

# **Water Quality Monitoring Manitowoc County Lakes**

Gene Weyer, MCLA

# **Water Quality Monitoring**

- **Sampled by Volunteers**
- **Processed by State Lab**
- **Trends Analyzed by DNR and Locally**

# Volunteers

## 16 Lakes Monitored

- Brian Robley
- Scott Otterson
- Jaret Palzer
- Brian Ingersoll
- Tom Payne
- Frank and Jean Scharenbroch
- Dave Kolpin
- Gary Kastner
- Brian Kuckenbecker
- Matt Piper
- Glen and Marlene Rezek
- Gene Weyer

# Process and Funding

- **DNR funds test analysis ~\$200 per lake**
- **DNR supplies test equipment ~\$800 per set**
- **Only Public Manitowoc Lakes Not Funded**
  - **Horseshoe**
  - **Weyers**
  - **Tuma**

**Volunteers allow process to exist**

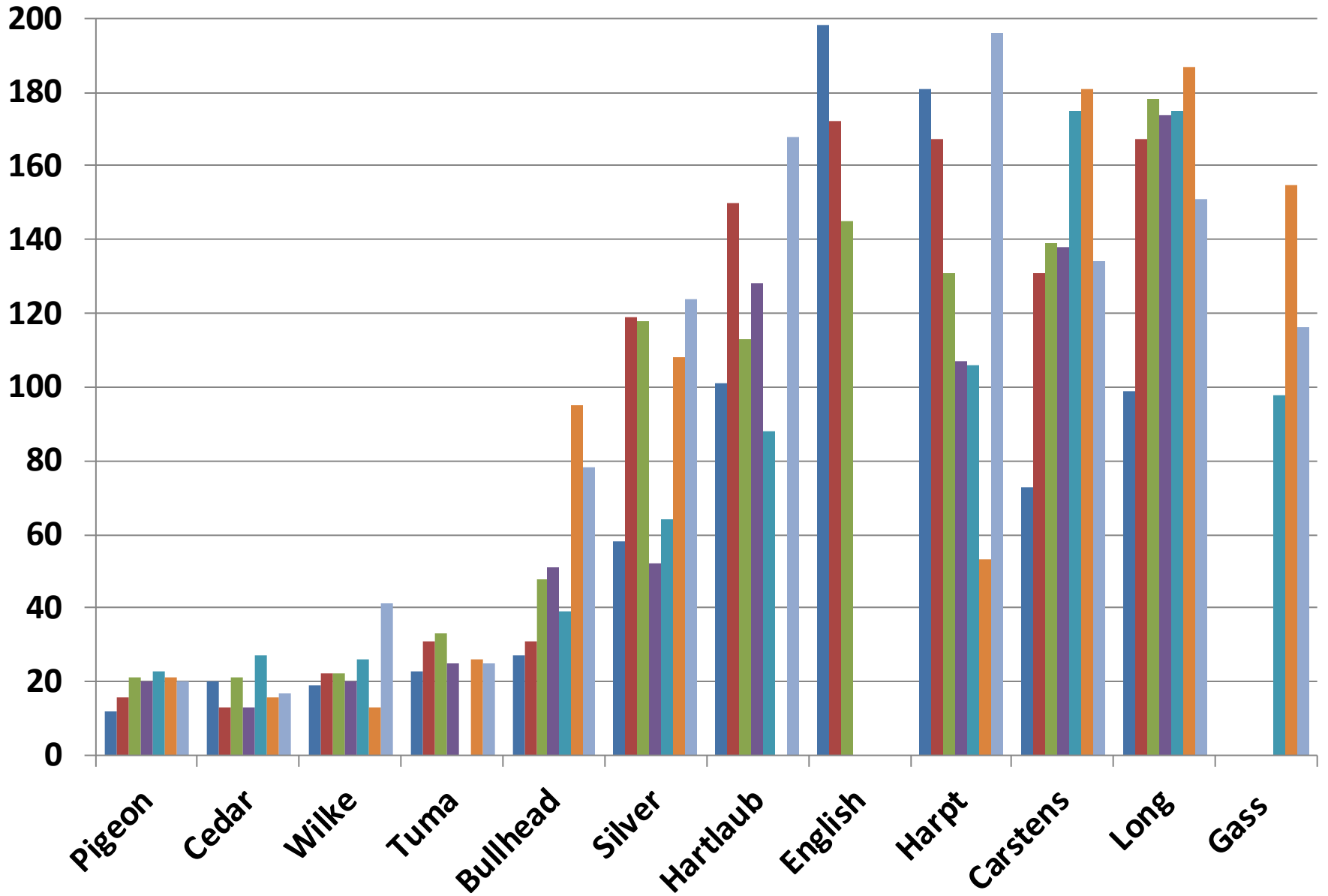
# Two Periods of Data Collection

- **Ice Out Test**
  - Phosphorus same top of lake to bottom
  - “Best “ Indicator of Amount of Phosphorus
- **Summer Time Tests**
  - 3 Samples Late June – Early Sept
  - DNR and EPA Focus
  - Phosphorus is the Target
    - Chlorophyll data seldom used

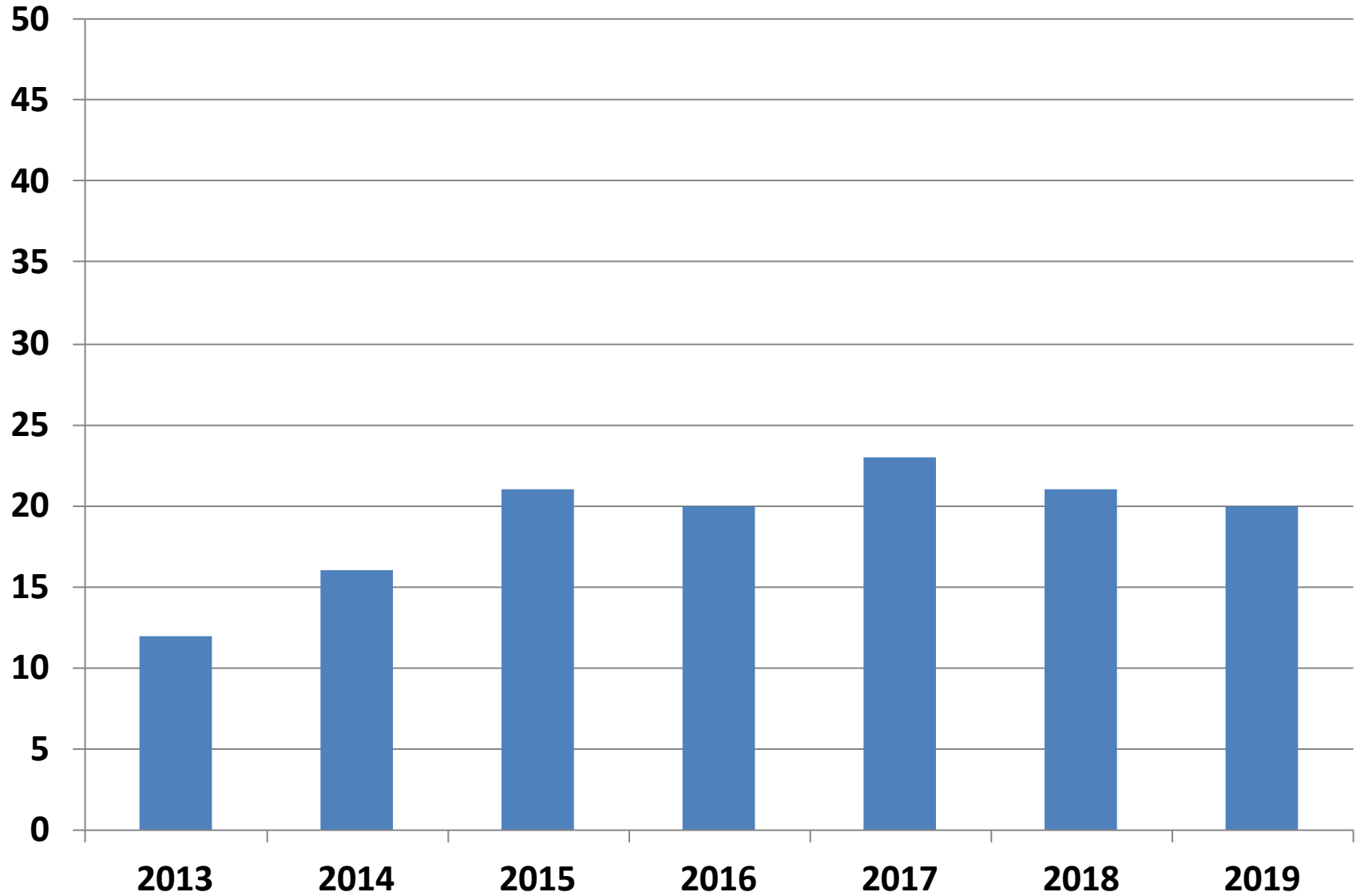
# Ice Out Testing

- **Sample taken as soon as ice is off lake**
  - **Water turns over – blends top to bottom**
- **Only Sampling Phosphorus**
- **Numbers are Highest of the year**

2013 2014 2015 2016 2017 2018 2019

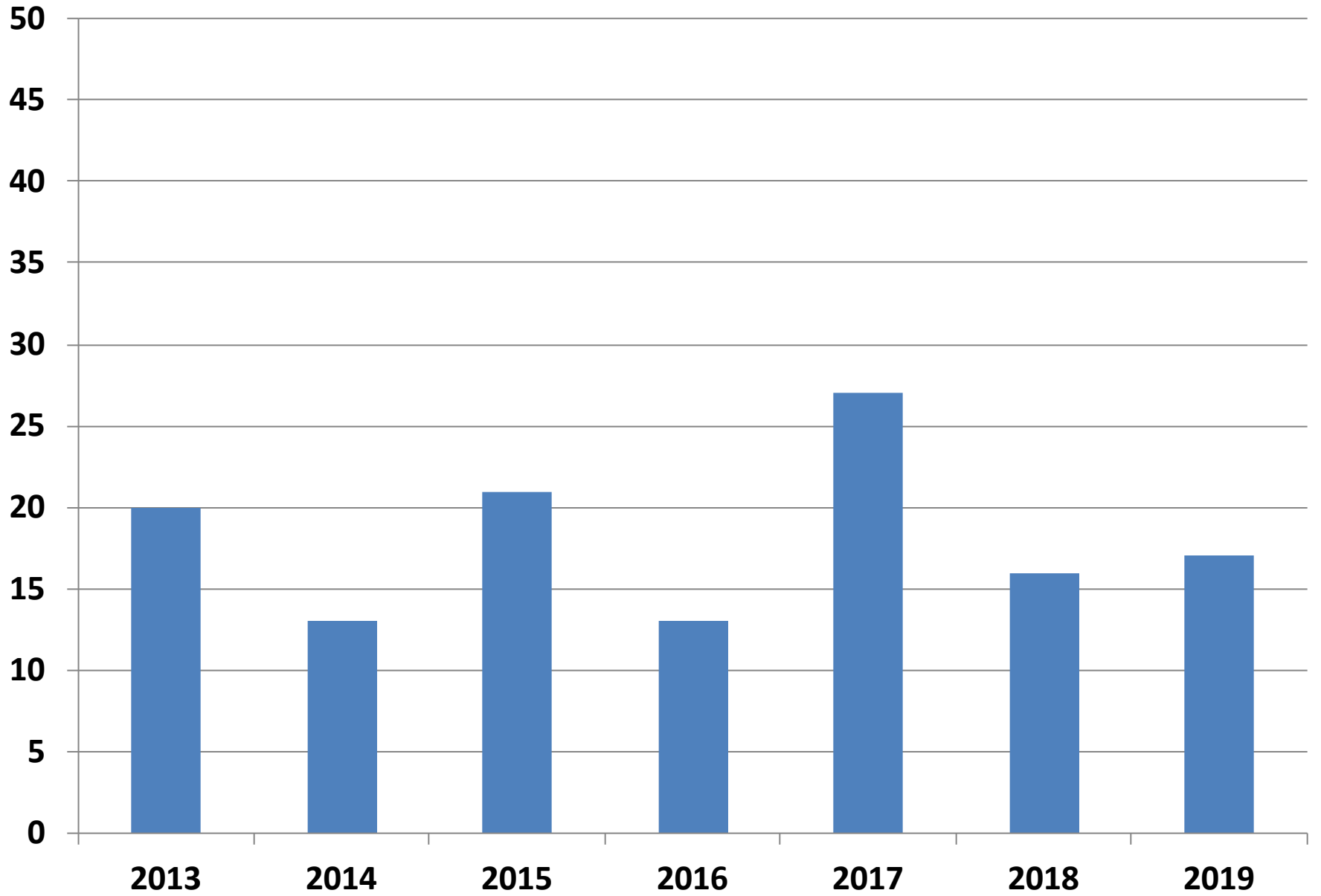


# Pigeon

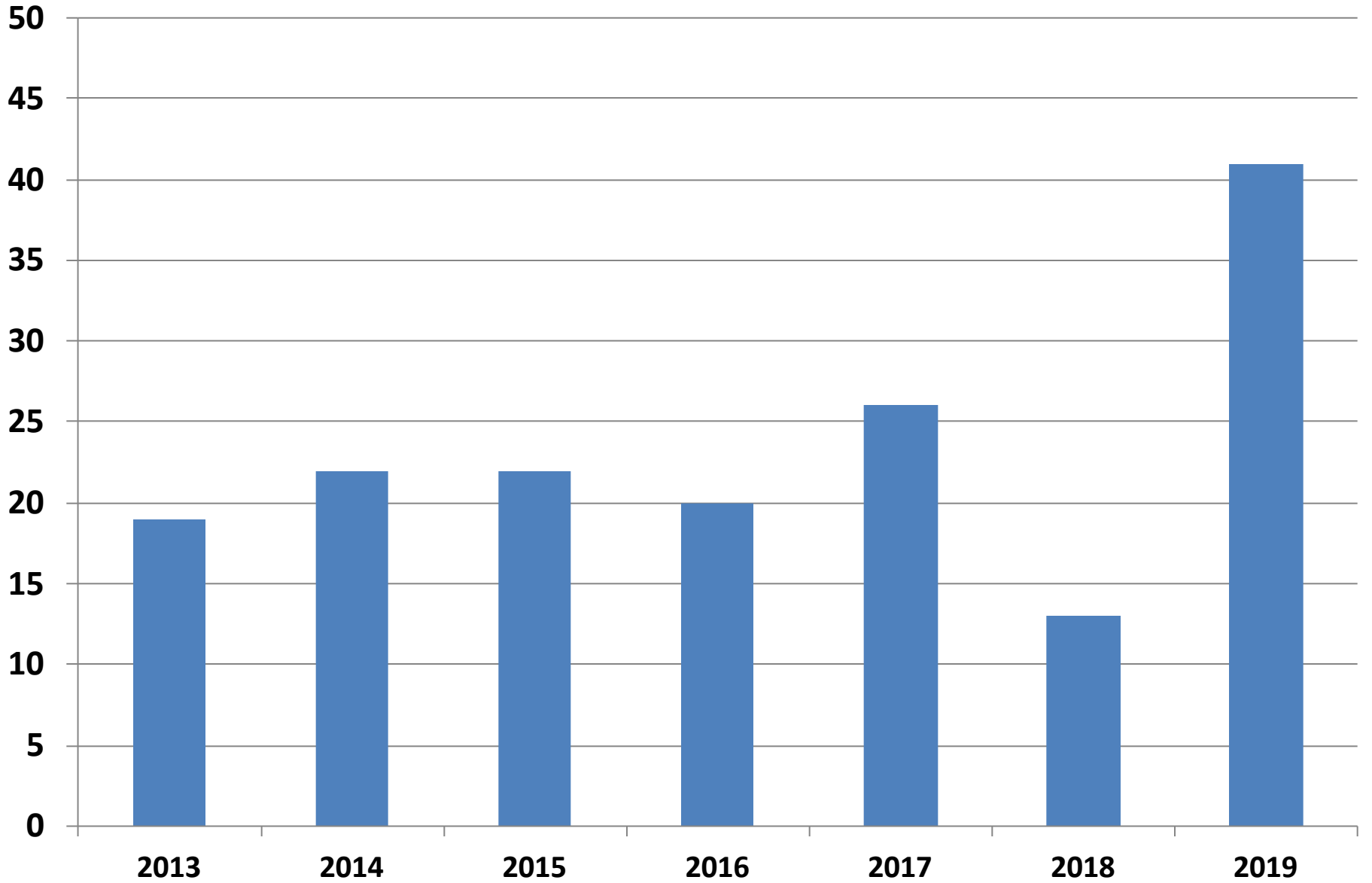




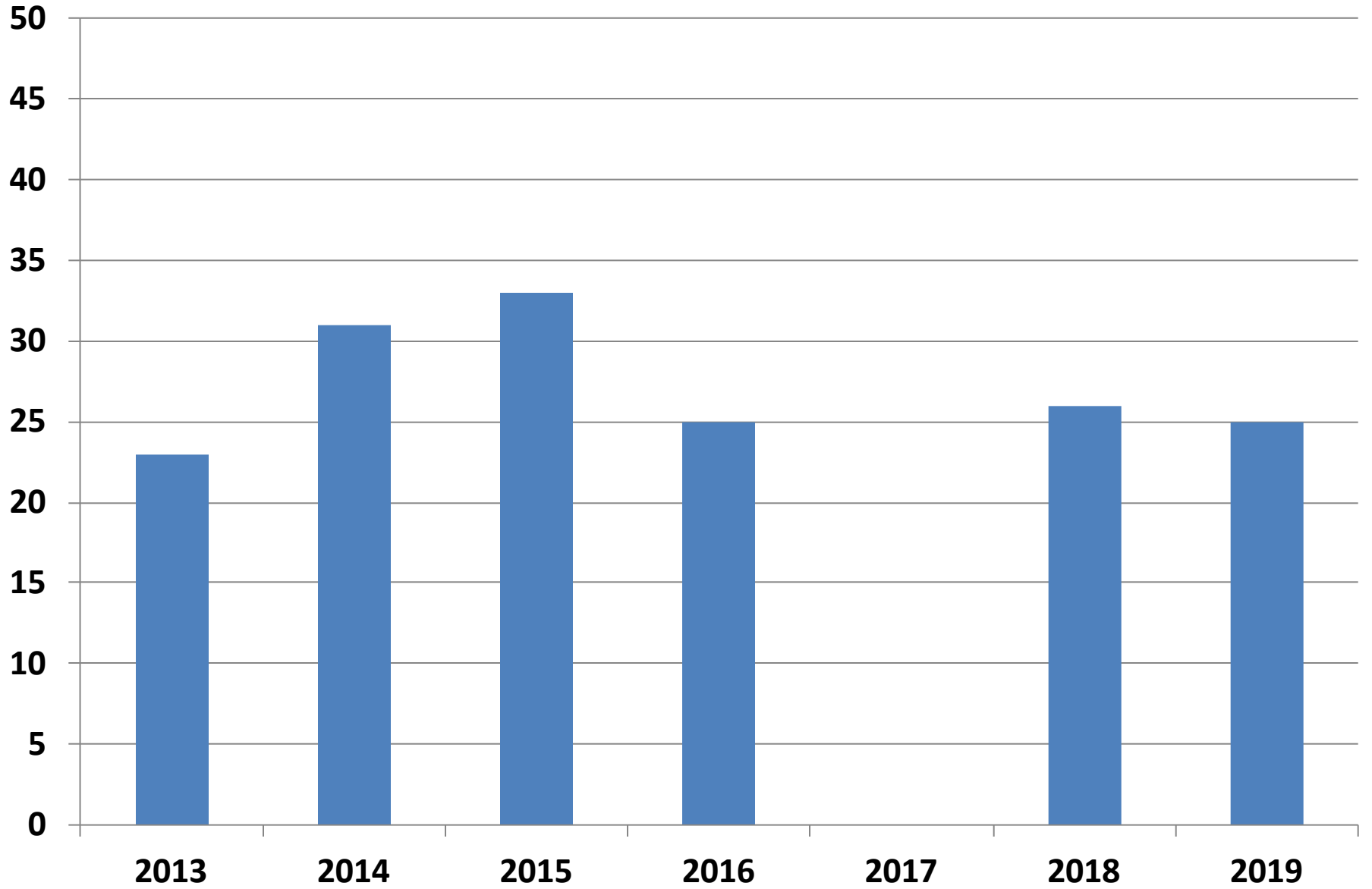
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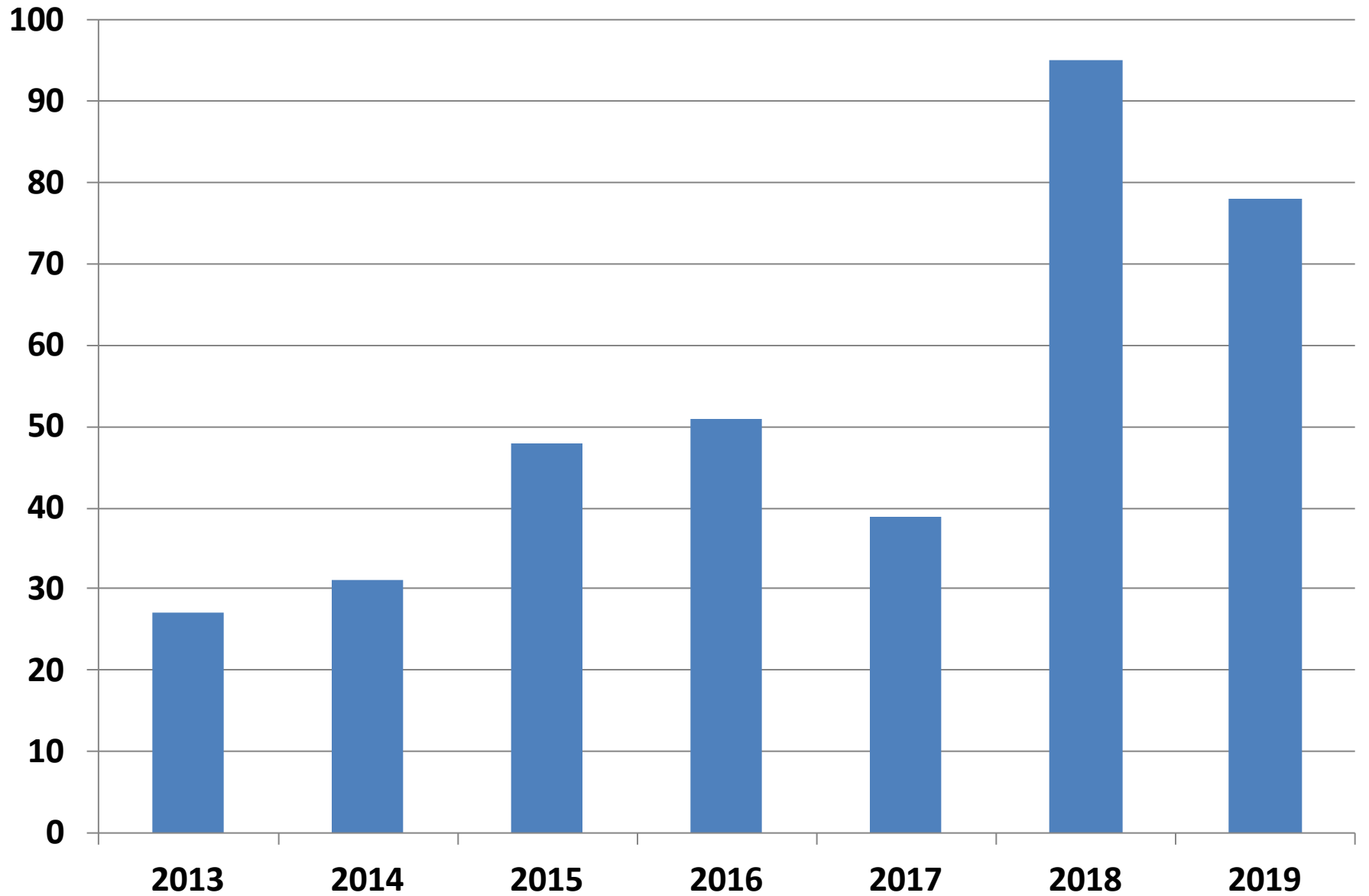
# Wilke



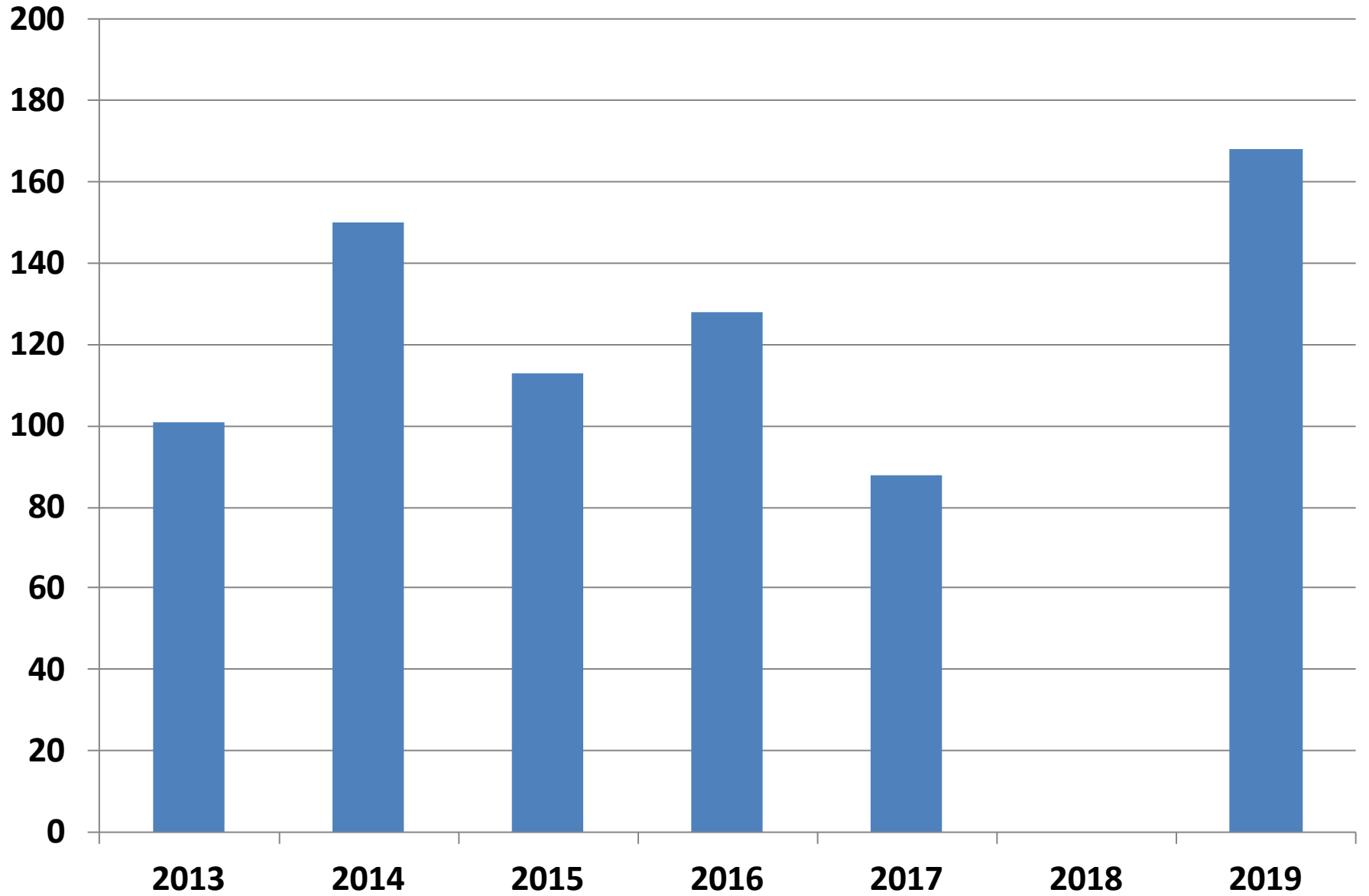
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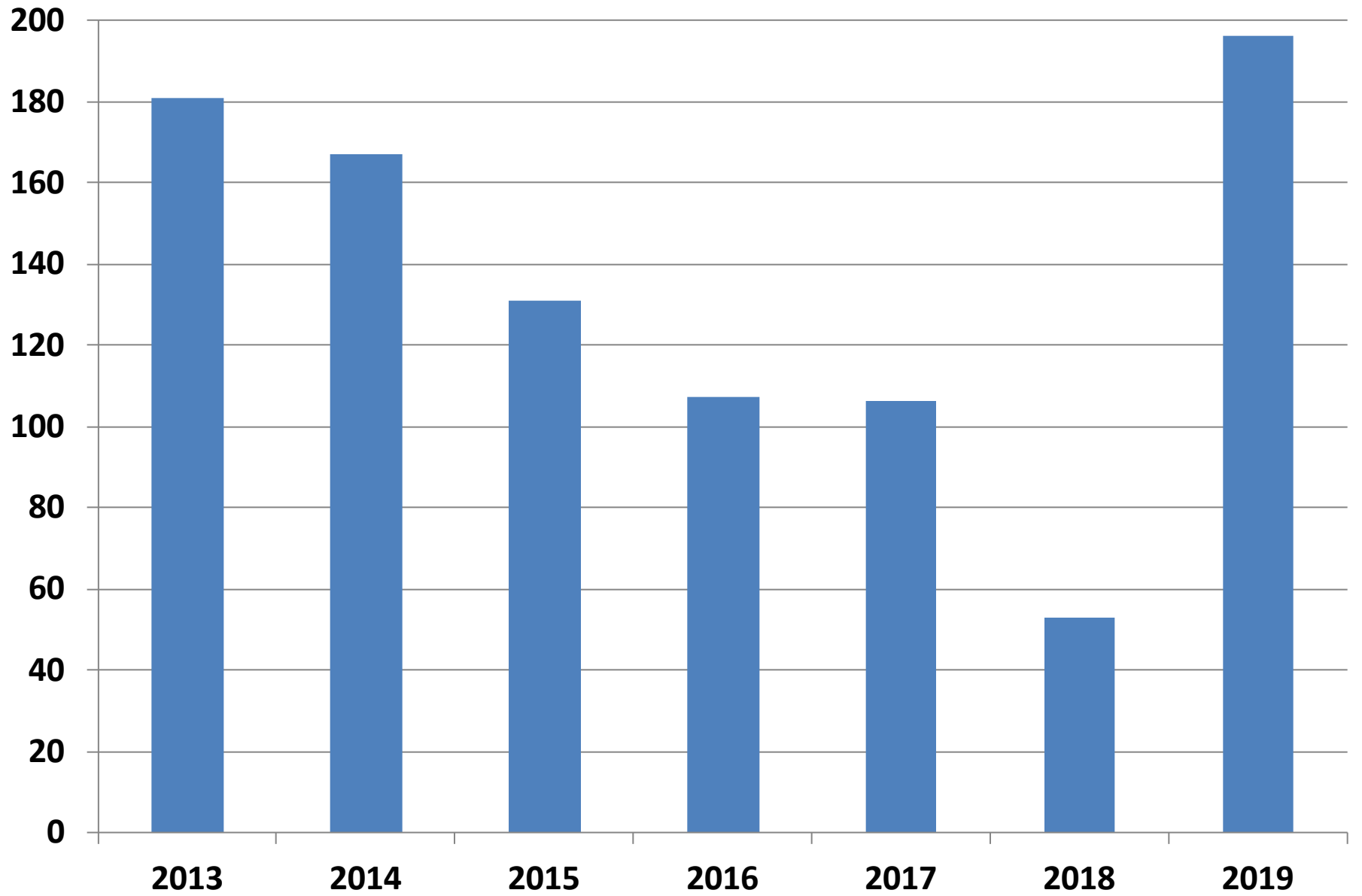
# Bullhead



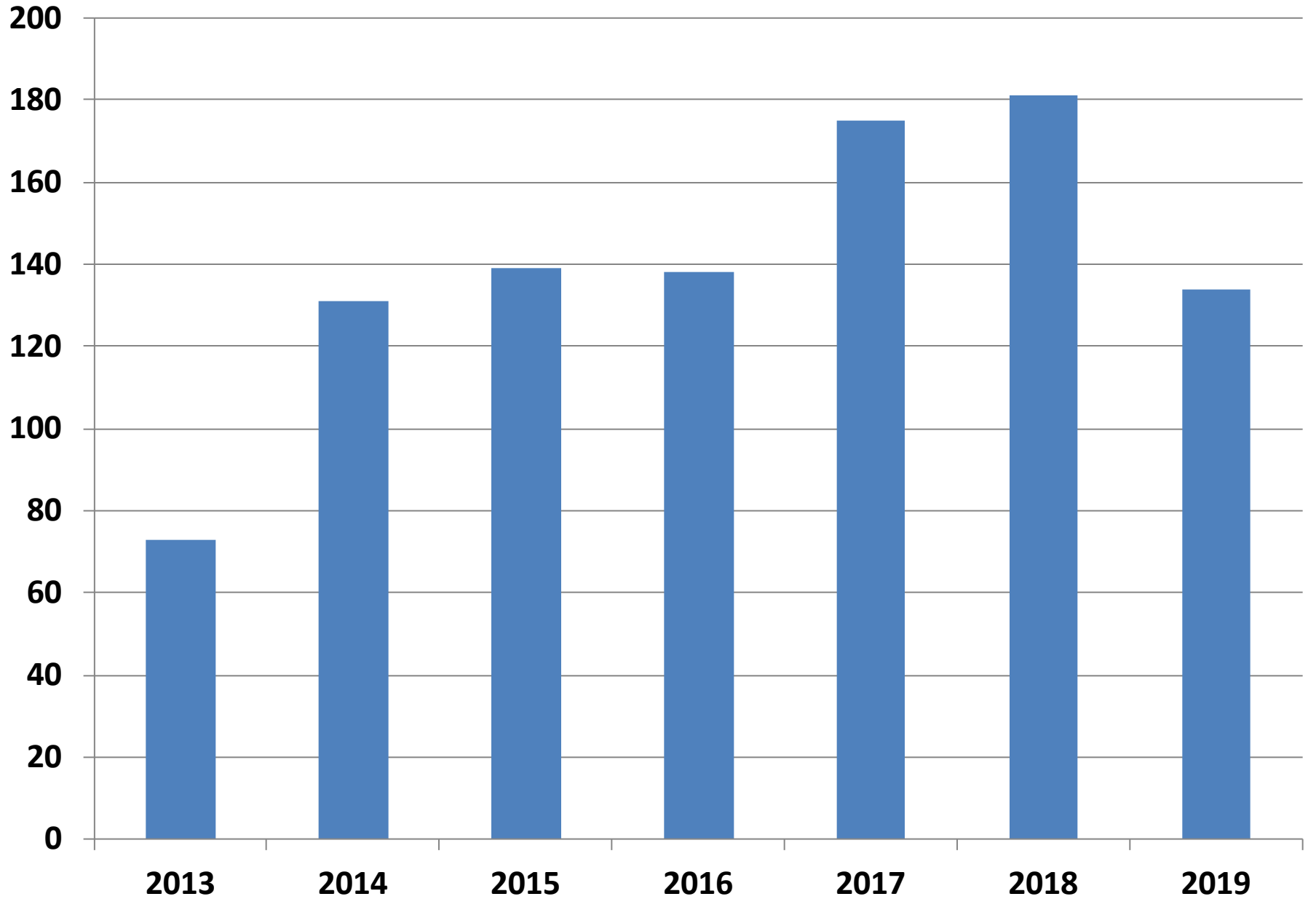
# Hartlaub



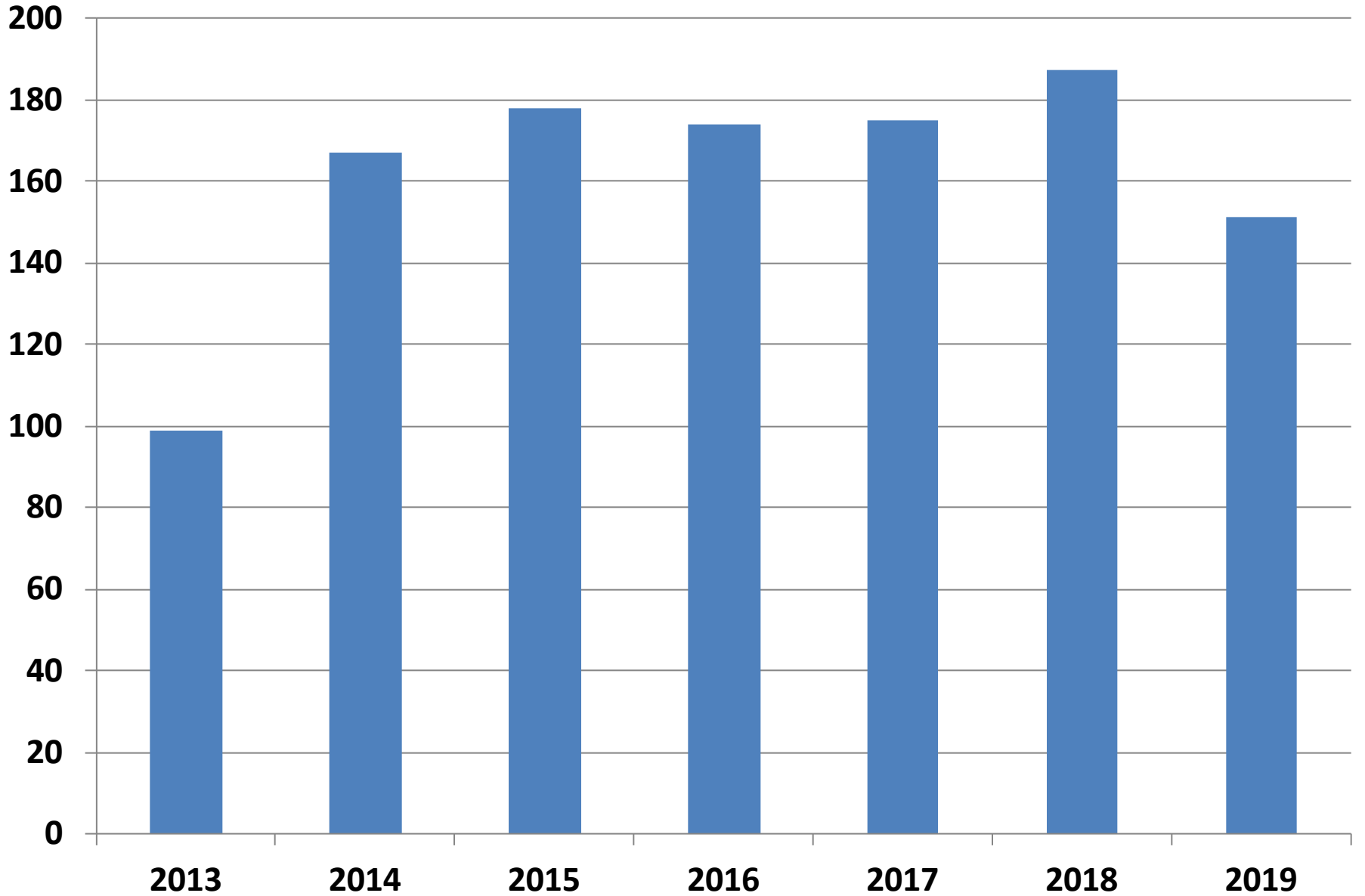
# Harpt



# Carstens

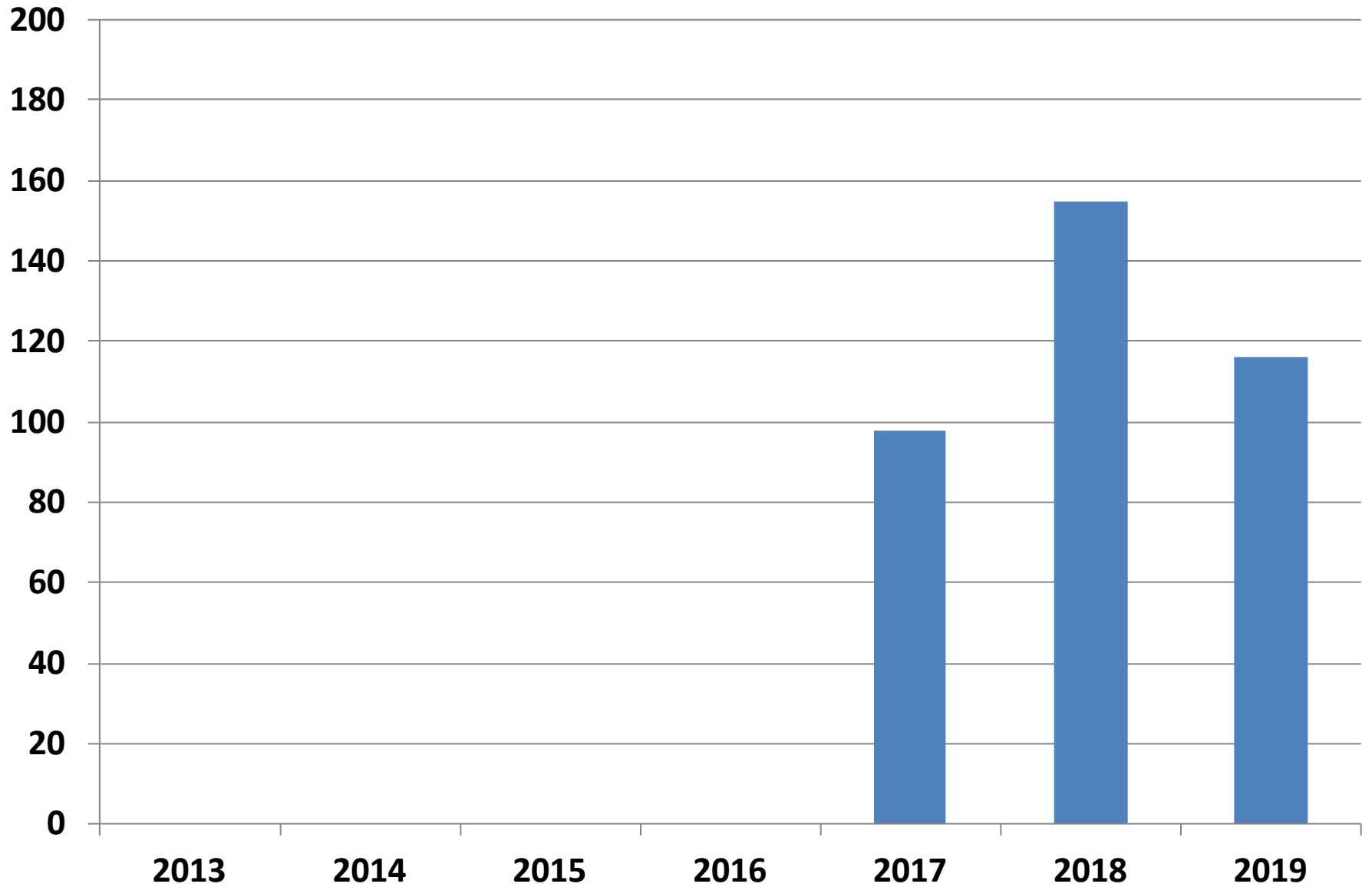


# Long

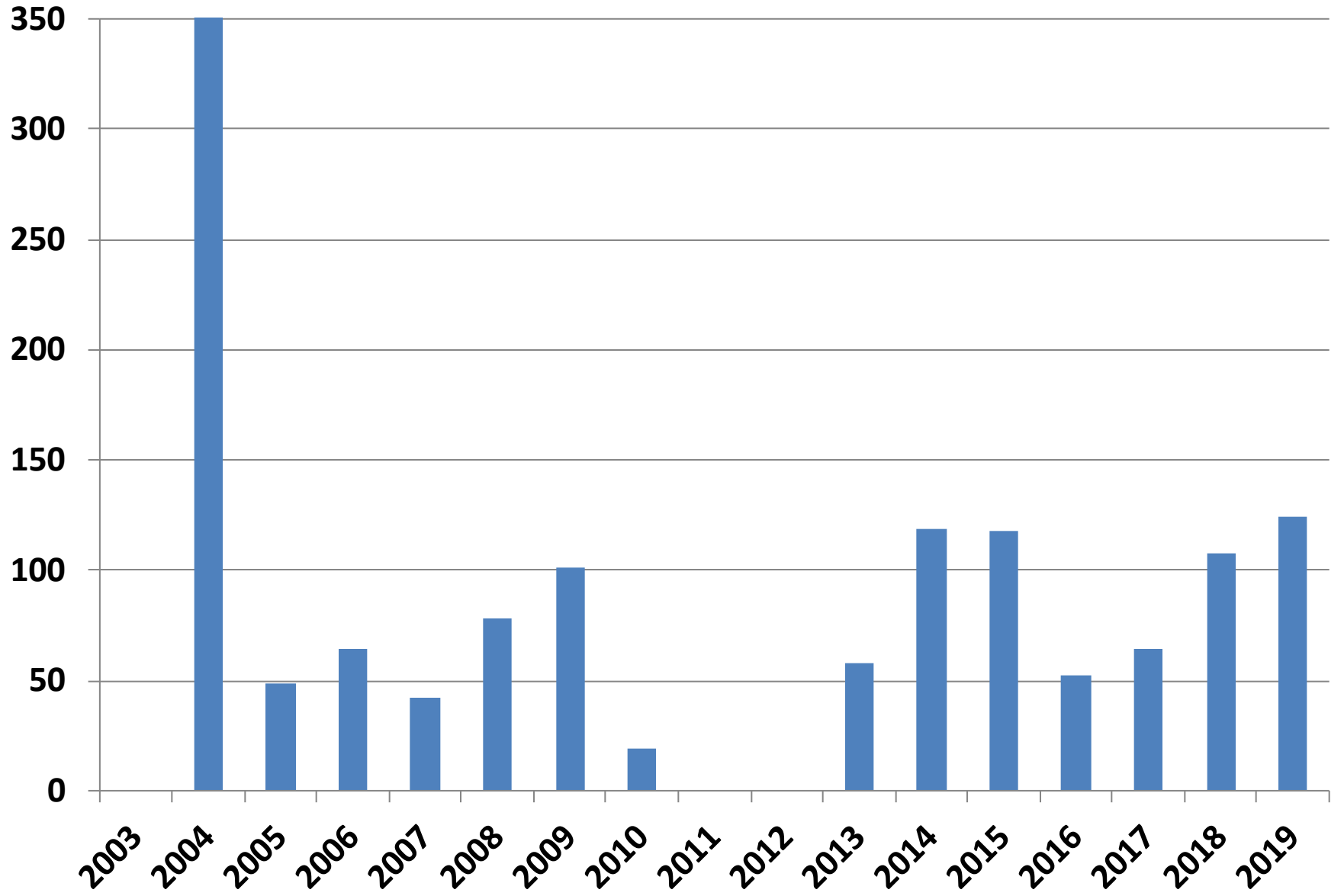




# Gass



# Silver Ice Out

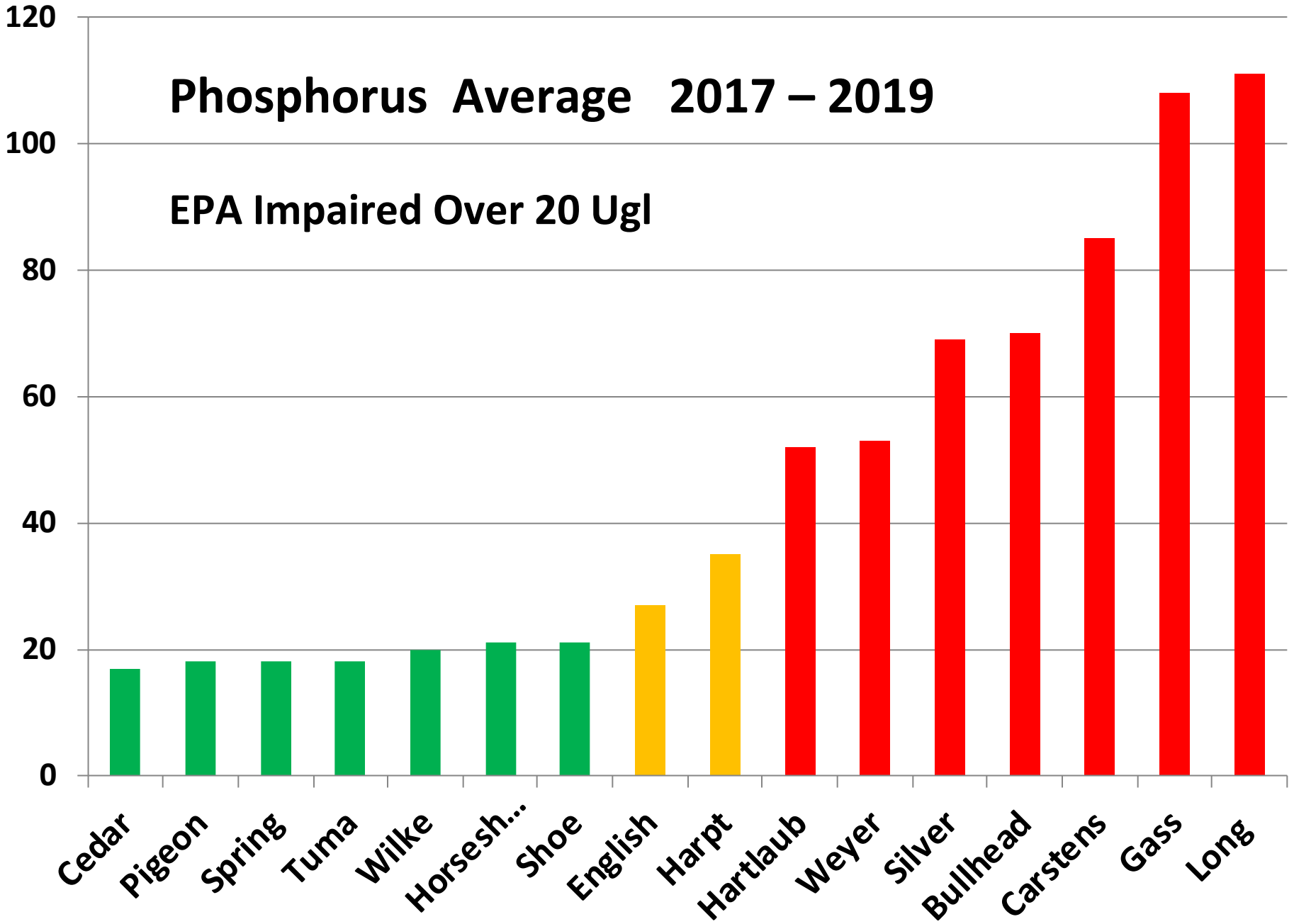


# Summer Time Testing

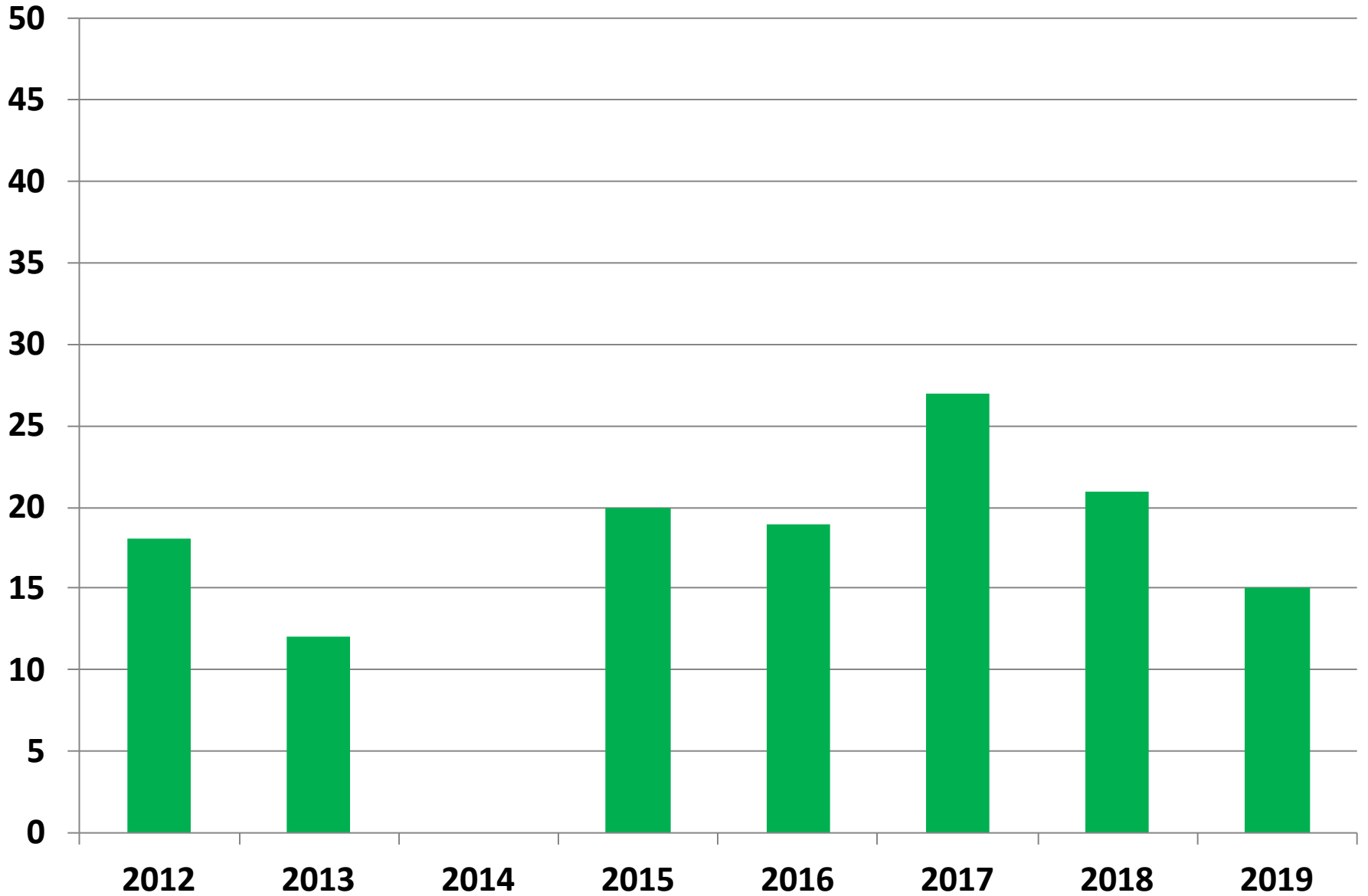
- **3 Samples**
  - Late June .... Highest Summer Numbers
  - Late July
  - Late August
- **Phosphorus**
  - Focus of EPA / DNR / Soil and Water
- **Chlorophyll**

# Phosphorus Average 2017 – 2019

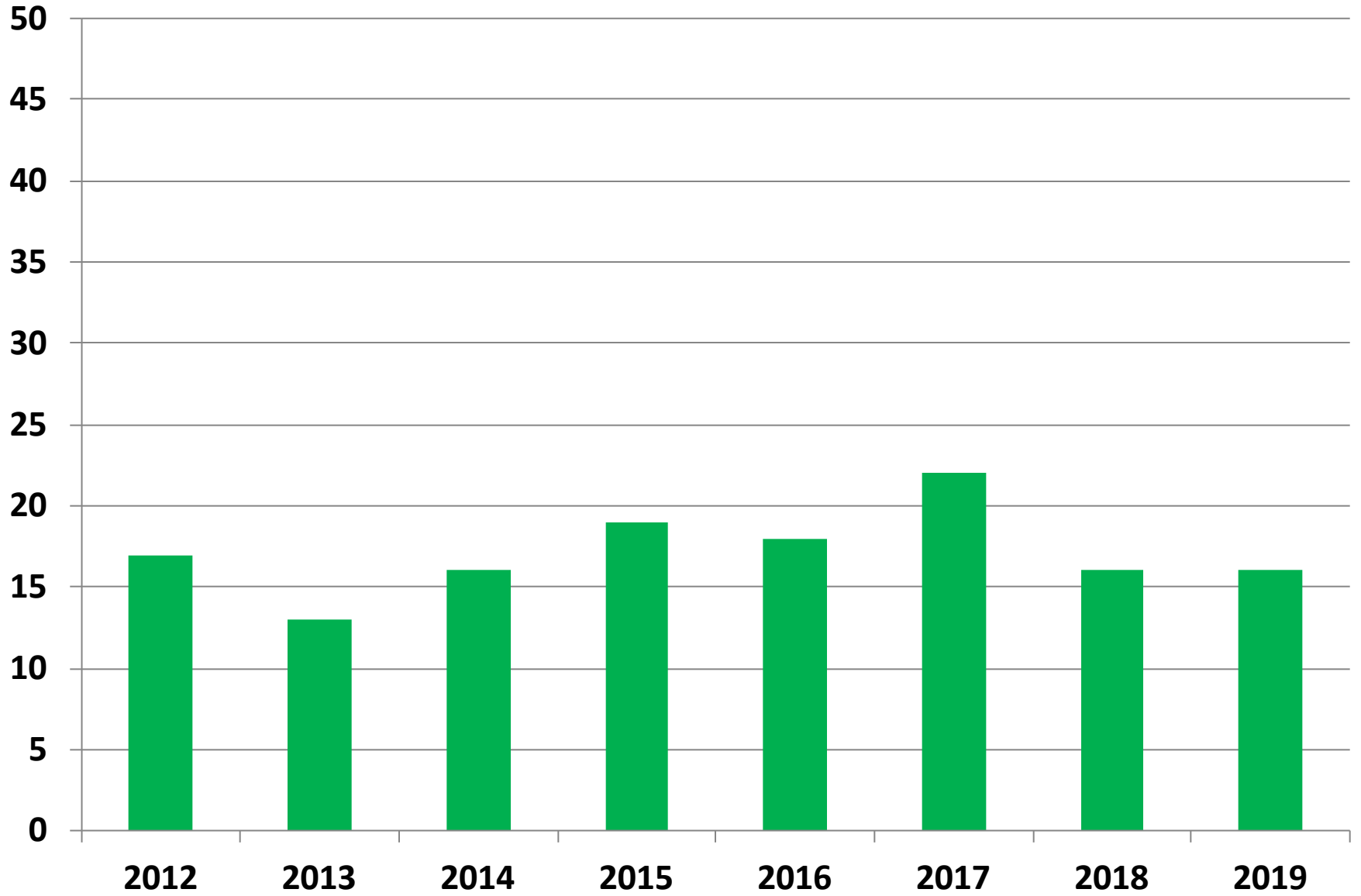
EPA Impaired Over 20 Ugl



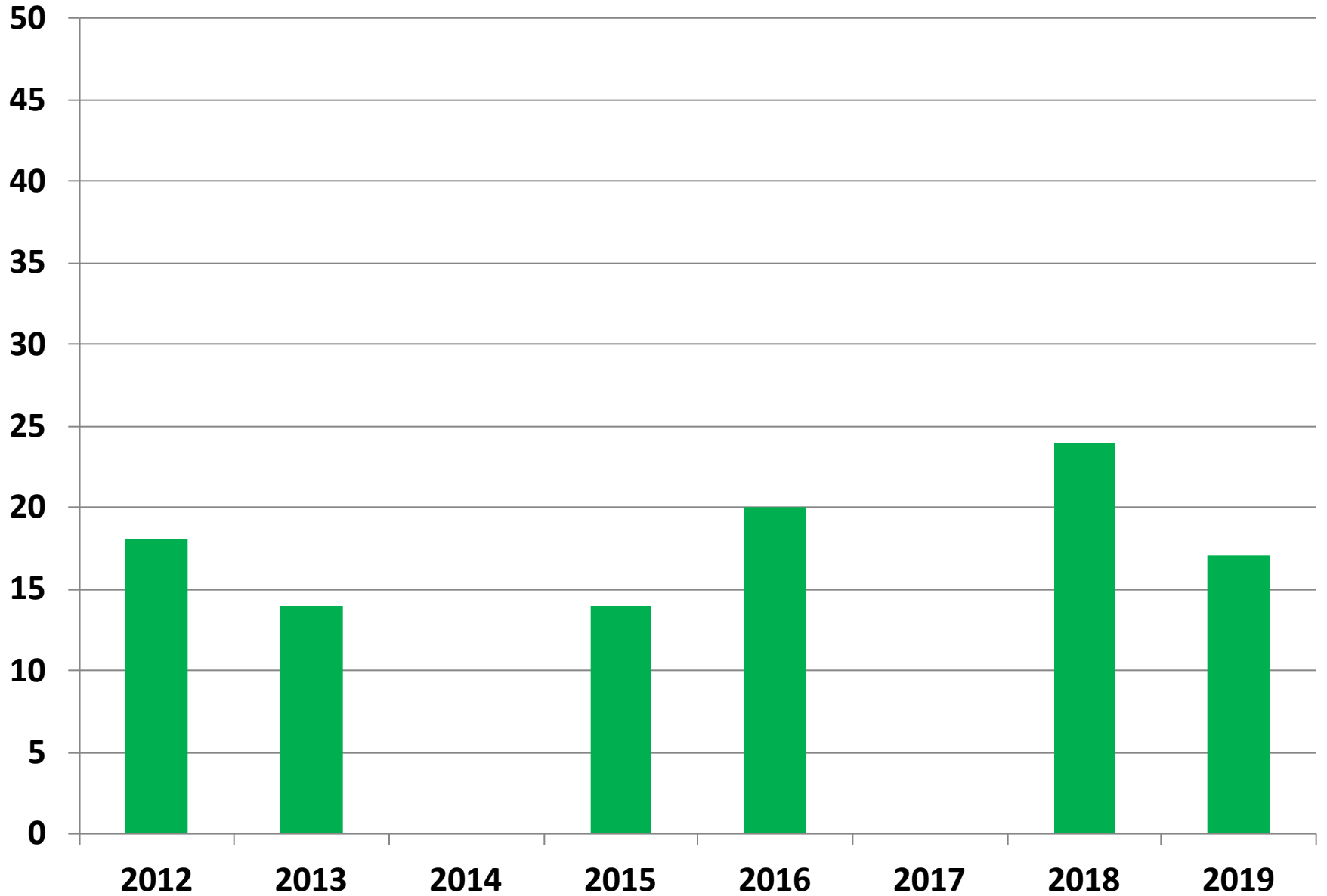
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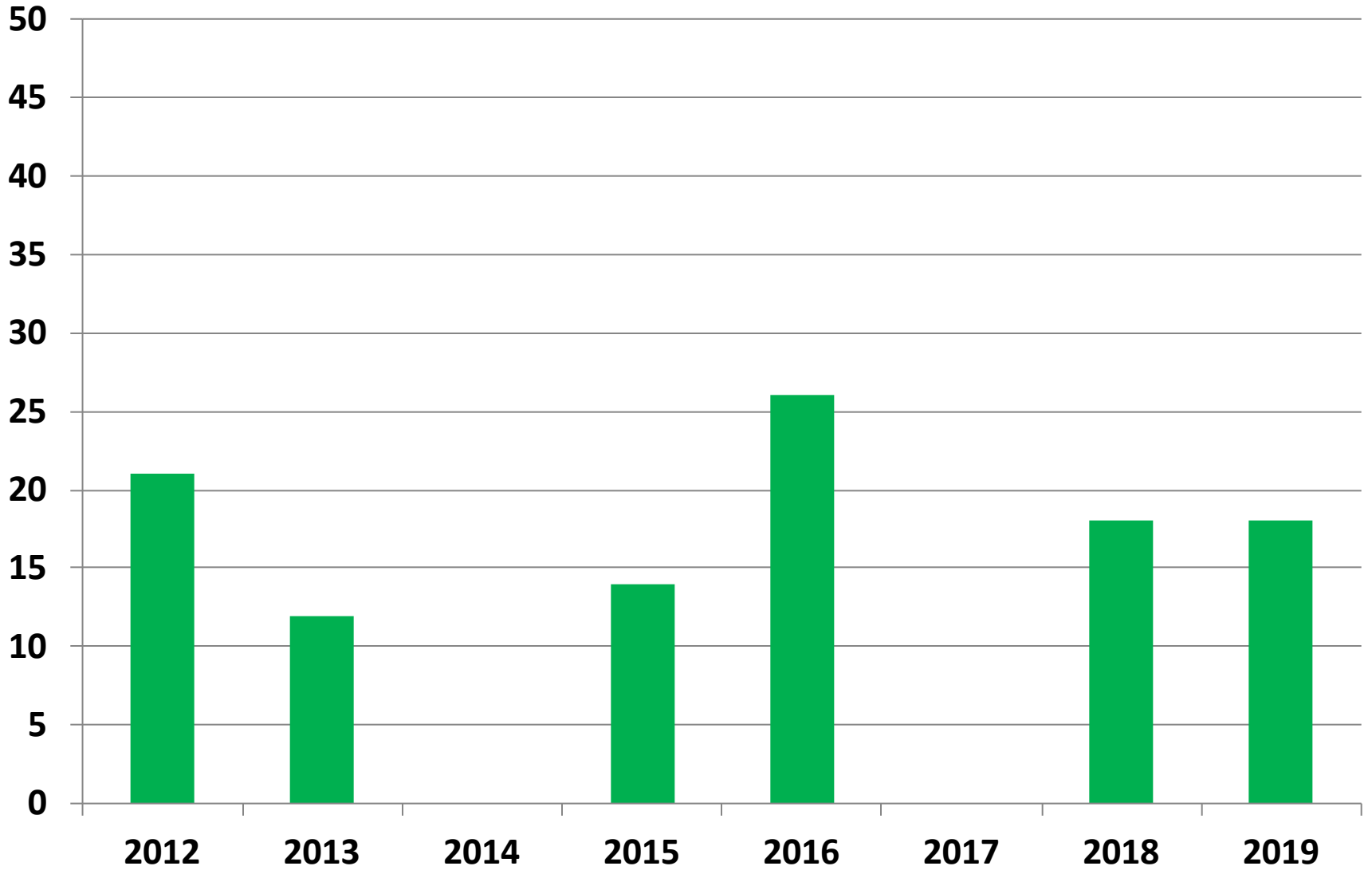
# Pigeon



# Shoe

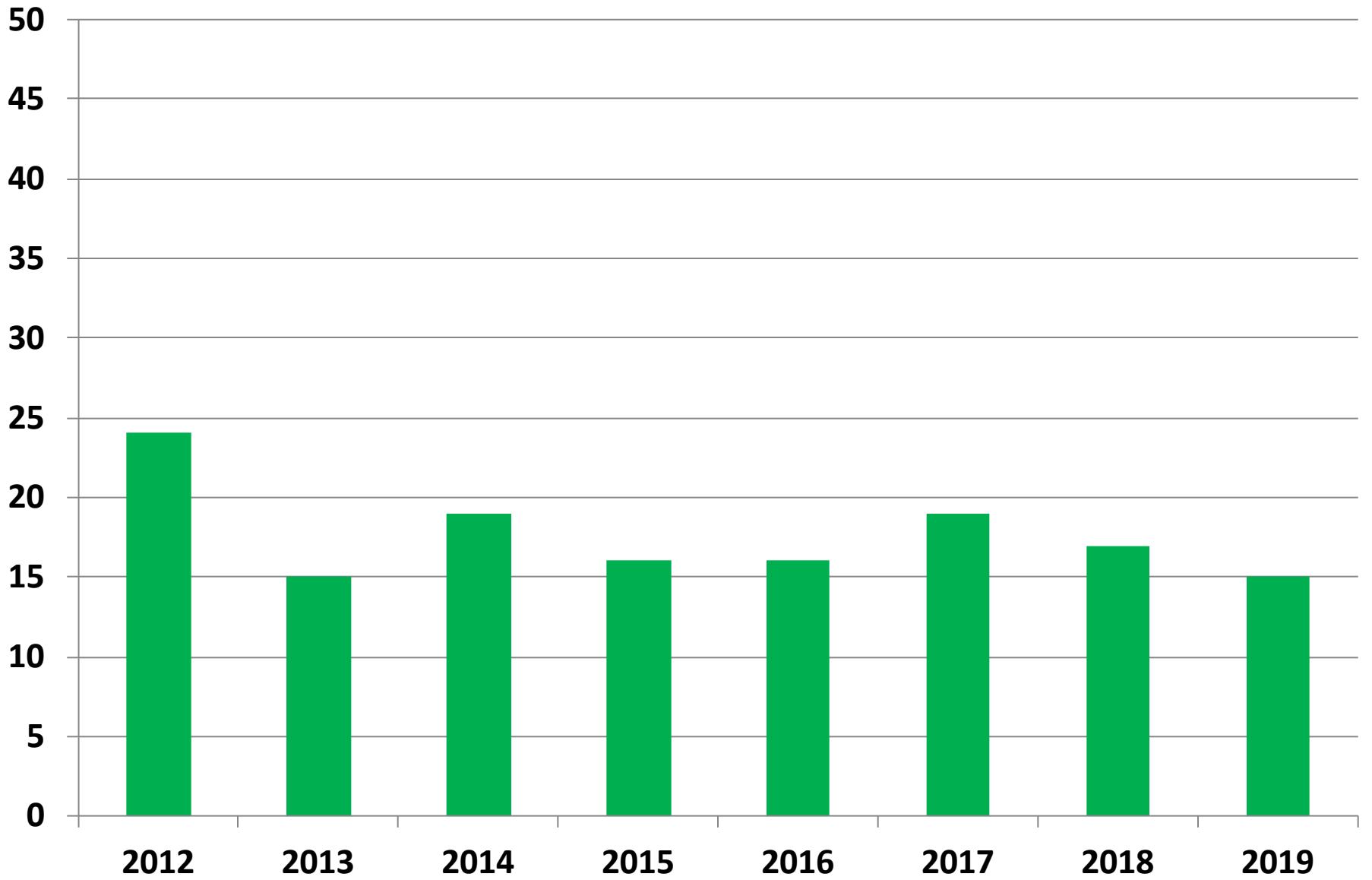


# Spring

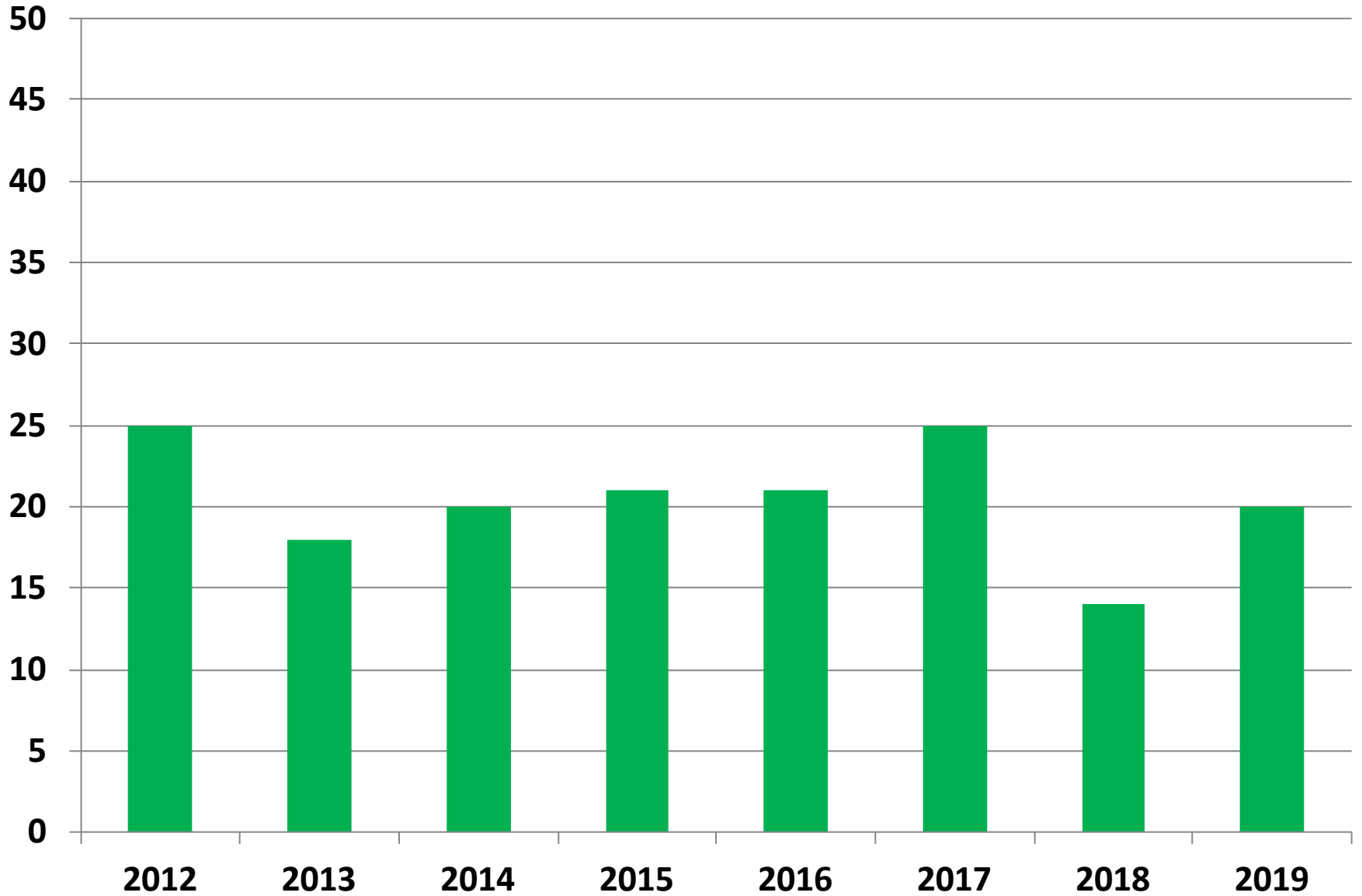




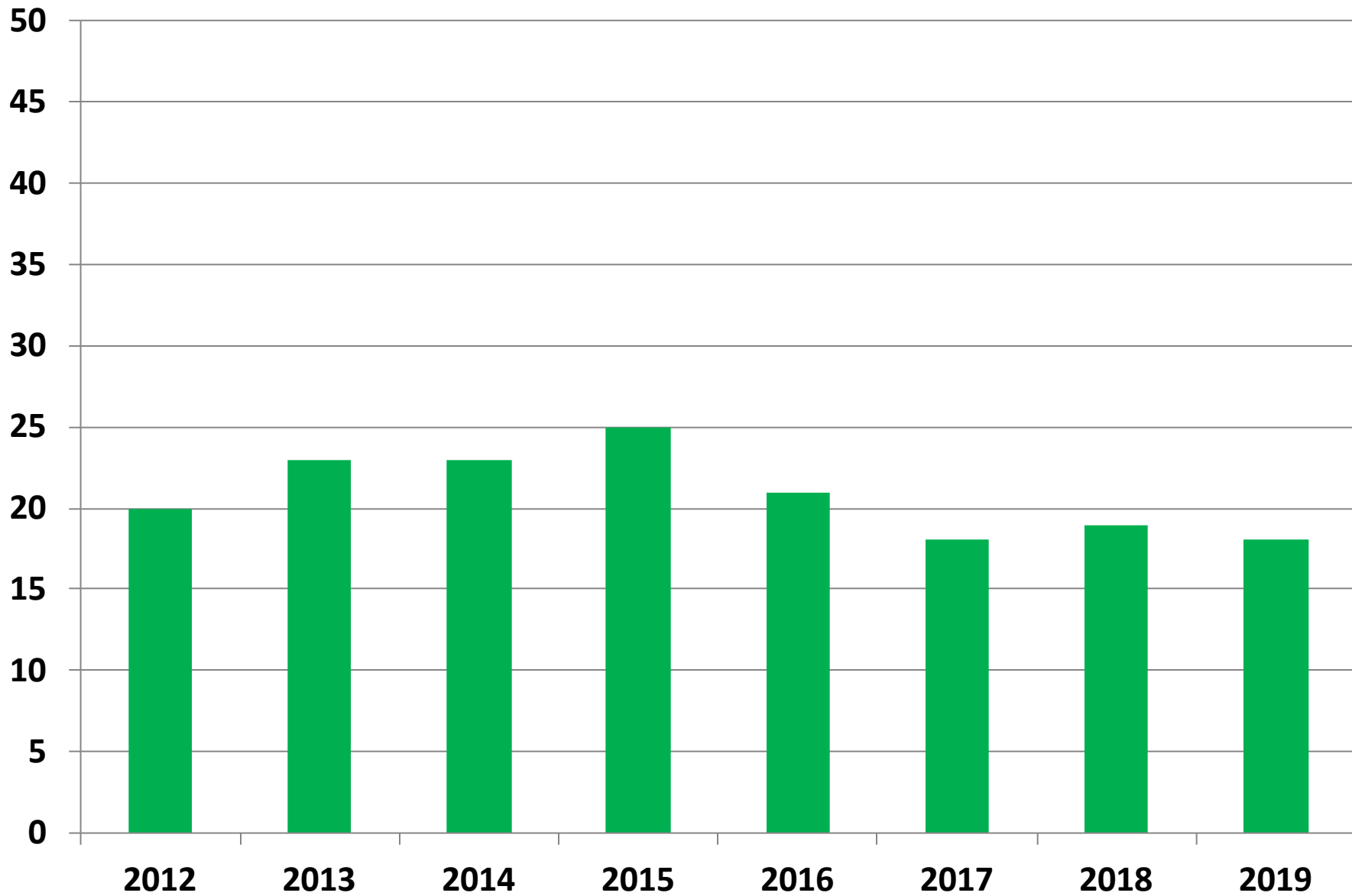
# Cedar



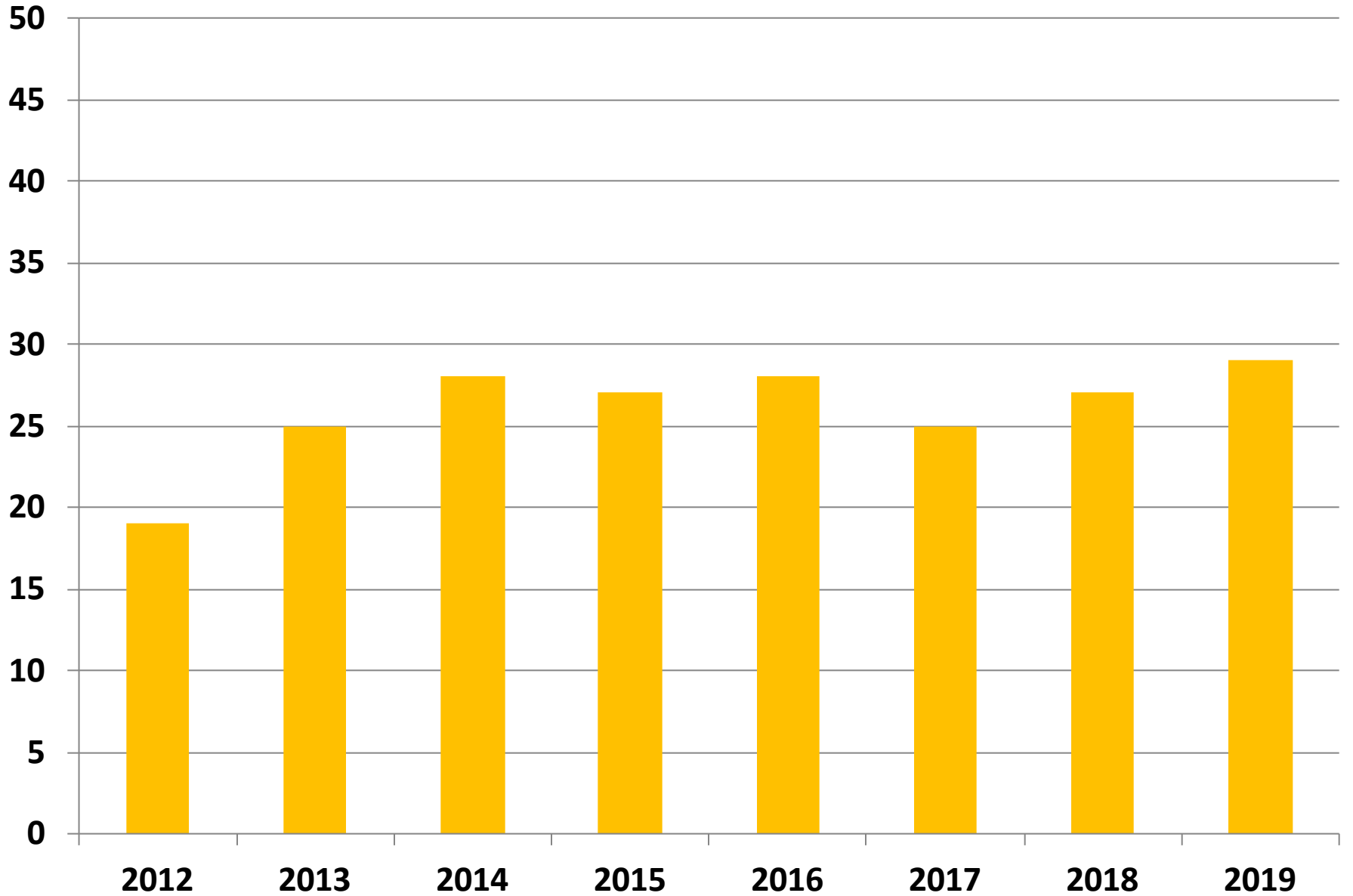
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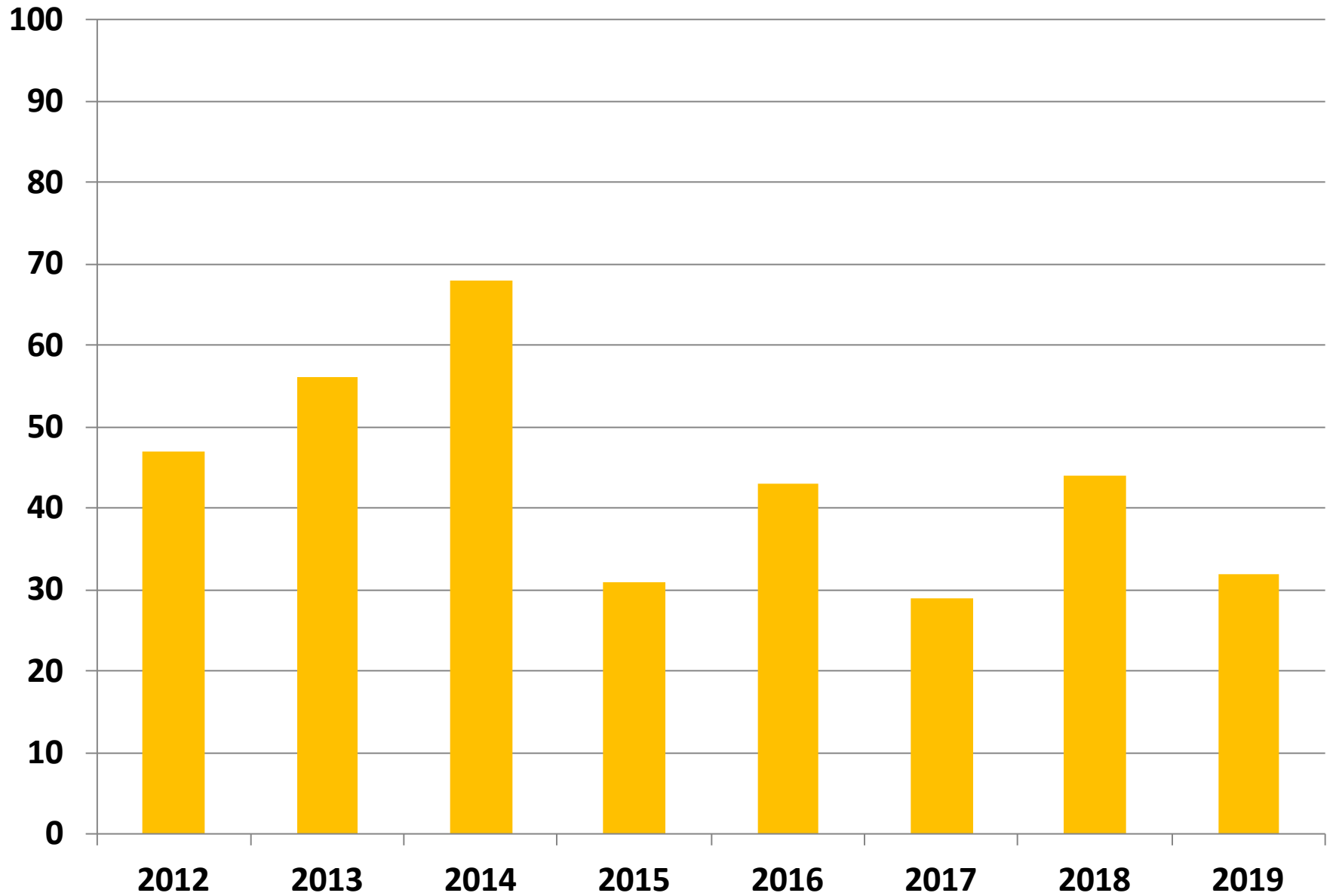
# Tuma



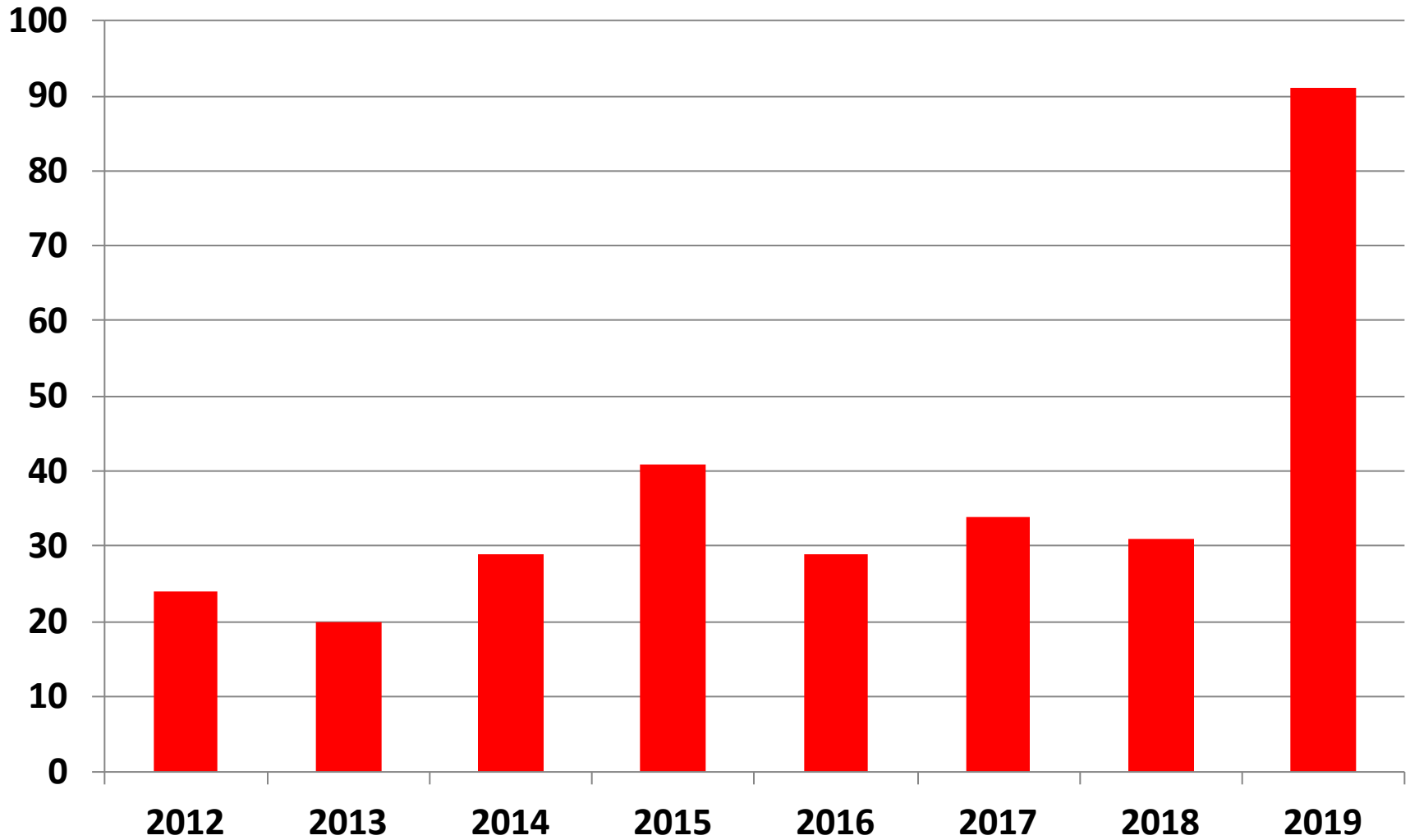
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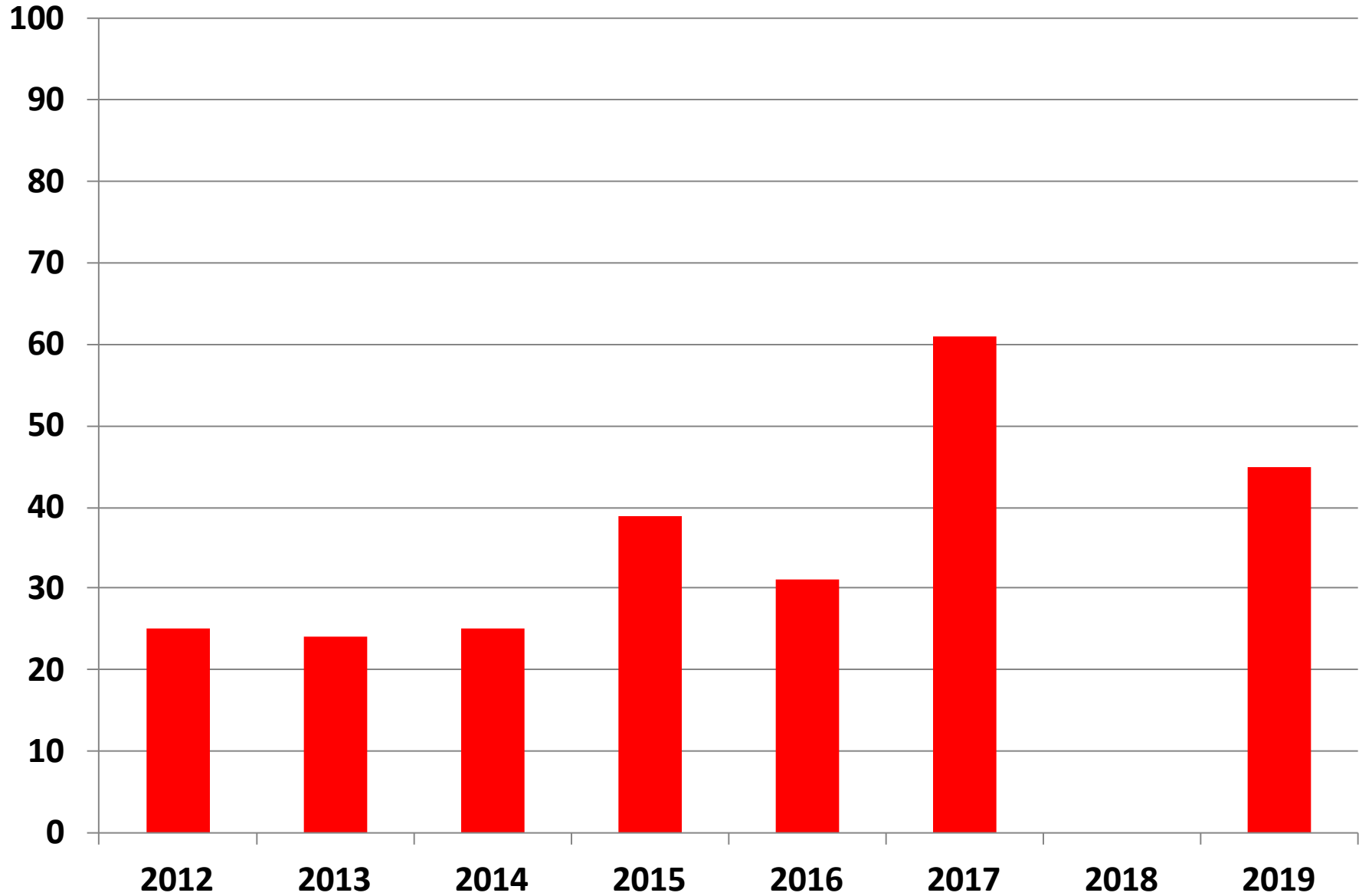
# Harpt



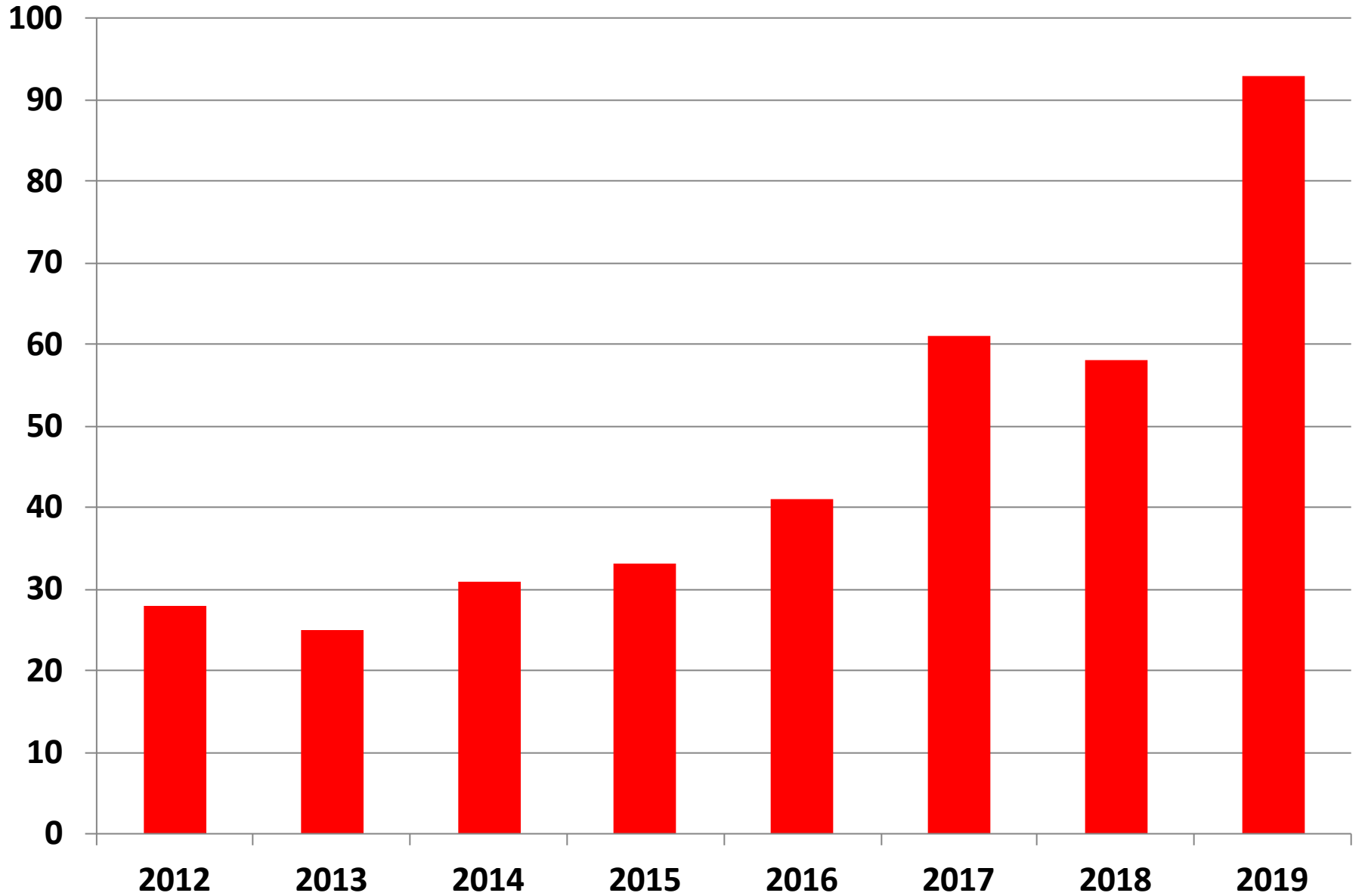
# Hartlaub



# Weyer

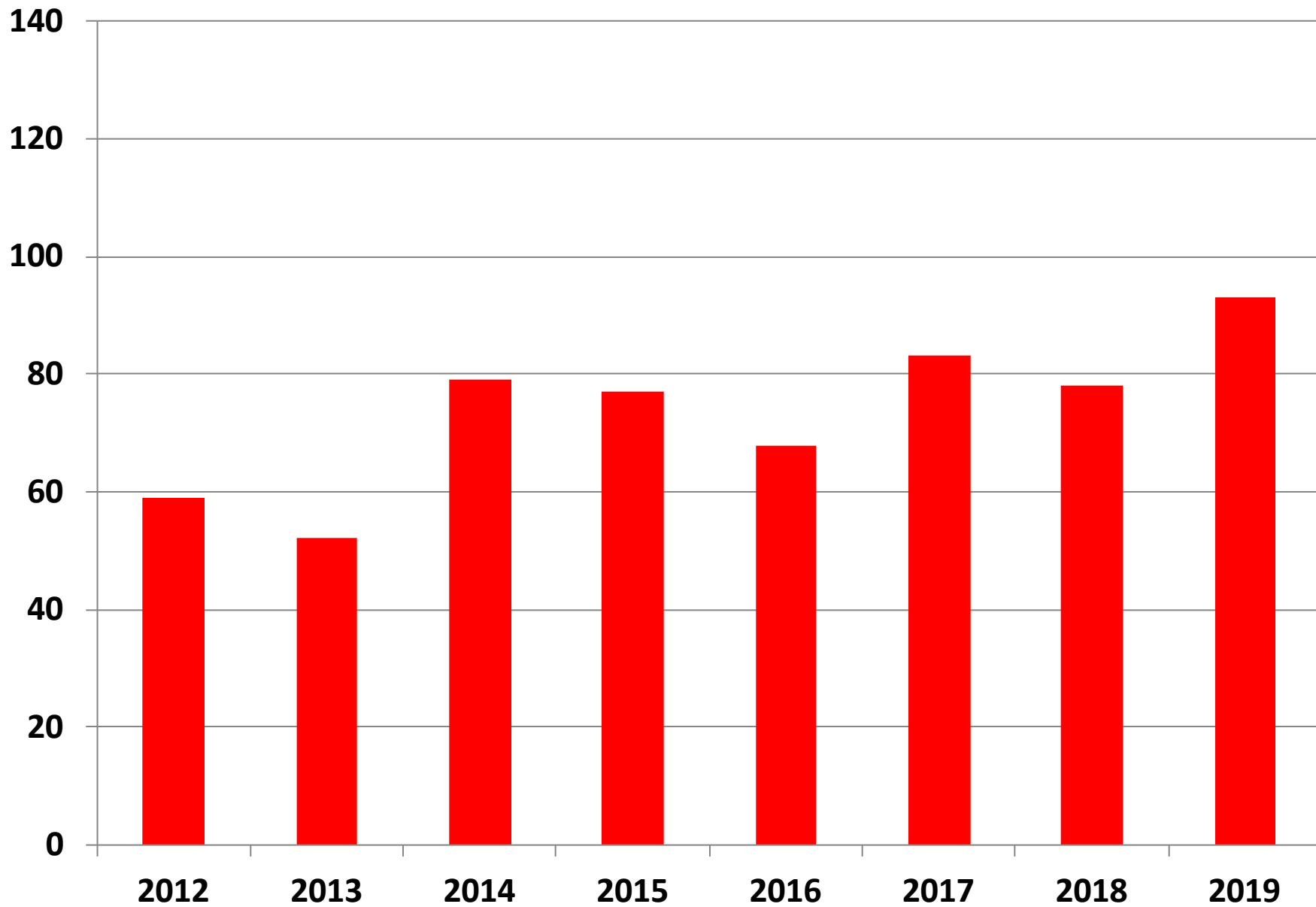


# Bullhead

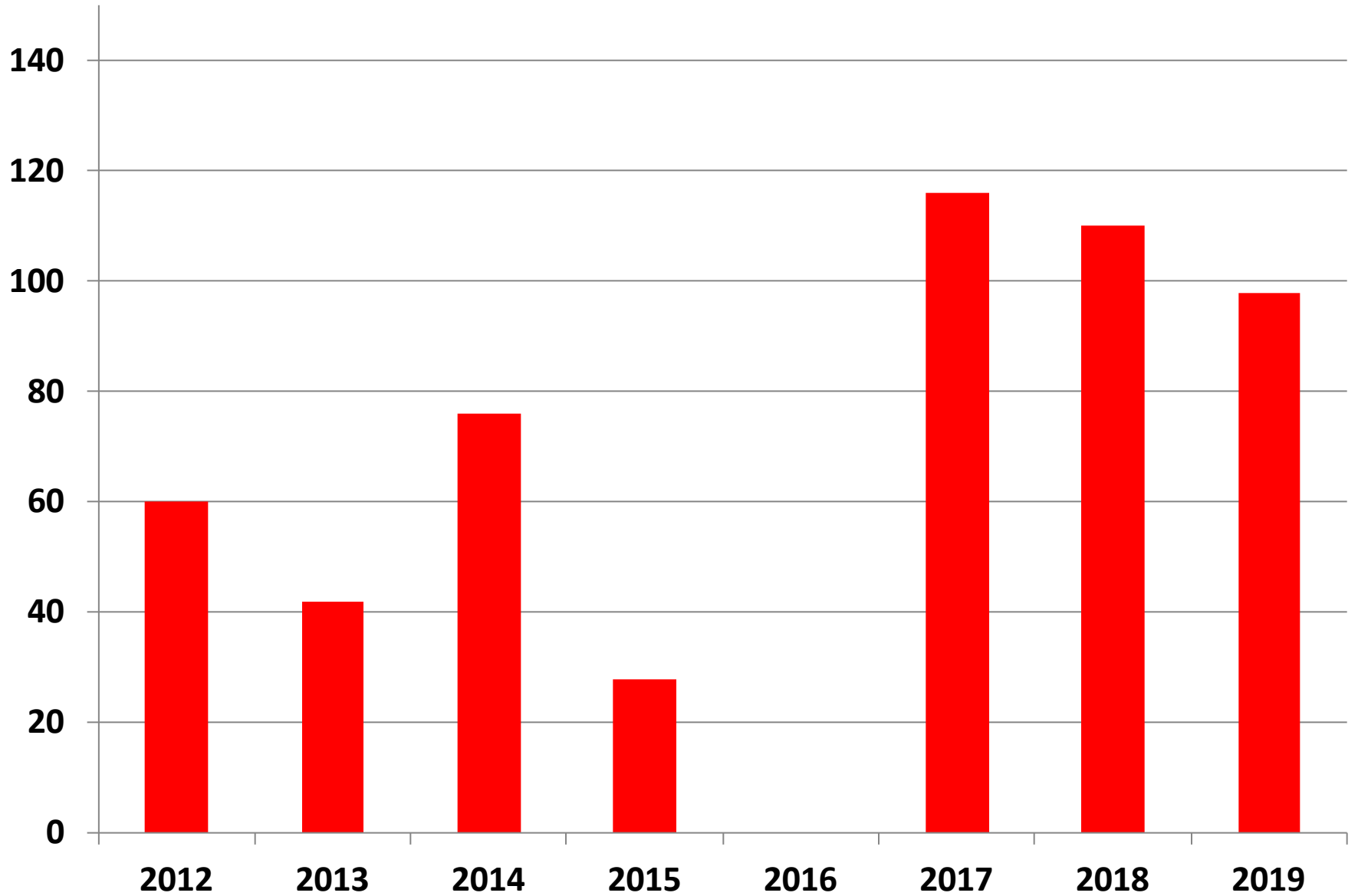




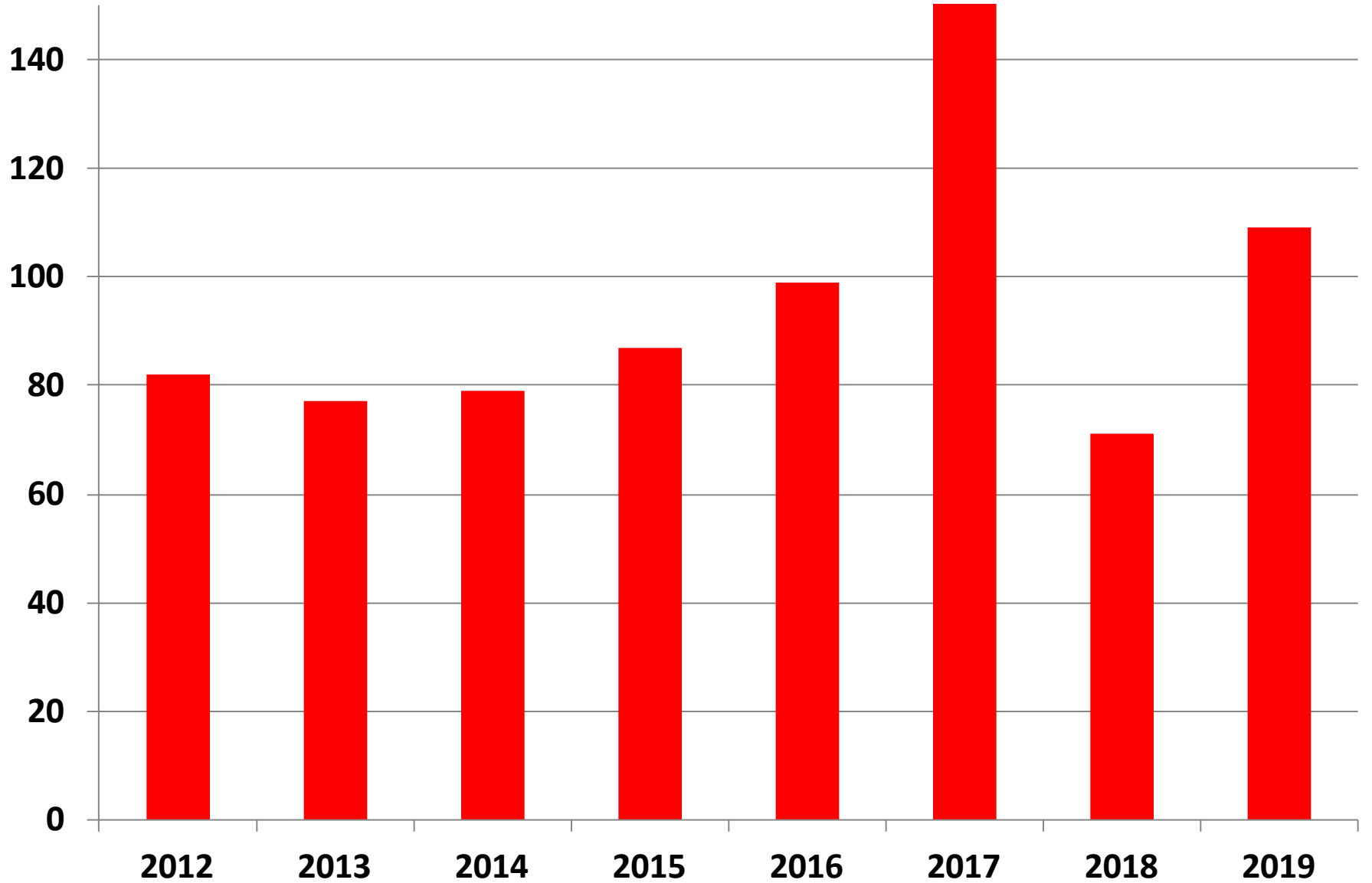
# Carstens



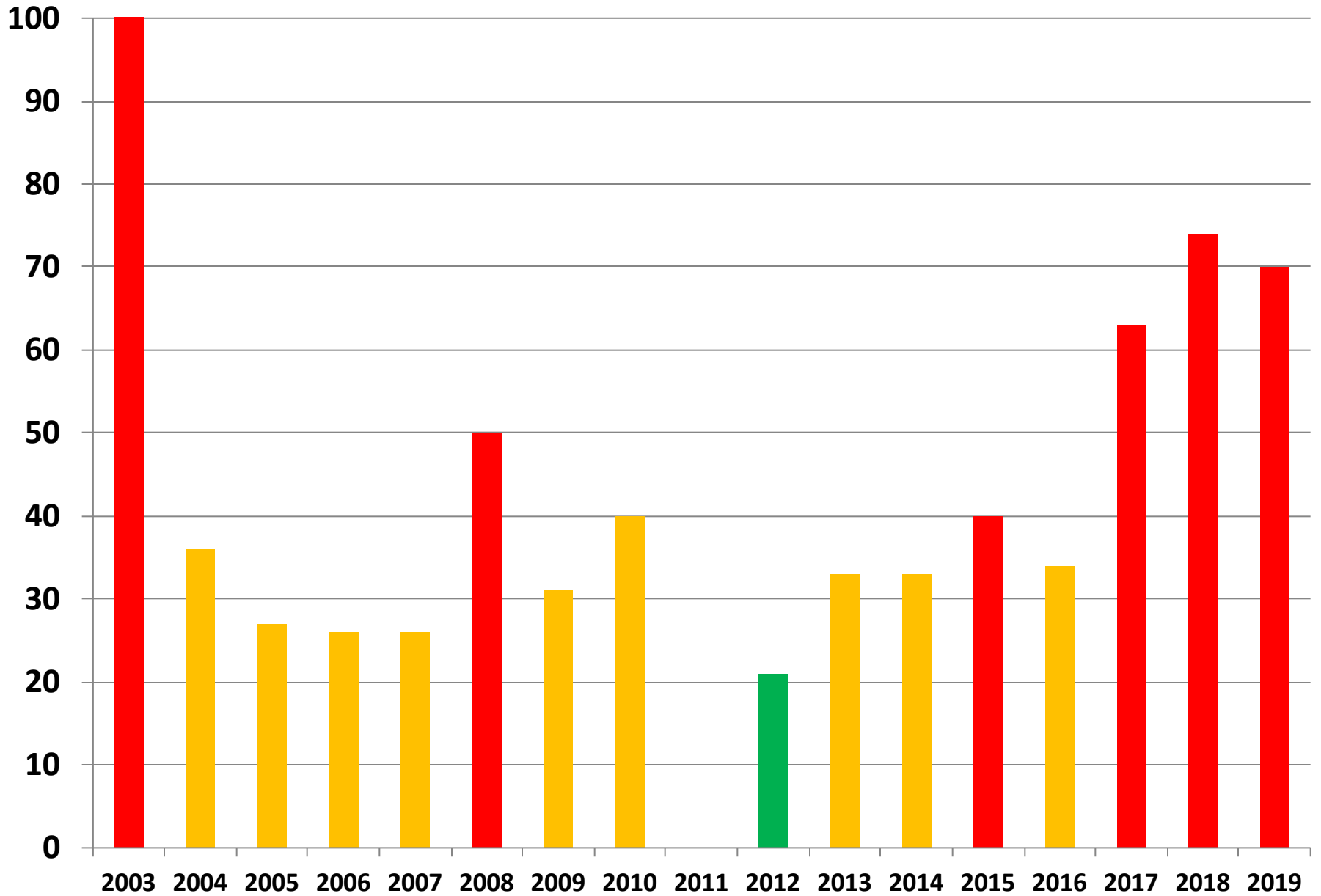
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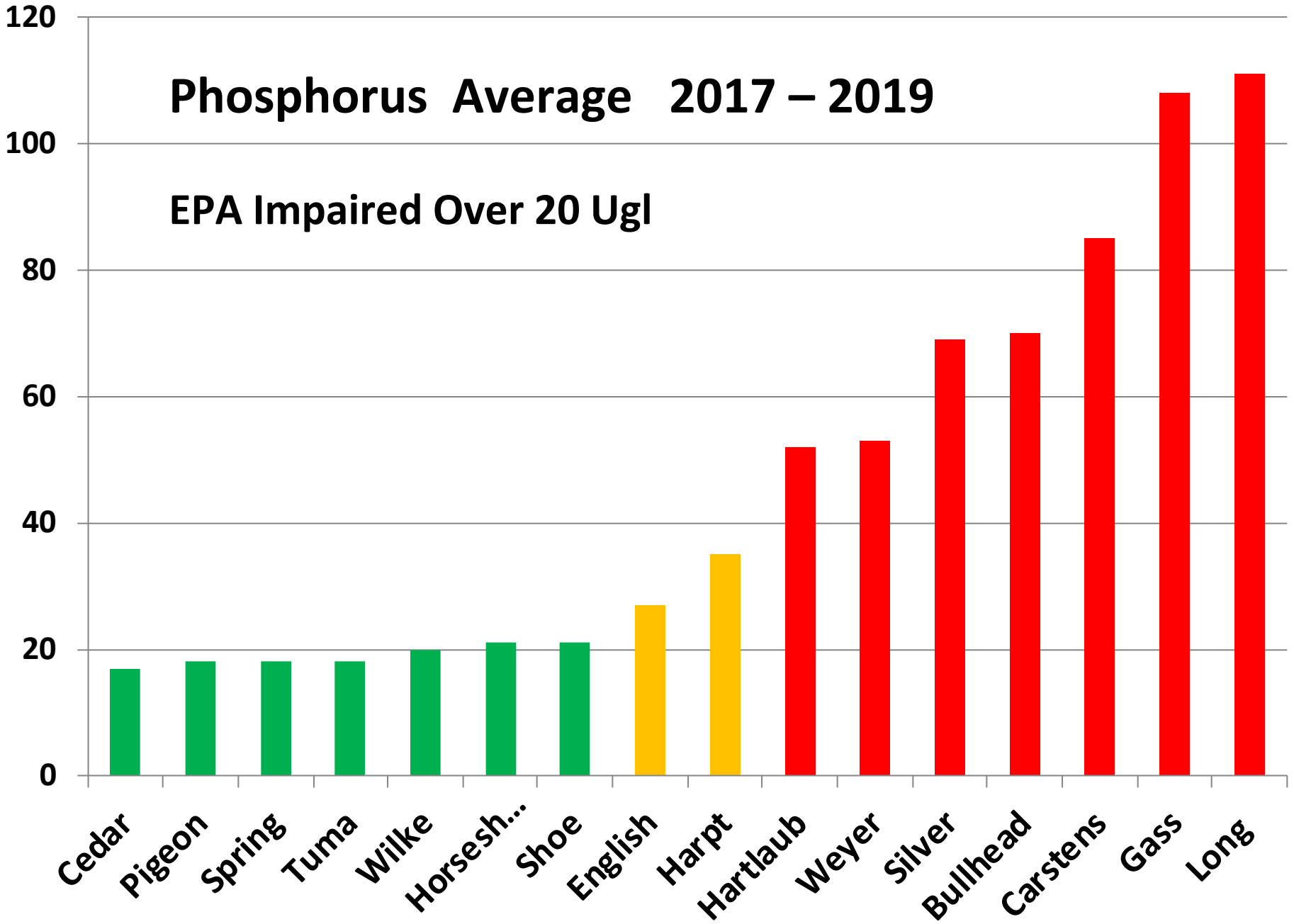


# Silver Summer



# Phosphorus Average 2017 – 2019

EPA Impaired Over 20 Ugl



# Next Steps

- **Talk to Your Lake Association Members**
- **Contact Soil and Water Dept. if Concerned**
- **Be Thankful for “Good” Water**
- **Thank Your Water Monitor**