



See, Measure, Inform



Take Action



Moisture in the Skin

A Hawk-Eye™ System Also Watches What Is Happening On The Field.



It Sees and Measures It, Every Day, All Day and Night, so You Can Take Action.





Moisture in the Skin

The following set of slides will show how a persistent (every ten minutes, every day) visual and far-IR camera set such as in the Hawk-Eye™ System can help understand the distribution of moisture in the skin.

This is a well managed minor league ball field.
It was laser graded in Mid-July.

An EYAS camera set variant of the Hawk-Eye™ System was used to collect image data between late April through late August. The camera set was not set-up in a location that could “see” the whole field. An ideal location for an EYAS used to measure a baseball field should be high above the field, behind home plate.

Page A is a depiction of the puddle pattern in April and August.

Page B demonstrates dry and wet skin conditions

Page C demonstrates game day conditions. Note the infield between 1st base and 2nd base.

The skin shows moisture differently between 1st and 2nd base.

Page D shows that moisture, mapped by the temperature, resembles the puddle pattern.

Where the puddle was cool with water and hot without water, it says that the water isn't perking or draining well in the infield area near 1st base to almost where the 2nd baseman stands.

Page E is for thinking about these types of enhanced temperature images and making a notice to inform the grounds men.

Page F is a statement of capability. Persistently See, Measure, Understand w/EYAS. Take Action w/Hydrogation Device.

NO MORE BAD HOPS.





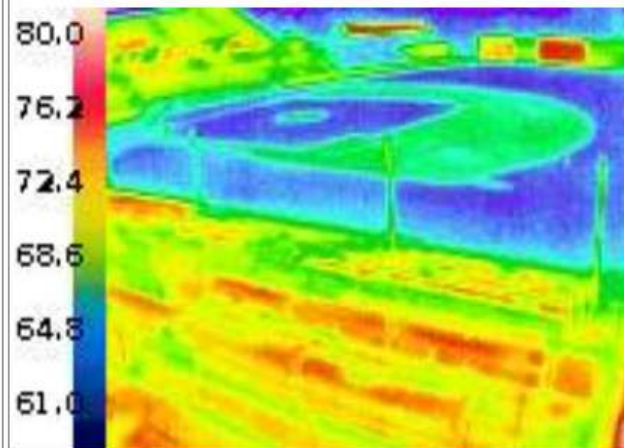
Puddle Patterns

2" on 28 Apr
0.25" on 30 Apr

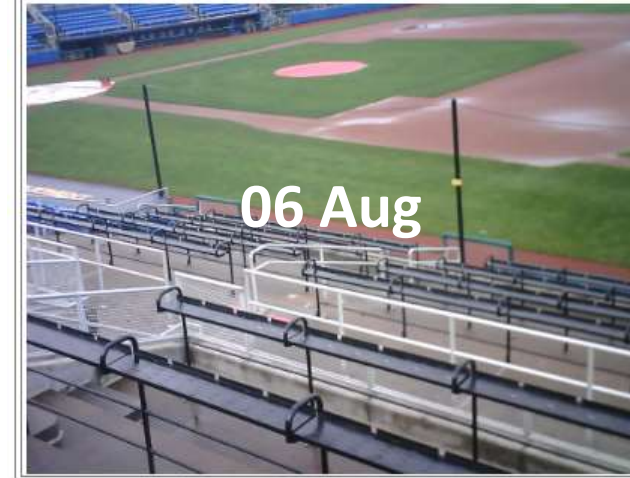


30 Apr

Sun, 30-Apr-2023 04:07 PM
64.9°F - mostly cloudy - RH: 60% - DP: 51.1°F - West @ 10 MPH

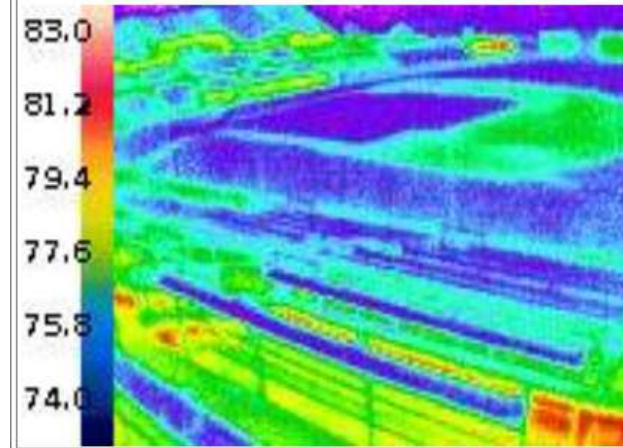


0.5" on 06 Aug



06 Aug

Sun, 06-Aug-2023 08:08 PM
73.9°F - mostly cloudy - RH: 87% - DP: 70.0°F - North @ 0 MPH **THI: 161**



...may, jun, jul...

Warm is Dryer

Cool is Moister





Water on the Skin

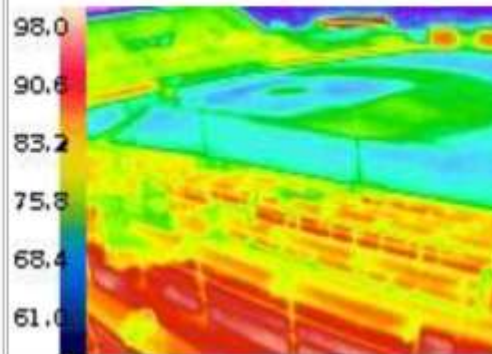
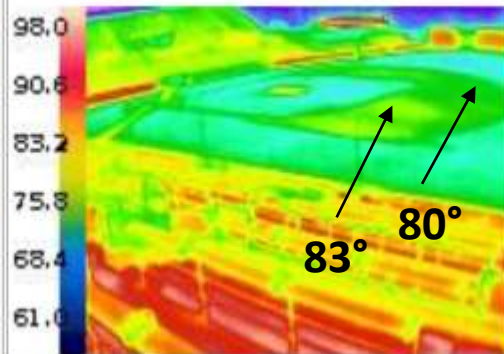
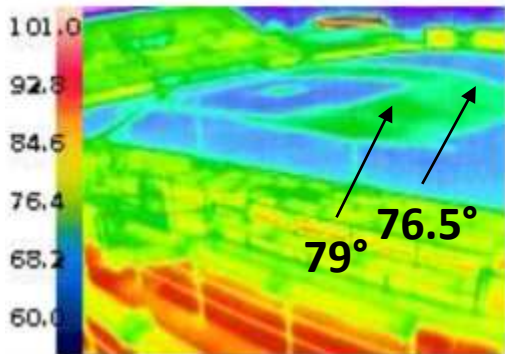
18 May 2023 (cool, low humidity, no water on skin)



Thu, 18-May-2023 01:40 PM
66.9°F - mostly cloudy - RH: 62% - DP: 48.9°F - SouthEast @ 5 MPH

Thu, 18-May-2023 01:50 PM
66.9°F - mostly cloudy - RH: 62% - DP: 48.9°F - SouthEast @ 5 MPH

Thu, 18-May-2023 02:00 PM
66.9°F - mostly cloudy - RH: 62% - DP: 48.9°F - SouthEast @ 5 MPH

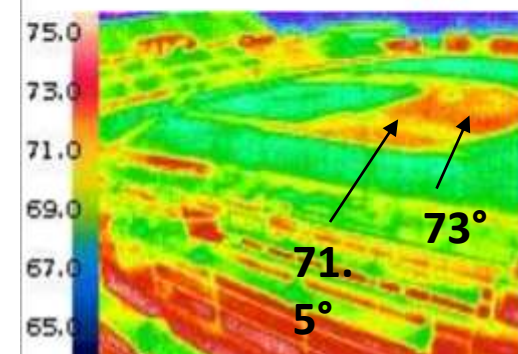


1st base side warmer (drier) than 2nd base side

30 May 2023, rainy day



Tue, 30-May-2023 06:46 PM
64.9°F - overcast - RH: 96% - DP: 64.0°F - EastNorthEast @ 7 MPH THI: 161



1st base side cooler (moister) than 2nd base side

See the whole day:

<https://vimeo.com/manage/videos/836702895>



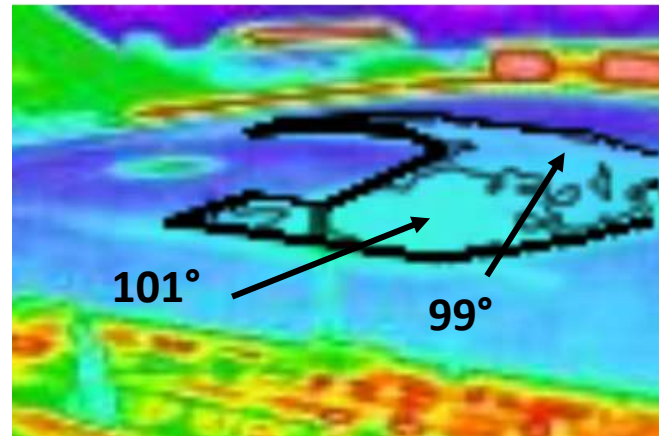
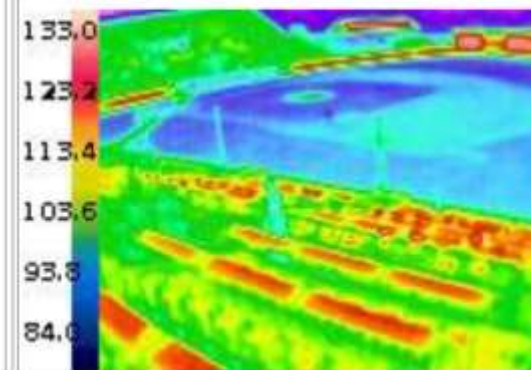


Moisture in the Skin

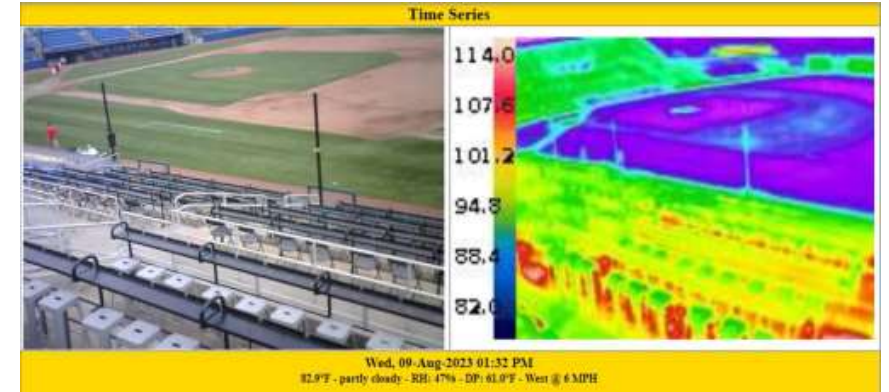
Game Day, 30 July 2023 (84°, low humidity)



Sun, 30-Jul-2023 04:41 PM
84.9°F - mostly cloudy - RH: 54% - DP: 66.9°F - Variable @ 6 MPH

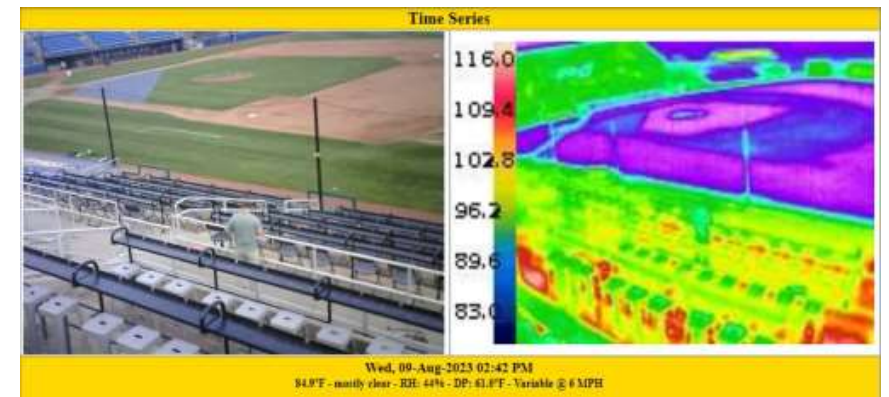


The Pattern Persists, 09Aug



Wed, 09-Aug-2023 01:32 PM
82.9°F - partly cloudy - RH: 47% - DP: 61.0°F - West @ 6 MPH

See the video, 1100-2200 09aug23, GameDay:
<https://vimeo.com/863315578?share=copy>



Wed, 09-Aug-2023 02:42 PM
84.8°F - mostly clear - RH: 44% - DP: 61.8°F - Variable @ 6 MPH

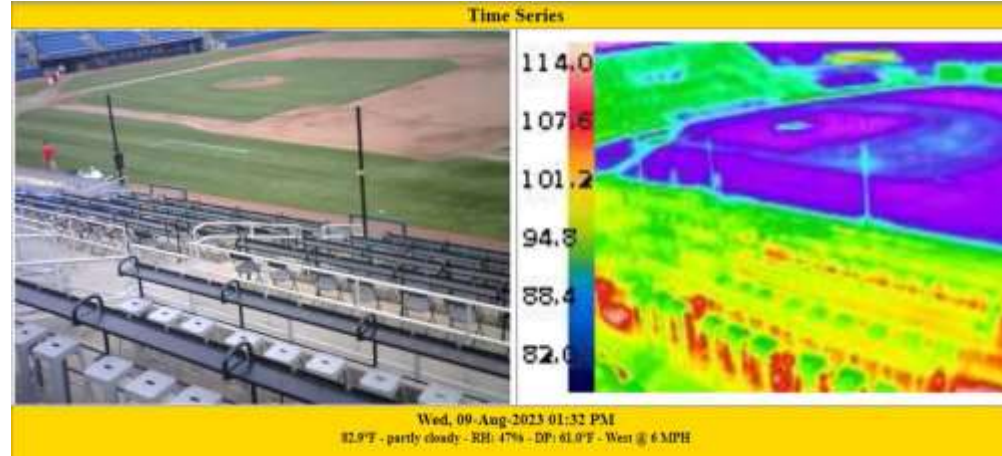
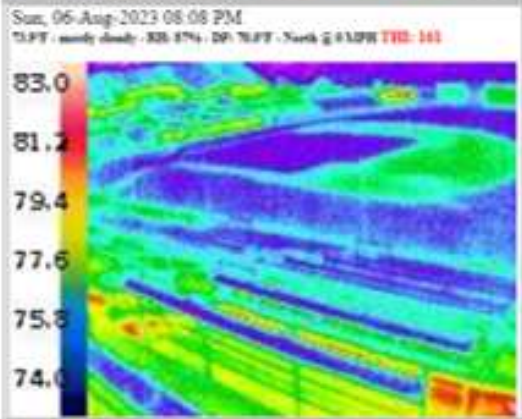
1st base side warmer (drier) than 2nd base side

See the Game Day Video: 1200-2200 30jul23: <https://vimeo.com/863289112?share=copy>

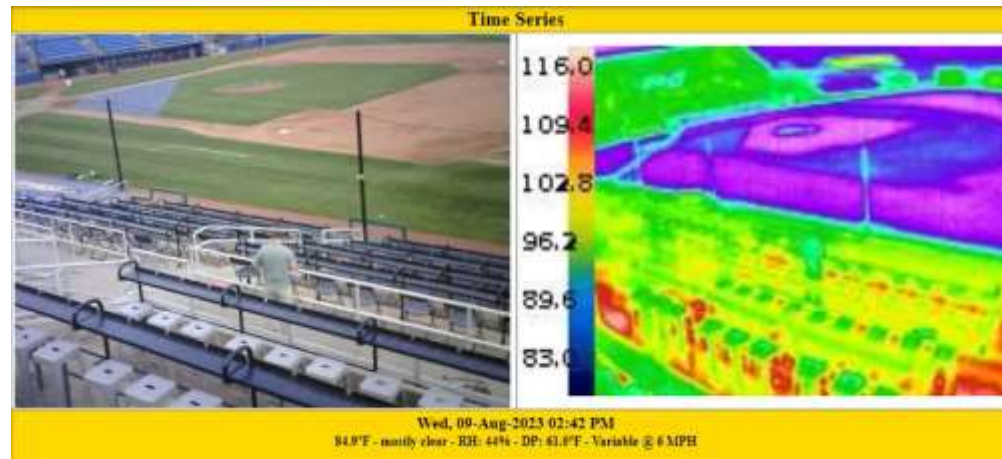




The Temperature Pattern Persists into Game Day

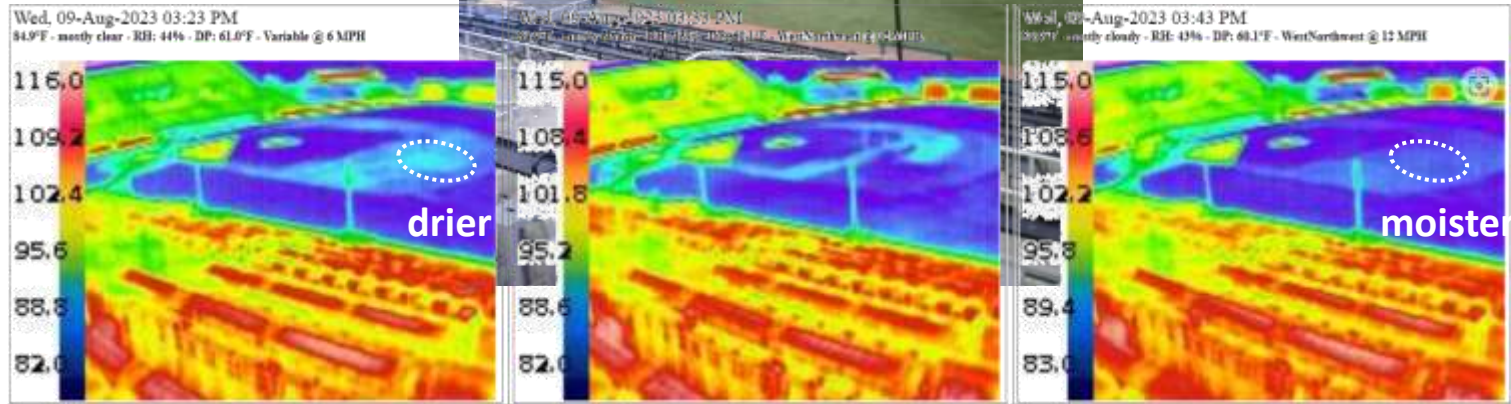
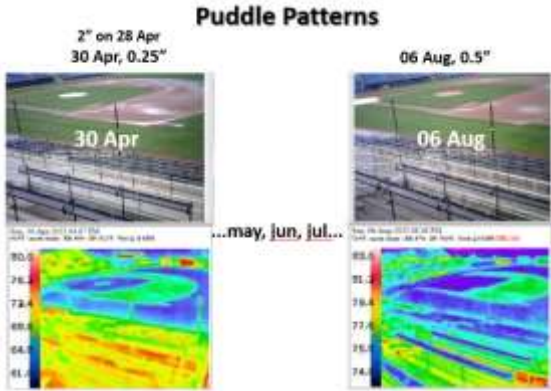


See the video, 1100-2200 09aug23, GameDay: <https://vimeo.com/863315578?share=copy>

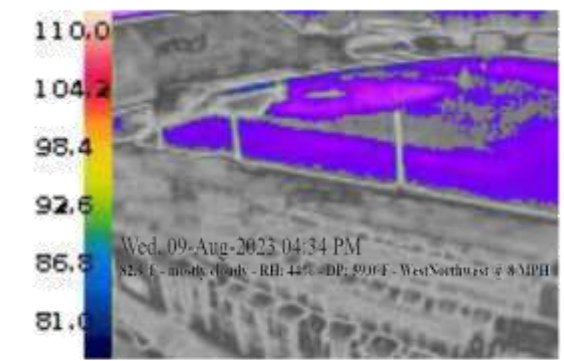
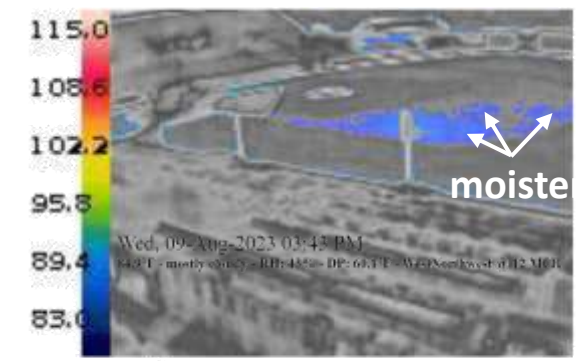
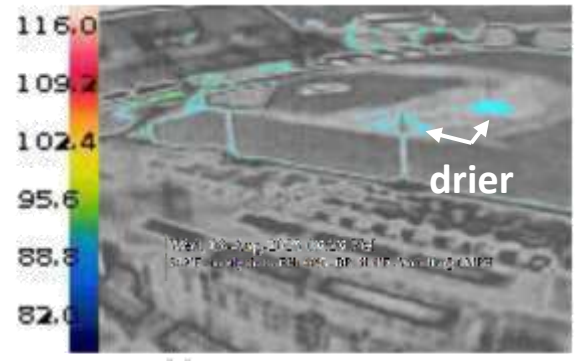
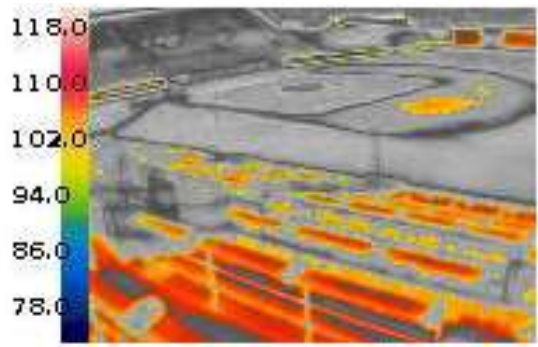




Puddles Become the Driest Spots



Wed, 02-Aug-2023 03:46 PM
81.0°F - mostly cloudy - RH: 49% - DP: 60.1°F - EastSoutheast @ 9 MPH



Hot = Dry = Hard?

92.7° - 93.7°

91.1° - 92°

81.3° - 86.5°





Electro Conductivity Scan
Shows the structure of the field's base



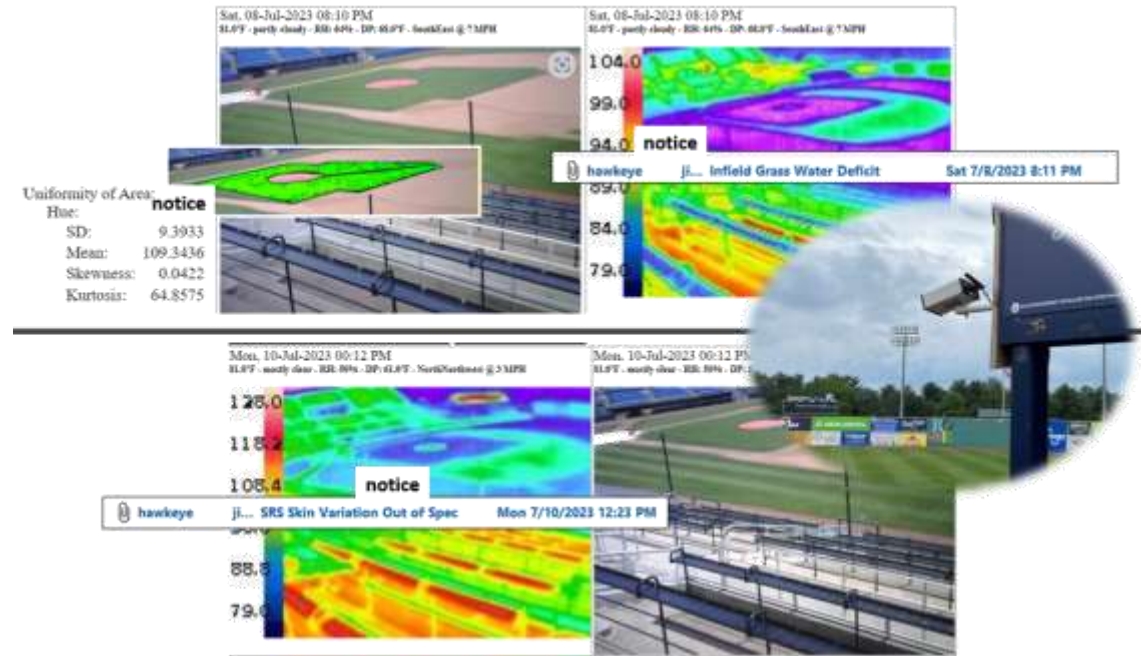
Hawk-Eye™ System
Shows & translates what the skin and the turfgrass has to say.
All Day and Night



Hydrogation Device
Makes the water percolate better.
Get the skin right.

**Watch the real-time character of the skin.
See if/when it is out of specs.**

Give the skin attention where it's needed



**No More
Bad Hops!**



See it. Measure it. Be Notified. Take action.

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