

MPSAC Subcommittee on Food Systems

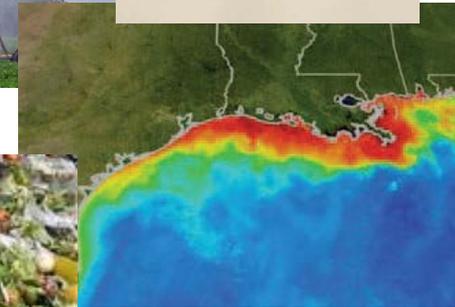
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To date, the committee has met via teleconference and WebEx on fourteen occasions with the first three being planning meetings and the remaining eleven meetings featuring the following guest speakers:

- Mary Ann Dickinson, Alliance for Water Efficiency
- Sir Dave King, University of Cambridge
- James Elser, Arizona State University
- Bruce Moyer, Oak Ridge National Laboratory
- Jerry Schnoor, University of Iowa
- John Finley, Louisiana State University
- Jim Dumesic, University of Wisconsin
- Brooke Mayer, Marquette University
- Menachem Elimelech, Yale University
- Michael Webber, University of Texas at Austin
- Bill Cooper, Florida State (scheduled)

What we have heard....

- Nutrient cycle
- Water
- Energy needs
- Wasted food and by-products
- Issues are global and urgent



Report is being drafted

- Committee met in Dallas prior to ACS meeting (March 15)
- Due dates
 - Section outlines (March 31)
 - Draft Sections (April 14)
 - Sections compiled and reviewed (April 21)
 - Full draft document (April 28)

Draft outline (will be modified)*

- 1) Introduction
- 2) Ensuring a sustainable water supply for agriculture (recycling, increasing resources, improving models)
- 3) Nutrient life cycle (improved application efficiency, contamination removal [phosphate, nitrate], recovery/re-use, improving nutrient uptake)
- 4) Conversion of non-food ag products to foods and fuels/chemicals/materials to reduce reliance on conventional food products (catalytic conversion of wastes, cellulose to products, etc.)
- 5) Innovation to reduce food and energy waste (packaging, energy from food wastes)
- 6) Crop protection (new classes of pesticides, physical barriers/interference, controlled release)
- 7) Key chemical and physical factors to reduce resources and increase yield (improving soil moisture retention, membranes, surface chemistry/interfaces)
- 8) Cross-Cuts: Sensors, Catalysis, Separations, Education, Theory/Modeling/Simulation
- 9) Summary

* Some may end up straying beyond subcommittee's scope and be cut; some may be combined