



City and Borough of Sitka Environmental Department

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June 26, 2007

2006 WATERSHED CONTROL REPORT

This Watershed Control Report (WCR) addresses the requirements as follows:

- A) **IDENTIFY ANY SPECIAL CONCERNS ABOUT THE WATERSHED AND HOW THEY ARE BEING HANDLED**
 - B) **DESCRIBE ACTIVITIES IN THE WATERSHED THAT EFFECT WATER QUALITY**
 - C) **PROJECT WHAT ADVERSE ACTIVITIES ARE EXPECTED TO OCCUR IN THE FUTURE AND DESCRIBE HOW THE PUBLIC WATER SYSTEM EXPECTS TO ADDRESS THEM.**
 - D) **REPORT CERTIFICATION STATEMENT AND SIGNATURES**
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- A) **IDENTIFY ANY SPECIAL CONCERNS ABOUT THE WATERSHED AND HOW THEY ARE BEING HANDLED**

RECREATION: The primary human activity in the watershed is enjoying the awesome beauty of the lake and the surrounding mountains from the vista point overlooking Blue Lake. Glassing the peaks for mountain goats, bear, deer and other animal activity is common. Most people do not even leave their cars for this activity. Some walk around their cars for the fresh air, even fewer people venture down the steep switchback to the water edge because the view is blocked by alder brush after leaving the vista point until the lower shore line is reached some 350 feet down the steep gravel incline. Fishing, hunting, hiking and guided bike tours to the vista point are other activities for the more hearty. Access, even for small boats, is difficult and therefore only the very serious venture onto the lake. **These recreational activities have not resulted in past or present "special Concern" for Blue Lake Water Quality.**

The watershed inspection log indicates normal or less than normal human activity in the watershed. In the past the City and Borough of Sitka (CBS) Water Department has encouraged public involvement in keeping the watershed clean by working with community groups. Due to increased public awareness and reduced littering it has not been necessary to have a group clean up the Blue Lake Vista area or road since 1999. The signs and increased public awareness are having a positive effect on reducing the amount of littering that occurs near the vista and shore line. There is no indication that fishing, hunting, hiking, or camping has increased. CBS will continue to monitor the use of the area by camping permit and inspection visits. **There are no indications that past, present or expected future levels of human activities in Blue Lake watershed are having or will have any effects on source water quality and only a minimal threat of contamination exists.**

VANDALISM: There have been no acts of vandalism in the past several years. One messy camp site at the head of the lake (as far as possible away from the intake) was reported in the fall. No camping permit had been filled out for this activity. By the time it site was reported the lake level had risen above the camp site. This location will be investigated in the spring when the lake level recedes. New signs were installed on September, 2002 and were determined clean and readable by a neutral state certified inspector during the subsequent annual inspections. Through the year 2006 there have been no deliberate or accidental activities that have impacted the water intake or water quality. CBS plans to maintain lake access at its 1992 to present condition. **Water quality monitoring continues to verify that we do not have any realistic "special concerns" with the Blue Lake Watershed or its water quality.**

DIOXIN: In 1996, the community of Sitka requested the Agency for Toxic Substances and Disease Registry (ATSDR) to determine if the Blue Lake water supply is safe for consumption. **The ATSDR concluded: "... the potential exposure to dioxin in the water is not of public concern".** The report can be found at http://www.atsdr.cdc.gov/HAC/PHA/alaskap/apc_p1.html.

CRYPTOSPORIDIUM: Is a nonregulated microscopic parasite that will be regulated in the near future. CBS has voluntarily tested for this waterborne pathogen in our raw water source in the years 1998 and 1999. The results (zero and 1.6 oocysts/100L, respectively) were published in the annual Consumer Confidence Reports (CCR) for those years. Our results are much lower than the average of 43 oocysts/100L found in a national study (EPA Dec., 1993). Future test results will be provided to the public in future Consumer Confidence Reports.

B) ACTIVITIES IN THE WATERSHED THAT EFFECT WATER QUALITY

LANDSLIDES AND AVALANCHES both occur and may affect water quality. At times Sitka experiences increases in turbidity, these higher than normal turbidity readings are not specifically related to known slides or avalanches and may have been caused by heavy rains on high rocky slopes not covered by snow or ice. **To date, turbidity induced by slides has been deemed to be unusual and unpredictable rather than recurring events.** Slides and avalanches are naturally occurring and not affected by the limited human activity in the watershed. Slide control is considered unfeasible due to the steepness of the terrain and therefore, not recommended.

DEBRIS REMOVAL from the water intake area was historically conducted at sporadic intervals until 1995 when CBS Electrical Department, in coordination with the Water Department, began an annual debris removal project in the intake area. The structured annual cleanup has resulted in reduced in decreasing amounts of debris and thus decreasing potential water quality impacts from the removal efforts. These annual preventative maintenance projects have shown only slight effects in some years on turbidity and no noticeable effect on overall water quality.

In the spring of 2000 a three foot high by 32 foot long concrete wall was constructed above the intake structure at approximate elevation of 286 feet, to prevent future debris and erosion sediment from falling into the intake structure which is at 210 feet elevation. The wall has been very effective in keeping rocks and other small debris from reaching the intake. See previous reports for details of respective years clean up activities.

The 2005 annual debris removal was postponed due to minimal debris accumulation on shore and a plan to do a major clean-up in 2006. In 2006 the accumulated debris and erosion sediments in the intake area were removed as part of a much larger Electrical Department project. This project included major repairs to the intake structure, replacing the Howell-Bunger release valve at the Blue Lake Dam, dredging sunken logs from in front of the dam, dredging an accumulated mound of rocks and sediment from in front of the intake and removing rocks and sediment collected behind the concrete wall. Typical shoreline debris removal and ditch maintenance were included in the project. *More specific details of the entire project can be obtained from the Sitka Electrical Department report: Blue Lake Dam Repairs and Dredging, Project 63001.*

The general contractor was American Marine Corporation from Anchorage. The switch back road from the overlook to the lake was slightly widened to permit safe access for equipment. The debris was removed primarily with a clam bucket and crane and placed on a debris barge. When the debris barge was full, it was unloaded at the deep spot in approximately the center of the lake (N 57-04.458, W 135-11.000), which is about 500 feet deep. The water logged woody debris, rocks and sediment sank immediately with no noticeable water quality changes at the intake. A total of 5 barge loads of approximately 200 cubic yards each were removed from the face of the dam. About 25 cubic yards of material was removed from inside the intake trash rack. The trash rack panels were removed and the area dredged with a diver directing the clam bucket. A total of 2 barge loads of material (4-500 cubic yards) were removed from the intake structure area. The municipal water supply was switched to our back-up source, Indian River, during the period when dredging was performed at or in front of the intake. No drinking water quality impacts were noted related to dredging activities in front of the dam.

The ditches on the access road were cleaned and reestablished during December of 2005 and again in spring of 2006 following debris removal. These ditches prevent washout of the road as well as preventing surface water and sediment from draining into the lake directly above the intake. All annual debris removal projects since 1995 were completed without any measurable effect on water quality. **In 2006, there was no noticeable effect on overall water quality resulting from this major clean-up activity as Indian River Water Treatment Plant was used during the clean-up period near the intake.**

C. **PROJECT WHAT ADVERSE ACTIVITIES ARE EXPECTED TO OCCUR IN THE FUTURE AND DESCRIBE HOW THE PUBLIC WATER SYSTEM WILL ADDRESS THEM**

HUMAN ACTIVITIES: No land development has taken place within the watershed since the initial project construction and there are no future development plans. The Forest Plan for the Tongass National Forest became final in May 1997. The plan changed the federal land use designation of Blue Lake (and Indian River) watersheds to: "MUNICIPAL WATERSHEDS" which emphasizes protection of municipal water supplies and flows by assuring that watershed planning, maintenance, and activities comply with State of Alaska Drinking Water Regulations and Water Quality Standards for water supply. The Forest Plan is being reviewed in 2007; no changes are expected that will affect the designated watershed areas.

Management prescriptions include the provision for the Forest Service to consult, coordinate, and seek concurrent approval from City and Borough of Sitka on various activities, and directs development of a written agreement consistent with 18 AAC 80.520 (c)(3). The "Municipal Watershed" designation itself provides commitment by the landowner to control human activities that may have an adverse impact on the microbiological quality of the water supply, which 18 AAC 80.520 (c)(3) seeks.

Pending written agreement and any modification of the Tongass National Forest Land Utilization Plan; the USFS has agreed to cooperate with the CBS and mutually control activities that could degrade water quality either directly or indirectly. To date, this cooperative approach has worked smoothly and is not expected to change. There are no projected improvements to enhance recreation inside the Blue Lake Watershed. Even after the minimal road improvements as part of the 2006 debris removal project, the narrow, steep, hair-pin curve road, and the unimproved steep beach line where small boats may be launched is still prohibitive in nature.

Over night camping is by permit only and the CBS Watershed Ordinance (No. 92-1091) prohibits any act that would degrade water quality either directly or indirectly. **Overnight camping seldom occurs**, as is indicated by inspection log and camping permit data. Camping permits were slightly modified in 2006 to clarify the form and include the USFS. These permits continue to provide information to the campers about the watershed and the watershed rules. Campers register with the police department (24 hour/day); and a copy of the permit is immediately faxed to the Water Treatment Operator (WTO), so that timely inspections can be performed. Camping Permits and reports are kept on file at the WTO's office located at the Corrosion Control Facility. The CBS Electrical Department also inspects the Blue Lake access road and the penstock closure facility on a regular basis, coordinating with the Water Department as it relates to watershed activities. The WTO keeps an inspection log of 9 parameters; data continues to indicate the primary use to be "VISTA" related (see Section A) **The CBS Water Dept. does not foresee any present or future human activities within the Blue Lake Watershed that will adversely effect the water quality.**

FUTURE HUMAN ACTIVITIES: Public interest in drinking water continues to increase throughout the country and Sitka is no exception. CBS's water and wastewater operators continue to conduct facility tours which include watershed protection information. Additionally, CBS continues to mentor college level students enrolled in Environmental Technology programs, providing short term on-the-job training and increased public awareness. The citizens of Sitka have become more aware of the need to protect their drinking water source. Each year requires less effort to clean up after the public.

USFS Camp Hosts at Blue Lake Campground and the Sitka Police Department routinely make random inspections at the Blue Lake area during non-winter closure months. Their presence at the campground and the vista point is also a deterrent to vandalism and improper use of the area. CBS is the owner of the access road from the campground – outside the watershed – to the lake and could if deemed necessary close the road to eliminate vehicular traffic into the Blue Lake Watershed. The USFS prohibits access to motorized vehicles from the first significant snow fall to until after all snow has melted off the road the following year. The gate at the beginning of Blue Lake road was closed to the public on November 15, 2006. **Future Human activities are expected to remain similar to the current activity level and are not expected to have any significant adverse impact on Blue Lake water quality.**

D. REPORT CERTIFICATION

The USFS and CBS are the owners of the Watershed. For water system and water quality related activities the operator is CBS.

I hereby certify the contents of this report to be true and correct to the best of my knowledge.

signature: Mark Buggins date: 6/26, 2007

Mark Buggins,
CBS Environmental Superintendent