

Changing Applicator Behaviors to Minimize Off-Target Movement

Does the Compliance Stick Work?

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-Dave Scott-

Does the compliance stick work ?

It all depends:

- who you ask,
- how you define work, and
- how big your stick is!

Issues relevant to this discussion:

- What are the objective(s) of enforcement?
- What are the motivations for compliance?
- What are the impediments to compliance?
- What does some of the data suggest?

Objectives of enforcement

- **Change applicator behavior**
- **Minimize off-target movement**
- Maintain pesticide availability for future users
- Establish a baseline for acceptable behavior
- Provide a sense of protection for the public
- Reward those users who comply voluntarily

Motivations for compliance

- Concern for public & environmental safety
- Concern about public opinion of the individual & the industry
- Fear of retribution (today's focus)
- Combination of a variety of motivations

Combination of motivations

- Analogy:
- I do not drink & drive because:
 - I'm concerned about injuring others
 - I'm concerned about injuring myself
 - The general public no longer accepts it
 - My insurance rates may increase
 - It is against the law (**fear of retribution**):
 - I am afraid of going to prison
 - I can't afford the financial penalty & fallout

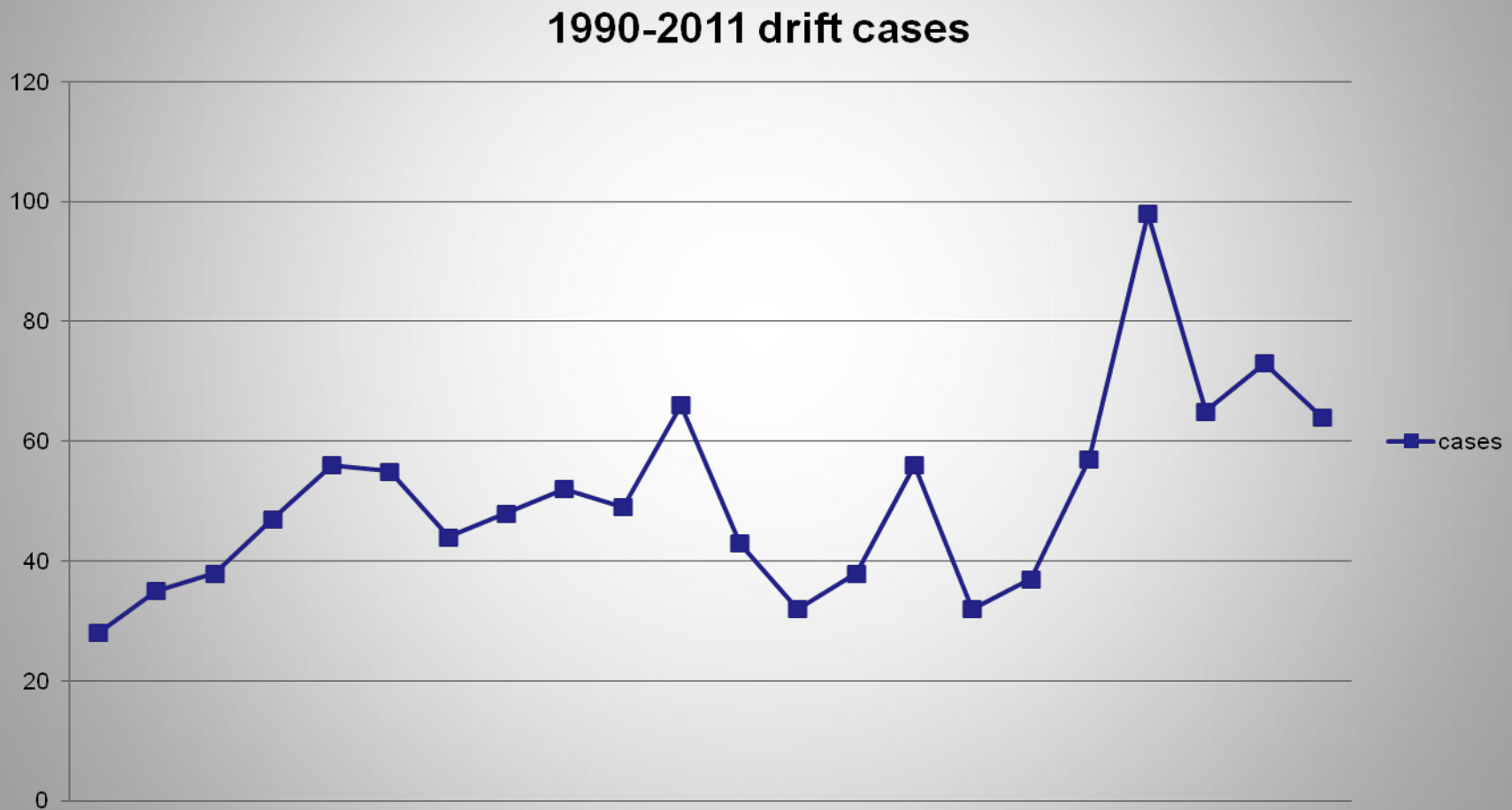
Impediments to compliance

- Poorly defined compliance standard(s)
 - Vague label directions
 - Inconsistent label directions
 - No enforceable label directions
- Differing personal value systems & beliefs
 - I have a right to apply pesticides as needed because I am feeding the world, so some minor risk is OK.
 - Off-target drift really doesn't cause harm.
- Inadequate penalties...cost of doing business

What does the data suggest?

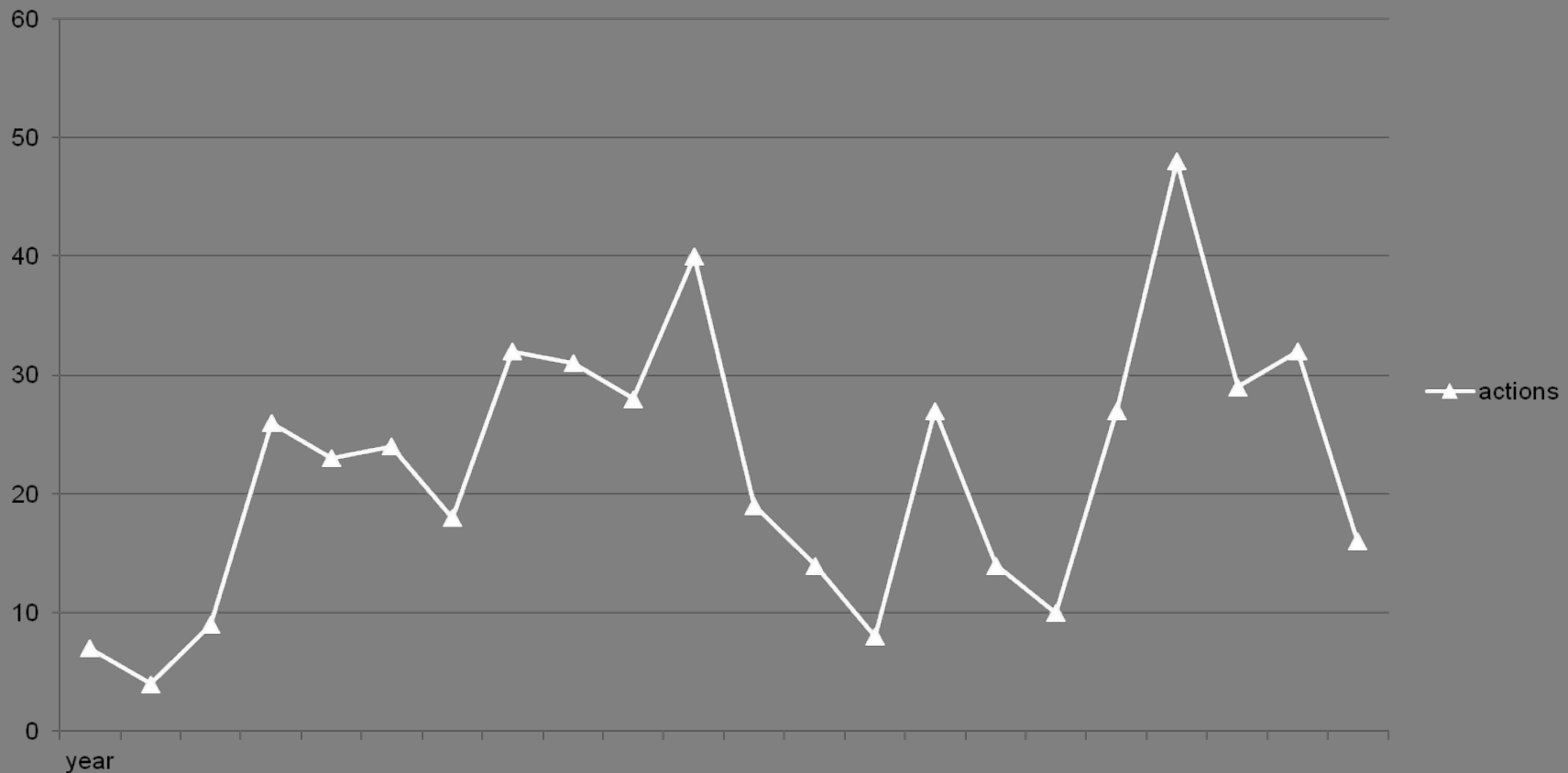
- Indiana drift investigation data
- Hockey stick = 1990 thru 2011
- Civil penalties for drift initiated about 1995
- Dedicated compliance officer about 2002

What does the data suggest?

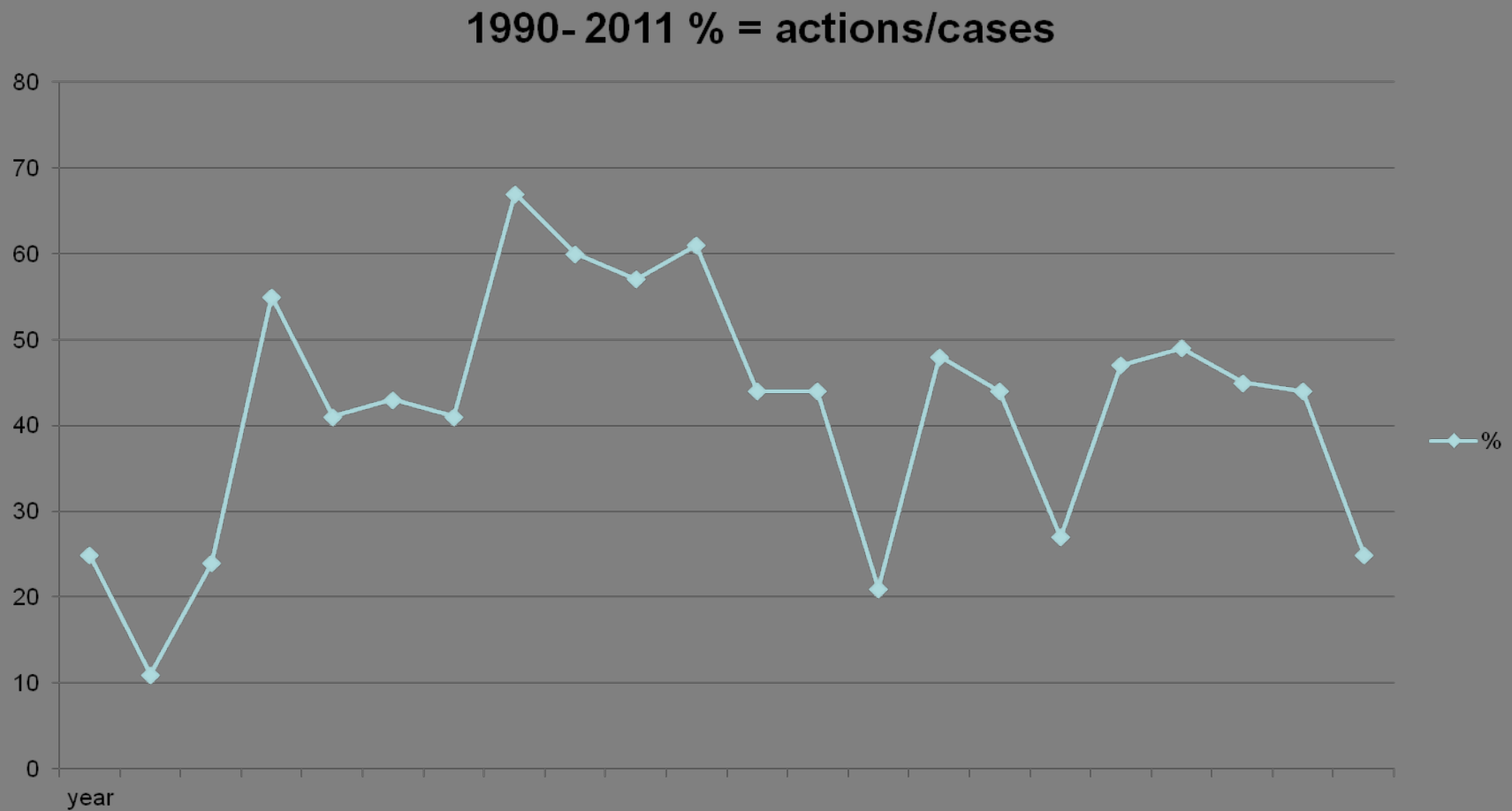


What does the data suggest?

1990-2011 drift actions



What does the data suggest ?



Any observations of drift data?

- Disregard outliers
- Disregard variables
- Range:
 - 25 to 70 complaint investigations per year
 - 10 to 50 enforcement actions per year
 - 20 to 60 % actionable cases per year

Variables could include:

- Changing cropping practices
- Variable crop prices
- Changing chemistries & formulations
- Population location changes
- Regulatory staff changes
- Changing public tolerance for drift
- **Variable weather patterns**
- Many many more

Any trend observations?

- Drift complaints trending up
- Enforcement actions trending up
- % actionable cases relatively flat

So does the stick work?

- Like I said before:
 - It depends on who you ask
 - It depends how you evaluate effectiveness
 - It depends on the size of your stick
 - But using data over time for evaluation will require mechanisms to minimize or account for many many variables.