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MATX 791 Final Report

Underwater Documentary Filmmaking

The goal of this project was to learn and practice underwater videography with the goal of producing a short documentary film. I shot the raw footage over the course of two weekends at Lake Rawlings Scuba Park—April 14-15 and April 21-22—using a SeaLife DC1200 camera with both artificial and natural lighting. The camera is an affordable model designed for the recreational diving community and can be purchased as a standalone unit or bundled with several combinations of underwater housings, strobe lights, and video lights. It has the advantage of allowing diving users to navigate its menu system underwater, even offering the ability to switch between still photography, videography, and playback modes without forcing the diving user to return to the surface. Among the menu items are filters that should correct for the differential absorption of colors with increasing depth. These filters are divided into settings for blue water vs. green water and depths shallower than or greater than 25 feet.

In practice, the video light (with auto white balance rather than the aforementioned filters) did not throw enough light to be of much use. I poked my head in crevices and penetrated some of the wrecks in the lake, and found the results to be essentially worthless. Even at depths greater

than 50 feet, there was sufficient ambient light to wash out any effect of the video light. Likewise, I experimented with the ambient light filters, focusing on the green water filters as the the environment seemed to be bathed in a greenish-yellow aura at depth. The results—regardless of water color vs. depth combination—were disappointing except at very shallow depths. The second weekend I tried manual white balancing. Once I figured out how to do that properly, the quality of the colors in the video footage improved significantly, even at depths greater than 55 feet.

In addition, I found a weird artifact in the images caused by either the housing or the wide-angle lens that I attached to the housing—the corners of the images were cut off by one or the other. I suspect it the housing is the prime culprit, but did not think to shoot anything without the wide-angle lens to make sure. The effect could be countered by use of the digital zoom.

Non-technical problems are evident in some of the footage: problems with buoyancy control, maintaining proper trim, and a vision prescription in my scuba mask that is more than five years out of date. On a number of occasions, I had a hard time getting the camera far enough from my face to clearly see what was on the viewfinder.

The jump drive did not have sufficient space for all of the raw footage I shot, so I've put selected footage in the following folders: Color filters, Fish behavior, Manual white balancing, and Video light.

Next week, I plan to edit some of the largemouth bass footage into a short video on their reproductive behavior.