



**NORTHWEST
BIOSOLIDS**



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The National Biosolids Regulation, Quality, End Use & Disposal Survey 2018 Data

The Project

Complete the 2nd *National Biosolids Regulation, Quality, End Use, and Disposal Survey*, compiling 2018 data. The methods and survey tools are ready; our team has been preparing them for the past year. Data collection begins in September. The report is expected by end of March 2021. Data and analysis will also be peer reviewed and published, and the project team will disseminate the findings through professional publications and conferences.

Deliverables

- Report – The 2nd *National Biosolids Regulation, Quality, End Use and Disposal Survey, 2018 Data*, including comparisons & trends related to the *National Biosolids Survey* published in 2007 (reporting 2004 data) and new additional data on biosolids economics, energy, & communications
- Data - Spreadsheets of national and state-by-state biosolids use, resource recovery, and disposal data
- Manuscript peer review & publication
- Summary articles and presentations for wastewater & biosolids professional magazines & conferences
- Concise methodology / SOPs for the profession to conduct this survey regularly in the future, to assess trends and heighten the standing of biosolids management as a vital activity serving the environmental, economic, and social needs of all communities.

Project Team: Ned Beecher and Janine Burke-Wells, North East Biosolids and Residuals Association (NEBRA); Maile Lono-Batura, Northwest Biosolids (NW Biosolids); Greg Kester, California Association of Sanitation Agencies (CASA); and Nora Goldstein, *BioCycle*. Project administrative & financial management by NEBRA and *BioCycle*.

Background

In 2007, the same project team published survey results and data – from 2004 – regarding biosolids management in the U. S. (<https://www.nebiosolids.org/about-biosolids>). These data remain the most comprehensive available and have been relied on and referenced by biosolids management professionals, engineering consultants, researchers, policy makers, regulators, and technology vendors nationwide. But they are outdated. For years, there have been calls for an update. 2018 is the data year, because it is at the end of a period of relatively steady biosolids markets and before the impacts of PFAS and Covid-19 caused disruptions that have not fully played out yet.

In 2019 through May 2020, with support from a U. S. EPA Region 4 cooperative agreement, the project team completed a literature review and methodology, including preparing the specific data-gathering tools needed for this second national biosolids survey. (Details: <https://www.nebiosolids.org/national-biosolids-survey-2018-data>)

Preparations have included consultations with expert Advisors (who are kindly continuing through the end of the project) and other key stakeholders who rely on data – university researchers, market assessment and financing firms, technology developers, and policy decision-makers. We strive to make the data useful to as many stakeholders as possible. For example:

- Researchers cite our data. One of many examples: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4232481/>
- A U. S. Department of Energy staff person notes that this project will update “the biosolids database that fed into the WEF water resource recovery report (<https://www.wef.org/globalassets/assets-wef/direct-download-library/public/03---resources/WSEC-2018-TR-003>) used for the Water Security Grand Challenge” (<https://www.energy.gov/Water-Security-Grand-Challenge/water-security-grand-challenge>), which calls for doubling “resource recovery from municipal wastewater.”

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- The WEF report was led by Tanja Rauch-Williams (Carollo Engineers), who said about the first National Biosolids Survey: “This is one of the most important database pieces for resource recovery tracking.”
- A major new “intelligent water systems” data project led by Jason Ren, PhD at Princeton and funded by the National Science Foundation must include data on biosolids. And we’ll provide them.
- WRRFs use our data in biosolids master planning: <https://everettwa.gov/DocumentCenter/View/1123/Final-Basis-of-Planning-TM-Everett-Biosolids-Nov-2010-PDF>
- Biosolids market analysts routinely conduct interviews and seek data on biosolids management and technologies, sometimes engaged by consultants, entrepreneurs, venture capitalists, and project developers. We get calls regularly asking for updates to the 2004 data. For example, our data underlies this market report: <https://finance.yahoo.com/news/frost-sullivan-projects-biosolids-management-143900466.html>.

“We as a profession are weakened without data about what we do.” – GREG KESTER, CASA

Budget & Fundraising Goal: \$60, 947

Task	Cost
Final survey preparations	\$700.00
Conduct state surveys	\$12,600.00
Conduct WRRF survey	\$4,200.00
Data compilation & analysis	\$11,900.00
Draft report writing	\$5,600.00
Edits & revisions & final report	\$2,100.00
Publishing - peer reviewed	\$3,150.00
Dissemination – website, presentations, publications	\$3,000.00
Add-on: full-sample economic survey	\$4,550.00
Add-on: full-sample energy survey	\$4,550.00
Project administration	\$9,297.00

Qualifications

The project team members have extensive experience extracting and compiling biosolids and related data:

- Nora Goldstein has led dozens of surveys and data projects over her decades of leadership at *BioCycle*, including several “state of organics recycling” reports and surveys on food waste, biosolids, and biosolids composting. Nora is widely recognized as one of the leading resources on composting and organic residuals management in North America and around the world.
- Greg Kester is one of the top biosolids information and policy experts in the U. S. He regulated biosolids for Wisconsin, leading collaborative communications among state biosolids coordinators. As lead for biosolids and resource recovery at CASA, Greg has helped guide California and national policy, keeping track of data on California biosolids. He works closely with U. S. EPA, multiple state regulators, and university research experts, including through the W4170 group.
- Maile Lono-Batura has been leading NW Biosolids for two decades and is known for expert facilitation, information exchange and presentation and education on biosolids. In addition to her work on the prior biosolids data survey, she was also instrumental in the WEF national biogas survey. And she brings to this project an extensive peer network across North America.
- Ned Beecher was co-lead on the WEF-funded national biogas survey, which built on his experience co-leading the first national biosolids survey (published in 2007). He assisted and co-wrote the most recent *BioCycle* survey on biosolids composting. Most recently, Ned led the “Mass Sludge Survey 2018,” completed with a grant from the MA Clean Energy Center.
- Janine Burke-Wells worked a decade each for U. S. EPA Region 1 (Boston) and in top leadership at Rhode Island WRRFs. She has led NEBRA for the past year and assisted on the “Mass Sludge Survey 2018.”

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