

# East Hampton Airport Phase II Noise Analysis

December 2, 2014

# Presenters

[www.hmmh.com](http://www.hmmh.com)

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**HARRIS MILLER MILLER & HANSON INC.**



# HMMH Background

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- Environmental consulting, with a focus on noise
- Assistance to East Hampton since 2003
  - Measurements, modeling, abatement recommendations
  - Noise program implementation
    - Pilot outreach, operations monitoring, complaint data management
  - Noise analyses for EA on seasonal tower



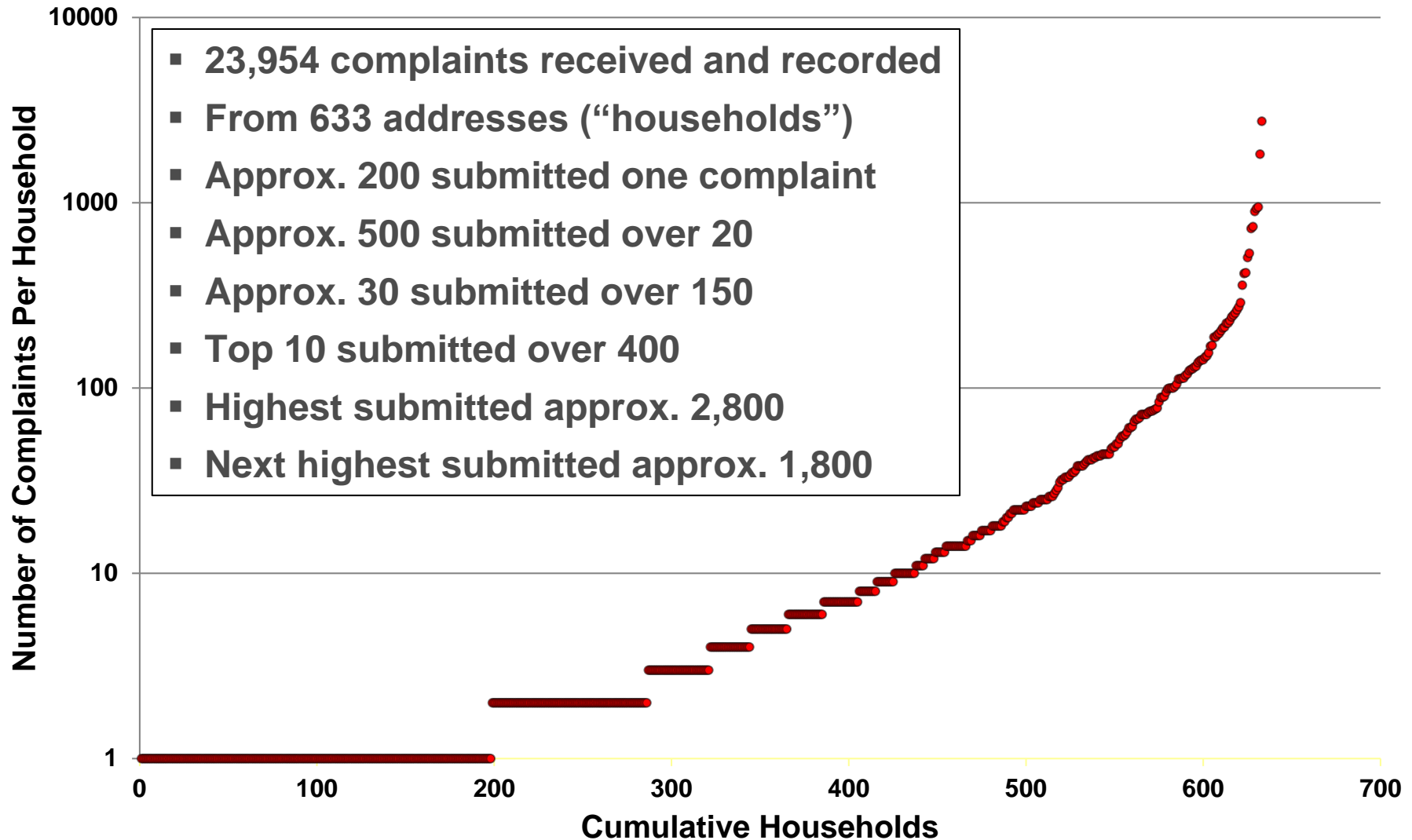
# Study context

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- **October 30, 2014 Special Town Board Meeting**
  - Presentation of “Noise Analysis Interim Report”
    - Preliminary draft problem definition
    - Initial list of potential alternatives
  - Request for public comment
- **Town Board direction**
  - Recommend problem definition
  - Recommend refined (short) list of most promising alternatives
- **Basic study parameters**
  - Focus on complaints for November 1, 2013 - October 31, 2014
  - Focus on operations data from Vector airfield monitoring system
  - Consider AirScene flight tracking data in next study phase

# Some overall complaint statistics (11/1/13 – 10/31/14)

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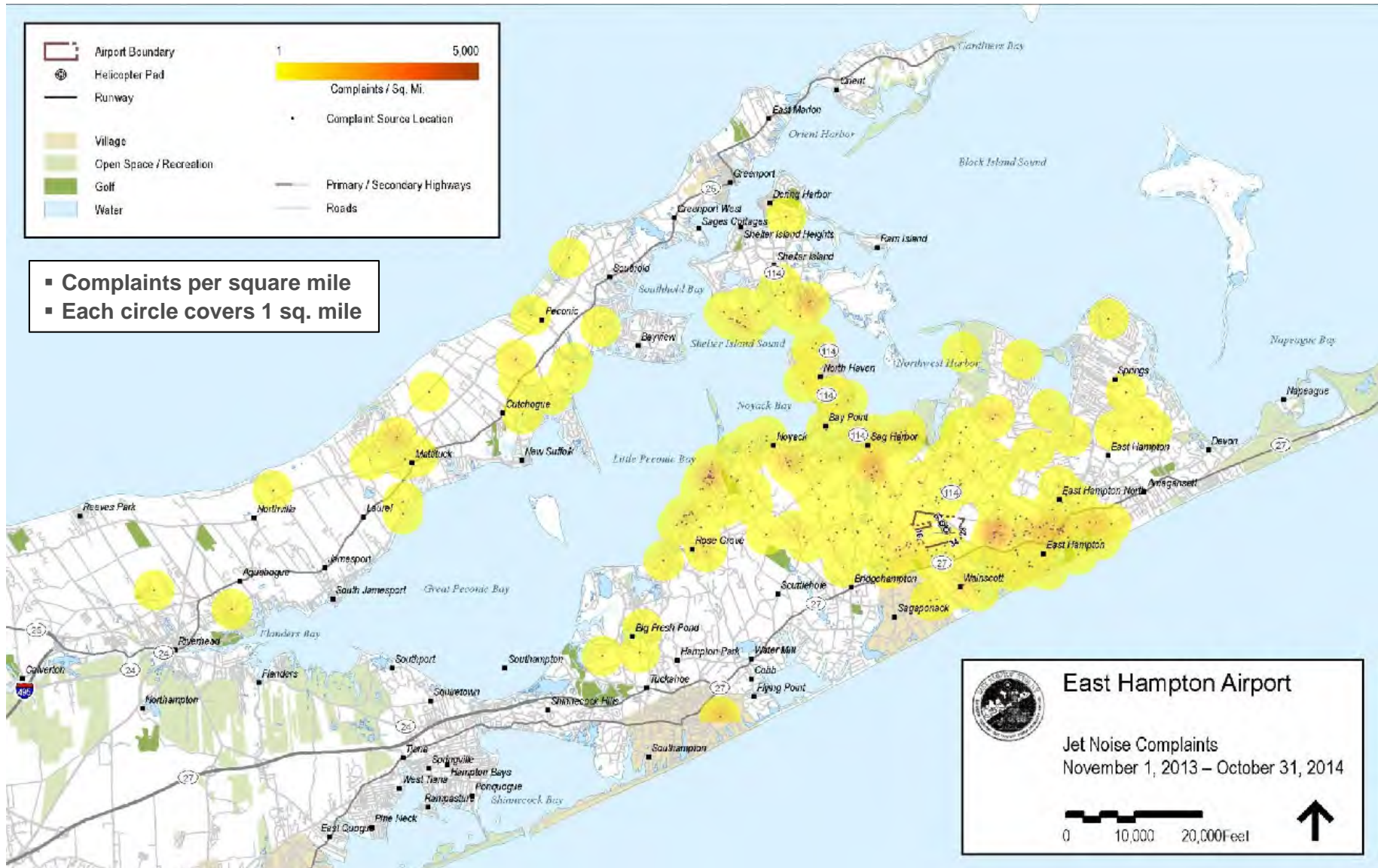
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# Complaint Density - Jets

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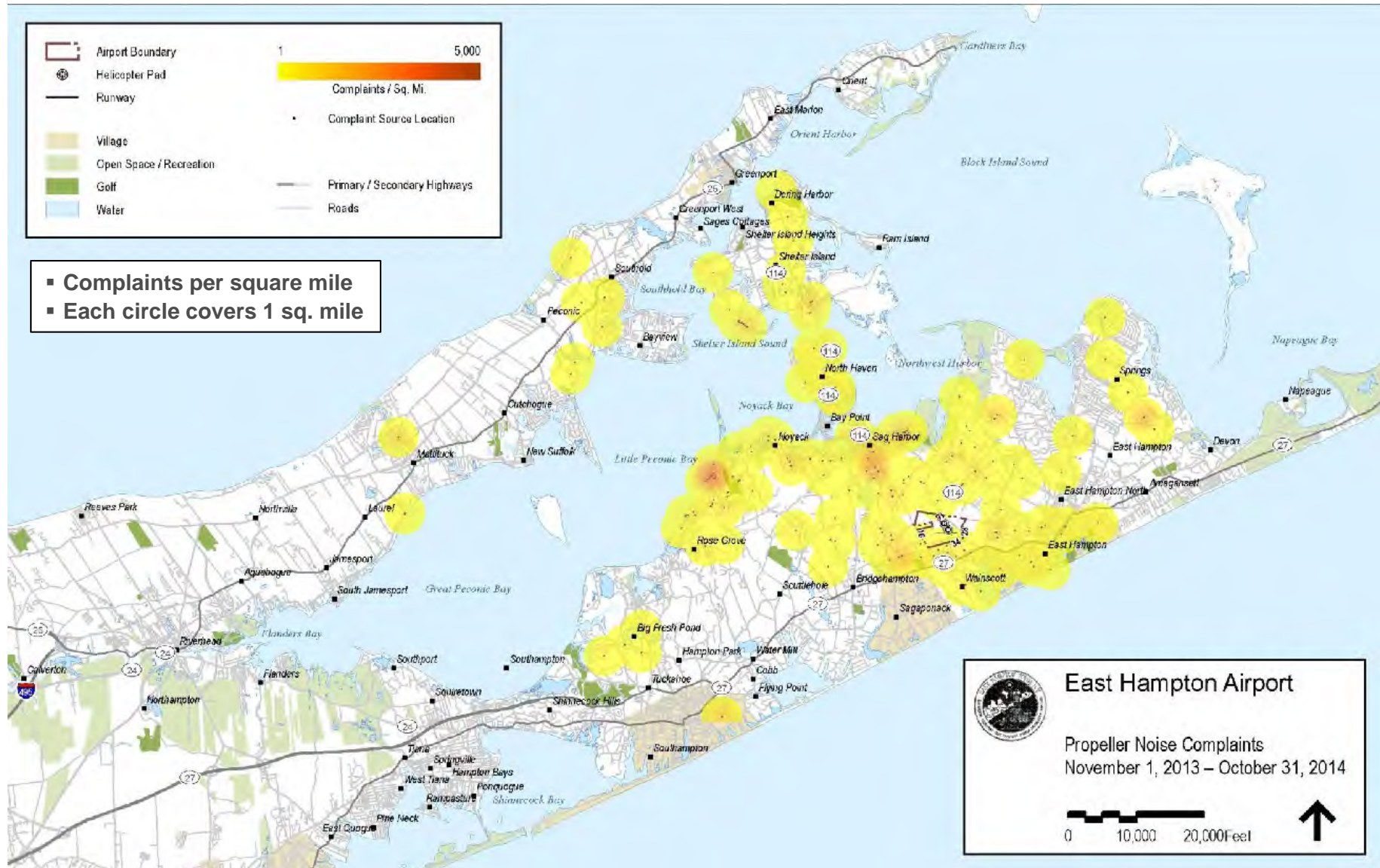
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# Complaint Density - Non-Seaplane Propeller

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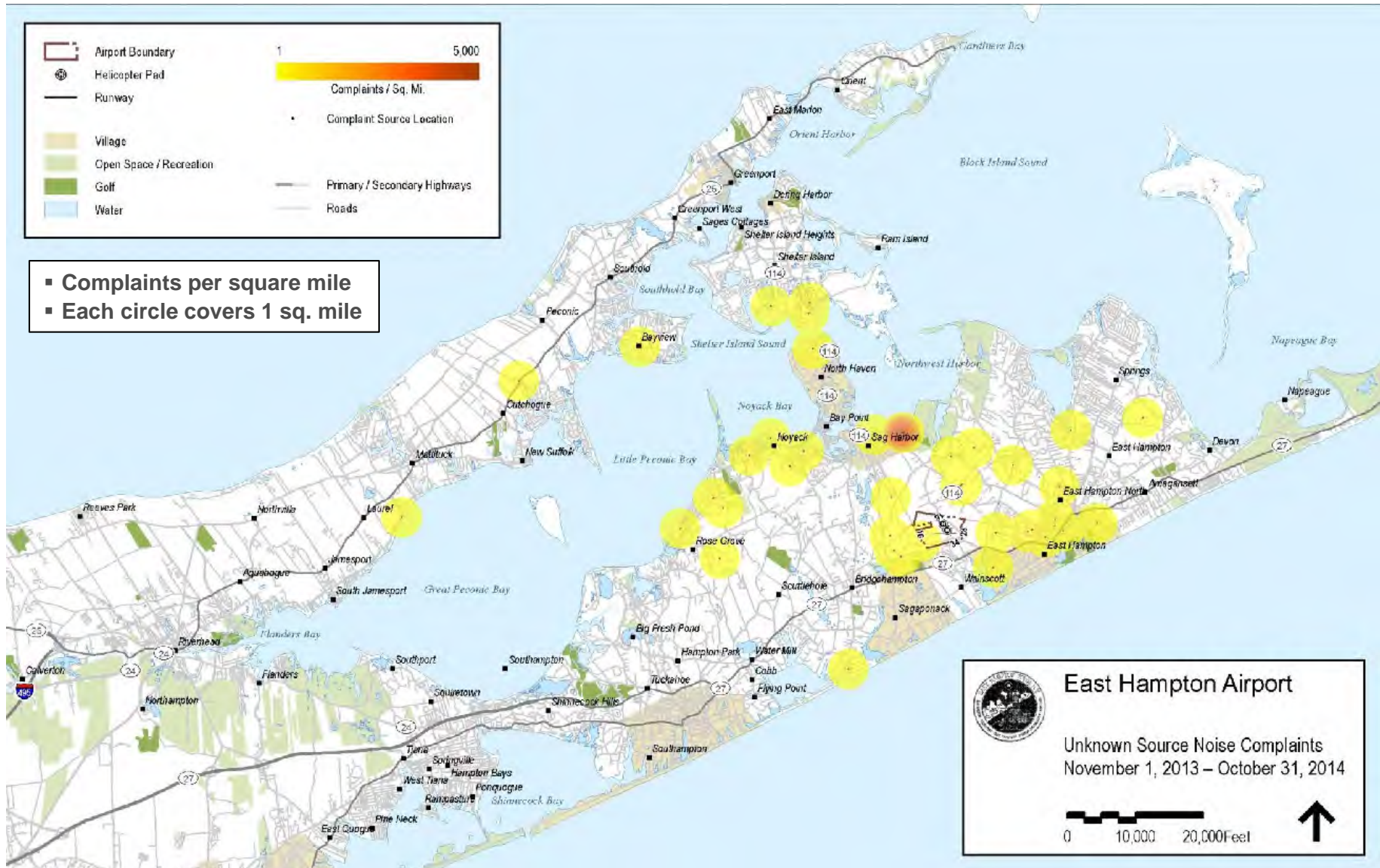
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# Complaint Density - Unknown Aircraft

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## Contribution to problem definition?

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**Noise from aircraft operating at East Hampton Airport disturbs many residents of the east end of Long Island.**

# Some overall Vector operations statistics

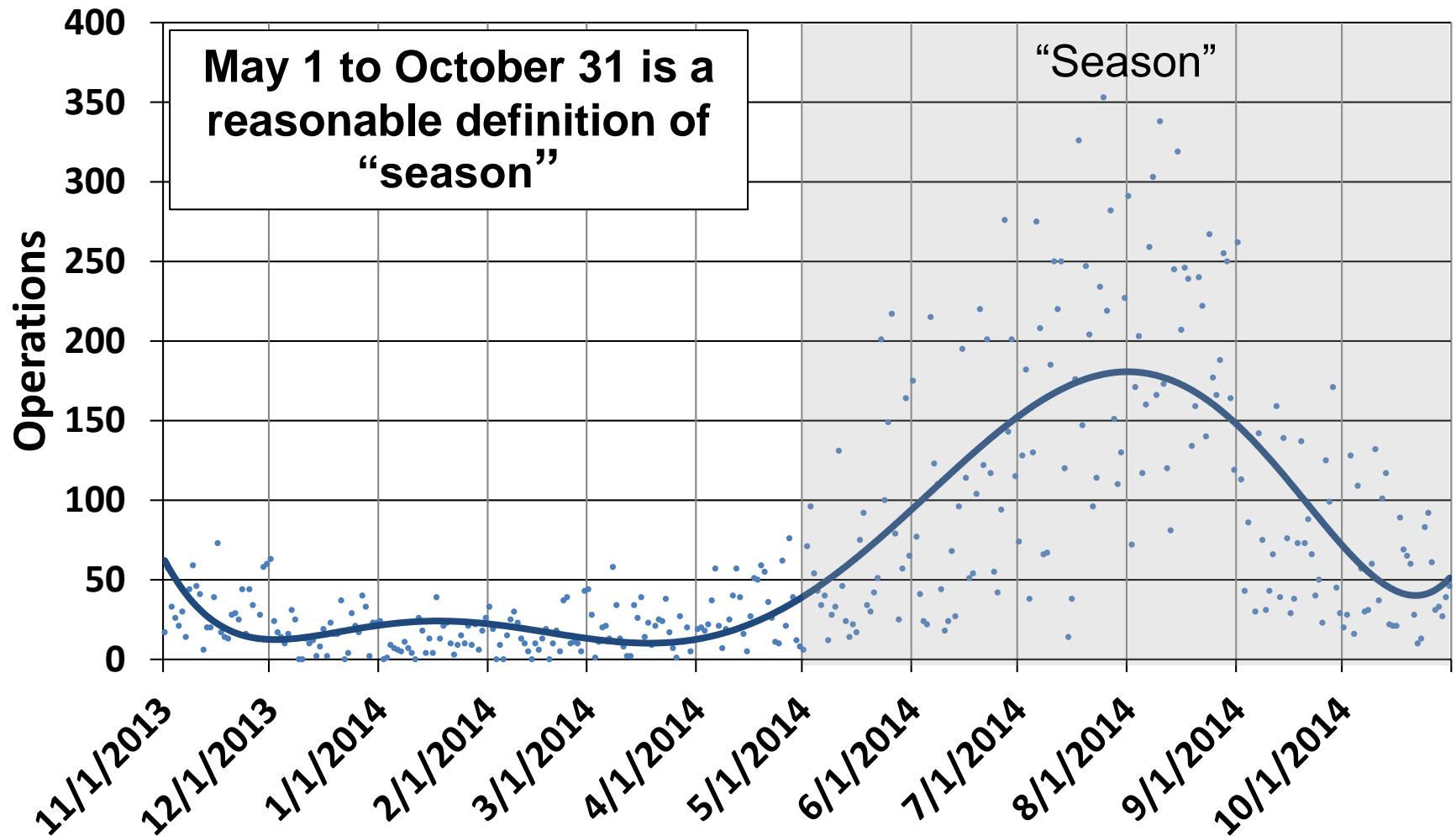
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- Recorded approximately 26,000 operations (roughly 13,000 takeoffs / 13,000 landings) from 11/1/13 – 10/31/14
  - Conducted by approximately 2,600 specific aircraft
- Approximately 25% of all annual operations were conducted by 25 specific aircraft
  - 14 helicopters
  - 5 single turbopropeller seaplanes
  - 5 other propeller aircraft
  - 1 jet
- The aircraft that flew the most operations over the entire year was a twin-engine piston propeller
- The second most frequently operated aircraft was a single engine turbopropeller seaplane

# When do operations occur?

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## All Aircraft Operations by Day, 11/1/2013 - 10/31/2014

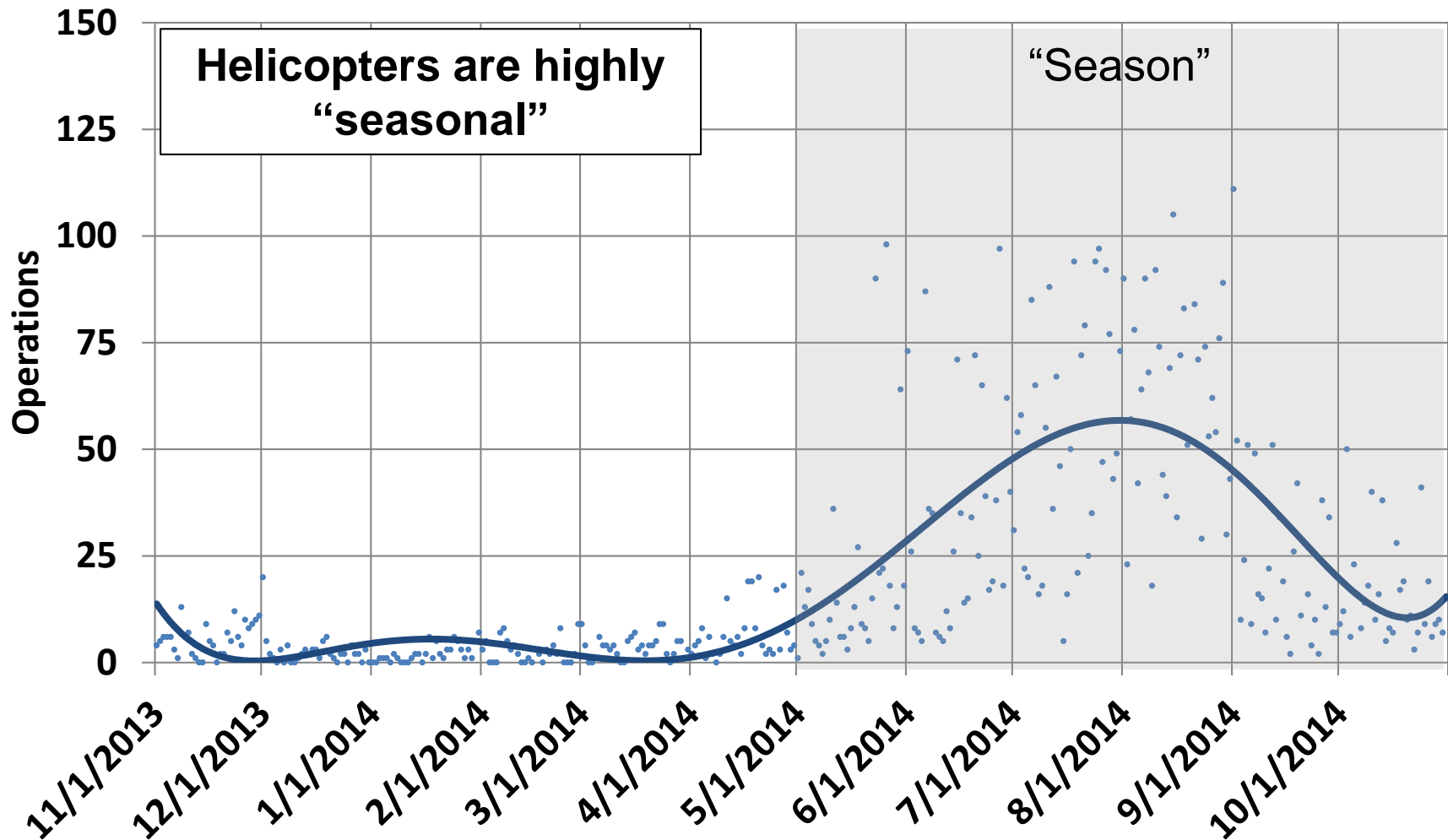




# When do operations occur?

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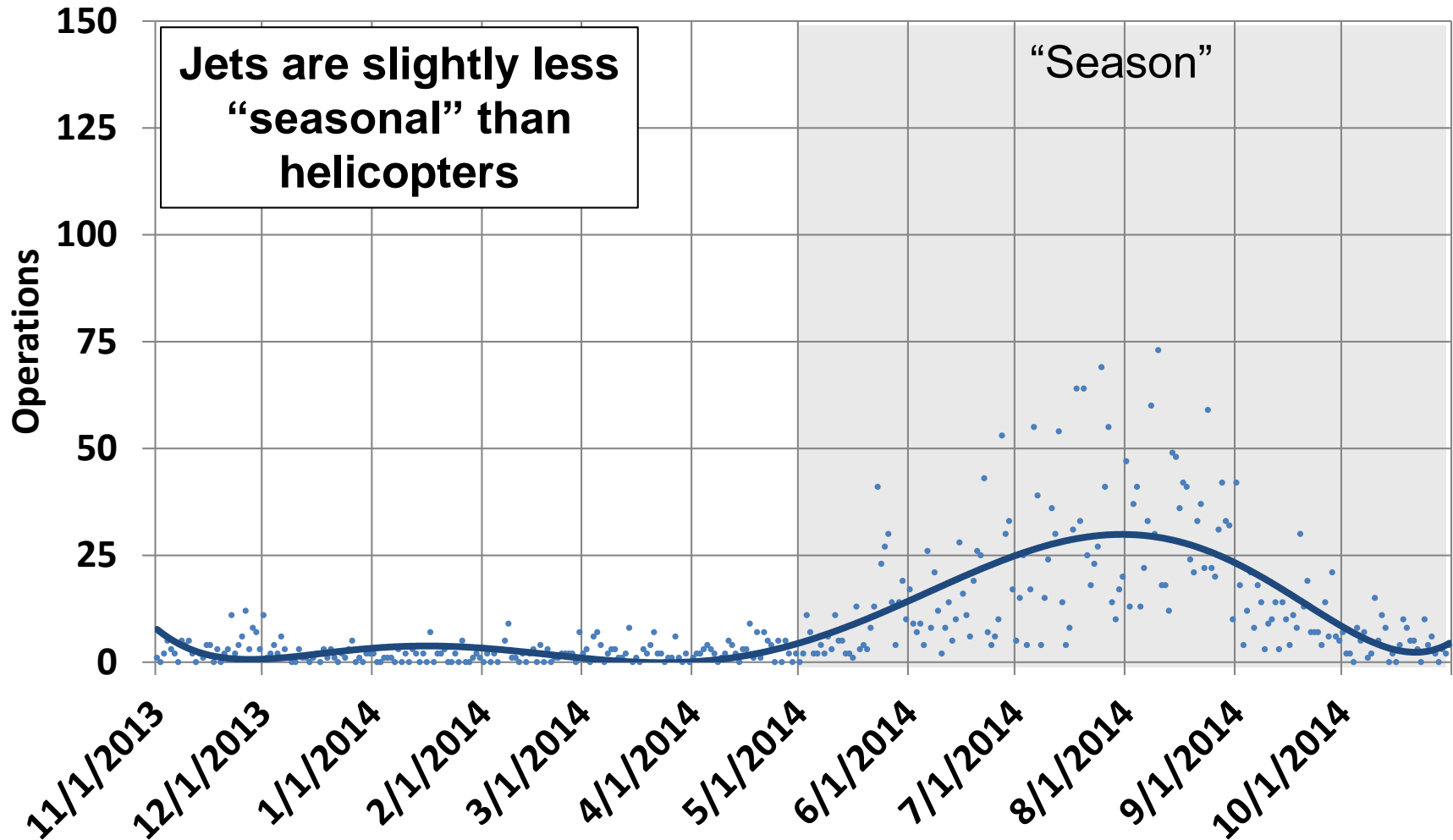
## Helicopter Operations by Day, 11/1/2013 - 10/31/2014



# When do operations occur?

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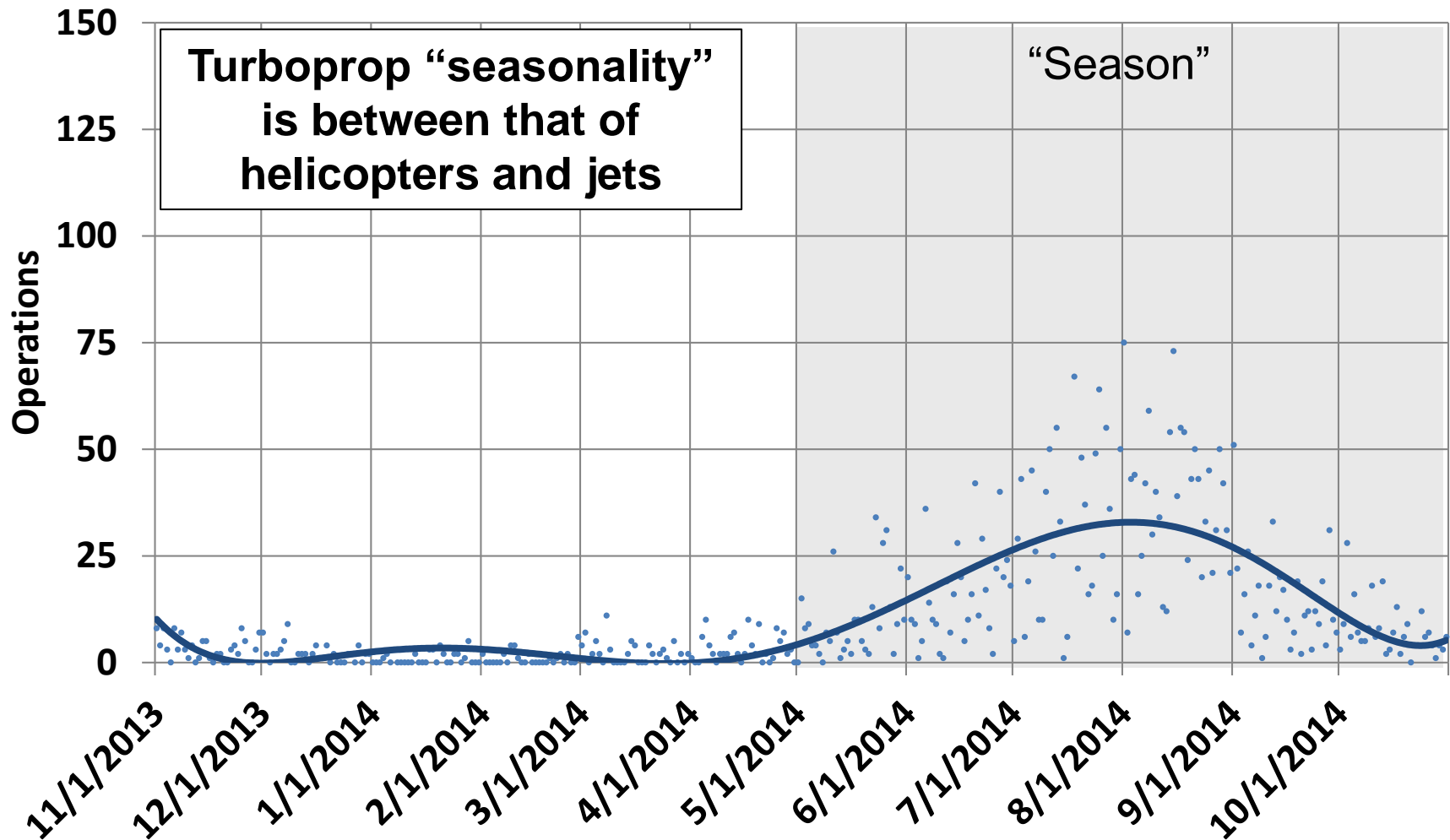
## Jet Operations by Day, 11/1/2013 - 10/31/2014



# When do operations occur?

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## Turbopropeller Operations by Day, 11/1/2013 - 10/31/2014

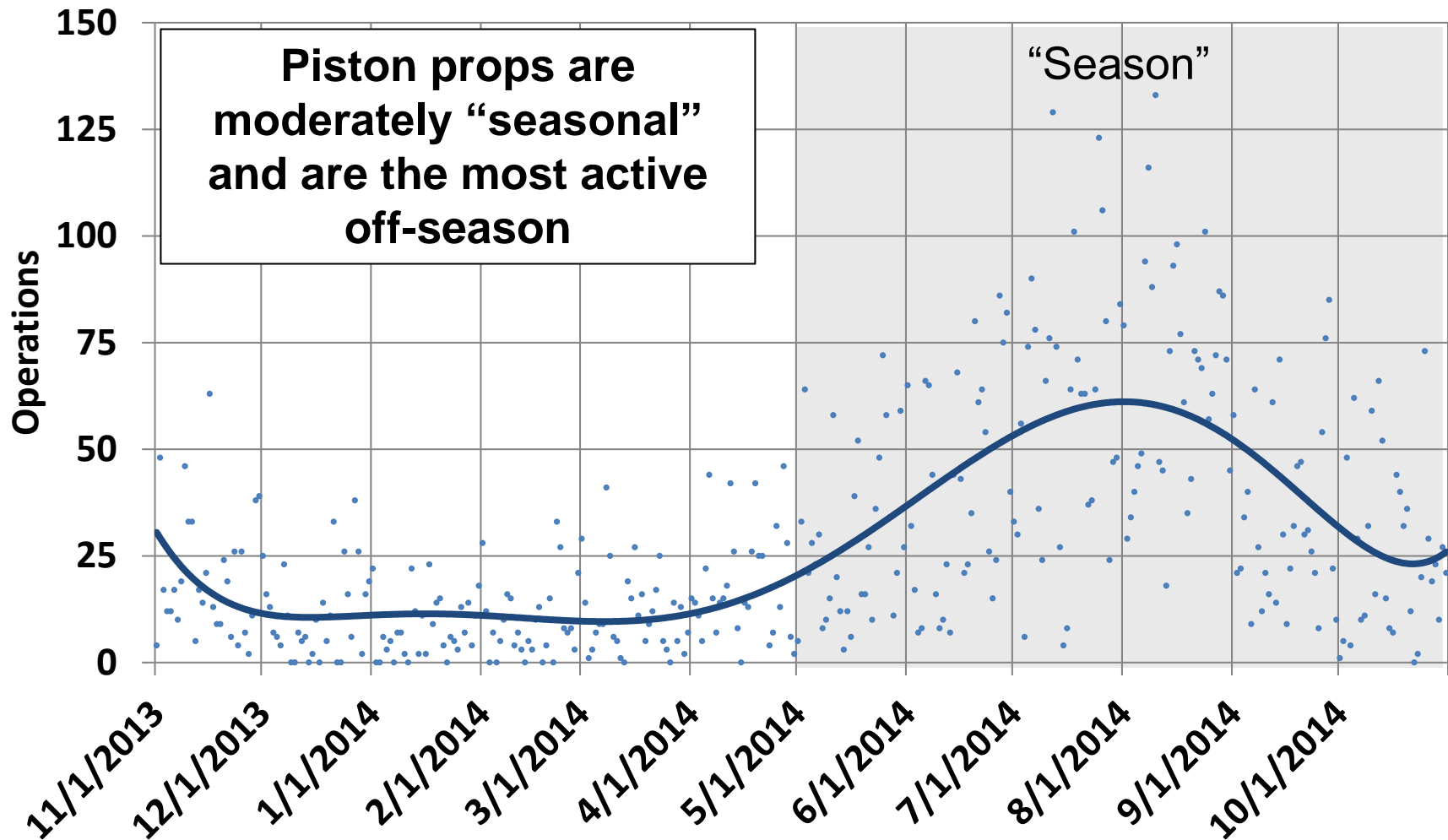




# When do operations occur?

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Piston Prop Operations by Day, 11/1/2013 - 10/31/2014



# Many aircraft conduct multiple operations a day

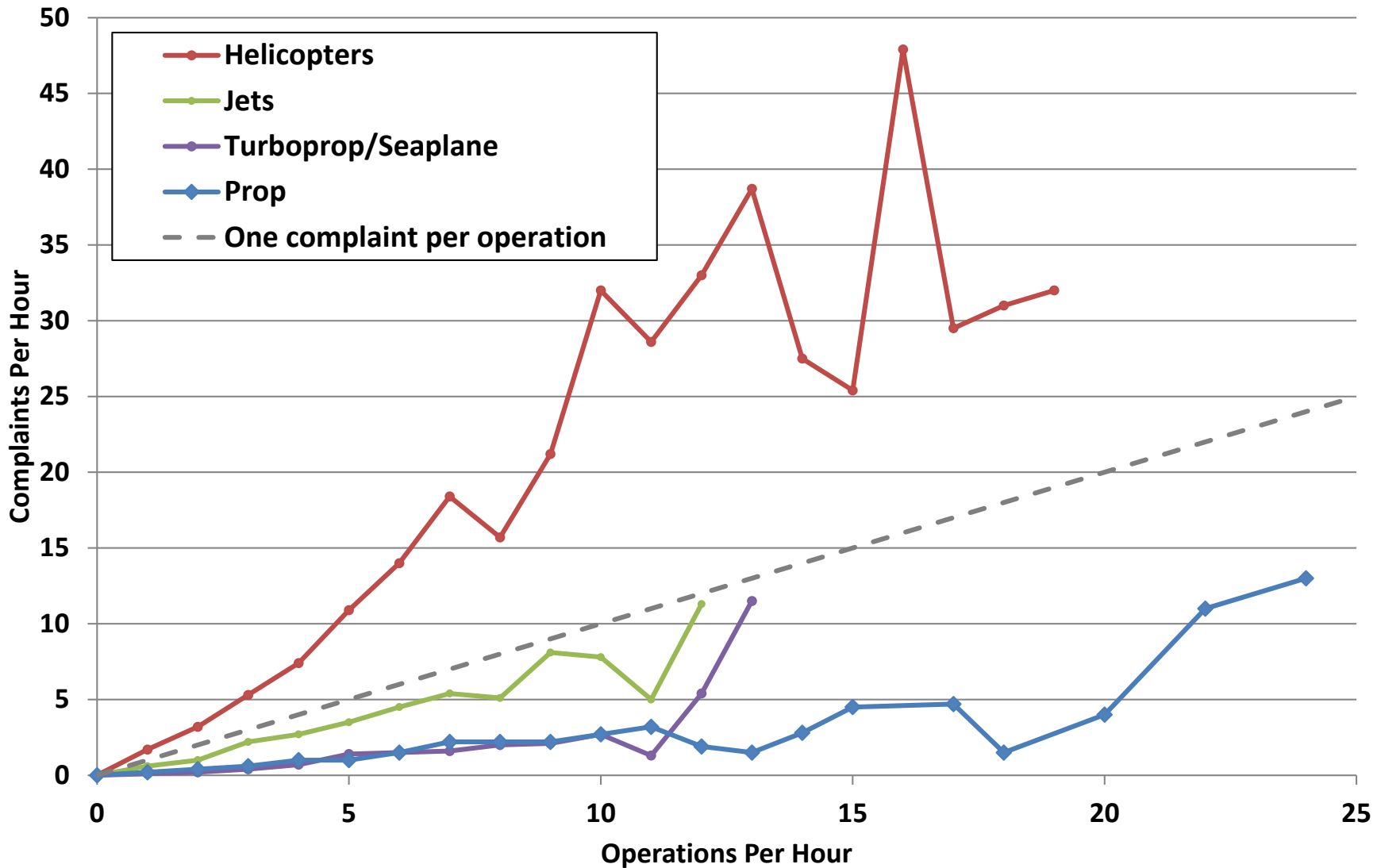
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	Maximum Daily Operations Conducted at HTO by a Specific Aircraft on a Given Day	
	In Season	Out of Season
Helicopters	10	5
Jets	4	5
Turboprops	12	5
Piston Props	9	6

- HTO is not a typical general aviation airport where users (other than pilots conducting training operations) typically conduct only one or two operations on a given day
- It is not unusual for a specific aircraft to conduct multiple round trips on a given day
- Multiple round trips are most common in helicopters and turboprops, particularly around weekends in season

# Annual complaints versus operations 11/1/13 - 10/31/14

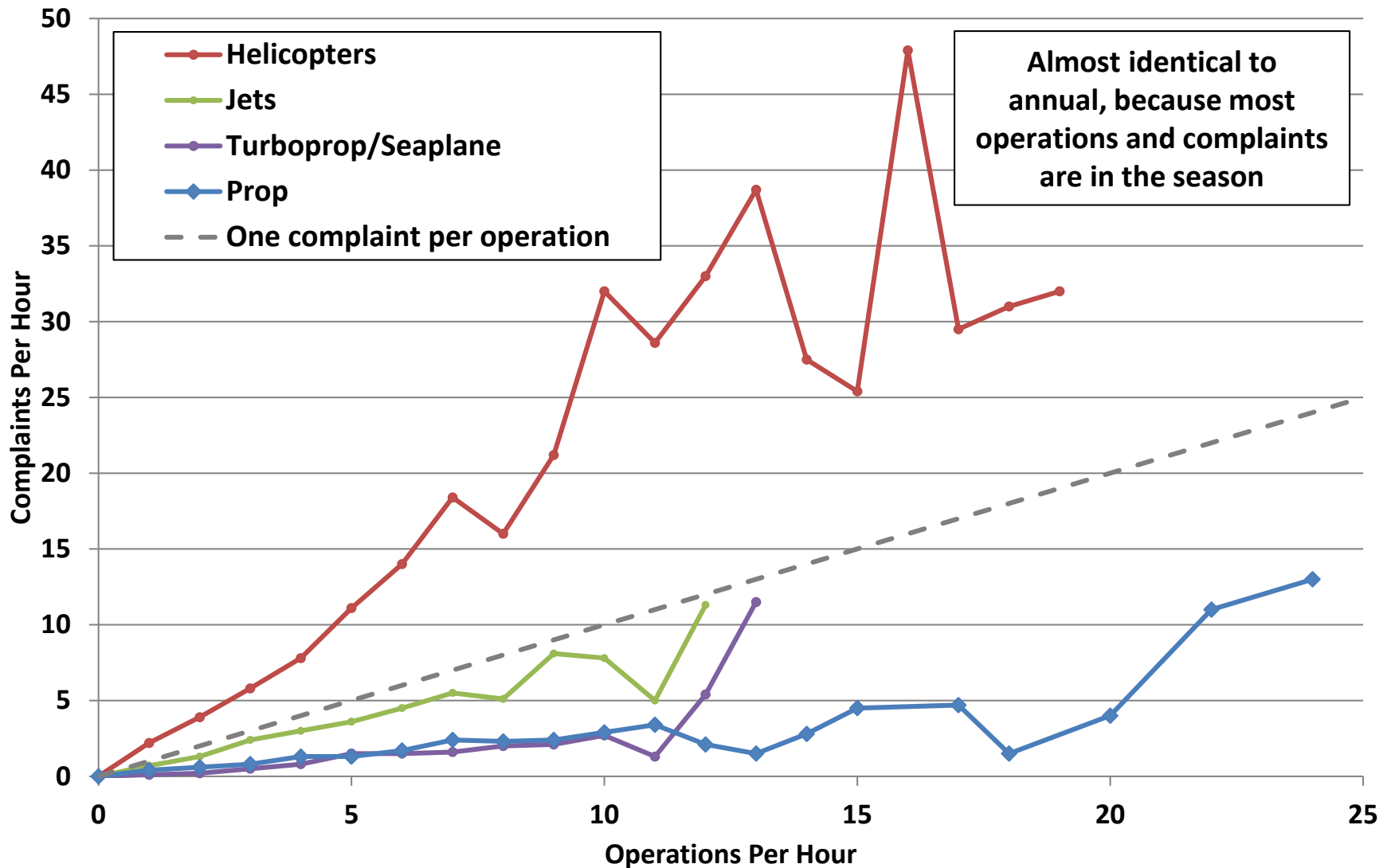
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# Seasonal complaints versus operations 5/1 - 10/31/14

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# Complaints per operation observations

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- **Complaints about fixed-wing operations**
  - Increase in a roughly “linear” or “straight-line” fashion
  - Even during busiest hours, there is never more than one complaint per operation on average for jets, seaplanes, or other propeller operations
- **Complaints about helicopter operations**
  - People are far more likely to complain about helicopter operations than jet, seaplane, or other propeller operations
  - The rate at which helicopter complaints are submitted increases faster than the rate at which operations increases
  - On average, there is more than one complaint per helicopter operation in any given hour
- **“Seasonal” and annual results are essentially identical**
  - Because most operations and complaints are in the season

## Contribution to problem definition?

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Noise from aircraft operating at East Hampton Airport disturbs many residents of the east end of Long Island.

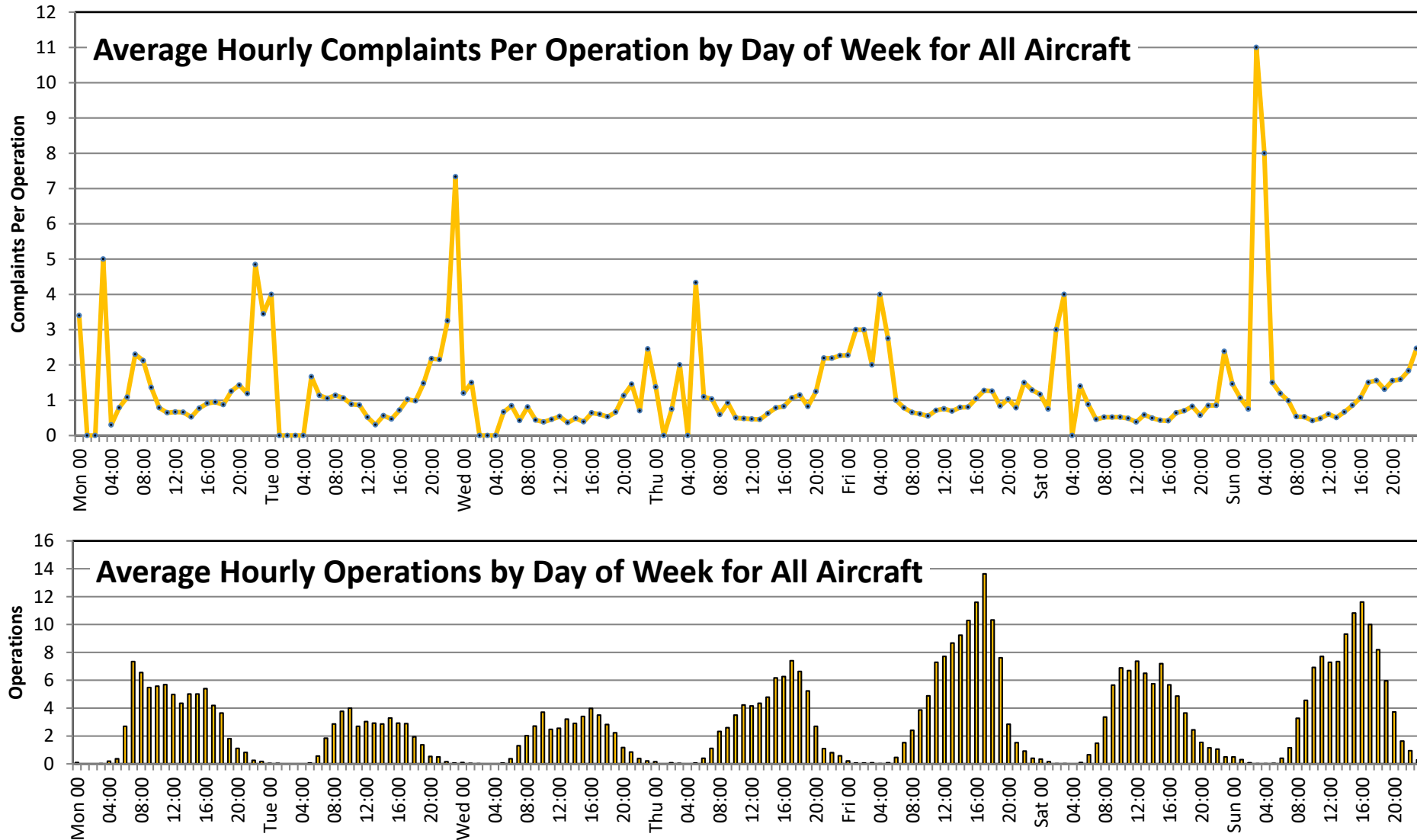
**Residents find helicopters more disturbing than any category of fixed-wing aircraft.**

**(Helicopter complaints increase faster than the rate at which operations increase.)**



# Complaints per operation (in all aircraft types) versus activity across the average annual week, 11/1/13-10/31/14

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## Contribution to problem definition?

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Noise from aircraft events disturbs many residents of the east end of Long Island. Residents find helicopters more disturbing than any category of fixed-wing aircraft.

Residents are most disturbed by all types of aircraft operations under two circumstances: (1) during evening and night hours, and (2) when operations are most frequent.



## Problem Definition

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***Noise from aircraft operating at East Hampton Airport disturbs many residents of the east end of Long Island. Residents find helicopters more disturbing than any category of fixed-wing aircraft. Disturbance caused by all types of aircraft is most significant when operations are (1) most frequent and (2) in evening and night hours.***

# Consideration of possible alternatives



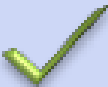





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Category	Details		Reasonable solution to problem?
1. No action	No action		<u>Not</u> a reasonable alternative
2. Bans	Ban “noisy” aircraft Ban certain aircraft types (e.g., helicopters)		<i>Needs more analysis</i>
3. Time-Based Restrictions	Time of day restriction Day of week restriction Seasonal restriction		<b><u>Possibly</u> a reasonable alternative</b>
4. Fee-Based	Increase fees during peak periods Increase fees for specific equipment		<u>Not</u> a reasonable alternative
5. Air Traffic Flow Mgmt.	Slots (limits by time or type)		<b><u>Possibly</u> a reasonable alternative</b>
6. Mitigation	Sound insulation Residential acquisition		<u>Not</u> a reasonable alternative
7. Voluntary	Voluntary measures Voluntary agreement from operators		<i>Needs more analysis</i>
8. Federal Restrictions	North or South Shore routes Altitudes and routes to HTO		<i>Needs more analysis</i>



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## Alternatives that have been rejected as not reasonable

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- **No action**
- **Noise mitigation**
- **Fee-based restrictions**
  - To address the problem, the fee would have to be high enough to change behavior
  - Such a high fee may not be reasonable under federal law
  - Fee-based alternatives run a high risk of unintended consequences, e.g., practical limits on who can use the airport, including users of light aircraft



## Alternatives that merit additional review

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- Several alternatives are not directly responsive to the problem statement
- Additional analysis is needed to determine effectiveness and reasonableness



# Ban(s)

- Can a ban address the problem?
  - Ban “noisy” aircraft
    - In general, jets are louder than helicopters on a single event basis
    - Complaints, however, appear to respond to frequency and timing of operations ***rather than decibel level***
  - Ban specific aircraft types (e.g., helicopters)
    - Residents do find helicopters most disturbing
    - Complaints, however, appear to respond to frequency and timing of operations ***rather than aircraft type***
  - Ban specific types of operations (e.g., touch-and-go)
    - Residents have cited touch-and-go patterns as an issue
    - Complaints, however, appear to respond to frequency and timing ***rather than type of operation***





# Voluntary measures

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- **Can voluntary measures address the problem?**
  - Existing voluntary measures
    - Result of many years of testing and refinement
  - Need to analyze 2014 data
    - Was compliance better in 2014 than in 2013?
  - Need to coordinate with operators
    - How do we measure effectiveness?



## Required routes or altitudes

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- **Are required routes or altitudes a “reasonable” answer?**
  - Required routes or altitudes might address the problem
  - The Town itself has no authority to regulate aircraft in flight
  - The Town could encourage FAA to enforce optimal flight paths



## Possibly reasonable alternatives

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- **Time of day/week/year restrictions**
  - Restricting/prohibiting operations during evening/night/early a.m. and/or peak periods would address the identified problem
  - Example:
    - Evening, night, and early morning curfew
- **Air traffic flow management**
  - Implementing a “slot” system to limit concentrated operations for any given time or day would address the identified problem
  - Examples:
    - Focus on individual aircraft conducting multiple arrival/departure “cycles” on a given day and require advance permission for *multiple* cycles on any day
    - Require advance permission during peak periods

# Finding the solution to the problem

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- One alternative alone may not address the problem
- Recommend that the Town consider a menu of options

**\*\* ILLUSTRATION ONLY \*\***

- 1. Curfew.** Close airport during evening, night, and early morning.
- 2. Slot/allocation system.**
  - Limit the number of hourly arrivals.
  - Prohibit multiple, daily arrivals by any given aircraft .
  - Require advance permission for operation in peak periods.

-1-

**\*\* ILLUSTRATION ONLY \*\***

- 3. Compliance and Enforcement.**
  - Vector Airport Solutions is responsible for monitoring.
  - Violations are misdemeanors subject to civil penalties.
  - Exemptions for emergency and safety circumstances.

-2-



# Questions / Discussion

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- Comment today or at future public meetings
  - Submit written comments to:  
[HTOcomments@EHamptonNY.gov](mailto:HTOcomments@EHamptonNY.gov)