

Airport Stormwater Management and Permitting Support



Airports face ever-increasing challenges in balancing all interests associated with serving their travelers, airlines, and airport tenants; generating revenue; and minimizing the impact of airport activities on local waterways. To comply with federal and state stormwater pollution control laws, airports must understand the impact of their operations on the environment, take an active role in negotiating their discharge permits, maintain awareness of water pollution control approaches and technologies, engage in the development of proposed regulations, and play a role in environmental problem-solving in their surrounding communities.

Since 1975, LimnoTech has supported clients in the development of rational regulatory compliance strategies based on the latest science and technology. For the past 20 years, LimnoTech has provided NPDES permitting, TMDL support, deicing planning and management, stormwater management, and general environmental compliance and program support services to airports nationwide.

We understand the specific issues faced by airports, which allows us to develop scientifically sound solutions that are mission-oriented, cost-effective, and environmentally responsible. Our airport support focuses on:

- Characterizing and assessing the impacts of airport discharges on receiving water bodies;
- Evaluating innovative and cost-effective technological alternatives for pollutant control;
- Preparing and reviewing NPDES and stormwater permit applications and negotiating reasonable permit limitations and requirements;
- Developing comprehensive stormwater and deicing runoff management programs to achieve compliance;
- Organizing and conducting staff training programs;
- Developing and implementing permit-required programs;
- Developing and managing monitoring programs;
- Developing computer models to evaluate alternative stormwater control and management strategies; and
- Assisting with TMDL requirements and negotiations.

LimnoTech has addressed difficult water quality issues at numerous airports across the U.S., ranging from large hub facilities like O'Hare International Airport, Detroit

Metro Airport, and Baltimore/Washington International Thurgood Marshall Airport, to smaller regional and local airports. Clients have included airport authorities, passenger and freight carriers, fixed base operators (FBOs), and the Department of Defense.

Examples of LimnoTech's leadership in aviation environmental support include:

- The first use of potassium acetate at a large airport in the U.S.;
- The first use of potassium formate at a U.S. airport;
- Quantitative performance assessments of a wide range of airport best management practices (BMPs);
- Development of total maximum daily loads (TMDLs) at two of the first airports to face these regulations;
- Negotiation of BMP-based permit conditions to replace numerical limitations; and
- An environmental benefits analysis of a non-glycol deicing fluid being developed under a U.S. Air Force research grant.

Our work in characterizing the effectiveness of aircraft deicing controls was cited by U.S. EPA and was used in its 2000 Preliminary Data Summary of Airport Deicing Operations as the basis for its categories of deicing wastewater management performance.



LimnoTech provides airports with a full spectrum of support services: from NPDES permit negotiation to wet weather monitoring to ensuring permit compliance.

Selected Project Summaries

Gerald R. Ford International Airport, Grand Rapids, MI

- Negotiated a BMP-based permit that avoided numerical permit limitations on stormwater discharges.
- Designed and implemented a receiving water monitoring program that demonstrated compliance with water quality standards during winter events with modest deicing controls.
- Developed and implemented a Municipal Separate Storm Sewer (MS4) Program.
- Led a feasibility study to identify program improvements necessary to ensure continued compliance with discharge requirements.

Bishop International Airport, Flint, MI

- Led the development and implementation of a deicing management and monitoring program for controlling deicing runoff.
- Conducted day-to-day interactions with WWTP operators to ensure that daily loads of deicing runoff to the plant were maintained as high as possible without causing plant upsets

Baltimore/Washington International Thurgood Marshall Airport, Baltimore, MD

- Negotiated a BMP-based permit that avoided numerical permit limitations on stormwater discharges.
- Developed and implemented an MS4 Program to meet Phase II NPDES requirements.
- Supported the airport in preparation of an EPA multi-media audit resulting in no significant findings associated with the MS4 Stormwater Program.

General Mitchell International Airport, Milwaukee, WI

- Negotiated a BMP-based permit that avoided numerical permit limitations on stormwater discharges.
- Designed and implemented a successful state-of-the-art glycol recovery vehicle (GRV) program that included design and operation procedures for storage and sanitary sewer discharge facilities. This program received the Wisconsin Governor's Award for Excellence in Hazardous Waste Reduction in 2001.
- Provided technical assistance to collection and recycling contractors to ensure maximum spent deicing fluid collection efficiencies.
- Conducted day-to-day interactions with WWTP operators to ensure that daily loads of deicing runoff to the plant were maintained as high as possible without causing plant upsets.

Ted Stevens Anchorage International Airport, Anchorage, AK

- Negotiated a BMP-based permit that avoided numerical permit limitations on stormwater discharges.

T.F. Green Airport in Providence, RI

- Negotiated a BMP-based permit that avoided numerical permit limitations on stormwater discharges.



LimnoTech works closely with airport clients to ensure that airport activities are managed in a way that protects local waterways and sensitive environments.

- Designed and implemented a receiving water monitoring program that demonstrated compliance with water quality standards during winter events with modest deicing controls.
- Provided technical assistance to collection and recycling contractors to ensure maximum spent deicing fluid collection efficiencies.

Tweed New Haven Regional Airport, New Haven, CT

- Negotiated a BMP-based permit that avoided numerical permit limitations on stormwater discharges.
- Designed and implemented a receiving water monitoring program that demonstrated compliance with water quality standards during winter events with modest deicing controls.

Detroit Metropolitan Wayne County Airport, Detroit, MI

- Negotiated increased permit limitations for BOD by a factor of more than six.
- Negotiated permit language to protect the Airport from permit violations under conditions beyond its control.
- Supported the Airport in negotiating a Consent Judgment resulting in NPDES fines being reduced from \$64 million to \$150,000.
- Provided technical assistance to collection and recycling contractors to ensure maximum spent deicing fluid collection efficiencies.
- Conducted day-to-day interactions with WWTP operators to ensure that daily loads of deicing runoff to the plant were maintained as high as possible without causing plant upsets.

Portland International Airport, Portland, OR

- Conducted day-to-day interactions with WWTP operators to ensure that daily loads of deicing runoff to the plant were maintained as high as possible without causing plant upsets.