locations of present, past and future sampling sites, sources of problems or critical areas and other pertinent information such as wells, natural springs, and point sources.

2.4 Provide general information on the watershed such as topography, elevation, land ownership, land use, precipitation (with seasonal distribution), other climatic information, soils, geology, erosion rates, aquifer vulnerability, source water and wellhead protection areas, vegetation conditions, and man-made features. Include available information that is relevant to the type of watershed water quality problem.

For example, for agricultural projects: list crop types, irrigation systems, physical condition of stream, types of enterprises (cow-calf, horse, sheep), management systems, Animal Unit Months (AUMs), range site, range condition and trend. Section 319 funds may not be used to increase acreages under cultivation.

For silvicultural projects: provide miles of temporary and permanent roads within 100 feet of perennial drainages, acreage of timber sales within 100 feet of perennial drainages, percent of watershed under timber management, elevation and aspect of cut.

For urban projects: list type of urban development, acreage of various land uses such as parks, housing, industrial areas.

For mining projects: provide volume, locations, and chemistry of tailings and adit discharges, and groundwater-surface water relationships.

2.5 Provide available information that defines the type of watershed water quality problem (chemical, biological, physical/habitat). Identify, to the extent possible, the source(s) of the pollutant or cause of the environmental degradation, and the relative contribution of these sources. If chemical or sediment constituents are involved, provide available loading and concentration information. If problems are related to physical/habitat decline, document the cause of the degradation. Include information on the timing of the pollution problem (e.g., storm-event related, low flow or continuous).

For example, for agricultural projects, if irrigation return flow is the source, provide information on the flow, concentrations of the pertinent constituents and their loads.

For silvicultural projects, if erosion from forest practices such as timber cutting and road construction is resulting in habitat disruption from excessive sediment load to the adjacent waterbody, provide the appropriate documentation connecting the land use practice with the degraded or potentially degraded beneficial use.

For urban projects, if increased development will be threatening water quality, define the current sources and anticipated sources and project loadings.

For mining projects, if abandoned mine tailings are a source of water quality impairment provide the chemistry of tailings, adit discharges, loading and concentrations of the important constituents, and groundwater-surface water relationships to the extent that they are known.

3.0 PROJECT DESCRIPTION

3.1 Describe the environmental and programmatic goals(s) for the watershed and the project. There is a distinction between environmental and programmatic goals; avoid confusing the two, substituting programmatic for environmental goals. Goals are broad statements linked to the project need and are achievable through measurable objectives. Goals may describe, for example, BMPs to be implemented and why; new tools to be developed and for whom; the benefits expected to be derived in terms of water quality, aquatic habitat, and stream stability; and changes in public attitudes or awareness of NPS problems and solutions.

One example of an environmental goal would be "Restore the recreational health of the Green River by decreasing nutrient loads that contribute to over-enrichment." which would be based on environmental objectives such as "Achieve a biomass concentration of 150 gm/m^2 as a summer time instantaneous reading and 100 gm/m^2 as a summer time 60-day average reading in the selected monitoring locations." This would be backed up by programmatic goals such as "Identify and implement appropriate grazing practices to reduce the amount of sediment and nutrients entering the Green River" and programmatic objectives such as "Sponsor a demonstration project of seasonal management of livestock on the Clear Fork of the Green River."

Both types of goals/objectives are crucial to a TMDL in that the environmental goal/objectives provide a water quality standards target the programmatic goals/objectives describe the means by which we get to our water quality target.

If a TMDL is being developed for the project, the environmental goals/objective of the project could also serve as the water quality standards endpoint for the TMDL. The TMDL endpoint can be expressed in any number of ways, such as pollutant concentration, pollutant load, desired biological condition, stream morphological condition, an acceptable amount of benthic sediment or suspended sediment, or an acceptable amount of benthic or suspended algae.

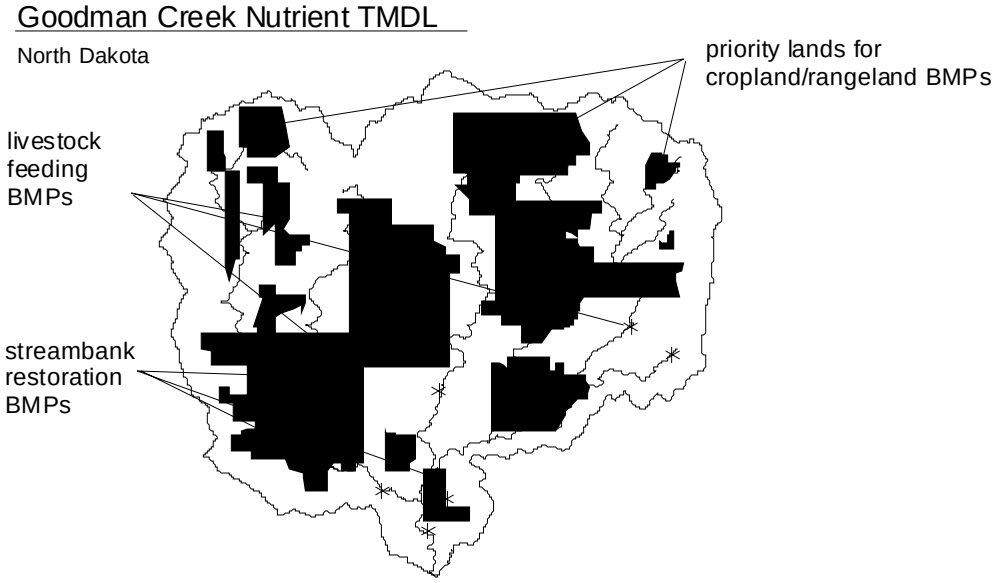
3.2 List and provide a narrative description of each objective and task. Objectives specify in more detail what is to be accomplished to help meet the goal. Each objective should have at least one associated task to be performed to accomplish the objective. Tasks are specific activities that include milestones, outputs, responsible parties, and costs. Reference can be made to the milestone or budget table for the specific quantities of products.

Objectives and tasks to achieve a total maximum daily load (TMDL) have the potential to cover sources as diverse as grazing, stream restoration, irrigation, or feedlots. By

describing the Best Management Practices (BMPs) that will be implemented, and how their implementation contributes to achieving the objective, the cumulative benefits of implementing the objectives and tasks described should be designed to add up to meeting the goal(s) of the project as described in 3.1.

Objectives and tasks associated with a TMDL essentially outline a picture of allocation in a watershed. They can be envisioned as an "allocation of BMPs": applying "X" BMPs at "X" locations in the watershed, to create a picture of allocation. It has been shown to be effective when maps are used to show the distribution of BMPs within the project area, thus showing the allocation of the TMDL throughout the watershed in terms of control actions. If an estimate of loading reduction can be made on a sub-watershed basis, this could also be mapped out or discussed within the narrative.

Figure 1 - One example of a watershed allocation map



Finally, if a TMDL is being developed, the TMDL itself, needs to be expressed within the project proposal. This could be integrated into either the environmental or programmatic goals/objectives. Technical assistance is available for TMDL development and implementation.

The following are examples of goals, objectives and accompanying tasks in the **recommended format** from several different 319 projects. Project examples have been mixed and matched and presented in a generic format. They demonstrate goals and objectives for uplands as well as near-stream/instream areas. What we see with many projects is that they address both. Modeling was used to identify/estimate sediment loads in some of the examples.

GOALS: A number of TMDL targets are illustrated here to meet the goal of reducing impairment on stream X.

Goal: *First, is the establishment of a numeric goal for suspended sediment load. Meeting a state numeric standard for suspended sediment is an obvious goal, but state X lacks such a standard. In addition, because of the relationship between discharge and TSS, it is difficult to set a specific target because these targets could be met in low water years and exceeded in unusually wet years. One proposed goal, then, is to:* ***decrease the slope of the regression between discharge vs. TSS by half in 4 out of 5 years (for stream x, from 0.51 to 0.26).***

Objective: Reduce sediment coming from 96,000 acres of eroding poor condition range land by 130,000 tons/year.

> *Task: Reestablish vegetative ground cover on 3,000 acres of rangeland (very poor condition and located on south facing slopes) by: controlling weeds on 1,000 acres; reseeding 3,000 acres with improved varieties of grasses and forbs, installing fencing, livestock water developments; applying deferred grazing on 3,000 acres.*
>
> > *Products: Establish suitable vegetative cover on 3,000 acres, reseed 3,000 acres, install cross fencing and livestock water developments and deferred grazing on 3,000 acres. Reduce sediment, with associated phosphorous, by 24,000 tons annually.*
> >
> > *Cost: $70,000*

Goal: *Another TMDL target to measure reduction in suspended sediment load is to compare sediment loading with a neighboring watershed in which excessive bank erosion or suspended sediment levels are not a problem.* ***The numeric goal could be that sediment load during spring run-off does not differ significantly between stream X and the reference stream in 4 out of 5 years.***

Goal: *Another TMDL target is based on a quantifiable reduction in the amount of erosive banks. By decreasing the contribution of sediment and increasing channel stability, this would address several of the identified stressors in stream X including high TSS, high total phosphorus, and high substrate embeddedness.*

> *One approach to this would be to identify priority stream banks (i.e., banks that are a significant source of sediment or are implicated in potential loss of stream length). For example, priority banks for stream X are identified as eroding banks with a length of greater than 100 feet and or height of greater than 5 feet. An over all target is to* ***decrease the percentage of eroding banks by 50% over the next 10 years.***

Objective: Improve riparian habitat condition and function along 30 miles of stream, and reduce impairments to water quality caused by sediment loading from 5 miles of critically eroding stream banks and channel. Practices that will be used to achieve this objective will include proper grazing management, fencing, off-stream livestock water developments, pasture management, stream bank stabilization (revetment), channel vegetation, and critical area

seeding. (Refer to the Budget Tables for costs and quantities by practice to be implemented with each task listed below).

Task: NRCS will assist cooperators in implementing vegetative stabilization BMPs to protect 3.75 miles of stream banks (at least 75% of the damaged area). Measures to be implemented will be primarily revegetation BMPs such as dormant stump planting, critical area planting, channel vegetation, and tree revetment.

Product: Stability of stream banks that will benefit fifteen (15) miles of stream banks and stream channel reducing sediment loading to Otter Creek.
Cost: $99,000

Task : NRCS will assist cooperators in implementing practices that will facilitate grazing management, control animal access along approximately 22 miles (75%) of stream, protect stream banks on at least 75% of the damaged area and enhance and protect the riparian zone. Practices that will be implemented will include fencing, development of off-stream livestock watering facilities and planned grazing systems.

Product: Improved grazing management, controlled animal access along the stream, reduced sediment loading from stream bank erosion; improved condition and function of riparian habitat along 22 miles of stream. Cooler water temperature in the stream will benefit fisheries.
Cost: $122,000

Goal: Another TMDL target is to replace stream channel lost by reducing the 9,100 feet of channel lost by 25% over the next 5 years. *By reestablishing meanders, flow velocities will be dissipated during high water events, resulting in decreased erosion and increased channel stability. In addition, habitat conditions for fish will be improved with return to a more natural channel configuration that includes undercut banks. This approach requires determining proper channel geometry configuration based on field data.*

Goal: Another TMDL target is to reduce substrate fines<6.35 mm in substrate cores form 50% to 30% in spawning riffles over the next 5 years. *Such a reduction could increase egg-fry survival threefold from the estimated 6 percent to 15 percent. In addition, a reduction in surface fines would be an indicator of improvements in channel and bank stability.*

Goal: *Another TMDL target is to address thermal problems in stream X. The target, or goal, is that* ***temperatures not exceed 73 degrees Fahrenheit for more than 10 days per year along the length of the stream.***

Goal: *Another TMDL target might address dewatering, establishing goals* ***for not less than 9 cfs in the lower X and upper X reach(es) of stream X, and not less than 3 cfs in reaches X through Z.***

Number tasks in a continuous sequence. For example, under Objective 1, there might be a total of five tasks identified. The next task identified under Objective 2 should be listed starting with Task 6 and followed sequentially. Following this format is necessary, as it will assist the State agency in entering project information into the Grants Tracking System (GRTS).

3.3 Using a format similar to the attached milestone table (Attachment 2), provide a milestone table that lists outputs, quantities and timing of each output, agency(ies) responsible for each task and estimated project milestones listed sequentially for each objective. Interim milestones need to be sufficiently frequent so that problems can be identified and corrected. Milestones should be included for mid-year, annual, and final project reports, and monitoring. Estimated costs for each task should be correlated with the project budget table, Section 6.0.

3.4 When appropriate, identify the necessary environmental permits (e.g., permits under CWA Section 404) required to conduct the project. If a National Pollution Discharge Elimination System permit is needed, justify why it is a NPS project. In areas which it appears that a permit may be needed (e.g., metropolitan or mining areas) and a permit is not identified as being required, provide an explanation.

3.5 Briefly explain why the lead project sponsor is the appropriate entity to coordinate and/or implement the project.

3.6 Describe the plans and roles/responsibilities for assuring proper operation and maintenance (O&M) of §319 funded BMPs. This is to include frequency of on-site O&M evaluations during the life of the BMP, entity to do the evaluations, frequency of on-site O&M reviews with project sponsors by the state/tribe, follow-up procedures with the landowner/user in case there are O&M problems (and the state/tribal role), and actions to be taken if a landowner abandons a §319 funded BMP before the end of the BMP's lifespan. All or part of the above can be covered by written state/tribal procedures, but it needs to be referenced in the proposal.

4.0 COORDINATION PLAN

4.1 Identify the lead project sponsor, and each cooperating organization. Discuss the responsibilities, roles and commitments assumed by the cooperators and/or contractors in the project planning and implementation. Also state the mode of agreement by which cooperating organizations will interact (e.g., MOU, MOA, contract or informal agreement).

4.2 Describe local support for the project. Include the implementation/linkage to source water assessment and protection programs. Some examples of local support are: requests from the local landowners, conservation district, or county for the project; results from town meetings; or favorable reactions to the description of proposed project in a local newspaper.

EPA encourages letters of commitment of resources. The State should certify that all the appropriate letters of commitment have been received rather than attaching the support letters to the proposal.

4.3 EPA is concerned that use of 319(h) funds be well coordinated with other pertinent programs. Local project sponsors should obtain from their State NPS coordinator the information needed to address coordination and linkages.

Describe how the project will coordinate with pertinent, 319 and non-319 funded NPS education programs, watershed projects, demonstration sites, and training programs being conducted by other organizations. Other programs and agencies which may have comparable responsibilities and linkages include groundwater programs, drinking water/source water programs, projects conducted by water conservancy districts, water quality and cost share programs assisted by the NRCS, resource restoration projects assisted by the Forest Service and the Bureau of Land Management, and educational activities conducted by the Cooperative Extension Service.

4.4 Describe similar activities that are being undertaken in the watershed. Provide a description of how the proposed project complements the existing project and does not duplicate §319 project activities.

This consideration differs from the coordination issue presented in section 4.3. If 319 funds are being proposed to support activities that are normally the responsibility of other organizations and/or funding sources, provide an explanation justifying the use of NPS funds. EPA is concerned that Section 319 funding not be used to replicate efforts or assume other agencies' responsibilities for activities being carried out in the project watershed.

Examples of other agencies and programs which may be conducting similar activities or producing similar materials are: Information and Education efforts funded by the EPA Pollution Prevention and Environmental Education Programs; projects funded by Clean Water Act 104(b)(3); Cooperative Extension Service; school districts; state water research centers; The Nature Conservancy; universities; and state natural resources or wildlife agencies.

5.0 EVALUATION AND MONITORING PLAN

5.1 It is a priority to the States, Tribes and EPA that data collected under the 319 program be useable and of high quality. Region 8 states and some tribes have EPA-approved Quality Assurance Project Plans (QAPPs) for the nonpoint source program (or separate QAPPs for ground water monitoring and surface water monitoring). Quality Assurance Project Plans contain the 16 elements required by the EPA Region 8 Quality Assurance Program.

All projects using section 319 funds to collect "environmental data" are required to have a project-specific sampling and analysis plan (SAP). Sampling and Analysis plans must

address the 16 elements required of the QAPP, and are approved by the State and EPA. Contact the State or Tribe for specific guidelines on preparing SAPs.

Project sponsors may either reference the State QAPP for the standard operating procedures (SOPs) for each type of monitoring to be performed (e.g., photo points, water sample collection, fish shocking, etc.), or attach them to the SAP. Identify any site-specific amendments required for this project that are not covered by the QAPP. A plan/schedule to develop the appropriate procedures must be identified in the proposal. States and Tribes will approve project-specific SOPs.

The project sponsor has the option of providing the SAP (and SOPs referenced) in this section of the project proposal, or including the development of the SAP and SOPs as project tasks with specific milestone dates. The SAP should reference any applicable information from the project proposal and the State's programmatic QAPP, where applicable, to avoid redundant information.

5.2 Describe the monitoring strategy for the watershed, including goals, objectives, and tasks proposed to evaluate whether the project goals and objectives have been met. Describe sampling and analysis design, (e.g., up-stream/down-stream, paired watersheds, site trend, existing groundwater wells, up-gradient/down-gradient wells, geomorphology and/or riparian measurements, random, systematic, stratified random (e.g., by season or discharge)). and specify parameters to be measured: total suspended sediment, temperature, phosphorous, nitrate, etc.

Locate on a map sampling sites in relationship to BMP applications and priority treatment areas.

5.3 Describe how and when data will be stored, managed and reported. All data collected using §319 funding must be entered into the EPA STORET database (Memorandum of Agreement for Storing Water Quality Data in STORET, October 20, 1998). While the State is responsible for assuring that the data is entered into the database, the project sponsor may do this if they have the capability. The sponsor should contact their State NPS coordinator to find out how to gain access to this database. This requirement should be addressed in this section.

Results from the data analysis should be used to evaluate progress, determine if changes in project/monitoring design need to be considered and assess the overall final project success. Identify organization(s) responsible for project evaluation and specify how the resulting information from the data analysis will be shared and utilized for future projects.

5.4 Describe any models used, if applicable.

5.5 Describe the long-term funding plans for the operation and maintenance (O&M) of restoration activities.

6.0 BUDGET

6.1 Present the project budget in a format similar to the attached budget summary (Attachment 3), indicating the amount and source of all federal and non-federal funds that will be used during each year of the project. The budget table is to include personnel support, BMP and other expenses that are expected to be paid with Section 319 and State and local match sources. Cost by task is not required. The federal fiscal year (October 1-September 30) should be used to discuss and display budget information.

7.0 PUBLIC INVOLVEMENT

7.1 Describe the process for ensuring public involvement in the project.