

North American Update



**Sustainable
Phosphorus
Alliance**



@sustainP

Matt Scholz
Program Manager

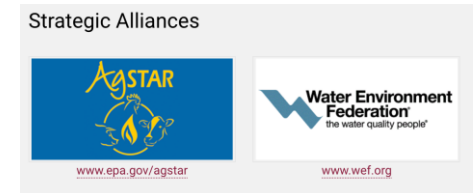
What are we?

- The **Sustainable Phosphorus Alliance** is a members organization that is North America's central forum and advocate for the sustainable use, recovery, and recycling of phosphorus in the food system.
- **Governance:** Administered by Arizona State University. The university provides infrastructure and has only a passive role in governance. Members control direction of org and provide all funding.

Current Members and Strategic Partners

NACWA

FEECO
INTERNATIONAL



Sustainable Phosphorus Alliance

Origins



2011-2018: US National Science Foundation's Phosphorus Sustainability Research Coordination Network (P-RCN)

October 2016: Formal establishment of the Sustainable Phosphorus Alliance (previously NAPPS)

Research (P-RCN)  Implementation (Sustainable Phosphorus Alliance)



What we do

- **Facilitate networking** among diverse players from across the phosphorus value chain via knowledge sharing events.
 - Annual conference on phosphorus sustainability (Phosphorus Forum)
 - Technical webinars (Sustainable Phosphorus Webinar Series)
 - Quarterly newsletter, blog, and social media (@SustainP)
- **Orchestrate working groups:** Biosolids and Manure Task Force, Field-to-Watershed Phosphorus Modeling Workshop
- **Provide technical input** on metrics development and research prioritization
- **Represent the North American P-sustainability community** both within other N. American organizations and within the global collective of P-sustainability platforms
- **Offer a branding opportunity** to organizations working in the vanguard of P sustainability.



A Community Resource

>10 hours of video footage of P sustainability discussions available

Curate P news targeted at N. American audience via @SustainP

New program to announce!

The image shows a screenshot of the Sustainable Phosphorus Alliance YouTube channel page. At the top, there is a search bar and the YouTube logo. The left sidebar contains navigation options: Home, Trending, History, and a 'BEST OF YOUTUBE' section with icons for Music, Sports, Gaming, Movies, TV Shows, News, Live, Spotlight, and 360° Video. Below the sidebar is a 'Browse channels' option. The main content area features a large video thumbnail of a misty lake. Below the video is the channel name 'Sustainable Phosphorus Alliance' with 13 subscribers and navigation tabs for HOME, VIDEOS, PLAYLISTS, CHANNELS, DISCUSSION, and ABOUT. Under the 'Created playlists' section, four video thumbnails are displayed with their respective titles and video counts: 'Phosphorus Forum 2018' (8 videos), 'Sustainable Phosphorus Webinar Series' (2 videos), 'Phosphorus Forum 2017' (9 videos), and 'Video Abstracts of Articles and Projects' (4 videos).



Drivers in North America

Legislative

- Binational agreements: e.g. Great Lakes Water Quality Agreement
- Federal laws: e.g. US Clean Water Act & Canada Water Act
- Multi-state/provincial agreements: e.g. Chesapeake Clean Water Blueprint
- State & Provincial regulations: e.g. Ontario Nutrient Management Act (NMS/P)
- Local/state regulations: e.g. organics diversion laws, municipal P fertilizer bans

Voluntary incentives programs for farmers (e.g. USDA EQIP program)

Legal threats (e.g. potential regulation of dairy manure as a hazardous waste)

Growth constraints (e.g. N. Carolina ban on new lagoons for swine waste)

Corporate supply chain sustainability (e.g. retailer supplier surveys)



Not Drivers

No real national fertilizer standards in US

Canada is discussing amendments to its national Fertilizer Regulations (Fall 2018), but it doesn't appear anything will drastically affect phosphates

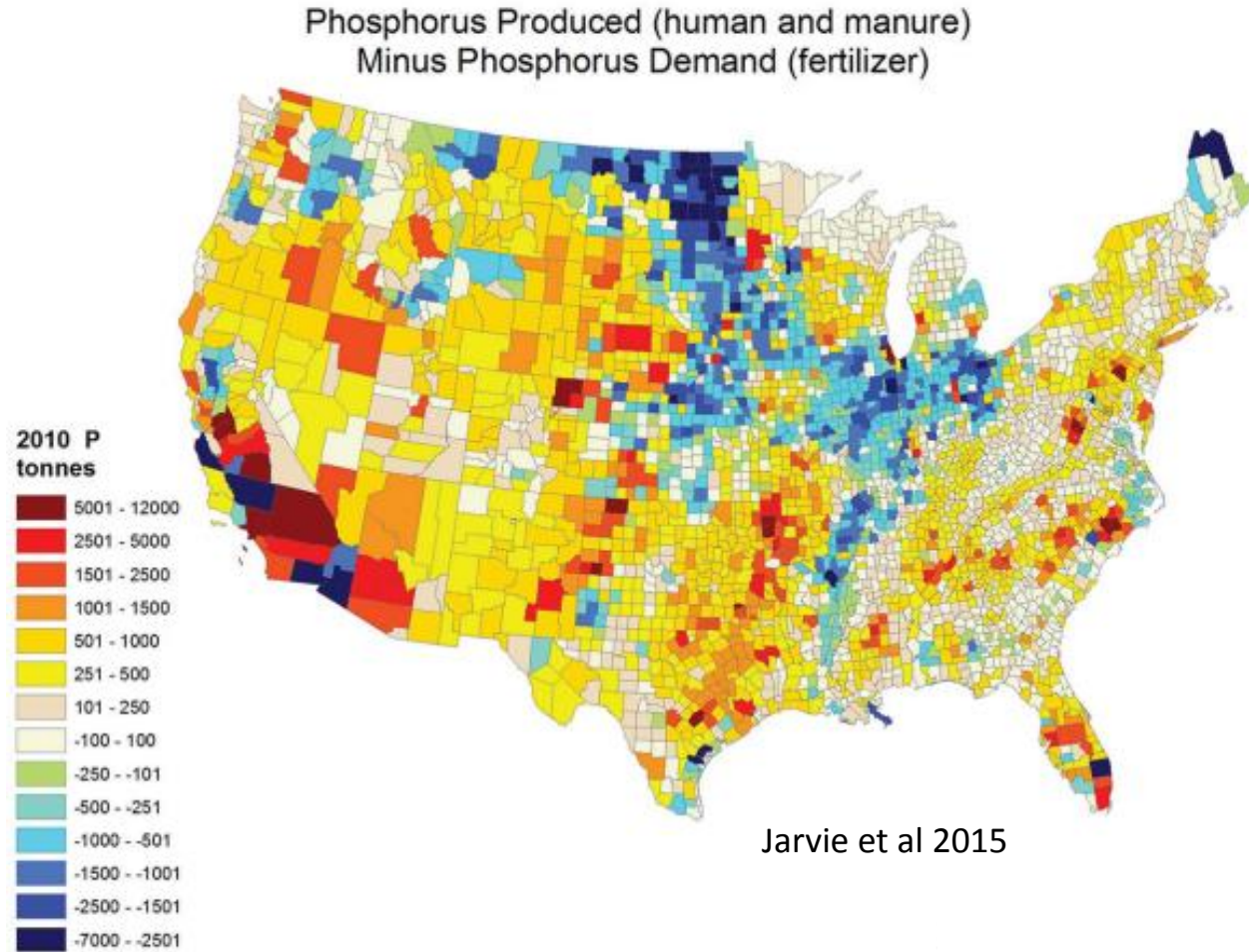
No mandates for recovery akin to the German Sewage Sludge Regulation

No perceived supply crisis (phosphate rock figures from 2017)

US marketable production ¹	27.7 Mtons
US Imports for consumption	2.1 Mtons (Peru & Morocco)
US apparent consumption	28.8 Mtons
US Reserves	1000 Mtons



Biosolids and Manure Landscape



Mineral P input (2007)

~4 Mtonnes/yr

Biosolids P output (2017)

0.35 Mtonnes/yr

Manure P output (2007)

1.85 Mtonnes/yr



Biosolids and Manure Regulations

Variability in:

- How manure and biosolids are regulated
 - e.g. no US federal pollutant or pathogen limits on manure & same for most (all?) states, though pathogen regulation may change under the Food Safety Modernization Act.
- Pollutant limits for biosolids (low variability)
- Agronomic requirements (rates, P form, P index v. STP). Some states/provinces require NMPs, others don't.
- Setback distances

What are the costs & benefits of these variations?



Biosolids and Manure Task Force

Motivation

- Desire to encourage sustainable use of organic residuals
- Regulatory complexity around land application of biosolids and manure
- Need to get stakeholders talking to each other (via oversight board)

Deliverables

- **Stage I**
 - White paper landscape analysis of regulations (in development)
 - Beta-version ArcGIS tool (August/September)
 - Webinar (September)
- **Stage II**
 - Additional data layers TBD
 - Scenario development sessions (in planning, funding dependent)



Paljon kiitoksia!



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PhosphorusAlliance.org