



**ENVIRONMENTAL
QUALITY**
WATER QUALITY

APPENDIX C TO THE STATE NONPOINT SOURCE POLLUTION MANAGEMENT PLAN



Utah Nonpoint Source Pollution Information and Education Strategy March 2018

Photo: Fourth grade students explore the Logan River looking for macroinvertebrates at a Natural Resource Field Day

Utah Nonpoint Source Pollution Information and Education Strategy

Updated March 15th, 2018

An effective outreach program is essential for the effective control of nonpoint source pollution. Utah's nonpoint source (NPS) pollution information and education (I&E) strategy provides direction to individuals and organizations throughout Utah engaged in educating our youth and the public at large about this critically important issue.

The goals of Utah's NPS I&E strategy are to:

1. Assure that all Utah citizens understand the importance of protecting Utah's waterbodies;
2. Help Utah citizens understand the connections between their personal actions and land uses on the quality of Utah's waters;
3. Educate and inform Utah citizens on how they can help reduce NPS pollution;
5. Assess the effectiveness and impacts of Utah's NPS outreach and education efforts;
6. Inform Utah citizens, decision makers, and funding sources on Utah's NPS program accomplishments.

Utah's Water Quality Task Force I&E Sub-committee

The statewide I&E strategy will be overseen by an I&E subcommittee of the State Water Quality Task Force. The I&E subcommittee is tasked with coordinating NPS I&E activities and verifying that these efforts are being carried out as effectively as possible. The subcommittee will identify common ground between different local and statewide efforts, and will stress the benefits of cooperative I&E programs for the multitude of programs within the state that impact or are impacted by NPS pollution.

The Subcommittee will hold a coordination meeting at least once a year. This meeting will provide opportunities to set annual objectives and associated action items, to prioritize activities, to identify emerging issues, to share successes of NPS projects and to evaluate impacts of existing I&E efforts.

The I&E sub-committee is co-chaired by a representative of the Utah Division of Water Quality (DWQ) and a representative from USU Extension. Membership is open and will likely change over time as NPS priorities change. The subcommittee will function best, however, with full participation of those who are involved in NPS programs or in resource management areas that may affect or be affected by water quality.

General approach:

Statewide coordination will allow groups to work collectively. This "leverages" the limited resources of different agencies, provides a more consistent message statewide, and emphasizes the common benefits of many of our water quality and land management activities.

Whenever possible, we will organize local activities and events to align with national or statewide outreach campaigns, which will provide a much broader coverage. Small projects can have the advantage of being part of something larger and more "significant". Local events can also benefit from statewide or national media coverage.

Utah's NPS efforts must be well targeted and follow a logical plan that includes the following elements:

- Identify I&E goals that are clear and measurable;
- Identify target audience(s)
- Use assessment tools to determine needs and interests of the specific audiences;
- Identify partners and generate the resources necessary to effectively implement I&E efforts;
- Develop clear and consistent messages;
- Use appropriate outreach techniques and approaches for this audience;
- Evaluate the effectiveness of the effort and make adjustments as necessary;
- Share successes and challenges with NPS community.

Needs assessments are critical to successful I&E efforts. This step identifies specific issues and areas where additional I&E efforts are likely to be most effective, targets specific messages to specific audiences, and helps determine how effective a specific approach has been in the past. Needs assessments can also be a valuable means of introducing issues to the public. These approaches include online surveys, paper questionnaires, brief evaluation forms at meetings, focus groups and other efforts to elicit citizen input on specific projects or efforts, and before and after tests to quantify impacts of specific activities.

Impact evaluations should be part of the early planning for any I&E effort. We will identify measurable outcomes, ranging from increased awareness to changes in behaviors or policies to reductions of specific pollutants. We will assure that we have the initial data and data collection methods in place to document these changes.

Different audiences addressed by Utah's I&E strategy

The Utah I&E strategy identifies a number of different audiences that must be reached. These audiences have different levels of knowledge and interest in NPS pollution and its impacts, and have different motivations for learning about, or participating in NPS I&E activities. To be most effective, Utah's I&E efforts must recognize the motives and interest levels of these different audiences, and tailor their messages and approaches accordingly.

Target audiences include:

Agricultural Producers: Ranchers, farmers, dairymen, niche markets, horticulturists, and more need to:

- Understand the importance of managing for clean water and the potential benefits proper management can have on their operations and other landscape-scale resources including soil, forage, animal health, and water availability on their lands);
- Understand and be trained on the Best Management Practices (BMPs) that can be used to improve or protect water quality;
- Be aware of the various sources of funding and other technical assistance available to help in implementing best management practices;
- Be aware of changes in regulatory requirements;
- Understand TMDLs and other watershed-based management approaches.

Businesses and industries need to:

- Be informed about state regulatory programs, such as stormwater management, that may be relevant to their operations;
- Fully appreciate the benefits of clean water in attracting new employees and retaining current ones;
- Appreciate the importance of clean water for reduced treatment costs and other potential cost savings;
- Understand TMDL and other watershed-based management approaches.

Citizens throughout Utah need to:

- Understand the role that each individual plays in protecting water quality and water resources;
- Understand the benefits provided by protecting and improving water quality, including improved health, recreation, aquatic resources, agricultural and industrial operations;
- Be informed about opportunities to get involved through personal actions, volunteering with watershed projects, and participating with citizen science / volunteer monitoring programs statewide.

Decision Makers: Legislators, county and municipal government representatives, members of statewide oversight committees and boards all need to:

- Understand the importance of protecting water quality and how it is related to Utah's economy and to the well-being of Utah's citizens with regard to growth and sustainability, public health, recreational opportunities, and enhancing agricultural programs;
- Understand the important role that Utah's NPS programs play in reducing pollution and protecting Utah's water resources;
- Understand the value of cooperative efforts in reducing NPS pollution;
- Appreciate the multiple benefits of managing for NPS pollution such as improved grazing lands, improved soil fertility from nutrient management, better flood control and maintenance of river flows through protected riparian areas;
- Appreciate the many successes that Utah's NPS efforts have already experienced and see the broad base of support for these programs;
- Understand Total Maximum Daily Loads (TMDL) and other watershed-based management approaches.

Other land management, agricultural and natural resource agencies need information about:

- Opportunities to leverage funding and activities to increase efficiency in protecting common resources;
- The linkages between land use decisions and actions and impacts to water quality and other water resources;
- Opportunities for I&E efforts to work collectively on statewide programs to reduce overlaps and to reinforce common messages;
- Understand TMDL and other watershed-based management approaches.

Watershed coordinators, urban stormwater managers and other water quality professionals need:

- Assistance in developing and implementing effective I&E programs;
- Assistance in conducting needs assessments, and in evaluating the effectiveness of ongoing efforts;

- Training in outreach activities to assure that their methods are appropriate and well targeted;
- Assistance in identifying funding and other resources in support of I&E efforts;
- Assistance in determining the effectiveness of I&E efforts;
- Understand the TMDL process and implementation.

Youth and educators need age appropriate materials and activities to:

- Provide the same messages, information and opportunities as other citizens of Utah;
- Engage them actively in watershed and water quality based projects.

Effective outreach techniques and methods

An effective I&E strategy is adaptive, using the best approaches and methods to meet the interests and needs for specific issues and audiences. These approaches may include the following:

Classroom and informal youth education: Materials must be scientifically accurate, free of bias and age appropriate. They are most effective when aligned to school core curricula and coupled with educator training. USU is a national leader in development of hands-on water quality curricula. These lessons have been evaluated and proven effective whether delivered at field days or throughout a school year in a classroom setting.

Conferences and formal presentations: Utah's NPS program no longer organizes its own conference, partly because there are sufficient state and regional opportunities to present information to interested audiences. These include the Utah Water Users meeting in St George, the Jordan River watershed symposium, Utah State University's Spring Runoff conference and more. In addition to the information provided in talks and panels, these conferences are valuable for networking.

"Elevator" talks: Since Legislators, decision makers, and news reporters are very busy, they want short and on-target soundbites, and citizens often want a clear message without a lot of confounding information. Staff, watershed coordinators, and others involved in NPS activities can develop and practice short "elevator talks" on specific topics taking no more than 1 minute to deliver. This can be very effective, especially for "campaigns" with a unified message.

Field Days: These are extremely effective if they are well attended. Adequate publicity is required ahead of time to generate sufficient interest from the target audiences. Field days should typically involve multiple stations, and are most effective if these stations are interactive and include relevant handouts. This can be very effective for youth outreach.

Incentives and giveaways: Giveaways are very effective as "constant reminders" if they are well branded, relate to the specific activity being highlighted, or are meaningful to a target audience. These range from hats and T shirts to refrigerator magnets, pencils and bookmarks. Unusual, unique and useful giveaways are more likely to be retained by recipients.

Mass media (TV, radio, print) – Approaches include Public Service Announcements (PSAs), news releases, advertisements, and inserts in local newspapers. Topics may include common messages for a broad-based campaign ("we all live downstream"), coverage of specific or statewide events, in-depth stories about important issues, or human interest stories that include NPS activities / messages. Small communities are often looking for good news stories for their local papers. It is most effective to provide these stories to the local papers. Target press releases for all high profile events and assure that spokesmen for these events have a clear, consistent story to tell.

Publications: These range from fliers to one page fact sheets and brochures to detailed reports, guidelines or curricula. Well written and focused publications can be very effective for reinforcing or providing additional information for messages that were also delivered via another approach. These can become outdated, however, and often must be short and “pithy” if they are to reach audiences who don’t already have a real interest in the subject.

Recognition: Awards and other recognition of outstanding efforts can be very effective. Presentation at an appropriate venue (professional meeting, community event, etc.) and news releases about the awards or recognition adds significant value to this approach.

Social media: Facebook, Twitter, Instagram, and other social media applications are a critical component of any outreach campaign. These provide an effective means of reaching a broad audience. Social media can be highly effective at a relatively low cost. All activity should be tracked to demonstrate impact.

Tours: These remain popular and are very effective at increasing interest and program understanding when used appropriately. Tours have the advantage of interaction while traveling as well as highlighting specific activities and successes “on the ground”. Tours are most effective with a common theme and with “experts” at the site who can briefly identify the context and importance / impact of an activity. Tours tend to be most effective with additional handouts and hands-on opportunities, and become less effective if participants cannot hear or see the presenters.

Video: YouTube has completely rewritten the video landscape. People are accustomed to receiving technical information via You Tube. Video is also an effective way to highlighting local activities, providing human interest, etc.

Volunteer opportunities: Utah Water Watch currently provides an excellent opportunity for citizens to become more informed and more actively involved in caring for their local waterbodies. Volunteer monitoring increases citizen awareness about water quality issues. It can lead to additional volunteer activities such as service projects or outreach campaigns, and also results in citizen interest and input into legislation and statewide management efforts.

Web sites: Websites are very effective for providing program information, access to resources and documents, promoting current activities, and providing links to other websites to broaden coverage and impact. The statewide website (<https://utahcleanwater.org>) already serves as a clearing house for Utah’s NPS and watershed protection activities. This site must be promoted, maintained and updated regularly to be current and meaningful. Links to other websites and partners is critical.

Workshops: Trainings and workshops are very effective for conveying technical information, or reaching an audience who wants in-depth knowledge about a specific subject. They are effective for the right audiences, but time and travel constraints must be recognized. Incentives are a great way to encourage attendance (e.g. travel reimbursements, certification, university credit, giveaways, etc.). Webinars may be an effective way of providing similar information, although the audience is far more likely to be multi-tasking and therefore not as engaged.

Resources for I&E efforts

I&E efforts do not have to be expensive, but they are also not free. Part of the assessment process for specific projects needs to include cost effectiveness. A statewide I&E coordinating committee can help different groups use their funding more effectively through combined efforts and sharing of successful approaches. Some sources of funding include:

Agency or institutional programs: Many organizations and agencies include outreach as part of their mission. Some of these are outstanding efforts, while others may be somewhat disorganized, involving efforts that do not have the potential desired impact. A statewide I&E coordinating committee will provide opportunities to learn about what works and also to combine forces for more effective programs.

Grants Programs – many grants require some sort of outreach effort. Although these are often “tacked on” to a proposal, they should be treated as meaningful opportunities. The Division of Water Quality regularly awards 319 and State NPS grants for information and education projects that focus on addressing nonpoint source pollution.

Mandated government programs – Programs such as EPA’s Phase I and II stormwater programs include an outreach element. These communities often look for partners to assist in developing, conducting and improving the impact of field days or other educational activities.

Nonprofits – seek out assistance from nonprofits and interest groups who may be able to assist in I&E efforts.

Sponsorships– Corporations, commercial businesses, related industries and more are often interested in sponsoring local watershed activities to show their support of environmental protection. Local and state Agencies may also assist with sponsorship of workshops, conferences, and educational activities if the objectives of the activity are relevant to their agencies goals.

Volunteers and service organizations: Outreach activities provide an excellent opportunity to actively engage public groups or private volunteers. These efforts directly engage citizens in watershed education and protection at little or no cost. Good organization, planning and communication are essential to best use these volunteer resources.

Success stories and other positive messages

One of the roles of the statewide I&E coordinating committee will be to identify, develop and help disseminate consistent and clear messages. Messages about protecting water quality sometimes come off as “nagging” or too prescriptive to be of interest. These may also miss opportunities to share the good news.

Success stories that document the effectiveness of NPS projects can be a very effective I&E tool. EPA’s success stories have typically focused on “delisted” water bodies. Actual delisting can take years because of “legacy” pollutants that must be eliminated or stabilized in a system or because of the many different sources within a watershed that must be addressed before a waterbody sufficiently recovers.

However, there are many other successes that can be celebrated. NPS projects often have many positive impacts on the environment and for our citizens beyond reductions in pollutant loading. Agricultural benefits include improved productivity and reduced costs that result from more effective nutrient, grazing or water management. Other benefits include improved fisheries, improved wildlife habitat and corridors, improved recreational opportunities and increased aesthetic enjoyment of lakes and river corridors due to restored wetlands, riparian corridors and shorelines.

These successes should be shared with all partners, government officials, and local landowners. The cost effectiveness of these combined efforts is an important part of a success story.

Availability of Reports

One of the goals of the statewide strategy is to improve access to reports, data and other public records concerning NPS programs. Final and interim watershed and other project reports contain many excellent examples of impacts and other project successes such as leveraging and partnering, benefits such as improved grazing, fish and wildlife habitat, and improved recreational opportunities. These reports often contain excellent photographs, including before and after images that can be used effectively to tell the NPS story.

Final reports for 319 projects contain a number of “lessons learned” but these typically are not compiled or reported on widely, if at all. These lessons need to be extracted from the reports and pulled together to share with watershed coordinators and State coordinators. The program cannot afford to lose this knowledge and cannot afford to repeat mistakes unnecessarily

All annual and final reports should be made available in the Grant Reporting and Tracking System (GRTS), a grant tracking database managed by EPA. This data base is found at the following link:

<http://iaspub.epa.gov/pls/grts/f?p=110:199:13253055613530:::>

The public can obtain information for any project that has taken place in the State of Utah since the initiation of the 319 grant program. This database also contains the BMPs implemented under each grant awarded, and the estimated load reduction resulting from the projects. In the coming years it is the DWQ’s priority to improve the comprehensiveness of data in GRTS.

The state NPS website (Utahcleanwater.org) also links to as many reports and databases as possible.