

# Building a Mosaic: An Integrated Approach to Developing Environmental Public Health Regulations as Demonstrated by an Aquatics Code

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## Introduction

The first recorded presence of Europeans in St. Charles County occurred in June 1673, when Father Jacques Marquette and his companion Louis Joliet discovered the muddy waters of the Missouri River flowing into the Mississippi River. Today, as then, St. Charles County is located at a point where the Missouri and Mississippi floodplains meet. St. Charles County is a county nearly surrounded by water. Consequently, water quality and its maintenance is for many a priority issue. In 2007, an effort to pass a comprehensive aquatics code, regulating public and semi-public swimming pools and spas was undertaken.

Currently, there is no national standardized aquatic code in the tradition of the Food and Drug Administration's Food Code. Developing regulatory language for consideration as an ordinance can be challenging for a local public health agency. There are standards available (*American National Standard for Public Swimming Pools* as an example) that some argue lean too heavily toward building standards and lack comprehensive public health safety oversight. Additionally, there are numerous pool codes that have been passed at the local and state level that can be reviewed.

Referencing the aquatic code of a sister agency from another part of the country can become problematic. The reason stems from how the environment actually impacts the aquatic operation and different parts of the country have differences in temperature of the climate to differences in geology.

## Project Goal

Development of a national pool (aquatic) code is currently underway at the Centers for Disease Control and Prevention. The purpose of this project was to give insight to the development of a local county aquatic code without the avoidance of a national integrated pool code that has gone through the rigors of the federal development process. The main steering mechanism on other state and local codes were referred to in the development of St. Charles County's Aquatic Code was the introduction of the following:

### Six Factors that Lead to an Unsafe Aquatics Environment

1. Poor facility design and maintenance.
2. Inability to get help in an emergency.
3. Lack of safety equipment.
4. Poor user hygiene.
5. Inadequate water chemistry, and
6. Inadequate barrier security.

## Project Plan

### Program Goal

Ensure public health and safety of aquatic and recreational facilities environment.

### Health Problem

There is no common set of standards county-wide to insure public health and safety of aquatic and recreational environments.

### Outcome Objective

By August 1, 2007 county legislative body will consider and hopefully pass a uniform set of standards governing aquatic and recreational facilities.

### Determinant

The number of compliance inspections that result in no critical violations.

### Impact Objective

By January 1, 2008, majority of aquatic facilities (90%) pass compliance inspections specific to health, safety and facility management conducted by department.

### Contributing Factors

1. Lack of uniform training of aquatic facility staff specific to pool and spa maintenance and water chemistry and bloodborne disease transmission.
2. Inability of public to get relief from aquatic centers and recreational facilities that have unsafe environments.
3. Inconsistent facility management (aquatic and recreational) due to lack of uniform standards.
4. Lack of public awareness on proper aquatic and recreational environmental health.

### Process Objectives

- 1a. By September 3, 2008, three nationally certified pool operator classes will be offered in the county.
- 1b. By September 3, 2008, department will offer 2 bloodborne pathogen training classes.
2. Ensure placards are present at all aquatic and recreational facilities giving a phone number to department complaint line.
3. By September 3, 2008: Policy and procedures (codebook, inspection form, uniform inspection procedures, etc.) developed.
4. By September 3, 2008, ensure all aquatic and recreational facilities have posted public health and safety signs as required by new code.

## Archetypes

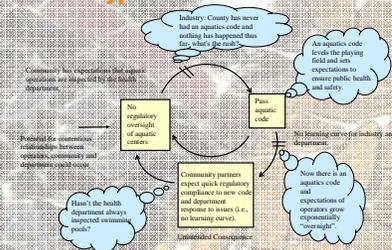


Figure 3. Demonstrates the "Quick Fix" response that "Backfires" when actions taken to pass an aquatics code succeed, problems or failures in aquatic operations could lead to a breakdown in working relationships between the stakeholders that transcend the relationships prior to passing the code. The "Mental Models" indicate what the participants may be thinking and how this thinking allows the fix to backfire.

## 10 Essential Environmental Health Services

### Core Public Health Function

#### Assessment:

- 1.) Monitor environmental and health status to identify and solve community environmental health problems.
- 2.) Diagnose and investigate environmental health problems and health hazards in the community.

#### How This Project is Enhancing this Service

The aquatic ordinance will serve as a platform to identify and help with solutions to problems that effect public health and safety.

#### Policy Development:

##### Essential Environmental Health Service

- 1.) Inform, educate and empower people about environmental health issues

#### How This Project is Enhancing this Service

Achieve through an education requirement in the aquatic code that operators of the aquatic centers obtain a nationally recognized training certification.

#### Assurance:

##### Essential Environmental Health Service

- 1.) Enforce laws and regulations that protect health and ensure safety.

#### How This Project is Enhancing this Service

Origination of an aquatic code to protect public health.

## Conclusions

Effective environmental public health regulation at the local level is best achieved by bringing together different facets with a connection to the issue. This project applied Systems Thinking to current practices surrounding pool regulations at a national level to determine how best to implement an aquatics and recreational code at the county level. A code was passed by the legislative body of the St. Charles County Government and now the following steps are currently underway:

- Development of program elements to implement regulatory activities.
- Education outreach to operators and consumers.
- Outreach to municipalities in St. Charles County for adoption of county aquatics and recreational facilities code.

## Literature cited

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## Acknowledgments

I would like to thank Gil Copley, MS Director, Department of Community Health and the Environment; Nancy Duncan, RN Director, Division of Public Health; Barry McCauley, MA, PhD Mosquito Control Program Coordinator with St. Charles County and Joyce Theard, MPA, REHS Special Programs Manager with St. Louis County Health. Their assistance and support in the year long Environmental Public Health Leadership Institute was invaluable.

## For further information

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