

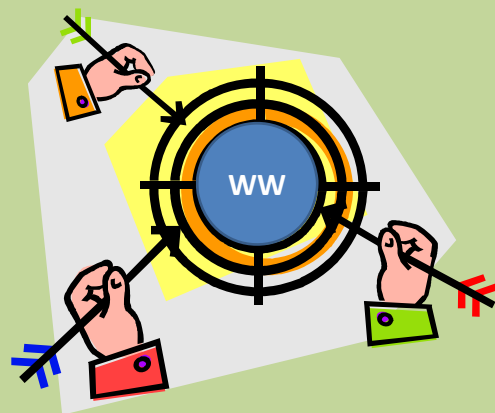
Wastewater Treatment Systems, Wastewater Issues, Permits and On- line Wastewater Treatment Modules

Debbie Magin
Guadalupe-Blanco River Authority

November 6, 2013

Wastewater Treatment Plants –

Easy Target to
explain
Pollutant Sources



Could be a source of the
pollutant load but.....





it shouldn't take our attention
and resources off of NPS

Information to convey to your stakeholders about wastewater treatment facilities

- TCEQ has “primacy” – review, issue and regulate permits to dispose of wastewater
 - Discharge permits
 - Land application permits (zero discharge)
- EPA still reviews, comments and approves major permits (> 1 MGD) – new and renewals
- Other agencies will review permits



Water Quality Permits

- Issued on five-year basin cycle 
- Inspected by TCEQ regional offices 
- Constructed under TCEQ design standards 
- Operated by licensed operators 

Water Quality Permits

- Permits specify:
 - Discharge, land application, subsurface?



Water Quality Permits

- Permits specify:
 - Discharge, land application, subsurface?
 - Discharge volume and quality

Guadalupe-Blanco River Authority

TPDES Permit No. WQ0010210002

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001

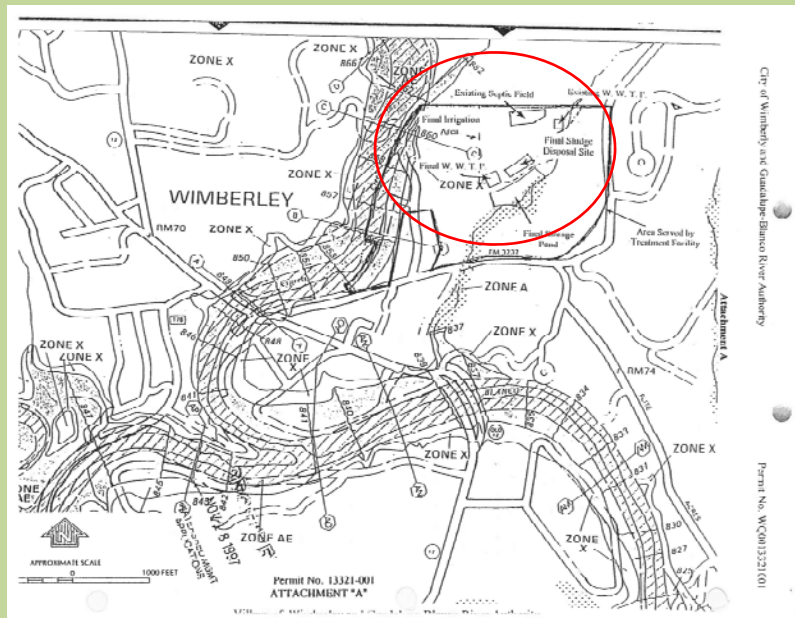
1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge subject to the following effluent limitations:
- The annual average flow of effluent shall not exceed 1.5 million gallons per day (MGD); nor shall the average discharge during any two-hour period (2-hour peak) exceed 3,125 gallons per minute (gpm).

Effluent Characteristic	Discharge Limitations				Minimum Self-Monitoring Requirements	
	Daily Avg mg/l(lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	10 (125)	15	25	35	Two/week	Composite
Total Suspended Solids	15 (188)	25	40	60	Two/week	Composite
Ammonia Nitrogen	3 (38)	6	10	15	Two/week	Composite
E. coli, colonies per 100 ml	126	N/A	394	N/A	One/day	Grab

2. The permittee shall utilize an Ultraviolet Light (UV) system for disinfection purposes. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.
3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab sample.
4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.
6. The effluent shall contain a minimum dissolved oxygen of 5.0 mg/l and shall be monitored twice per week by grab sample.
7. The annual average flow and maximum 2-hour peak flow shall be reported monthly.

Water Quality Permits

- Permits specify:
 - Discharge, land application, subsurface?
 - Discharge volume and quality
 - Discharge point or land application site



Water Quality Permits

- Permits specify:
 - Discharge, land application, subsurface?
 - Discharge volume and quality
 - Discharge point
 - Monitoring and reporting frequencies

Guadalupe-Blanco River Authority TPDES Permit No. WQ0010210002

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Page 2

Water Quality Permits

- TCEQ considers:
 - Receiving body of water and/or aquifer protection
 - Designated uses
 - 303d list
 - TMDL
 - Other discharges and WLAs

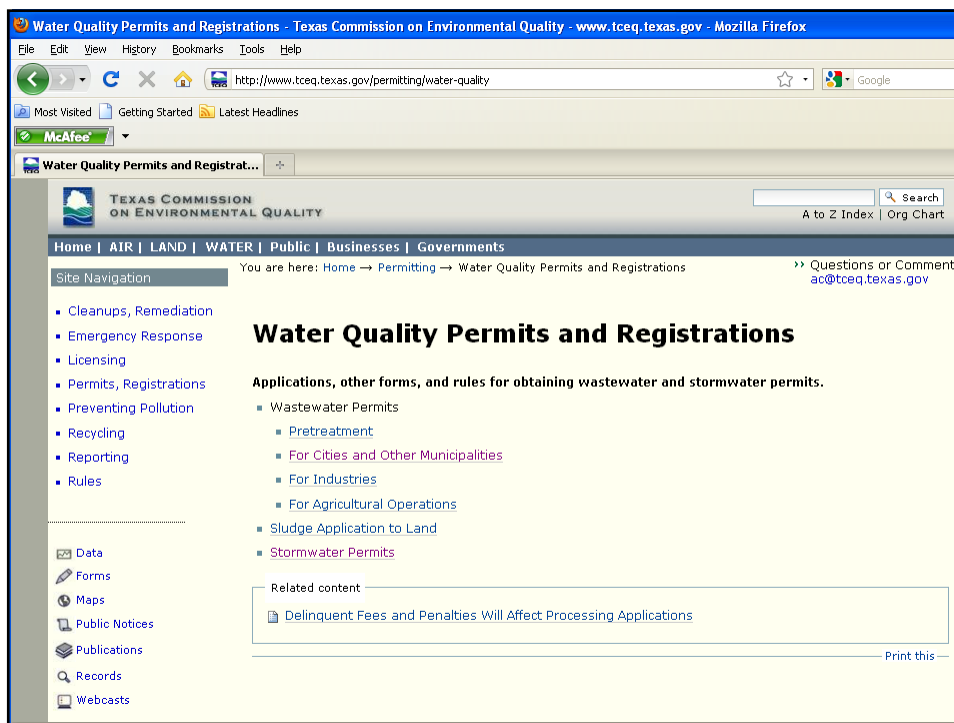
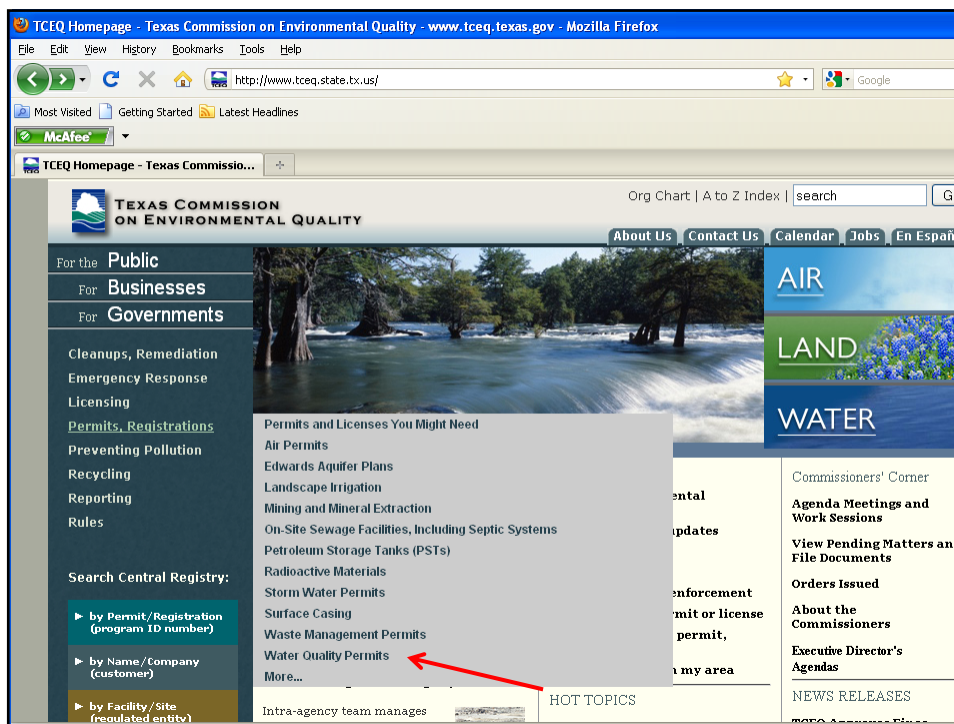
Water Quality Permits

- Issues - new or being considered
 - Bacterial limits – in permits after January 2010
 - De-chlorination for smaller facilities
 - Water Quality Standards and Implementation Procedures
 - Nutrient stream standards -> nutrient limitations

Resources for Watershed Coordinators and Stakeholders

- TCEQ Website: www.tceq.texas.gov
- Find a permit:
<http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=addnid.IdSearch>
- Permit status (Central Registry):
http://www.tceq.texas.gov/agency/data/permit_data.html

The screenshot shows the TCEQ website homepage. The browser title is "TCEQ Homepage - Texas Commission on Environmental Quality - www.tceq.texas.gov - Mozilla Firefox". The address bar shows "http://www.tceq.state.tx.us/". The page features a navigation menu with "About Us", "Contact Us", "Calendar", "Jobs", and "En Español". A central banner image shows a river with a waterfall. To the right of the banner are three vertical buttons labeled "AIR", "LAND", and "WATER". On the left side, there is a sidebar with "For the Public", "For Businesses", and "For Governments" sections, listing various services like "Cleanups, Remediation", "Emergency Response", "Licensing", "Permits, Registrations", "Preventing Pollution", "Recycling", "Reporting", and "Rules". Below this is a "Search Central Registry:" section with three search options: "by Permit/Registration (program ID number)", "by Name/Company (customer)", and "by Facility/Site (regulated entity)". The main content area is divided into three columns: "IN FOCUS" with links for "Texas Drought", "Hurricane Season: Preparing for Storms", and "TCEQ's Drought Planning Pays Off."; "HOW DO I..." with links for "Make an environmental complaint", "Sign up for e-mail updates", "Get involved", "Offer comments", "Track complaints, enforcement", "Know if I need a permit or license", "Find the status of a permit, license", and "Check air quality in my area"; and "Commissioners' Corner" with links for "Agenda Meetings and Work Sessions", "View Pending Matters and File Documents", "Orders Issued", "About the Commissioners", and "Executive Director's Agendas". There is also a "NEWS RELEASES" section at the bottom right.



TCEQ Homepage - Texas Commission on Environmental Quality - www.tceq.texas.gov - Mozilla Firefox

http://www.tceq.state.tx.us/

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

For the **Public**
For **Businesses**
For **Governments**

Cleanups, Remediation
Emergency Response
Licensing
Permits, Registrations
Preventing Pollution
Recycling
Reporting
Rules

Search Central Registry:
 ▶ by Permit/Registration (program ID number)
 ▶ by Name/Company (customer)
 ▶ by Facility/Site (regulated entity)

IN FOCUS
Texas Drought
 Find Drought Information
 View Map: Drought Impact on Texas Surface Water
 Texas Wildfire Information
Hurricane Season: Preparing for Storms
Natural Outlook Article:
TCEQ's Drought Planning Pays Off.
 Intra-agency team manages

HOW DO I...
Make an environmental complaint
Sign up for e-mail updates
Get involved
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NEWS RELEASES

TCEQ CR Query - Additional ID Search - Mozilla Firefox

http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=addnid.IdSearch

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Customer Search | RE Search | Document Search | Query Home | TC

Central Registry Query - Additional ID Search

Search for a regulated entity by the permit, registration, or other ID number issued by TCEQ program areas.

Additional ID Search

Search by entering an ID and selecting whether to search for the full ID or use a partial match, i.e. return all IDs containing the string. You may also select a program area to narrow the search results.

Program ID: (Permit, registration, or other program identifier.)

Search Type: full ID partial ID

ID Status: (ID status, only used if program or ID entered.)

Program:

Disclaimer | Web Policies | Accessibility | Servina Our Customers | TCEO Homeland Security | Central Registry | Search Hints | Report Data Errors

TCEQ CR Query - Additional ID Search - Mozilla Firefox

http://www12.tceq.state.tx.us/crpub/index.cfm

McAfee

TCEQ CR Query - Additional ID Search

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Customer Search RE Search ID Search Document Search Query Home TC

Central Registry Query - ID Search Results List

Your Search Returned 2 Records. Click on a column name to change the sort or an RN to view the regulated entity information. In some cases the Additional Id will be a link to the Additional Id Details.


1-2 of 2 Records

RN Number	Regulated Entity Name	Location	County	Program	ID	Type	Status
RN101325926	GBRA LOCKHART WWTP 2	No location on file	CALDWELL	WASTEWATER LICENSING	WQ0010210002	LICENSE	INACT
RN101325926	GBRA LOCKHART WWTP 2	No location on file	CALDWELL	WASTEWATER	WQ0010210002	PERMIT	ACTIV

1-2 of 2 Records

The following search criteria was entered:
 Additional ID: WQ0010210002
 Search Type: full

Disclaimer | Web Policies | Accessibility | Serving Our Customers | TCEQ Homeland Security | Central Registry | Search Hints | Report Data Errors

Texas Homeland Security TRAIL  texas.gov

Last Modified 7/26/2010
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TCEQ CR Query - Wastewater Permit WQ0010210002 - Mozilla Firefox

http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=iwr.viewAddnDetail&addn_id=7185511220031828

McAfee

TCEQ CR Query - Wastewater Permit ...

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Customer Search RE Search ID Search Document Search Search Results Query Home TC

Central Registry

Detail of: **Wastewater Permit WQ0010210002** [View Permit](#)
 For: **GBRA LOCKHART WWTP 2 (RN101325926)**
 No physical location description on file.

Permit Status: **ACTIVE**
 Held by: **GUADALUPE-BLANCO RIVER AUTHORITY (CN601180565)**
OWNER Since 07/07/2010 [View Compliance History](#)

Mailing Address: Not on file

Related Information:

- [Commissioners' Actions](#)
- [Complaints](#)
- [Investigations](#)
- [Notice of Violations](#)
- [Permit Information](#)

There is no information related to this Permit in the following categories:

- [Correspondence Tracking](#)
- [Effective Enforcement Orders](#)

Other resources on TCEQ Website

[Commissioners' Integrated Database](#)

Tracks status of all matters pending before the Commission and Executive Director for approval, after notice issued, if applicable. Includes enforcement cases, rules, permit and license applications, registrations, actions involving water districts.

[Search the TCEQ Central Registry](#)

To find the permit number by site, facility name, permit holder, county, or other information, look in our Central Registry. Here you can also find out whether a site had a permit at any point in the past, as well as the name and contact information of the permit holder.

[Licensing and Registration Information](#)

Find licensing, training credits, and registration information for individuals and companies.

Other thoughts....

- Invite representatives from WWTP operations to serve on stakeholders committee or serve on technical advisory committee
- Tour wastewater treatment plants
- Have speakers from TCEQ or consulting firms to explain permitting process, treatment process, specific to the permits in watershed
- **Use on-line modules**

4 Online Modules

- > <http://www.gbra.org/wastewater-treatment.swf>
- > <http://www.gbra.org/septic.swf>
- > <http://www.gbra.org/septic-spanish.swf>
- > <http://www.gbra.org/fog.swf>
- > <http://www.gbra.org/stormwater>

The screenshot shows a Mozilla Firefox browser window with the address bar displaying <http://www.gbra.org/wastewater-treatment.swf>. The page content features a diagram of a wastewater treatment plant with various tanks and pipes. A 'Start Tour' button is visible, along with a small photograph of a worker in an orange safety vest. The GBRA logo and a 'NOTICE' button are also present. A text box at the bottom right of the diagram area provides instructions: 'Roll over each of the images above to find out what it is, and click on it to get a detailed description. Click on the "start tour" button to run the show from the beginning.'

The screenshot shows a Mozilla Firefox browser window with the address bar at <http://www.gbra.org/wastewater-treatment.swf>. The page title is "Secondary Treatment". The main content area has a light green background and contains the following text:

The use of biological processes to provide further treatment is referred to as secondary treatment.

The wastewater, having had most of the solids removed in primary treatment, flows on to an aeration basin. Air is added to the aeration basins to create an environment for beneficial/helpful microorganisms to grow and continue treating the remaining pollutants in the wastewater.

Navigation buttons "Forward" and "Backward" are visible above a small photograph of an aeration basin. To the right, there is a 3D cutaway diagram of an aeration basin with a blue pipe entering and another exiting. A blue button labeled "Overview of Plant" is in the top right corner, and a link "Aeration Basin" is below it.

The screenshot shows a Mozilla Firefox browser window displaying an educational module titled "HOW A SEPTIC SYSTEM WORKS". The browser address bar shows <http://home.grandecom.net/~scottr/septic11.swf>. The page features a large illustration of a house with a cross-section showing plumbing fixtures in the Kitchen, Bathroom, and Laundry. A blue pipe labeled "Piping" runs from these fixtures down to a septic tank. To the right of the house, there is a text box titled "Wastewater Source (House)" with the following text:

The source of wastewater is the domestic water used in homes, schools or businesses that the treatment system serves. Domestic wastewater is water discharged from plumbing fixtures, appliances, toilets, baths, laundry and the dishwasher. Wastewater is typically 99.9% liquid.

Below the text box are two buttons: "Overview" and "To Septic Tank".

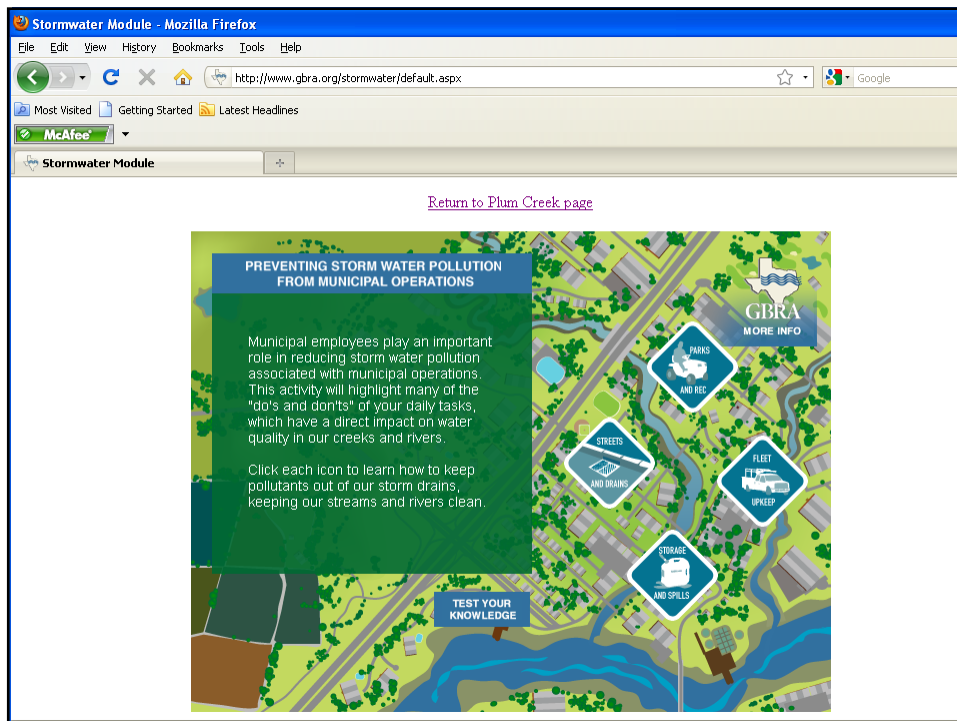
OSSF Online Educational Module

The screenshot shows a Mozilla Firefox browser window displaying the URL <http://home.grandecom.net/~scott/septic11.swf>. The page title is "septic11.swf (application/x-shockwave-flash Object) - Mozilla Firefox". The main content area is titled "HOW A SEPTIC SYSTEM WORKS" and features the logos for TCEQ, CBRA, and AgriLIFE EXTENSION. A "To House" button is visible. The main diagram shows a cross-section of a conventional septic system with two underground tanks. The first tank is labeled "Septic System Pretreatment". A pipe leads from the second tank to a "Final Treatment and Dispersal" line consisting of a series of small holes in the ground. A text box on the right explains that in the pretreatment portion, many contaminants are removed to prepare for final treatment and discharge. It lists harmful bacteria, nitrogen, and phosphorus as contaminants. Below the diagram, there are two buttons: "Run the Water" and a toggle switch between "Conventional System" (selected) and "Aerobic System".

OSSF Online Educational Module

The screenshot shows the same Mozilla Firefox browser window. The main content area is titled "HOW A SEPTIC SYSTEM WORKS" and features the logos for TCEQ, CBRA, and AgriLIFE EXTENSION. A "To House" button is visible. The main diagram shows a cross-section of an aerobic septic system with four underground tanks. The first tank is labeled "Single-compartment trash tank". The second tank is connected to an "Electrical Air Pump" above ground. The third tank is labeled "Aerobic Treatment Unit" and contains a "Chlorinator". The fourth tank is labeled "Pump Tank". A text box on the right is titled "Rules That Apply to Aerobic Septic Systems". Above the diagram, there are two buttons: "Run the Water" and a toggle switch between "Conventional System" and "Aerobic System" (selected).



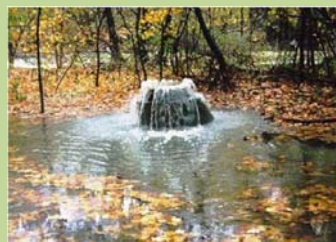


Sanitary Sewer Overflow Initiative

Sanitary Sewer Overflow (SSO) Initiative

Sanitary Sewer Overflow (SSO) – occurs when significant inflow/infiltration (I/I) in the collection system; the system is not properly operated and maintained; or its capacity is inadequate for collection, storage or treatment

Unauthorized discharge of untreated or partially treated wastewater from a collection system or its components (such as a manhole, lift station, or cleanout) before it has reached a treatment facility



Sanitary Sewer Overflow (SSO) Initiative

Goal -

Reduce the number of SSOs that occur each year in Texas and to address SSOs before they harm human health, safety, or the environment and before they become enforcement issues.



SSO Initiative - Benefits?

A participating facility will not be subject to formal enforcement for most continuing SSO violations, as long as the SSOs are addressed by the SSO plan.

Participation allows the facility to spend resources on correction as opposed to having to pay penalties associated with an enforcement order, in addition to the money required to complete corrective action.

Participation ensures that SSOs addressed by the SSO plan will not affect the facility's compliance history rating.



210 Authorization – Wastewater Reuse

210 Authorization – Wastewater Reuse

Reuse of treated wastewater

- must maintain an approved wastewater discharge permit
- quality of wastewater will govern what wastewater can be used for

Benefits:

- takes pressure off potable water sources
- reduces nutrients discharged to stream

Concerns:

- reduces flow in creek – biotic communities established because of consistent flow
- downstream appropriated water rights

