Adopted by WEF Board of Trustees: December 2, 2011

Water Environment Federation Position Statement

BIOSOLIDS

The Water Environment Federation (WEF) supports a comprehensive approach to wastewater treatment and solids management that ensures the recycling and recovery of valuable resources including water, nutrients, organic matter, and energy. In addition, WEF recognizes that biosolids[1], natural byproducts of the wastewater treatment process, are a renewable resource that is too valuable to waste in the context of growing needs for renewable energy and sustainability. WEF supports the highest and best use in accordance with local community standards that are economically and technologically feasible. To that end, WEF supports advancing the use of biosolids as a renewable resource and supports initiatives to ensure this expanded view of wastewater and solids management.

A cultural move toward sustainability has the potential to shift policy-maker and public perception of biosolids from a waste to a community resource that can help achieve sustainability goals. This shift is creating unprecedented opportunities for the wastewater and biosolids community to position biosolids as a valuable commodity.

WEF actively supports the promotion and enhancement of the beneficial recycling of biosolids that are best suited to meet the management needs of local communities, whether that use is beneficial recycling through land application, composting, energy generation, product development, landfilling, incineration, or other uses.

This position is consistent with decades of scientific research and years of field practice that have clearly established the value and environmental benefits of biosolids, when properly treated and managed. It is also consistent with the U.S. Environmental Protection Agency's (EPA) position and those of other federal agencies, which encourage the beneficial use of biosolids through policies and regulations, including the Clean Water Act.

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[1] EPA defines biosolids as "nutrient-rich organic materials resulting from the treatment of domestic sewage in a treatment facility ... that can be recycled and applied as fertilizer to improve and maintain productive soils and stimulate plant growth." WEF has adopted the following terminology: *biosolids* is any domestic wastewater residual that has been stabilized to meet the criteria in (EPA's) 40 *CFR* Part 503 regulations, and, therefore, can be beneficially used. Stabilization processes include: aerobic digestion; anaerobic digestion; composting; alkaline stabilization; and thermal drying. *Solids, residuals,* or another appropriate term should be used for general description (*e.g.*, *solids handling, plant solids)* when it is uncertain whether the material meets 40 *CFR* Part 503 criteria.

To take full advantage of the inherent resource value of biosolids, WEF supports development of multiagency coordinated regulations that are based on sound research and best practices; advancements, innovation, and development of new technologies; recognition of the expanded role of wastewater and solids management; enhanced sharing of knowledge both within the profession and with other organizations, the regulatory community, and the public; and continued research.

WEF Position

WEF endorses the beneficial recycling and use of biosolids. Biosolids contain important recyclable resources, including water, nutrients, organic matter, and energy. WEF maintains that significant opportunities have emerged for an expansion of biosolids management. These opportunities are largely tied to the repositioning of biosolids as a community resource too valuable to waste in a climate of growing renewable energy needs, sustainability interests, population growth, soil depletion, and technology improvements. Contemporary societal trends provide a unique opportunity to reposition biosolids management to overcome entrenched negative perceptions and encourage recognition of biosolids as a valuable resource that should be recovered.

Research continues to expand both the treatment options and end uses for biosolids. WEF also supports the use of proven technologies that facilitate energy and nutrient recovery and encourages federal and state legislation that promotes the use of biosolids as a renewable energy source. Such legislation should retain flexibility so that the resulting policies and regulations can easily encompass new sources and technologies as they are developed.

WEF also supports proactive communications and public outreach to continue to build a strong base of support for biosolids products. This approach includes enhanced communications and education both within the profession and with the public.

In the years since promulgation of the Part 503 regulations, the EPA, Water Environment Research Foundation, and others have investigated a variety of scientific topics, such as microconstituents, microbial risks, and perceived health effects, and have supported the development of robust technologies for stabilization and pathogen reduction. The overarching conclusion of monitoring and research to date continues to be that no documented negative human health impacts have been experienced when biosolids meet all of the requirements of Part 503 and when good management practices are followed. The Part 503 regulations provide regulatory guidelines for biosolids management practices of land application, incineration, landfilling, and surface disposal that are protective of human health and the environment.

All biosolids management approaches must be based on good science. WEF supports continued research to add to the understanding of effective practices for biosolids management, strengthening the science on which sound practices are based, and addressing emerging issues as they arise. WEF supports ongoing biosolids research activities, such as developing scientific evaluation techniques that will help identify and characterize emerging issues of concern including microconstituents and other chemicals that have the potential to form or accumulate in biosolids.

Biosolids Management for a Sustainable Future

WEF encourages the development and implementation of environmentally protective biosolids management programs by committing appropriate resources toward the establishment of regulations, technology, research, and outreach activities that maximize recovery and use of the resources in biosolids. The benefits of this sustainable approach will lead to enhanced economic, social, and environmental outcomes. Leadership should come from decision-makers in the wastewater and solids community; from other sectors such as agriculture and energy; from business groups; and from local, state, and national governments. WEF recommends taking action in five key areas to ensure the best and highest use of biosolids as a resource:

(1) **Support the development of state and federal regulations which promote the renewable resource value of biosolids.** Those regulations should emphasize the resource value of biosolids while remaining protective of public and environmental health. Development of a patchwork of state and local regulations and conflicting regulations that shift rather than manage pollutants will hamper use of biosolids in a way that provides maximum environmental benefit. Federal and state policies should support a variety of use options and provide the tools that are needed for development. WEF recommends a multiagency regulatory strategy emphasizing maximum environmental benefit of biosolids and advocates for transparency in development of any new regulations. Ongoing support should be provided to agencies that have well-managed programs and regulations should preserve a local community's choice of biosolids management options, so long as it is in compliance with Part 503 and any other new regulatory requirements.

(2) **Support development of technologies that maximize best and highest use of biosolids.** Technological innovations should focus on ensuring full resource recovery of organic matter, nutrients, water, and energy. Continued and growing interest in "green energy" technologies can transform wastewater treatment plants into energy exporters. Development of tools for enhanced measurement of the carbon footprint and greenhouse gas emissions of biosolids management operations can provide a basis to gauge sustainability goals and achievements. WEF also supports the creation of incentives for adoption of innovative processes to move technologies forward.

(3) **Recognize that the core business of wastewater treatment plants (WWTPs) has moved toward resource recovery and sustainability.** Increasingly, WWTPs and solids operations are being regarded as "green factories" that can extract water, organic matter, energy, and nutrients throughout the treatment process. To ensure this expanded role is fully realized, WWTPs need to stay connected with evolving technologies, changing regulations, and continuous improvement in operations. Key to this effort is the development of partnerships between WWTP management and nontraditional collaborators such as private companies, energy service companies, other municipal agencies, and the public. These partnerships should be used to publicly promote new ideas and advance technologies that have been developed and successfully implemented at WWTPs.

(4) **Promote public awareness and acceptance of biosolids as a renewable resource by supporting the National Biosolids Partnership (NBP) Biosolids Management Program[2]**. WEF and others have been active in promoting the recognition of biosolids as a resource, but this effort must be expanded to federal, state, and local public officials; professional and environmental groups; and the public. Public awareness programs should include public participation, engagement, and education to help promote understanding and support for biosolids management programs. Increased educational efforts aimed at solids managers and regulators can help ensure a more consistent regulatory approach based on sound science. Proactive outreach with the public will ensure that organizations understand the needs, concerns, and perspectives of interested parties before problems or incidents arise.

The NBP Environmental Management System program is an example of a program that has been developed as a model management system that both helps build public trust and promotes efficient biosolids management.

(5) Partner with regulatory agencies, municipal agencies, and professional organizations as needed to promote research and development. Ongoing research should be supported so that updated science is applied to ensure the continued, safe use of biosolids and to ensure public confidence. A collaborative approach can help to address a range of issues quickly and result in integrated solutions in an era of limited funding.

About the Water Environment Federation

Formed in 1928, WEF is a not-for-profit technical and educational organization with 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. WEF and its Member Associations proudly work to achieve our mission of preserving and enhancing the global water environment.

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[2] The NBP, an alliance established in 1997 between WEF, the National Association of Clean Water Agencies, and the EPA, has developed a national model program to support efforts of wastewater agencies and organizations to continuously improve biosolids management practices via an environmental management system-based approach. The program is designed to assist wastewater agencies and organizations in the implementation of environmentally sound biosolids management practices. It is founded in a "practice-neutral" approach that can be tailored to local biosolids management needs, while helping to ensure that biosolids are properly managed by supplementing existing regulatory oversight requirements.