

# the Watershed Watch

Newsletter of the Salt Lake County Watershed Planning & Restoration Program

Spring 2016, Issue 14

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## New & Noteworthy

Utah Water Week  
May 1-7, 2016

[https://extension.usu.edu/  
utahwaterwatch/html/utah-water-week/](https://extension.usu.edu/utahwaterwatch/html/utah-water-week/)

Great Salt Lake issues Forum:  
Great Salt Lake in the Big Picture  
University of Utah Officers Club  
May 11-13, 2016

<http://www.fogsl.org/2016forum>

The 10th Annual Salt Lake County  
Watershed Symposium  
November 15-16, 2016

[http://slco.org/watershed/symposium/  
index.html](http://slco.org/watershed/symposium/index.html)



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[slco.org/watershed](http://slco.org/watershed)

## Rejuvenation of the Jordan River

2015 marked a busy year for river work in Salt Lake County

by Watershed Planning & Restoration  
Program staff

The Salt Lake County Watershed Planning and Restoration Program constructed two major river restoration projects in the Jordan River corridor in 2015. The first to begin construction was the Jordan River Channel Repair Project at Winchester Street Park. This project aimed to eliminate one of the most hazardous navigational barriers in the entire river corridor. The Salt Lake County Watershed team assessed, surveyed, designed and managed the construction of the project which was completed late summer 2015.

Using natural channel design, the team set out to construct a stable channel capable of conveying watercraft at any flow, provide improved fish and bird habitat, improve the riparian community, plant diversity and sustain major flood flows. To accomplish all of these goals the team chose to construct a moderately entrenched structurally controlled channel with regularly spaced scour pools. The channel had to accommodate eight vertical feet of elevation loss, which was distributed through the riffle sections, which are shallow fast moving turbulent water. The riffles were bracketed by cross vane structures with six foot deep

*(continued on page 2)*



*Newly designed stream channel at Winchester Park on the Jordan River*

## Rejuvenation of the Jordan River *continued from cover*

scour pools following the vanes to slow the water after the riffles. This provides refuge for fish and a slow moving safe exit point for boaters who capsize.

A 25 foot wide bankfull bench was also constructed to provide a floodplain for high flows. In addition it provides a surface for the 4500 newly planted native riparian plants to thrive as well as a viewing area for nearby trail users.

Maintenance in the form of weed spray and removal as well as irrigation work will continue for the next year under county control and then will be turned over to the capable hands of Murray City, a project partner.

Also located in Murray is another river project undertaken by the Salt Lake County Watershed team in 2015. The Jordan River Murray/Taylorville Ecosystem Restoration Project began phase I construction in August and completed major construction activities in December.

This project aims to stabilize the banks of the Jordan River from 5200 S to 4800 S. Incorporated into the natural channel design stabilization methods are the same features as the Winchester project; a stable channel capable of conveying watercraft at any flow, provide improved fish and bird habitat, improve the riparian community plant diversity and sustain major flood flows but with differing structures.

The toe-wood structure was the preferred choice of the Watershed team and like Winchester, they assessed, surveyed, designed and managed the construction of the project.

Unlike Winchester the major problem here is bank instability, lack of floodplain, invasive species and poor fish habitat. The toe-wood structures were used to stabilize the banks and provide refuge for fish; the rootwads at the end of the structures are installed underwater in scour pools and are designed to counteract the eastward erosion of the banks on the Murray

side of the river, providing a slow water covered area for fish.

The soil lifts on top of the toe-wood structures were installed to provide a floodplain for high flows, a surface for the 15,000 newly planted native riparian plants to thrive and resist soil loss to high flows.

Maintenance on phase I of this project will continue through 2017 as well as construction of phase II, located upstream of phase I in summer of 2016.

### **Bankfull**

1. Incipient point of flooding
  2. Ordinary high water line
- The stream is at bankfull stage.*

### **Dissolved Oxygen (DO)**

1. The amount of oxygen dissolved in a body of water as an indication of the degree of health of the water and its ability to support a balanced aquatic ecosystem; also, the amount of free (not chemically combined) oxygen dissolved in water, wastewater, or other liquid, usually expressed in milligrams per liter, parts per million, or percent of saturation.

*The low DO levels in the river are causing habitat issues.*

### **Nonpoint Source**

1. Pollution discharged over a wide land area, not from one specific location. Caused by sediment, nutrients, organic and toxic substances which are carried to lakes and streams by surface runoff

*This pollution is from a nonpoint source above the stream.*

### **Soil Lift**

1. When an area is filled or backfilled with soil being placed in layers between coir fabric or other materials

*The soil lift was completed to stabilize the banks and create an area for native vegetation.*

### **Toe-wood**

1. Native woody material submerged along the banks of a river or stream to stabilize the banks while maintaining a low width/ depth ratio and providing a natural appearance that will enhance aquatic and terrestrial habitats.

*The toe-wood structure will provide habitat for the aquatic species in this river.*



County Watershed crew member standing on the lower trunk of a toe-wood structure (closest to the root wad) to stabilize the trunk during installation.

# Feeding the grass

## Excessive fertilizer effects on our watershed

by Salt Lake County Watershed Planning and Restoration staff

**E**xcessive fertilizer runoff tops the list of pollutants affecting aquatic ecosystems in North America including Salt Lake County and our watershed. In Salt Lake County the majority of stormwater runoff is never treated allowing the extra fertilizer from our parks, farms and landscapes to flow untreated directly into our streams, the Jordan River and eventually to the Great Salt Lake and our ground water.

Fertilizers today are used on almost every landscape throughout the county to help maintain and improve the beauty and quality of them. These fertilizers have two main nutrients, Nitrogen (N) and Phosphorus (P) that are required by plants to help promote vigorous growth.

P is necessary for plant growth and can occur naturally in rocks and other mineral deposits through natural weathering processes. Most of the P available in today's fertilizer is non-organic in nature and will quickly bond with the soil and move very little. The potential pollution source from P is from the lawn clippings and leaves that are left on the street, which are eventually washed into the streams and river through runoff.

N is naturally present in our soils and produces the greatest growth response in plants. Unlike P, Nitrogen in its nitrate form is completely soluble and is highly mobile in soils and can readily leach downward and contaminate groundwater supplies. Under ideal circumstances the P will bond with the soil and the N will be taken up by the plants for the plants life cycle. However in recent years increased use of fertilizers have caused concern about pollution known as non-point source pollution making it into streams, rivers, lakes and groundwater.



*Excess algae is the result of eutrophication in the Jordan River*

P and N make their way into our waterbodies in two ways. First they can infiltrate the waterbody through runoff from rainfall and snow melt. Runoff is particularly problematic in urban environments that consist of a large amount of impervious ground cover such as driveways and parking lots that will not allow the runoff to penetrate the soils. The second way they can contaminate waterbodies is through leaching.

Leaching and runoff contamination from excess N and P can cause eutrophication in the streams and river throughout the county. Eutrophication is the process where a waterbody becomes enriched in dissolved nutrients that stimulate growth causing large blooms of plant life. Once the bloom has stopped the extra plant life dies off and begins decomposing. During decomposition most if not all the oxygen in that waterbody is used by bacteria creating an environment with low dissolved oxygen (DO) levels. The low DO is the cause for dead zones in waterbodies where no aquatic animals or bugs can live, forcing many aquatic animals and bugs to migrate to friendlier waterbodies.

There is no simple answer on how to stop the runoff of fertilizer from our landscapes especially with the continuing population growth in our watershed. However there are general lawn and garden fertilization practices that will help reduce the amount of fertilizer being introduced into our watershed.

- NEVER directly deposit or inadvertently apply fertilizer materials into any waterbody.
- Fill granular fertilizer spreaders on a hard surface where spills can be cleaned easily.
- Never wash spills into the streets.
- Close the fertilizer spreader when crossing hard surfaces.
- Sweep up any errant material.
- Try to use a drop spreader.
- Avoid getting fertilizer into natural drainage areas.
- Leave a buffer zone of unmanaged grasses or natural vegetation growing around the stream or river.
- Leave grass clippings on the lawn area to decompose and recycle nutrients back into the soil.
- NEVER apply N fertilizers to water sources directly or to frozen ground.

# Runoff...are you ready?

## Prepping for spring runoff

by Salt Lake County Watershed Planning and Restoration staff

Snow can hold a lot of water. Each cubic foot of drifted, piled or compacted snow may contain gallons of water. If you take action now, you can prevent that snow from becoming a flooding problem. Salt Lake County and the Engineering Division has developed a manual "Homeowners Guide for Emergency Flood Control," for use in preparing for flooding events. The manual can be viewed online or downloaded for use at [www.slco.org/flood-control/flood-preparedness-manual](http://www.slco.org/flood-control/flood-preparedness-manual). It presents some simple actions homeowners can take to prepare for and reduce the impact of flooding to homes and businesses.

Here are some tips and links provided for spring runoff

### **Things to watch for**

- Bank Erosion
- Sediment build up around culverts and bridges
- Collection of debris
- Abrupt changes in stream flow
- Saturated ground not typically wet
- Cracks in pavement or foundations
- Tilting of trees or utility poles
- Broken water lines

### **Spring runoff information**

Salt Lake County Flood Control

<http://slco.org/flood-control>

USGS – Utah FloodWatch

<http://ut.water.usgs.gov/flood/>

Salt Lake County Flood Control Engineering

<http://slco.org/flood-control/flood-preparedness-manual>

FEMA's Floodsmart.gov

[www.floodsmart.gov](http://www.floodsmart.gov)

Flood control questions/concerns  
Call (385) 468-6600

## Legislative Round up

It's that time of year again and the 2016 Utah State Legislative Session is in full swing. Several bills are in front of the Legislature that could affect water quality and watershed function in Salt Lake County.

Here are the bills of interest that have passed legislation:

### **H.B. 305 Water Rights and Resource Amendments**

**(Sponsored by Rep. Joel K Briscoe)**

Instructs Drinking Water Board to require a certified water operator of a public water supplier or professional engineer performing the duties of an operator.

*Status: Sent to Governor for consideration*

### **S.B. 28 Water System Conservation Pricing**

**(Sponsored by Sen Scott K. Jenkins)**

This bill requires retail water providers to establish an increasing rate structure for culinary water and provide certain information to customers.

*Status: Sent to Governor for consideration*

### **S.B. 75 Water Rights Adjudication Amendments**

**(Sponsored by Sen Margaret Dayton)**

Requires the State Engineer to identify all possible claimants in a particular area during an adjudication, if the State Engineer's records are incomplete.

*Status: Sent to Governor for consideration*

### **S.B. 110 Water Quality amendments**

**(Sponsored by Sen David P. Hinkins)**

Defines terms, establishes an independent peer review process for challenges made to proposals from the Division of Water Quality.

*Status: Sent to Governor for consideration*

### **S.C.R. 1 Concurrent Resolution Encouraging Universal Metering of Water Systems**

**(Sponsored by Sen Scott Jenkins)**

This resolution encourages public water suppliers to implement universal metering.

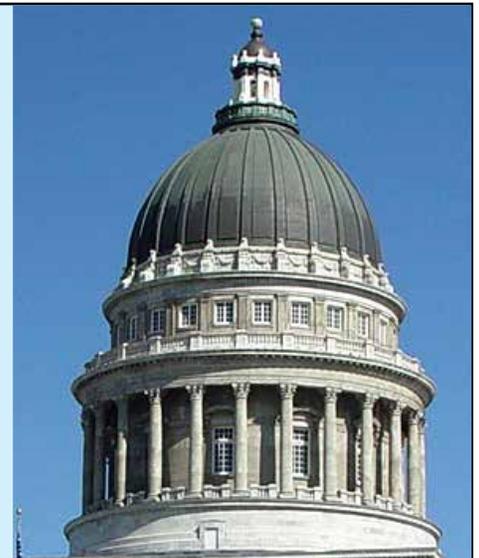
*Status: Signed by Governor*

### **H.C.R. 1 Concurrent Resolution on Waters of the United States**

**(Sponsored by Sen Michael Noel)**

Expresses support to Attorney General Sean Reyes in seeking to vacate a federal rule defining "Waters of the United States."

*Status: Signed by Governor*



Visit the Utah  
Legislature  
Website for more  
information  
on these and  
other bills

<http://le.utah.gov>

The views expressed in this periodical are those of the authors, not necessarily those of Salt Lake County, the Salt Lake County Mayor, the Flood Control Engineering Division, or any other entity.