Protecting Aquatic Life and Human Health from Chemicals and Microbes in Water

From EPA

SAB Advice on Approaches to Derive a Maximum Contaminant Level Goal for Perchlorate. Allen, D.T. and S.M. Roberts, 2013. EPA SAB-13-004. SAB finds sufficient information to derive an MCLG for perchlorate; recommends EPA use a mode of action approach and PBPK/PD-IUI modeling.

Go to Report or www.epa.gov

2013 Biological Assessment Program Review: Assessing Level of Technical Rigor to Support Water Quality Management. 2013. EPA 820-R-13-001. With the program review process that is described, states and tribes can develop a plan to build on their program strengths and address the limitations.

Go to Report or www.epa.gov

EPA SAB and BOSC joint recommendations on Implementation of ORD Strategic Research Plans

The EPA’s Science Advisory Board (SAB) and the Executive Committee of the Office of Research and Development’s (ORD) Board of Scientific Counselors (BOSC) jointly offered comments and recommendations to the EPA Administrator on ORD’s new strategic research plans. ORD has realigned its research into six new program areas: Air, Climate and Energy; Safe and Sustainable Water Resources (SSWR); Sustainable and Healthy Communities; Chemical Safety for Sustainability; Human Health Risk Assessment; and Homeland Security Research.

SAB and BOSC were supportive of the consolidation of EPA’s research programs as part of an integrated transdisciplinary approach to research that takes a systems approach to sustainability. They noted that ORD’s Strategic Research Action Plans for its 6 research programs are important achievements that should help to clearly communicate ORD’s new mission approach. The report’s summary points for SSWR were:

The Safe and Sustainable Waters program should identify and seek opportunities for leveraging research of other federal agencies and engage with communities in setting the program’s research priorities and research development. Program linkages with sustainability, nutrient management and green infrastructure are critical to the success of this program.

The report provides further recommendations for all 6 research programs; many suggestions for other program areas (e.g., Chemical Safety for Sustainability) are also pertinent to OW’s research and program needs. See the full report: Implementation of ORD Strategic Research Plans: A Joint Report of the Science Advisory Board and ORD Board of Scientific Counselors. EPA-SAB-12-012, 2012.
**From Collaborators**

**WaterRF – Nitrosamine Occurrence Survey-4461.** Targeted completion 2015. Treatment plant survey to improve understanding of why nitrosamines occur and factors that impact formation.

Go to [Upcoming report](#)


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**Acceptable Microbial Risk: Cost-benefit Analysis of a Boil-water Order for Cryptosporidium.** Ryan, M.O., et al., 2013. *Journal American Water Works Association*, 105(4), E189-E194. Results suggest a daily risk of nine illnesses out of 10,000 people exposed would justify a BWO (finished water concentration of 0.046 oocysts/L).

Go to [Article](#)

**USGS – California Groundwater Ambient Monitoring and Assessment (GAMA) Program Priority Basin Project: Shallow Aquifer Assessment.** 2013. 2012-3136. In 2012, the GAMA Priority Basin Project began assessing shallow aquifers because shallow groundwaters may be more susceptible to contamination than deeper aquifers.

Go to [Report](#)

**Total Chromium and Hexavalent Chromium Occurrence Analysis.** Seidel, C.J. and C.J. Corwin, 2013. *Journal American Water Works Association*, 105(6), E310-E319. Occurrence was analyzed using: The National Chromium and Boron Occurrence Survey; the USEPA database of chromium from the Second Six-Year Review; and California Department of Public Health water quality analysis data. Results indicate that surface water speciation is dominated by trivalent chromium, whereas groundwater speciation is dominated by hexavalent chromium.

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**From Journals**


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**Arsenic Exposure from Drinking Water and QT-Interval Prolongation: Results from the Health Effects of Arsenic Longitudinal Study.** Chen Y., et al., 2013. *Environmental Health Perspectives*, 121, 427-432.

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An Assessment of Fecal Indicator and Other Bacteria from an Urbanized Coastal Lagoon in the City of Los Angeles, California, USA. Dorsey, J.H., et al., 2013. *Environmental Monitoring and Assessment*, 185(3), 2647-2669.

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### Recent and Upcoming Meetings

**2012 Gordon Research Conference on Drinking Water Disinfection By-products.** August 5-10, 2012 in South Hadley, MA.

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**Inorganic Contaminants Symposium -- CA-NV AWWA.** February 5, 2013 in Sacramento, CA.

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**Disinfection and Public Health Conference 2013.** February 24-26, 2013 in Indianapolis, IN.

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**86th Annual Water Environment Federation Technical Exhibition and Conference.** October 5-9, 2013 in Chicago, IL.

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**2013 NAWC Water Summit.** October 6-9, 2013 in San Diego, CA.

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**AMWA 2013 Annual Meeting.** October 27-30, 2013 in St. Petersburg, FL.

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**ASDWA 2013 Annual Conference.** October 27-31, 2013 in Long Beach, CA.

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**APHA 141th Annual Meeting and Exposition.** November 2-6, 2013 in Boston, MA.

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**2013 Water Quality Technology Conference and Exposition (WQTC).** November 3-7, 2013 in Long Beach, CA.

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**SETAC North America 34th Annual Meeting.** November 17-21, 2013 in Nashville, TN.

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**Climate Leadership Conference.** February 24-26, 2014 in San Diego, CA.

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**53rd SOT Annual Meeting & ToxExpo.** March 23-27, 2014 in Phoenix, AZ.

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**ACE14 – AWWA Annual Conference and Exposition 2014.** June 8-12, 2014 in Boston, MA.

Go to Meeting Page
Innovative and Affordable Tools and Technologies for Sustainable Public Health Protection

From EPA

Emerging Technologies for Wastewater Treatment and In-plant Wet Weather Management. 2013. EPA 832-R-12-011. Technical and cost information to assist users in considering more efficient, sustainable, and cost-effective technologies.

Go to Report or www.epa.gov

From Collaborators


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Go to Article or www.awwa.org


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Go to Report or www.planning.org

USGS – National Assessment of Geologic Carbon Dioxide Storage Resources—Summary. 2013. 2013-3020. Examination of all sedimentary basins that contain storage assessment units (SAUs) that could be defined according to geologic and hydrologic characteristics.

Go to Report or energy.usgs.gov


Go to Report or www.whitehouse.gov

From Journals


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Detection of Multiple Waterborne Pathogens Using Microsequencing Arrays. Brinkman N.E., et al., 2013. *Journal of Applied Microbiology*, 114(2), 564-573. A microarray was developed to simultaneously detect *Cryptosporidium parvum*, *Cryptosporidium hominis*, *Enterococcus faecium*, *Bacillus anthracis* and *Francisella tularensis* in water.

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Recent and Upcoming Meetings

**Water Reuse Tech Summit.** January 28-30, 2013 in San Diego, CA.

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**1st International Conference on Desalination Using Membrane Technology.** April 7-10, 2013 in Barcelona, Spain.

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17th Annual Water Reuse & Desalination Research Conference. May 6-7, 2013 in Phoenix, AZ.
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28th Annual WateReuse Symposium. September 15-18, 2013 in Denver, CO.
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ASCE 143rd Annual Civil Engineering Conference. October 9-12, 2013 in Charlotte, NC.
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2013 SRF Workshop. November 3-5, 2013 in Minneapolis, MN.
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WEF Midyear Meeting. January 29-February 1, 2014 in New Orleans, LA.
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AWWA/AMTA Membrane Technology Conference & Exposition. March 10-13, 2014 in Las Vegas, NV.
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WaterPro Conference. October 6-8, 2014 in Seattle, WA.
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NWRA Annual Conference. November 12-14, 2014 in Coronado, CA.
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The President’s Climate Action Plan

In June of this year, President Obama released his Climate Action Plan for the United States to:

- Establish new rules and incentives to cut carbon pollution, including: directives to EPA to establish carbon pollution standards for power plants; directives and goals for the Department of the Interior to provide renewables permits (wind, solar, hydropower); expanded incentives and goals for development of innovative technologies and energy efficiency in appliances, motor vehicles, and buildings; and other goals for reduction of greenhouse gases, including through protection of forests and critical landscapes.
- Prepare for the impacts of climate change by: directing agencies to support local climate-resilience; piloting innovative strategies in the Hurricane Sandy-affected region to strengthen communities against future extreme weather and other climate impacts; launching efforts to create sustainable and resilient hospitals; providing information and tools to state and local leaders for climate preparedness, including drought and wildfire preparedness.
- Lead international efforts to address global climate change; to galvanize international action toward emission reductions, climate impact preparedness, the plan: commits us to expanding new and existing international initiatives, especially with other major emitting countries; calls for ending U.S. support for financing of new coal-fired powers plants overseas (with exceptions for efficient technologies for the world's poorest countries, and for carbon capture and sequestration technologies); and expanding government and local community planning and response capacities.

From EPA

**ORD Nitrogen Newsletter.** Prepared by O'Brien, M. and J. Compton. ORD compilation of links to recent publications, news and reports related to the cycling, effects and management of nitrogen.


Go to [Report](#) or [www.epa.gov](http://www.epa.gov)


Go to [Report](#) or [www.epa.gov](http://www.epa.gov)

EPA Releases Interactive Map of Results from National Estuary Program Projects. 2013. Mapper provides information in context with National Estuary Program Study Areas.

Go to [Tool](#) or [www.epa.gov](http://www.epa.gov)


Go to [Report](#) or [www.epa.gov/water/climatechange](http://www.epa.gov/water/climatechange)


Go to [Report](#) or [www.epa.gov](http://www.epa.gov)


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From Collaborators


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USGS − Tracking and Forecasting the Nation’s Water Quality - Priorities and Strategies for 2013-2023. Rowe, G.L., et al., 2013. 2013-3008. Plans for: trend assessments; maps/models of contaminant distribution (e.g., atrazine, nitrate, and arsenic); tools for evaluating water quality changes.

Go to Report or water.usgs.gov/nawqa


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STREAMER Tool from USGS Lets You Navigate America’s Major Rivers Without Getting Wet

STREAMER is a cool new on-line service from the USGS’ National Atlas of the United States® that maps the routes of America’s major rivers and streams. The tool lets you pick a point on a stream and trace it downstream or upstream. With STREAMER you can also:

- locate your area of interest with stream or place names, latitude and longitude coordinates, or ID number for a USGS streamflow gaging station;
- find names of streams and waterbodies by clicking on them;
- print maps and create reports for your upstream and downstream traces;
- learn about streamflow at thousands of locations along America’s streams, with just a few mouse clicks.

The National Atlas of the United States of America® is a cooperative effort to make geographic information collected by the United States government easier to find, get, and use. Its development is led by the National Geospatial Program of the USGS.
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Diversity, Occurrence and Feeding Traits of Caddisfly Larvae as Indicators for Ecological Integrity of River-floodplain Habitats Along a Connectivity Gradient. Van den Brink, F.W.B., et al., 2013. Ecological Indicators, 25, 92-98.

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Recent and Upcoming Meetings

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From Theory to Practice; Restoring the Future of the Great Lakes. July 16, 2013 (Online).
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Online Animal Agriculture & Climate Change Course. September 3, 2013 (Online).
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Great Lakes Public Forum. September 9-10, 2013 in Milwaukee, WI.
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2013 AWRA Annual Water Resources Conference. November 4-7, 2013 in Portland, OR.
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NGWA Expo 2013. December 3-6, 2013 in Nashville, TN.
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WEF Midyear Meeting. January 29-February 1, 2014 in New Orleans, LA.
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Working Together for Clean Water, the National Water Quality Monitoring Council's (NWQMC) 9th National Monitoring Conference. April 28 - May 2, 2014 in Cincinnati, OH.
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NGWA Groundwater Summit 2014 − 10 Years of Moving Research to Solutions. May 4-7, 2014 in Denver, CO.
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NWRA Annual Conference. November 12-14, 2014 in Coronado, CA.
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