North Shore Watershed Management Plan

Notes from Working Group Meeting #3
May 23, 2013

The meeting was opened by Cami Kloster of Group 70, who presented a PowerPoint presentation on community and agency watershed issues and strategies. The presentation is posted on the BWS website: http://hbws.org/cssweb/display.cfm?sid=125022. Meeting participants were given the opportunity throughout the presentation to comment and ask questions.

Below are the various topics covered and comments made by attendees. BWS and Group 70 comments where included are *italicized*.

Issue – Ground Water Quality

Wellhead Protection

- Capture zone delineation: The Department of Health Source Water Assessment Program has various capture zone delineations (shaped like elongated tear drops stretching several miles mauka from each drinking water well). UH modeled groundwater flow using MODFLOW of water moving into a drinking water well. BWS and DOH are interested in ensuring no contaminating activities exist in each capture zone delineation for source water protection.
    - Zone A, 50' radius of direct chemical contamination
    - Zone B, 2-year time of travel of microbial contamination
    - Zone C, 10-year time of travel of indirect chemical contamination.
- Permeability: Won't all of the chemicals end up in the water anyway?
  Depends on soil types, characteristic of chemicals, amount of water, etc.

Agriculture Best Management Practices (BMPs)

- Any records of BMP violations?
- *BMPs are voluntary; currently the only enforcement is legal action.*
- *City can issue notice of violation through grading permits.*
- *Prevention is less expensive than treatment.*

Issue – Surface Water Quality

Erosion

- Kaiaka Bay becomes brown after it rains, and marine waters, streams, and rivers are affected.
- The USDA/NRCS budget for helping with conservation plans has been greatly reduced, and there is a 2 year backlog. No local funding is available. The number of smaller farms is increasing and contributing to the backlog.
- It will take money to solve the problems.
- Requirements for farmers are already many and don't want farming to be too challenging as to discourage agriculture on the North Shore.

Pollution Prevention

- There is point source and non-point source pollution. How to really address in order to solve the pollution problem?

Health and safety concerns of surface waters should be considered in addition to soil conservation practices and natural resource preservation.

Issue – Connection Land/Sea

Motocross Park

- On State DLNR land in Paumalū is a motocross park with a high erosion risk during rain events.

Erosion

- Is there a topographic model to help understand erosion potential & sources?
- USGS and the C&C Environmental Services Department are looking at sediment sources – ag, conservation, urban
- For the study, new stream flow/sediment gages have been installed at Kaukonahua stream and below Wahiawā Dam

In Indonesia they grow rice on steep terraced hillsides and those at the bottom help to manage what happens at top. This is an example of connections that work well. We need more win-win opportunities.

Issue – Irrigation Water Quality & Quantity

R-1 Water

- Concern was expressed that the Wahiawā wastewater treatment plant R-1 effluent may be needed for North Shore agriculture.
- *Previously community concerns were also expressed that recycled water in the Wahiawā Irrigation System imposes a great deal of regulatory requirements like buffer zones, use and percolation monitoring and may limit raw vegetable crop types.*
- *Barry Usagawa explained that the North Shore Watershed Management Plan will define an ultimate water demand scenario of full agricultural and urban build-out to determine if North Shore has enough water supplies. Recycled water should be evaluated in the ultimate demand and supply for both North Shore and Central Oahu.*
- *The State Commission on Water Resource Management is conducting a Central Oahu Nonpotable Water Master Plan to evaluate Schofield, Wahiawā and Mililani recycled water and storm water. The results may affect or benefit North Shore.*
- *The Schofield Waste Water Treatment Plant can provide about 2.0 mgd of R-1 water for reuse on base however, there is no funding for construction of a distribution system. The water is put into the Wahiawā Irrigation System just below the Wahiawā Reservoir.*

Water Quantity

- Ho'opili will cause a relocation of farmer land; farmers may relocate to the North Shore
- With climatic changes and variations, it is hard to have restrictions on water use during drought, when water is most needed on crops.
- *Water Demand projections presented at the previous meeting did not see a shortfall in ground and surface water supply in the ultimate water demand scenario.*
- *The irrigation water systems have unknown losses; estimates could be as high as 50%. CWRM ruled that the Waiahole Ditch system has to reduce its leaks to 10% or 1.5 mgd water loss for a 15 mgd water system.*
- *A severely leaking ditch irrigation water system could be construed as a "water banking" strategy. If there is insufficient water , more water can be delivered to crops by fixing leaks and improving the percent loss.*
- *A photo was shown of an unlined section of the Wahiawā Irrigation Ditch system.*
- *Although ditch losses can provide groundwater recharge, the higher regulatory requirement is the protection of streams by reducing the amount of diverted water. System improvements could also provide additional water that could be returned to streams*

Issue – Near Shore Water Quality

- The Humpback Whale National Marine Sanctuary may expand species included and extend into further habitat conservation.

Issue – Flooding

Detention Basins, open reservoirs, regulated dams

- Are being studied at U.H. Manoa; however, there is a lack of data for quantification.
- Kamehameha Schools and Dole may have decommissioned dams due to liability issues.

What happened in 2008 flood?

- Waialua Beach Road had 1.5 feet of flooding.
- Ron Rickman of USGS reported that there were 14 inches of rain in one day and rain fell makai of the Wahiawā Reservoir which contributed to lowland flooding. Other possible factors are lack of maintenance, debris build-up.
- Highlights again the need for a health and safety emphasis.
- *Operable dams can be managed to help with flood control. In 2008, the Wahiawā Reservoir lower dam gate was broken and could not be opened to reduce dam water levels, therefore, the storm water overtopped the spillway. Dole has since completed dam gate repairs and regularly draws the water level down to create more storage in anticipation of winter storms that could create flood conditions.*

Issue – Wildfire

- Need to have a wildfire restoration plan for what to do after the fire (replanting, etc.).
- Policies to enlist military help during a wildfire need to be in place prior.

Issue – Climate Change

- Is this plan looking at impacts of salt water intrusion & cap rock dissolving due to possible ocean acidification?
- *This plan provides water projections for a 30-year timeframe; the ultimate scenarios extend for an unspecified timeframe and will include factors to account for possible impacts of climate change.*
- *There is sea level rise monitoring for all islands*
- *The WMP will provide a climate change discussion.*

Plan Implementation

- Will costs be tied to these strategies? High project costs might help to prioritize and possibly eliminate certain projects.
- *Costs where available will be included.*
- Some strategies have power of law and would like to see identified in the plan.

Sub-objectives

For Objective #4.3, include landowners

Announcement: There will be a presentation on North Shore Oral Histories on Saturday, June 22 at the Waialua Plantation.

Strategy Prioritization Exercise

The potential strategies discussed in the PowerPoint presentation were voted upon by attendees. This exercise will help to guide the level of write-up that each strategy receives. All strategies will be included in the Plan. The following is the list of votes arranged by number of votes received:

- **Agricultural Water Reliability: Water Storage, Back-up Wells, Stormwater Reclamation (18 votes)**
- **Wahiawā Irrigation System Improvements (9 votes)**
- **Drainage Master Plan for Waialua Watershed (9 votes)**
- **TMDL Studies Implementation (9 votes)**
- **Establish Measurable Instream Flow Standards (8 votes)**
- **Mokulēʻia Potable Water System Improvements (6 votes)**
- **Wahiawā Wastewater Treatment Plant Improvements (6 votes)**
- **Kaiaka Bay Watershed Participatory Assessment and Action Project (6 votes)**
- **Feral Pig and Goat Management Planning (5 votes)**
- **Agricultural Best Management Practices (5 votes)**
- **Off-Road Vehicle Restriction (4 votes)**
- **Drought Mitigation Strategies (4 votes)**
- **Dredging Study & Maintenance of Key Areas (4 votes)**
- **North Shore Regional Wastewater Alternatives (4 votes)**
- **Native Forest/Ecosystem Restoration (3 votes)**
- **Kalo Restoration Projects (3 votes)**
- **BWS & State Conservation Programs (3 votes)**
- **Stream Ecosystem Health (2 votes)**
- **Climate Change Plans and Initiatives (2 votes)**
- **Waialua-Kaiaka Watershed Area Study (2 votes)**
- **Low Impact Development Techniques (1 vote)**
- **Pūpūkea-Paumalū Risk Management Planning and Implementation (1 vote)**
- **Waialua Natural Reserve / Reef Preserve Designation (1 vote)**
- **Koʻolau & Waiʻanae Mountains Watershed Partnerships (1 vote)**
- **Gray Water Reuse (1 vote)**
- **KS Loko Ea Fishpond and ʻUkoʻa Marsh Restoration (1 vote)**
- **North Shore Ahupuaʻa Boundary / Stream Marker Project (1 vote)**
- **Potable Wellhead Protection**
- **Pollution Prevention Awareness and Education**
- **Mālama Pūpūkea-Waimea**
- **Waimea Valley Conservation Action Plan**
- **North Shore Oral History Studies**
- **BWS Capital Program**

THOSE PRESENT:

S. Hunt (Aqua Engineers)
S. Strom (Aqua Engineers)
M. Street (Aqua Engineers)
S. Wojtowicz (NSWC)
R. Matsuura (Council Chair Martin)
J. Vierra
S. Whalen - HARC
B. Leinau (NSNB)
K. Rotzoll (UH Manoa WRRC)
C. Murphy (DOT Airports)
S. Brewer (Waimea Ranch)
M. Higashida (DPP)
C. Philips (NSNB)
R. Rickman (USGS)
A. Miller (NS CoC /NSNB)
D. Nakano (Brown and Caldwell)
J. Scott (NB Ag Subcommittee)
M. Takemoto (Pioneer Hi-Bred)
M. Bajiuting (NRCS)
J. Ng (NSNB)
S. Brewer (Waimea Ranch)
K. Falinski (UH Soil Science)
R. Yost (UH Manoa – TPSS)
A. El-Kadi (UH Manoa)
K. Sokugawa (DPP)
B. Usagawa (BWS)
B. Natale (Group 70)
C. Kloster (Group 70)