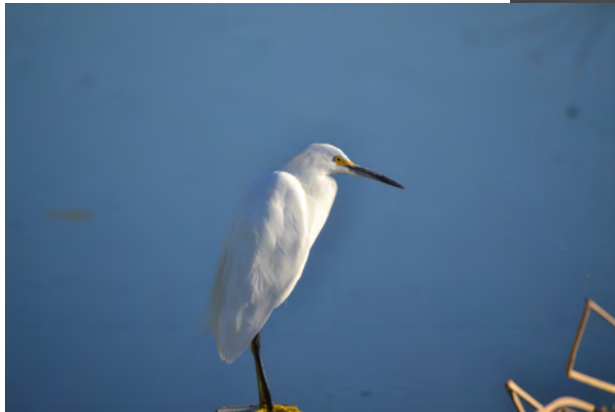


# EXECUTIVE DIRECTOR'S REPORT

Board of Directors Meeting  
October 5, 2016



# 2016 CROP MAP

THE NATOMAS BASIN CONSERVANCY



Tract	Acq. Date	Acres
1. Alleghany (14)	11.07.02	50.26
2. Atkinson (16)	06.12.03	199.40
3. Bennett North (4)	05.17.99	226.68
4. Bennett South (5)	05.17.99	132.49
5. Betts (2)	04.05.99	138.99
6. Bianchi West (28)	11.07.06	110.16
7. Bolen North (23)	04.29.05	113.62
8. Bolen South (24)	04.29.05	102.38
9. Bolen West (26)	09.01.06	155.14
10. Cummings (15)	11.07.02	66.83
11. Elsie (29)	11.07.06	158.03
12. Frazer North (9)	07.31.00	92.60
13. Frazer South (30)	11.07.06	110.37
14. Huffman East (19)	09.30.03	135.75
15. Huffman West (18)	09.30.03	157.85
16. Kismat (3)	04.16.99	40.46
17. Lucich North (6)	05.18.99	267.99
18. Lucich South (7)	05.18.99	351.89
19. Natomas Farms (11)	07.09.01	55.19
20. Nestor (27)	09.01.06	233.16
21. Rosa East (21)	03.23.05	106.28
22. Rosa Central (22)	03.23.05	100.02
23. Ruby Ranch (17)	06.23.03	91.08
24. Sills (13)	07.15.02	436.41
25. Silva (1)	01.07.99	159.20
26. Silva South 1 (31)	09.28.12	29.12
27. Souza (10)	07.02.01	40.00
28. Tufts (20)	09.29.04	147.95
29. Vestal (25)	09.12.05	94.95
		<b>4,104.25</b>

(8) Brennan tract, acquired 6.15.00, exchanged 9.1.06. (242.38 acres)

(12) Ayala tract, acquired 2.20.02, exchanged 11.3.06. (317.37 acres)

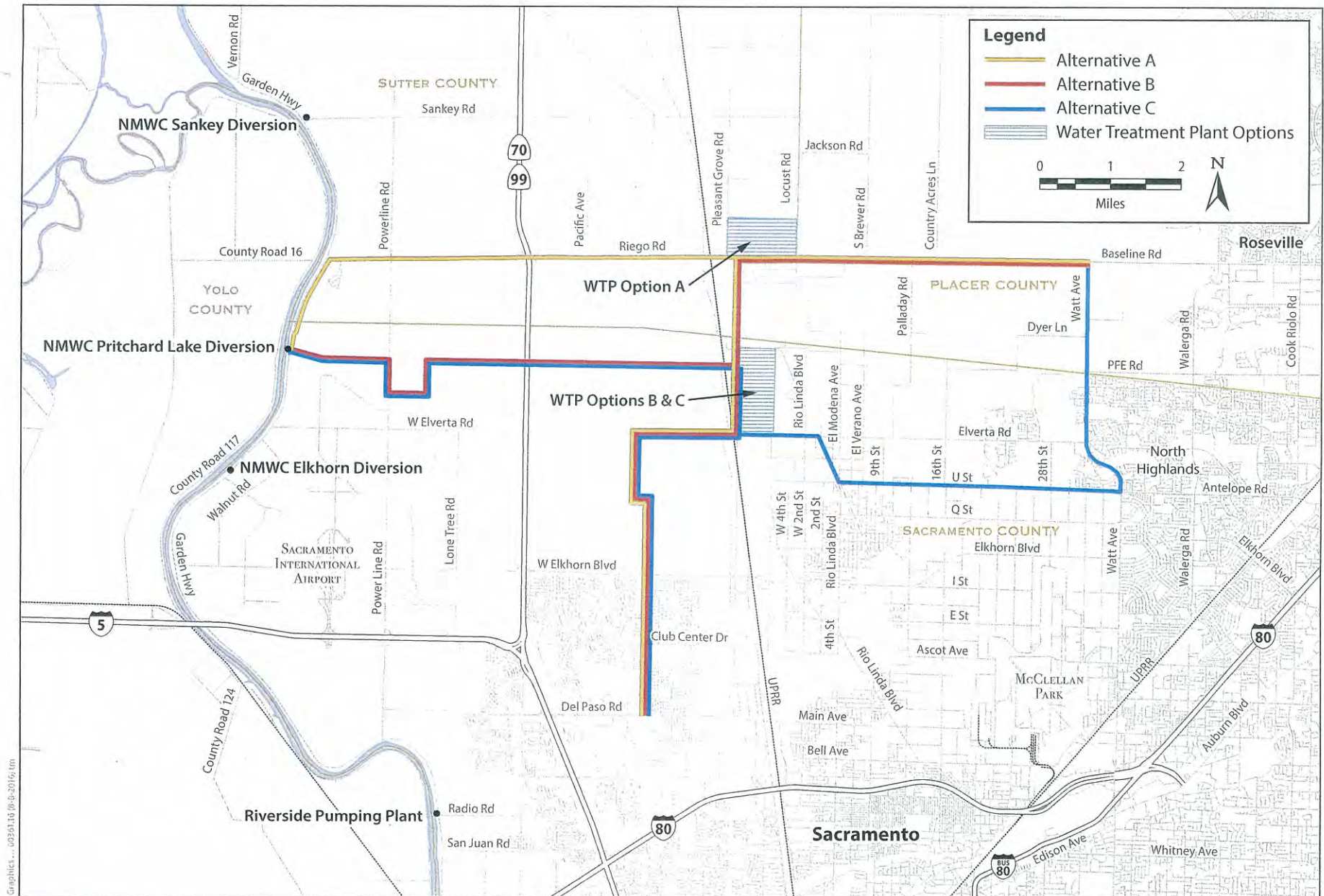
Portions of the Atkinson tract (6.76 acres), the Huffman West tract (23.25 acres), and the Natomas Farms tract (41.27 acres) were sold to the Sacramento Area Flood Control Agency for the Natomas Levee Improvement Program (NLIP).

(n) number in parentheses represents chronological order of acquisition

#### Managed but not owned (SAFCA)

a. Brookfield 180.00 acres	e. AKT 16.01 acres
b. Novak 52.753 acres	f. South Sutter 75.08 acres
c. Pappa Rosa 35.77 acres	g. Willey 4.69 acres
d. Sharma 20.81 acres	





**Figure 1**  
**RiverArc Project Alternatives Overview**



A satellite map of North America serves as the background. Overlaid on the map are several weather-related terms in different colors and fonts. The word 'Wet' appears in yellow at the top left and bottom right. 'Warm' is in pink in the upper center. 'Dry' is in white in the lower left. 'Wet' is also in white in the lower center. The word 'Dry' is repeated in a smaller white font below the first 'Dry'.

Wet  
Warm  
Wet  
Dry  
Wet  
Dry

WINTER





Account home

**Natomas Conservancy** @NatomasBasin

Page updated daily

28 day summary with change over previous period



Sep 2016 • 29 days so far...

TWEET HIGHLIGHTS

Top Tweet earned 996 impressions

Shore birds are out for a walk @NatomasBasin preserves. Photo taken by @NatomasBasin staff. natomasbasin.org #natomas #wildlife pic.twitter.com/wtGlaMWSUC



4    7

View Tweet activity

View all Tweet activity

Top mention earned 34 engagements

Western Kingbird @natomasbasin preserves. #westernkingbird can catch its lunch flying in the air. #natomas natomasbasin.org pic.twitter.com/rTHSGBmMHQ



5    7

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SEP 2016 SUMMARY



Top media Tweet earned 814 impressions

Western Kingbird @natomasbasin preserves. #westernkingbird can catch its lunch flying in the air. #natomas natomasbasin.org pic.twitter.com/rTHSGBmMHQ







## Michele McCormick Photography

August 30 · 🌐

I'm delighted to be a Featured Photographer for The Natomas Basin Conservancy. Shooting their properties was pure pleasure!

<http://www.natomasbasin.org/.../photo-gall.../michele-mccormick/>



## Michele McCormick - The Natomas Basin Conservancy

Michele McCormick, Featured Photographer Michele McCormick Folsom resident Michele McCormick is a widely exhibited photographer. She studied photography in college at Northwestern University, and her early career was in...

[WWW.NATOMASBASIN.ORG](http://WWW.NATOMASBASIN.ORG)



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## Giant Gartersnake Symposium Agenda

September 21, 2016 Classroom Session  
The Falls Event Center, Elk Grove, CA



7:00 - 8:10 Registration & Breakfast Refreshments  
8:10 - 8:20 Welcome and Opening Remarks

### Session 1 – ID, Natural History, and Taxonomy

- ✓ 8:20 - 8:40 The Giant Gartersnake: A Tale of Persistence in an Uncertain World ~ *Mike Casazza*
- ✓ 8:40 - 9:00 Notes and Procedures for Identifying the Giant Gartersnake (*Thamnophis gigas*) ~ *Eric Hansen*
- ✓ 9:00 - 9:20 Contemporary Patterns of Genetic Structure and Diversity in Giant Gartersnakes (*Thamnophis gigas*) ~ *Dustin Wood*
- ✓ 9:20 - 9:40 Relations among Environmental Attributes, Potential Chemoreception, and Contemporary Occupancy of a Threatened Snake ~ *Eric Hansen*
- ✓ 9:40 - 10:00 Active Season Microhabitat and Vegetation Selection by Giant Gartersnakes Associated with a Restored Marsh in California ~ *Mike Casazza*

10:00 - 10:25 Morning Break

### Session 2 – Movement and Demography

- ✓ 10:25 - 10:45 Space Use by Giant Gartersnake in Structurally Different Wetland Habitats ~ *Patricia Valcarcel*
- ✓ 10:45 - 11:05 Terrestrial Ecology of Semi-Aquatic Giant Gartersnakes (*Thamnophis gigas*) ~ *Glenn Wylie*
- ✓ 11:05 - 11:25 Spatial Ecology of Giant Gartersnakes in Rice-growing Regions of the Sacramento Valley ~ *Brian Halstead*
- ✓ 11:25 - 11:45 Rates of Growth in Giant Gartersnake Populations in Managed Wetlands and Agricultural Areas ~ *Rick Scherer*
- ✓ 11:45 - 12:05 Demography of Giant Gartersnakes in the Natomas Basin ~ *Brian Halstead*
- ✓ 12:05 - 1:25 Lunch Break (lunch served on-site)

### Session 3 – Diet, Health, and Threats

- ✓ 1:25 - 1:45 Diet, Prey Preference and Selection of Giant Gartersnakes (*Thamnophis gigas*) from the Sacramento Valley of California ~ *Julia Ersan*
- ✓ 1:45 - 2:05 Contaminant Exposure and Effects of Groundwater Pumping on Giant Gartersnake ~ *Rick Scherer*
- ✓ 2:05 - 2:25 Update on Giant Gartersnake Health Assessments and Preliminary Mortality Findings ~ *Ray Wack\**
- ✓ 2:25 - 2:45 Demography of Non-native *Nerodia sipedon* in the Sacramento Valley and the Efficacy of Trapping as an Eradication Method ~ *Jonathan Rose*
- ✓ 2:45 - 3:05 Giant Gartersnakes Encountered during Construction of Water Canals for the Gray Lodge Wildlife Area Water Supply Project, Assessing the Effectiveness of Avoidance and Mitigation Measures ~ *Eric Britt*

3:05 - 3:30 Afternoon Break

### Session 4 – New Methods, Conservation, and Management

- ✓ 3:30 - 3:50 Scent-Detection Dog Surveys for the Giant Gartersnake (*Thamnophis gigas*) ~ *Robyn Powers\**
- ✓ 3:50 - 4:10 Development of Environmental DNA Methods for Giant Gartersnake (*Thamnophis gigas*) ~ *Gregg Schumer*
- ✓ 4:10 - 4:30 Use of Water Budgets to Plan Giant Gartersnake Habitat Needs ~ *Sara Sweet*
- ✓ 4:30 - 4:50 Thinking in Perpetuity: Management of Giant Gartersnake Preserves ~ *Eric Olson*
- 4:50 - 5:00 Closing Remarks

5:00 - 7:30 Poster Session/Social (prepaid, or tickets available for purchase on site \$12– see our merchandise table!)

**\*Thank you to our symposium sponsors!**





## Sacramento-Shasta Chapter of The Wildlife Society Giant Gartersnake Symposium



### Classroom Session - Wednesday, September 21, 2016

The Falls Event Center, North Main Hall 8280 Elk Grove Blvd., Elk Grove, CA

8:15am – 5:00pm (Poster session/ Social 5:00 - 7:30pm)

The continued efforts by the resources agencies and others involved in the research and conservation of the State- and Federally Threatened Giant Gartersnake (*Thamnophis gigas*; GGS) requires communication of threats and sharing of how research studies are being used to manage and conserve the species. This two-day symposium is comprised of a Classroom session with oral presentations and an optional, limited enrollment field session. This symposium serves agency and private professionals, managers, students. The session topics (6.5-7 hours of total instruction, including Q&A) outlined in the Classroom agenda include:

- Identification, Natural History and Taxonomy (including distribution and habitat)
- Movements and Demography
- Diet, Health, and Threats
- New Methods, Conservation, and Management

The poster session/ social reception includes viewing of posters, service of refreshments & hors d'oeuvres, and continued networking, discussion of ongoing research, and exploration of collaborative opportunities.

### Field Sessions - Thursday, September 22, 2016

Three concurrent locations in the Sacramento Valley will host field attendees from approximately 8am-noon (approximately 3-4 hours of instruction) where GGS conservation efforts are occurring through broad, collaborative management strategies. At each field site attendees will observe and learn about proper capture and handling methods (trapping for ongoing research or management efforts), possibly process any snakes captured, and apply field topics discussed in the classroom session from the previous day. Field instructors will discuss the challenges of managing and maintaining GGS habitat and populations in the different landscape types of each field site.

#### ***Colusa Basin Mitigation Bank***

At Colusa, attendees will visit a recently constructed, 160-acre habitat mitigation bank in Colusa County, discuss habitat features necessary for the snake and how the site contributes to a much larger conservation area because of its proximity to other wetland conservation projects, protected properties and the Colusa NWR. Field Instructors: Eric Hansen (Independent Consulting Biologist) and Rob Capriola (Westervelt Ecological Services). Field site access arranged by Westervelt Ecological Services.

#### ***Cosumnes River Preserve, Snake Marsh***

At Cosumnes, attendees will visit one of the last remaining semi-natural wetlands that support GGS, learn about the particularly important conservation priority of this population, and about the impacts of drought and non-native species on GGS. Field Instructors: Sara Sweet (The Nature Conservancy), Eric Kleinfelter (California Department of Fish and Wildlife; CDFW) and Laura Patterson (CDFW). Field site access arranged by The Nature Conservancy and CDFW.

#### ***Natomas Basin Conservancy's BKS Tract***

At Natomas, attendees will visit the Conservancy's first (and very successful) habitat restoration and enhancement project for GGS, amid a matrix of wetlands, rice and other farmlands, and urban areas. Field Instructors: Brian Halstead (USGS), John Roberts (Natomas Basin Conservancy), and Dustin Wood (USGS). Field site access arranged by The Natomas Basin Conservancy, cooperating agencies and landowners.




2150 RIVER PLAZA DRIVE  
SUITE 460  
SACRAMENTO, CA 95833  
PHONE: 916.649.3331  
FAX: 916.649.3322

September 20, 2016

**MEMO:**

**TO:** Rice science community, related and interested others

**FROM:** John Roberts, Executive Director 

**RE:** Reporting red rice (weedy rice) occurrence on Conservancy property



This memo is to notify you that the Conservancy believes it has what is called "red rice" (alternatively, "weedy rice") on its Lucich South field in the Natomas Basin. The field is at the southern end of the Sutter County portion of the Natomas Basin, and is composed of the following Sutter County APNs:

35-230-010  
35-230-011  
35-230-025  
35-230-027  
35-230-029  
35-230-030  
35-240-002  
35-240-029  
35-240-031

An aerial photo/map of the tract is attached. Field photos of the suspected weedy rice are also attached.

On Friday (September 16, 2016), UC Cooperative Extension notified us that the sample plants delivered to them by us were indeed weedy rice. We have shared photos of the field infestation with red rice/weedy rice experts in Louisiana, who have agreed with this assessment based on the photographic evidence.

At this time, we do not know the source of the weedy rice. We will be looking into this further in order to attempt to avoid it from happening again. A cursory inspection of rice fields on a 360-degree circumference around the subject property yielded no positive hits for similar infestation. We are aware of test and experiment plots in the Sutter County portion of the Natomas Basin, and we have been advised by officials and others that the issue has surfaced in neighboring Placer County. We believe it is also a significant issue just north of the Natomas Cross Canal not far from the subject property, but are not able to confirm this belief at this time.

We are presently working up action steps to eradicate the plant from the Lucich South field. Any guidance you might share would be appreciated. We promise we will take action to try to eliminate this problem for future years.

Thanks for your attention to this matter.

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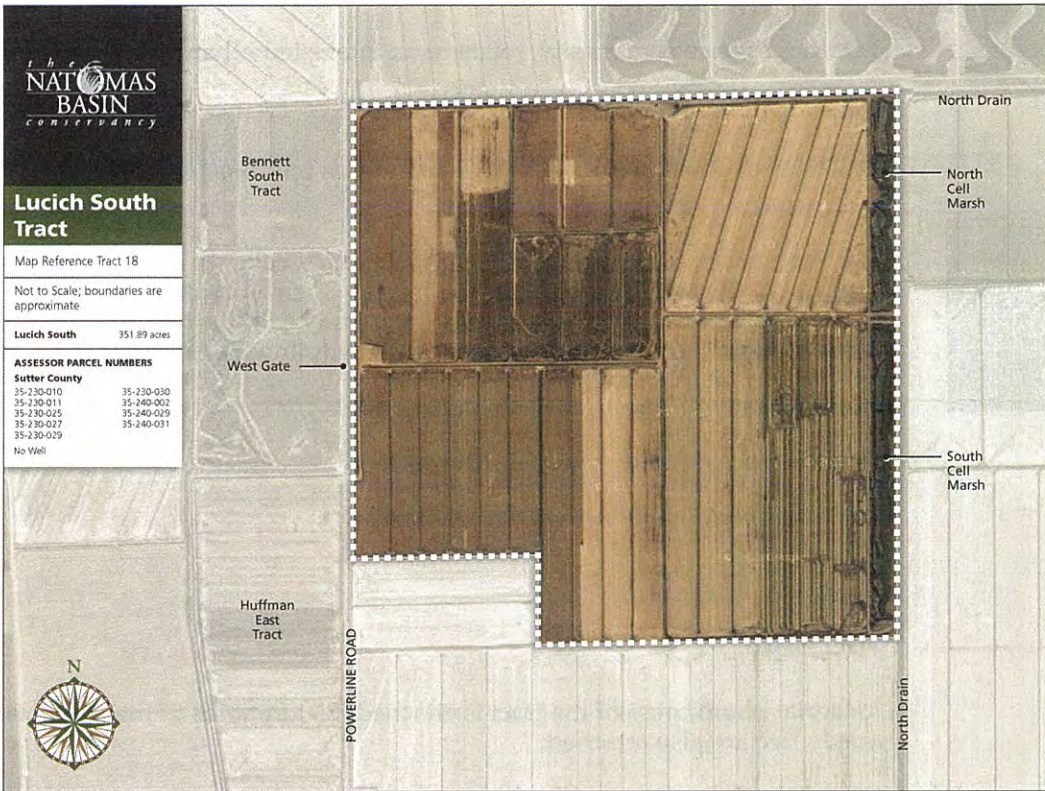
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John R. Roberts  
*Executive Director*















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# Largest-Ever GMO Crops Study Shows Massive Environmental Damage in US

Posted on Sep 18 2016 - 3:55pm by Sustainable Pulse

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According to [new research](#) from University of Virginia in the U.S., widespread adoption of genetically modified (GM) crops has decreased the use of insecticides, but increased the use of weed-killing herbicides as weeds become more resistant, leading to serious environmental damage.





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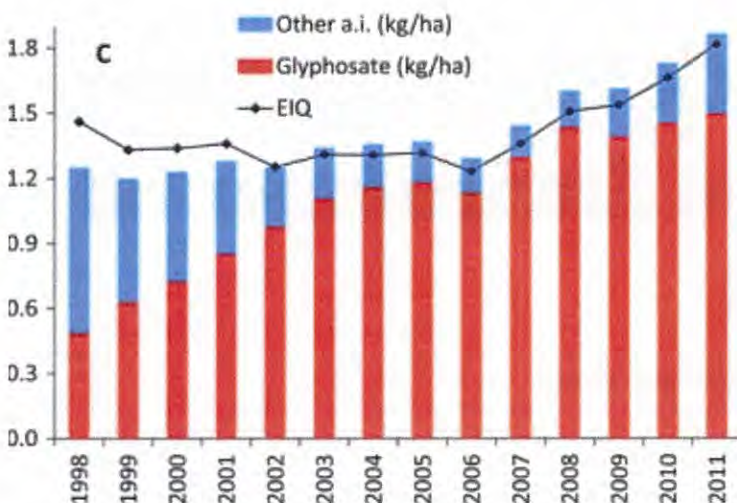
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Economist Federico Ciliberto led the [largest study of genetically modified crops](#) and pesticide use to date, alongside Edward D. Perry of Kansas State University, David A. Hennessy of Michigan State University and GianCarlo Moschini of Iowa State University. The four economists studied annual data from more than 5,000 soybean and 5,000 maize farmers in the U.S. from 1998 to 2011, far exceeding previous studies that have been limited to one or two years of data.

### Herbicide Use / Environmental Impact (EIQ)



"The fact that we have 14 years of farm-level data from farmers all over the U.S. makes this study very special," Ciliberto said. "We have repeated observations of the same farmers and can see when they adopted genetically modified seeds and how that changed their use of chemicals."

Since 2008, genetically engineered crops have accounted for more than 80 percent of maize and soybean crops planted in the U.S. Maize seeds are modified with two genes: one kills insects that eat the seed and one allows the seed to tolerate glyphosate, a herbicide commonly used in weed killers like Roundup. Soybeans are modified with just one glyphosate-resistant gene.

Unsurprisingly, maize farmers who used the insect-resistant seeds used significantly less insecticide – about 11.2 percent less – than farmers who did not use genetically modified maize. The maize farmers also used 1.3 percent less herbicide over the 13-year period.

Soybean crops, on the other hand, saw a significant increase in herbicide use, with adopters of genetically modified crops using 28 percent more herbicides than non-





General Mills  
Sued over  
Glyphosate  
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adopters.

Ciliberto attributes this increase to the proliferation of glyphosate-resistant weeds.

Commentators and other [peer-reviewed studies](#) have even stated that the rise in pesticide use on GM crops has gone up much further since the 1998-2011 data that was reviewed in this new University of Virginia study. The period from 2011-2016 is when glyphosate-resistant weeds have become a major economic problem for U.S. farmers based on the increase of use and thus money spent on pesticides cutting in to their bottom line.

## THE GLYPHOSATE BOX

[10 Things You Need to Know about Glyphosate](#)

[5 Things You Need to Know about Glyphosate Testing](#)

[Glyphosate in Numbers](#)

“In the beginning, there was a reduction in herbicide use, but over time the use of chemicals increased because farmers were having to add new chemicals as weeds developed a resistance to glyphosate,” Ciliberto said.

Maize farmers, he said, have not yet had to address the same level of resistance, in part because they did not adopt genetically modified crops as quickly as their counterparts in the soy industry. However, the study did find evidence that both maize and soybean farmers increased herbicide use during the last five years of the study, indicating that weed resistance is a growing problem for both groups.

From 2006 to 2011, the percentage of hectares sprayed with only glyphosate shrunk from more than 70 percent to 41 percent for soybean farmers and from more than 40 percent to 19 percent for maize farmers. The decrease resulted from farmers having to resort to combining glyphosate herbicides with other chemicals as glyphosate-resistant weeds became more common.

“Evidence suggests that weeds are becoming more resistant and farmers are having to use additional chemicals, and more of them,” Ciliberto said.

Insects do not appear to have developed a similar resistance, in part because federal



regulations require farmers to have a “safe haven” in their fields that is free of genetically modified crops. Insects and worms in those safe havens have no need to develop resistance, and because they interact and breed with insects in other parts of the field, they help prevent the development of resistant genes.

Despite the decrease in insecticide use, continued growth in herbicide use poses a significant environmental problem as large doses of the chemicals can harm biodiversity and increase water and air pollution.

Ciliberto and his colleagues measured the overall environmental impact of the changes in chemical use that have resulted from the adoption of genetically modified crops, using a measure called the environmental impact quotient, or EIQ, to account for chemicals’ impact on farmworkers, consumers and the environment. Comparing adopters to non-adopters, they found little change in the impact on farmworkers and consumers. However, the adoption of genetically modified soybeans correlated with a **massive negative impact on the environment** as increased herbicide use also increased contamination of local ecosystems.

Further investigation of the environmental impact quotient (EIQ) finding is now being called for by independent scientists in the U.S. and Europe using the even more accurate Pesticide Risk Tool (PRiME).

Overall, Ciliberto said he was surprised by the extent to which herbicide use had increased and concerned about the potential environmental impact.

“I did not expect to see such a strong pattern,” he concluded.



## Sustainable Pulse

About the Author



Sustainable Pulse provides the general public with the latest global news on GMOs, Sustainable Food and Sustainable Agriculture from our network of worldwide sources.

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# Panhandle Community Meeting



Monday, September 12  
6:30-7:00pm - Presentation  
7:00-8:00pm - Open House

.....

Regency Park  
Elementary School  
5901 Bridgecross Drive  
Multi-Purpose Room

.....

Councilmember Angelique Ashby  
invites the Natomas Community to a  
discussion on the Panhandle Project.

Please join us to hear a presentation  
on the project and to provide feedback.  
\*Light refreshments provided\*



