October 10, 2003

Ms. Jane Yamashiro
Enterprise Honolulu
737 Bishop Street, Mauka #2040
Honolulu, Hawaii  96813

Dear Ms. Yamashiro,

Subject: Concerns Regarding Mapping of Agricultural Lands in Hawaii

The Land Use Research Foundation of Hawaii has consistently voiced concerns about prior attempts to use maps of agricultural lands in the State as a means/basis for protecting important agricultural lands.

The basis of our concern is that much of the information used to map these lands to date is dated-collected over 30 years ago when there was a different focus on agriculture in Hawaii. The studies were done with large plantations were the mainstay of Hawaii’s agricultural industry.

One of the studies often referred to is the Land Study Bureau—Detailed Classification of Land. This study is cited in Chapter 205, Hawaii Revised Statutes concerning agricultural district under the jurisdiction of the Land Use Commission.

There were actually two reports done by the Land Study Bureau. The first done in 1963 was the first detailed classification report for the lands on Oahu. A revision was done in 1972 which: 1) used more recent aerial photographs of a larger scale; 2) refined the land classification delineations incorporating new knowledge and experience; 3) classification of the forest areas.

The methodology used by the Land Study Bureau was to classify all land on Oahu using soils, geology, plant ecology, plant physiology, climatology, and farming practice information. Based on detailed information in each of these categories, 137 different “Land Types” were created. Each of these “Land Types” was then assessed for its productivity for the following crop types: pineapple, vegetables, sugarcane, forage (hay production), grazing, orchard and forestry. Depending on the productivity of the particular “Land Type,” a productivity rating was given for the particular “Land Type.” A five-class productivity rating was developed using the letters A, B, C, D, E, with A representing the class of highest productivity and E the lowest.
The specifications for the productivity ratings were developed so that all lands throughout the state could be evaluated on a uniform basis. Every effort was made to ensure that the land’s productive capacity was being evaluated, not the skill of management. Thus, as developed, the ratings facilitate subsequent calculations of income possibilities in alternative uses or highest and best use determinations and provide a basis for systematic and comparative land valuations.

Because the 137 different “Land Types” for Oahu were initially assessed using natural resource information, including rainfall data, where feasible, a second rating was developed for the particular “Land Type” using irrigation water.

Assessing the impact of man-made irrigation systems on the productivity of the land provides an interesting view of the agricultural lands on Oahu. For example, only four (4) “Land Types” had a rating system of B or better (only B) for unirrigated lands, and this rating was based on growing pineapple. These were Land Type: 21, 43, 46 and 121. All with a “Productivity Rating of “B.” Total acreage of unirrigated B lands on Oahu was 16,930 acres.

When man-made irrigation systems where provided to suitable lands on Oahu, fifty-two (52) “Land Types” had a rating system of B or better. These were Land Type: 1, 11, 12, 13, 15, 16, 18, 21, 22, 24, 25, 27, 30, 31, 33, 34, 35, 38, 43, 44, 46, 47, 49, 50, 53, 56, 59, 62, 67, 69, 70, 71, 73, 77, 79, 81, 82, 83, 85, 96, 100, 121, 122, 124, 125, 129, 130, 131, 132, 133, 134, 135. All productivity ratings were A or B. Total acreage of irrigated A and B lands on Oahu were 36,109 acres. [NOTE: All of the B lands that were identified as Un-irrigated, improved with a revised rating of A when irrigation was added. Thus, the total irrigated A and B lands on Oahu includes the un-irrigated B lands acreage. Approximately 20,000 acres of this total would not be A or B if it was not being irrigated.]

The Land Study Bureau referred to work done by the U.S. Department of Agriculture and the U.S. Natural Resources and Conservation Services (formerly known as Soil Conservation Services) when it identified Prime and Unique lands throughout the nation. Generally, aside from specific natural resource criteria on the soil, topography, insolation, and the like, one of the criteria identified for prime or unique farmlands is that it must have an adequate and dependable water supply from precipitation or irrigation. Similar to the studies in Hawaii, the availability of water, through rainfall or through a man-made irrigation system was a major factor in considering the land classification for agricultural lands.

The assumptions and criteria used in the Land Study Bureau reports point to a need to update and revise the criteria, and reassess the Land Types identified based on conditions that exist today. Many of the man-made irrigation systems and infrastructure that existed when the reports were done 30+ years ago are either non-existent or have fallen into disrepair. Also, many of the plantation irrigation systems are privately owned, and therefore the operation and maintenance of the system is dependent on the economic viability of the system. Additionally, we are finding
successful agri-business can be accomplished in areas with very poor soil conditions. Insolation and economically available irrigation water allow for aquaculture and greenhouse or nursery operations to succeed on lands that were not identified as A or B lands by the Land Study Bureau. In addition, it appears that other factors, of equal or greater importance than soil type, have a direct impact on the viability of agriculture in an area. The land tenure system, proximity to market and transportation costs all have an impact on the viability of agriculture.

The Island of Hawaii is a classic example of how there is very little if any, direct correlation between “prime” soil classification and successful agricultural operations. The Kona Coffee Belt and agribusiness operations in Waimea and Kapoho are succeeding right now on lands that were not classified as “prime.” Moreover, the “prime” lands with available water as in the case of Kohala and along the Hamakua Coast have little or no on-going significant successful agribusiness operations.

Given the evolution of agriculture in Hawaii over the last 30 years, it may be more meaningful to look at what agribusiness needs to succeed and focus our attention there rather than simply draw lines on a map. At a minimum, natural site conditions as well as available water, location to market, and infrastructure should be viewed collectively as an “economic unit” when one considers how an agricultural operation will be successful. Land without water has little or no value for agriculture. Identifying or protecting only “land” will not in and of itself help the agricultural industry in Hawaii.

We appreciate the opportunity being provided in the Agricultural Working Group to discuss these issues. We wanted to articulate our position regarding the mapping of agricultural lands in advance of the upcoming discussions and decision on legislation.

We would appreciate your assistance in providing this to the various participants of the Agricultural Working Group for their consideration on this matter.

Should you have any questions regarding this, please feel free to contact me at 521-4717 or e-mail at deanu@hawaii.rr.com.

Very truly yours,

Dean Uchida
Executive Director

Cc: Dr. Andy Hashimoto, CTAHR
    Honorable Sandra Kunimoto, DOA
    Mr. Wendall Koga, Hawaii Farm Bureau