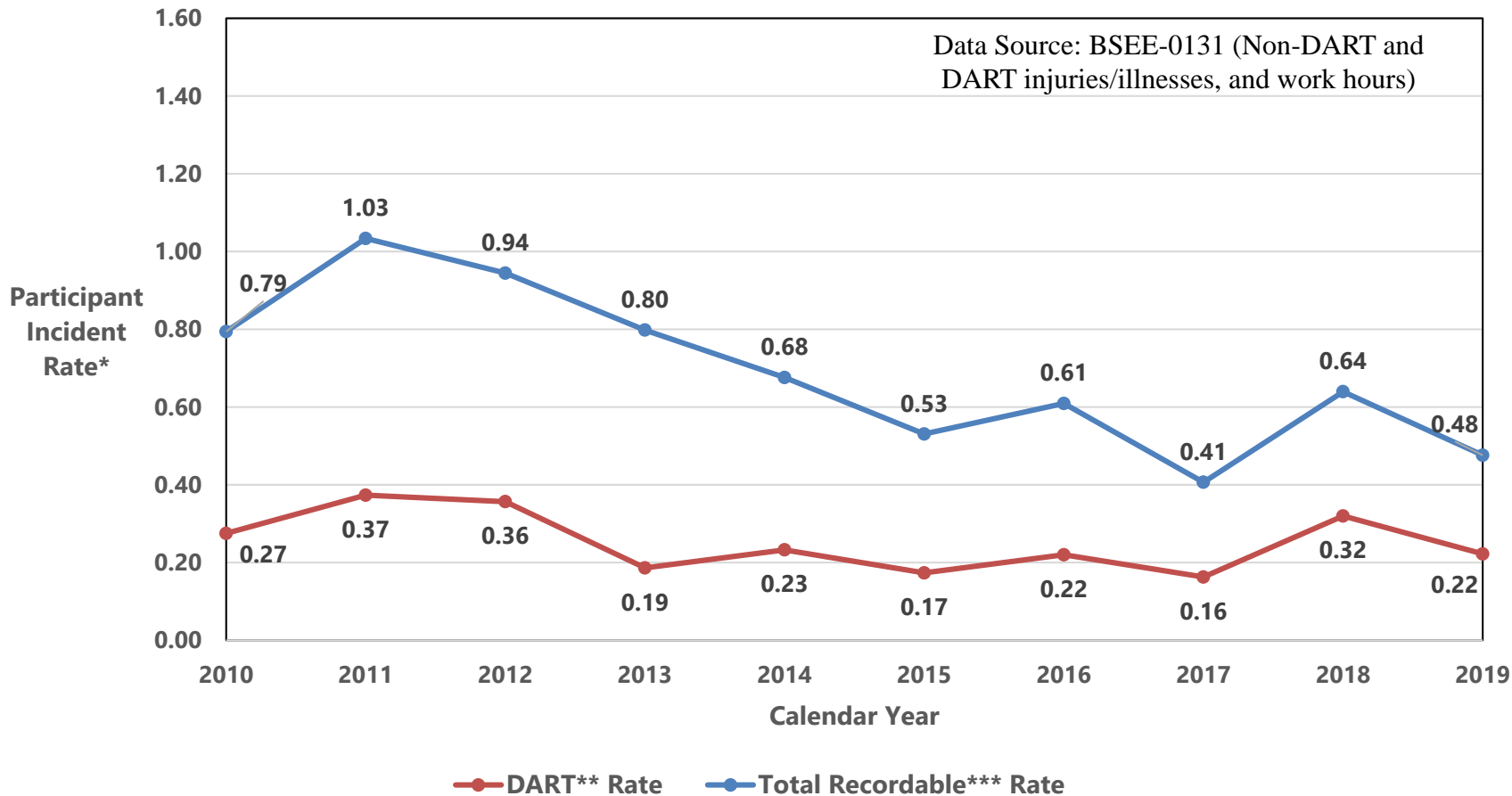


\* Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

\*\* DART = injury or illness leading to Days Away, Restricted duty or job Transfer

\*\*\* Total Recordable Incidents = the sum of DART and non-DART recordable injuries/illnesses. Beginning 2018 and finalized with a revised form in 2019, BSEE clarified that non-DART recordable injuries should be reported separately from DART recordable injuries. In the past some operators interpreted the "Recordables" line on BSEE-0131 as a request for "Total Recordables" and some interpreted it as a request for "Non-DART Recordables" since there was already a separate line for DART Recordable data (the form never specified whether to enter Total or non-DART Recordables).

# Construction and Decommissioning Operations: Total and DART Recordable Incident Rates

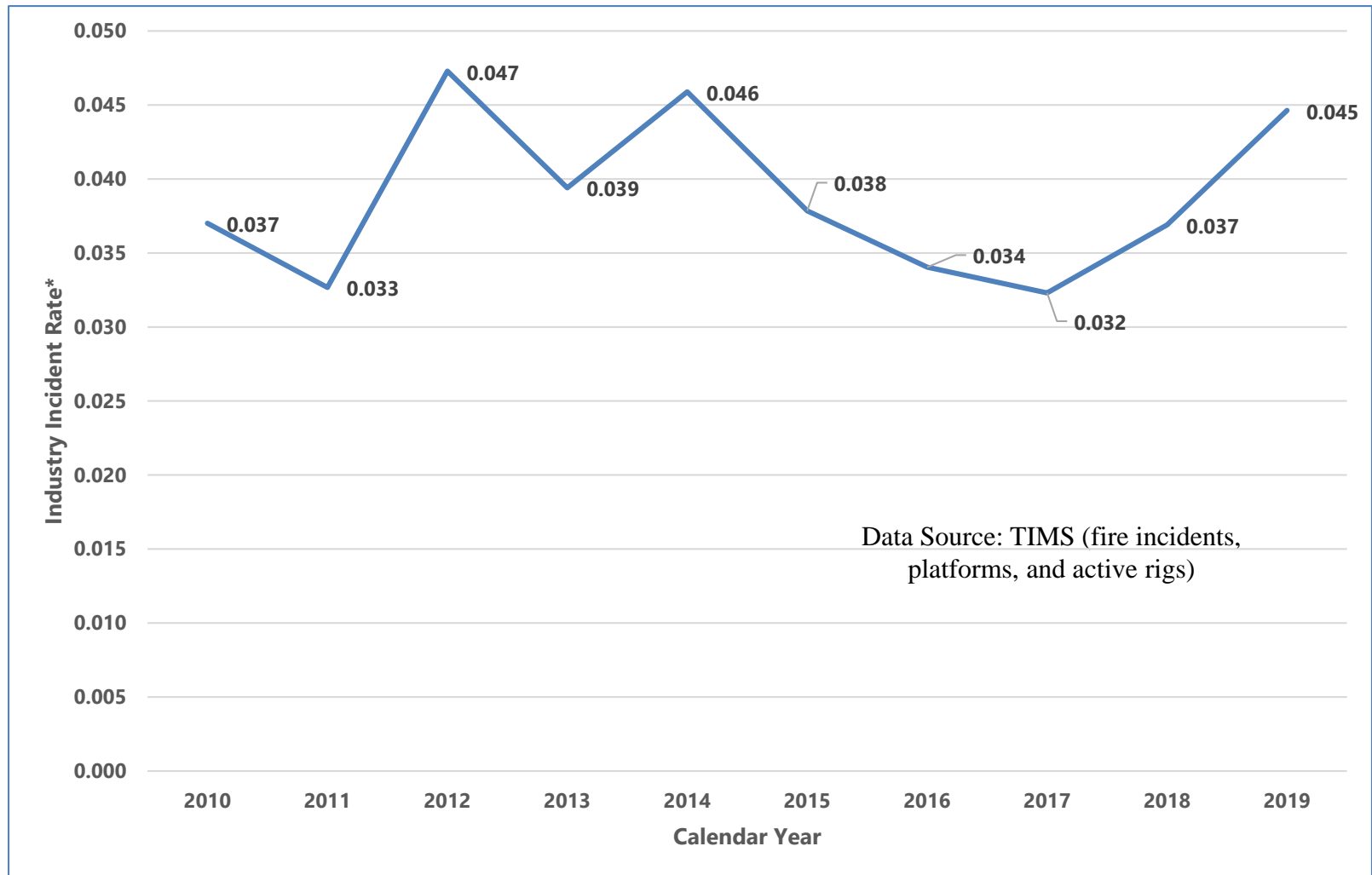


\* Number of injury/illness incidents per 200,000 man-hours worked for operators that submitted BSEE-0131 forms.

\*\* DART = injury or illness leading to Days Away, Restricted duty or job Transfer

\*\*\* Total Recordable Incidents = the sum of DART and non-DART recordable injuries/illnesses. Beginning 2018 and finalized with a revised form in 2019, BSEE clarified that non-DART recordable injuries should be reported separately from DART recordable injuries. In the past some operators interpreted the "Recordables" line on BSEE-0131 as a request for "Total Recordables" and some interpreted it as a request for "Non-DART Recordables" since there was already a separate line for DART Recordable data (the form never specified whether to enter Total or non-DART Recordables).

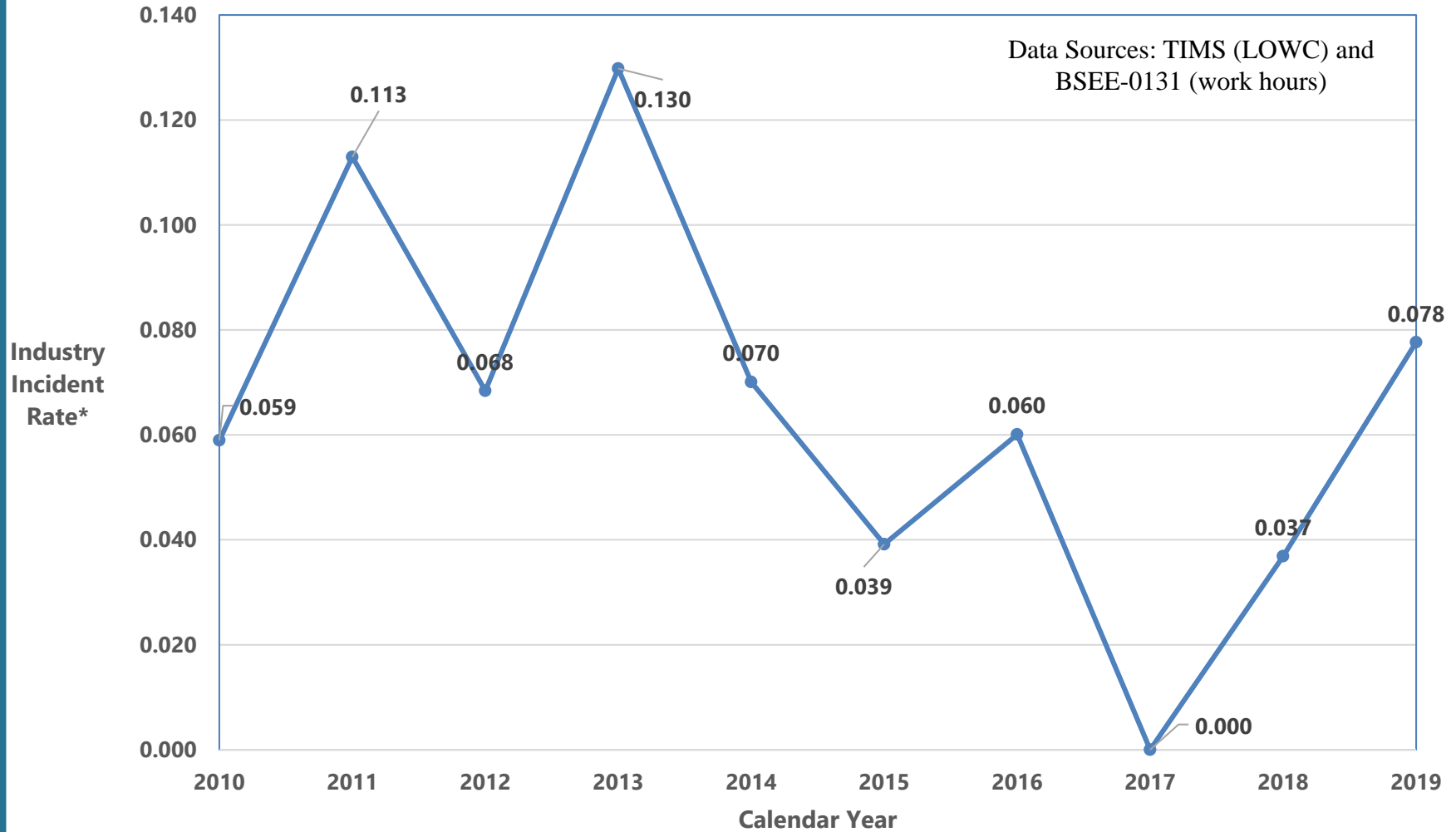
# Fire Incident Rate



\*Ratio of fires to number of platforms and active drill rigs for entire OCS.  
All fire incidents are counted independent of their impacts.



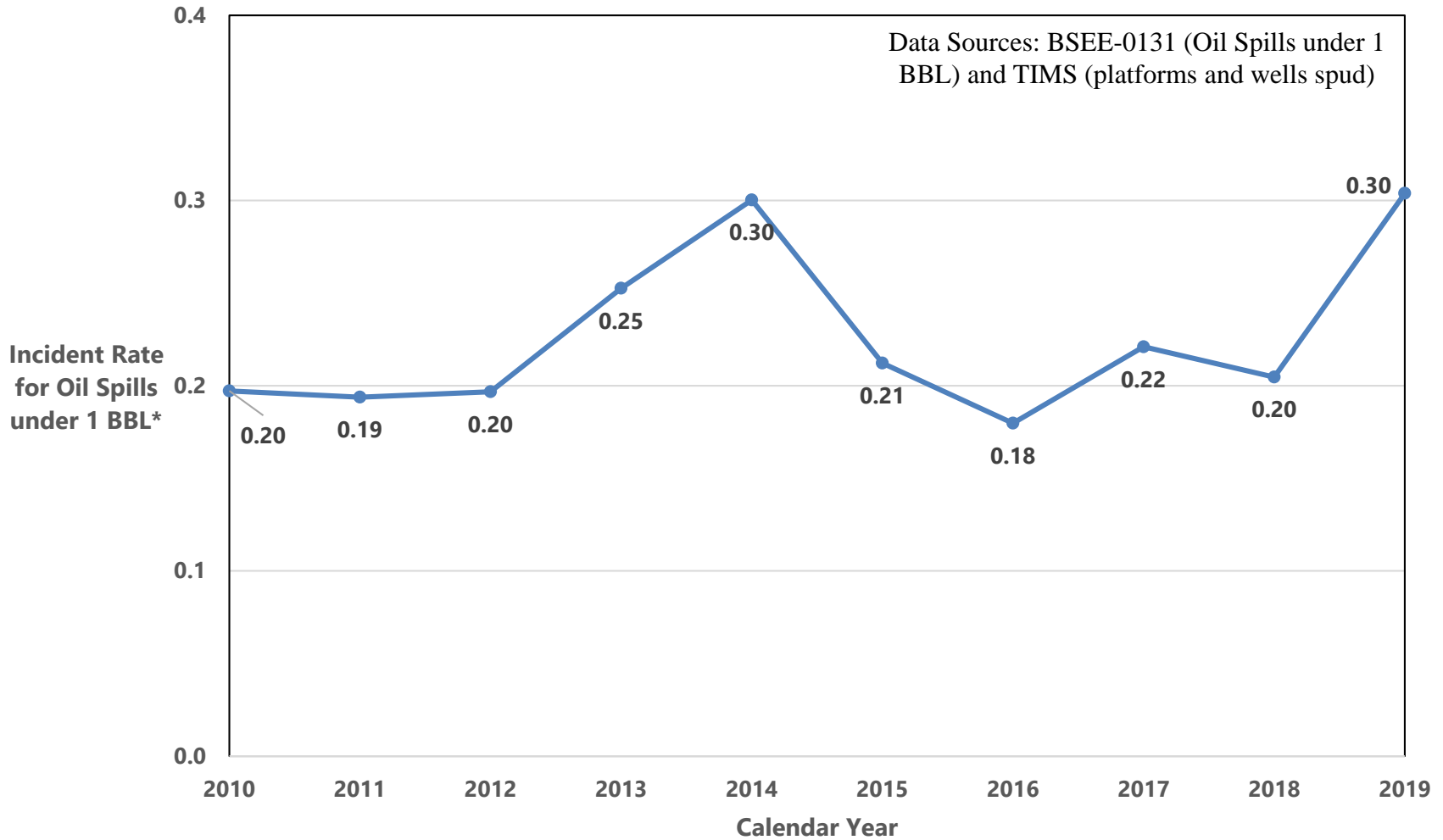
# Loss of Well Control (LOWC) Incident Rate



\*Number of LOWC incidents per million work hours recorded for Drilling and Well Operations for entire OCS. The above data reflects all reported losses of well control; this was formerly called "Blowout Rate".

# Incident Rate for Oil Spills < 1 BBL

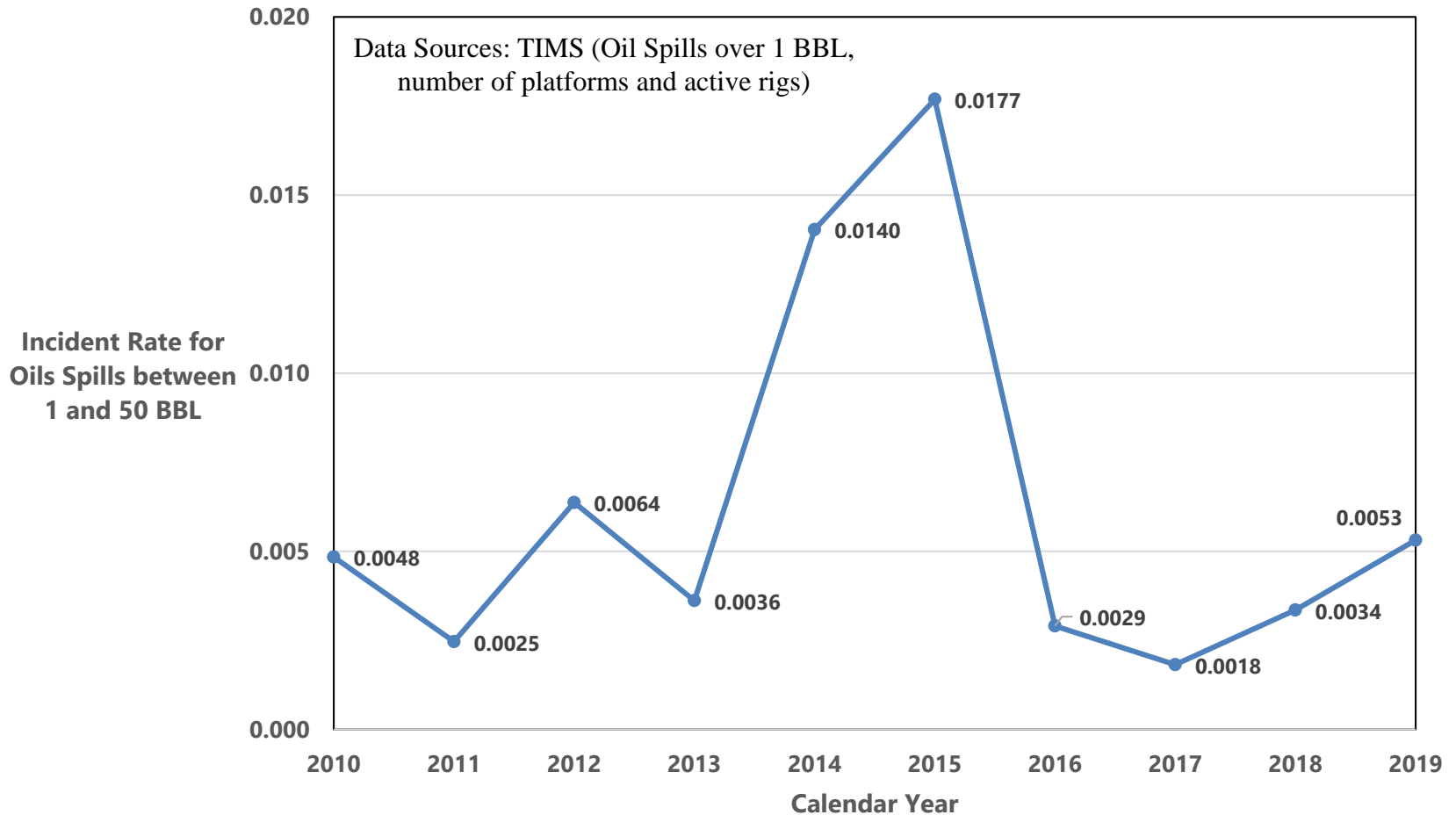
(Ratio of # Incidents to the # Facilities and wells spud)



\*Ratio of number of spills < 1 BBL to number of platforms and wells spud for operators that submitted BSEE-0131 forms. Data does not distinguish between the types of operations from which the oil was spilled.

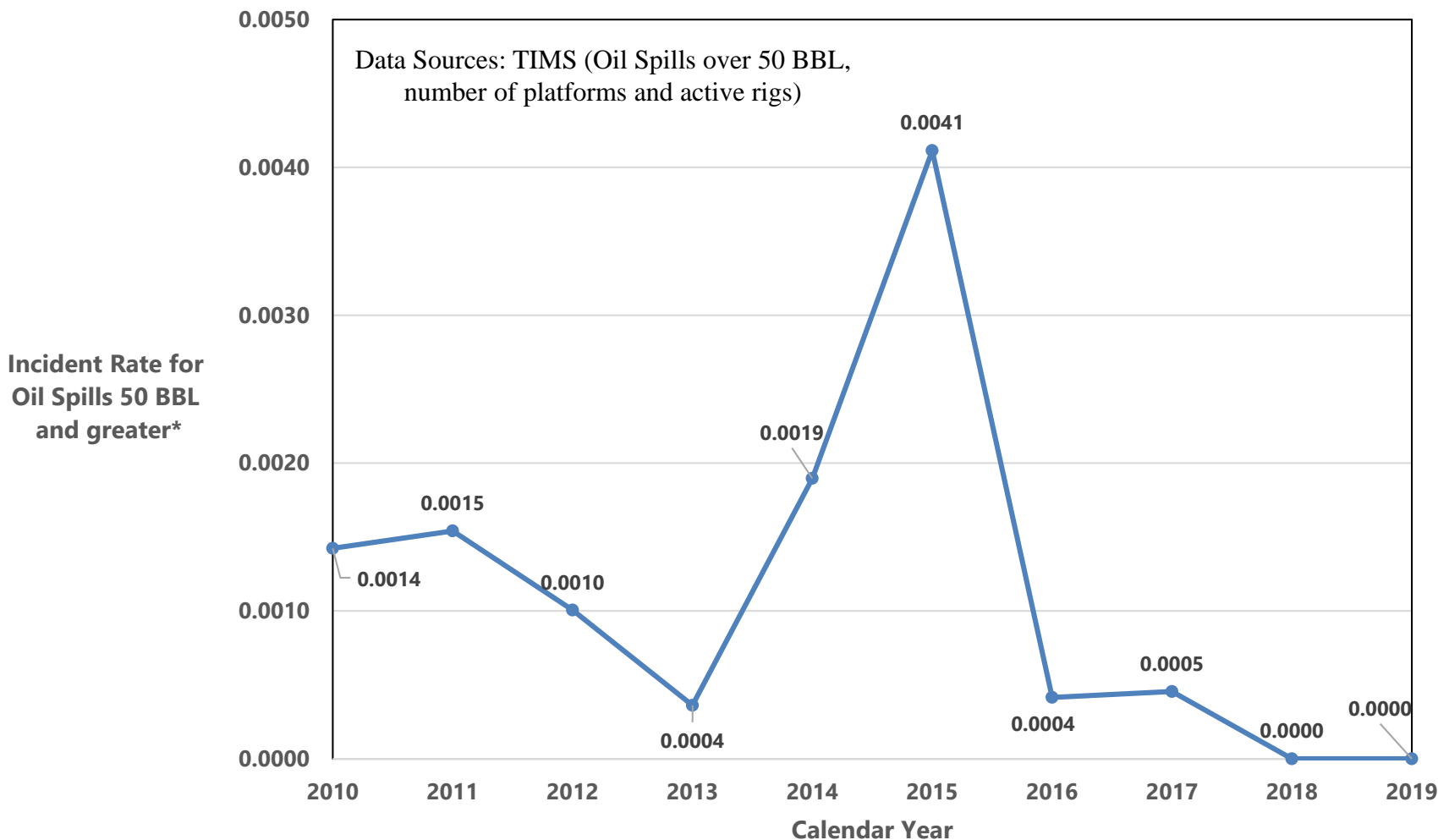
# Incident Rate for Oil Spills $\geq 1$ BBL and $< 50$ BBL

(Ratio of # Incidents to the # Facilities and wells spud)



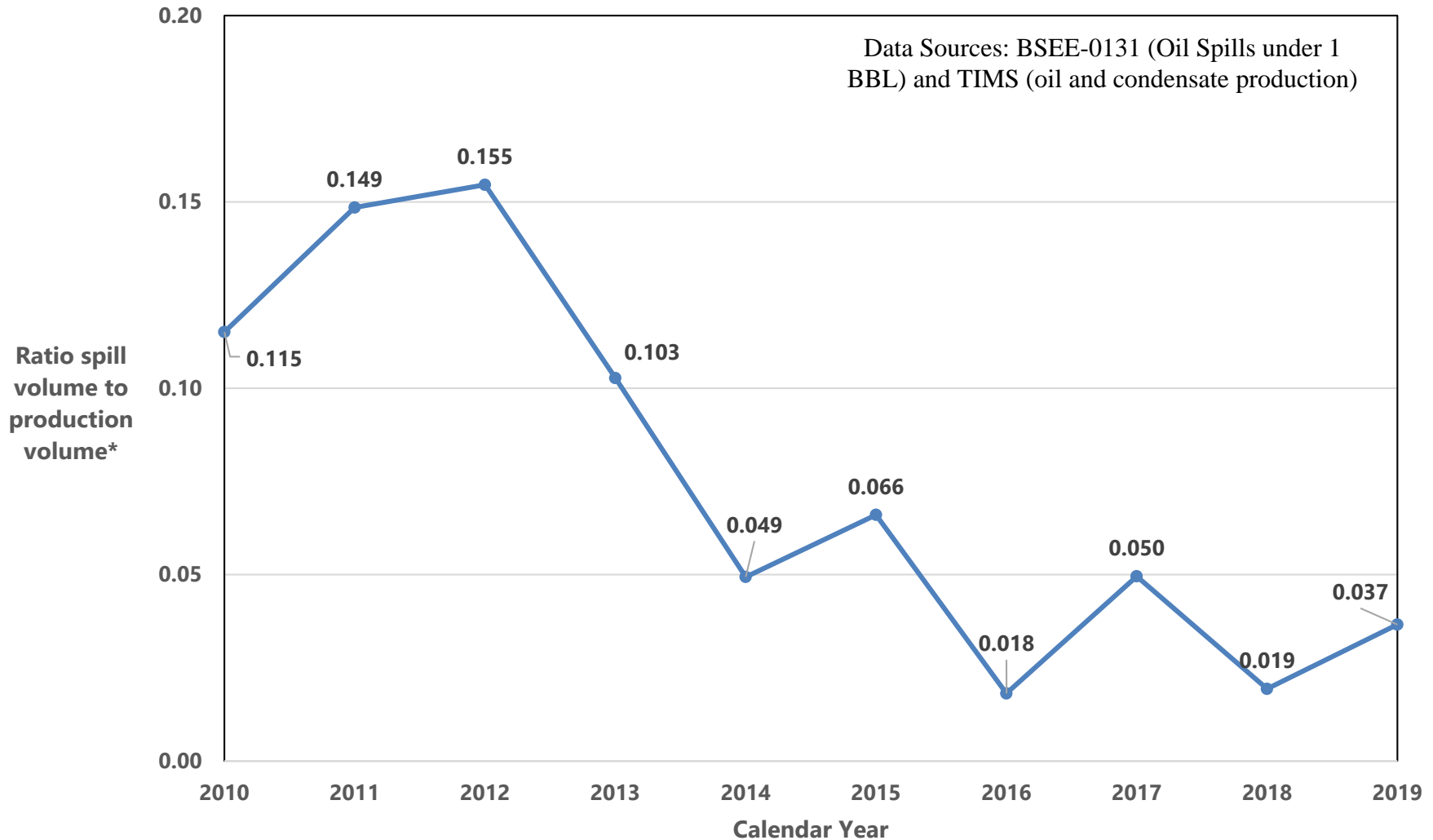
\*Ratio of number of spills between 1 and 49.99 BBL to number of platforms and active drill rigs for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

# Incident Rate for Oil Spills $\geq$ 50 BBL (Ratio of # Incidents to the # Facilities and wells spud)



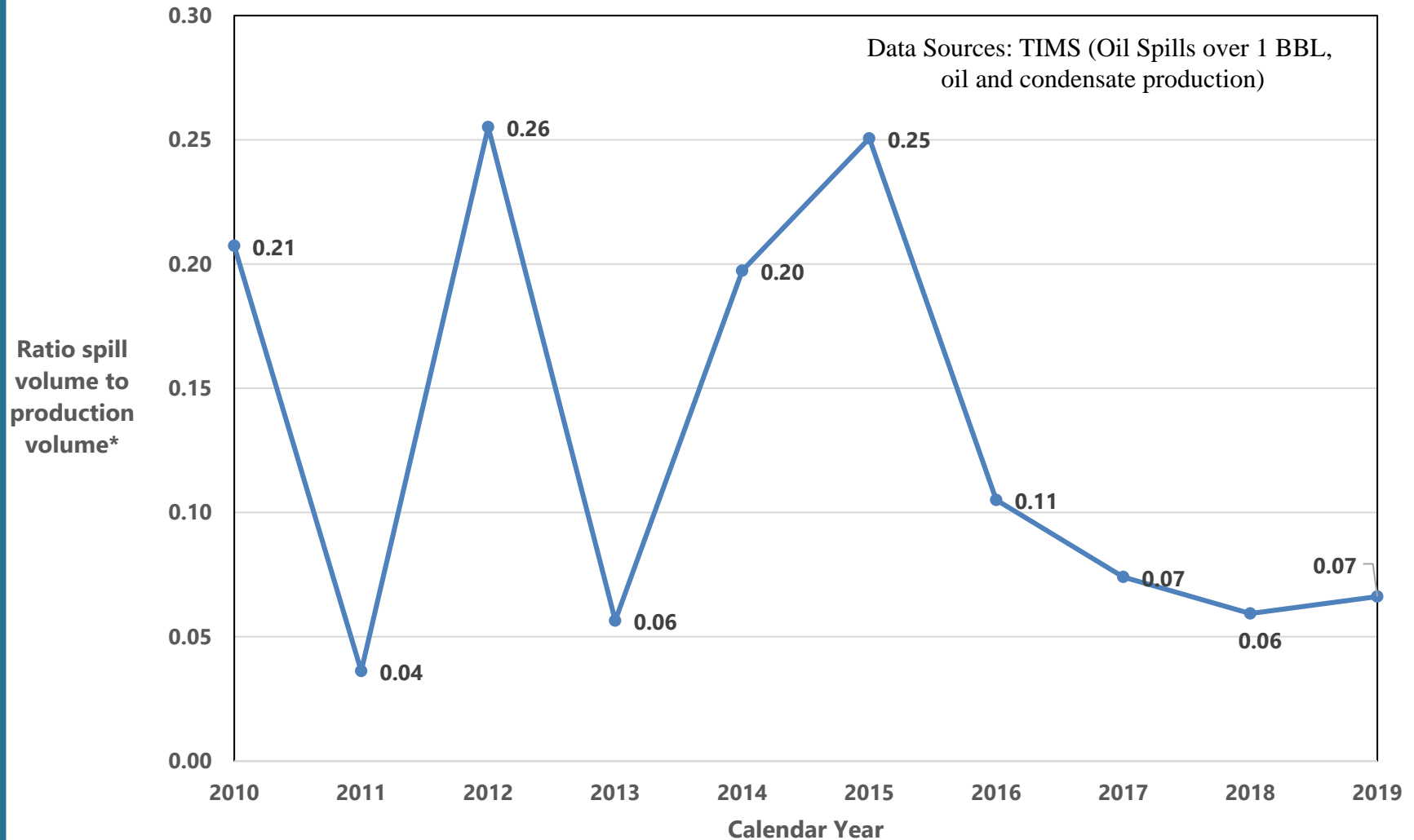
\*Ratio of number of spills of 50 BBL or more to number of platforms and active drill rigs for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

# Ratio of Oil Spill Volumes to Production Volumes for Oil Spills <1 BBL



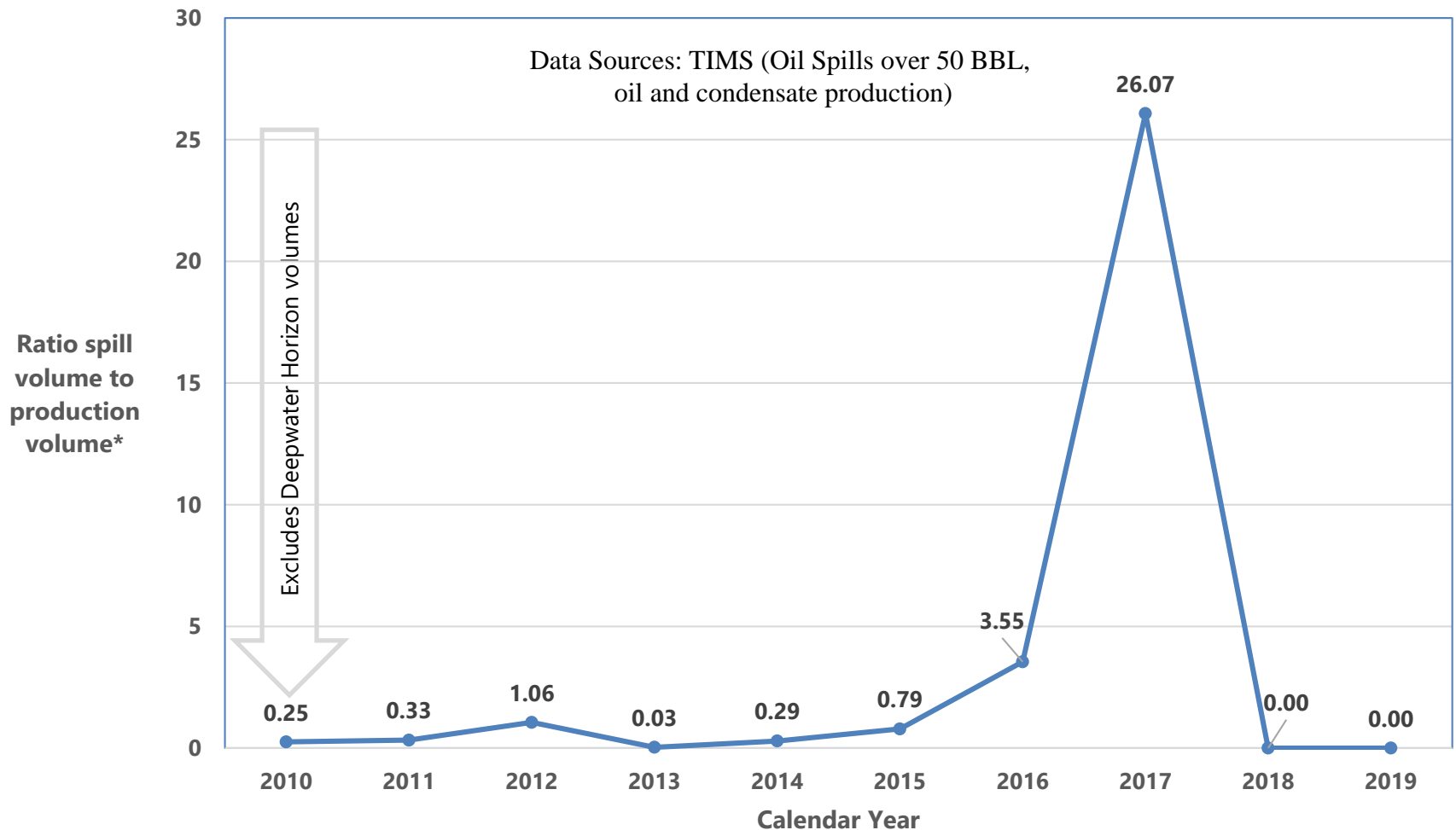
\*BBL spilled per 1,000,000 BBL of oil and condensate produced for operators that submitted BSEE-0131 forms. Data does not distinguish between the types of operations from which the oil was spilled.

# Ratio of Oil Spill Volumes to Production Volumes for Oil Spills $\geq 1$ BBL and $< 50$ BBL



\*BBL spilled per 1,000,000 BBL of oil and condensate produced for entire OCS.  
Data does not distinguish between the types of operations from which the oil was spilled.

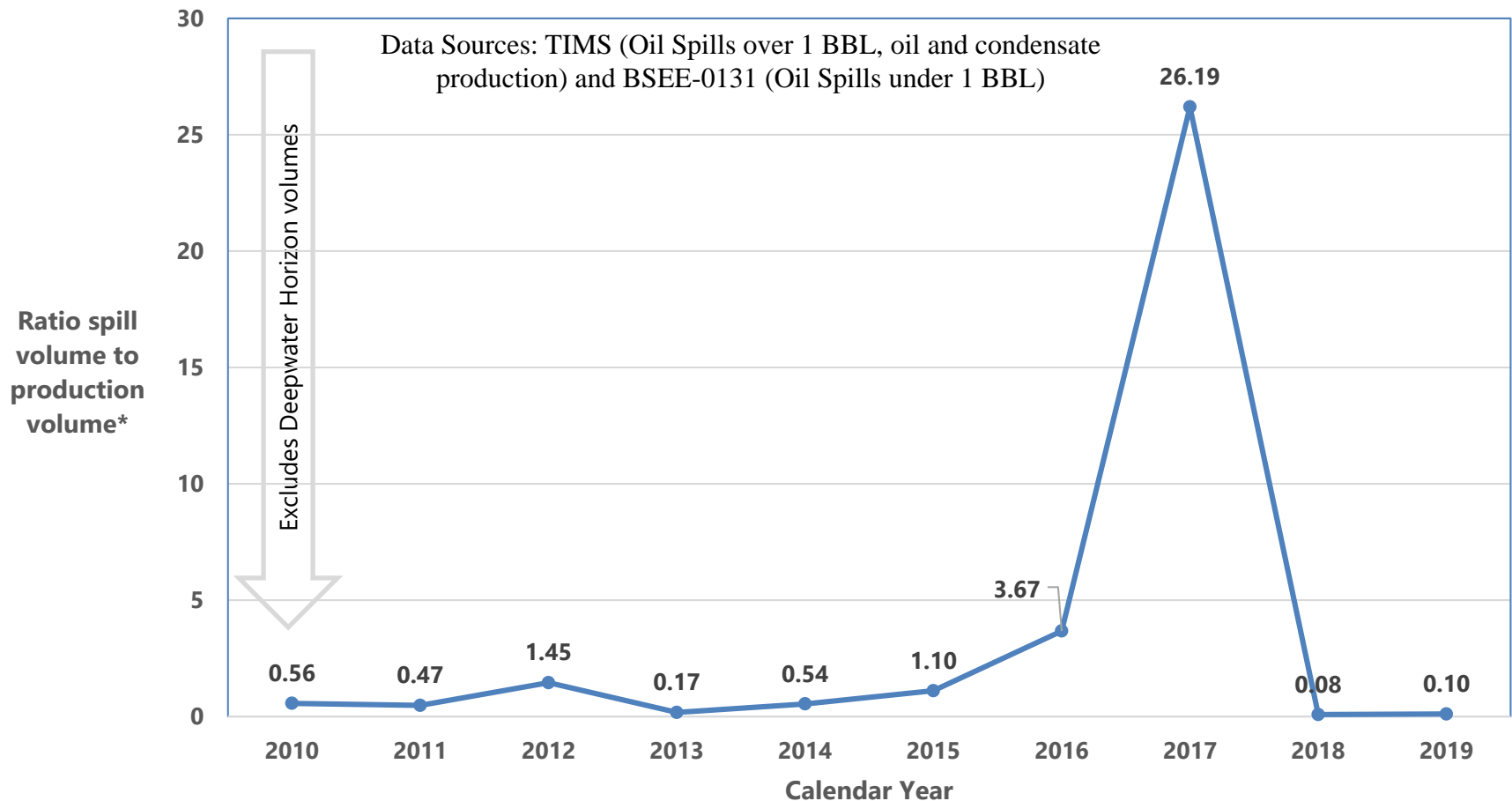
# Ratio of Oil Spill Volumes to Production Volumes for Oil Spills $\geq 50$ BBL



\*BBL spilled per 1,000,000 BBL of oil and condensate produced for entire OCS. Data does not distinguish between the types of operations from which the oil was spilled.

\*\*The CY 2010 oil spill rate excludes the volume released from the Deepwater Horizon incident, estimated by the U.S Coast Guard in an Incident-Specific Preparedness Review at 4,928,100 BBL. If it were included, this would increase the high volume oil spill rate for CY 2010 to 8,358 BBL spilled per 1,000,000 BBL oil produced.

# Ratio of Oil Spill Volumes to Oil Production Volumes for all Oil Spills independent of their volume

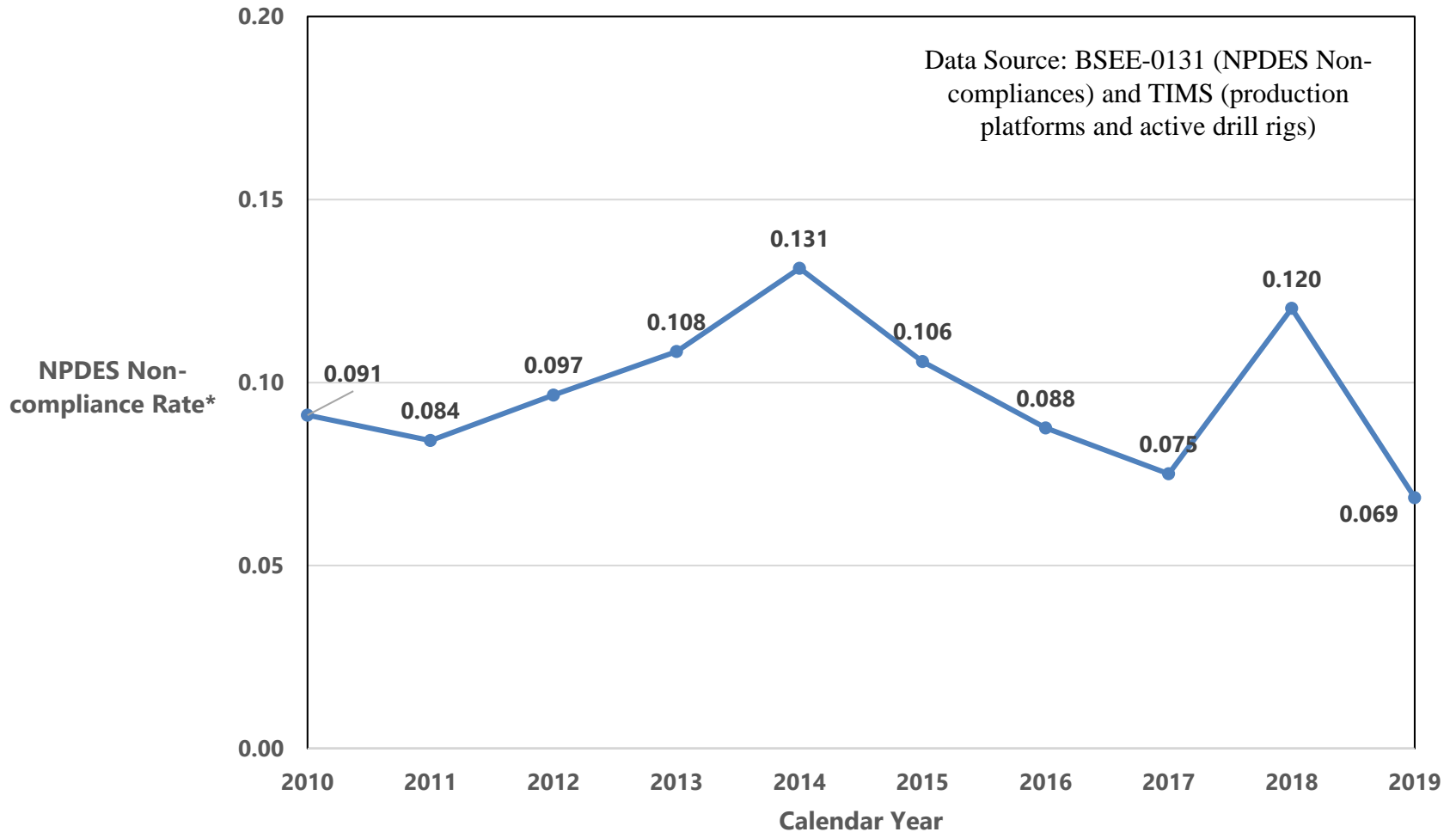


\*BBL spilled per 1,000,000 BBL of oil and condensate produced. Less than one barrel category data derives from operators who submitted BSEE-0131 forms, whereas the 1 to 50 and over 50 barrel categories derive from other incident reports (entire OCS). Data does not distinguish between the types of operations from which the oil was spilled.

\*\*The CY 2010 oil spill rate excludes the volume released from the Deepwater Horizon incident, estimated by the U.S Coast Guard in an Incident-Specific Preparedness Review at 4,928,100 BBL. If it were included, this would increase the total oil spill rate for CY 2010 to 8,359 BBL spilled per 1,000,000 BBL oil produced.

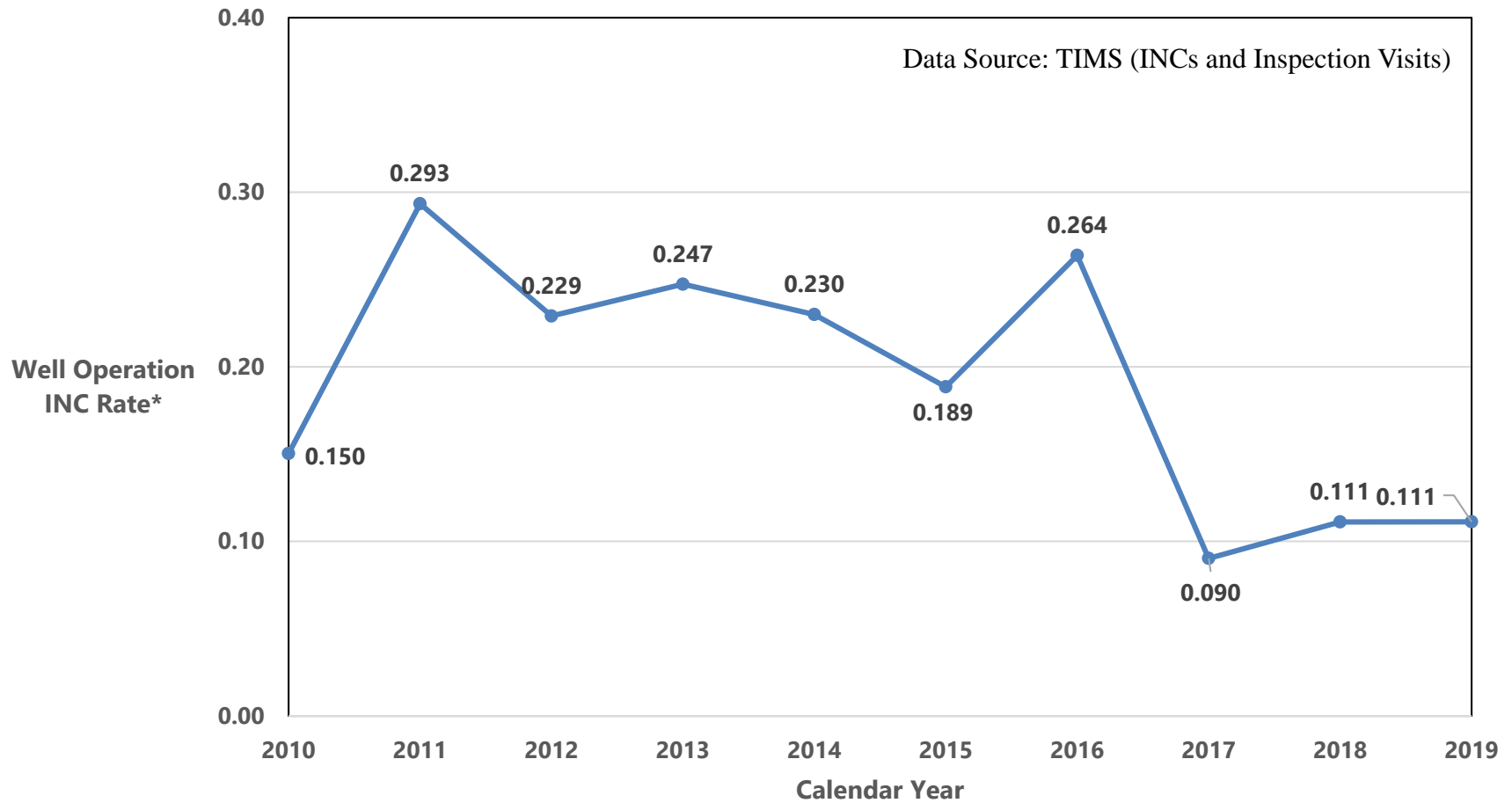


# National Pollutant Discharge Elimination System (NPDES) Non-compliance Incident Rate



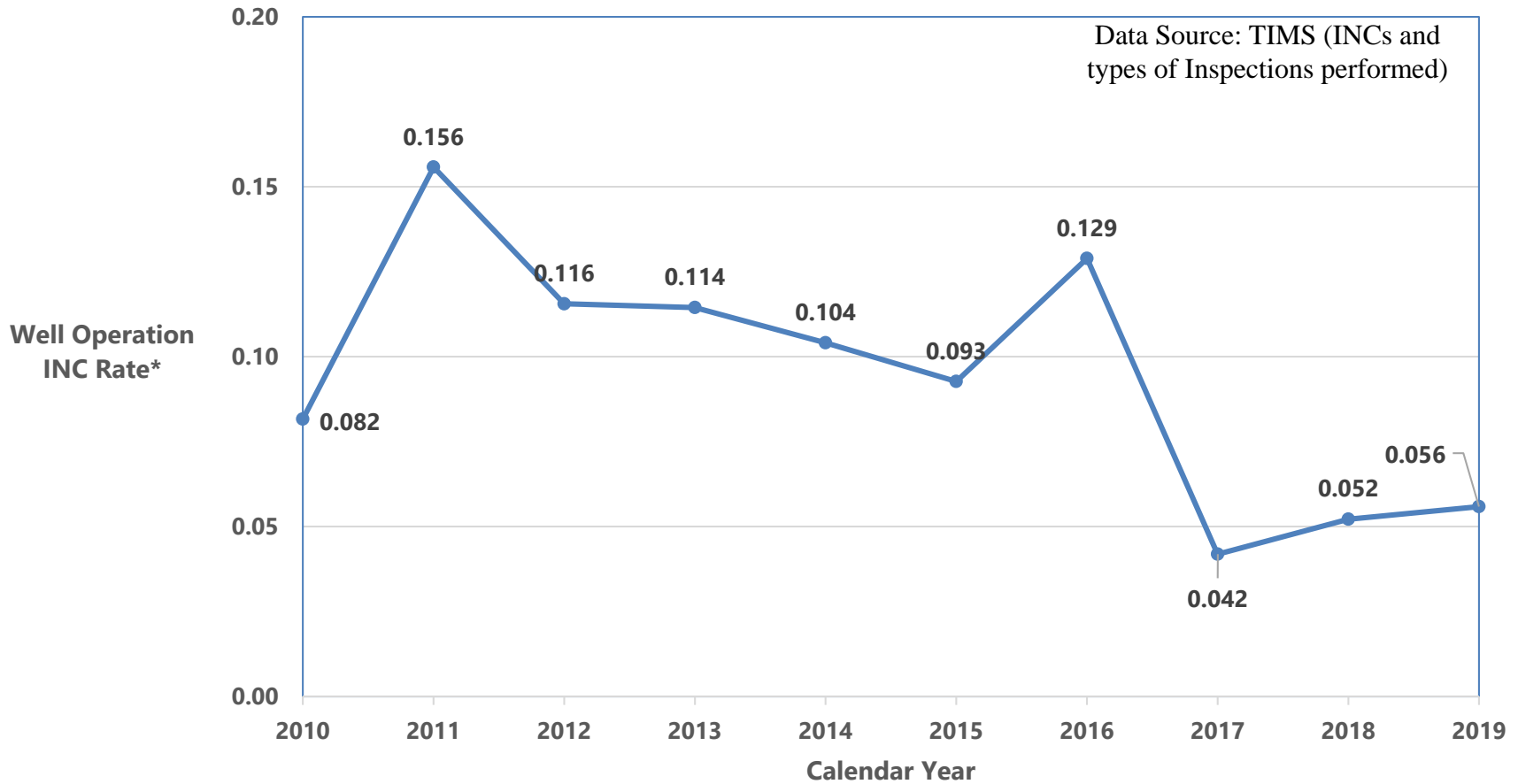
\*Ratio of non-compliances to number of platforms and active drill rigs for entire OCS. NPDES = National Pollutant Discharge Elimination System. Starting CY 2019, EPA NPDES Non-compliances were obtained from the EPA ECHO database and entered by BSEE into the BSEE 0131 form.

# Well Operations Incident of Noncompliance (INC) Rate (based on inspection visits)



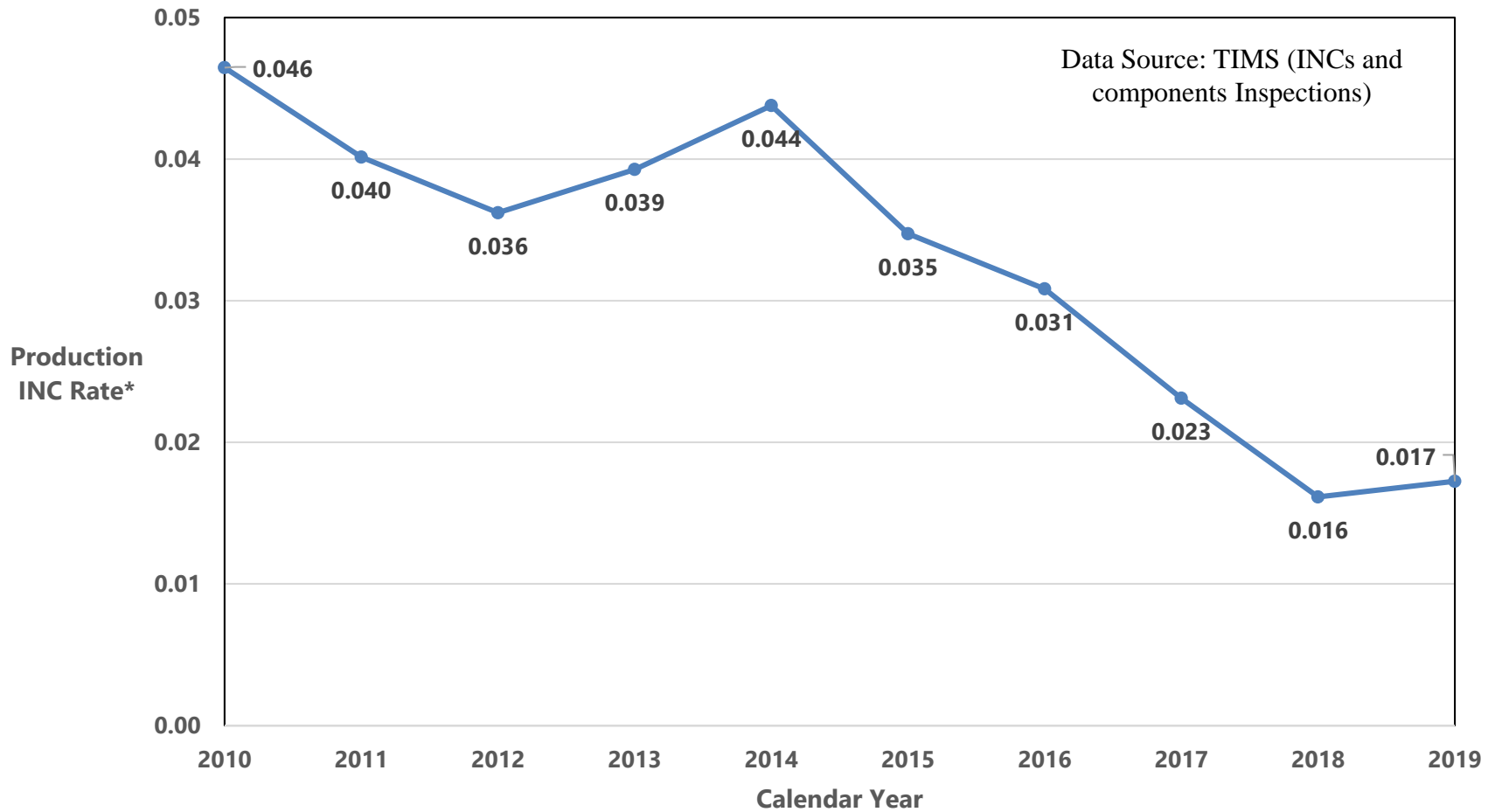
\*Ratio of well operation INCs written to the number of drilling rig and non-rig inspection visits conducted for entire OCS.

# Well Operations Incident of Noncompliance (INC) Rate (based on inspections performed)



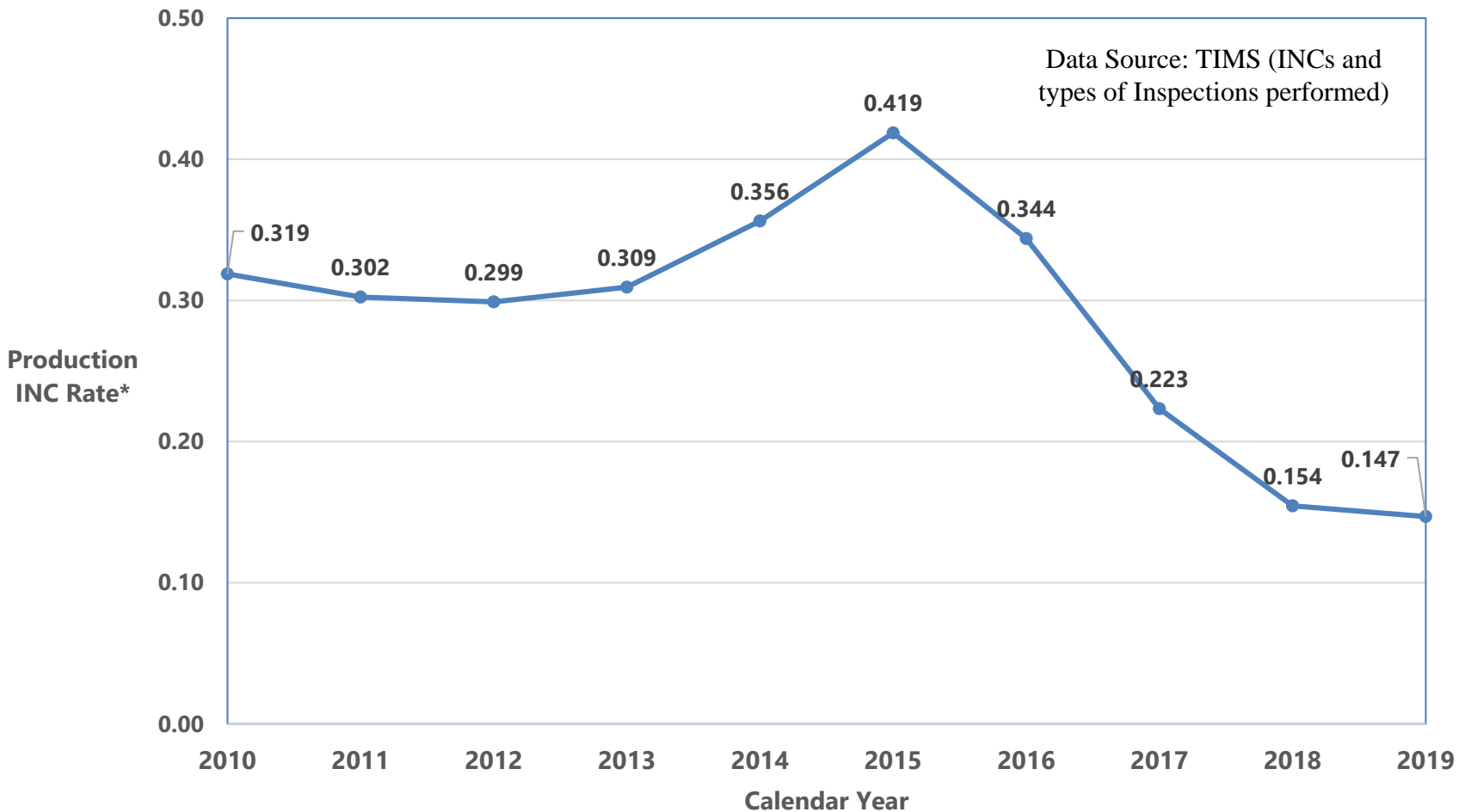
\*Ratio of well operation INCs written to the number of drilling rig and non-rig inspections performed for entire OCS.

# Production Incident of Noncompliance (INC) Rate (based on components inspected)



\*Ratio of production INCs written to number of components inspected for entire OCS. The method used to count components changed starting 2018; complex equipment began to be counted not as one component but as the sum of several components.

# Production Incident of Noncompliance (INC) Rate (based on inspections performed)



\*Ratio of production INCs written to number of production inspections performed for entire OCS.

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Bureau of Safety and  
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“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”