Clean Water Services Advisory Commission

Meeting Minutes

May 19, 2010

Attendance

The meeting was attended by Commission Chair Tony Weller and Commission members Alan DeHarpport, Lori Hennings, John Kuiper, Victoria Lowe, George Marsh, Mike McKillip, Deanna Mueller-Crispin, Stephanie Shanley, Jim Spencer, Jerry Ward, and Bill Young, and Clean Water Services General Manager Bill Gaffi.

Commission members Molly Brown and Julie Wilson were absent.

Clean Water Services staff members attending included Deputy General Manager Bob Cruz, Bob Baumgartner, Jeanna Hall, Mark Jockers, and Tom VanderPlaat.

1. Call to Order

Chairman Tony Weller called the meeting to order at 6:30 pm. The meeting was held at the Clean Water Services Administration Building.

2. April Meeting Minutes

Victoria Lowe requested postponing approval of the April 21, 2010 meeting minutes as she would like to review the tape of the meeting. Chairman Weller said if there were no objections the approval of the April minutes would be tabled until the next meeting.

3. NPDES Permit Renewal and TMDL Update

Bob Baumgartner, Clean Water Services Regulatory Affairs Division Manager, shared information about the upcoming application for renewal of the Clean Water Services NPDES (National Pollutant Discharge Elimination System) permit. As required by the Clean Water Act, NPDES permits set conditions and standards for discharging treated water into any "waters of the nation." Clean Water Services holds permits for wastewater and stormwater under its watershed-based NPDES permit, with its member cities and Washington County as co-implementers of the stormwater permit.

The wastewater permit allows winter discharges from the Forest Grove and Hillsboro treatment plants on the upper river and year-round discharges from the Durham and Rock Creek advanced wastewater treatment facilities on the lower river. Durham and Rock Creek are equipped to remove much higher levels of ammonia and phosphorus. In the summer, wastewater from the Forest Grove and Hillsboro plants is piped to Rock Creek for treatment. The river is roughly divided into the upper portion and lower portion at the Rock Creek facility. The lower river is very flat and slow. It drops only a couple of inches over 30 miles, which makes it hard to sustain aeration, and it is much more sensitive to changes than the upper part. The stormwater permit covers about 117 square miles of urban area within the 712 square miles of the Tualatin River Basin.

Mr. Baumgartner reviewed that the first NPDES permits for wastewater treatment plants in the 1970s and on into the 1980s were based on technology--what level of treatment could be provided--with simple limits focused on biochemical oxygen demand (BOD) and total suspended solids (TSS), reflecting how plants were designed at the time. During the 1980s the Clean Water Act was revised and permit requirements became more water-quality based—looking less at treatment plant technology and more at the river itself. Limits were more focused on flow, flow management, and management of the pollutants being treated. Permits became more complex as they addressed more water quality parameters, including nutrients and ammonia, in addition to BOD and TSS. Over the past decade, permits have become more watershed-based—looking beyond the river itself to the needs of the entire basin, incorporating innovative treatment alternatives and options for "trading" pollutants, and managing flow more broadly. Clean Water Services received the first watershed-based NPDES permit in the nation, integrating previously separate wastewater permits for each of the four treatment plants, stormwater permits for Rock Creek and Durham, and some construction, municipal, and industrial stormwater permits.

Mr. Baumgartner said NPDES permits are updated about every 5 years but Clean Water Services is looking at the river and the basin's needs out to 2025 and beyond. The goals for the permit renewal are to accommodate the growth that is going to occur, do so in an environmentally and economically sustainable way, and leverage water quality protection efforts to include habitat protection and broader environmental benefits throughout the basin. Clean Water Services wants to get full use of the investments that have been made in technology, but will also be looking to use biological processes instead of just chemical and physical processes as it looks for ways to reduce chemical use and reduce its carbon footprint. Clean Water Services is working with DEQ to make sure its plans are consistent with DEQ's vision for the basin and to update the current TMDL (Total Maximum Daily Load) standards to allow for these innovative and sustainable approaches.

Mr. Baumgartner explained that the Clean Water Act requires TMDLs for water-quality-limited bodies of water, such as the Tualatin. A TMDL is the allowable amount of a given pollutant or water quality indicator in the river. The TMDLs for the Tualatin, which were among the first in the nation, were first established in 1988 and addressed ammonia, dissolved oxygen, and phosphorus levels during the "dry season" (May-October). The NPDES permit at that time also incorporated flow management targets, as the amount of water in the river influenced the levels of ammonia and phosphorus that could be discharged. It focused on the dry season because that was when water quality problems such as pH issues, algae growth, and low dissolved oxygen tended to occur.

In response to the 1988 TMDLs, Unified Sewerage Agency (USA, now Clean Water Services) invested $325 million over six years in developing and upgrading technology at Rock Creek and Durham and to create an urban stormwater utility. At the time, no one in the world was treating wastewater to remove ammonia and phosphorus to the extent required by the TMDLs. A flow maintenance target of 150 cfs at Rood Road (monitoring point) was set to help control algae growth and support dissolved oxygen. By 1995, ammonia and phosphorus discharges had been dramatically reduced and there were no more violations of the pH standard and no more big green algae blooms. Mr. Baumgartner said water quality issues in the Tualatin are no longer related to discharges from wastewater treatment facilities. For instance, there are still some dissolved oxygen issues in the late fall but that is due to sediments in the slow-moving river, and flow management can help offset that. For stormwater, USA focused on control and treatment, riparian setbacks, and design standards for

several years before stormwater regulations were developed and was in good position to continue those programs under NPDES permits.

By 2001, science had advanced and watersheds were better understood. The initial TMDLs were adjusted, as the limits for discharged ammonia and phosphorus were shown to be lower than naturally-occurring concentrations. Additional TMDLs were developed, for temperature and bacteria in the Tualatin, and for dissolved oxygen in the tributaries. Temperature and dissolved oxygen had become important issues throughout the Pacific Northwest due to concerns about salmon as an endangered species. The temperature TMDL, or thermal load standard, greatly influenced the USA/Clean Water Services wastewater and stormwater programs by prompting a look at strategies for water quality "trading."

Mr. Baumgartner explained that thermal load is calculated from the amount of heat energy in the effluent (treated water) and the amount of effluent being discharged from the treatment plant. To cool 150 million gallons per day by 20-25 degrees to meet the temperature TMDL would have required refrigeration units at a potential capital cost of $150 million plus 20 years of associated energy costs. The refrigeration units would have used about the same amount of energy that had been produced by the decommissioned Trojan nuclear power plant. Bill Gaffi, Clean Water Services General Manager, commented on the irony of a regulation to protect the environment resulting in such a giant carbon footprint. Discharging chilled water at one or two points could have met the temperature requirements, but that approach was "traded" for the broader benefit and lower cost of releasing stored water (primarily from Hagg Lake) in June and July for a cooling effect along the entire river. In addition, a tree-planting program was implemented to provide shade along the river and its tributaries and for the adjoining land. The watershed-based NPDES permit was important in allowing for these strategies.

Lori Hennings asked if there is a requirement for planting a certain percentage of trees, as she sees a lot of shrubs going in. Mr. Baumgartner said Clean Water Services has a number of planting programs, and those which fall under the NPDES permit do have requirements for the amount and density of trees, and a requirement for maintenance. DEQ requires planting twice as many trees as are expected to be needed to provide adequate cooling, to allow for growth time and other uncertainties. Clean Water Services checks to verify that sites are being maintained and that the expected shade is being provided. He said initially the level of maintenance that was required was a surprise, but the program has been successful, with 4.6 million native trees, shrubs, and plants in the ground so far at a cost of only about $4.5 million.

Ms. Hennings added that she has heard that Clean Water Services is doing a 10-year retrospective on the success of stream restoration efforts and suggested that would be interesting for Commission members. Mark Jockers, Clean Water Services Government and Public Affairs Manager, said that will come from the Watershed Management Division, headed by Bruce Roll. Mr. Gaffi commented that many restoration sites have reverted and there is a realization that the Oregon Watershed Enhancement Board (OWEB) may need to request maintenance dollars from the legislature. The Willamette Partnership is developing criteria to establish a numerical value for the environmental uplift associated with various restoration activities. This valuation system will provide a yardstick for comparing original values to restored values and that may give some impetus to requests for maintenance funds.

Mr. Baumgartner continued with details of the Clean Water Services NPDES permit renewal application. The advanced technology at Rock Creek and Durham will remain important in achieving water quality goals but, as an alternative to expanding those plants to accommodate growth, Clean Water Services is looking at developing natural treatment systems (NTS) options for use at Forest Grove and Hillsboro during the summer. Instead of being pumped to the Rock Creek facility, treated wastewater would go to an adjacent wetland area for final treatment. This would provide ancillary environmental benefits and the water would be much cooler than what could be discharged directly from the treatment plant. Flow augmentation will continue to be a strategy for meeting temperature standards in the main river. Clean Water Services would like to expand the use of flow augmentation, as several pilot projects have shown that getting even a small amount of water back into a near-dry tributary has a big impact on water quality. That overall ecological uplift could be accounted for in an expanded trading program. Tree-planting and other riparian enhancement programs will continue, with the goal of establishing shade at a rate that accounts for expected (population) growth before it occurs, instead of playing catch-up with the thermal trading program. Clean Water Services would like to expand its trading options under the renewed permit, to keep activities in the upper and lower river in balance. There may also be opportunities for trading with agricultural and other non-point sources as a more effective way of reducing nutrients than just focusing on wastewater treatment plants. Finally, Clean Water Services wants to expand the focus of its monitoring program to measure and get credit for the ecological uplift of its activities throughout the watershed, not just the impact of its wastewater treatment plants.

Mr. Baumgartner said again that Clean Water Services must work with DEQ in updating the TMDL regulatory structure to allow for these changes and to make sure the goals of the two organizations are consistent. The current TMDLs were set before there was any idea of discharging in the upper part of the river. TMDLs have generally been reactive—established in response to a problem. He said this is really the first time anyone has looked at TMDLs from the perspective of where do we want to be in 20 or 25 years and what regulatory structure do we need to get there. This is a proactive way of using TMDLs to preclude problems and allow for continued growth in the basin.

Ms. Lowe said talking about 20 more years makes her wonder if Clean Water Services wants to change the TMDLs to allow more time to meet the standards. Mr. Baumgartner clarified that the current standards are already being met; Clean Water Services wants to work with DEQ to project TMDLs as targets to head off problems before they occur, instead of just establishing TMDLs in response to water quality problems as has been done in the past. It is DEQ's job to set the TMDL. It is Clean Water Services' job to determine how much growth is expected and what treatment processes will be used along with the most cost-effective way to deliver that treatment, and to provide DEQ with technical information and support.

Mike McKillip suggested that if this presentation will be going out to other groups, a couple of the slides about TMDLs should be changed to clarify that the intent is to look ahead, not to buy time or to lower the standards. That is a very powerful, proactive message to get out.

Ms. Hennings asked if climate change projections are included in the information for the temperature standard update. Mr. Baumgartner said climate change is an interesting part of figuring this out, not only in trying to understand what it means for actual temperature but also what it means for available flow. A big driver in the TMDL update will be maintaining the flexibility to adjust the system to whatever does occur.

Chairman Weller clarified that updating TMDLs would allow a redistribution of the thermal load to take advantage of the opportunity for summer discharges into the upper river from NTS wetlands, which would be cooler and more diffuse than those from the treatment plants in the lower river.

Ms. Lowe asked if this could be seen as a mixing zone approach to temperature and dissolved oxygen rather than a point source-based solution, with the concept of a mixing zone expanded to include the whole reach of the system rather than just the few feet surrounding a discharge pipe. Mr. Gaffi said he would not characterize it that way, as mixing zones are designed to avoid acute and chronic impacts to highly sensitive species in the immediate vicinity of the discharge, while the NTS approach is designed to produce better conditions over more river miles. Expanding flow augmentation into tributaries is based on the same idea of achieving the greatest possible overall benefit.

Following up on Mr. Gaffi's comparison, Jim Spencer asked if we are tampering with nature when water is redistributed to areas which haven't historically had those kinds of flows. Mr. Gaffi said it's not that those areas have never had larger flows, but over the years we've trapped all the beavers, tiled the low-lying fields, and pumped out whatever flow remained for irrigation and drinking water, so it's more a question of how much can we restore it to what it used to be. Mr. Baumgartner added that there was more base flow back in the 1950s and many streams have become so dewatered that it doesn't take much water to make a big improvement. Mr. Weller added that in addition to dewatering, the development of urban areas has affected streams by reducing recharge of the groundwater which is the source of the base flow in the summer.

Mr. McKillip recalled a previous presentation about using NTS at Forest Grove and Hillsboro, which Mr. Baumgartner said was the same as the NTS approach mentioned tonight.

Ms. Hennings asked if establishing NTS would require some upgrades to the Forest Grove and Hillsboro treatment plants and if that would also set up a higher capacity for future needs. Mr. Gaffi and Mr. Baumgartner said that is true and it's hard to predict where development is going to occur but with the interconnections between those two plants and Rock Creek, those three plants can function as a team.

Chairman Weller asked if some of the positive effect of the cooler water from flow augmentation in the tributaries would be lost as it moves down to the main stem. Mr. Baumgartner said that water moved up into a tributary will be warmer than it started out by the time it gets to the lower river at the Rock Creek plant, but the tradeoff is the broader benefit of overall ecological improvement to that tributary and getting credit for that is the focus of discussion with DEQ. Efforts such as the shading program can also help to cool the tributaries.

Chairman Weller also commented that water sitting in the sun in the NTS wetland area might actually gain heat, but Ms. Hennings said that water would be cooled as it went through the soil as groundwater. Mr. Baumgartner said the soils are so tight that they probably would not provide as much cooling as one might hope. However, emergent plants take up a large amount of heat through evaporation and transpiration, so the wetland process will still cool the water as it makes its way to the river.

Mr. McKillip asked if DEQ still has a Basin Coordinator position. Mr. Baumgartner and Mr. Gaffi said Clean Water Services still funds that position, which helps get the right questions to the right people at the right time, but beyond coordination there are some policy issues which will take a very long time to resolve.

Ms. Lowe said this is a three-legged stool of wastewater, drinking water, and nature and sometimes issues are focused on one leg of the stool to take all the blame or to solve all the problems but when you look at a watershed basin you really need all the players to solve the issues. It's easier to move when everyone is moving together rather than one entity getting ahead or going in another direction. Mr. Gaffi commented that about 10 years ago, he convened all the water managers in the basin to meet regularly and build an integrated water resources management strategy, which evolved and led to the (Tualatin Basin Water Supply Project) idea of expanding Haagg Lake. He said they have been working together, not always perfectly, but trying to understand and embrace the interests of others as they try to advance a cohesive agenda. He added that it is very rare to see a group like that and it is one of the reasons he was asked by the state Water Resources Department to participate in a group advising DEQ and other resource agencies on better integrating management of water resources.

Ms. Lowe asked if that group is working to get one umbrella over all the agencies. Mr. Gaffi said the idea is to integrate them but he harbors no delusions about truly combining them as there is statutory separation at federal and state levels and institutional separation at federal, state, and local levels; Senate, Congressional, and even state legislature turf issues make that unlikely to change. The group could talk about creating a single "Department of Natural Resources" (as in Washington state) but just having the same name doesn't mean they will function together. There have been discussions about partial integration at the regional level. In fact, the ballot measure which was passed by voters to form USA came within one vote on the county commission of being placed on the ballot as the formation of an integrated (drinking) water and wastewater agency. Mr. Gaffi concluded the best hope is to get to the same result by working collaboratively. Ms. Lowe said she and other drinking water people have been trying to drive that integration for more cooperation. Working at odds with each other just increases costs and increases problems 20 years in the future. She feels the integrated approach is being realized more at the regional level than at other levels.

Concluding his presentation, Mr. Baumgartner said Clean Water Services has submitted to DEQ the technical information supporting the TMDL updates requested in the NPDES permit renewal application process. Updates were requested for the temperature TMDL to reflect new standards established since the last permit was issued, to reflect thermal load allocations for upper river discharges, and to recognize the impacts of stored water. Updates were also requested to the ammonia/DO and total phosphorus TMDLs, including allocations for the upper river while maintaining lower river DO and pH, a shorter time period for phosphorus removal, and use of NTS wetlands as a treatment option.

The NPDES permit renewal application was submitted to DEQ in August, 2008. The current permit expired in January, 2009 but is still in effect under an administrative extension from DEQ until the renewal application can be processed. Permits come up for renewal every five years but administrative extensions are common and it is typically 7-8 years between renewals. DEQ will lead the public process for both the TMDLs and the permit renewal. DEQ expects to have a draft TMDL available for public comment by the end of this year. The draft TMDL will require approval by the

US Environmental Protection Agency (EPA). The TMDL update should be finalized by mid-2011 and the new NPDES permit is also expected in 2011.

Mr. Baumgartner said one challenge in this permit renewal process is the complexity of working with a watershed-based permit that is tailored to a specific basin. Another challenge is gaining approval for the use of NTS; even though the idea has been positively received it is still a unique approach. Some changes are also expected in the municipal stormwater portion of the permit as there is more focus on how hydrology changes with ubanization. Finally, there will be the challenge of expanding the trading program beyond temperature, perhaps to include nutrients and total suspended solids, as another opportunity for greater overall effectiveness, rather than chasing tiny increments of improvement at the wastewater treatment plants.

Alan DeHarpport asked if the 1200C (construction erosion) program is part of the NPDES permit. Mr. Baumgartner said it is a separate NPDES permit, a general permit that applies to everybody who does construction (on parcels of one acre or more). Clean Water Services acts as an agent for DEQ in administering the 1200C permits. Mr. DeHarpport said developers pay for the 1200C permit but DEQ doesn't monitor it and won't sign off on it until every house is complete, so developers end up paying twice for the same activity (because Clean Water Services has a similar program for parcels of any size, which applies to each lot), sometimes for two or three years. Mr. Baumgartner said Clean Water Services is suggesting that DEQ sign off on 1200C permits as soon as soon as site development work is completed and the site is stabilized, or as long as any work being done on individual lots is covered under permits issued by Clean Water Services. He will be talking with DEQ staff about this on Tuesday. Mr. DeHarpport encouraged Clean Water Services to advocate for that approach. Mr. Baumgartner said Clean Water Services and DEQ have also discussed the idea of allowing certain local programs recognized by DEQ as 1200C-equivalent to perform those functions as agents of DEQ, but that seems less likely.

Ms. Lowe asked if that would mean additional costs transferred to ratepayers. Mr. Baumgartner and Mr. Cruz said the permit fees paid by developers would cover program costs just as they do now.

4. Wapato Lake Pumping Project

Tom VanderPlaat, Clean Water Services Water Supply Project Manager, coordinated an emergency pumping effort at Wapato Lake near Gaston. He shared with the Commission his adventures spearheading an outstanding collaborative effort involving 11 different agencies.

The 780-acre Wapato Lake is owned by the Wapato Improvement District (WID). It was constructed in the 1930's using dikes to keep out the spring rains so onions could be planted earlier. A system of canals inside and outside the dikes allowed for irrigation of other fields from the Tualatin River through a contract with the Tualatin Valley Irrigation District (TVID). The lake area is now farmed for crops other than onions and is being restored and converted to a wildlife refuge by the US Fish and Wildlife Service (USFWS).

The Water Quality Management Plan for Wapato Lake calls for WID to pump the lake water out into the Tualatin River by April 30, to prevent stagnant lake water getting into the river during the summer. This was the suspected cause of some algae mats in the lower river and taste/odor problems in drinking water a couple of years ago. The larger of WID's two pumps failed last fall but with ownership shifting to USFWS and farming activities unlikely, nothing was done until mid-March

when Clean Water Services was alerted. Leaving the water in the lake did not seem to be a good option as there were questions about the reliability of the dikes and concerns about a repeat of past problems in the river. The time and expense of getting a scuba diver to assess the submerged pump and then wait for repairs or a replacement would not address the immediate issue of meeting the April 30 deadline while still getting enough water out of the lake to reduce the risk of summer water quality problems in the Tualatin. A collaborative effort was the solution.

Clean Water Services personnel from Field Operations, Wastewater Treatment, and Watershed Management all got involved, with additional participation from US Army Corps of Engineers, City of Portland Bureau of Environmental Services, the WID Board, USFWS, Joint Water Commission, Special Districts Association of Oregon, DEQ, Tualatin Valley Water District, Us Geologic Survey, and TVID. Mr. VanderPlaat credited the Clean Water Services Leadership Team for being willing to step up and accept the responsibility for protecting the river.

Mr. VanderPlaat and John Dummer Clean Water Services Principal Engineer estimated that about 2,400 acre-feet (782 million gallons) of water needed to be moved in 44 days. They would have to pump 27.5 cfs (12,350 gallons per minute) around the clock. The remaining WID pump could manage less than one-fourth of that volume. The need to set up additional pumps prompted concerns about noise issues for residents of the area as well as equipment security issues and questions about access to get the equipment into place and provide fuel and maintenance.

Mr. VanderPlaat said within three days the Army Corps of Engineers had supplied three tractor-driven pumps, the WID Board Chair (Ron Bates, reached while in Arizona) had offered use of his tractor to run one of the pumps (though he may not have realized it would have 800 hours put on it!), and Operations staff came up with a way to use a leaf-processing machine PTO to run a second pump. The third pump was kept as a spare. A few days later, Portland BES offered use of a brand new submersible pump and provided another new pump from the Fanno Creek Pump Station which was moved by crane to the site. The pumps and tractors were set up at different locations around the lake, with some water being moved directly into the Tualatin and some being pumped into the canals to make its way into the river.

Eventually, seven pumps were moving 43 cfs (19,250 gallons per minute, or 28 million gallons per day). After getting two inches of rain the last weekend of March and almost six more inches in April (165% of normal rainfall) and the river reaching flood stage, the pumps were not run continuously as it became obvious that lake could not be emptied by April 30 and there was some concern about the lake level being too low in comparison to the flooding river. Mr. VanderPlaat got approval to keep pumping until May 14 when it was expected the river level would have dropped, and contingency plans were developed in case of water quality issues. The lake level was reduced by about 40 inches and is still dropping about 0.3 inch per day, with about seven inches left. More than nine inches of rain fell during the pumping period.

Mr. VanderPlaat described the efforts to keep the equipment running. The tractors had to be refueled every eight hours, with various people assigned to the task (including Mr. VanderPlaat in the 10 PM slot). Oil levels were monitored, oil changes were done every 250 hours, and grease circs were maintained every 12 hours. Almost 16,400 gallons of diesel fuel was used. Final costs have not been tallied, but diesel fuel costs were about $50,000. Clean Water Services will be reimbursed by WID,

USFWS, and Oregon Special Districts Association. Mr. VanderPlaat said the cooperating organizations understood that their contributions would help prevent a larger problem.

Mr. VanderPlaat said Wapato Lake still has some issues that will need to be addressed in the future. The failed pump will need to be replaced. Dikes need inspection and maintenance as there are some trees large enough to compromise dike integrity and rodent activity has adversely affected the dike. USFWS will be taking over responsibility for the area and Clean Water Services would like be a resource for them and participate in their planning process along with the Joint Water Commission and TVID.

Mr. VanderPlaat said this experience caused everyone to recognize the resources that are available inside and outside the organization. This was a significant issue with a short time frame and he is thankful that so many individuals and organizations stepped up to help. Mr. Gaffi added that as this problem became apparent, everybody was calling their attorneys but nobody was doing anything on the ground, and it seemed better to try to solve the problem than waste time and money fighting over it.

Chairman Weller asked about using low-head pumps and suggested that Multnomah County Drainage District, which pumps large volumes of water, might be a good resource for WID and/or USFWS.

Mr. Marsh asked if USFWS is involved in the Wapato Improvement District. Mr. VanderPlaat said yes, USFWS now owns about 75% of the land within the District and will have to pay a proportionate share of the cost to fix the dikes, replace the pump, etc. There were 12 landowners in the District but now there are about four. Mr. Jockers emphasized the responsibility that USFWS has for managing Wapato Lake, protecting the drinking water for 400,000 people, and respecting the investment that Clean Water Services and others have made in the health of the watershed.

5. Announcements

Jeanna Hall, Clean Water Services Public Involvement Coordinator, said the Tualatin Basin Water Supply Project partners and the Tualatin Basin Watershed Council are co-sponsoring tours focused on sustainable water resource management in the basin. One tour for Clean Water Services employees has already been completed and an upcoming tour is nearly full, but Ms. Hall encouraged Commission members to sign up for the third tour, which is set for Friday, June 18. The four-hour tour is free. The tour will leave from the Clean Water Services Administration Building and will include stops at Blooming Nursery near Cornelius, Scoggins Dam and Hagg Lake, the Joint Water Commission treatment plant, and possibly Wapato Lake. Ms. Hall asked Commission members to help spread the word about the tours. Sponsors are particularly interested in hosting community leaders and city staff.

Mr. Jockers thanked Jim Spencer and presented him with a framed Michael Wilhelm nature photograph to acknowledge his six years of service as a Commission member. Mr. Gaffi added his thanks for Mr. Spencer's practical approach. Mr. Spencer, whose term expires next month, said it has been an interesting volunteer activity and a great group of people to work with and he has been impressed with the work done by Clean Water Services.

Bill Young observed that federal regulations will ultimately drive TMDLs and other water quality standards set by DEQ, yet it seems about 80% of federal regulations are the result of court orders or settlements. It is hard to know everything that is going on but that would be a good topic at a future meeting. Mr. Gaffi said there are some interesting issues emerging--national nutrient standards, for example--and litigation in those areas could influence the work of Clean Water Services so that could be a useful Commission discussion item.

6. Adjournment

Ms. Lowe moved to adjourn the meeting; Mr. Young seconded. The motion passed and the meeting was adjourned at 8:29 pm.

(Meeting notes prepared by Sue Baumgartner)