



RIVER PATROL HANDBOOK

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Dear River Patrol Member,

Thank you so much for expressing an interest in helping Riverkeeper to monitor our River and its tributaries. Because the St. Johns River is over 310 miles in length and its watershed covers over 8,800 square miles, it is extremely difficult for St. Johns Riverkeeper to monitor the entire St. Johns River Basin. The River Patrol helps us to assist regulators by monitoring our waterways, identifying potential problems and regulatory violations, and reporting them to the appropriate regulatory agency. Without the River Patrol, many problems would go unnoticed and unresolved.

In this Handbook, you will hopefully find all of the information that you need to begin your volunteer service as a member of the Riverkeeper River Patrol. Please, carefully read and agree to abide by the policies and terms of the volunteer agreement before you commit yourself to this important program. To join the River Patrol, complete the River Patrol member questionnaire and River Patrol Volunteer Agreement and mail to the River Patrol Coordinator, Tom Anderson. If you have any questions about the policies, procedures, or how to properly complete the Log Sheet or Incident Report, the River Patrol Coordinator is available to assist you. Promptly submit your monthly Log Sheet and all Incident Reports to the coordinator.

We are hoping that the River Patrol members can resolve most problems without requiring the assistance of Neil Armingeon, the Riverkeeper. This will allow Neil to focus his attention and energy on the most critical problems and issues involving the health of the St. Johns River. With the help of volunteer River Patrol members, St. Johns Riverkeeper can effectively identify and address more problems affecting our waterways without compromising the limited resources of St. Johns Riverkeeper.

Please, use the agency contact information that is provided to report problems and to follow-up with the appropriate agency representative until the problem is properly addressed and resolved. Although we ask that you make every effort to personally resolve violations that you may encounter while on patrol, the River Patrol Volunteer Coordinator or the Riverkeeper is available to assist you if the effort becomes too time-consuming or the problem is significant enough to require their involvement.

Thanks again for your support of Riverkeeper and your commitment to the health of the St. Johns River and its tributaries.

For the River,

Jimmy Orth
Executive Director
jimmy@stjohnsriverkeeper.org
904-256-7591

Meet the River Patrol Coordinator: Tom Anderson

Tom is a native of Jacksonville, Florida and lives in his family home on the Ortega River in Northeast Florida. The St. Johns River and its tributaries have been a major part of his life.

Tom majored in Forestry at Lake City Community College in Florida. He has been an active member of St. Johns Riverkeeper since 2004, and continues to work as a River Patroller. Also he is very involved with several organizations here in Northeast Florida to promote education for safe, clean waterways and recreational boating. Tom is also a certified Vessel Safety Examiner for the Jacksonville Sail and Power Squadron.

His desire for safe clean waterways has been a lifelong commitment and he is looking forward to many years of serving as an active member of the SJRK.



**Tom Anderson
River Patrol Coordinator
ander1@bellsouth.net
Cell 904-708-4687**

St. Johns Riverkeeper: Protecting, Preserving, and Restoring the St. Johns River

➤ The St. Johns Riverkeeper, Inc. is a 501(c)(3) non-profit that serves as a full-time advocate for the St. Johns River, its watershed, and the communities that benefit from it.



➤ On behalf of a grassroots constituency, we employ a variety of tools and strategies to identify problems, respond to citizen complaints, devise appropriate solutions and vigorously see to it that our environmental laws are enforced. Riverkeeper is the public's investigator, scientist, lawyer, lobbyist and public relations agent for the River.

➤ **The mission of Riverkeeper is to work on behalf of the community for clean and healthy waters in the St. Johns River, its tributaries and its wetlands, through citizen-based advocacy.**

➤ The origins of the Riverkeeper go back to England in the Middle Ages when villages would hire a private citizen to look after the trout streams so that no one could abuse the waterways that were owned, utilized, and enjoyed by all of the people in the villages.

➤ Hudson River Fishermen's Association first introduced the Riverkeeper concept in the U.S. in the mid-1980's, because these local fishermen were losing their family fishing grounds to industrial and domestic waste pollution.

➤ Today, the success of the Hudson Riverkeeper serves as a model for over 150 other "Keeper" organizations around the world that have emerged to protect public waterways from pollution and other threats.



➤ **St. Johns Riverkeeper, Inc. was incorporated and received a license as a member keeper organization from the Waterkeeper Alliance in 1999.**

Riverkeeper River Patrol FAQ's

What is the River Patrol?

The River Patrol is a volunteer-based program designed to increase the Riverkeeper's ability to monitor the River and waterways in the St. Johns Watershed and to increase the visibility of Riverkeeper in the community. The River Patrol is an on-the-water "neighborhood watch" program that monitors water quality and habitat conditions and reports any problems that are encountered.

Volunteer River Patrol members "adopt" a section of a creek, tributary, on the St. Johns River and agree to monitor that body of water a specified number of times each month. Each River Patrol volunteer determines their own individual level of commitment. In addition, River Patrol members occasionally take part in community water-related events and cleanups.

Why is the River Patrol important?

Because the St. Johns River is over 310 miles in length and its watershed covers over 8,800 square miles, it is difficult for St. Johns Riverkeeper to monitor the entire St. Johns River Basin. Due to limited resources, the Riverkeeper cannot be out on the water all the time and is unable to respond to and investigate every problem that arises. Yet, spills and other harmful environmental incidents occur on a regular basis, and often without the knowledge of Riverkeeper or the regulatory agencies responsible for enforcing our environmental laws. The River Patrol helps us to assist regulators by monitoring our waterways, identifying potential problems and regulatory violations, and reporting them to the appropriate regulatory agency. Without the River Patrol, many problems would go unnoticed and unresolved.

Who are the members of the River Patrol?

The River Patrol is comprised of Riverkeeper members who volunteer to help the Riverkeeper monitor the River and its tributaries. River Patrol members patrol in a variety of boats and watercraft, including sailboats, motorboats, and kayaks. **However, you don't have to own a boat to be member of the River Patrol!** You can patrol by foot or by bike, observe your surroundings while in your car, or ride along with other Patrol members in their boats as they make their rounds.

What are the qualifications to be a River Patrol member?

We only ask (1) that you be a current St. Johns Riverkeeper member, (2) that you fill out the application and volunteer agreement, (3) and that you attend River Patrol meetings and any training that may be offered. You don't have to have any particular expertise to participate. We just ask that you be observant when you're out on the water or in the travels of your every day life. If you see possible illegal discharges, pumping from boats, muddy water leaving construction sites, streamside wetlands being filled, or anything that appears unusual, help out by contacting Riverkeeper and the appropriate regulatory agency.

HOW TO REPORT AN INCIDENT

1. DOCUMENT

- ❑ Take a photo.
- ❑ Get a GPS coordinate and/or a location based on bridges, roadways, businesses, etc.
- ❑ Complete an Incident Report. (*page 12*)

2. CONTACT THE PROPER REGULATORY AGENCY

- ❑ Use your phone list to locate the proper contact.
- ❑ If you are unsuccessful reaching someone at an agency, call back at your earliest convenience.
- ❑ Get a case number or some documentation of your report.
- ❑ Ask how to follow up on the complaint. WHEN? WHO?
- ❑ Notify the River Patrol Coordinator that you have filed an Incident Report.
- ❑ Follow-up on your case per agency instructions.
- ❑ Document follow-up and final resolution of the incident.
- ❑ If you are unable to continue or believe the incident you observed is serious enough to warrant the immediate attention of the Riverkeeper and are UNABLE to contact the River Patrol Coordinator, contact the Riverkeeper office or cell phone.

3. RECORD KEEPING

- ❑ Mail, fax, or e-mail all incident reports to the River Patrol Coordinator.
- ❑ If you have any questions, call or email the River Patrol Coordinator.

NOTE: Each time you patrol your assigned body of water (even if you don't encounter a problem), please fill out your Log Sheet so that we can keep track of the number of days and volunteer hours spent on patrol. At the end of each month, turn in your log sheets in to the River Patrol Coordinator.

St. Johns Riverkeeper River Patrol Questionnaire

Please complete this questionnaire and return it to the Riverkeeper office by mail, e-mail, or fax (2800 University Blvd., N. 32211, jimmy@stjohnsriverkeeper.org , 904-256-7591). This information will be used by RK to maintain a River Patrol roster. *It will NOT be used for any other purposes, and it will not be distributed to any outside parties.* **THANK YOU FOR YOUR INTEREST IN HELPING RIVERKEEPER PROTECT OUR RIVER!**

CONTACT INFORMATION

Name _____

Address _____

City, State, Zip _____

E-mail address _____

Phone (Home) _____ Work _____

_____ Do you live along a body of water? If yes, name of creek or river: _____

SITE MONITORING INFORMATION

_____ (Y/N) Do you own a powerboat, sail boat, canoe or kayak?

If yes, please describe the type and size of your boat: _____

_____ (Y/N) As a boat owner, are you willing to have a volunteer join you on your boat?

_____ (Y/N) As a non-boat owner, are you willing to assist other boat owners?

Please, list the area you would like to patrol: _____

Indicate the frequency you will patrol: _____ # per month _____ # of hours per patrol

Check all that apply:

_____ I will participate by patrolling a body of water and reporting any problems.

_____ I can provide additional assistance by collecting and testing water samples.

_____ I can help coordinate and/or lead RK River Patrol activities.

_____ I can visit and monitor construction sites to inspect sedimentation controls.

_____ I would like to receive periodic training and information about river-related issues.

_____ Keep me on the river patrol list, but consider me as inactive.

ST. JOHNS RIVERKEEPER, INC. POLICY FOR RIVER PATROL MEMBERS

- 1) All RK River Patrol members shall be current members of St. Johns Riverkeeper.
- 2) River Patrol members are volunteers, will not be paid for their services, and assume their own personal risks and liabilities while performing River Patrol duties and activities.
- 3) RK River Patrol members will not be reimbursed for voluntary and personal expenses. These include boat time, fuel, insurance, etc. Any purchase beyond normal boat expenses may qualify for reimbursement if the purchase is pre-approved by the Riverkeeper Executive Director and/or Board of Directors and is within the approved budget of St. Johns Riverkeeper.
- 4) RK River Patrol members will be provided a copy of the policies and the River Patrol Volunteer Agreement. River Patrol members must read and sign the Volunteer Agreement and will be expected to abide by Riverkeeper policies and all provisions contained in the Volunteer Agreement.

ST. JOHNS RIVERKEEPER OPERATING POLICY

St. Johns Riverkeeper will attempt to address any violation of existing laws regarding water quality violations and habitat destruction in the St. Johns River Watershed. RK will generally follow the following sequence:

- 1) Investigate a perceived or actual problem, including data collection if necessary, to determine the magnitude and potential source.
- 2) Report the incident to the proper local, state or federal regulatory agency. If the event is an accident or malfunction, notify the offending party as soon as possible. Follow up to determine if the situation has been remedied.
- 3) If a violation appears to be continuing or willful, RK will use all legal means at its disposal to correct the situation. These steps may include contacting both elected and appointed government officials, notification of press and other public media and filing lawsuits to obtain a remedy.

In general, RK will exert its influence at public hearings and/or meetings, and with regulatory agencies to improve legislation and enforcement to protect our streams and rivers.

RK will devote much of its energies to educating citizens about the problems facing our watershed and to possible solutions these problems.

ST. JOHNS RIVERKEEPER RIVER PATROL VOLUNTEER AGREEMENT

I, _____,

(Print name)

of

(Address, City, State, Zip Code)

have been posted as a volunteer to serve as a member of the St. Johns Riverkeeper River Patrol on _____ for _____ river or creek that is located at or near _____.

- I am fully aware that as a volunteer river patrol member, I will not be paid for my services or reimbursed for any expenses incurred while performing the normal duties and activities of the river patrol.
- However, because I am serving as a volunteer for a non-profit organization, I understand that I may be able to properly deduct all expenses associated with my duties as river patrol member on Federal or State tax returns. In this regard, I understand that I alone am responsible for properly recording my expenses and determining the extent to which they may be included as a deduction on my tax returns.
- As a river patrol member, I understand that I have no authority or standing to enforce any regulation or law of any local government, the State of Florida or the federal government.
- As a river patrol member, my responsibility is to collect information concerning my designated area, to document any problem that I encounter while on patrol, and to regularly report that information to the river patrol coordinator and/or the St. Johns Riverkeeper.
- I will also document the dates and hours of volunteer service that I provide as a river patrol member and will report this information to the river patrol coordinator at the end of each month.
- I have been provided with the names and telephone numbers of various local, state and federal agencies that have authority over matters related to my water body. I will use this contact information to report any problems that I may encounter during my patrols, and if possible, I will make every attempt to follow through to make sure that the problem is properly resolved.
- I understand that I am not to enter the property of any individual or business without having received advanced permission to do so.
- I am not authorized to speak on behalf of the Riverkeeper, or St. Johns Riverkeeper, Inc.

- At all times when serving as a river patrol member, I will do my best to represent Riverkeeper in a professional and courteous manner. I understand that the river patrol is a non-confrontational program and will conduct myself accordingly. I will report all untoward conduct by others that I may encounter to the St. Johns Riverkeeper.
- I understand the rules controlling the proper operation of a boat, and I will abide by these rules at all times while performing my duties as a member of the RK river patrol. I also agree to have all required and necessary safety equipment aboard my boat at all times when I am on the water as a river patrol member.
- Under no circumstances while I am performing as a river patrol member will I use alcohol or drugs or be intoxicated to any degree.
- At no time while serving as a river patrol member will I act in an unsafe manner or perform any act that may result in injury to others or myself. SAFETY will always be my number one priority.

As a river patrol member, I will be solely responsible for all my actions. I will hold the St. Johns Riverkeeper, St. Johns Riverkeeper Executive Director and St. Johns Riverkeeper, Inc., harmless against any and all claims for injury or death which may originate from me, my heirs or assigns. Further, I will hold the St. Johns Riverkeeper, the Executive Director, and St. Johns Riverkeeper, Inc., harmless against any and all claims of others which may be brought against them for any act or omissions on my part while serving as a river patrol member.

I certify that I have read the policy statement and the river patrol volunteer agreement of the St. Johns Riverkeeper, Inc. I further agree to abide by all provisions of the said statements and to maintain my membership in the St. Johns Riverkeeper while serving as a river patrol member.

I have executed this certification on this _____ day of _____, 200____.

(Signature)

RIVER PATROL INCIDENT REPORT

(http://www.stjohnsriverkeeper.org/help_BoatPatrol_IncidentReport.asp)

Suggestion: Keep copies of this aboard to help document what you see, and then report online.

Date: _____ Time: _____

Location/waterbody: _____

Landmarks: _____

Longitude: _____ Latitude: _____

Description of Incidence:

Vessel ID#: _____

Weather conditions: _____

Tide conditions: _____

Photos taken (Yes/No): _____ Photo ID: _____

Agency contacted: _____

Date: _____ Time: _____

Contact person: _____ **Phone#:** _____

Case #: _____

Follow up documentation (dates, times, contact, resolution, etc.):

RIVER PATROL LOG SHEET

(http://www.stjohnsriverkeeper.org/help_BoatPatrol_LogSheet.asp)

Suggestion: Keep copies of this form aboard to appropriately document your times, then enter log online

Patrol Date (m/d/y): _____ Start time: _____ End time: _____

Location of Patrol: _____

Problems, observations, comments: _____

If a problem was encountered, did you file an incident report? _____

Did you follow up on the problem? _____ Was problem resolved? _____

Patrol Date (m/d/y): _____ Start time: _____ End time: _____

Location of Patrol: _____

Problems, observations, comments: _____

If a problem was encountered, did you file an incident report? _____

Did you follow up on the problem? _____ Was problem resolved? _____

Patrol Date (m/d/y): _____ Start time: _____ End time: _____

Location of Patrol: _____

Problems, observations, comments: _____

If a problem was encountered, did you file an incident report? _____

Did you follow up on the problem? _____ Was problem resolved? _____

Watersheds 101 Lingo List

BMPs (BEST MANAGEMENT PRACTICES): Methods, measures or practices to prevent or reduce surface runoff and/or water pollution, including but not limited to, structural and nonstructural controls, operation and maintenance procedures, other requirements and scheduling and distribution of activities.

CHANNELIZATION: The creation of a channel or channels resulting in faster water flow, which increases the chance of erosion and sedimentation. This usually occurs when the natural meander of a stream is removed.

FLOODPLAIN: That portion of a stream valley adjacent to the stream channel that is created by erosion and sediment deposited from the stream and covered with water when the stream overflows its banks at flood stage. Also, the nearly level land situated on either side of a channel that is subject to overflow flooding.

GROUNDWATER RECHARGE: The process of replenishing the water that occurs in the subsurface.

KARST (LIMESTONE) GEOLOGY: Karst geology occurs when areas of the bedrock contain soluble minerals, such as limestone, dolomite or marl carbonate rocks. As water flows through the bedrock in karst areas, it dissolves the bedrock and leads to the formation of sinkholes. The tendency of sinkhole formations in karst geology presents many unique challenges to designing stormwater management.

IMPERVIOUS SURFACE: Ground that does not allow, or minimally allows, for infiltration of water - such as roofs, paved parking lots, and roads - and which increases the volume and speed of runoff after a rainfall and decreases groundwater recharge.

INFILTRATION: Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolates downward to recharge groundwater.

NONPOINT SOURCE POLLUTION: Nutrient and pollution sources not discharged from a single point. It could include runoff from agricultural fields, feedlots, residential lawns, septic leach fields, or urban streets.

RIPARIAN BUFFERS: Vegetated land adjacent to waterways that stabilizes the stream bank, filters pollutants from storms and floods, and provides habitats for a variety of amphibians, aquatic birds, and mammals that depend on the proximity of water for their life functions. Development in riparian buffer areas can impair the functions and subject structures to damage from flooding and the meandering of natural streams.

RUNOFF: Runoff is any surface water (usually rainfall) that is not evaporated, transpired, used or infiltrated into the groundwater system, and thus flows over land to a surface body of water.

SCOUR: Local removal of soil, sediment, or other channel material from a streambed by flowing water.

SEDIMENTATION: Sedimentation occurs when sediment particles that have been suspended within flowing water are deposited on the stream bottom or floodplain.

STORMWATER: Runoff water that results from a storm (usually rainfall) event.

STORMWATER DETENTION/RETENTION BASINS: Constructed to detain/retain stormwater for extended periods of time and allow for the retention of pollutants in the pond through deposition of sediments and attached pollutants.

STREAM CORRIDORS: Stream corridors include waterways and adjacent riparian lands.

STREAM BANK EROSION: The wearing away of land surface by water or wind which occurs naturally from weather or runoff, but is often intensified by human activities.

WETLANDS: Wetlands are low-lying areas that are saturated or inundated with surface or groundwater at a frequency, duration and depth sufficient to support an environment that allows wetland plants to grow. They provide valuable flood storage, groundwater recharge, and pollutant-filtering functions.

Water Pollution

Water has the remarkable ability to renew and cleanse itself. When waste materials are deposited into a receiving stream, they often settle out, break down, or become diluted in the stream.

However, pollution can occur if too much of a substance or too many substances are discharged so that it overwhelms the capacity of the stream to assimilate the substance(s) or cleanse itself. Water pollution may also occur if even just a little of a highly toxic substance is discharged into a receiving stream (e.g., dioxin).

Water pollution can be classified into two main categories: **point source** pollution and **nonpoint source** pollution.

The difference between the two categories is simple. **Point source pollution** is any type of pollution that can be identified as coming from a clearly established source. This may be a factory, a previously polluted stream, or other source that is obviously causing pollution. Point source pollution problems are often simpler to control because it's easier to see the cause of the pollution and to do something about it.

Nonpoint source pollution problems are more difficult to resolve because they often cannot be traced to one specific location. Nonpoint source pollution includes sediment from rainwater runoff or fertilizer pollution as storms wash nutrients from fields. Nonpoint source pollution can be runoff from animal wastes, construction sites or mines, and leachate from landfills. Nonpoint source pollution could even be acid rain from atmospheric pollutants that falls to earth in polluted rain or snow and contaminates waterbodies.

There are six major types of water pollutants:

- Biodegradable wastes
- Plant nutrients
- Heat
- Sediments
- Hazardous wastes & toxic chemicals
- Radioactive waste

Fact sheet from the EPA

Nutrient Pollution

Many of the nutrients used to bring the earth to life can overfeed a waterway to death. Sources of nutrient pollution are sewage and septic runoff, livestock waste, fertilizer runoff, detergents, and industrial wastes. Some of these are point source causes, while others are nonpoint source. Nutrients like phosphates and nitrates stimulate plant growth, and are primary ingredients in fertilizers. These compounds occur naturally, but in excess quantities they can cause great damage. Approximately 80 percent of nitrates and 75 percent of phosphates added to lakes and streams in the U.S. are the result of human activities.

Natural nitrates and phosphates usually are limiting factors in the growth of plant life. In other words, they occur in limited amounts that help govern the growth of different organisms and keep nature in balance. But when excess amounts of these nutrients are introduced into a waterway, some plant species can experience explosive growth, literally choking off other life forms.

When soluble inorganic nitrogen concentrations in water reach just 0.3 parts per million and inorganic phosphorus concentrations reach 0.01 parts per million, algae blooms, or multiplies rapidly. The algal blooms can become so severe that an entire lake can be fouled with a green, foul-smelling slime. Clear water can become so cloudy that visibility is restricted to a depth of a foot or less, destroying the aesthetics of the lake.

Once a bloom occurs, its negative effects can multiply rapidly. The green slime can foul up boat propellers and make swimming unpleasant. Nutrients can also cause weeds and other undesirable plants to flourish, increasing the problem. The algal bloom impairs water quality, and if the waterway is a source for municipal water supplies, it can be expensive to remove impurities and odors. Masses of algae can wash up on shore, decaying and producing hydrogen sulfide gas, which smells like rotten eggs. Certain marine algae can also release toxics that concentrate in fish and shellfish that cause human digestive problems. In fact, in some areas it is dangerous to eat foods like oysters at certain times of the year because of "red tide," a phenomenon caused by a marine algal bloom.

When an algal bloom clouds water, it can block sunlight from other plants and aquatic life, killing them or limiting their growth. And as the algae die, the bacteria that feed on them can deplete oxygen levels in the water to the point where it cannot support other life forms. This condition leads to eutrophication. **Eutrophication** is a naturally occurring process of changes that take place after a waterbody receives inputs of nutrients, mostly nitrates and phosphates from erosion and runoff of surrounding lands. Usually this process occurs slowly over millions of years. Human activities can accelerate this process and the results can be very serious. Eutrophication caused Lake Erie to age nearly 15,000 years between 1950 and 1975.

Biodegradable Waste

Biodegradable wastes include human and animal wastes, food scraps, and other types of organic materials. Biodegradable wastes can cause water pollution by providing nutrients for bacteria.

If there are excessive nutrients, aerobic (oxygen-consuming) bacteria multiply too rapidly, consuming the oxygen in a stream and making it uninhabitable for some species of fish and other aquatic life. In fact, if the bacteria grow too fast, they consume enough oxygen so that virtually everything in the water dies, leaving only anaerobic bacteria (bacteria that do not require oxygen to live) that create foul smelling gases.

Biodegradable wastes can also cause water pollution by spreading disease-causing bacteria. This type of pollution was the cause of typhoid fever and cholera epidemics that led to the development of public water treatment systems.

Toxics

Chemical pollution is usually human-made. Modern nations rely on thousands of organic and inorganic chemicals in industry, agriculture, and the home. These materials provide many benefits, and new chemical compounds are constantly being developed to improve existing processes.

But with modern chemicals come modern pollution problems. Improperly used or disposed of, reasonably safe chemical compounds cause toxic reactions. The effects of such toxics can be short term or long term and are regarded as a major national and international health concern.

Toxic water pollution is most often linked to point source causes, such as improperly treated industrial discharges or accidents in transportation (such as oil spills). But it can also come from nonpoint source causes. These include runoff from both urban and rural areas, and atmospheric transport.

Hard-surfaced roads and parking lots and urban areas collect toxics such as lead, oil, cadmium (from tires) and other pollutants, which can be washed into streams through storm drains. These materials can cause immediate toxic effects as well as long-term effects by accumulating in sediment or in living organisms. In the 1970s, many people suffered severe health problems from eating swordfish and tuna containing high levels of mercury, which accumulated in the fish over a long period of time.

In agricultural areas, pesticides containing toxic compounds are applied to crops to improve crop quality and increase yields. Their proper use has helped eliminate hunger in many parts of the world. But improper application of pesticides can create serious water pollution problems, because runoff from fields can introduce large amounts of toxics into waterways. Pesticides can also cause groundwater contamination. Techniques of integrated pest management that involve a combination of biological control (natural predators) and reduced application of pesticides can help eliminate some of the potential problems of excessive pesticide application.

The cost of disposing of toxic chemicals created by industry is high. Federal and state laws require careful monitoring of industrial processes and specific storage and disposal procedures of these materials. This cost has caused some unscrupulous people to illegally dispose of toxic chemicals, a process called a midnight dumping. Pollution from this source may go undetected for years, and when discovered, it can be very difficult to determine the source. Legislation adopted since the late 1970s has imposed large fines and jail sentences for people caught illegally dumping toxic wastes.

Another, perhaps surprising, source of toxic water pollution comes from individuals. Household chemicals such as cleaners, dyes, paints, pesticides, and solvents are a large source of toxic water pollution, particularly in urban areas. Many of these materials are simply poured down drains or flushed down toilets with no regard to their consequences. And while the toxic chemicals from one household may not seem like much, they can cause problems. In fact, a single quart of used motor oil can pollute a quarter of a million gallons of water. And homeowners may use ten times the amount of pesticides per acre as farmers do. The amount of toxics released by an entire city, one person at a time, can be staggering.

Sedimentation

Sediment is one of our most destructive water pollutants. America's water is polluted by more than one billion tons of sediment annually. Every day, Americans lose about one million dollars because of sediment pollution.

Sediment is mineral or organic solid matter that is washed or blown from land into lakes, rivers, or streams. It can be point source or nonpoint source pollution. Typically, it comes from nonpoint source causes. Sources of sediment pollution include construction, row cropping, livestock operations, logging, flooding, and runoff from city streets, parking lots, and buildings. Sediment by itself can be a dangerous pollutant, but it is also considered serious because other contaminants such as heavy metals and toxic chemicals can be transported with it.

The effects of sediment pollution can be devastating. It can clog municipal water systems. Lakes or reservoirs can receive so much sediment that they actually fill in. Sediment can turn a deep lake into a shallow wetland area over time. Fine sediment can blanket the bottoms of lakes and rivers, smothering aquatic life such as fish eggs and insects and damaging fish gills. This can disrupt the entire food chain, and cause great damage to an ecosystem. Sediment can also be detrimental before it settles, while it is still suspended in water. It can make water cloudy, or turbid. High turbidity makes water aesthetically unpleasant and can destroy recreational opportunities. Some species of fish, such as smallmouth bass, will not thrive in a highly turbid aquatic environment, and studies indicate that high turbidity decreases fishing success.

Sediment in water can also create thermal pollution problems. Sediment darkens water, and allows it to absorb more solar radiation. This raises water temperatures to the point where it may not support some forms of life. At the same time, sediment blocks light from reaching aquatic plant life, slowing or stopping plant growth. And since plants add oxygen to water, oxygen levels can be reduced to the point that fish kills can occur.

This type of damage to the ecosystem is cumulative. As plants and fish die, the waterway loses its ability to break down wastes and materials that are naturally washed into it. These materials begin to accumulate and form another source of pollution.

Fact sheet from the EPA

Phone Numbers for Reporting Suspected Violations or Incidents

St. Johns Riverkeeper

Neil Armingeon (neil@stjohnsriverkeeper.org) 904-256-7591, cell 904-635-4554
Tom Anderson (River Patrol Coordinator) Cell 904-708-4687

Hazardous Material Spills/Marine Spills

*Oil, gas, sewage, paint, any toxic substance, or any substance running into a stream, wetland or river.
(When in doubt, call the State Watch Office.)*

The State Watch Office 800-320-0519
Coast Guard National Response Center 800-424-8802
Duval County Care Center (*Get case #*) 904-630-2489

Wetland Violations

Any fill material such as dirt or broken concrete dumped into a marsh or swamp.

FL Dept. of Environmental Protection (*single family homes*)_904-807-3344
(contact: Mike Savage – Michael.Savage @dep.state.fl.us)
St. Johns River Water Mgmt. District (*large subdivision/industry*)...904-448-7907
(contact: Dale Eisman – deisman@sjrwmd.com)
U.S. Army Corps of Engineers – Enforcement Section904-232-3697
(contact: Diane Griffin)

Illegal Discharges

Any discharge, such as water or sewage, allowed to flow from a pipe or drain directly into a wetland, river or stream.

Jacksonville's Care Center in Duval County (*Get case #*).....904-630-2489
Florida Department of Environmental Protection (DEP)904-807-3326
(contact: Matt Kershner – matthew.kershner@dep.state.fl.us)
Duval Co. Dept. of Health (*for sewage only*)904-253-1280

Fish Kills

Dead marine organism such as fish or shrimp floating on top of the water or collected along the shore.

Florida Marine Research Institute (FMRI) Fish Kill Hotline800-636-0511
Jacksonville's Care Center in Duval County (*Get case #*)904-630-2489

Illicit Connections

Pipes to waterways from sources such as swimming pool, gray water, or gutter drain connections.

Jacksonville's Care Center in Duval County (*get case #*) 904-630-2489

Construction Site Runoff

Soil from a construction site running into a stream, wetlands or the river, regardless of barriers such as silt fences or hay bales.

Jacksonville Environmental Quality Division904-630-3118
St. Johns Water Management District (*outside Duval County*)904-448-7907
(contact: Dale Eisman – deisman@sjrwmd.com)

Solid Waste

Trash or construction waste dumped into a stream or river.

Jacksonville’s Care Center (*Get case #*)904-630-2489
Florida Department of Environmental Protection904-807-3300

Marine Mammal Stranding

Fish & Wildlife Conservation Commission.....808-404-FWCC

Manatee Hotline

To report a dead or injured manatee.

Manatee Hotline (Jacksonville University)904-256-7575
State Manatee Hotline and Law Enforcement Dispatch888-404-3922

Algae Bloom

To report an algae bloom in the River.

St. Johns Riverkeeper904-256-7591
St. Johns River Water Management District..... 386-329-4360

Abandoned Vessels

To report abandoned or derelict vessels.

Jacksonville Sheriff’s Office Marine Unit (*Duval County only*) 904-630-2718
Fish and Wildlife Conservation Commission 904-270-2500 or 1-850-488-5600
U.S. Coast Guard (*only if it is a navigational hazard*) 904-564-7511

Duval County C.A.R.E. Line

To report environmental problems in Duval County.904-630-2489

To report a problem online:

1. Go to <http://ecare.coj.net/AddRequest.aspx>
2. Search by **Category** – Select “Environmental”
3. Select appropriate **Issue Description** – “Fish Kill”, “Hazardous Material – Disposal”, “Hazardous Material – Spill”, “Stormwater Runoff”

Duval County Environmental Quality Division

Chemical Spills and Pollution (904) 630-3404
Water Pollution (904) 630-4900
Groundwater Contamination(904) 630-3404.....awqdmil@coj.net