



NEIGHBORHOOD BOARD #27  
WATERWAYS AND FLOODING SUBCOMMITTEE



## North Shore Watershed Management Plan

### Notes from Community / Working Group Meeting #1

July 19, 2012

**SUMMARY:** Board of Water Supply (BWS) and Group 70, Inc. presented an overview of the North Shore Watershed Management Plan (NSWMP) scope, schedule, and initial watershed analysis. Meeting participants were given the opportunity throughout the presentation to ask questions about the NSWMP scope, planning process, and schedule as well as comment on the preliminary issues investigated to date by the planning team.

The meeting was opened by Jake Ng, and Tom Shirai gave a pule. Cami Kloster of Group 70 provided an overview of expectations for the meeting. Barbara Natale (Group 70) gave a powerpoint presentation, which is posted on the BWS website at the following link: <http://hbws.org/cssweb/display.cfm?sid=125022>.

### Overview of the North Shore Watershed Management Plan

- *The NSWMP is one component of the Hawai'i Water Plan, which is mandated by the Hawai'i Water Code. The NSWMP must incorporate and be consistent with the other components of the Hawai'i Water Plan as well as the City & County's Sustainable Communities Plan (SCP) for North Shore.*
- *The NSWMP is guided by 5 objectives: 1) Promote sustainable watersheds 2) Protect and enhance water quality and quantity 3) Protect Native Hawaiian rights and traditional customary practices 4) Facilitate public participation, education, and project implementation and 5) Meet future water demands at reasonable costs.*
- *There are two major components to the NSWMP:*
  - *Projects and Programs – These support watershed health and are developed based on needs identified from stakeholders and literature review*
  - *Water Use and Development – This component includes water resources, current water use, estimates potential future water use in the district to the year 2035, and shows how projected demand may be addressed with available water supply.*
- *Group 70 completion of a preliminary and draft plan is scheduled for the first quarter of 2013.*

### Group 70 presented a North Shore Watershed Profile and summary of preliminary issues from the initial literature review and stakeholder outreach in the North Shore.

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

#### Overview

- The study needs to have "teeth". Is there funding for projects?

*Project implementation is dependent on available funding. The plan will have project descriptions that can be used as a basis for grant proposals and appropriations. The plan policies will guide State, County and private watershed management, protection, conservation and water use for North Shore.*

### Water Quantity for Future Agricultural Needs

- Residents do not want North Shore water transferred to other parts of the island, as it is needed for future agricultural crop expansion. It is important to plan for water use.  
*BWS has no plans for potable water transfers to other districts due to high capital costs and because the water is needed for North Shore agriculture. Group 70 will develop an ultimate agricultural land and water demand scenario to determine the agricultural water carrying capacity for North Shore. BWS will be working on the Central Oahu Watershed Management Plan in 2013 to assess supply and demand. Turtle Bay resort is being served by a new well station in the Opana area.*
- One person recalled a time when water was being dumped from the Wahiawā Irrigation Ditch into Kaukonahua Valley until lands further down the ditch were ready for the water. The resident said that at that time, sugar used much of the water, and covered 12,500 acres.

### Surface Water

- Does the definition of watershed in the NSWMP include snails and fish?  
*Yes. For the NSWMP, consistent with the BWS "Water for Life" mission, a holistic watershed approach modeled after the Hawaiian concept of ahupua'a encompassing environmental, economic and social/cultural values was established. Here, watersheds are bio-diverse, renewable, and resource productive land and water ecosystems extending from the mountains to the coral reefs, that meet present needs without compromising those of future generations.*
- At one time there was a Polipoli stream in Mokulē'ia, but it had been filled due to Dillingham airfield construction. Others were diverted around the airfield.
- In Waimea Stream, there is a lot of native stream life, including 'o'opu, hihiwai, and 'ōpae.
- During flood periods, is it good to open a stream at its mouth? The City is called to push the sand to open the channel, and then pollution from the stream goes into the ocean. Some people get upset with opening the stream, while others think it is okay. There is a gray area, especially with regards to machine clearing vs. hand. Is it legal? Is it allowable under the Clean Water Act? Is a National Pollutant Discharge Elimination System (NPDES) Permit required?

*The City and County of Honolulu Department of Facilities Maintenance (DFM) is responsible for clearing the stream mouths. A general permit (GP2011-001) that allows for stream maintenance is required before any work can take place. The permit can be accessed at the following link: <http://www.poh.usace.army.mil/Media/PublicNotices/tabid/972/Article/825/gp2011-001.aspx>. DFM sends a pre-construction notice to Army Corps of Engineers (ACOE), Department of Land and Natural Resources (DLNR), and Department of Business and Economic Development and Tourism (DBEDT), which houses Coastal Zone Management (CZM). Once DFM has the approval of these agencies, ACOE gives permission and dates for construction. During construction, a consultant measures the water quality. If there is too much turbidity, the construction stops until the turbidity settles down. Waimea is only opened under emergency conditions.*

### Water Quality of Wahiawā Reservoir (R-2 to R-1)

- The effluent from the Wahiawā Wastewater Treatment Plant (WWTP) flows into Wahiawā Reservoir. The WWTP currently produces R-2 water, which is allowable for drip irrigation of trees, but is not allowed to touch fruit or edible crops.  
*The 2002 DOH Guidelines for the Treatment and Use of Recycled Water, Page 17, lists the various R-2 uses at the following link: <http://hawaii.gov/wastewater/pdf/reuse-final.pdf>.*
- Upgrades to the WWTP will improve the water quality to R-1 rating. There may be plans to use this water for golf courses and/or the Regional Park in Central Oahu. Some residents want to keep the water for agriculture, as it may be needed for farms. Some residents want to clean up the Wahiawā Reservoir water and are supportive of redirecting the WWTP effluent to Central Oahu. The Lake Wilson water is made up of approximately 20 million gallons per day (mgd) from the streams, and approximately 2 mgd from the WWTP effluent.
- In September, Wahiawā WWTP managers will give a status report at the Wahiawā Neighborhood Board meeting.
- In Wahiawā, as more land is put into agricultural production again, there will be increased demand for clean water. It is important to coordinate with Wahiawā on where the water goes, because this is where the water originates.

### Flooding in Waialua and Hale'iwa

- We need to control flooding and erosion as much as possible so it doesn't impact agriculture.
- There is an interaction of flooding, sewers, and water quality that needs to be looked at collectively and not separately. Sewers and cesspools become unusable during flooding. At Waialua Elementary, there is a drain field that leaches into the playground.
- A resident would like to see a Flood Control Plan - Is there a solution to the flooding problem or not?
- It is important to look at the economics of flood control – do the numbers pencil out? There has been a study by Army Corps of Engineers on economic feasibility identifying costs/benefits.

### Effects from Erosion / Sedimentation

- Highly Erodible Lands (HELs) were defined by representatives of USDA/NRCS. The HELs are primarily located in areas of steep slope. Farmers who farm HELs are required to maintain an approved soil conservation plan in order to be eligible for certain USDA benefits and programs.

### Nearshore and Terrestrial Ecosystems

- There is limited sewage treatment on the North Shore. Most of the sewage goes into cesspools or septic systems in the ground, and some of the groundwater may seep into underlying aquifers and into the ocean.
- Self-composting toilets should be used and should not be required to tie into the sewer system.
- Stream and marine water quality and resources are important.

### North Shore History

- The earliest settlement was 700 AD in Mokuleia, and has been verified with carbon dating of habitation sites.
- 20 miles of irrigation ditch were found by the monastery (Tom Shirai has more information).
- See Drum Road Environmental Impact Statement (EIS) for more information (*also known as Transformation of the 2<sup>nd</sup> Brigade, 25<sup>th</sup> Infantry Division (L) to a Stryker Brigade Combat Team in Hawai'i EIS, which can be found at the following link: <http://www.garrison.hawaii.army.mil/sbctEIS/index.htm>.*)

### Demographics

- North Shore residents are not supportive of a significant increase in population growth for the area.  
*The forecast shows little growth for the North Shore.*
- Tourists are year-round and their water demand should be included in the water projections.
- What will be the effect from Turtle Bay expansion?  
*Technically, Turtle Bay resort is in the Ko'olau Loa district. The Turtle Bay developer constructed the Opana Wells for the Turtle Bay Resort expansion.*

### Land Use

- Designation of Important Agricultural Lands (IAL) was defined by a representative from DPP. The process has been deferred to the Counties. The City will be identifying IAL for Oahu. Kauai has some maps already for designating land, and water availability is part of the designation criteria.
- Food safety in agriculture is a concern. Urine from wild animals can get into the streams, and via irrigation waters could make contact with food crops.
- Best Management Practices (BMP) need to be quantified and verified. Corn crops, for example, require a buffer. Guinea grass survives, so why is there still bare ground? What are the effects of pesticide runoff? It is important to look at the economics of watershed management and protection, such as BMPs.

Land Use (continued)

- Are there plans for future lo'i kalo in the area? There will be a kalo workshop held August 11, 2012 at Waimea Valley.

Potential Climate Change Impacts

- Is water supply rising or declining? What are the effects of climate change?

*The University of Hawai'i School of Ocean and Earth Science and Technology has updated a rainfall index for the State and indicates a decrease in rainfall of about 12% over the last 20 years.*

State of Water Infrastructure

- Mokuleia has an old water system. The water system goes all the way to Dillingham and YMCA Camp Erdman. It has half the pressure of the municipal system, which is not enough pressure for putting out fires. An upgrade of the system in Waialua / Mokuleia should be included, since we are all paying taxes incrementally. Health and safety are concerns for those on the Mokuleia water system.

*The Dillingham Ranch and Dillingham Airfield water systems will be assessed in this plan.*

**THOSE PRESENT:**

|                                   |  |
|-----------------------------------|--|
| L. Bryant, A. Char (US Army)      | J. Overton (Group 70)                        |
| E. D'Ascoli (Xcel)                | K. Pahinui (NSNB 27)                         |
| A. El-Kadi (UH Manoa)             | J. Para (Monsanto)                           |
| K. Fronda (Kamehameha Schools)    | J. Paulin (HIHWNMS)                          |
| M. Higashida (DPP)                | K. Rotzoll                                   |
| T. Ishii (Office of Rep. Riviere) | S. Sawdey (USDA-NRCS)                        |
| B. Kau (HDOA), A. Kawahakui       | J. Scott (NSNB Ag Cmte)                      |
| M. Kinimaka (Dillingham Ranch)    | T. Shirai                                    |
| C. Kloster (Group 70)             | C. Smith (Kennedy Wilson / Dillingham Ranch) |
| C. Lambert (NRCS)                 | K. Sokugawa (DPP)                            |
| B. Leinau (MPW)                   | M. Takemoto (Pioneer Hi-Bred)                |
| H. Lowery (WNB 26)                | B. Usagawa (BWS)                             |
| R. Matsuura (City Council Chair)  | J. Vierra (FWT)                              |
| T. Miura (UH Manoa – NREM)        | S. Wojtowicz (NSWC)                          |
| B. Natale (Group 70)              | J. Yanagid (UH Manoa – NREM)                 |
| D. Nellis (Dole)                  | R. Yost (UH Manoa – TPSS)                    |
| J. Ng (NSNB 27)                   |  |
| J. O'Shea                         |  |