



THE KA LOKO TRAGEDY

AMARJIT SINGH

Dept of Civil Engineering, University of Hawaii at Manoa, Honolulu, USA

The North Shore of Kauai is known for its beautiful beaches, scenery, and tropical paradise. However, the community has faced adversity and tragedy due to the lack of necessary engineering inspections, failure to apply for building permits, negligence, and complacency on behalf of property owner James H. Pflueger, the State of Hawaii, and County of Kauai. The Ka Loko dam broke on March 14, 2006 and the rushing waters wreaked havoc on the community causing mass destruction and ultimately claimed the lives of seven individuals. Multiple civil lawsuits and a criminal case followed where the owner pled no contest to seven counts of manslaughter and one count of reckless endangerment. The purpose of this paper is to conduct a brief analysis of the events surrounding the tragedy and extract the lessons learned and impacts it may have to prevent future disasters from occurring. Among the issues, it was discovered that the emergency spillway had been filled with earth, and that dam inspections were irregularly conducted.

Keywords: Kauai, Hawaii, Conflict, Environment, Permitting, Construction.

1 INTRODUCTION

James Pflueger was charged by the State of Hawaii for multiple environmental infractions on his 378-acre property on the North shore of Kauai. These violations began in 1987, when Pflueger failed to obtain the necessary permits prior to construction on his property. In 2001, a mudslide sent tons of runoff and pollution onto Pilaa Reef, and damaged beachfront properties. Pleading no contest to charges brought upon him in that tragedy, Pflueger paid a few million dollars in fines and penalties (Finnegan 2006). The tragedy related to Pflueger did not end with the mudslide of 2001. The Ka Loko dam, located on Pflueger's property, failed five years later in 2006 that resulted in the loss of seven lives. Civil cases were settled by Pflueger in 2009, and in 2014 he pled no contest to the charge of Reckless Endangering in the First Degree, and Pflueger's company, Pacific 808 Properties, agreed to fines for each of the seven counts of manslaughter they were charged with, and accepted a jail term of seven months (Leone 2009, Department of the Attorney General 2014). Although Pflueger took the brunt of the punishment, harsh criticism was also brought upon the State of Hawaii, the City and County of Kauai, and other related stakeholders. This paper will explore the facts and arguments of the case and the implications of the lessons learned.

2 BACKGROUND

The presence of the Pflueger family in north Kauai near the Ka Loko reservoir has been felt since the late 1890's. Mary Lucas, Pflueger's grandmother owned a large portion of land, known as the Lucas Estate, and to this day owns approximately 1000 acres. James H. Pflueger purchased

approximately 400 acres of the Lucas Estate between 1987 and 1997, including the Ka Loko dam and reservoir, from C. Brewer and Co. (Finnegan 2006). Upon completing the purchase of his property, Pflueger conducted land-disturbing construction activities to include grading and grubbing without obtaining the proper permits necessary for the type of operations conducted. Pflueger cut into a hillside and created a 40-foot coastal road, dammed streams to create ponds, constructed earth berms and roads around his property, filling in nearby streams, all without the required approval (Environmental Protection Agency 2017). The Kilauea Neighborhood Association complained to Kauai County of the illegal construction activities and disturbance but for the most part went unrecognized (Sommer 2000). The lack of attention to the formal permitting process in Pflueger’s construction activities suggest the necessary safeguards were not put in place. A brief timeline of important events surrounding the dam break can be seen in Figure 1.

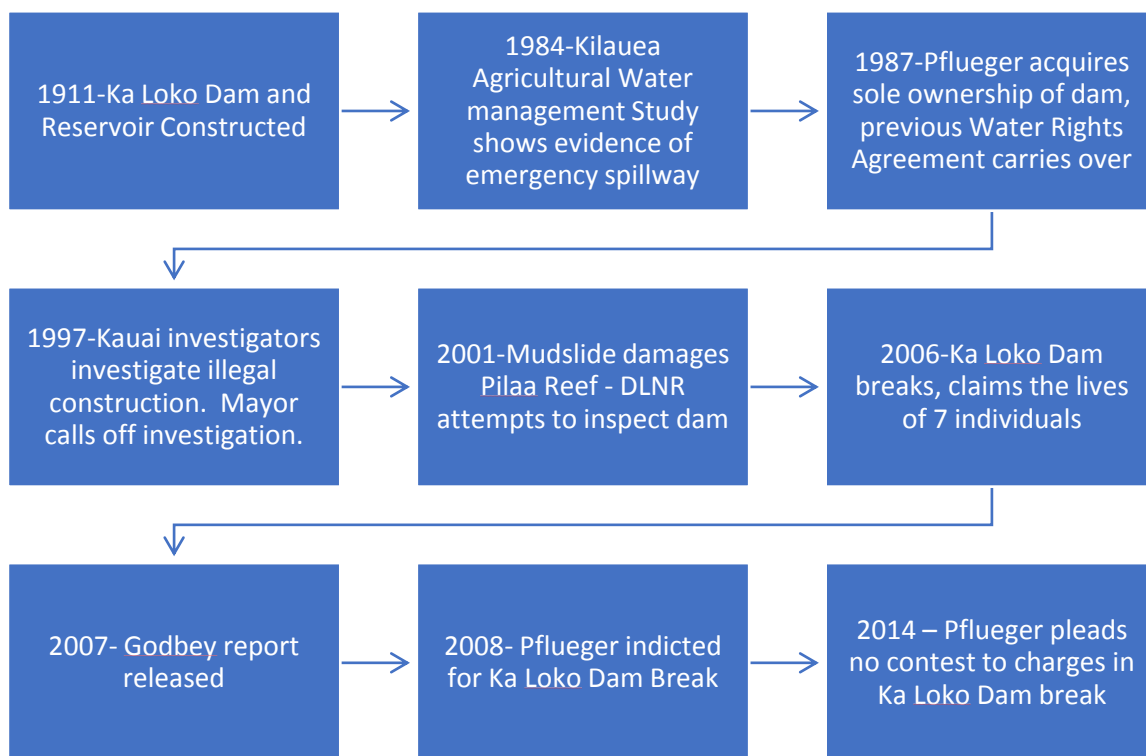


Figure 1. Timeline of important events leading up to and after the Ka Loko Dam Break.

2.1 November 26, 2001 Mudslide

After a heavy rainstorm on November 26, 2001, a large amount of sediment discharge from the graded plateau located on Pflueger’s property discharged into the nearby Pilaa coastline and coral reef, causing significant damage. Necessary erosion control measures should have been undertaken, but were non-existent, and would have had to be put in place had Pflueger obtained the required Clean Water Act (CWA), storm water National Pollutant Discharge Elimination System (NPDES) permit, or CWA section 404 permits through the Environmental Protection Agency (EPA 2017).

Pflueger pleaded no contest in 2003 to three misdemeanor charges in the Kauai County that resulted in a \$3075 fine and 450 hours of community service, in addition to \$4 million in fines by the Department of Land and Natural Resource for damages to Pilaa reef (Finnegan 2006). Other settlement provisions included fines totaling \$2 million for the CWA storm water violation, the largest in EPA history, approximately \$5.3 million in restoration and site stabilization work, settlements to Kauai community groups Kilauea Neighborhood Association and Limu Coalition, the funding of upgrading nearby cesspools and septic tanks in the neighboring community, and the funding of a mobile water testing facility (Goto and Singh 2010, EPA 2017).

2.2 March 14, 2006 Dam Failure

The Kilauea Sugar Plantation built the Ka Loko dam as part of their irrigation system for their farming operations in 1911. When farming operations ceased in 1971, ownership and maintenance of the Ka Loko dam and reservoir was transferred to C. Brewer, who formed a new company, Kilauea Irrigation Co., Inc., (KICI), to specifically provide irrigation for agricultural uses in the surrounding area and maintain the property. A *Water Rights Agreement* was made in 1987 between KICI and the Mary Lucas Estate, sharing ownership of the Ka Loko water system. Later that year, Pflueger bought all the rights to the Ka Loko water system, purchasing outright from C. Brewer and taking full ownership and responsibility of liability and contracts involved with the water system (Godbey 2007), but having KICI perform maintenance.

As luck and events would have it, on March 14, 2006, four days after Pflueger settled with the EPA, the earthen Ka Loko Dam breached. The 400 plus million gallons of water that the dam was capable of holding went rushing downstream, destroying two homes and killing seven people. After multiple hearings, James H. Pflueger pled no contest on October 15, 2014, to the class C felony Reckless Endangering in the First Degree, and was sentenced to seven months in prison, a \$10000 fine, and five years of probation. In addition, Pflueger's company Pacific 808 Properties, LP agreed to pay \$50000 for the seven counts of manslaughter brought against the company, however the judge reduced the fine to \$1000 per count (Department of the Attorney General). Much of the evidence obtained for the court case was through testimony, witnesses, and the Godbey report, and a 600-page investigation of the Ka Loko Dam failure conducted by Special Deputy Attorney General Robert Godbey.

3 THE GODBEY REPORT

Important findings that the Godbey report consisted of was evidence of an emergency spillway having been filled up, potential causes that led to the Ka Loko Dam failure, maintenance responsibilities of the dam, and inspections of the infrastructure by State and County agencies. The Godbey report had found that there was evidence of a concrete emergency spillway that existed through a C. Brewer Study that was conducted in 1971 and a Kilauea Agricultural Water Management study conducted in 1984. The existence of an emergency spillway is important in that it would have prevented the dam from overflowing in the event of heavy rains and prevented erosion that could lead to the collapse of the dam. There is also evidence of a fax from a concerned citizen to Pflueger requested that he uncover the emergency spillway, which proved that the emergency spillway was backfilled with soil. There was no response from Pflueger and he also denied ever seeing or backfilling a spillway (Godbey 2007, Goto and Singh 2010).

A potential cause of failure was mentioned as water seepage through the earthen dam. This could cause internal erosion that can lead to dam failure. Water seepage was witnessed and documented in the Kilauea Agricultural Management study that was conducted in 1984. However, the report concluded that the likely cause of the failure was embankment overtopping.

The Godbey report stated if an emergency spillway had been filled this would have led to embankment overtopping.

In addition, Ka Loko dam was the only dam to have a major failure compared to dams built during the same period that used the same construction method. Further supporting the importance of the spillway were records showing that the dam reached its maximum height of 43 ft, (the same height as the spillway), twenty times between 1940 and 1954 without failure, indicating that a spillway existed that was doing its job (Godbey 2007).

The report indicated that there seems to be confusion as to who is responsible for the maintenance of the dam. The original *Water Rights Agreement* made between C. Brewer and Mary Lucas Trust carried over when Pflueger purchased the dam, therefore KICI was still technically responsible for maintaining the dam and irrigation infrastructure. However, disputes between Pflueger and KICI led to maintenance being put off. KICI claimed that Pflueger made the dam inaccessible for them to conduct the proper maintenance. It was clear that the original *Water Rights Agreement* was not followed between its new owner and KICI. This brought up the question as to who was ultimately responsible and accountable for maintaining the dam, the owner or KICI under contract.

The Department of Land and Natural Resources (DLNR) became the lead inspection agency in 1987. For the next decade the dam was considered low risk and was never inspected. In 1997, around the time of Pflueger's construction activities, Kauai Department of Public works conducted an inspection due to an anonymous tip. However, investigation of the illegal construction stopped after permits were granted after the fact, after construction began, despite community complaints. There is speculation whether conflicts of interest had a part in these decisions. DLNR attempted to conduct inspections between 1999-2001, however due to no response from the owner, no inspections were conducted. After the 2001 mudslide, the dam was inspected by the DOH and EPA with no mention of the emergency spillway. The report goes on to state that no other inspection attempts were made by the state after 2002. The department was understaffed with only 1.5 full-time employees vs. the recommended 6.5 full-time employees. In addition, the recent 2004 Southeast Asia tsunami brought the department's attention elsewhere in mapping out tsunami zones and flood control measures.

4 STATE OF HAWAII AND COUNTY OF KAUAI INVOLVEMENT

Throughout the life of the dam, it was never inspected for the sole purpose of structural integrity. The 1997 inspection by Kauai County was for unpermitted construction activity, and the 2002 inspections by the Department of Health and EPA were for environmental impacts of the 2001 mudslide. However, the 1997 inspection of the dam is significant in that during that inspection, the emergency spillway had not been filled (Godbey 2007).

The Army Corps of Engineers initially categorized Ka Loko dam as a low hazard dam as part of the National Dam Inspection Act of 1972. This was never reclassified. According to the National Dam Inspection Act of 1972, all dams were to be inspected¹ once every 5 years, with the exemption of low hazard dams. The reclassification of the dam was never considered again until 1999 when the DLNR attempted to inspect the dam over the course of three years through three different attempts, all unsuccessful (Godbey 2007). It is important to note that it does appear that protocol was followed. However, had the State been more persistent in inspecting the dam, or adequately staffed with the necessary resources in the interest of protecting life and property, the dam could have been inspected, reclassified, and the disaster potentially avoided.

¹The purpose of inspections is to preserve life and property.

5 THE OWNER'S ARGUMENTS

The owner attempted to make several arguments in his defense. Pflueger's attorney, William McCorriston, argued that there was insignificant evidence that the owner filled the spillway. The Godbey investigation only expressed the owner's interest in filling the spillway to construct buildings around the reservoir (Godbey 2007). Another argument that Pflueger's defense attorney attempted to make was that the failure was not caused by overtopping, but that the dam was weakened over time. This weakening and deterioration of the dam was even noted in the Godbey report through the Kilauea Agricultural Water Management study conducted in 1984, prior to Pflueger's sole ownership of the dam. The last and probably the most important argument that McCorriston attempted to make in Pflueger's defense was that it was the State's responsibility, not the client's, in inspecting the dam. He also disputed the claim that Pflueger did not respond to the DLNR's requests to inspect the dam and stated that his client did in fact respond via e-mail inviting them to do so. Additionally, McCorriston argued that there was a conflict of interest between the state attorney general's office and Pflueger's case in that the state was also facing civil lawsuits as part of the Ka Loko Dam break, and that they would try and shift the blame towards his client (Goto and Singh 2010).

Despite the above arguments in Pflueger's defense, the fact of the matter is that the dam was located on his property, was in his responsibility and care, and Pflueger had all the power and control to maintain the safety and infrastructure of the Ka Loko dam. With a *Water Rights Agreement* already in place between the owner and KICI, there was already a plan for maintenance, but the agreement was not followed or upheld, which is not the State's or County's fault or the fault of the innocent civilians who died. With the argument that a spillway even existed or was filled, Pflueger should have been aware of what was on his property, especially if it had the potential to harm or save life and property of those on his property and vicinity.

6 LESSONS LEARNED AND LONG-LASTING COMMUNITY IMPACT

From the evidence available and the relationships of the multiple parties involved, it is clear that all stakeholders of the case had an impact at some point in time on the structural integrity of the dam's life. Not one party, whether it be Pflueger, KICI, the State of Hawaii, or the County of Kauai made a successful attempt at ensuring that the dam was structurally sound. Pflueger ultimately took the brunt of the punishment in court and settlements outside of court, however all major stakeholders share the blame and burden of the tragedy whether it be through negligence or complacency. The losses in the result of the dam break included damaged farms, homes, infrastructure, detrimental environmental impacts, faith in government, and most importantly the seven lives lost in the tragedy.

The lesson learned here for property owners is to take pride in ownership of their property, including taking the necessary steps of seeking advice from those who specialize in the field to maintain the safety of the property. This also includes taking the necessary legal steps such as permitting, following building codes and regulations, and discovering the impacts and consequences that engineering practices can have on the environment, public safety, and health. This may lead to increased upfront, operational, and maintenance costs; however, it may save the lives of those in the future. The straight lesson is that there is clear liability for property owners.

This case was especially unique in that the failed engineering work in question was on an owner's property, but the legal responsibility to maintain the dam was that of KICI.

Another significant factor in this case was the political role Kauai County had during the dam's history. One could speculate that the 1997 inspection for the illegal construction activities was halted to what appeared to be a conflict of interest since one of Pflueger's civil engineer's

father was a Kauai County engineer. However, the fact of the matter here is that rules and regulations are in place for a purpose and should be enforced in all scenarios. It should be recognized that the purpose of a permit, code, or regulation is to protect the health and well-being of individuals involved in the activity. It is important that professionals maintain their moral compass in enforcement as it is significant in maintaining trust and integrity in the profession and the people they serve.

7 CONCLUSION

Seven individuals paid the ultimate price due to the negligence of multiple parties, including James Pflueger, the State of Hawaii, Kauai County, and KICI. The Ka Loko dam failure could have been preventable had any of the parties been more proactive in taking responsibility and pride for their property and their scope of work. Although all parties involved should share responsibility for the negligence that led to the dam failure, much of the evidence pointed to the property owner James Pflueger. Pflueger pled no contest in the indictments brought against him and served seven months in prison to the charge of Reckless Endangering in the First Degree along with five years of probation. Additionally, his company, Pacific 808 Properties, LP paid fines for each of the seven counts of manslaughter. Civil lawsuits were settled out of court in 2009, however details of this settlement have been kept confidential.

An important lesson learned in this case is for property owners to seek the necessary advice and counsel regarding the consequences and/or impacts of civil or environmental engineered acts that take place on their property. Ultimately, as witnessed in this case, the liability and responsibility fell on the owner. In addition, it is important to follow all aspects of the construction process as well as enforce the rules and regulations when they are not followed. Applying for the necessary construction permits would have ensured the necessary safeguards and best practices were in place, and the proper enforcement against illegal construction could have prevented the Ka Loko dam failure and the loss of seven lives.

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