Wyoming
Water Quality Assessment and Impaired Waters List (2012 Integrated 305(b) and 303(d) Report)

This is a reduced version just highlighting the Middle North Platte Sub-Watershed. The full version of the 305(b) and 303(d) Report is available online at: http://deq.state.wy.us/wqd/watershed/Downloads/305b/2012/WY2012IR.pdf

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Department of Environmental Quality
WYOMING

1. Introduction

In 1972, Congress enacted the Federal Water Pollution Control Act, otherwise known as the Clean Water Act (CWA). The purpose of the CWA is to promote the restoration and/or maintenance of the chemical, physical, and biological integrity of our nation's surface waters and to support the "protection and propagation of fish, shellfish, and wildlife and recreation in and on the water". The U.S. Environmental Protection Agency (USEPA) is charged with administering the CWA. However, Section 101(b) of the CWA states that "it is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this Act." Section 305(b) of the CWA requires that a report of the surface water quality condition of each state be provided every two years during even numbered years. In addition, Section 303(d) requires that a list of the impaired waters requiring Total Maximum Daily Loads (TMDLs) be provided. Wyoming's 2012 Integrated 305(b) and 303(d) Report combines the requirements of both CWA sections into a single document.

1.1 Section 305(b) Requirements

Section 305(b) of the CWA requires that each state prepare and submit a biennial report to USEPA by April 1st of even numbered years. The report must contain a description of the water quality of navigable waters of the state for the preceding year, including the extent to which current conditions allow for the "protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities in and on the water". Section 305(b) also requires each state to report the water quality and the elimination of pollutants that would be necessary to provide for designated use support. Specifically, each state is to identify waters not meeting the above conditions, recommend strategies to achieve these objectives and to estimate the environmental impacts, economic and social costs and benefits, and the predicted timeline for project completion. Lastly, Section 305(b) requires that the sources and extent of non-point source pollution in each state be estimated, including a description of the current program used to mitigate these pollutants and associated financial costs.

1.2 Section 303(d) Requirements

Section 303(d) of the CWA requires that states identify and list waters for which the effluent limits outlined in Section 301 are not effective in attaining designated uses. Section 303(d) also requires that states develop a separate TMDL for each pollutant/segment combination on the 303(d) List. States are required to prioritize waters on the 303(d) List for TMDLs based on the severity of each pollutant/segment combination, or listing. TMDLs are to be completed on these impaired waters "to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, and allow recreational activities in and on the water". Each state must submit a 303(d) List of impaired waters to USEPA by April 1st of each even numbered year. USEPA is required to review the 303(d) List within 30 days of submittal.

2. Watershed Management

Wyoming is ecologically diverse and contains a wide range of environments; these include shrub and grassland plains, alluvial valleys, volcanic plateaus, forested mountains, woodland and shrubland hills, glacial peaks, lava fields and wetlands (Chapman et al. 2003). There are seven level III ecoregions, which can be subdivided into 39 level IV ecoregions. This ecological diversity is evidenced by the wide variety of surface water types found in the state, which occur across 14 river basins (6 digit Hydrologic Unit Code (HUCs)) and 73 sub-basins (8 digit HUCs), and include approximately 280,804 miles of streams and 569,269 acres of lakes (1:24,000), reservoirs, ponds and wetlands.

Within the Wyoming Department of Environmental Quality (WDEQ), the Water Quality Division (WQD) is responsible for monitoring the surface and ground water quality in Wyoming. The Watershed Management Section of WQD evaluates and reports on the condition of Wyoming's surface waters to USEPA. The Watershed Management Section is divided into seven closely interrelated programs; including Surface Water Standards, Watershed Monitoring, TMDL Development, Nonpoint Source Pollution Planning and Grants, Water Quality Assessment, Section 401 Certification and Quality Assurance/Quality Control.

Wyoming's surface waters are classified according to their designated uses using a hierarchical system (see Appendix B) described in Chapter 1 of the Wyoming Water Quality Rules and Regulations. Wyoming's Watershed Monitoring Program is responsible for providing the majority of the information used in determining whether designated uses are supported for the surface waters of the state, but other groups, for example, the U.S. Geological Survey (USGS) and Wyoming's 34 Conservation Districts, also contribute substantially. These data are used to determine water quality condition following methods outlined in Wyoming's Method for Determining Water Quality Condition of Surface Waters and TMDL Prioritization Criteria for 303(d) Listed Waters. This methodology, last updated in 2008, is revised periodically to maintain consistency with changes in the state's water quality standards and to comply with Wyoming's "Credible Data" Law.

2.1 Watershed Monitoring Program

The WDEQ Watershed Monitoring Program (WMP) was initiated in 1992 with the collection of physical, chemical and biological data from "least impacted" streams as part of the Reference Stream Project. This dataset remains dynamic, and continues to be supplemented and refined as new reference streams are identified. In addition, existing reference streams are re-visited to document natural temporal variability. These data are used to define a range of expected conditions when evaluating the surface water quality of other Wyoming streams of unknown condition. In 1998, the WMP began monitoring streams, lakes and reservoirs to determine designated use support and remains committed to collecting the data necessary to provide conclusive use support determinations. The Manual for Standard Operating Procedures for Sample Collection and Analysis describes the data collection methods used by the WMP.

The 2010-2019 Watershed Monitoring Program Water Quality Strategy lists ten program objectives; these include: determining water quality standard attainment; identifying impaired waters; identifying causes and sources of impairment; assessing water quality status and trends at multiple scales; evaluating watershed program effectiveness; responding to complaints and emergencies; supporting the development and implementation of water quality standards; providing data and technical support toward the development and evaluation of Total Maximum Daily Loads (TMDLs); providing data and technical support toward the implementation and evaluation of nonpoint source (NPS) restoration projects; and supporting Wyoming Point Source Discharge Elimination System (WYPDES) permitting and compliance. To achieve these objectives, the Watershed Monitoring Program Monitoring Strategy includes stream reference station monitoring, rotating basin probability surveys and targeted monitoring, monitoring of high priority waters from the 1997 TMDL Workplan, lake and reservoir monitoring and continued monitoring for a statewide probabilistic survey. Monitoring for the 2010-2019 strategy focuses on a 5-year rotating river basin framework where probabilistic and targeted monitoring will be integrated. Using this approach, a probabilistic survey will be completed for each river basin every 5 years, and the results of these surveys will help to prioritize waters for targeted monitoring studies. Monitoring to expand WDEQs reference dataset will also occur within the basins under study. WDEQ re-evaluates its water quality monitoring strategy every ten years to allow for adjustment of management goals and objectives as priorities change. WDEQ also provides annual workplans to inform the public as well as other state and federal agencies about which waters are scheduled to be monitored by WDEQ during a given year and to provide the contact information for WDEQ regional offices.

Ambient Monitoring

WDEQ has contracted the USGS to conduct surface water quality sampling for two monitoring networks in Wyoming. One network is comprised of 19 water quality stations and one stream gaging station at locations across the state, where sampling is generally conducted on a quarterly basis. Parameters of interest vary between sites, and monitoring is often directed at known or suspected pollutants of concern. Parameters often include standard physico-chemical measures, major ions, trace metals, nutrients, sediment and pathogens. Study sites are used to monitor impaired streams, evaluate streams associated with point source discharges and to identify trends in the water quality of larger rivers. The second network includes an additional 44 water quality stations associated with coal bed methane (CBM) development, most of which are in northeastern Wyoming with a few in south central Wyoming. This network was created to determine whether there are effects of CBM discharges on water quality, to establish baseline conditions in less developed areas and to insure compliance with existing water quality standards and WYPDES permitting policies. Sampling locations for these networks are contained within WDEQ's 2010-2019 Watershed Monitoring Program Water Quality Strategy.

EMAP

The Environmental Monitoring and Assessment Program (EMAP) was established by the USEPA in the late 1980s to develop probability, or randomized, based monitoring tools (e.g. biological indicators, stream survey design, estimates of reference condition) to produce unbiased estimates of the ecological condition of perennial streams across large spatial scales. Within this program, Wyoming and 11 other western states were grouped into EMAP-West. USGS was contracted by WDEQ to complete the sampling and analyses in Wyoming and write a Scientific Investigations Report (Peterson et al. 2007). This study first compared the ecological status (i.e. chemical, physical, and biotic condition) of Wyoming's streams to those of the combined EMAP-West reference streams. Next, the ecological status of the three climatic regions within the state (i.e. plains, xeric, and mountain) were compared to these reference streams and used to estimate the suitability of Wyoming streams for aquatic life use support (ALUS). Lastly, the aquatic life other than fish designated use was assessed using both EMAP and Wyoming's Stream Integrity Index (WSII) and River Invertebrate Prediction and Classification System (RIVPACS) biological indices. Results suggested that Wyoming's perennial streams were similar in ecological condition, including biotic integrity, water chemistry, and habitat condition, to other western streams. The study estimated that riparian disturbance and low habitat complexity were the most important stressors in Wyoming streams, with 90% and 30% of xeric and mountain regions estimated as being most stressed, respectively. While the EMAP and Wyoming WSII indices rated streams similarly, RIVPACS differed substantially. Estimates of ALUS, based on Wyoming's two biotic indices, were 52% full support, 32% non-support, and 16% undetermined. Xeric regions had a higher ALUS (66%) than the mountains (51%).

Probability Monitoring

In an effort to better estimate the quality of Wyoming's surface waters, WDEQ added probability monitoring to the surface water monitoring program in 2004. Sampling locations are similar to those selected for EMAP in that they are randomly selected rather than targeted, and are intended to be representative of all of Wyoming's surface waters. This approach allows WDEQ to produce unbiased estimates of surface water quality at much larger statewide or regional spatial scales, whereas previous inference was limited to specific stream segments or watersheds. By sampling 15-20 study sites per year, within a 5 year rotating basin schedule, an estimate of the condition of all waters can be approximated by extrapolating to the rest of the surface waters of the state. Results of this monitoring will be reported by WDEQ's Watershed Monitoring Program in 2012 and will also be summarized in the 2014 Integrated Report.

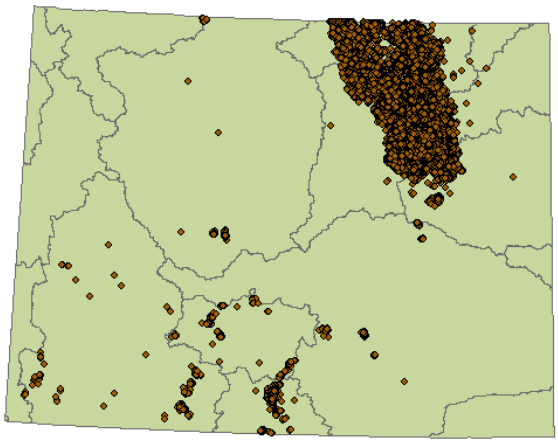
2.2 Monitoring by Conservation Districts

Since 1998, many of Wyoming's Conservation Districts, with the guidance and leadership of local watershed steering committees, have taken initiative to improve water quality in the state. All of Wyoming's 34 Conservation Districts are involved in water quality activities at some level; including monitoring waters within their districts, developing watershed plans to address known impairments and threats and assisting citizens in implementing best management practices (BMPs) to improve water quality (WACD, 2005). Most watershed planning is intended to address waters on the 303(d) List of impaired waters requiring TMDLs and to provide an opportunity for voluntary and incentive based implementation activities to improve water quality (WACD, 2009). These waters are usually given a low priority for TMDL development by WDEQ to provide an opportunity for restoration. Ultimately, the goal of watershed planning is to identify and implement BMPs that will result in the removal of waters from the 303(d) List (WACD, 2005 and 2007). Data were requested from all 34 of Wyoming's Conservation Districts for this report, and those activities that are believed to contribute to water quality assessment and/or restoration are described separately for each sub-basin in Section 8 of this report. In addition, a USEPA Section 319 Nonpoint Source Program Success Story involving Uinta County Conservation District (UCCD) is included in this report as an example of how Wyoming's Conservation Districts have successfully contributed to stream restoration (see Appendix A).

2.3 Coal Bed Methane Monitoring

The Powder River Basin Interagency Working Group (PRBIWG) was developed to address management issues associated with CBM development in the Powder River Basin in Wyoming and Montana. This group of multiple state (including WDEQ) and federal agencies meets periodically to address issues associated with CBM monitoring and permitting. The group's mission is to provide environmentally responsible CBM development through the use of proper BMPs. Through this cooperative effort, each agency is expected to achieve greater operational efficiency, enhance resource protection and better serve the public. Particular attention has been given to the possibility of cross-border effects of CBM discharge on downstream segments of the Powder River in Montana. To monitor the potential effects of CBM development on natural resources (e.g. water quality and quantity, aquatic life, wildlife and air), both the water quality and aquatic life monitoring task groups were formed and monitoring plans developed for the affected areas of NE Wyoming (see inset map). The USGS has been contracted to do most of the water quality and aquatic life monitoring in the affected region of Wyoming. Several internet resources are available; including a USGS website and fact sheet; the USGS Water Quality Monitoring Plan; and water quality and aquatic life monitoring plans. USGS (2009b) reported on the ecology of the Powder River Structural Basin in Wyoming and Montana for the years 2005 and 2006. The study indicated that the biological condition of the mainstem Tongue River and the Powder River above and below Salt Creek and between Crazy Woman and Clear Creeks decreased from upstream to downstream. Most streams in the Powder River basin, however, showed a general trend of increasing biological condition from upstream to downstream. A second USGS (2010) report for the Powder River Structural Basin, spanning the years 2005-2008, was completed in 2010. The goals of the

Distribution of Coal Bed Methane Wells in Wyoming



study were to determine the current aquatic ecological conditions and to identify, where possible, the current and future effects of CBM produced water on the aquatic life of the basin. The study found that relatively few of WDEQ's chronic or acute Aquatic Life other than Fish use criteria were exceeded during the study period. In general, tributaries to the Tongue River had macroinvertebrate communities less pollution tolerant than those in the mainstem Tongue River. The macroinvertebrate and algal communities along the Powder River were significantly more pollution tolerant between the confluence with Willow Creek downstream to the confluence with Crazy Woman Creek than the communities above and below this segment. The report was inconclusive as to these causes of these biological patterns. Fish communities were relatively similar throughout the Powder River. Alkalinity, which was used to indicate the influence of CBM produced water, was similar throughout most of the mainstem of the Powder River. An exception to this pattern was noted below the confluence with Burger Draw, where alkalinity was relatively high; however, the same location also had the highest diversity of fish of any site sampled during this study.

3. Determining Surface Water Quality

USEPA guidance recommends that states use the same assessment methodology to develop both the 303(d) List and the 305(b) Report, and Wyoming began using the same assessment methodology for both in 2000. Wyoming's Method for Determining Water Quality Condition of Surface Waters and TMDL Prioritization for 303(d) Listed Waters outlines the methodology used by WDEQ for making designated use support decisions for surface waters of the state. This methodology, which was last updated in 2008, has been publicly reviewed and meets all the requirements of Wyoming's Credible Data Law.

4. TMDL Prioritization

Section 303(d)(1) of the federal CWA requires states and tribes to "establish a priority ranking" for the segments identified as needing a TMDL. This ranking must evaluate the severity of the pollutant and the specific designated uses adversely impacted by the pollutant. However, the most severe water quality problems or the most toxic pollutants need not always be given the highest priority for TMDL development if circumstances warrant a lower priority. Consistent with 40 CFR § 130.7(b)(4), each state must also submit a priority ranking every two years within the 303(d) List of the Integrated Report, including waters targeted for TMDL development in the next two years. USEPA guidance encourages states to maintain a TMDL schedule within which TMDLs are completed in a time frame of no longer than 8 to 13 years from the time of initial listing. WDEQ anticipates that some TMDLs will take less than a year while others may take upwards of 3 years to finalize.

USEPA's 2006 Integrated Report Guidance recommends that priority rankings be clear and either in the form of a scheduled TMDL completion date or a tiered system such as high, medium and low. Prior to Wyoming's 2008 TMDL Workplan Update, WDEQ utilized a high, medium and low ranking system. Beginning with the 2010 Integrated Report, the prioritization for TMDL development was changed within the 303(d) List to include the approximate dates that each TMDL is expected to be initiated and completed. By including initiation and completion dates in the 303(d) List, the public will be better informed of the anticipated timeline of each TMDL.

The severity of impairment, USEPA's time frame and resources limitations were the primary considerations when developing the TMDL schedule. In general, factors for priority ranking are as follows:

1. Timeliness. Waterbodies that have been on the 303(d) List the longest will typically be scheduled for TMDL development before newly listed waterbodies.

2. Hazards to Human and Environmental Health. Waterbodies on the Section 303(d) List for pollutants posing a significant human or environmental health risk (i.e. priority pollutants) will

typically be scheduled for TMDL development sooner than waterbodies listed for to non-priority pollutants.

3. Quality of the Impaired Water. Higher quality waterbodies (Class 1 or 2) on the Section 303(d) List will typically be scheduled for TMDL development sooner than lesser quality (Class 3 or 4) waterbodies.

4. Timely Restoration. Waterbodies with ongoing implementation practices which are believed to have a high possibility of achieving full restoration within 8 years of initial listing will typically be scheduled for TMDL development later than waterbodies without such ongoing efforts.

5. Endangered Species. Waterbodies supporting aquatic species that are considered threatened, endangered or are species of concern will typically be scheduled for TMDL development before waterbodies without such species.

5. Wyoming's Nonpoint Source Program

The Wyoming Nonpoint Source Program operates under the Watershed Management Section of the WDEQ, WQD. Unlike point source pollution, which can be traced back to a single defined source, nonpoint source pollution is caused by surface water runoff diffuse in nature and often widespread, making it difficult to assess the source of the problem. Nonpoint source pollution occurs when runoff from rainfall or snowmelt travels over and/or percolates through the soil and picks up contaminants. These contaminants are deposited into streams, lakes, rivers, and groundwater. While some types of nonpoint source pollution can be natural in origin, Wyoming's Nonpoint Source Program typically only addresses those associated with anthropogenic land-disturbing activities such as urban development, road construction, agriculture, recreation, silviculture and mineral exploration. Common nonpoint source contaminants include fertilizers and pesticides from agricultural and residential activity; oil, grease, sediment and toxic chemicals from urban runoff; sediment from construction activity or stream bank erosion; and bacteria and nutrients from livestock and pet waste or failing septic systems.

After recognizing that nonpoint source pollution is a serious impediment to meeting the goals of the CWA and that more focus was needed in this area, Congress amended the CWA in 1987 to include Section 319, Nonpoint Source Management Programs, thus providing the basis for the implementation of the Wyoming Nonpoint Source Program. Funds can be made available to state, federal and local agencies, nonprofit organizations, and private individuals. Those projects having outcomes and targets that reduce the impacts of nonpoint source pollution and improve water quality are eligible. Nonpoint source pollution control funds are available each year on a competitive basis. Funds are awarded as reimbursement grants, meaning funds can be issued to the recipient only after proof of expenditure on eligible costs. All proposals submitted must identify at least 40 percent of the total project cost as non-federal cash or in-kind services match. The vision for the Wyoming Nonpoint Source Program is to sponsor projects that reduce or eliminate nonpoint source pollution in threatened, impaired, and high-quality waters of the state so all designated uses are fully supported for the benefit of all Wyoming citizens. The Nonpoint Source Program also administers funds available under Section 604(b)/205(j) of the CWA. Section 205(j) funds are available to local government agencies for the purpose of water quality management planning.

6. Emerging Surface Water Quality Threats

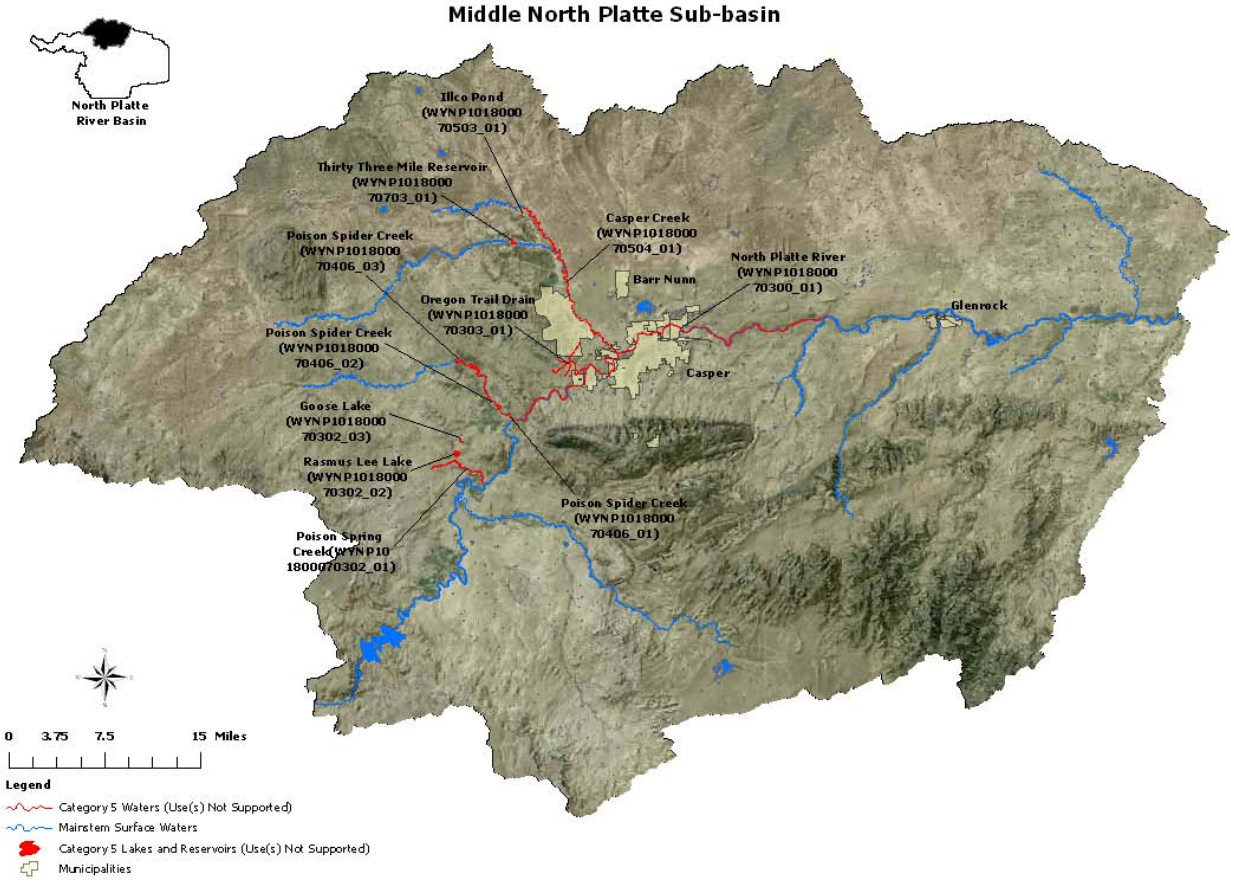
In response to four assessment reports by the Intergovernmental Panel on Climate Change (IPCC), USEPA released a document entitled: *NATIONAL WATER PROGRAM STRATEGY: Response to Climate Change* that summarizes the agency's strategies for addressing threats from climate change to aquatic systems. The document lists five anticipated impacts that may directly threaten the water quality of Wyoming's streams, lakes, reservoirs and wetlands; including increased water pollution associated problems from rising stream temperatures, an increase in extreme water related events (e.g. droughts

Ambient monitoring of Crooks Creek, a tributary to the Sweetwater River near Jeffrey City, showed a significant amount of oil in sediments, and the stream was placed on the 303(d) List for oil and grease in 1998. The source of the oil is currently unknown.

In 2010, Western Watersheds Project (WWP) collected *E. coli* samples on Lander Creek, and a five sample geometric mean exceeded both WDEQ's primary and secondary standards protective of recreational use. The suspected source of the excess bacteria is livestock grazing. A 0.5 mile segment of Lander Creek between two unnamed tributaries and adjacent to County Route 132 was added to the 2012 303(d) List.

Middle North Platte Sub-basin (HUC10180007)

The Kendrick Reclamation Project uses water from Seminoe and Alcova Reservoirs for irrigation northwest of Casper. Much of the irrigated soil contains naturally high levels of selenium, which is readily dissolved and transported by water. Studies by the USGS, USFWS and the USBOR have determined that irrigation return flows contain high levels of selenium, resulting in selenium loading to the North Platte River and several other streams, wetlands and reservoirs within the project area. Patterson, et al. (2009) concluded that higher discharges in the North Platte River correlate with lower selenium concentrations. And that conversion from flood to sprinkler irrigation in the Kendrick Irrigation District may reduce loading, but increase selenium concentrations the North Platte River. Selenium loadings have resulted in exceedances of the chronic aquatic life other than fish criterion in several waters, including the North Platte River, Casper Creek and lower Poison Spider Creek and impairments to wildlife uses in some waters near Kendrick. Oregon Trail Drain, Poison Spring Creek, Goose Lake, Rasmus Lee Lake, Thirty Three Mile Reservoir, and Illco Pond were all added to the 303(d) List since 2000.



An infrastructure repair project has been completed to improve the water quality in Goose Lake, Rasmus Lee Lake, Thirty Three Mile Reservoir and Illco Pond to protect migratory birds. The Natrona County Conservation District (NCCD) has used Section 319 funding to manage and monitor selenium levels. Management practices include increasing irrigation efficiency through canal and lateral lining and piping. WDEQ approved a watershed plan submitted by the Kendrick Watershed Steering committee in 2006. The NCCD completed the Kendrick Watershed Plan Implementation – Phase 1 Section 319 Project Final Report in July 2011. Eleven selenium TMDLs were initiated in 2009 on the North Platte River, Poison Spring Creek, Rasmus Lee Lake, Goose Lake, Oregon Trail Drain, two segments of Poison Spider Creek, Illco Pond, Casper Creek and Thirty Three Mile Reservoir.

Garden Creek flows from Casper Mountain through the City of Casper. Like many urban streams, it has been channelized, and the stream is subject to "flashy" streamflows because of impervious surfaces in the urban portions of the watershed. A Section 319 stream restoration project, sponsored by the City of Casper and the NRCS, and using the help of volunteers, focused on installing log and rock structures in the creek within Nancy English Park. These structures allowed the stream to access its floodplain, provided habitat for non-game fish and facilitated the reestablishment of riparian vegetation.

WGFD and BLM began a project in 2010 to reduce head cutting in Bolton Creek, stabilize the channel and raise the water table. WGFD transplanted aspen into the watershed and established a population of beavers. A culvert near the confluence with the North Platte, which was causing the headcutting, was replaced in 2011.

The occurrence of oil sheens in 2010 and 2011 along the North Platte River near Casper has prompted an investigation by WDEQ's Solid and Hazardous Waste Division to determine the source of this pollutant. Hydrocarbons were detected in a monitoring well adjacent to the river, which may suggest that a nearby oil refinery could be a source. BP will continue to investigate this issue, including collecting water samples, installing more monitoring wells and conducting a sediment study to determine whether the oil is entering the river via erosion and overland flow or through groundwater inputs through streambed sediments.

Glendo Sub-basin (HUC10180008)

Glendo Sub-basin is bordered by the Laramie Mountains to the southwest and includes all of the tributaries to the North Platte River below LaPrele Creek and above the Fort Laramie Canal. Primary land uses are livestock grazing, irrigated agriculture, oil and gas development and gravel and limestone quarrying. Sunrise Mining District is located east of Hartville Canyon in a tributary drainage of the North Platte River. Copper mining began in the 1870s and iron mining followed in the 1890s. An Abandoned Mine Lands (AML) reclamation project in the Sunrise Mining District has addressed several water quality impacts from the mining.

Glendo Reservoir was constructed between Pathfinder and Guernsey reservoirs in 1958. The North Platte River is regulated by dams at Glendo and Guernsey Reservoirs. Guernsey Reservoir is the site of the annual Guernsey "silt run", an event that has prompted an exception to the normal state turbidity criterion. Historically, suspended sediment had acted as a sealant for downstream irrigation canals. However, after Guernsey Reservoir was completed in 1927, water released from the reservoir had little suspended sediment because most of these materials settled and became trapped in the reservoir. The removal of these sediments led to canal leakage and bank collapses which in turn impeded water flow. In response, the annual silt run was initiated in 1936, which released accumulated sediment from Guernsey Reservoir over a ten day period. The silt run occurred approximately annually between 1936 and 1957 by reducing flows from Pathfinder and subsequently draining Guernsey. Since

North Platte River Basin (continued)								
Waterbody	**305(b) Identifier**	**Class**	**Location**	**Miles/Acres**	**Uses**	**Cause(s)**	**List Date**	**TMDL Date**
					Use Support	**Source(s)**		
North Platte River	WYNP101800070300_01	2AB	From the confluence with Muddy Creek upstream to the confluence with Poison Spider Creek	36.8 mi.	Cold Water Game Fishery, Aquatic Life other than Fish	Selenium	1998	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Poison Spring Creek	WYNP101800070302_01	3B	From Casper Canal downstream to the confluence with the North Platte River	8.2 mi.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Rasmus Lee Lake	WYNP101800070302_02	3B	Within the Kendrick Reclamation Project	85.2 ac.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Goose Lake	WYNP101800070302_03	3B	Within the Kendrick Reclamation Project	30.1 ac.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Oregon Trail Drain	WYNP101800070303_01	3B	Within the Kendrick Reclamation Project	8.6 mi.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Poison Spider Creek	WYNP101800070406_01	2AB	From the confluence with the North Platte River to the confluence with Iron Creek, within the Kendrick Reclamation Project	1.3 mi.	Cold Water Game Fishery, Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		

North Platte River Basin (continued)								
Waterbody	**305(b) Identifier**	**Class**	**Location**	**Miles/Acres**	**Uses** / **Use Support**	**Cause(s)** / **Source(s)**	**List Date**	**TMDL Date**
Poison Spider Creek	WYNP101800070406_02	2C	From the confluence with Iron Creek to a point 5.8 miles upstream	5.8 mi.	Non-Game Fishery, Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Poison Spider Creek	WYNP101800070406_03	3B	From the HUC 12 boundary (101800070406) to a point 6.0 miles downstream, within the Kendrick Reclamation Project	6.0 mi.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Illco Pond	WYNP101800070503_01	3B	NE S13 T35N R81W, within HUC 12 boundary (101800070503)	1.1 ac.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Casper Creek	WYNP101800070504_01	2AB	From the confluence with the North Platte River to a point 21.1 miles upstream, within the Kendrick Reclamation Project	21.1 mi.	Cold Water Game Fishery, Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		
Thirty Three Mile Reservoir	WYNP101800070703_01	3B	Along South Fork Casper Creek, within Kendrick Reclamation Project	30.2 ac.	Aquatic Life other than Fish	Selenium	2000	2009
					Not Supporting	Irrigated Crop Production, Natural Sources		

Appendix B - *Continued*

FIVE PART CATEGORIZATION OF WATERS

USEPA guidance (U.S. EPA 2005; 2006) requires that all waters of the state be placed into one of five categories of designated use attainment in the Integrated Report. The following is a description of the five designated use attainment categories.

Category 1. All designated uses are supported, no use is threatened.

(As of 2006, Wyoming does not have any waters in this category because the intensive, long-term sampling data does not exist to determine if contact recreation, fish consumption and drinking water uses are always supported.)

Category 2. Some designated uses are supported, but unknown on others.

(All waters that are assessed as fully supporting some, but not all, of their designated uses are placed in this Wyoming's Method for Determining Water Quality Condition of Surface Water and TMDL Prioritization for 303(d) Listed Waters category. If the aquatic life uses are supported, it is generally assumed that agricultural, industrial, scenic value, fish consumption and wildlife uses are also supported, unless additional information/data suggest otherwise.)

Category 3. Insufficient data to determine if any designated uses are met.

(*All waters in Wyoming that have no data or insufficient data to make a use support determination are in this category by default.)*

Category 4. Water is impaired or threatened, but a Total Maximum Daily Load (TMDL) is not needed.

4A. Impaired waters with TMDLs approved by EPA.

4B. Other required pollution control requirements are expected to address all water pollutant combinations and attain water quality standards in a reasonable period of time.

4C. Pollution, but not any pollutant, is the sole source of impairment.

(A pollutant is a quantifiable water quality parameter for which a load can be calculated. Examples of pollution could include lack of flow or stream channelization (EPA 2005).)

Category 5. The 303(d) List of Impaired and Threatened Waters Requiring TMDLs.