

ASSESSING YOUR WATERSHED PROTECTION PROGRAMS AND REGULATIONS

The Eight Tools Audit

The Eight Tools Audit is designed to identify regulatory and programmatic tools and gaps in your wetland protection arsenal. The self-assessment is organized by the eight categories of protection tools available in most communities. These tools roughly correspond to the stages of the development cycle from initial land use planning, site design, and construction through home ownership. As a result, a watershed manager will generally need to apply some form of all eight tools in every watershed to provide comprehensive watershed protection. The eight tools include:

- *Land Use Planning*—identify which regulatory measures and/or planning techniques are in use in your community to manage growth, redirect development where appropriate, and protect sensitive areas (i.e., zoning, overlay districts, growth boundaries).
- *Land Conservation*—outline programs or efforts to conserve undeveloped, sensitive areas or areas of particular historical or cultural value (i.e., PDR, land trusts, agricultural preservation, tax incentives).
- *Aquatic Buffers*—evaluate criteria for the protection, restoration, creation, or reforestation of stream, wetland, and urban lake buffers (i.e., width, vegetative standards, incentives).
- *Better Site Design*—assess flexibility of local codes and ordinances to reduce impervious cover, integrate stormwater management, and conserve natural areas in the design of new and redevelopment projects.
- *Erosion and Sediment Control*—examine criteria for the use of erosion prevention, sediment control, and dewatering practices at all new development and redevelopment sites.
- *Stormwater Management*—assess criteria for design of structural practices in new development, redevelopment, or the existing landscape to help mitigate the impacts of stormwater runoff on receiving waters.
- *Non-stormwater discharges*—evaluate operations and maintenance programs for locating, quantifying, and controlling non-stormwater pollutant sources in the watershed.
- *Watershed Stewardship Program*—identify extent of existing stormwater and watershed education or outreach programs; restoration efforts, and monitoring activities.

➡ Please complete the following self-assessment for your watershed, preferably a watershed of 100 sq miles or less in size. If you represent a watershed with multiple jurisdictions, then choose one (maybe the one with the most area in the watershed) to base your answers on.

Background

Your Name: _____

Jurisdiction: _____

Department/Group: _____

Address: _____

Phone: _____ Fax: _____

Email: _____

1. What is the form of government in your community?

- ☐ City
☐ County
☐ Township
☐ Other

3. What is the approximate area of your community?

Square miles

4. What is the approximate population of your community?

5. What is the approximate percentage of each of the following land uses in your community?

- ☐ Ultra-Urban: _____ %
☐ Urban: _____ %
☐ Suburban: _____ %
☐ Rural: _____ %
☐ Undeveloped: _____ %

6. Is your community growing?

- ☐ Quickly and facing a lot of development pressure
☐ Slowly, facing moderate development pressure
☐ Not at all, this isn't really a concern

7. The best description of my community's stormwater drainage system is:	<input type="checkbox"/> Storm drains (usually pipes leading to a receiving stream) <input type="checkbox"/> Open channels or ditches <input type="checkbox"/> Combination of storm drains and open channels <input type="checkbox"/> Combined sewers (stormwater and wastewater flow in the same pipe) <input type="checkbox"/> Don't know
8. What is the primary method your community uses to treat wastewater (check all that apply)?	<input type="checkbox"/> Wastewater treatment plants <input type="checkbox"/> Individual septic systems <input type="checkbox"/> Community septic systems <input type="checkbox"/> Straight pipes <input type="checkbox"/> Other
9. Do you know the department that is primarily responsible for mapping and GIS?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
10. What are the primary concerns driving local watershed protection in your community (<i>check all that apply and describe the most import</i>)?	<input type="checkbox"/> Maintain stream quality <input type="checkbox"/> Sustain fishery (trout, salmon, warm-water) <input type="checkbox"/> Protect lake quality (eutrophication) <input type="checkbox"/> Protect quality of drinking water sources <input type="checkbox"/> Protect coastal waters <input type="checkbox"/> Protect groundwater and maintain recharge <input type="checkbox"/> Conserve wetlands and/or forests <input type="checkbox"/> Maintain rural character (i.e. farm conservation) <input type="checkbox"/> (other) <input type="checkbox"/> (other)
11. What is your community's prior local experience in watershed planning in the last five years?	<input type="checkbox"/> Watershed plans completed <input type="checkbox"/> Some internal planning and studies <input type="checkbox"/> None
12. What is the regulatory status of your watershed?	<input type="checkbox"/> Not meeting water quality standards, subject to TMDL <input type="checkbox"/> Designated as special waters, under antidegradation <input type="checkbox"/> Don't know
13. What are the approximate acres of wetlands in your community?	
14. Have you lost, or do you foresee losing many isolated wetlands?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
15. Does your community have watershed-based GIS data layers?	<input type="checkbox"/> Watershed GIS system is operational <input type="checkbox"/> Community has GIS, but it is not watershed-based <input type="checkbox"/> Only have paper maps
16. What is your community's political receptivity to watershed planning?	<input type="checkbox"/> Elected officials support or even champion watershed plans <input type="checkbox"/> Agency staff are supportive <input type="checkbox"/> Have not heard of watershed planning <input type="checkbox"/> Unsure and wary of watershed planning <input type="checkbox"/> Hostile toward idea of watershed planning

17. What is your community's awareness about watersheds?	<input type="checkbox"/> High degree of concern about watershed issues <input type="checkbox"/> Mixed level of concern, some awareness <input type="checkbox"/> Low level of concern and awareness
18. What are some of your community's other issues relating to watersheds?	<input type="checkbox"/> Growth vs. no growth <input type="checkbox"/> Farmland conservation <input type="checkbox"/> Protection of rural character <input type="checkbox"/> Desire for greenways, parks, or recreation <input type="checkbox"/> Newcomers vs. old timers
19. What are the key pollutants of concern in your watershed?	<input type="checkbox"/> Nutrients <input type="checkbox"/> Heavy metals <input type="checkbox"/> Sediment <input type="checkbox"/> Bacteria <input type="checkbox"/> Others:
20. What are the key habitat impairments in your watershed?	<input type="checkbox"/> Don't know <input type="checkbox"/> Stream degradation <input type="checkbox"/> Wetland disturbance <input type="checkbox"/> Fish barriers <input type="checkbox"/> Rare and endangered species <input type="checkbox"/> Riparian condition <input type="checkbox"/> Others:
	<input type="checkbox"/> Don't know

Tool #1. Land Use Planning

What land use planning techniques does your community employ that can be used to maintain or limit future impervious cover, redirect development where appropriate, and protect sensitive areas?

Watershed recommendations that build upon existing planning techniques (i.e. overlay districts, PDR, zoning) are often easier to implement than untested tools.

Who is the local agency in charge of land use planning?

List agency(ies) and contact information:

1.1 Does your community have a comprehensive plan? ☐ Yes ☐ No ☐ Don't know

If so when was it last revised? ☐ Don't know

How often do you typically update your comprehensive plan?

Comprehensive plans reflect the vision your community has for itself that will guide development decisions over the next 10-20 years. If your plan is scheduled to be updated, this will be the opportune time to make sure watershed management goals are incorporated.

- ☐ Every 5 years
☐ Every 10 years
☐ We don't
☐ Other:
☐ Don't know

1.2 Does your comprehensive plan address the most important watershed or water resource goals for your community? ☐ Yes ☐ No ☐ Don't know

If so, which goals and how?

Flood control, water quality, groundwater protection, and instream habitat are common water resource goals that should be incorporated into the comprehensive planning process. Check your plan to see if these goals are clearly outlined. Your watershed plan should specifically target goals of the comprehensive plan.

Does your plan evaluate and take into account impacts of future land use on water resources? ☐ Yes ☐ No ☐ Don't know

In what way?

Check to see if long-term transportation and development planning jives with water resource goals. If not, then you may have identified a serious gap in your comprehensive planning process and may have to apply additional protection tools in those areas.

1.3 Does your community have zoning authority? ☐ Yes ☐ No ☐ Don't know

If yes, please list the different zoning districts that are included in your zoning (include abbreviation):

Zoning is the local authority to regulate the type and density of future land use. If your jurisdiction has land use authority, then there are many opportunities to provide incentives and establish development criteria to protect water resources.

In addition, zoning information helps you predict future buildout conditions and impervious cover estimates for your watershed.

1.4 Do you have access to zoning maps for the other jurisdictions in your watershed? ☐ Yes ☐ No ☐ Don't know

Inevitably, when multiple jurisdictions exist within a watershed, some have digital zoning information and others do not. It's hard to estimate future impervious cover without all the zoning information for the watershed.


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- 1.5** Have you used land use, zoning, and other techniques to estimate current and future impervious cover in your (sub)watersheds? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

Percent impervious cover is a quick and easy indicator of water resource conditions (CWP 1998, 2003). A lot of communities have estimated current impervious cover, but few have estimate future imperviousness!

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- 1.6.** Does your community employ any of the following planning tools to direct growth, manage impervious cover, and protect natural resources (check those that apply)?
- Other techniques?
- ☐ Overlay districts¹
☐ Watershed-based zoning²
☐ Purchase or Transfer of development rights³
☐ Limiting infrastructure extension⁴
☐ Infill / community redevelopment⁵
☐ Agricultural zoning/ preservation
☐ Compensatory wetland mitigation
☐ Non of the above
☐ Don't know

If so, great! Let's figure out how to maximize water resource protection using them.

-
- 1.7** Are there local regulations governing the preservation of wetlands during development? ☐ Yes, we refer to state/ federal regs
☐ Yes, we have our own ordinance
☐ No
☐ Don't know
- If so, describe key elements:

 *If so, please attach copy of regulation:*

If so, do you have a local wetlands permitting procedure (vs. it is all federal or state level)? ☐ Yes ☐ No ☐ Don't know

Does your wetland ordinance mandate specific assessment and delineation techniques? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

¹ A local zoning jurisdiction that is overlaid on a property's existing zoning. Superimposes additional regulations or specific development criteria within specific areas.

² An alternative zoning technique, whereby the intensity of development within a watershed or subwatershed is at least partially based on the ultimate percentage of impervious cover and the desired level of stream protection.

³ Transfers potential development from a designated "sending area" to a designated "receiving area"

⁴ A conscious decision is made to limit or deny extending infrastructure, such as public sewer, water, or roads, to designated areas to avoid increased development in these areas

⁵ Encourages new development and redevelopment within existing developed areas

Do you require functional assessment of wetlands in addition to delineation in non-mitigation permitting?

☐ Yes☐ No☐ Don't know

Which functional assessment protocol do you use?

1.8

Are floodplains mapped and managed based on FEMA requirements?

☐ Yes☐ No☐ Don't know☐ Not applicable

Are there additional local development restrictions within floodplains?

☐ Yes☐ No☐ Don't know☐ Not applicable

Describe:

☞ *If so, please attach copy of requirements:*

1.9

Are there development restrictions pertaining to stream channel modification?

☐ Yes☐ No☐ Don't know☐ Not applicable

If yes, describe key components of restrictions

☞ *If so, please attach copy of requirements:*

1.10

Does your community have a reservoir protection ordinance or other special water quality area protection ordinance?

☐ Yes☐ No☐ Don't know☐ We have no special areas

If yes, describe:

☞ *If so, please attach copy of ordinance:*

1.11

Are there development restrictions pertaining to steep slopes?

☐ Yes☐ No☐ Don't know☐ Not applicable

If yes, describe key components of restrictions (*what constitutes a steep slope?*):

☞ *If so, please attach copy of requirements:*

1.12 Does your community have a recharge or groundwater protection ordinance?

☐ Yes ☐ No ☐ Don't know
☐ Not applicable

If so, describe key elements?

☞ If so, please attach copy of requirements:

1.13 Do you have a wetland protection ordinance outlining more stringent development criteria, higher mitigation ratios, or other protection incentives?

☐ Yes ☐ No ☐ Don't know
☐ Not applicable

If so, describe key elements?

☞ If so, please attach copy of requirements:

☞ Summarize existing regulatory or programmatic **land use planning tools** currently available to apply towards watershed protection:

Summarize gaps in land use planning tool box:

Notes:

Tool #2. Land Conservation

Take a look at what programs or efforts exist within (or nearby) your community to conserve undeveloped, sensitive areas or areas of particular historical or cultural value.

Who is the local agency involved in conserving land?

List agency(ies) and contact information:

2.1 Do you know the locations of rare, threatened, or endangered species are in your watershed? ☐ Yes ☐ No ☐ Don't know

2.2 Have critical habitat areas for plant and animal species been mapped in your community? ☐ Yes ☐ No ☐ Don't know

2.3 Have potential groundwater recharge areas and wetland drainage areas been mapped in your watershed? ☐ Yes ☐ No ☐ Don't know

These areas are critical for maintaining hydrologic watershed functions and should not be overlooked by conservationists.

2.4 Do locations of RTE species and sensitive areas trigger additional review by local planners prior to site plan approval? ☐ Yes ☐ No ☐ Don't know

In some cases, the location of sensitive habitats that may be impacted by a particular development may not be known by plan review staff, thereby limiting the level of protection that could potentially be afforded these areas.

2.5 Other than what is required by state and federal laws, is the preservation of critical habitat areas for plant and animal species: ☐ Required ☐ Encouraged ☐ Neither ☐ Don't know ☐ Other:

If applicable, describe key components of the program (*i.e.* regulations, incentives, enforcement):

☞ *If so, please attach copy of requirements:*

2.6 Are there any local requirements for forest conservation? ☐ Yes ☐ No ☐ Don't know

If so, what are they?

☞ If so, please attach copy of ordinance(s).

2.7 Is the preservation of active agricultural areas: ☐ Required
☐ Encouraged
☐ Too late
☐ None of the above
☐ Don't know

If required or encouraged, describe the key components of your program:

☞ If so, please attach copy of ordinance(s). Often, ag preservation can be a leading driver for growth management. Consider prioritizing preservation areas with water recharge, buffer protection, and wildlife corridors goals.

2.8 Other than what is required by state and federal laws, is the preservation of cultural or historical areas: ☐ Required
☐ Encouraged
☐ Neither
☐ Other:
☐ Don't know

If required or encouraged, describe the key components of your program:

☞ If so, please attach copy of ordinance(s). These sites are often adjacent to or within natural resource protection areas.

2.9 Is the preservation of forests, fields, and wetlands for hunting, fishing, hiking, or other active recreation: ☐ Required
☐ Encouraged
☐ Neither
☐ Other:
☐ Don't know

2.10 Does your community permit or encourage any of the following techniques to conserve land? ☐ Conservation easements
☐ Land acquisition programs
☐ Purchase of development rights (PDRs)
☐ Landowner stewardship programs
☐ Other
☐ None of the above

2.11 Can the local government administer conservation easements? ☐ Yes ☐ No ☐ Don't know

If so, please describe key components of the program:

Are maintenance, ownership responsibilities, and enforcement part of the program? ☐ Yes ☐ No ☐ Don't know

2.12 Do any local or regional private land trusts that accept conservation easements exist in the watershed or larger basin? ☐ Yes ☐ No ☐ Don't know

If so, who?:

List group and contact information:

2.13 Have you identified conservation opportunities in the watershed (*i.e. wetlands, forests, recharge areas, etc*)? ☐ Yes ☐ No ☐ Don't know

➡ Can you get a map of these locations?

2.14 Have you determined which potential conservation areas are most vulnerable to development impacts? ☐ Yes ☐ No ☐ Don't know

2.15 Have you established a process for prioritizing conservation opportunities? ☐ Yes ☐ No ☐ Don't know

If so, describe your ranking factors (*i.e, connectivity; contiguousness; RTE species; willing land owner*):

➡ You should check program ranking criteria to make sure they include factors that meet watershed protection goals and objectives.

2.16 Is there state or local funding source available for purchasing easements or acquiring land? ☐ Yes ☐ No ☐ Don't know

If there is a wetland mitigation or compensation program, what ☐ Not applicable ☐ Don't know
is the mitigation ratio for acquisition/conservation?

2.17

Depending on your local guidelines, you may be able to use mitigation requirements to acquire sensitive wetlands and their drainage areas.

☞: Summarize existing regulatory or programmatic **land conservation tools** currently available to apply towards watershed protection:

Summarize gaps in land conservation tool box:

Notes:

Tool #3. Aquatic Buffers

Evaluate your community's ability to protect and restore vegetated riparian, wetland, and shoreline buffers.

Who is the local agency in charge of enforcing buffer requirements?

List agency(ies) and contact information:

3.1 Are stream, wetland, or shoreline buffers required in your community? <i>(check all that apply)</i>	<input type="checkbox"/> Yes, on perennial streams <input type="checkbox"/> Yes, on intermittent streams <input type="checkbox"/> Yes, on ephemeral streams <input type="checkbox"/> Yes, on ephemeral streams <input type="checkbox"/> Yes, on most wetlands <input type="checkbox"/> Yes, on all wetlands (isolated) <input type="checkbox"/> Yes, on shorelines (lakes) <input type="checkbox"/> Yes, other: <input type="checkbox"/> No <input type="checkbox"/> Don't know
If so, is there a local buffer ordinance? ☞ <i>If so, please attach a copy of your regulations, supporting guidance, enforcement, maintenance information, etc.</i>	<input type="checkbox"/> Yes, we refer to the state regs <input type="checkbox"/> Yes, we have developed our own ordinance <input type="checkbox"/> No <input type="checkbox"/> Don't know
If so, when was it last updated? <i>If your buffer ordinance has not been updated within the last 5 years, you should evaluate how successful it has been, and how it can be improved (i.e. remove ambiguity, include plant lists, better protection for sensitive streams)</i>	<input type="checkbox"/> Don't know
3.2 Are buffers part of an overlay district?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
3.3 If required, what is the minimum required buffer width <i>(in feet)</i> ?	<input type="checkbox"/> Don't know

☞ *In general, a minimum base width of at least 100 feet is recommended to provide adequate stream habitat and water quality protection. Much larger widths are recommended for wildlife protection and view corridors. See if you can track down the rationale behind your established widths.*

Are width criteria higher for high quality streams, wetlands, reservoirs, or other sensitive aquatic resources? ☐ Yes ☐ No ☐ Don't know

Widths are commonly measured from (*check all those that apply*):

- ☐ Centerline of stream
- ☐ Stream bank
- ☐ Edge of 100-year floodplain
- ☐ Edge of wetland drainage area
- ☐ Top of adjacent steep slope
- ☐ High tide/water line
- ☐ Other:
- ☐ Don't know

Can widths be expanded to connect wetlands with their critical upland habitats? ☐ Yes ☐ No ☐ Don't know

Does your community provide flexibility with a variable width buffer system (buffer averaging)? ☐ Yes ☐ No ☐ Don't know

This can be difficult to administer, however, flexible systems can provide additional protection to highly sensitive areas in exchange for minimal buffer application in "high traffic" portions of a site.

3.4 Are buffers excluded from private property boundaries in new residential subdivisions or commercial development? ☐ Yes ☐ No ☐ Don't know

If buffers are outside of property lines, then there is often less hassle with enforcement (i.e. homeowners requesting permission to build sheds, cut trees).

3.5 Are methods for determining where buffers are applied/delineated detailed in your buffer ordinance? ☐ Yes ☐ No ☐ Don't know

Is it a stream or is it a ditch? Your ordinance should alleviate the

3.6 Does your community rely on mapping data (USGS "blue line" streams or NWI) for applying buffer regulations, or are field verifications also used? ☐ Yes ☐ No ☐ Don't know

3.7 Are buffer delineations visibly demarcated on:

- ☐ Pre-construction plan (site plans)
- ☐ Construction plans
- ☐ As built/final plans
- ☐ Homeowners plat
- ☐ Other:
- ☐ None of the above:
- ☐ Don't know

Boundaries should be well defined during each stage of the development process from initial plan review to post-construction. This can prevent encroachment during construction and by homeowners.

3.8 Is a physical demarcation (flagging or fencing) of buffers required on site during construction to prevent encroachment? ☐ Yes ☐ No ☐ Don't know

If so, can site inspectors enforce buffer criteria with stop work orders or fines? ☐ Yes ☐ No ☐ Don't know

3.9 Are excluded uses/activities within the buffer clearly established in your buffer ordinance (*impervious cover, underground storage tanks, structures, etc*)? ☐ Yes ☐ No ☐ Don't know

☞ If so, please attach a copy of excluded uses.

What uses/activities are exempt from buffer criteria?

- ☐ Utilities
- ☐ Road crossings
- ☐ Agriculture/Livestock
- ☐ Logging
- ☐ Nature trails
- ☐ Other:

- ☐ None of the above
 - ☐ Don't know
-

Are septic drain fields allowed within the buffer? ☐ Yes ☐ No ☐ Don't know

If not, what is the setback requirement?

☐ Don't know

3.10 Are there specific vegetative targets outlined in ordinance (i.e. native plants)? ☐ Yes ☐ No ☐ Don't know

If so, please describe:

☞ Buffers should have an ultimate vegetative target for a predevelopment native riparian plant community. Do you have a native plants list, if not, consider tracking one down from your local or state natural resources department. You'll want to reference this list in your ordinance for long-term management and restoration projects.

3.11 Are selective clearing and other management procedures outlined in the buffer ordinance (*3-zoned buffer, mowing restrictions, tree pruning guidance, etc*)? ☐ Yes ☐ No ☐ Don't know

If so, please describe:

Urban stream buffers can be designed with a three- zone buffer where each zone performs a different function, and has a different width, vegetative target and management scheme.

3.12 Do third parties or homeowners associations have the ability to manage buffers in your community? ☐ Yes ☐ No ☐ Don't know

If not, consider giving them the authority to manage invasive plants, pick up trash, and report encroachment.

3.13 Are any of the following criteria established in buffer ordinance to limit the impacts of stream buffer crossing?

- ☐ Crossing and clearing width must be minimized
- ☐ Crossing angle is perpendicular to stream
- ☐ Frequency of crossings is minimized
- ☐ Creation of fish barriers is prohibited

- ☐ All features designed to handle 100-year floods
- ☐ Hydrological alteration must be minimized
- ☐ Other
- ☐ None of the Above

Ideally a stream buffer network should be maintained as an unbroken corridor, however this is not always possible. When crossings are necessary, such as roads, bridges, utilities, etc construction methods should be used that will minimize the impact.

3.14 Can stormwater management facilities be located in the buffer? ☐ Yes ☐ No ☐ Don't know

3.15 Can buffers be used for sheet flow stormwater management? ☐ Yes ☐ No ☐ Don't know

3.16 Are any of the following stream buffer management measures required in your community? (check those that apply)

- ☐ Permanent signage marking the buffer boundary
- ☐ Periodic buffer walks to check for encroachment
- ☐ Non-compliance enforcement measures
- ☐ Landowner education on benefits/responsibilities
- ☐ Other:

Future integrity of the buffer system requires a long-term management strategy, including a strong education and enforcement program.

- ☐ None of the above
- ☐ Don't know

3.17 Do you have a GIS mapping layer that identifies good and inadequate buffer areas in your watershed? ☐ Yes ☐ No ☐ Don't know

3.18 Is there a funding mechanism or program for buffer reforestation/restoration for both rural and urban areas?

- ☐ Yes
 - ☐ Rural only
 - ☐ Urban only
 - ☐ No
 - ☐ Don't know
-

3.19 Is there a comprehensive invasive plant control strategy for local buffers? ☐ Yes ☐ No ☐ Don't know


If so, who manages the program?

3.20 Does your community provide any of the following voluntary and regulatory incentives to encourage buffer protection above and beyond what is required?

If so, please describe:

- ☐ Buffer averaging
- ☐ Conservation easements
- ☐ Property tax reduction
- ☐ Subsidies
- ☐ Stormwater credits
- ☐ Cost-share programs
- ☐ Other:

- ☐ None of the above
 - ☐ Don't know
-

 Summarize existing regulatory or programmatic **buffer tools** currently available to apply towards watershed protection:

Summarize gaps in buffer tool box:

Notes:

Tool #4. Better Site Design (BSD)

Residential and commercial site design that reduces impervious cover, protects existing natural areas, and treats stormwater on site. Review development codes and ordinances that encourage or hinder this type of environmentally-sensitive design.

Who is the local agency in charge of updating development regulations and reviewing site plans?

List agency(ies) and contact information:

-
- 4.1** Are there zoning or subdivision codes that outline criteria for new residential and commercial development? ☐ Yes ☐ No ☐ Don't know

☞ If so, please compile relevant sections from your zoning ordinance, road codes, forest conservation, or other regulations guiding site design for new development.

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- 4.2** If so, when were they last revised? ☐ Don't know

☞ If development codes have not been revised in the last five years, consider doing a quick self-assessment to see if your codes impede environmentally sensitive development (many antiquated codes never considered protecting water resources when they were originally crafted)! We recommend completing the **Codes and Ordinances Worksheet (COW)** to quickly assess your community's ability to implement BSD.

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- 4.3** Are open space (conservation design, cluster, low impact, etc) developments a common form of development in your community? ☐ Yes ☐ No ☐ Don't know

☞ If not, then again, we encourage you to take the COW to identify gaps and barriers in your codes to encourage/allow this type of development.

☞ The Codes and Ordinances Worksheet (COW) is a 66-question, 100-point self-assessment used to systematically evaluate your community's development codes based on Better Site Design benchmarks. The COW is organized into 3 parts: codes related to streets and parking lots; requirements for lot geometry; and standards for natural area protection. We recommend using the COW to identify barriers to implementing BSD in your community. An electronic version of the COW can be found at www.cwp.org or www.buildersforthebay.net

4.4	Do developers have to go through additional review, obtain variances, or sell their first born son in order to get an open space design approved?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<i>If so, consider making this kind of development by-right in order to encourage BSD application.</i>				
4.5	Is there an overlay district or a "red-flag" system that triggers additional level of plan review in sensitive areas?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
4.6	Do local regulations require open space or conservation design near sensitive streams and wetlands; drinking water reservoirs; recharge areas; special habitats, or other natural resources?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
If so, please describe:				
<i>If you a site adjacent to a sensitive area is going to be developed, then develop it in a way that will minimize the environmental impact.</i>				
4.7	Does your community have authority over local road design <i>Some communities do not have authority over how roads are designed in new developments; often the authority rests with state DOT.</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
If so, do your local street standards allow for narrower roads and open channel drainage?				
<i>The COW establishes benchmarks for road, ROWs, and cul-de-sac design based on community averages from around the country.</i>				
4.8	Do local parking lots commonly exceed minimum parking ratios and generate excess, unused impervious surface?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<i>The COW establishes benchmarks for establishing parking ratios, stall dimensions, and parking design flexibility based on what other communities are doing around the country.</i>				
4.9	Are homeowner agreements in place to maintain low impact development practices such as rain gardens?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<i>As we move towards low impact development practices, it is important to account for the long-term management and maintenance of many backyard stormwater practices.</i>				
4.10	Are open space protection and management criteria specified for new subdivisions and parking lots?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<i>Effective open space protection requires explicit criteria such as percentage of site, contiguousness, long-term management; stormwater integration; and canopy coverage targets.</i>				
4.11	Are there guidelines for on-site afforestation or reforestation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
<i>Look for opportunities to not only protect existing trees, but to plant new trees during the development process, particularly in watersheds where agricultural fields are being converted to residential neighborhoods.</i>				

Tool #5. Erosion and Sediment Control (ESC)

Take a look at local practices and procedures to prevent erosion and control sediment on construction sites. The clearing of vegetation and the exposure of sediment during the construction process can be one of the most critical periods of the development cycle. ESC often fails due to improper practice installation and maintenance by contractors, and lack of inspection and enforcement by local authorities.

5.1 Who is the local agency in charge of revising and enforcing ESC regulations?

List agency and contact information:

5.2 Is there a local erosion and sediment control ordinance?

- ☐ Yes, we refer to the state regs
☐ Yes, we have developed our own ordinance
☐ No
☐ Don't know

☞ If erosion and sediment control is required, please attach a copy of your regulations.

If so, when was it last revised?

If more than 5 years, consider revising.

5.3 What is the minimum disturbance area requirement for erosion and sediment control plans?

- ☐ All disturbances
☐ greater than 1 acre
☐ greater than 2 acres
☐ greater than 5 acres
☐ within a special resource area
☐ Other:
☐ Don't know

Phase II requirements cover disturbances greater than 1 acre, however some communities are requiring ESC for less than 1 acre in highly sensitive watersheds (i.e. drinking water).

5.4 Are ESC plans reviewed during the site plan review process?

- ☐ Yes ☐ No ☐ Don't know

Check to make sure ESC plans are being reviewed in the context of the overall site development process. The process should be set up to trigger red flags in sensitive areas that may require more inspections or advanced ESC.

5.5 Are ESC criteria more stringent in areas draining to sensitive wetlands, trout streams, reservoirs, or other resource protection area?

- ☐ Yes ☐ No ☐ Don't know

If yes, how so?

This is a good link with land use planning tools...if you have overlay districts established for sensitive areas, you may be able to apply more stringent ESC criteria for development within them.

-
- 5.6** Are there clearing and grading requirements or incentives to encourage phased clearing and site fingerprinting? ☐ Yes ☐ No ☐ Don't know

If so, describe:

If not, consider instituting! Research shows that lots with mature trees are worth more to homebuyers than non-treed lots. Research also indicates that pervious areas compacted by bulldozers and grading equipment acts a lot like impervious cover.

-
- 5.7** Are there specific ESC requirements for logging operations? ☐ Yes ☐ No ☐ Don't know
☐ not applicable

☛ If so, attach copy of guidance manual and/or regulations.

-
- 5.8** Is there guidance available for ESC on hillside roads? ☐ Yes ☐ No ☐ Don't know
☐ not applicable

☛ If so, attach copy of guidance manual and/or regulations.

-
- 5.9** Are inspection frequency and enforcement requirements specified in the ESC ordinance? ☐ Yes ☐ No ☐ Don't know

If not, this should be spelled out to avoid confusion and provide predictability.

If so, what is the required inspection frequency for construction sites?

If after rainfall event, describe storm event (0.5 in, 1 in):

- ☐ Once every 7 days
☐ Once every 7 days or after rainfall event
☐ Once every 14 days and after rainfall event
☐ Other:
☐ Don't know

If so, please describe the enforcement measures:

-
- 5.10** How often does the average construction site actually get inspected? ☐ Only when there is a complaint
☐ Less than required
☐ Per regulations
☐ More often than required
☐ Don't know

-
- 5.11** Are inspections more frequent in areas draining to sensitive wetlands, trout streams, reservoirs, or other resource areas? ☐ Yes ☐ No ☐ Don't know
-

5.12 Who conducts inspections of construction sites for compliance with erosion and sediment control requirements?	<input type="checkbox"/> Not Applicable <input type="checkbox"/> County / municipal inspector <input type="checkbox"/> Third-party inspector (e.g. private engineer) <input type="checkbox"/> Other:
5.13 If government responsibility, how many FTE are dedicated to ESC inspection and enforcement? <i>No one ever has enough staff! If your watershed is expected to develop at a rapid pace, you may need to increase inspection capacity.</i>	<input type="checkbox"/> <0.5 <input type="checkbox"/> 0.5-1 <input type="checkbox"/> 1.5-3 <input type="checkbox"/> >3 <input type="checkbox"/> Don't Know
5.14 Describe background/training level for ESC inspectors (state certification, 1 day course, etc):	
5.15 Does your community sponsor erosion and sediment control training for: <i>If not, you should consider providing a course not just for inspectors, but also for the folks designing, installing, and maintaining the practices...</i>	<input type="checkbox"/> Developers <input type="checkbox"/> Contractors <input type="checkbox"/> Engineers <input type="checkbox"/> Inspectors <input type="checkbox"/> None of the above <input type="checkbox"/> Not Applicable
5.16 Do training programs cover local buffer, wetland, steep slope, open space, and tree protection regulations? <i>Trainers should take this opportunity to remind contractors and inspectors of the water resources ESC is meant to protect. Make sure trainers understand how ESC practices relate to other protection tools.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
5.17 Are ESC enforcement mechanisms (e.g. fines, stop work orders, etc.) generally considered effective deterrents? <i>Be honest here, if you think enhanced enforcement is needed in your community...</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Not applicable
5.18 Do monies collected from fines go back into ESC program? <i>☛ See if you can find out how many enforcement actions were taken last year and how much \$ generally collected from permits and fines.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
5.19 Does your community have a guidance manual on erosion and sediment control practices? <i>☛ If your community has developed guidance and/or requirements, please attach a copy.</i>	<input type="checkbox"/> Yes, we refer the development community to a state document <input type="checkbox"/> Yes, we have our own guidance <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Not applicable
If so, when was it last revised? <i>If it has been 5 years, consider updating the manual to keep up with new technologies!</i>	

5.16 Check all erosion and sediment control practices that your community commonly uses. Circle the ones that do not appear in your ESC guidance manual.

Phasing and Procedures:

- ☐ Construction sequencing
- ☐ Construction phasing
- ☐ Non-disturbance of open space (visible flagging)
- ☐ Non-disturbance of stream/ wetland buffers
- ☐ Limited grading in wetland drainage areas
- ☐ Construction during dry season
- ☐ Stockpile stabilization
- ☐ Exit tire wash
- ☐ Wash station (cement trucks)

Erosion Prevention

- ☐ Surface roughening (tracking)
- ☐ Stair-step grading
- ☐ Temporary seeding and mulching
- ☐ Erosion blankets (biodegradeable)
- ☐ Turf reinforcement mats (synthetic)
- ☐ Permanent seeding and mulching
- ☐ Rip rap channels
- ☐ Outlet protection
- ☐ Dust control
- ☐ Polyacrylamide (PAM)

Runoff Controls

- ☐ Pipe slope drains to bypass erodible soils
- ☐ Construction dewatering operations
- ☐ Dikes / berms as conveyance to ESC structures
- ☐ Silt ditch
- ☐ Temporary stream crossings

Sediment Control

- ☐ Sediment basin
- ☐ Multipurpose basin
- ☐ Sediment traps (dam)
- ☐ Silt fence
- ☐ Rock check dams
- ☐ Sediment tube check dams
- ☐ Stabilized construction entrance
- ☐ Filter fabric inlet protection
- ☐ Straw bales
- ☐ Block and gravel inlet and curb inlet protection
- ☐ Prefabricated inlet protection
- ☐ Sand / gravel bag barrier

Others:

 Summarize existing regulatory or programmatic **ESC** tools currently available to apply towards watershed protection:

Summarize gaps in ESC tool box:

Notes:

Tool #6. Storm Water Management (SMW)

Take a look at the stormwater program in your community to see how structural practices are incorporated into new development, redevelopment, or the existing landscape to help mitigate the impacts of urbanization and stormwater runoff on receiving waters.

6.1 Who is the local agency in charge of revising and enforcing SMW regulations?

List agency and contact information:

6.2 Does your community have a Phase I or Phase II NPDES stormwater permit?

- ☐ Phase I
☐ Phase II
☐ No
☐ Don't Know

If so, your community's stormwater program is expected to meet certain minimum measures, most of which fit nicely with watershed planning efforts...

If applicable, which components of the program (minimum measures) does your community do well?

Which could use some beefing up?

6.3 Is there a local stormwater ordinance?

☞ *If stormwater is required on new development sites, please attach a copy of your regulation and additional guidance.*

- ☐ Yes, we refer to the state regs
☐ Yes, we have developed our own ordinance
☐ No
☐ Don't know

If so, when was it last revised?

If it's been a while, you may want to update it to reflect new guidance manuals, refined treatment criteria, and enforcement action, or stormwater utility considerations .

6.4 What are the design criteria for stormwater practices?

- ☐ Control peak discharge rate (flood control): _____
- ☐ Treat stormwater runoff for water quality: _____
- ☐ Recharge (by means of infiltration practices, etc.): _____
- ☐ Protect downstream channels: _____
- ☐ Other: _____

Are design criteria more stringent in areas draining to sensitive wetlands, trout streams, reservoirs, recharge areas, sensitive watersheds, or other resource areas?

☐ Yes ☐ No ☐ Don't know

6.5 If yes, describe criteria:**6.6** Do stormwater regulations include hydroperiod standards for downstream wetland?

☐ Yes ☐ No ☐ Don't know

Fluctuations in water level due to changes in hydrology resulting from urbanization can significantly impact wetlands.

6.7 Describe any exemptions to stormwater requirements?**6.8** Does your community provide guidance or set forth requirements on the types of stormwater practices that may be constructed?

☞ If your community has developed guidance and/or requirements, please attach a copy.

- ☐ Yes, we refer the development community to a state document
- ☐ Yes, we have our own guidance
- ☐ No
- ☐ Don't know

If so, when was it last updated?

If it's been over 5 years, you will need to update your guidance manual at a minimum in order to incorporate new practice designs and maintenance techniques.

6.9 What are the top three stormwater practices typically installed in your community?

If dry ponds make your list, then may not be getting as much water quality benefit as you could (i.e. you will have plenty of retrofit opportunities...)

6.10 Is a stormwater plan or other documentation required during the site plan review process? ☐ Yes ☐ No ☐ Don't know

6.11 Does your community inspect stormwater practices during their construction? ☐ Yes ☐ No ☐ Don't know

Proper construction/installation of stormwater practices is critical. Frequent inspection is important, particularly when ESC basins are being converted to post-construction stormwater ponds as downstream impacts are frequently observed during this transition.

6.12 Is an as-built or record drawing of the stormwater practice required after construction? ☐ Yes ☐ No ☐ Don't know

It is important to keep track of the actual location of underground infrastructure, final design, and maintenance plan for all newly constructed practices.

6.13 Are stormwater practices inspected for maintenance upkeep or structural integrity on a regular basis? ☐ Yes ☐ No ☐ Don't know

6.14 How frequently are stormwater practices inspected?

- ☐ Don't Know
- ☐ More than once a year
- ☐ Once a year
- ☐ Every two years
- ☐ In response to complaints
- ☐ Never
- ☐ Other:

6.15 Are inspections and maintenance more frequent in areas draining to sensitive wetlands, trout streams, reservoirs, recharge areas, or other resource areas? ☐ Yes ☐ No ☐ Don't know

6.16 Who is typically responsible for maintaining stormwater practices? <i>If third party is responsible (not local gov), it is important that local government provide guidance on, enforce, and maintain record of proper maintenance activities.</i>	<input type="checkbox"/> Private owner <input type="checkbox"/> Builder <input type="checkbox"/> Homeowner's association <input type="checkbox"/> Permitting agency <input type="checkbox"/> Other <input type="checkbox"/> Don't know <input type="checkbox"/> Not applicable
6.17 Is there a maintenance agreement or covenant between the permitting agency and the private owner, builder, or homeowner's association in charge of maintenance?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
6.18 Are there penalties for not complying with the maintenance agreement or other applicable regulations applying to maintenance? If yes, please describe penalties.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
6.19 Are penalties more severe in areas draining to sensitive wetlands, trout streams, reservoirs, recharge areas, or other resource areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Not applicable
6.20 Does your community track STP locations, basic design information (type, drainage area), and maintenance records using GIS?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
6.21 Are stormwater wetlands allowable forms of urban wetland mitigation in your community? If so, what is the mitigation ratio?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
6.22 Can natural wetlands be used for stormwater treatment?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
6.23 Are direct discharges of untreated stormwater to wetlands prohibited?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
6.24 Constrictions on wetland outlets?	

➡: Summarize existing regulatory or programmatic **SWM tools** currently available to apply towards watershed protection:

Summarize gaps in SWM tool box:

Notes:

Tool #7. Non-Storm Water Discharges

Locating, quantifying, and controlling non-stormwater pollutant sources in the watershed (i.e. septics, sewer, illicit connections). Operation and maintenance practices that prevent or reduce pollutants entering the municipal or natural drainage system.

Who is the local agency(ies) or utility in charge of wastewater regulations and illicit discharges?

List agency contact information:

List utility contact information:

7.1 How does your community manage sanitary wastes (*check all that apply*)?

- ☐ Septic systems
☐ Aeration systems
☐ Package treatment plants
☐ Centralized wastewater treatment plants
☐ Other:
☐ Don't Know

7.2 Does your community have combined storm/ sewer system?

- ☐ Yes ☐ No ☐ Don't know

If you have combined systems, your community should be in the process of phasing these out.

7.3 Do you use created wetlands for wastewater treatment?

- ☐ Yes ☐ No ☐ Don't know

7.4 Do the sanitary sewer trunk mains follow (*check all that apply*):

- ☐ Shortest distance
☐ Stream valley
☐ Other
☐ Don't Know
☐ Not Applicable

Often gravity driven, sewer networks typically run along stream corridors. If this is the case, you will want to field assess pipe conditions, particularly at manhole stacks and along pipe joints exposed at stream crossings.

7.5 Does your local sewer authority promptly respond and fix sanitary sewer overflow?

- ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

Response within in 24 hours is considered prompt.

7.6 Do you allow innovative wetland treatment for septic systems?

- ☐ Yes ☐ No ☐ Don't know

-
- 7.7** Does your community have regulations pertaining to septic system maintenance? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

Some communities, particularly in drinking water watersheds require inspection annually or every 2-3 years.

-
- 7.8** Does your community conduct inspections of privately owned septic systems? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

Describe program (*who, frequency, enforcement measures, etc*):

If not, find out how your community keeps track of on-site systems. Some communities have programs that provide free septic inspections for homeowners.

-
- 7.9** Does your community prohibit septic systems in sensitive wetland drainages or aquatic buffers? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

-
- 7.10** Does your community have GIS tracking system for septic locations, inspection, and maintenance records? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

-
- 7.11** Are there regulations regarding runoff from confined animal feeding lots? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

CAFOs are considered point source discharges.

-
- 7.12** Do you know the locations of all known hazmats (i.e. land fills, super fund sites, underground storage tanks) in your watershed? ☐ Yes ☐ No ☐ Don't know

-
- 7.13** Is there a program to detect and remove illicit connections and discharges? ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

If so, describe key elements of program (*agency, hotline, procedures, etc*):

You'll want to make sure your community has the legal authority to detect and repair illicit connections on private property.

➡: Summarize existing regulatory or programmatic **non-storm water tools** currently available to apply towards watershed protection:

Summarize gaps in non-storm water tool box:

Notes:

Tool #8. Watershed Stewardship Programs

Stewardship includes watershed education, restoration, and monitoring activities. Take a look at the education or outreach programs targeted towards fostering human behavior that prevents or reduces stormwater impacts and pollution generation over a range of land uses and activities. Many types of stewardship efforts can be applied towards meeting NPDES Phase II requirements.

Who is the local agency(ies) in charge of watershed and stormwater education, monitoring, and restoration?

List agency and contact information for education:

List agency and contact information for monitoring:

List agency and contact information for restoration:

8.1 Does your community administer or support education or outreach programs targeted towards (*check those that apply*)?

- ☐ Residents
☐ Commercial sector
☐ Industrial sector
☐ Municipal employees
☐ Other:

These programs don't have to be specific to watershed or stormwater. You'll want to keep these programs and the folks that implement them in mind as you develop stakeholder lists and recommendations as part of your watershed protection efforts.

- ☐ Don't know
☐ None of the above

If so, does this program include/provide watershed related education materials?

- ☐ Yes ☐ No ☐ Don't know
☐ Not applicable

If not, does it make sense to integrate stormwater education into any of the existing programs? Or do you think you'll have to create a new program?

If so, please check the topics/ activities promoted by the program?

Raising Awareness

- ☐ Streamwalks
- ☐ Storm Drain Stenciling
- ☐ Canoe Trips
- ☐ Watershed Map for Distribution
- ☐ Watershed Boundary Signage
- ☐ Stream Buffer Signage
- ☐ Other:

Training

- ☐ Build Your Own Rainbarrel
- ☐ Water Quality/ Macroinvertebrate monitoring
- ☐ Stream Assessment
- ☐ Other:

Homeowner Stewardship

- ☐ Water Conservation
- ☐ Lawn Fertilization
- ☐ Integrated Pest Management (IPM)
- ☐ Lawn Conversion/Lawnscapeing
- ☐ Pet Waste Management
- ☐ Car Washing
- ☐ Automotive Maintenance
- ☐ Septic System Maintenance
- ☐ Other:

Activities

- ☐ Stream Clean-up
- ☐ Stream Buffer Planting
- ☐ Building a rain garden
- ☐ Other:

8.2 How many watershed stakeholder meetings have been conducted in the last year in your community?

- ☐ 0
- ☐ 1-3
- ☐ More than 3
- ☐ Don't know

8.3 Is there a recognized watershed group in your community?

- ☐ Yes ☐ No ☐ Don't know
- ☐ Not applicable

If so, list contact:

Watershed groups can be a great provider/administrator of education and outreach programs, restoration activities, and volunteer monitoring.

If so, does the watershed group play a role in (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Watershed education | <input type="checkbox"/> Stormwater Facilities maintenance |
| <input type="checkbox"/> Watershed assessment and Monitoring | <input type="checkbox"/> Stormwater retrofitting |
| <input type="checkbox"/> Watch dog (discharges, ESC, etc) | <input type="checkbox"/> Septic Systems inspections/maintenance |
| <input type="checkbox"/> Watershed planning | <input type="checkbox"/> Other |
| <input type="checkbox"/> Managing Conservation Areas | |
| <input type="checkbox"/> Replanting Stream Buffers | <input type="checkbox"/> None of the above |
| <input type="checkbox"/> Stream Clean-up | <input type="checkbox"/> Don't know |
-

-
- 8.4** Does the community provide grants or technical assistance to watershed groups to perform these services? ☐ Yes ☐ No ☐ Don't know

If so, list grant/assistance program:

-
- 8.5** Are there any stream stewardship or volunteer monitoring programs within your community (i.e Adopt-a-stream, Adopt-a-wetland)? ☐ Yes ☐ No ☐ Don't know

If so, describe:

-
- 8.6** Are there any stream or wetland restoration programs or projects within your community? ☐ Yes ☐ No ☐ Don't know

If so, list contact and key elements of program:

-
- 8.7** Have you identified priority areas for wetland protection, restoration, or creation in the watershed? ☐ Yes ☐ No ☐ Don't know

If you know where these places are, then you can proactively seek mitigation funds for implementation.

-
- 8.8** Have you conducted a residential behavior survey to determine homeowner activities and attitudes effecting water quality? ☐ Yes ☐ No ☐ Don't know

This in addition to a quick drive thru of the neighborhoods in the watershed will help you target your educational message. You can also use a survey to establish baseline conditions.

-
- 8.9** Does your community have any restrictions on pet waste management? ☐ Yes ☐ No ☐ Don't know
-

8.10 Does your community actively enforce dumping restrictions in wetland buffers and other conservation areas? ☐ Yes ☐ No ☐ Don't know

8.11 Do you have restrictions or guidance on proper application/use of fertilizers and pesticides on public lands? ☐ Yes ☐ No ☐ Don't know

8.12 Are there any landowner stewardship programs offered by your community? ☐ Yes ☐ No ☐ Don't know

8.13 Does your community require or encourage any of the following techniques to protect stream quality in agricultural areas (*check those that apply*)?

- ☐ Conservation tillage
 - ☐ Nutrient management plans
 - ☐ Manure application
 - ☐ Rotational Grazing (*rotating livestock between several small paddocks rather than allowing continuous grazing of one large pasture*)
 - ☐ Off-stream Water Sources (*alternative water sources that can reduce livestock time in stream; most effective when used in conjunction with exclusionary fencing*)
 - ☐ Buffer reforestation
 - ☐ Exclusionary Fencing (*fencing that prevents or limits livestock from entering riparian areas and stream channels*)
 - ☐ Other:
 - ☐ Don't know
 - ☐ Not applicable
-

What types of technical assistance or cost share/incentive programs are available to farmers?

8.14 Are the following practices encouraged on vineyards?

- ☐ Integrated pest management (IPM)
 - ☐ Buffer strips
 - ☐ Erosion prevention (terracing, diversion, ditches, no-till cropping, etc.)
 - ☐ Fertilizer reduction based on petiole analysis and/or soil testing
 - ☐ Other
 - ☐ Not applicable
 - ☐ Don't know
-

What types of technical assistance or cost share/incentive programs are available to grape growers?

8.15 Are there any educational programs geared at golf courses for the following?

- ☐ Buffers
☐ Water use
☐ Runoff management
☐ Pesticide application
☐ Fertilizer reduction
☐ Spray irrigation
☐ Other

☐ Don't know
☐ Not applicable
-

What types of technical assistance or cost share/incentive programs are available to golf course managers?

8.16 Does your community have an emergency spill response plan? ☐ Yes ☐ No ☐ Don't know

This is important particularly in drinking water watersheds where transportation corridors drain to reservoirs or where groundwater can be easily contaminated.

8.17 Is there a local household hazardous waste collection program? ☐ Yes ☐ No ☐ Don't know

8.18 Do you allow untreated discharge of road salts/sand to wetlands or other waterbodies? ☐ Yes ☐ No ☐ Don't know

8.19 Is local mosquito control program integrated with wetland management? ☐ Yes ☐ No ☐ Don't know

8.20 Does your community operate an environmental hotline for illicit discharges, dumping, wetland filling, ESC failure, etc? ☐ Yes ☐ No ☐ Don't know

If so, list contact information:

8.21 Have all municipal yards submitted a pollution prevention plan? ☐ Yes ☐ No ☐ Don't know
☛: Attach copy of basic municipal PPP.

8.22 Does your community provide training on pollution prevention for (check those that apply):

- ☐ Municipal employees
- ☐ Contractors
- ☐ Commercial
- ☐ Business
- ☐ Industrial
- ☐ Recycle Centers
- ☐ Other:
- ☐ None of the above
- ☐ Don't know

8.23 Describe the type of watershed monitoring do you conduct?
(Type--WQ, bugs, wetland function, flow, performance monitoring,--
Frequency, who conducts, etc)

☐ Don't know

☛: Attach copies of baseline data or summary monitoring reports.

8.24 Who and how often is watershed-monitoring data compiled and reported? ☐ Don't know

Data on watershed trends, performance monitoring, and project tracking should be reported annually.

8.25 Do local agencies provide training, guidance, and supplies to volunteers for monitoring? ☐ Yes ☐ No ☐ Don't know

➡: Summarize existing regulatory or programmatic **stewardship tools** currently available to apply towards watershed protection:

Summarize gaps in stewardship tool box:

Notes: