UTAH LAKE: LEGACY

UTAH LAKE: LEGACY

UTAH LAKE: LEGACY

Written by D. Robert Carter
Technical assistance by Christopher J. Keleher
Editor Betsy Stevenson

Special thanks to Vanguard Media Group

JUNE SUCKER RECOVERY
IMPLEMENTATION PROGRAM

This book was produced by the June Sucker Recovery Implementation Program. The Program is a cooperative partnership among the following entities:

Utah Department of Natural Resources
U.S. Fish and Wildlife Service
Central Utah Water Conservancy District
Utah Reclamation Mitigation and Conservation Commission
U.S. Department of the Interior
U.S. Bureau of Reclamation
Provo River Water Users Association
Provo Reservoir Water Users Company
Outdoor and Environmental Interest Groups

"Utah Lake is a mirror of our relationship to place over time. From native people to contemporary life along the Wasatch Front, this body of water is a reflection of subsistence, abuse, neglect and restoration."

— Terry Tempest Williams.

TABLE OF CONTENTS

Introduction/

Finian Keleher and his dog Nessa play in the warm water off a sandy beach north of Lincoln Beach on Utah Lake in 2003. Photo by Chris Keleher.

This fisherman found success angling on the placid waters of Utah Lake near Geneva Resort with Mount Timpanogos for his backdrop. In the early 1900s, sport fishermen harvested native Bonneville cutthroat trout as well as nonnative species like bass and catfish from the freshwater lake. The man's wagon can be seen just beyond him on the left. On the far right side of the photo, his horse patiently grazes. Courtesy of Robert Carter.

Looking southwest from the Provo City Airport dike near the former site of the Old Lake Resort, this 2003 photo captures a magnificent view of West Mountain (left) and the Lake Mountains framing Utah Lake. Photo by Chris Keleher.

UTAH LAKE IS AN IMPRESSIVE SIGHT.

Its beauty spans 24 miles in length and 13 miles in width. For generations, the lake has been a summer gathering place for families and friends to enjoy its vast, open water under the intense Utah sun. But, for the state's early residents: Native Americans, Spanish explorers, trappers, and later, Mormon settlers, it was a treasured source of food. Millions of fish thrived. In fact, 13 species made their homes in the lake, its inflowing tributaries, and the Jordan River outlet – all of which were valuable water sources for the fields the settlers planted. Utah Lake literally fostered the growth of civilization in our state. The lake, in essence, is a parent to us all.

Centuries have passed since humans first discovered the riches of Utah Lake, and it has changed. Although locals and visitors alike continue to boat and water ski on Utah Lake, the lake and the existence of its native fish species are in harm's way. Habitat alteration, the introduction of nonnative fish such as common carp, and water development and use have all contributed to its current condition. Pollution from urban, industrial and agricultural waste, and the foraging habits of the carp have transformed the lake's water quality. Today, its water is classified as impaired for total dissolved solids and levels of phosphorus. The lake's ecosystem, which supported so many species of fish long ago, is now overrun with carp, and is barely able to provide for its two remaining native fish species, the June sucker and the Utah sucker. The June sucker was added to the Endangered Species List in 1986 – its numbers have gone from millions in the early 1800s, to a natural population of less than 1,000 today.

Construction on the Provo Boat Harbor began in the 1930s but wasn't completed until after World War II. It soon became a mecca for boaters and is still a hub for lovers of water sports. This photo was taken in the 1950s before the south levee was extended into Utah Lake. The Provo City Airport, and beyond it, Provo Bay can be seen to the right of the harbor. Courtesy of Norma Smith Wright.

Provo's Memorial Day boat races began in the late 1930s and remained the most popular annual event held on Utah Lake for more than 40 years. To the far left, John Halliday stands at his timing station on the observation deck of the S.S. Sho-Boat. Courtesy of Roland Strong.

"The water quality of Utah Lake has been classified as impaired for total dissolved solids and phosphorous." — Utah Department of Environmental Quality, Division of Water Quality, 2002.

This angler tried his luck on the north end of Utah Lake. Fishermen often used flat-bottomed boats to navigate the typically shallow waters along the shoreline. The trees that sheltered Saratoga Resort can be seen in the background to the left of the fisherman. Courtesy of the Utah State Historical Society.

MEET A VERY IMPORTANT FISH.

You may be wondering how a fish with a name like June sucker could conjure up loyal feelings among humans. Named for its June spawning runs, it is near and dear to the hearts of those involved in its recovery. Why? Quite simply, it's a very important fish. Important historically, because it was a plentiful source of food during hard times for early settlers and Ute bands. Important today, because of its endangered species status. Utah Lake is the only place in the world where June sucker live naturally. Therefore, actions to recover the June sucker population are key to helping revitalize the lake's ecosystem. As an "indicator species," the June sucker serves as an effective measuring tool to monitor the entire lake ecosystem. Recovering this rare fish will enhance stream flows, improve water quality, restore river and lake habitats, and reduce the impact made by destructive, nonnative fish. As a result, Utah Lake will be a better place to boat, swim, and fish.

Perhaps your family can trace its history to Utah Lake. Maybe the lake was the place you learned to water ski, or where you taught your kids how to fish. If so, those experiences have most likely become wonderful memories. Through actions to recover the June sucker, the lake itself won't become a memory. Instead, it will return to being the precious resource to the communities it has served so well, for so long.

Sailing became a sport on the lake during the 1880s, then its popularity faded for several decades. Today, it is once again becoming a favorite activity of boaters. Here, two enthusiasts enjoy a quiet sail near Utah Lake State Park. Photo by Brett Colvin.

For more than a century, sportsmen grappled for sucker in the lower Provo River. This rare photo taken just below the county bridge on Geneva Road, shows three fishermen with grappling poles. The woman at the right has a bag to carry the fish home. This picture was taken in the early 20th century when no large dams controlled the flow of the river, little channeling had been completed, and no levees had been built along the banks of the river to control flooding. The now-endangered June sucker was able to spawn successfully in this environment. Courtesy of Brigham Young University Photo Archives.

"I was at Utah Lake...I saw thousands [of fish] caught by hand...they simply put their hand into the stream, and threw them out as fast as they could pick them up." — Parley P. Pratt, July, 1849.

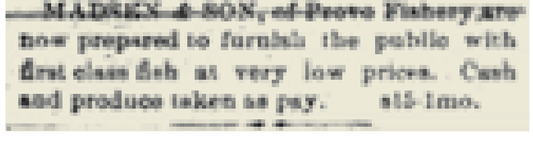
Chapter 1/

A Window to Our Past. An Open Door to Our Future.

A severe drought plagued Utah during the early-to-mid 1930s. In 1934-1935, Utah Lake became so dry, that Andy Anderson and Dave Williamson were able to stage a mock boxing match on the lake floor. They are pictured in an area that years earlier, would have been near the middle of the lake. That same day, the men safely walked from Pleasant Grove to the other side of the lake. Courtesy of Mildred Sutch.

Hewitt Strong, Jr. (left) dives off a platform with a buddy at Utah Lake. Courtesy of Roland Strong.

Ad for the sale of fish. — From *The Territorial Enquirer*, September, 15, 1880.


MADSEN & SON, of Provo Fishery are now prepared to furnish the public with first class fish at very low prices. Cash and produce taken in pay. sl5-1mo.

HELLO, OLD FRIEND.

For centuries, the people of Utah have had a special bond with Utah Lake. For some, that bond was based on necessity. For others in later years, their affection for the lake was rooted in pure fun. But today, many people don't realize the historical value of Utah Lake and the vital role it continues to play in our society.

In its pristine state, Utah Lake, its shoreline and tributaries, and the surrounding land provided both food and shelter for birds, animals, and people. Millions of fish lived in the lake, several species of birds and animals thrived in the lake's then-unaltered ecosystem, and varieties of edible plants and berry bushes grew plentifully. As a whole, the lake and the plant and animal life encompassing it provided nourishment for Ute bands, visiting Spanish explorers in the 1700s, fur trappers and traders in the 1800s, and the influx of Mormon pioneers that began in 1847. The fresh water made the soil of Utah Valley productive, so the land around the lake and its tributaries became prime ground on which to live and farm. However, Mother Nature didn't always agree with farmers' plans to plant and harvest. As a result, more people turned to Utah Lake for fish, which they could salt and store for use during long, harsh winters or other times of need.

PALEO INDIANS HUNTED MAMMOTHS AND HUGE PREHISTORIC BISON THAT CAME TO GRAZE ON THE PLENTIFUL PLANTS, BERRY BUSHES AND OTHER FOOD SOURCES AROUND UTAH LAKE.

NATIVE PEOPLES AND THE LAKE.

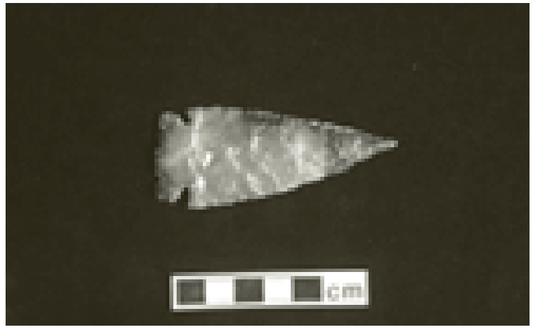
Four Native American cultures took advantage of the food sources in and around Utah Lake. Long before the Euro-American explorers and settlers arrived, the Paleo Indians, or big game hunters, inhabited the land surrounding Utah Lake from 12,000 to 8,500 years ago. They hunted mammoths and huge prehistoric bison that came to graze on the plentiful plants, berry bushes, and other food sources around the lake. As the valley became more arid, the once-lush plant life changed, and the massive prehistoric animal species became extinct.

After the lake shrank in size, new groups of animals such as American bison, elk, deer, antelope, and rabbits migrated into the area. Along with them came a new culture of people. From about 8,500 to 2,500 years ago, the Archaic Culture, or hunters and gatherers, lived around Utah Lake. They harvested certain plants and collected seeds, which they ground into meal. Although the Archaic Culture hunted large animals with spears and snared rabbits for food, archeological evidence shows that these early residents supplemented their diet by fishing in Utah Lake and its tributaries. After another dry period, the human population around the lake declined. But when the climate became more balanced and moisture returned, another culture established itself near the lake.

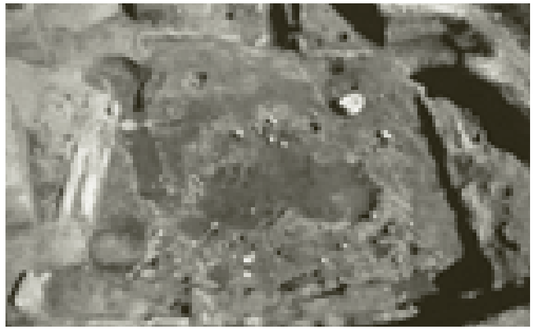
Fremont Indians lived along the Provo River from the year 500 to the 14th century. The Fremont had some knowledge of horticulture, which they relied on for sustenance. They also hunted the birds and animals that lived near the lake. Yet, archeology once again revealed that the most important food for native people was fish. The bones of chub and sucker have been found, along with harpoon heads and grooved rock balls about two inches in diameter. Archeologists theorized that the rock balls were used as primitive sinkers to hold fishing nets down. A 24-year drought beginning in 1250 had a detrimental effect on Fremont farming and fishing. Soon, new groups of hunters and gatherers moved into the area, eventually replacing the Fremont Culture.

The newcomers, who were prehistoric Utes, arrived and quickly learned how to harvest the lake's precious fish. Once they evolved into skilled and innovative fishermen, Ute bands gathered near the lake during spawning season. They considered sucker, chub, and trout treasured food resources. The Utes devised effective ways of catching large amounts of fish at a time. These natives attached fish traps to weirs, fished with nets weighted with stone sinkers, built log rafts from which to fish, and likely caught many fish with basket traps. After hundreds of years of living off the bountiful harvests of Utah Lake, the Utes had become one with the rivers, streams, and the lake itself. Years later, when Mormon pioneers descended into Utah Valley, they learned from their native neighbors when and where to fish.

This 3-inch-long projectile point was recovered during an archeological excavation in the late 1990s, near the shoreline of Goshen Bay on the south end of the lake. Archeologists found it beside the 5,000-year-old skeletal remains of a man and a dog. Courtesy of the Museum of Peoples and Cultures at Brigham Young University.



Archeologists from Brigham Young University unearthed this Fremont pithouse, a semi-subterranean home, near the town of Goshen on the south end of Utah Lake. The Fremont were skilled fishermen who used bone harpoon heads and woven nets to catch the lake's once-abundant Bonneville cutthroat trout, sucker, and chub. Courtesy of the Museum of Peoples and Cultures at Brigham Young University.



An enlarged view of Utah Lake (Laguna de los Timpañgos) as drawn by Don Bernardo de Miera y Pacheco. The Dominguez/Escalante party followed the Spanish Fork River (Aguas Calientes) into Utah Valley and traveled only as far north as the Provo River. Miera y Pacheco noted the presence of Indian villages with dome-shaped figures. From the Provo River northward, the map is drawn based on information gained from the Yutas. Because he had only their accounts to guide him, Miera y Pacheco made two unfortunate mistakes. He showed that Utah Lake and the Great Salt Lake were connected, but not by the Jordan River. Also, he mapped a large river flowing westward out of the Great Salt Lake. This led some future explorers and immigrants to believe that a large waterway emptied the Great Salt Lake into the Pacific Ocean. Courtesy of University of California Berkeley Photo Archives.

Courtesy of University of California Berkeley Photo Archives.

THE DOMINGUEZ/ESCALANTE EXPEDITION OF 1776 WAS THE FIRST PARTY OF EURO-AMERICANS TO ENTER UTAH VALLEY. THEIR YEAR-LONG JOURNEY BEGAN IN NEW MEXICO WITH THE INTENT OF TRAVELING FROM SANTA FE, THROUGH WHAT ARE NOW THE STATES OF COLORADO AND UTAH, TO MONTEREY, CALIFORNIA. THE GROUP SPENT SEVERAL DAYS WITH THE YUTA INDIANS NEAR UTAH LAKE. WHEN THE EXPEDITION LEFT UTAH VALLEY, IT CONTINUED TOWARD MONTEREY, BUT HARSH WINTER WEATHER FORCED THE PARTY TO ALTER THEIR PLANS AND RETURN TO SANTA FE. THEIR CARTOGRAPHER, DON BERNARDO DE MIERA Y PACHECO, FINISHED THIS MAP IN 1777. UTAH LAKE (LAGUNA DE LOS TIMPAÑGOS), WHICH IS CONNECTED TO THE GREAT SALT LAKE (UNLABELED) IS SHOWN IN THE UPPER LEFT CORNER OF THE MAP. THE SPANIARDS WERE IMPRESSED WITH UTAH VALLEY AND PLANNED TO COME BACK LATER TO ESTABLISH A COLONY.

Winter weather rarely stopped Utah Lake fishermen from plying their trade. They broke two large holes in the ice a long distance apart, then connected them with a series of smaller, parallel holes. These small openings allowed the men to gather fish by passing a net under the ice from the entry point to the "take out" hole. Courtesy of Clarence Taylor.

FISHING. A WAY OF LIFE, A MEANS OF SURVIVAL.

Using seines (large nets) made of cotton yarn or flax, pioneer fishermen caught thousands of pounds of Bonneville cutthroat trout, June sucker, Utah sucker, and chub. In 1848, fishing companies were organized to collect fish for desperate settlers who were without provisions. That year, frost killed early sprouting crops. Then came the crickets. Swarms destroyed many crops that survived the freezing temperatures, and hundreds of the valley's early residents stared starvation in the face. Were it not for the plentiful fish in Utah Lake, hundreds of settlers would have suffered severely. Several families were fortunate to have friends who were also skilled fishermen. The Hale family, for example, considered themselves lucky to know Lucas Hoaglund, who provided them with enough fish to survive a very rough year:

"[Hoaglund] used to go to Provo River with fishing parties, ketch fish *[sic]* and salt and dry them. They were very good and considered a rairaty."
— Aroet L. Hale, 1848

More crickets would destroy pioneer crops in years to come. However, the worst attack wasn't executed by crickets, but by Rocky Mountain locusts, commonly known as grasshoppers. These tiny beasts weren't finicky eaters. They gobbled up wheat, corn, oats, barley, clover, grass – even clothing. They also ate almost everything in the typical backyard garden, including potatoes, onions, peppers, rhubarb, beets, cabbages, radishes, and turnips. At times like these, when insects viciously took away what the earth so generously provided, the only thing left to do was fish. Motivated by hunger and the will to survive, settlers fished frequently and recklessly. Soon, laws were written to prevent the needless destruction of fish, to regulate fishing methods, and to control the number of fish being taken from the lake. But these laws were ignored by many locals, who seined night and day. Fishermen also placed stationary gill nets across the mouth of the Provo River. These nets indiscriminately caught thousands of fish – many of which were attempting to spawn.

"Indeed, so great was the number of suckers and mullets passing continuously upstream that often the river would be full from bank to bank as thick as they could swim for hours and sometimes days together."

— George Washington Bean, 1854.

“Fish were plentiful in those days in all streams around the Provo. We could get all we wanted when we irrigated our crops. There would be plenty of fish on the land after the water had sunk into the ground.”

— Clarence Merrill, 1850s.

CHANGE IS GOOD?

Very often, change is good. But in the 1880s, when carp were introduced to Utah Lake, the results weren’t good at all. The intent was to replace the dwindling number of Bonneville cutthroat trout and to provide locals with a hardy fish that was also a very popular dish in other areas of the world. Yet, the newly integrated carp had long-lasting, negative impacts on the lake’s native fish population. The carp’s aggressive foraging habits eventually destroyed the pondweed on the surface and the plant life on the lake floor. This directly impacted the native fish population. The reduced amounts of vegetation made it easier for waves to bring sediments up from the bottom, making the water more turbid and green in appearance. Most people didn’t know it then, but high levels of sediments and nutrients fuel algae growth. If algae grows out of control, oxygen levels become too low for many fish to survive.

As the human population grew, so did competition for fish and water. Farmers needed water to irrigate fields, so dams and canals were built, many to redirect flows from the Provo River. At first, irrigation ditches were unscreened, so thousands of fish were carried into farmers’ fields and stranded. Many of the townspeople gathered the fish for dinner; other fish were left to fertilize crops. As a result of over fishing, the introduction of nonnative fish, water depletion caused by irrigation, and later, the straightening, channeling, and dredging of its main tributaries, the health of the lake and its native fish began to decline.

Since the 1850s, fishing companies have used the mouth of the Provo River as a base for their operations. During the early part of the 20th century, George Madsen (sitting on the left in middle rowboat) and his crew docked their boats, built drying racks for their nets, and cleaned and unloaded their catch in this area. The dense vegetation in the background has long since disappeared. Courtesy of Clarence Taylor.

This photo shows the mouth of the Provo River, looking east, April 28, 1905. Photo Courtesy of Brigham Young University Photo Archives.

THE LAND AROUND THE LAKE.

Some of the first reports about the land surrounding Utah Lake were recorded in the 1850s. Surveyors wrote that bullrush grew plentifully from the Jordan River to the mouth of American Fork Creek. Survey crew leader Lieutenant John W. Gunnison reported "a belt of land about one mile wide which is covered with cane and rushes, and at present stage of the Lake will be a wet marsh." Yet, Gunnison thought that with a little work, settlers and farmers could turn the strip into meadows that could be mowed for grass hay.

Albert Carrington, one of Gunnison's surveyors, noted that on calm days, "The Utah Lake shores [were] like a mirror…as smooth as glass [and] lay all day like molten silver." On blustery days, the wind "rolled the Lake into beautiful swells & white caps." Utah Lake has always been well known for its sudden and violent wind bursts, which are capable of shifting water levels quickly and even stranding fish along the suddenly dry shoreline.

Accounts of the Provo River document that the mouth of that stream stretched to a width of nearly 110 feet and was 5 to 8 feet in depth. In the lower stretches, Carrington observed "low, reedy banks for 1/4 mile up with some willows, then some small Box Elder set in, continued up about 1 mile to a fish trap near where the large [Cottonwood] trees terminate."

Other reports noted that Goshen Bay was so filled with bullrush, that it was impossible for a boat to cross its waters. Carrington wrote that the upland slopes in that area were covered with "sage, grease bush, no trees." And that a round mountain peak to the west was "thickly covered on its northern slope with dwarf cedar."

On the west side of the lake, sandy beaches could be found, and further inland there were good grazing lands. For a distance south of the head of the Jordan River, the lake was rimmed by a few reeds and many bullrush, some of which grew into the lake. Such abundant vegetation and plant life would have maintained water clarity, protected fish from birds looking for a meal, provided shade for trout, and cooled the water around the shoreline.

Though detailed survey reports provided valuable factual information about Utah Lake, forty-niners on their way to California penned somewhat more poetic thoughts and descriptions, which captured the natural splendor of the lake and its surroundings.

"Our route today lay along the border of [Utah] lake. The scenery around was magnificent; the white capped peaks, only rivaled in purity by the clouds overhanging them. Have read of [Lakes] Como and Leman, but think they cannot surpass the romance Nature has spread around this beautiful sheet."

— Joseph P. Hamelin, November 7, 1849.

Hunter Manson (left) and Elmer Smith aqua-plane on Utah Lake. The adventurous duo enjoyed sports on the lake year round. Courtesy of Norma Smith Wright. ▶

“I was one of the first ones [who] surf boarded [aqua-planed] the lake. It started with surfboards, we didn’t have skis or anything. Elmer Madsen [had] one of the first boards. We called them surfboards.”

— Bill Loy, Sr., 76, third-generation Utah Lake commercial fisherman.

WELCOME, PLEASURE SEEKERS.

Despite Utah Lake’s generally shallow waters, excursion boats began to traverse the lake carrying passengers to different beaches and transporting freight for local businesses. In the late 1800s, pleasure resorts began to thrive, which attracted more tour boats and sparked development. Utah Lake’s shores were fast becoming the place to relax on the beaches, dance, swim, boat, and in later years, aqua-plane (an early form of water skiing).

When the Provo Bathing Resort (soon renamed the Garden City Resort) opened in June 1889, many locals were drawn to its tidy appearance and efficient upkeep – not to mention its entertainment offerings. The resort’s picnic areas and horseracing track brought visitors from as far away as Salt Lake City. As more places of leisure appeared, so did construction. The landscape encircling the lake was soon dotted with bathhouses. Piers were built to dock tour boats, and new roads leading to these popular resorts were constructed. Provona Beach Resort, which opened in 1921, along with the existing Geneva and Saratoga resorts, proved to be among the most popular. In fact, Saratoga endured many ownership changes and facility alterations to stay in operation into the 1980s. A good time could most certainly be had by all. The resorts hosted dances, parties, boat parades, and other social gatherings throughout the year. For those adventurous souls, airplane rides were offered at the beach.

It was a grand time for Utah Lake, but most resorts didn’t make enough profit. After Provona was flooded in 1922, the owners rebuilt and brought in electric power, but the business eventually buckled under the weight of the Great Depression.

“The Geneva Resort…was a good resort. They had ball games out in the fields east of the trees and there was a nice swimming pool. It had a toadstool out in the middle…made out of cement…about six feet in diameter. You could…dive off of this pedestal type of thing. They had a chute there that you could carry your cart up, about the size of a piano stool top…hook it to the steel rails and slide down…like at a water park now, then you would skim out over the water.” — Rex Blake, 87, Vineyard, UT.

“That is where we used to dance. Geneva. It was a beautiful place at the time. They had a big dance hall. That was a fun place years ago.”

— Sylvia Holdaway, Vineyard, UT.

The 1930s ushered in two destructive signs of the times: the Depression and drought. During this time, Utah Lake was receding as each year passed. By 1933, the Provo River had become narrow and shallow, and with a sandbar across its mouth, no large boats could pass through. The drought continued, and between 1935 and 1936 the water in the lake was too shallow for most boats to cruise. Utah Lake contained only 10,000 acre-feet of water that inadequately covered 20,000 acres. The surface area of Utah Lake, under normal conditions, is about 96,000 acres. The volume of water at that level is about 900,000 acre-feet, about one-third of which is lost to evaporation each year.

Construction of the Provo Boat Harbor began in the 1930s with the purpose of replacing the defunct Provona Resort. When World War II began, the harbor was left unfinished, but after peaceful times returned, it was finally completed. With a secure place to park their boats, skippers from all over the state came to Utah Lake to race. The Memorial Day boat races were by far the most popular. These events drew spectators from far and wide to watch some of the fastest boats ever seen zip around the lake.

The Utah Lake State Park was born in 1967 when the state park system took over the Provo Boat Harbor from the city of Provo. New facilities were added, including a toll booth at the park’s entrance. Not surprisingly, the number of lake visitors dropped. People were so accustomed to freely accessing the beaches and picnic areas that they begrudged paying to get through the newly posted gate.

Industrial development brought more jobs and even more people to Utah County. The water in Utah Lake was in its worst condition, and recreation on the lake began to decline. People were beginning to see the damage that so many years of abuse had rendered. The effects of agricultural and industrial pollution and the deposition of raw and treated sewage did more than keep swimmers away, they also had negative impacts on the native fish community. As the 1960s and 1970s progressed, signs warning swimmers not to go into the water were posted. Most of the recreational resorts were closed by that time. Convincing swimmers, campers, boaters, and water skiers to recreate at Utah Lake was a sales pitch that fell on deaf ears.

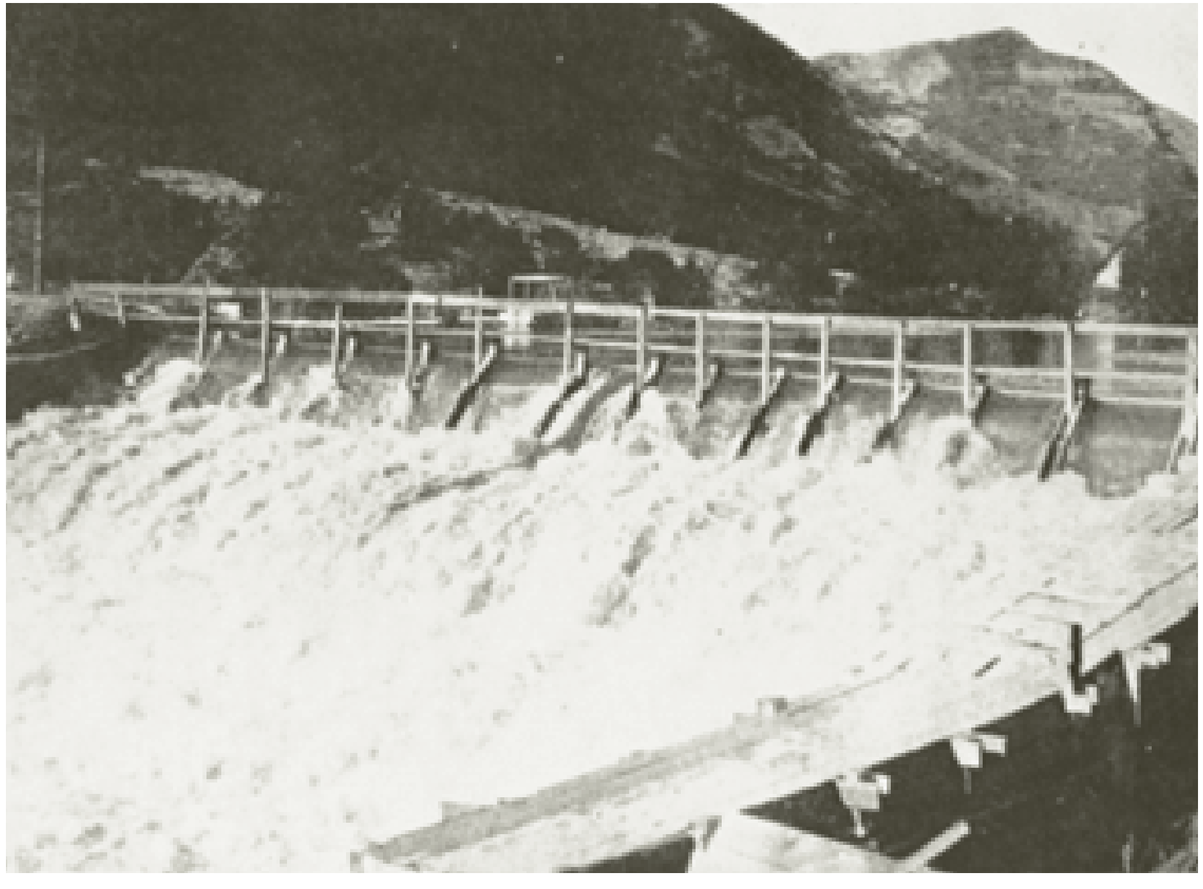
July 4th 1926 Geneva Resort ad.

◀ Mr. and Mrs. L.O. Turner test their boat's limit while racing on Utah Lake in 1940. Courtesy of Norma Smith Wright.

"Boat races, that was the big thing. There were more boat racers in Utah County [than in any other county] in the United States. It had every class imaginable. What they call skip jacks about 12 feet long…all the way up to the unlimited hydroplanes."

— Bill Loy, Jr., 46, fourth-generation Utah Lake commercial fisherman.

A power company built this diversion dam in Provo Canyon. The structure at the bottom right of the photo is a fishway designed to help trout get past the dam and swim upstream to spawn. Courtesy of Robert Carter.



THE PRICE OF PROGRESS.

The abuse of Utah Lake's tributaries and ecosystem began earlier than most people realize. Beginning in the 1890s and continuing into the 1950s, raw sewage was drained into the creeks and streams that flowed into the lake. Also in the 1880s, sugar mills deposited waste from the processing of sugar beets into the tributaries of the lake and the Jordan River. Sawmills were guilty, too. Instead of paying to have sawdust removed with team and wagon, owners dumped it into the streams that ran into lake tributaries and the Jordan River. The sawdust got lodged in the gills of trout and suffocated large numbers of them. Cottonwood, Nebo, Santaquin, and Payson creeks were among the streams affected.

The waste disposal practices of the mills were in violation of an 1872 law passed by the Territorial Legislature. This law made it illegal to put any deleterious substances that would kill fish and pollute culinary water into public streams. Legislators, concerned citizens, and the recently formed Utah Fish and Game Protective Society worked together to pressure mill owners into obeying the law.

Several agricultural practices had devastating effects on the lake's native fishes and their habitat. Fertilizer run-off into drainage ditches, which caused phosphates to seep into the lake, was part of the problem. Yet, many believe the most staggering losses of fish occurred as a result of irrigation. Unscreened irrigation ditches carried thousands of fish into farmers' fields to die. Irrigation diversion dams along rivers and streams presented insurmountable barriers for spawning fish. They hindered the spawning runs of many sucker and trout, and directed newly hatched fish into irrigation ditches instead of back to the lake.

In 1872, lawmakers worked to correct the problem dams by passing a law requiring owners of all new structures to install fishways, which would allow fish to pass over dams that blocked their spawning runs. In 1874, the law was amended to include existing dams as well. Today, fishways are no longer required and diversion dams still prevent June sucker from accessing suitable spawning grounds.

Utah's economic development progressed into the 1900's when the steel industry came to Utah Valley via the newly constructed railroads. Columbia Steel Corporation's Ironton Plant started operations in the 1920s. The plant provided jobs for eager workers and transported steel products to various parts of the country by train. Geneva Steel began operations in 1942 and became a magnet for jobseekers of all levels, from the manufacturing floor to the upper stations of engineering and management. The company caused a sharp population increase and helped spark the local economy, but the steel industry wasn't good for the lake. Steel plants were accused of severely polluting the water. They later worked to repair that damage by funding extensive cleanup efforts.

THE LAKE THEN.

In the 1970s, a study led by Dr. Willis H. Brimhall of Brigham Young University found that Utah Lake was less turbid in pioneer times. Brimhall's study noted that since its inception, the lake has never been perfectly clear because it has always been shallow. This lack of depth contributes to its turbidity, large loss of water to evaporation, slightly saline water, warm summer temperatures, and abundance of algae. Brimhall also concluded that some 28 feet of sediment accumulated on the lake's bottom over the past 10,000 years. The rate of sedimentation has doubled since the first settlement and the later urbanization of Utah Valley. In the 20th century, the increased amounts of fertilizer and sewage that were dumped into the lake fueled algae growth, harmed the quality of the water, and damaged the habitat of the native fish. Urban growth around the lake has increased erosion, and the carp population has stripped the lake of nearly all of its aquatic vegetation. These factors, combined with the lake's historically shallow depths, have kept the water in a turbid state.

AND NOW.

In recent years, the introduction of more nonnative fish, including predators such as white bass, has also contributed to the demise of the lake's ecosystem and native fish community. White bass compete with native fish like June sucker for food and also prey upon sucker young. Nonnative carp, which currently comprise 90 percent of the fish biomass (weight) in the lake, destroy the vegetation on the lake's bottom. This leaves less cover to protect young June sucker from predators. With so many obstacles placed in the reproductive path of this native fish, it's no surprise that most June sucker found in the lake today are estimated to be between the ages of 20 and 43 years old.

Utah Lake attracts boaters, anglers, duck hunters, kayakers, water skiers, and campers. However, recreational use is low compared to other lakes and reservoirs in Utah. Anglers cast their lines for channel catfish, walleye, white bass, black bass, and different species of panfish. The lake will always be a special place for the many generations who have enjoyed it over time, and it is a critical resource for local residents. Water is distributed for irrigation and residential use from the lake's drainage basin through tributaries like the Provo, Spanish Fork, and American Fork rivers, and the Jordan River outlet. The lake's tributaries remain the primary source of fresh water for much of the evergrowing population of the Wasatch Front. Clearly, for more reasons than most people realize, we need Utah Lake. And perhaps even more importantly, it needs us.

A TIME TO HEAL.

Municipal and industrial discharge, urban growth, and poor land use practices have impaired water quality and severely damaged the June sucker's only indigenous habitat. The recovery of June sucker and the revitalization of Utah Lake go hand-in-hand. A healthy habitat for the fish benefits the entire ecosystem of the lake and the people who live around it. There is a great need to improve habitat for both fish and animals, and to control the nonnative fish population so that the lake and its rivers can once again host a balanced fish community. Also, water supplies must be managed to meet the needs of fish and other species without interrupting water service to human residents.

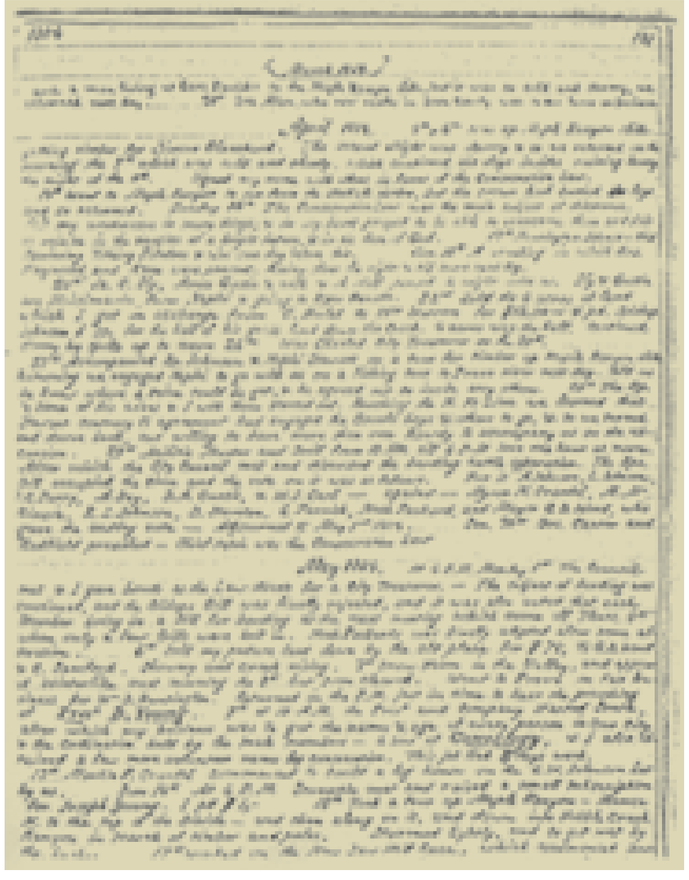
Working together, we can restore Utah Lake to become a better home for the June sucker and a more efficient water resource for our communities. Ultimately, a restored habitat will enable this extraordinary fish to live and breed in its only natural home. Improving Utah Lake will also allow for the continued use of its water to meet the needs of our growing population – be it for necessity or for pure fun.

THE REVITALIZATION OF UTAH LAKE AND THE RECOVERY OF THE JUNE SUCKER GO HAND-IN-HAND.

During the drought of the mid-1930s, the rapidly receding water in Utah Lake left boat docking areas high and dry. Courtesy of Roland Strong.

Chapter 2/
A Very Real Fish Story.

Luke Gallup journal - April, 1854 entry. Courtesy of the Springville Historical Society.



“To catch fish, men would take grapple hooks. When they jerked the hooks thru the water, they would pierce the fish and then the fishermen would pull them up. I saw many piles of fish, any one of which would fill a wagon box.”

— Clarence Merrill, 1850s.

MORE FISH THAN PEOPLE.

For years, Ute bands had harvested the resources of Utah Lake. But it was a diamond in the rough for newly arriving settlers. In the 1800s, 13 species of fish lived in the lake. The population of June sucker (one of the lake’s native and predominant fish species) likely ran into the millions. Fish easily outnumbered people in the valley in 1851; a census taken that year lists the human population at 1,505.

As more people arrived, many without enough provisions to last through hard winters, the demand for fish grew. The 1850s brought such a flood of Mormon pioneers, that demand turned into a desperate need. Settlers and Ute Indians began to fish every available body of water, including the Provo, American Fork, Jordan, and Spanish Fork rivers. Such intense fishing led to heated competition between the native people and their new neighbors.

In 1853, Utah’s territorial legislature passed a law prohibiting the “Needless Destruction of Fish,” but it didn’t seem to slow local fishermen. Some strung gill nets across the Provo River day and night; others seined the river and the lake during all hours. Excessive fishing during the spawning season meant that instead of reproducing, fish swam directly into the confines of fishermen’s nets. Also in 1853, city and county officials debated the issue of who would supervise fishing rights on the lake and in the Provo River.

It was finally decided that the city of Provo (by authority of the Provo City Charter) would control fishing in the Provo River, while Utah County would preside over fishing on Utah Lake. But the locals weren’t the only ones to cast their nets and lines. Word spread about the lake’s generous offering of fish, and fishermen from neighboring valleys descended upon the area. Who could blame these hungry pioneers after hearing stories of being able to pluck tasty trout or sucker out of the water with their bare hands, or catch all they wanted by simply dragging unbaited hooks through the water?

During the 1850s, alteration of the natural flow of the Provo and Jordan rivers began. Many canals and diversion dams were built for irrigation. These human acts were among the first to negatively impact the habitat of the native fish. Yet, enough sucker and trout thrived to contribute to the building of the Fillmore Statehouse, Salt Lake City’s Church of Jesus Christ of Latter-day Saints (LDS) Temple, and the fence around Temple Square. Leaders of the Church established tithing yards, which received fish shipped from Utah Lake and its tributaries. Loyal church members were expected to pay 10 percent of every catch to the Church as tithing. For several decades, thousands of pounds of “tithing fish” were distributed as payment for public workers tasked with building many landmarks.

EATING FISH WAS THE ONLY WAY MANY PEOPLE SURVIVED.

FISH THROUGH TRAGEDY.

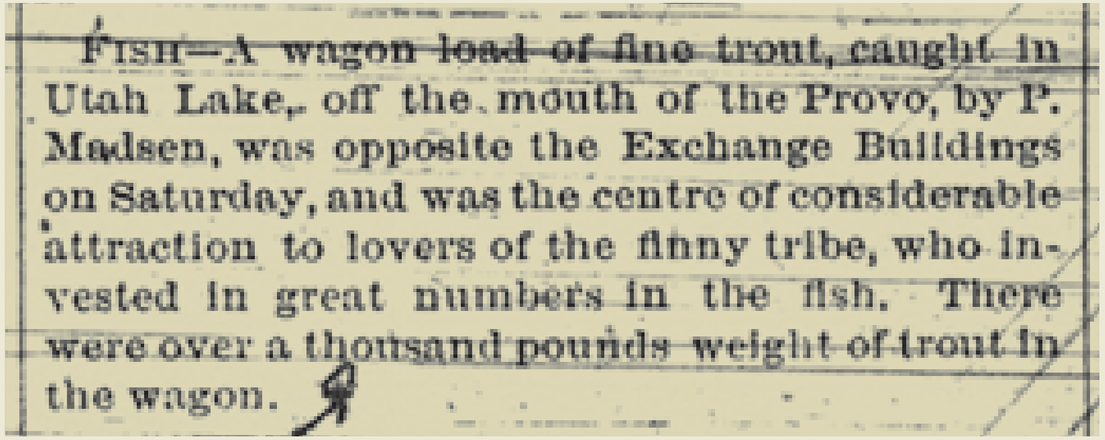
As if the challenges of creating new settlements in the rugged West weren't great enough, pioneers in 1855 faced increasingly bitter times. The population grew rapidly, but people weren't the only residents. Millions upon millions of grasshoppers flew in to ravage wheat and other crops. That year, the prolific insects invaded the Utah Territory from Cache Valley in the north to Parowan in the south, damaging whole fields and destroying most of the grain in the territory. One observer wrote that the greedy insects filled the skies for three miles deep – forming such enormous clouds that they seemed to eclipse the sun. Drought also set in, pilfering already-low irrigation water sources and ruining crops. Herds of livestock died. Forest fires killed many of the wild animals that the Utes depended on for food. It must have seemed like the end of the world. Once again, desperate pioneers and Native Americans turned to fishing the lake and every river and creek that ran into it. Eating fish was the only way many people survived.

IN THIS LETTER TO HIS SON, HEBER C. KIMBALL DESCRIBED THE EXTENT OF THE DEVASTATION IN 1855: "From this place [Salt Lake City] south as far as we went, the grasshoppers have cut down the grain, and there is not fifty acres now standing of any kind of grain in Salt Lake Valley, and what is now standing, they are cutting it down as fast as possible. In Utah county the fields are pretty much desolate; in Juab Valley not a green spear of grain is to be seen, nor in Sanpete, nor in Fillmore. In Little Salt Lake [near Parowan] they are still sowing, also at Cedar City, that county being so much later the grain is not yet up, but the grasshoppers are there, ready to sweep down the grain as soon as it comes up. In the north as far as Boxelder the scenery is the same...and to look at things at this present time, there is not the least prospect of raising one bushel of grain in the valleys this present season...I must say there is more green stuff in the gardens in G. S. L. City than there is in all the rest of the counties; still there is a great many of the gardens in the city entirely ruined. Brother Wm. C. Staines told me this morning that he had 500,000 young apple trees come up and they are all cut down to the ground, and many gardens where the peach trees were full of peaches, every leaf and peach are gone."

— Davis Bitton and Linda P. Wilcox, "Pestiferous Ironclads: The Grasshopper Problem in Pioneer Utah," Utah Historical Quarterly, 46, #4.

Peter Madsen, pictured here with his wife Wilhelmina Jorgensen Madsen, began commercially fishing on Utah Lake in 1854. His descendants continued the operation for nearly 100 years. Madsen supplied Bonneville cutthroat trout, sucker, and chub to hungry colonists during the drought and grasshopper infestation of 1855 and 1856. Courtesy of Boyd Adams.

Peter Madsen article in *The Deseret News*, July 12, 1866



FISH—A wagon load of fine trout, caught in Utah Lake, off the mouth of the Provo, by P. Madsen, was opposite the Exchange Buildings on Saturday, and was the centre of considerable attraction to lovers of the finny tribe, who invested in great numbers in the fish. There were over a thousand pounds weight of trout in the wagon.

POVERTY AND HUNGER KEPT THE NEED FOR FISHING HIGH.

After such a difficult year and the harsh winter that followed, nearly everything was lost. During the spring and summer of 1856, Utah Lake experienced the most exhaustive fishing to date. Pioneers also intensively fished in the lower Provo River and other rivers and creeks. One fish trap built on the Jordan River by Robert Wimmer, a local fishermen, caught just about everything that could swim. Wimmer was known to have harvested up to 500 pounds of fish in a day, averaging 1,500 to 2,000 pounds per week. He sold these fish for 6 cents a pound. But Wimmer's fish trap didn't last. It prevented migrating sucker and trout from moving into Cottonwood Creek and other tributaries of the Jordan River that provided fish for Cottonwood and several other outlying settlements. Angry citizens threatened to use violence in order to prevent more traps from being put into place. They charged Wimmer with depriving them of valuable fish. After all, they'd been fishing these streams for years. Voices of discontent were raised so loudly, that territorial legislators ordered Wimmer to remove his trap and banned all fish traps on the Jordan River. Night fishing with nets strung across river mouths was also forbidden.

Some community leaders began to realize that they were about to exhaust a seemingly endless resource. Yet, poverty and hunger kept the need for fishing high. Ravenous citizens were blind to the possibility that their precious food source could actually be diminished.

PETER MADSEN, WHOSE FAMILY DOMINATED COMMERCIAL FISHING ON UTAH LAKE FROM 1855 WELL INTO THE 1940S, MAY HAVE SUMMED UP PERFECTLY, JUST HOW HIGHLY PEOPLE TREASURED A GOOD CATCH: "Campers [along the lower Provo River] were…around the campfires where they were broiling fish on the hot coals, and eating them with a relish that only those who have been through experiences of this kind can appreciate…nobody ever asked who did the work and who received the fish."

Fish were freely distributed as a welcome relief from hunger in 1855. Records show that 2,301 pounds of fish were dispensed through Salt Lake City's public works. Selling fish also became big business. Individual fish peddlers in Salt Lake City sold wagonloads of sucker and trout they had caught in Utah Lake and the surrounding rivers and streams.

During the summer of 1856, tons of fish were caught. Fishing companies organized by Salt Lake City LDS wards fished the lake heavily. Joseph W. Bates worked with Salt Lake's First Ward. His fishing company spent 6 weeks near the lake and as he stated, "Caught some 8 tons of fish." At least 6 companies were documented to have fished the lake that summer. If each company equaled Bates' 8 tons of sucker, chub, and trout, the weight of fish harvested by these companies alone would have totaled 96,000 pounds. Provo's tithing records are incomplete, but those that do exist show that at least 6,975 pounds of fish were donated as tithing fish. If the 6,975 pounds represented a true 10 percent tithing on the number of fish caught, the total weight in tithing fish would have been no less than 69,750 pounds. Surely, many more thousands of pounds of fish were caught for private use.

Carp and sucker from Utah Lake came to the aid of the poor on many later occasions. During the 1890s, a severe depression gripped Utah and the rest of the nation. LDS Church groups and municipalities worked with the fishermen of Utah Lake to bring free fish to the destitute of Salt Lake City and other communities. During World War I, much of the country's beef was sent to Allied troops fighting in Europe. Many people ate fish from the lake as a replacement for red meat, and free fish were once more distributed among the poor of Salt Lake City. During the Great Depression of the 1930s, Utah Lake's commercial fishermen were called upon to relieve the widespread suffering of unfortunate families along the Wasatch Front. The fishermen were more than willing to donate fish for municipal government officials to dispense free-of-charge.

In the late 1800s, commercial fishing companies proliferated, sparking rivalries for prime fishing areas and creating healthy price competition. In the late 19th century, one of the most enduring commercial fishing companies was born. The Loy family, through a marital connection to the Christofferson family, began a four-generation legacy of commercial fishing in Utah Lake that continues today. Bill Loy, Jr. leads his crew onto the lake all year long. The carp he catches are shipped all over the world, selling for as little as 40 cents per pound in Compton, California, to as much as $18 per pound in Beverly Hills.

Loy, Jr. has caught as many as 128,000 pounds of fish in one haul. On a normal fishing day, he takes 30,000 pounds (primarily carp) out of the lake. Once he caught a 4-foot-long, 50-pound catfish. Catching a fish that large with a rod and reel would take some amount of skill. But, Loy confessed, talent had nothing to do with it. "It got caught in the net," he said. For the record, he is as skilled an angler as he is a commercial fisherman.

GEORGE MADSEN, SHOWN HERE WITH HIS WIFE NETTIE IN THEIR WEDDING PICTURE, CONTINUED THE MADSEN FAMILY FISHING BUSINESS ON UTAH LAKE. HE ALSO CARRIED ON THE FAMILY TRADITION OF DONATING FISH TO THE NEEDY. DURING THE DEPRESSION OF THE 1890S AND ALSO DURING THE GREAT DEPRESSION, MADSEN CAUGHT CARP AND SUCKER TO BE DISTRIBUTED AMONG THE DESTITUTE OF SALT LAKE CITY. COURTESY OF BOYD ADAMS.

The Jordan River dam was built west of the Point of the Mountain in 1872 with the intention of making Utah Lake a storage reservoir. Water behind the dam was diverted into canals which irrigated fields in the Salt Lake Valley. As a result, many fish from the Jordan River and Utah Lake were directed into the canals and carried onto farmers' fields where they perished. Courtesy of Robert Carter.

FISH TROUBLE.

Both humans and Mother Nature contributed to the demolition of Utah Lake's native fish community. In 1872, a dam was constructed across the Jordan River (the lake's only outlet) for the purpose of using the lake as a storage reservoir. In the coming decades, high-mountain reservoirs were created to retain increased springtime runoff. Some of these reservoirs still exist and continue to provide water to the Wasatch Front for agriculture, industry, recreation, and municipalities.

The reservoirs and irrigation practices mentioned earlier initiated a gradual change in Utah Lake's water quality, and this resulted in the deaths of many fish. Return flows from irrigation raised the lake's water temperatures and increased turbidity. Thousands of tons of sucker died during the drought of the late 1890s, when rivers were drained in an effort to water parched fields. These actions left fish stranded on dry river beds to perish. A severe drought in the early 1930s prompted farmers to dewater the Provo River in a futile attempt to save their dying crops. At the same time, Utah Lake shriveled to an alarming average depth of one foot. Scientists later concluded that the native fish population never fully recovered from the effects of such catastrophic droughts and the continuing practices of poorly managed irrigation.

Irrigation water shortages forced farmers to drain rivers and streams to save their parched crops. This often left fish stranded in dry channels. After the Provo River went dry in the 1980s, thousands of dead carp and sucker were buried in this large trench. Courtesy of Henry Loy.

FROM PLENTIFUL FISH TO ENDANGERED SPECIES.

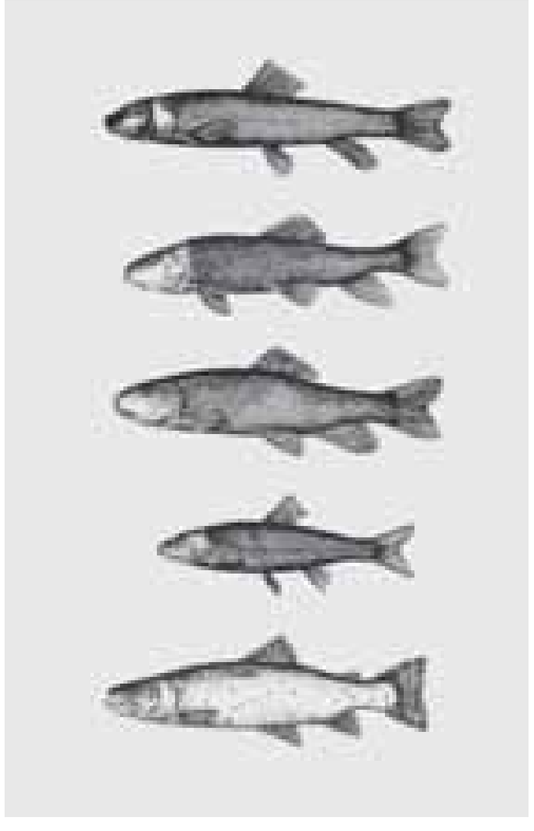
In addition to the careless fishing and irrigation methods practiced by man and the merciless acts of nature, the introduction of exotic or nonnative species of fish has played a major role in the demise of June sucker. In the past 100 years, more than 20 species have been mixed with the native fish of Utah Lake. These new species include common carp, largemouth bass, black bullhead, channel catfish, walleye, white bass, and others. After rebounding from the 1930s drought, a significant decrease in sucker numbers was documented in the mid-1950s. Scientists hypothesized that the primary reason for the decline was the result of young sucker falling prey to white bass and walleye.

Today, June sucker young continue to be an easy meal for white bass and other predators. Historically, June sucker traveled further up the Provo River or other tributaries to spawn, but today, the lower Provo River is the only area where June sucker are known to spawn successfully. Sucker possess no jumping ability to progress past even the smallest of barriers, let alone the irrigation diversion dams on the Provo River. These obstacles prevent spawning sucker from migrating further than 4.9 miles upstream. When their young drift downstream from the safe haven of the lower Provo River on their way back to the lake, the young fish's chances of living long are very slim. Predators like white bass need not travel far to intercept these small June sucker.

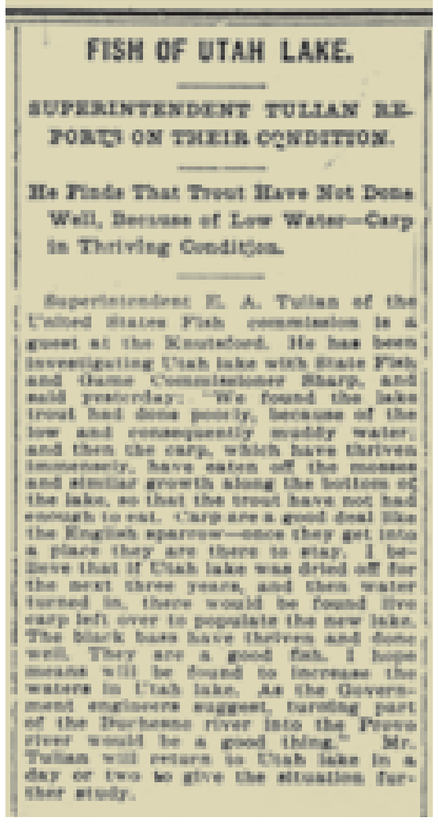
Thousands of trout and sucker died in 1872 and in later years, when killing fish with what was then called "giant powder" (now referred to as dynamite) became common. After a law was passed creating a trout seining season, it was illegal for fishermen to net trout during spawning runs. But the public kept its taste for trout, so unscrupulous fishermen decided that if they couldn't seine for large amounts of trout during the closed season, they would blast. Such a cruel method of catching fish created protests from citizens throughout the Wasatch Front. After passing and overturning several blasting laws with varying degrees of punishment, dynamiting fish became a felony in 1896. A hefty fine was levied on offenders from that year until the turn of the century. The thought of parting with money was too much to bear for many offenders. As a result, the frequency of blasting decreased.

Giant powder article, *The Provo Daily Enquirer*, January, 24, 1894.

Utah Lake's native fish, as illustrated by Cope and Yarrow in 1875. From top, webug sucker, Utah sucker, June sucker, Utah chub, and Bonneville cutthroat trout.



This *Salt Lake Tribune* article dated August 24, 1901, tells the story of how trout and other native fish of Utah Lake suffered because of destructive carp.



FISH OF UTAH LAKE.

SUPERINTENDENT TULIAN REPORTS ON THEIR CONDITION.

He Finds That Trout Have Not Done Well, Because of Low Water—Carp in Thriving Condition.

Superintendent H. A. Tulian of the United States Fish commission is a guest at the Knutsford. He has been investigating Utah lake with State Fish and Game Commissioner Sharp, and said yesterday: "We found the lake trout had done poorly, because of the low and consequently muddy water, and then the carp, which have thriven immensely, have eaten off the moss and similar growth along the bottom of the lake, so that the trout have not had enough to eat. Carp are a good deal like the English sparrow—once they get into a place they are there to stay. I believe that if Utah lake was dried off for the next three years, and then water turned in, there would be found five carp left over to populate the new lake. The black bass have thriven and done well. They are a good fish. I hope means will be found to increase the waters in Utah lake. As the Government engineers suggest, turning part of the Duchesne river into the Provo river would be a good thing." Mr. Tulian will return to Utah lake in a day or two to give the situation further study.

June sucker have been targets of abuse for many years. These fish were wantonly clubbed to death in the 1980s in the Provo River and left to rot. Courtesy of June Sucker Recovery Implementation Program.

HARMFUL HABITAT.

Of the 13 native fish that originally lived in Utah Lake, only June sucker and Utah sucker still inhabit these waters, and combined, constitute less than 1 percent of the overall fish community. Another species, the Utah Lake sculpin, is considered extinct – the last specimen was collected in 1928. The Bonneville cutthroat trout is now primarily restricted to headwater streams. The least chub, native only to Utah and once abundant along the Wasatch Front, now persists only in a few localized desert marshes. The Bonneville redside shiner, mottled sculpin, leatherside chub, Utah chub, speckled dace, longnose dace, mountain whitefish, and mountain sucker are no longer in the lake but still exist in its tributaries. All other species of fish present in Utah Lake were introduced intentionally as a food source or for angling. These nonnative fish interfere with the native fish through competition for food, predation, and as is the case with carp, habitat alteration.

For many years, habitat conditions for the development of June sucker have been altered from their original state. Once, the Provo River ran in braided channels that made gradual transitions to the lake. These channels carried June sucker into the habitat they needed to thrive. Since the lower Provo River has been dredged, the once productive, near-shore vegetated wetlands have been filled, and levees have been built so that the land could be used for agricultural production. As a result, the lower 1.5-mile section of the river is a stretch of still, homogenous water. When young June sucker drift into this dead water, or "gauntlet," as scientists call it, they are trapped in an unsuitable habitat full of nonnative predators.

In addition to humans, a major habitat violator has been, and still are, carp. Their establishment in the lake triggered a series of domino-like effects that began to chip away at the lake's healthy ecosystem and native fish habitat. These relentless foragers destroyed much of the lake's once abundant, near-shore vegetation. This plant life provided the conditions young June sucker needed to grow and protected them from preying fish and birds. In addition to permanently altering June sucker's nursery habitat, the carp have sculpted the lake, and are maintaining it to their advantage. They also help fuel algae growth. The carp dig into the lake's sediment for food, and as they digest and release that food, it becomes nutrient for algae. Carp also reproduce and grow faster than June sucker, which, because of their slower growth, remain vulnerable to predators longer.

By 1979, the condition of the June sucker community had deteriorated to a perilous degree. That year, in a Utah Division of Fish and Wildlife memo, a scientist described June sucker as being "stressed as a result of spawning or possibly low water flow." It was also noted that June sucker were extremely vulnerable to harassment and harvesting by the public. The scientist found hundreds of dead or dying fish along a 1.3-mile stretch of the Provo River with "tears, cuts and wounds…" presumably from being clubbed, speared, or hit with rocks. After talking with people along the river, he learned that some June sucker were being taken for food and some for compost piles, but the majority of the fish were being killed for no legitimate reason.

The memo went on to express the scientist's concern that at the time, the June sucker was listed as a nongame fish with no bag limit, and it could be fished commercially. He also stated that since the fish was endemic to the lake, more urgent steps needed to be taken to better protect "this unique species." Finally, the memo noted the "ramifications…of the fish being placed on the threatened or endangered species list."

The conditions under which June sucker were living worsened, and widespread abuse continued. Consequently, June sucker were added to the Endangered Species List in 1986.

GONE FISHIN'.

Recreational and commercial fishing are still practiced on Utah Lake. Channel catfish and white bass are popular catches for anglers. For commercial fishermen like Bill Loy, Jr. the lake's generous carp population keeps him busy all year long. Loy also fishes Utah Lake as an angler, and always eats his catch.

"Utah Lake is nothing but a natural filter. It's…shallow, and every time the wind blows it turns over. They do pathological stuff on the fish all the time and…[the fish get] a clean bill of health. It's the turbidity [that makes people think the lake is dirty]."

When asked if he would fish forever, Loy, Jr. answered, "Just 'til I die."

Anglers who fish today pull largemouth bass, walleye, and white bass from Utah Lake. Channel catfish are also plentiful and have been known to grow large. A 32-pound, 8-ounce bruiser was caught in 1978. The "channel cat" was nearly 40 inches long and measured 22 inches in girth. During the 1995 and 1996 fishing seasons, white bass was the predominate species to be taken from the lake. These fish can also grow to a substantial size. In 2001, a 15 and one-half inch long white bass was pulled from the lake.

"I remember going fishing in the early 1950s on the lower Provo [River] in an area known as 'Deadwaters.' The river was slow and deep with steep-banked walls, which made it difficult to catch fish and bring them to shore. While Dad preferred catching trout, we would also catch June sucker, enough to fill a tub. Mom preferred that the kids not eat the sucker because they were bony and she was afraid we would get the bones caught in our throat. Even though we generally ate the better tasting trout, we [kids] always complained that Mom and Dad ate the sucker because they tasted better. I…must admit they were remarkably… bland. It does seem somewhat ironic that as a boy, I would go to the lake to…catch June sucker, and now I work directly with dozens of biologists to try and save these rare fish." — Reed Harris, Utah Valley native and June Sucker Recovery Implementation Program director

This happy couple proudly displays a catch of black bass after a successful fishing trip on the lake during the early 1900s. Courtesy of the Halliday family.

"In June, the suckers would come up the river to spawn and we'd go out with a strong bamboo pole, and at the end we'd have [tri-] hooks. We'd…snag the suckers…as [they were] swimming upstream. I don't think they took bait. They had other things on their minds." — Rex Blake, describing how he and his friends caught June sucker during the fish's spawning season.

"You used a long fishing pole with a long fishing line on it. Then you tied fishhooks…you were snagging the fish, you weren't catching them. And lots of times you got more than one, sometimes you would get quite a few. They were delicious. There was no limit but we didn't over do it because we weren't selling them. We would get enough so we could have them at home." — Thomas B. Jepperson, 91, describing snagging June sucker in the 1920s.

◄ Previous page: During the mid-20th century, prisoners from the Utah State Penitentiary were frequently used on Utah Lake to seine carp which were used as feed for trout in the state's fish hatcheries. This state crew prepares to make a haul near the mouth of the Spanish Fork River. Courtesy of Robert Carter.

On the north end of Utah Lake, an early 20th century fisherman with bamboo pole in hand, examines his catch. Until the mid 1930s, native Bonneville cutthroat trout were still present in Utah Lake. Courtesy of John Eldredge. ▼

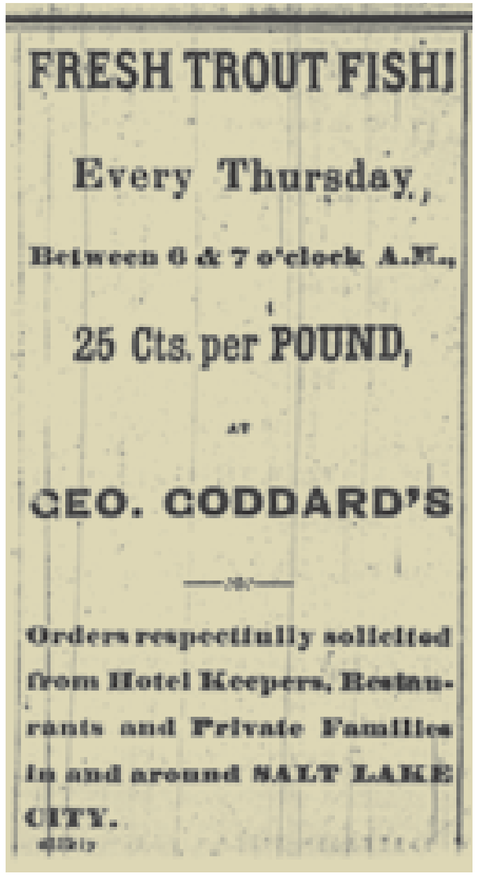
Legal fishing methods weren't always adhered to. The man seen here proudly carries home two beauties strung on the handle of the same pitchfork that he used to spear them. Courtesy of Mildred Sutch. ▼

Following page: Joseph Reed joyfully holding his catch of the day. ►

Dr. William Christensen catching a black bullhead. Courtesy of Danny Potts. ▼

Tiffany Chambers with a string of fish she caught at the outlet of the Jordan River. Courtesy of Danny Potts. ▼

For more than four decades, Bonneville cutthroat trout, and June and Utah sucker were routinely transported from Utah Lake to Salt Lake City where fishermen found a ready market for their catch. Advertisement in *The Deseret Evening News*, August 7, 1868.



FRESH TROUT FISH!

Every Thursday,

Between 6 & 7 o'clock A.M.,

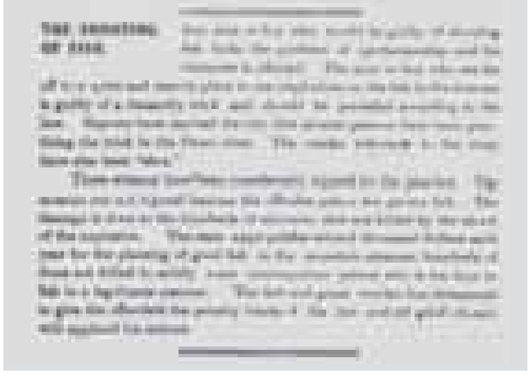
25 Cts. per POUND,

AT

GEO. CODDARD'S

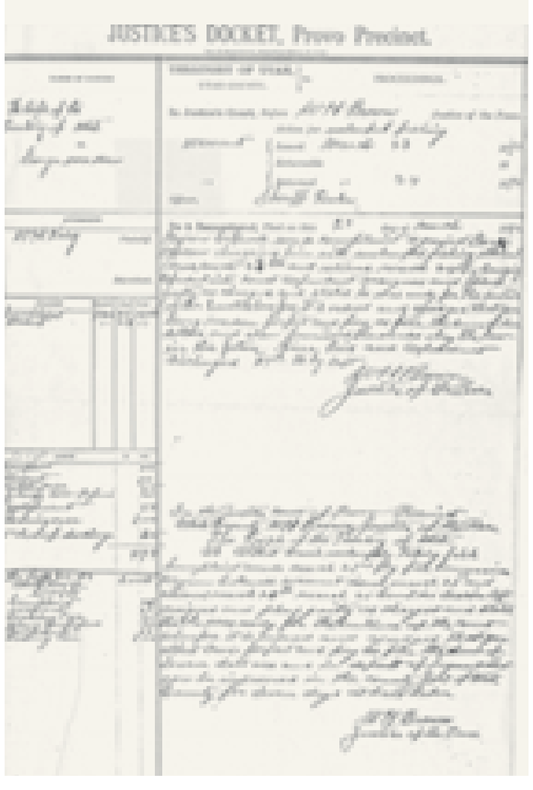
Orders respectfully solicited from Hotel Keepers, Restaurants and Private Families in and around SALT LAKE CITY.

Dynamite became more plentiful as larger mines opened in Utah after the completion of the Transcontinental Railroad in 1869. Some men illegally used these explosives as a means of harvesting large numbers of fish for personal or commercial use. Eventually, Utah's legislature passed a law making it illegal to fish with explosives. After many years of strictly enforcing this law, the wasteful practice was curtailed. Courtesy of *The Utah County Democrat*, August 22, 1908.



THE SHOOTING OF FISH.

Because of the continual decline of trout in Utah Lake, the legislature passed a law during the latter part of the 19th century, making it illegal for fishermen to seine for trout. This page from the Utah County Justice's Docket reveals that illegal seining for trout continued to be a problem. Fishermen were reluctant to stop fishing for trout because it was their most profitable catch. Courtesy of Utah County Archives.



JUSTICE'S DOCKET, Provo Precinct.

During the 1880s and 1890s, Utahns began to experience more leisure time. Some women used their newly found spare time to explore fishing for recreation. It is doubtful if any of the new female anglers in Utah wore the same attire as "The New Woman Angler." As shown in *The Salt Lake Herald*, September 1, 1895.

THE NEW WOMAN ANGLER.

Ruddy Murray nightfishing on Lincoln Beach for channel catfish. Courtesy of Danny Potts.

During the winter, Utah Valley families sometimes drove their automobiles onto the frozen lake to watch commercial fisherman seine under the ice. This young boy, Fred "Buck" Dixon displays one of the large carp the Madsen Brothers caught.

Edward Stott and friend hold a string of white bass caught during the spawning run. Courtesy of Danny Potts.

David Nuttall posing with a channel catfish he caught on Utah Lake. Courtesy of Danny Potts.

REED HARRIS (RIGHT) AND BROTHER WAYNE WITH A TROUT THEY CAUGHT IN 1953. THE BOYS OFTEN FISHED THE PROVO RIVER FOR TROUT AND SUCKER. COURTESY OF REED HARRIS.

THE HONORABLE CONTRIBUTIONS JUNE SUCKER MADE TO THE SURVIVAL OF OUR ANCESTORS SHOULD NOT BE IGNORED. IN THE RUGGED, WILD YOUTH OF UTAH, FISH SAVED HUMANS. NOW, WE HAVE THE OPPORTUNITY TO RETURN THE FAVOR.

FRIENDS IN NEED.

Few people realize June sucker's ecological and historical significance, or the damage that progress and the human race have inflicted upon their habitat and spawning areas. Every June, the few sucker that still exist in Utah Lake face a bitter battle just to spawn. To make things worse, their young are either eaten on their journey back to the lake, or die because existing habitat conditions make survival impossible. June sucker attempting to replenish their population without help is the ultimate exercise in futility.

Some of this help will come from the June Sucker Recovery Implementation Program, a partnership between fish and wildlife and water management agencies. The first goal of recovery is to replenish the June sucker community so that the fish no longer need the protection of the Endangered Species Act. Steps toward accomplishing this goal involve the management of nonnative and sports fish and enhancement of habitat, which will aid in developing and maintaining June sucker friendly conditions. Water management for the benefit of the public and the environment is critically important. Scientists also face the task of maintaining genetic integrity of June sucker through captive breeding programs. As implementation of the recovery plan progresses, research, monitoring of fish, and data management will be ongoing. Finally, it is essential that information about Utah Lake's ecosystem and the important role of June sucker be made available to the public, so that people can knowledgeably participate in the recovery effort at critical junctures.

Through the years, recovery efforts have steadily progressed, but time is not on the fish's side. An increasing human population continues to place demands on Utah's limited water supply. Although feasibility studies are underway, efforts to enhance habitat will be costly and will depend on the financial support of local, state, and federal agencies. The cooperation of private landowners around the lake and its tributaries will also be needed. The important issues of water use for both fish and people long for resolution. As we endeavor to solve the problems of the present, perhaps we need only recall the past. The honorable contributions June sucker made to the survival of our ancestors should not be ignored. In the rugged, wild youth of Utah, fish saved humans. Now, we have the opportunity to return the favor.

Chapter 3/

The Business of Abusing a Beautiful Lake.

A weir near the mouth of Provo Canyon directs water from the Provo River into an irrigation canal. The grill seen to the left of the river near the end of the railing covers the canal entrance to prevent bigger fish from exiting the river. This weir, photographed in the 1930s, was the predecessor of the current Murdock Dam. Courtesy of Utah County Archives.

THE BOOM NEAR UTAH LAKE.

In May 1869, the Transcontinental Railroad was completed. It spanned the land between the Mississippi River and the Pacific Coast. Ogden became Utah's railroad center, and in the 1870s, branch lines expanded southward from Ogden to Salt Lake City and Utah Valley. During the 1880s, visions of adventure and a better life brought thousands of new residents to Utah Valley. Professionals of various trades migrated from the Midwest, fueled by the promise of profits to be made from new mercantile and manufacturing businesses, hotels, transportation, restaurants, saloons, and banks. There were many opportunities in the aforementioned fields, since most of the existing workforce was farming the land.

AGRICULTURE AND THE LAKE.

Word was spreading about Utah Lake's versatile and seemingly limitless resources. With such plentiful supplies of water in the lake, the wonderful streams and rivers flowing into it, and the Jordan River flowing out, the Utah Lake system was sure to provide plenty of water for everyone's fields.

Drought proved these hopeful farmers wrong several times over – and the straightening, channeling, dredging, and damming of the tributaries began. Dams impeded and sometimes prohibited native fish from reaching spawning areas in tributary streams. Fish that did get upstream to spawn often swam into unscreened irrigation ditches on their descent back to the lake, or they were left stranded in ditches when water was redirected. These careless practices continued throughout the 19th century and into part of the 20th, in spite of laws that were passed requiring screens to be placed at the heads of irrigation ditches and canals. In a desperate act to save their crops from the effects of drought, farmers drained the Provo River for its precious water, which left tons of fish to die. Many were gathered and spread over fields for fertilizer – a routine *The Salt Lake Tribune* called "a fearful waste of brain food." In 1889, so many thousands of fish died in Provo's mill race, that people could smell the stench from three blocks away.

By 1913, more than 200,000 acres of land were being irrigated. So much water was diverted from Utah Lake and its tributaries, that during periods of low precipitation, water levels in the lake dropped to drastically low levels. Aquatic vegetation was annihilated, and millions of fish died from overcrowding and insufficient oxygen supplies.

As methods of agriculture progressed, so did the lake's pollution. For decades, animal and commercial fertilizers and pesticides sank into the groundwater around the lake. The phosphates and other chemicals from those materials precipitated into the streams and rivers that fed the lake. Treated sewage (which is not processed for the removal of phosphorous) also played an instrumental role in causing the high levels of phosphorous now found in the lake's water. In fact, a 1999 study revealed that wastewater treatment plants deposited more phosphorous into Utah Lake than any other source – 149.5 tons per year.

Many factors other than chemicals impacted the lake. Livestock overgrazing had a detrimental effect on the land, which increased the rate of erosion and kept sediment levels in the lake high. After the unforgiving seasons of drought in the early 1930s, the rains returned and triggered severe mudslides. The Civilian Conservation Corps (CCC) launched a terracing effort to combat the moving mountainsides. In the 1950s, government agencies terraced Provo Peak in an attempt to slow erosion.

In the mid-1930s, overgrazing and drought were followed by heavy rains, which caused mudslides like this one in Provo Canyon. In places, both water and mud covered Provo Canyon Road, making travel conditions challenging. Courtesy of Utah County Archives.

The Provo mill race flowed from the Provo River southward along 200 West and emptied into Provo Bay. Several mills, including the Provo Woolen Mills, pictured here in 1905, used the water in the race to power their machinery. This mill deposited lanolin, dye, and other material toxic to fish into the race. Courtesy of Brigham Young University Photo Archives.

(Top and bottom) The Ward and Sons Planing Mill, once located at 200 West and 500 South, used the water from the mill race to power their lathes, saws, and other equipment. The mill's water wheel prevented many trout and sucker from freely moving up and down the mill race. Courtesy of the Ward family.

The Hoover Brothers Flour Mill, which was located at 200 West and 500 North, also used mill race water as a source of power. During dry periods or when the race became frozen, mills were forced to cease operations. Courtesy of Utah County Photo Archives.

DOWN BY THE OLD MILLSTREAM.

Mill owners of the late 1800s and early 1900s joined the assault on water quality by regularly dumping sawdust and other forms of waste into the tributaries of Utah Lake and the Jordan River. Large numbers of trout suffocated when the sawdust clogged their gills. Public outcry led to legislative law, which helped control the problem, but serious damage had already been done.

The Provo Woolen Mills, a cooperative formed by shareholders belonging to the LDS Church, helped the local economy grow. However, the dye, lanolin, and other waste from the mill's manufacturing processes also went into the mill race, which ran into Provo Bay on Utah Lake.

Near the beginning of the 20th century, Telluride Power announced plans to deliver electricity to the Mercur mines on the lake's west side. To accomplish this feat, the company said it would be necessary to build a large dam, up to 85 feet in height, across the Provo River just above Bridal Veil Falls. Provo residents protested. Among their many complaints, the issue of a dam creating serious problems for spawning fish was overlooked. Permission to build the large dam was denied, but Telluride was later given the go-ahead to construct a smaller dam. Later, when sportsmen discovered that spawning trout could not get over the dam, the company built a fall and pool system of water-filled tanks. The system was designed to help trout swim over the dam and progress on their spawning routes, but residents deemed the system ineffective. In efforts to satisfy both fish and people, Telluride built, at their own expense, three more fishways in quick succession. None of these worked. Finally, with the advice of Washington, D.C. fish experts and the approval of Utah County officials, Telluride built a fifth fishway. This final fishway was the company's last attempt to please everyone.

Early 20th-century recreationists pose atop a fishway on the Telluride dam in Provo Canyon. Rowboats, one of which can be seen in the background to the right of the group, could be rented for use on the small reservoir formed by the dam. Courtesy of Nanalee Stratton.

The Olmstead Power Plant reliad on the Provo River to generate electricity. Water was taken out at the Telluride dam and run through a flume to the building seen at the top of the hill. From there, the water rushed through huge pipes down to the turbines located in the power house (the large building at the bottom of the hill). Next to the power house is a building that was used as both a dormitory and a school for educating and training power plant workers. Courtesy of Utah County Archives.

The Telluride Power Company dam in Provo Canyon kept spawning trout from ascending the Provo River. As a result of public pressure, the company built fishways which can be seen on either side of the dam. Courtesy of Brigham Young University Photo Archives.

VALLEY OF STEEL.

California wasn't the only place where the riches of the earth could be found. Gold, silver, lead, zinc, and copper were all mined in and around Utah County. The expansion of the railroads enabled shipments of dynamite to enter the valley. As more mine tunnels were blasted, precious timber was taken from the surrounding mountainsides and cut into massive wooden beams. These were used to support the tunnels in an effort to avoid cave-ins. As greater areas of forest were cleared, the earth that had been held in place by trees filtered into Utah Lake, contributing to the water's turbidity.

The railroads not only kept busy hauling the products of the growing mining industry to cities throughout the West, they also helped usher the steel industry into Utah County. In the early 1900s, trains made available the essentials for steelmaking – iron ore from Iron County and coal from Carbon and Emery counties. In the early 1920s, Columbia Steel Corporation's Ironton Plant took advantage of these plentiful resources and began producing steel.

Later, a larger and more versatile steel mill was built near Utah Lake. From 1941 to 1944, 10,000 workers labored to build a $200 million, federally financed facility near the old Geneva Resort, for which the plant was named. Geneva Steel's purpose was to ensure that both military (the plant supplied steel for ship building in California during World War II) and industrial needs for steel would be met. The location near Orem was chosen for several reasons. The essential raw materials were all within reach: In addition to readily available coal and iron ore supplies, limestone and dolomite were found near Payson, and water could be drawn from Deer Creek Reservoir and from on-site artesian wells. The company could also recruit from an educated and stable local work force. And, because the plant was situated inland, it would likely be protected from attacks by enemy warplanes.

Geneva Steel not only provided lucrative jobs to hundreds of local people, it also drew many easterners to work at the plant. Such a sudden increase in population instigated a residential building frenzy. Utah Valley communities seemed to expand overnight as 4,500 new residents arrived. The local economy was prospering, but the water in Utah Lake began to suffer. Increased amounts of raw sewage from Provo and other cities were being funneled into Provo Bay and Utah Lake. The influx sparked a need for new utility services and sewage management.

Perceptions of Utah Lake's condition steadily became more negative. In the 1940s and early 1950s, Provo residents experienced a polio scare. People knew that raw sewage was being emptied into the lake, and they connected exposure to that waste with the proliferation of polio. As more people comprehended the apparent link, the public became alarmed. Wastewater treatment facilities were established to help ensure that only treated waste was deposited into Utah Lake, but not many minds were put at ease. Only the development of the Salk vaccine helped calm nerves.

Changes were not only taking place around the lake, but to the lake itself. During the height of steel production, Geneva Steel, like many other steelmakers, failed to recognize the importance of environmental protection and contaminated the lake with hazardous materials. In the 1940s and 1950s, the needs of the environment simply were not the urgent issues they are today. As a result, Geneva Steel failed to initiate significant environmental control practices until the early 1990s. Joe Cannon, then the company's president, turned the tide. Environmental protection and the cleanup of Utah Lake were his highest priorities. The company dedicated millions of dollars toward efforts to revitalize the area around the lake and improve its water quality.

Geneva Steel struggled for years as global competition in the steel industry reduced the company's profit margins. The plant filed for bankruptcy in 1999 and later closed.

Columbia Steel Corporation's Ironton Plant began operations in the early 1920s. The plant, at the far left of the photo, was located just north of Springville. The main road leading to the plant, which served as U.S. Highways 91 and 89, was commonly known as Springville Road. Provo Bay can be seen in the background. Courtesy of Keith and Lillian Hayes.

For the grand opening of the Ironton Plant, the company hosted a picnic for people of the surrounding communities. Volunteers and local boy scouts helped direct traffic, set up tables, and serve food. The event drew thousands of hungry visitors. Courtesy of Keith and Lillian Hayes.

"I think the biggest change came when Geneva Steel was built…during World War II in the 1940s. I saw some changes in the lake and people's use [of] the lake at that time. Because of the increased comments about the pollution in the lake, people withdrew from going down there." — Grace Bramall, 73, grew up three miles from Utah Lake. She is a lifelong resident of Utah County.

"I could take you over and show you…the graphite floating in the water. They have their creosote plant, which was a by-product of Geneva [Steel], and I am sure it leaked. They've come a long way [in cleanup efforts]. I've seen a lot of home asbestos, asphalt dumped in [the lake]." — Bill Loy, Jr., 46, fourth-generation Utah Lake commercial fisherman.

GROWTH AROUND UTAH LAKE.

The lake has been a magnet for both commercial and residential development in the last three decades, and has helped Utah Valley and Salt Lake Valley to thrive. In 1978, high technology came to Utah County. The transition from materials-based companies that harmed the environment, to more environmentally friendly, knowledge-based businesses was underway. Today, more than 10,577 companies do business in Utah County. These include computer consulting firms, software developers and manufacturers, internet web hosting companies, digital technology groups, electronic firms, food distributors, medical providers, and consumer retailers. This is also a place to learn. Thousands of students attend Utah Valley State College and Brigham Young University each year.

The state's population reached 2,233,169 in 2000. Utah was fourth on the list of fastest-growing states from 1990 to 2000 and grew more than twice as fast as the country's population. Specifically, the shores of Utah Lake and the surrounding valley are home to 398,056 people. Projections indicate that proliferation will continue. By 2020, the state population is expected to increase to 3.2 million and by 2050 it could more than double to about 5 million.

Most of this projected growth concerns the Wasatch Front. The Salt Lake Valley in particular has experienced significant increases in population in the last few years, and all of these residents rely, to an extent, on culinary water from Utah Lake's tributaries.

The future will bring a multitude of changes and challenges to the economies and residential neighborhoods of the valleys. As growth continues, water conservation will be even more critical, since increased demands on water will only add to the already taxed Utah Lake system. By working in harmony to balance the needs of the ecosystem with those of the human population, the people of the Wasatch Front stand to discover the value of being not just the residents, but the guardians of their communities.

For more than 50 years, Geneva Steel employed thousands of people and stimulated the Utah Valley economy. Unfortunately, the plant had a detrimental effect on the environment. For years, the company deposited harmful waste into Utah Lake. They later spent millions of dollars in attempts to remedy the problem. Photo by Brett Colvin.

Chapter 4/
The Lake as a Gathering Place.

THE PLEASURE RESORTS.

With the development of "pleasure resorts," as they were called in the late 1800s, came an awakening of a new side of popular culture. People discovered that the refreshing waters of the Provo River and Utah Lake could be enjoyed for relaxation and fun. These new resorts were inspired by existing leisure spots around the Great Salt Lake, but they found their niche in promoting invigorating freshwater bathing. More than 20 resorts have been in operation around Utah Lake, including the big three: Saratoga, Geneva, and Provo Lake resorts. Other popular recreation sites included Utah Lake Resort (also well known as American Fork Resort), Lehi (Murdock) Lake Resort, and Provona Beach Resort. As the recreation business became more competitive, it wasn't unusual for a resort to close, then find a second or third life under new ownership and a different name.

"The great possibilities of Utah Lake as a boating and bathing center are gradually being impressed upon the citizens of Provo. Strangers who visit it are surprised that more interest is not taken in this beautiful sheet of water." — Excerpt from "Andrew Jensen's Private Journal," July 4, 1893. Translated from the Danish Original by Himself.

From the late 19th century until near the end of the 21st century, more than 20 pleasure resorts around Utah Lake offered people an escape from everyday life. This map shows the locations of many of the fun spots enjoyed by lovers of leisure through the years. *Great Basin Naturalist Memoirs*, 1981, Brigham Young University, Utah Lake Monograph.

During the Roaring Twenties, Saratoga Resort was the place where young hipsters flocked to swim the day away, then dance into the night to their favorite jazz tunes.

▼

SARATOGA RESORT.

One of the first resorts to cater to the new crowds of pleasure seekers also enjoyed the longest life. Saratoga was named after the famous New York resort. It made its debut on July 24, 1884, to a crowd of 1,000 people. Saratoga, located on the north end of Utah Lake west of the Jordan River, promised comfortable, year-round bathing in water brought in from hot springs.

At one time during the early 1900s, the owners planned to create farm parcels and suburban homes on the lake front. It was to become a bonafied town, complete with sidewalks and streets, but plans for a city didn't materialize until nearly 100 years later.

Saratoga advertised regularly and continued to change with the times. In 1943, a newspaper advertisement screamed, "SWIM Saratoga!" The ad boasted such sanitary features as "Modern Chlorination" and "Fast Filters" in an attempt to calm the rising fears that polio was spreading through the use of Utah County's public bathing areas. By 1950, Saratoga had undergone major renovations. A new entrance and lobby was added to the resort's main building. In the dressing rooms, pipes circulating hot water were placed under the concrete floors to warm the feet of guests. In the pool, a new water filtration system was installed. Landscaping was also improved.

In 1968, a fire destroyed much of the resort. Lost in the disaster was the main building where the indoor pool, dressing rooms, laundry, ticket office, snack bar, and gift center were located. The resort operator quickly called in crews of workers to remove the charred debris and rebuild the resort. Saratoga had a successful Memorial Day reopening three weeks later. In the 1970s, the "Kamikaze" waterslide challenged resort patrons to take the plunge. Two stories in height, the slide took those who dared on a wild ride that ended in the former wading area. In the early 1980s, Utah experienced a succession of record-high water years. Utah Lake engulfed hundreds of miles of shoreline and rose to its highest point in history. Rumors that Saratoga was under water initially kept people away from the resort, but once the public realized that their beloved leisure spot was up-and-running, crowds of people returned. By this time, the resort was a full-fledged amusement park with a Ferris wheel and thrill rides.

Another set of plans surfaced to develop the area into a city, and today, Saratoga Springs is truly a lake community. Residents can easily access beaches and boating areas. Yet, memories of the old resort aren't the only pieces of Saratoga that are still around – remnants of the Ferris wheel and swimming pool can be found near the beach.

"What should be a very attractive feature at Saratoga this summer was added…this week. The new feature is a 20-passenger launch, "Utah Bell," which will be used for amusement and passenger service"

— *The Lehi Sun*, June 30, 1921.

A giant slide, built in the 1920s, was just one of the many attractions that brought visitors to Geneva Resort. Courtesy of Brigham Young University Photo Archives. ▶

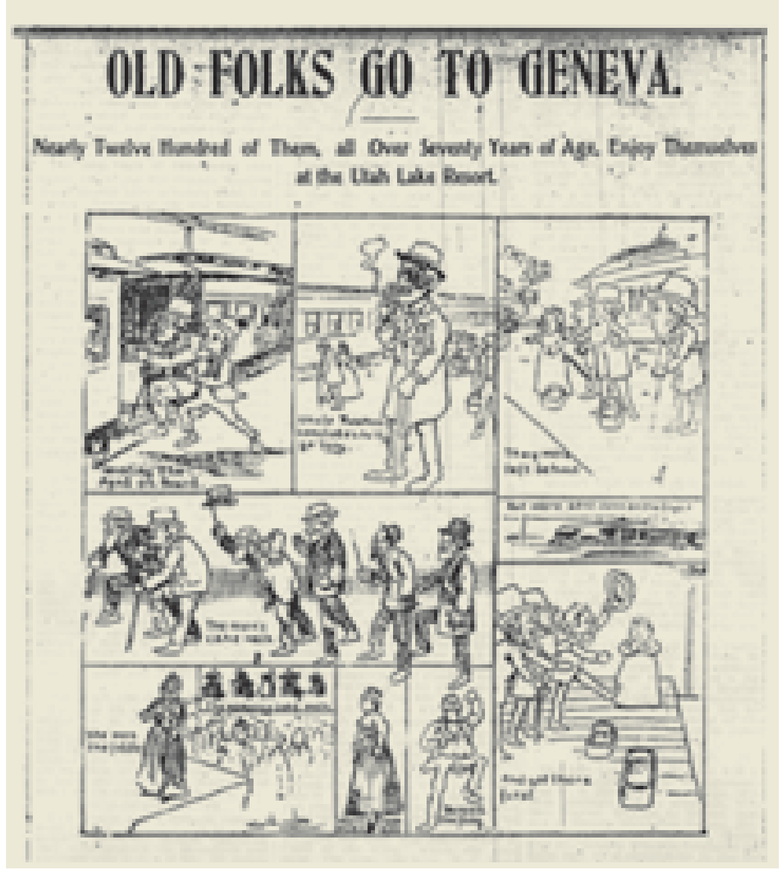
GENEVA RESORT.

In 1893, John Dallin opened Geneva Resort. It was located on the east shore of Utah Lake where the Lindon Boat Harbor is today. Geneva offered boating, picnicking, dancing in a beautiful pavilion, a comfortable hotel complete with a bar, and a bowery where lunch was served every day. Dallin had also supervised operations for Harrison Park Resort which opened in 1889, but with Geneva, he had a winner. Ads touted the best of everything, including "Bass Fishing…Superior To Any In The Territory," "Grand Moonlight Excursions," and special resort discounts to fishing and excursion parties. Dallin catered to private groups as well as the general public and found ways to make both happy. The Provo Band or the Oleo Jazzy Orchestra often provided the music for folks who felt like kicking up their heels.

"They had a hotel there …and in the lobby… was this little store where you could buy candy bars and ice cream. I've never tasted strawberry ice cream as good as since then."

— Rex Blake, 87, Vineyard, UT.

Many types of parties were hosted at the Geneva Resort. These caricatures depict some of the various activities enjoyed by the old folks of Salt Lake, Davis and Utah counties. *The Salt Lake Tribune*, July 8, 1899.



OLD FOLKS GO TO GENEVA.

Nearly Twelve Hundred of Them, all Over Seventy Years of Age, Enjoy Themselves at the Utah Lake Resort.

Geneva Resort's peaceful setting attracted many visitors. This image captures, from left to right, the hotel, the dance pavilion, the rental boats, and the bathhouses. The boats lie upon the steep bank that protected the resort from frequent lake fluctuations. Courtesy of Brigham Young University Photo Archives.

This *Provo Daily Enquirer* ad described Geneva Resort's amenities and announced its opening in July of 1893.

▼

Geneva.

This lovely fresh water resort, at Battle Creek station on the main line of the R. G. W. railway, and on the east shore of Utah Lake is now open to the public. Beautiful, shady, delightful fishing, splendid boating and bathing. First class hotel, with bar, lunch bowery and dancing pavilion. Finest place in Utah for a day's outing, summer excursions and picnic. Special arrangements Monday for the entertainment of societies, schools, etc. Only 15 minutes ride from Provo, and railway fare for the round trip only 25 cents.

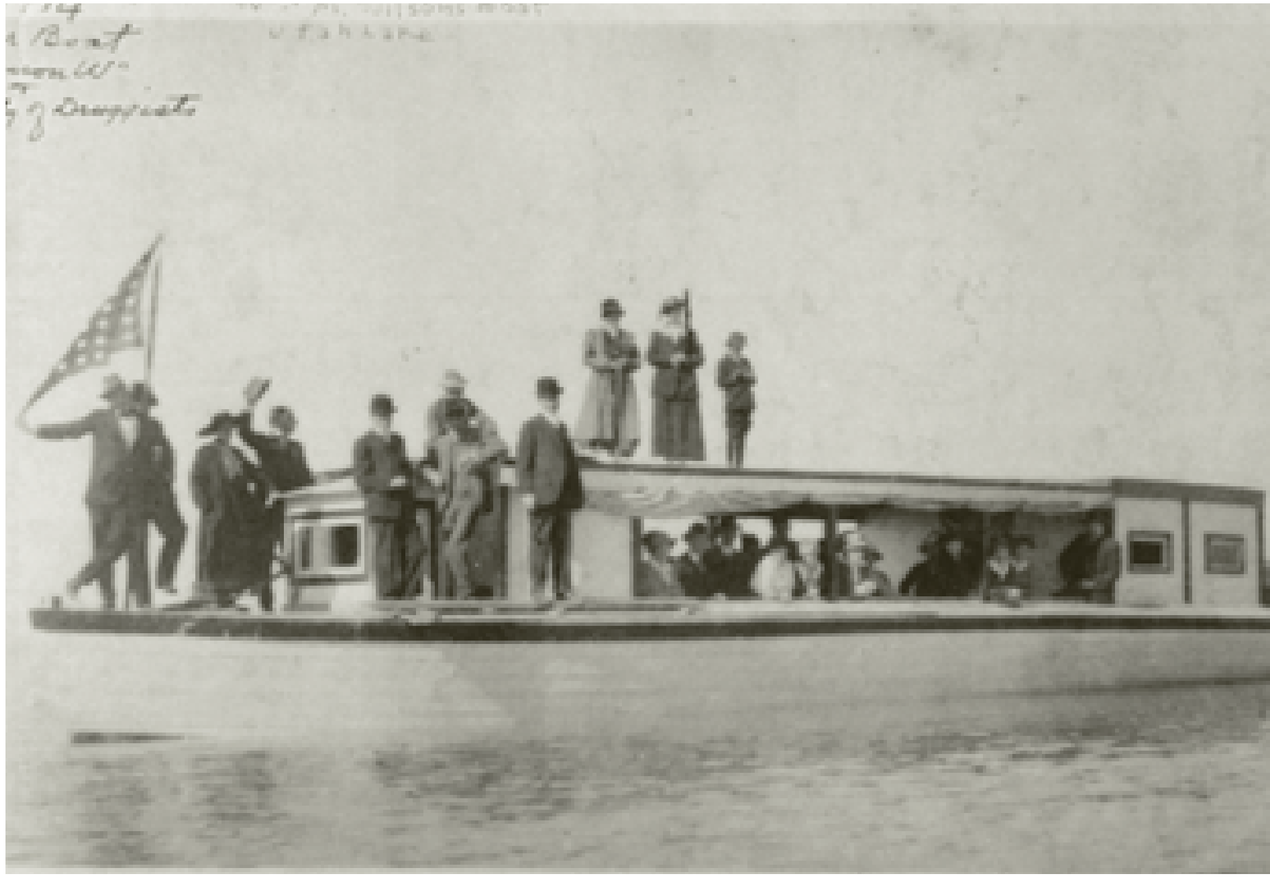
JOHN DALLIN, Prop'r.

Provo businessman, William M. "Billy" Wilson, loved Utah Lake and spent a great deal of time on its shores. In his early life, he was on the Provo rowing team and later ran the Riverside and Geneva resorts. He took every opportunity to advertise the recreational possibilities of the lake. Courtesy of William Wilson.

▼

"Billy" Wilson managed the Geneva Resort for the Provo Sportsman's Club during the early part of the 20th century. To attract patrons to the resort, "Billy" built the *Rearon W.* and used it as an excursion boat on Utah Lake. Each weekend, the boat left Geneva and visited the surrounding resorts. The *Rearon W.* is shown here hosting a convention of the state's druggists in 1914. Courtesy of William Wilson.

▼



DURING THE JAZZ AGE, COUPLES FLOCKED TO GENEVA'S PAVILION TO DANCE TO THEIR FAVORITE RAGTIME TUNES. EVEN THOUGH PROHIBITION WAS IN EFFECT, CLANDESTINE HOLIDAY PARTYGOERS OFTEN POPPED A CORK. *AMERICAN FORK CITIZEN*, JULY 3, 1920.

GARDEN CITY RESORT.

Neils Omanson opened this resort near the mouth of the Provo River in June of 1889. Visitors found everything they needed to have a wonderful time. There were bathhouses and swimsuits to rent. Provo's Silver and Opera House bands and Professor Kent's military orchestra furnished music in a large dance pavilion that catered to the dancing crowd. A half-mile horseracing track had spectators cheering with excitement for their favorite nag. The steamer *Eastmond* provided a way for residents of the north end of Utah County to get to the resort by water. As many as 125 passengers could take a grand ride on the vessel, which was 40 feet long by 12 feet wide, and cruised at a speed of about 7 miles per hour.

VISITORS FOUND EVERYTHING THEY NEEDED TO HAVE A WONDERFUL TIME.

The pier at the Provo Lake Resort was a busy location on weekends and holidays. Visitors enjoyed swimming in the fresh water and taking boat trips along the shore of the lake. Courtesy of Robert Carter.

PROVO LAKE RESORT.

After the Garden City Resort closed, the Provo Lake Resort was born. Its managers beckoned Provo locals to visit and enjoy the resort "Owned by Provo People Managed By Provo People." The owners felt that a message emphasizing the resort's close-to-home feel would be the ticket to profits. After all, why would one travel as far as Geneva Resort when the best freshwater bathing area was so close to Provo? The resort also offered locals a dance pavilion, a restaurant and bar, a boathouse, and convenient transportation via rail, thanks to the Provo City Railroad.

In August of 1908, the Utah Indian War Veterans met at the Provo Lake Resort. They camped on the beach for several days and reminisced about their past adventures. In the distance, the resort's pavilion is seen near the center of the photo, and the long building to its right is the boathouse. Courtesy of LDS Church Archives.

Following page: The S.S. Sho-Boat became the site of many civic and social meetings. This early 1940s photo shows Provo's Chamber of Commerce aboard and busily engaged in bettering the community they loved. Courtesy of Roland Strong.

Devotees of Utah Lake often staged aquatic programs for passengers of the S.S. Sho-Boat or spectators attending boat races. Here (from left to right) Lois Jean Shurtliff, Juanita Free, Mary Bee Jensen, Grace Willes, Jan Harmon, and Marian Wright perform on water skis. Courtesy of Norman Smith Wright.

Ad in the *The Daily Enquirer*, June 14, 1897. Entrepreneurs established the Provo Lake Resort (west of what is now the Provo City Airport) in the early 1890s. Each year, its grand opening was announced in the local papers. After nearly 30 years of providing a recreational outlet for the people of Provo and the surrounding communities, the resort closed in 1918 when it was flooded for the final time by the rising waters of Utah Lake.

GRAND OPENING

OF THE

Provo Lake Resort

FRIDAY, JUNE 18.

A YACHT RACE

Concert and Ball will be given in the Evening by the Provo Military Band.

In 1920, the Startup Candy Company's boxhouse girls and their supervisor enjoy a dip while on a company outing near the former site of the Provo Lake Resort. The swimmer on the far right has been identified as Thelma Kirkwood. Courtesy of Dale Vincent.

This 1942 bathing party enjoys the beach on Utah Lake west of the Provo City Airport. Pictured in this photo are, from left to right, Elaine Barker, and Lola, Phyllis, and Richard Van Wagenen. Courtesy of the Van Wagenen family.

On major holidays, airplane pilots took their crafts to Provona and other resorts. The sandy beaches of Utah Lake provided an ideal location to land and take off. Thrill seekers paid these freelance pilots for the opportunity to get a bird's eye view of Utah Valley. The plane seen here provided rides at the Provona Beach Resort. Courtesy of Roland Strong.

The Provona Beach Resort was a favorite site for various church group outings. These bathing beauties, members of the Provo Second Ward, enjoy the cool water at the mouth of the Provo River. Courtesy of Lynda Carter.

PROVONA BEACH RESORT.

The Taylor family started yet another recreational attraction near the mouth of the Provo River. The Provona Beach Resort opened in July 1921 as a basic, clean, family-oriented pleasure resort. In the early part of 1922, the owners faced their first great challenges. A strong winter storm forced huge chunks of ice onto shore and destroyed the bathhouses. Then, when the spring thaws came, the Provo River ran wild and flooded the resort. Finally, in 1925, Provona was reconstructed. There were new amenities and comforts for guests, such as electric power to light the bathhouses, a store that sold ice cream and soft drinks, and a movable pier to accommodate boaters when lake levels fluctuated. Boats were also rented out from the pier. Later, a lunchroom, complete with electric lights, picnic tables, and a sand floor, was added. Clover was planted on the grounds for picnickers to enjoy, and swings were added for the children.

As recreation became more popular, choices for entertainment expanded. Around 1926, entrepreneurial pilots from near and far began landing on the lake's beaches to offer rides to thrill seekers. For just 25 cents, the brave and adventurous could see the lake from above in all its glory.

One of the most exciting events at Provona was the July 4 celebration of 1930. Two mock battleships were built to re-enact the Battle of Manila Bay, complete with specially made shells and fireworks to make the battle all the more realistic. The event was advertised in neighboring communities, and even as far north as Ogden. On July 4, more than 4,000 cars full of people arrived to witness the "Great Naval Battle." But first, guests enjoyed a full day of activities including a parade of bathing beauties, modern vaudeville acts, instrumental numbers, and vocal performances. On the river, there were swimming races, diving contests, and aqua-board riding demonstrations. The battle itself was perfectly executed and spectators left happy, and exhausted, sometime after midnight.

Arthur N. Taylor opened the Provona Beach Resort in 1921 to provide the people of Utah County with a family-oriented bathing resort. Taylor supervised the construction of a bridge over the Provo River and situated his resort where Utah Lake State Park is located today. These advertisements emphasize the advantages of outings near the mouth of Provo River. *Provo Sunday Herald*, June 12, 1927. *Provo Sunday Herald*, July 29, 1928.

LINCOLN BEACH.

The old resort is long gone, but the "new" Lincoln Beach on the south end of Utah Lake is still a well-used area for boating. It has also become a magnet for walleye anglers. Warm springs can be found near the remains of what is now referred to as Old Lincoln Beach.

"Lincoln Beach, the new bathing resort at the point of the mountain west of this city is now in running order. They have eight bath houses and twenty-five suits on hand. A pier 100 yards long is being built out into the lake, at the end of which a large platform will be built for the benefit of bathers and spectators. The steamer *Helen of Provo* had been engaged to run between that place and Lincoln Beach on Sunday next at 25c for the round trip, and in addition they have a number of row boats *[sic]* for hire. Refreshments in the shape of ice cream, soda water, etc. will be provided, and a general good time is expected." — *The Spanish Fork Sun*, July 14th, 1892.

A warm spring, first mentioned by Albert Carrington in 1849, supplied water for Lincoln Beach's swimming pool. Ernest, Argyle, and Ray Fernsten (left to right) pose on the resort's primitive diving platform. Courtesy of Claude Daniel and Sarah Easter Fernsten and the Spanish Fork Daughters of Utah Pioneers Museum.

Lincoln Beach served pleasure seekers in southern Utah County. In this photo taken in about 1924, (left to right) Argyle La Marr, Ray Henry, Claude Daniel, and Ernest Andrew Fernsten pose in front of the resort's snack bar. Courtesy of Claude Daniel and Sarah Easter Fernsten and the Spanish Fork Daughters of Utah Pioneers Museum.

Elma Smith (left) and Etta Strong served as cooks on the S.S. Sho-Boat. The two women served food and beverages to the passengers during their trip to Bird Island. Courtesy of Norma Smith Wright.

GRAND TIMES ON THE S.S. SHO-BOAT.

The S.S. Sho-Boat was a bright light in the dark times of the Great Depression. Built by Hewitt Strong and Elmer Smith, the Sho-Boat was their way of promoting Utah Lake as a "recreational mecca," as Hewitt called it. Both men loved the lake and used it often – they even found a way to enjoy it in the winter. The two designed and built an ice boat on sleigh-like runners. It was propelled by an airplane motor and steered by rudders, but it had no brakes. The fearless Strong and Smith had a great time whipping across the lake at speeds of up to 60 miles per hour.

With the S.S. Sho-Boat, the ambitious duo knew they had something special in the making. Hewitt envisioned not only "a summer boat…carrying passengers to points of interest surrounding the lake," but one that could be the center of entertainment. At 90 feet long and 22 feet wide, the Sho-Boat was the largest and most luxuriously equipped vessel to ever sail on Utah Lake. Passengers were invited to glide across the dance floor or enjoy live music played from the stage. There was also a galley for serving catered snacks and meals. The grand boat's first official cruise, which took place on April 11, 1932, was privately chartered by the Utah State Dentists' Association.

The Sho-Boat's first public cruise was launched on April 25, 1932. Fifty cents bought an adult round-trip ticket; children from ages seven to 15 paid only 25 cents each to ride. Strong and Smith usually took passengers to Bird (Rock) Island every Sunday afternoon. It was just 6 miles from the mouth of the Provo River, but at a cruising speed of 8 miles per hour, a round trip and a short visit to the island could take up to four hours. Passengers got a great amount of enjoyment out of their fares, and considered a tour on this beautiful boat a rare treat during tough times.

"It [the Sho-Boat] always went out every Sunday afternoon to Rock Island. I remember taking a girl there when I was 17, out to the island. That was romantic." — Rex Blake, 87, Vineyard, UT.

Sho-Boat passengers explore aptly named Bird Island and hunt for bird eggs. The seagulls resented this intrusion and fought back with the only weapon at their disposal. Passengers were advised to protect themselves with broad brimmed hats and umbrellas. Lucille Rawcliff once disembarked on the island wearing a plain blue suit and returned to the boat wearing a rather gaudy print. Courtesy of Roland Strong.

In 1932, Hewitt Strong and Elmer Smith constructed the 90-foot-long 22-foot-wide S.S. Sho-Boat. This early image was taken before the addition of the pilot house on the upper level. Courtesy of Roland Strong.

Following page: (Left) Passengers board the S.S. Sho-Boat after a visit to Bird Island. For more than a decade the boat made regularly scheduled weekend trips to the island. (Right) Co-owner Hewitt Strong's mother, Maria, and his sister, Juanita, lounge on the observation deck of the S.S. Sho-Boat. Money was difficult to come by during the 1930s. However, many people seemed willing to spend it for a ride on the boat in what they considered, during these humble times, to be the lap of luxury. Courtesy of Roland Strong.

"My dad was in a nine-man pyramid when I was a kid. Pyramids like at Cypress Gardens. I did a lot of water skiing so I spent a lot of time there." — Bill Loy, Jr., 46, fourth-generation Utah Lake commercial fisherman.

Hewitt Strong (top) and Elmer Smith, the co-owners of the S.S. Show-Boat, try their skill at riding an aqua plane in the 1930s near the mouth of the Provo River. The structure in the background is a diving platform. Courtesy of Norma Smith Wright.

BOAT RACES.

Utah Lake was the place to race beginning in the 1890s. Crews from Provo and Salt Lake City staged annual regattas during the summer months. Race locations alternated between Utah Lake and the Great Salt Lake. To transport their sculls, which were lightweight rowboats made by covering wooden frames with lacquered paper, crew members simply attached them to trains that ran out to the lakes. The Provo team generally won.

Informal speedboat races were held at Geneva Resort in 1927 and 1928 but were discontinued after lake levels receded to record lows during the drought of the early 1930s. Then in 1938, locals inaugurated the Memorial Day boat races. Racers from all over the state, and later, from all over the nation, towed their fastest crafts to Utah Lake. With hulls shined to perfection and engines finely tuned, the boats arrived in all sizes. So did the crowds. For more than four decades, thousands of spectators thronged to the beach to enjoy the races each year.

The Memorial Day races were so popular that in the 1960s, a new racing tradition was begun in conjunction with Provo's Freedom Festival. This race was staged for nearly a decade. Another new race in the 1970s provided a marathon event for those willing to go the distance. The course covered 250 miles, but the long race was short-lived. It was held annually for only a few years.

WITH HULLS SHINED TO PERFECTION AND ENGINES FINELY TUNED, THE BOATS ARRIVED IN ALL SIZES.

▼ Two "modern" speed boats vie for first place during a Memorial Day race near Provo's boat harbor in the 1940s. These races rarely failed to draw a big crowd. Courtesy of Roland Strong.

A VISIT TO THE LAKE TODAY.

Although there are countless stories to be told about Utah Lake's past, the lake has much to offer today. Whether you visit for adventure or relaxation, this massive freshwater lake and her miles of shoreline are sure to please. Utah Lake State Park, a 300-acre gathering place, welcomes campers (sites for RVs and tents are available), picnickers, anglers, and boaters. There are four launching ramps and a 30-acre sheltered marina, which can accommodate boats of all sizes. In 2003, the park received several new facilities, including an administration building, park entrance, restrooms, and parking facilities.

Known for its strong, steady winds, Utah Lake attracts her share of sailboats. Brigham Young University Sailing Club members frequent these waters to polish their skills. Others prefer an individual challenge – windsurfers go for speed and thrills, turning the sail attached to a surfboard-like base to catch the best wind. The lake is also popular for kayaking, canoeing, and springtime water skiing. Its shallow waters become ice-free early in the season, allowing skiers in dry suits to hit the lake, while skiers in down-filled coats are still enjoying the snowy mountain runs.

Anglers can try their luck for the many species of fish that now inhabit the lake, including walleye, channel catfish, and white bass. Birdwatchers often see some spectacular sights around Utah Lake. Lincoln and Sandy beaches, Powell Slough, and Provo Bay all host an array of species, including redwing blackbirds, egrets, cormorants, great blue herons, black capped night herons, Caspian terns, killdeer, buffle heads, mergansers, pelicans, Canada geese, swallows, American coot, kingfishers, and many more.

For many people, the enduring charm of Utah Lake will never fade. To all those yet to discover her invaluable resources, enjoy with care. This lake has proven its worth in countless ways. For all the demands we place on this gift of nature, it deserves all the respect and care we can give it in return.

"I go wind surfing. We go as a family and look at the birds and fish. There's a lot of stuff to see, especially along the shore: muskrat, beaver, fish and different birds. We'll even go out and play in the sand, in the waves, and on the beach. Not many people go to

Winter sunset on tranquil Utah Lake, looking upon West Mountain, 2003. A skim of ice forms a barrier between the shore and open water. Photo by Chris Keleher.

the lake to play with their family. They think it is a dirty lake. I think it's cleaner now than it was 15 years ago." — Ben Allen, who offers pontoon boat cruises on Utah Lake, also operates C.L.A.S. Ropes Course, which provides teambuilding activities for professionals.

A group of kids playing on the dock at Utah Lake State Park. Photo by Brett Colvin.

▼

Utah Lake is a popular spot for boating enthusiasts. Photo by Brett Colvin.

▼

FOR MANY PEOPLE, THE ENDURING CHARM OF UTAH LAKE WILL NEVER FADE. TO ALL THOSE YET TO DISCOVER HER INVALUABLE RESOURCES, ENJOY WITH CARE. THIS IS A LAKE THAT HAS PROVEN ITS WORTH IN COUNTLESS WAYS. FOR ALL THE DEMANDS WE PLACE ON THIS GIFT OF NATURE, IT DESERVES ALL THE RESPECT AND CARE WE CAN GIVE IT IN RETURN.

Provo native Finian Keleher, age 5, enjoys some hang time at Utah Lake. Photo by Chris Keleher.

Several dry years have exposed smooth, sandy beaches that are typically submerged at normal lake levels. Here, Finian Keleher and friends Tia Maria and Nessa explore the Utah Lake shoreline in 2003. Photo by Chris Keleher.

Chapter 5 /
The People and the Lake.

Lounging in their underwear on a hot summer day in 1930, Hunter Manson, Elmer Smith, and Billy Wilson (left to right) relax on Wilson's boat, *Bonnie*. Courtesy of Norma Smith Wright.

LIFETIMES OF MEMORIES.

Through stages of purity and pollution, record highs and frightening lows, Utah Lake has endured the best and worst of nature and man. Over thousands of years, cultures have flourished around the lake, and used its water and its ecosystem for countless purposes, including survival. Over several lifetimes, many thoughts and memories have been expressed about Utah Lake.

Farm bureau outings, church gatherings, family picnics, summer holidays, first dances, and budding love affairs: These are the times so many folks remember with fondness.

For all of the pleasant memories people can recall about Utah Lake, its dangers have equally been documented. Winds can quickly generate waves strong enough to topple boats and destroy the shoreline. The lake's shallow water levels make it almost immediately susceptible to drought, leaving perilous, muddy areas that act like quicksand. Thomas B. Jepperson, 91, described a harrowing incident he and his brother experienced while fishing in a shallow Utah Lake:

"WE WERE CAUGHT OUT THERE, ALL MUD, AND WE KNEW WE HAD TO GET BACK TO SHORE SOMEHOW, AND THE BOAT WAS STUCK, SO WE STRIPPED. TOOK ALL OUR CLOTHES OFF…WE WERE TAUGHT HOW TO CRAWL ON THE MUD SO YOU DON'T SINK DOWN. A LOT OF IT WAS LIKE QUICKSAND. YOU COULD GO…OVER YOUR HEAD AND…DROWN. WE HAD ABOUT [THE EQUIVALENT OF] THREE BLOCKS TO TRAVEL IN THE MUD CARRYING OUR CLOTHES ABOVE OUR HEAD. I WILL NEVER FORGET."

Thomas B. Jepperson (right) and his son Robert enjoy the sunshine in Southern California in 2002. Thomas grew up in Utah Valley and has many fond memories of his childhood adventures on Utah Lake. Courtesy of Robert Carter.

”Like everything else, time takes its toll. But…I still have the memories, and the memories don’t age. You can’t destroy a memory. I have my memories of Geneva [Resort], Utah Lake, Mud Lake, and the mountains. I love the mountains.”

— Thomas B. Jepperson, 91, Anaheim, CA.

Tom Jepperson pictured here in the early 1920s. Fishes for catfish in Provo Bay. Tom's grandfather, Samuel H. Jepperson, a prominent artist and musician, owned Jepperson Landing, a popular lake resort. Courtesy of Thomas B. Jepperson.

”I love that old lake. That is my life. I never have a day where I don’t go down to the lake. Got to get away. Even now I am down there all the time.”

— Bill Loy, Sr., 76, third-generation Utah Lake commercial fisherman.

”My dad fished on the lake. It was productive and they caught carp. Carp was called Utah Tuna and it went to California…people bought it as Utah Tuna.”

— Bud Good, 73, grew up in Provo, UT.

Since there were few recreational opportunities in Utah Valley, people were happy to board the S.S. Sho-Boat, enjoy hours of entertainment, and forget about the problems brought on by the Great Depression. Courtesy of Roland Strong.

”[The excursion boats]…were usually full. It was a good thing for people to do on the weekends.” — Lavee Holmes, 81, grew up in Provo, UT.

Picnickers enjoy the simple pleasure of a summer outing in a shady spot near the mouth of the Provo River. In early years, lush foliage grew along the banks on both sides of the river, creating an illusion of isolation. Courtesy of Nanalee Stratton.

”That is the thing I remember most…going for a boat ride for our honeymoon, down on the lake.”

— Sylvia Holdaway, Vineyard, UT.

”We used to go down [to the lake] and have bonfires…roast wieners and marshmallows around the fireside and sing songs. It was a recreation spot because we didn’t have any money during the Depression so we made our own fun. It was fun just to ride a bicycle down to the lake.”

— Grace Bramell, 73, Utah County.

The Loy family has been commercial fishing on Utah Lake for four generations.
Courtesy of Bill Loy, Jr.

The Loy's bring in a fresh haul of fish at the mouth of the Provo River.
Courtesy of Bill Loy, Jr.

"I have fond memories of [Utah Lake]. There were fun things to do. I was in the sixth grade [and for] a special treat, we went…on a boat and rowed over to Bird Island. It should have been named Spider Island because there were so many spiders. I can remember that very vividly. But that was a big excursion for us sixth-graders."

— Grace Bramall, 73, Utah County.

"I remember my folks going over there [to Geneva Resort] every weekend to have a party or get together, and they had their own music and we'd dance. That was quite fun for us as kids."

— Virginia Shorthill, 87, Provo, UT.

School classes frequently visited Bird (Rock) Island during the 1930s and 1940s. Here, a girl walks among the birds searching for eggs. Courtesy of Norma Smith Wright.

During the 1930s, scout leaders organized a troop of sea scouts in Utah Valley. In addition to swimming and fishing in Utah Lake, these boys learned nautical skills as they sailed on a boat they helped troop leaders build. Courtesy of McKay Andreasen.

"I was one of those Sea Scouts. We sailed out on Utah Lake in this boat. [The Sea Scouts weren't] organized to give rank and all that stuff. We just had fun. We would go out…in our swimming suits and…swim the lake…it was so dry in 1932, it was only about 6 feet deep anywhere in the lake. I remember going to Rock Island, Lincoln Beach and so on." — Rex Blake, 87, Vineyard, UT.

”Farmers and their families of Spanish Fork will forsake their daily occupation July 11 and motor to Geneva where they will mingle with farms from all parts of Utah county in the annual Farm Bureau outing.”

— *The Spanish Fork Press*, June 3, 1930.

”…I shall never forget how my chum May Hansen and I sat with our parents spellbound as we watched our brothers dance the ‘Triangle and Waltz Quadrille’ and longed for the time when we would be old enough to come and dance…” — Histories of Utah Pioneers at Adams Camp, ”Story of the American Fork Lake Resort” by Laura Logie Timpson.

Kids check out a stinger of fish caught at Utah Lake. Courtesy of Danny Potts.

A WONDERFUL PLACE TO FISH.

For the anglers who fish Utah Lake, fishing is a passion, a challenge, and in their minds, the best possible use of time.

Yet, according to a recent creel survey conducted by the Utah Division of Wildlife Services, Utah Lake, despite its massive size and generous offering of fish, is relatively underused in comparison to other lakes in the state. This could be explained by the fact that the majority of anglers interviewed as part of a statewide survey reported preferences for cutthroat trout, rainbow trout, and brown trout instead of the carp, walleye, catfish, and white bass currently found in the lake. And, since Bonneville cutthroat trout no longer exist in Utah Lake, and rainbow and brown trout are seldom found there, anglers who would rather fish for trout species rarely fish in the lake. However, those who do fish Utah Lake have an affinity for catfish. Thirty-eight percent of anglers who participated in the creel survey preferred catfish, which in the lake, consist of channel catfish and brown or black bullhead catfish. Just over 26 percent fished for "anything" and nearly 21 percent fished for white bass. Walleye anglers made up 14.1 percent of the surveyed anglers and 0.3 percent of anglers fished for a combination of other species.

Danny Potts caught so many catfish off Lincoln Beach, he could barely hold up the stringer. Courtesy of Danny Potts.

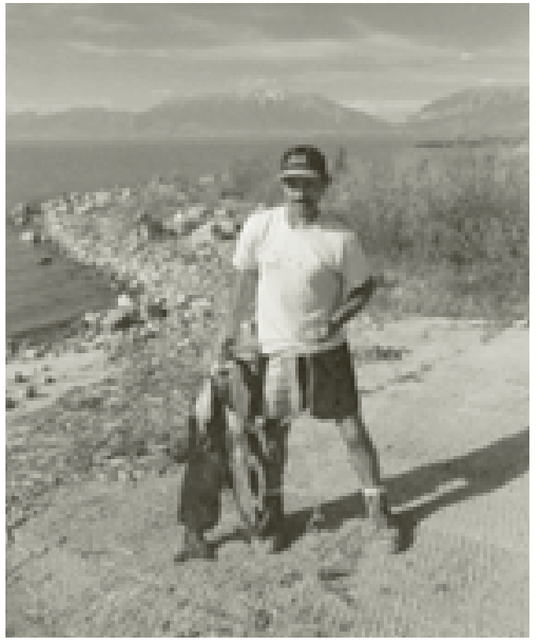
THE COUNTLESS REWARDS OF FISHING.

For Danny Potts, fishing in Utah Lake has no downside. He fishes year round for a diversity of species that grow to large sizes and make for good eating. But, he says, the most fun is seeing and meeting so many types of people. The lake attracts an amazing diversity of anglers in regard to both ethnicity and fishing style. Potts says he's met anglers from an assortment of ethnic descents. He has seen Mexican, Vietnamese, Chinese, Japanese, Croatian, and Russian people casting spinners and jigs for white bass and walleye early in the season. According to Potts:

"There are guys with $60,000 boats fishing for walleye next to people in homemade, plywood who-knows-whats fishing for bullheads and carp, next to people wading or in float tubes casting for white bass. There are anglers longlining for whatever, and people on the shore fishing for anything that will bite a night crawler. It's like an international fair. You meet these great people from all over the world."

FISHING OFF LINDON HARBOR, POTTS CAUGHT A 16-POUND CATFISH. HE EXCITEDLY RECALLS: "It's dragging the boat around the lake…literally, towing the boat around. I tell the kids, 'get the net.' They don't have it. It's on the shore. So, we belly lift [the catfish] into the boat and put it on the stringer. My buddy throws the fish back in the lake but forgot to hook the stringer to the boat."

Potts' fish story has a happy ending. He managed to snag the entire string of fish from the lake bottom with a large treble hook. Later at a fish fry, he and his friends cooked all four species of fish they caught and did a taste test. Carp was number-one in flavor, black bullhead came in second, then blue gill, and finally, channel catfish.



"YOU'RE NOT GOING TO GLOW IN THE DARK WHEN YOU EAT THESE FISH. THEY'RE NOT ONLY GOOD TO EAT, BUT THEY'RE SAFE. MOST PEOPLE DON'T UNDERSTAND THAT." — DANNY POTTS, SALT LAKE CITY, UT.

Before carp ate much of the pondweed ducks relied on for food, hunters often collected huge bounties of the waterfowl. Courtesy of Norma Smith Wright. ▶

DUCK HUNTING AT THE LAKE.

The lake is home to an array of waterfowl; many that migrate from Western Canadian prairies. Buffle heads, mergansers, and Canada Geese can be found in the marshes around the lake. Overall, duck numbers have decreased since carp were introduced into Utah Lake in the 1880s. These days, numbers can vary depending on dry years experienced at points of migration. If lake levels are low, so is the number of goslings. But, whether the duck population is fruitful or meager, hunters find their share of challenges and adventure around the lake.

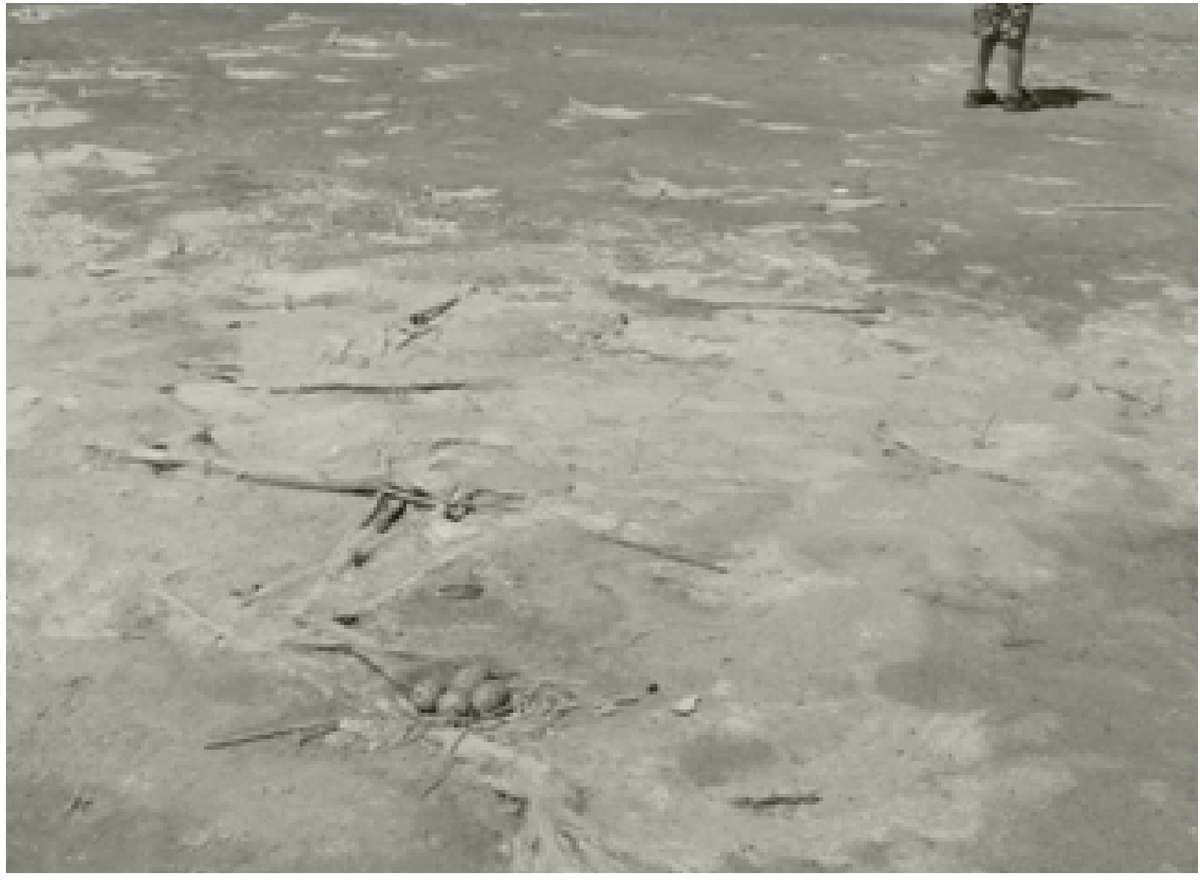
"[Utah Lake] was a marvelous place for the sportsman because there were so many ducks. They had a certain date you could start shooting and a certain time on that date. You couldn't shoot the ducks until say, six in the morning. The hunters would be sitting there looking at their watches…and the ducks would be flying over and…when six o' clock came, oh then the noise." — Thomas B. Jepperson, 91, Anaheim, CA, recalling a childhood memory of Utah Lake.

Chapter 6/

A Look Into the Future: What Utah Lake Can Become.

Some Utah Lake beaches still provide suitable habitat for nesting birds, but avocet eggs in open nests such as these are vulnerable to predators and human disturbance. Photo by Chris Keleher.

▼



CHARACTERISTICS OF A SHALLOW LAKE.

Shallow lakes like Utah Lake typically have the potential for two stable ecological conditions: A clear water state with a rich array of rooted aquatic plants (macrophytes), and a turbid water state driven by single-celled algae (phytoplankton) production. The pristine state for most shallow lakes is the clear water state. Disturbance can cause a lake to shift from one state to the other – however, once in a stable ecological state, a lake has a tendency to remain in that state.

Through impacts associated with human population growth, many urban shallow lakes have been "disturbed" into a turbid water state. The progression of clear water shallow lakes to a turbid state occurs in recognizable patterns. As a result of increased human population growth, nutrient loading to the lake increases, which triggers an increase in phytoplankton abundance. Aquatic plants become covered with a thin layer of algae that inhibits their ability to photosynthesize. Increased phytoplankton in the water column reduces light penetration and as shading increases, the aquatic vegetation community eventually collapses.

With rooted aquatic vegetation gone, the aquatic insects associated with the vegetation also disappear – along with the animals, fish, and birds that feed on those insects or plants. The refuge that the aquatic plants provided from predation for everything from one-celled aquatic animals (zooplankton) to small fish is also gone, which results in major shifts in predator/prey relationships because of increased vulnerability of prey species.

In the absence of the refuge provided by aquatic plants, large zooplankton disappear as a result of increased predation. The disappearance of the zooplankton, which feed on phytoplankton, coupled with nutrient increases further elevates phytoplankton biomass. Without aquatic plants, near-shore wave activity is not suppressed and sediments typically anchored by their roots become suspended in the water column and add to the already increased turbidity.

The aquatic invertebrate community becomes dominated by bottom-dwelling insects like midges. A midge is an insect that spends its juvenile life-stage burrowing around in lake sediments. On warm summer nights, adult midges emerge from the lake surface in droves. The evening midge hatch on Utah Lake is evidence of the lake being dominated by bottom- dwelling insects. The predominance of these insects causes the fish community to become overrun by bottom-feeding species like carp. The digestive activity of bottom-feeding fish promotes nutrient flux from the sediments into the water column, promoting algal growth, and their foraging behavior (digging around in the mud in search of food) significantly contributes to re-suspension of sediments, which further contributes to high turbidity.

Reflecting on Utah Lake, disturbances that likely contributed to its existing state include elevated nutrient loading from agricultural runoff and sewage disposal, the introduction and establishment of common carp, and unnatural water level fluctuations associated with water management. These three factors affected the survival of rooted aquatic vegetation, which provided the refuge that maintained a stable ecological community.

Large lakes like Utah Lake have the potential for clear and turbid water states to exist in open connection. Large, offshore areas experience wind-driven turbidity; while near-shore areas, embayments, and river deltas that are full of diverse aquatic plants maintain clear water conditions. Vegetated areas provide refuge for prey species including zooplankton, aquatic insects, and young fish; stabilizing predator/prey interactions and maintaining a more diverse aquatic community.

In order to re-establish a clear water state, documentation shows that many shallow lakes benefit from the reduction of bottom-feeding fish and the decrease of nutrient loading. In Utah Lake, common carp, a nonnative species introduced as a food source, is the main concern. In the most recent lake-wide survey conducted, common carp represented an overwhelming 91 percent of the fish biomass in the lake. Common carp in Utah Lake are a destructive force within the energy network of the lake's ecosystem and cause conditions that promote their survival over other species. Total elimination of carp from such a large lake system is not feasible at this time. However, studies have shown that benefits to shallow lake systems can often be achieved with a 75 percent reduction in bottom-feeding fish populations – as long as the reduced numbers can be maintained.

In Utah Lake, the reduction and control of common carp represents a significant challenge. Common carp have a competitive advantage over native fish, including endangered June sucker, in the existing turbid state of the lake. Scientists recognize that in order to maintain the clear-water state in shallow lakes, "top-down" control of the food chain is necessary. In short, this means that predators exhibit control that cascades down the food chain to ultimately control phytoplankton production. In the case of Utah Lake, predators may be fish – the Bonneville cutthroat trout was the natural fish predator in the lake – and fish eating birds. Without predators, planktivorous fish like June sucker, can become overabundant and reduce zooplankton to a level where they no longer control algal production. Unchecked, the increase in algal production triggers the transition to the turbid ecological state, which favors common carp over other species.

The need for predators to control an endangered species, at first glance, seems counterintuitive. Yet, if aquatic vegetation can be restored in the near-shore areas of the lake to provide cover to protect young June sucker, and alternative-forage species can be introduced and maintained, sufficient numbers of June sucker should grow to adulthood and contribute to the spawning run. In the original Utah Lake system, Bonneville redside shiner, Utah Lake sculpin, mottled sculpin, leatherside chub, Utah chub, speckled dace, longnose dace, mountain sucker, and young June and Utah sucker and mountain whitefish were forage species for Bonneville cutthroat trout.

At this point, scientists are uncertain about what combination of species would contribute to maintaining a healthy and balanced aquatic community in Utah Lake that fosters the recovery of June sucker. Research regarding options for controlling common carp, restoring aquatic vegetation, and determining fish species that are compatible with the recovery of June sucker will provide insights that can be applied to the long-term management of the Utah Lake aquatic community.

Photo by Brett Colvin.

THE FRAGILITY OF POTENTIAL.

The concept of potential is an extraordinary and precarious one. Potential is a gift that, unless continually and properly cultivated, loses its momentum and eventually disappears. The potential of Utah Lake as a healthy fish and wildlife habitat, water resource, and recreation area hangs in the balance – waiting to be nurtured into greatness.

"The closest example, I imagine, is music, because it is the least imitative or descriptive of all forms of art. Nobody would ever ask what a single note means. Not even a melody could be explained in words. We can say only that such and such feelings are aroused by it.

The same is the case with abstract painting. We cannot ask what a single color or a single shape means. One could ask this only if color and form were something different from what they are. It would, however, be wrong to conclude that they have no meaning. On the contrary, it is because of the profundity of their nature, the many-sidedness of their character, that we cannot define them in any exclusive way. It is only the composition as a whole that gives a particular, though not explainable, significance to them."

Lama Anagarika Govinda, Creative Meditation
and Multi-Dimensional Consciousness, 1976

Perhaps the quote above provides some insight into the Utah Lake ecosystem and how its elements interconnect. If it were a musical score or an abstract painting when the first settlers arrived, it would be a completely different work of art today. The music of the score and the colors of the painting have been so altered, that it's unlikely our ancestors would even recognize the lake today. Decades of urbanization, residential and commercial development, and the introduction and proliferation of nonnative fish have greatly impacted the lake, its native fish community, and the ecosystem that both supports and thrives from the health of native fish like June sucker. Of the fish living in Utah Lake, only two of the original 13 species are still present, but in extremely small numbers. And June sucker are federally listed as an endangered species.

THE ENDANGERED SPECIES ACT.

Passed into law in 1973, the Endangered Species Act was created to protect the ecosystems on which endangered or threatened species depend, and to conserve the endangered or threatened species itself. It also calls for the obligation of federal agencies to comply with the Act. It states:

"FEDERAL AGENCIES SHALL, IN CONSULTATION WITH, AND WITH THE ASSISTANCE OF THE SECRETARY [OF THE INTERIOR], UTILIZE THEIR AUTHORITIES IN FURTHERANCE OF THE PURPOSES OF THIS ACT BY CARRYING OUT PROGRAMS FOR THE CONSERVATION OF ENDANGERED SPECIES AND THREATENED SPECIES."

The Endangered Species Act also instructs federal agencies to ensure that actions they conduct or fund do not jeopardize the existence of the species itself, or its habitat.

So what does this mean for Utah Lake, the June sucker population, and other residents of the Wasatch Front? Essentially, it means that any agency involved in a federally approved or supported action, either through active participation or funding, that could jeopardize June sucker or their habitat, will need to consult the U.S. Fish and Wildlife Service (USFWS) about those potential impacts. The USFWS is the branch of the federal government that has regulatory authority over endangered species.

THE POTENTIAL OF UTAH LAKE AS A HEALTHY FISH AND WILDLIFE HABITAT, WATER RESOURCE, AND RECREATION AREA HANGS IN THE BALANCE – WAITING TO BE NURTURED INTO GREATNESS.

These June sucker, collected during their spawning season in 1984, were being held overnight in cages in the Provo River for use in a captive breeding program. They were found clubbed to death the following morning. The incident drew attention from *The Salt Lake Tribune* in an article that denounced the cowardly act. Courtesy of June Sucker Recovery Implementation Program.

▼

THE VALUE OF THE ENDANGERED SPECIES ACT.

There are opponents of the Endangered Species Act and recovery efforts that claim taking action to save June sucker is a waste of funds and effort. These types of statements are often born of frustration, and a lack of awareness of a recovery program's potential to benefit much more than the endangered species. An endangered species draws attention, support, and funding not only to the species itself, but to the ecosystem in which it lives. In the case of June sucker, they are indicators of the conditions of their environment, so actions to recover the fish will improve the health of the lake and all species around it. The bottom line is, fish, animals, and humans are part of the same ecosystem. We rely on each other to coexist within that ecosystem and to make it function properly.

Still, there are some people who insist that the changes in and around Utah Lake were bound to occur. Yes, nature dictates that things must change. Yet, the reality is that the devastating changes endured by the lake were caused by human hands. Now, it's up to us to cause positive change.

June Suckers Dealt Blow By Terrible Deed

▼

Man-made dikes constructed with scrap materials, built with the intention of protecting areas from being flooded by Utah Lake, have eliminated shallow, near-shore habitat important to the growth and survival of young June sucker. Photo by Brett Colvin.

(Left and right) Provo City workers join forces with Utah Division of Wildlife Resources personnel in an effort to remove tens of thousands of problem carp from the lower Provo River before irrigation demands drain the river and leave the fish high and dry. Photo by Chris Kelleher, 2003.

THE HUMAN-FISH CONNECTION.

The goals of the June Sucker Recovery Implementation Program are carefully designed to restore this endangered species and to address human water needs. To accomplish this dually focused vision, three main areas of management must be executed: tributary stream flows need to be acquired and protected to enable June sucker to successfully spawn; nonnative fish species need to be controlled or managed to allow sufficient numbers of June sucker to grow into adults and contribute to spawning runs; and the enhancement and maintenance of habitat to promote conditions that support the survival and growth of young June sucker needs to occur.

The potential advantages of recovery extend far beyond an endangered fish. The entire ecosystem and ultimately, the human residents of the Wasatch Front will reap the rewards. Enhanced flows of the Provo River and other Utah Lake tributaries to help June sucker will positively affect other fish species. Through nonnative fish control, the fish community will regain its balance and water quality will improve. And, habitat enhancement will boost the health of the entire ecosystem.

June sucker are pelagic planktivores – fish that feed on zooplankton in the middle level of the lake's water column. Adversely, nonnative, common carp feed on and have destroyed lake floor vegetation. This overfeeding on the lake's bottom has upset the balance of the ecosystem. Therefore, successful control and management of carp will directly benefit June sucker, along with a host of other species. Studies show that sufficient reduction of carp numbers coupled with nutrient reductions will allow aquatic plants to be restored. As these plants thrive, a series of ecological shifts will take place, leading to better water quality and a more balanced and diverse aquatic community. Many creatures, from tiny, single-celled plankton and aquatic insects, to fish and waterfowl, stand to benefit if this major undertaking could be achieved.

Additionally, by restoring wetland plants, which act as natural filters at tributary mouths, the quality of water entering the lake will improve. Such enhancements will also provide a supportive habitat for diverse groups of species. As the lake's native fish community and surrounding wildlife regain strength, the local human residents will also be able to enjoy the benefits of a healthy ecosystem for generations to come.

This June sucker was one of many fish found clubbed to death and left to rot in 1984. Courtesy of June Sucker Recovery Implementation Program.

June sucker that migrate up the Provo River to spawn are collected and artificially spawned in an effort to develop brood stock for augmenting the lake population in the future. Courtesy of June Sucker Recovery Implementation Program.

THE STEPS TO RECOVERY.

Right now, habitat conditions in Utah Lake do not favor June sucker. Tributary spawning areas have been reduced by diversion structures that act as barriers to suitable spawning habitat. Tributaries have been channeled and dredged to the point that young June sucker produced in the Provo River spawning run cannot access the habitat they need to survive.

Water development in the Utah Lake drainage basin for use along the Wasatch Front has been identified as having an impact on June sucker and their habitat. After June sucker were listed under the Endangered Species Act in 1986, water management agencies whose operations affected the lower Provo River found themselves in seemingly never-ending consultation with federal officials. At the same time, the other primary threats to recovery, nonnative fish and habitat degradation, were being overlooked.

Water management agencies and wildlife management agencies recognized that they needed a more balanced approach to recovery. Working in partnership, the two could address all recovery threats and meet the water resource needs of both humans and June sucker. This would be necessary, agency officials decided, if this rare fish were ever to be removed from the Endangered Species List.

In April 2002, the June Sucker Recovery Implementation Program was formed by a collection of federal, state, local, and environmental/outdoor interest groups. All participants have either authority or interest in important elements of June sucker recovery. The program has two main goals:

1) Recover the June sucker so that it no longer requires protection under the Endangered Species Act.
2) Allow for the continued operation of existing water facilities and future development of water resources for human use in the Utah Lake drainage basin.

The success of the program depends on several other critical accomplishments, including the management of nonnative and sports fish. At least 24 nonnative fish species have been introduced into Utah Lake. Several species have become self-sustaining and either compete with, prey upon, or alter the habitat of June sucker. The enhancement and maintenance of a quality habitat is important to restoring the balance of the lake's entire ecosystem. Through water management, the program can protect water resources that revitalize June sucker habitat and spawning areas. The fish's genetic integrity must be maintained. This effort is underway through the development of captive brood stock, which represents to the maximum extent possible, the genetic composition of the wild June sucker population. A warm-water facility to culture June sucker, other native fish, and amphibian species is expected to be constructed and operational in the next few years, with the goal of large-scale stocking to begin in Utah Lake shortly thereafter. Ongoing research has provided valuable information on the life history and habitat needs of the fish, along with its interaction with other species. Results from monitoring efforts will be gathered and integrated into planning on an annual basis to direct recovery and help ensure the progress of the program. Finally, and perhaps most importantly, public education and awareness is critical to gaining support for the recovery of June sucker in Utah Lake.

The program must balance and accommodate the water resource needs of the human population with June sucker recovery efforts. In promoting the recovery of June sucker, the program takes an ecosystem-level approach and considers opportunities to conserve other sensitive and federally listed species in Utah Lake.

Each year, program activities are reviewed by the U.S. Fish and Wildlife Service to assure that sufficient progress is being made towards the recovery of June sucker. This process of checks and balances ensures that the recovery needs of June sucker are being met while water supplies for human use are not interrupted.

"The important thing to remember…is that the fish will not be recovered until we improve habitat conditions in both the lake and the [Provo] river. I am optimistic about the future of June sucker because we are already improving water quality, establishing minimum flows in the river, and we are getting improved understanding and support from the public…A growing number of people see beyond trying to save 'some…fish,' and instead see a clean smelling river, a swimmable lake, and a fishery that will actually sustain some substantial use."

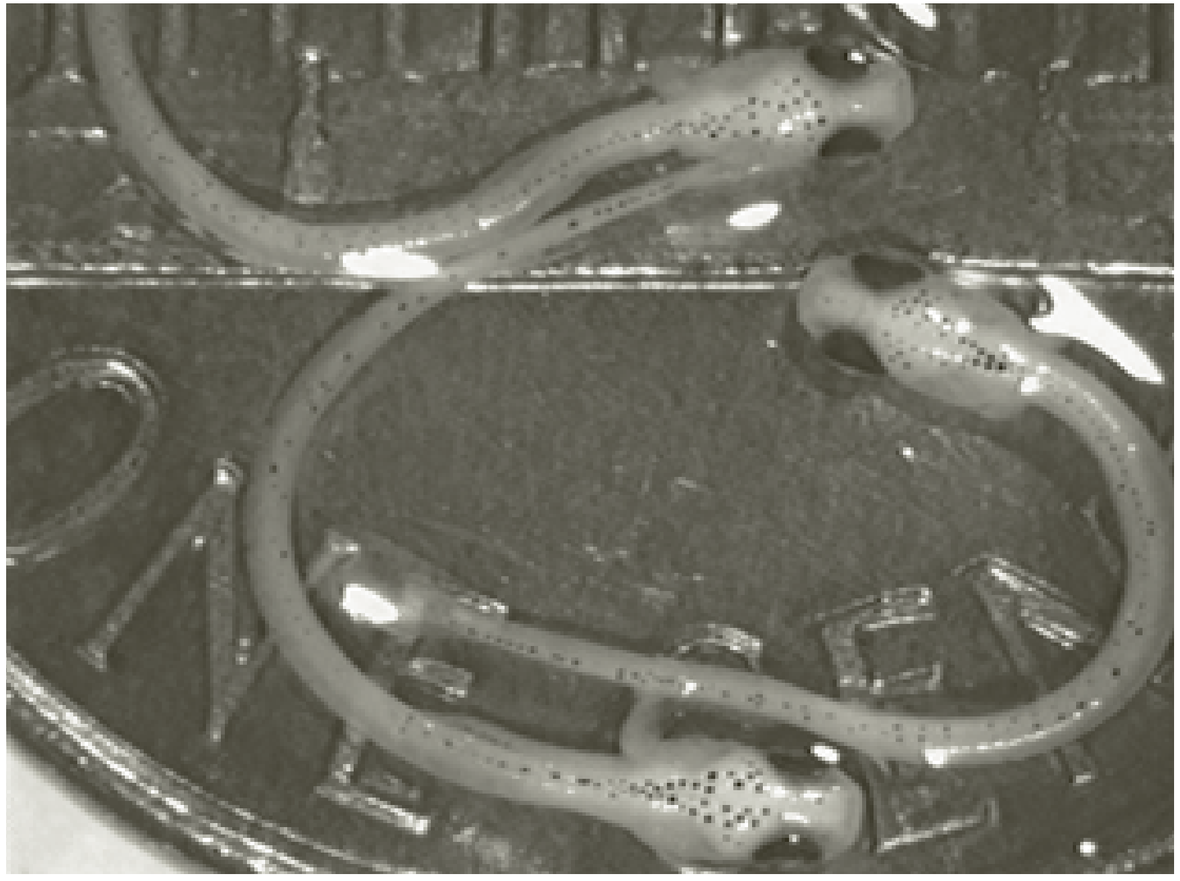
— Reed Harris, June Sucker Recovery Implementation Program director.

Experimental cages that exclude carp allow scientists to examine the potential to restore aquatic vegetation. Photo by Chris Keleher.

▼

Tiny June sucker (as seen here on a penny) are usually less than three weeks old when they drift down river from spawning beds, and are easy prey for nonnative fish. Photo by Craig Ellsworth.

▼



A Utah Lake sunset and a pair of cruising pelicans provide a stunning backdrop for June sucker research efforts. With the help of the recovery program and public support and cooperation, views like this will be around for many future generations to enjoy. Photo by Chris Keleher.

"We can no longer be naïve observers who live outside the phenomena we manipulate. The properties of organisms, their development and health, the dynamic activities of brains and communities, the characteristic order of ecosystems, the patterns of evolutionary change, are processes in which we are directly involved. For better or worse, we participate in them, and of course, we would wish to participate wisely rather than irresponsibly." — Richard Sole and Brian Goodwin, Signs of Life, How Complexity Pervades Biology, Basic Books, ©2000.

AN ESSENTIAL THREAD IN THE COMPLETION OF A MAGNIFICENT TAPESTRY.

Without help, June sucker will never be recovered and removed from the Endangered Species List. The June sucker's recovery elements — nonnative and sportfish management, habitat development and maintenance, water management and protection to benefit June sucker, genetic integrity and augmentation, and information and education — will have overwhelming benefits for Utah Lake's ecosystem. A healthy ecosystem will contribute to the greater good of all creatures that are part of it, including humans. Perhaps Utah Lake will someday be the tourist destination that history tells us it once was. For now, only the people who hold fond memories of spending their youth at the lake dancing, fishing, or boating, truly know how wonderful and pristine Utah Lake can be.

Recovering June sucker is a task some think insurmountable. Many people consider the fish, as well as Utah Lake, a lost cause. If those naysayers could talk to the pioneers who survived only by eating fish from the lake a century and a half ago, their view might be changed. In documenting and sharing the stories of Utah Lake and its native fish, it is hoped that more people learn the important roles that both have played in our history and continue to play today.

The involvement and support of the public is instrumental in revitalizing June sucker and the aquatic community of the lake. With public support, the road to recovery and the reaping of the benefits it will provide will be much less challenging. Without public support, the uphill battle to recover this unique species and our beautiful lake, will be that much steeper.

"The mere awareness of minor functions, isolated from their wider background and their essential relations, is meaningless. An isolated experience… an isolated fact, or a fragment of knowledge taken out of its context, has no value, unless it is brought into proper perspective and into relationship with other pieces of information…no thing and no being can exist in itself or for itself, but only in relationship to other things or beings, to conscious or unconscious forces of the universe."
— Lama Anagarika Govinda, Creative Meditation and Multi-Dimensional Consciousness, 1976.

We would like to thank the following individuals for sharing their memories, thoughts, and images of Utah Lake with us:

Boyd Adams
McKay Andreasen
Benjamin Allen
Rex Blake
Grace Bramall
Muriel Bywater
Lynda Carter
Shirley Cross
John Eldredge
Winona Fryer
Peggy Fullmer
Bud Good
Bert Halladay
The Halliday Family
Lee Hansen
Justin Hanson
Keith Hayes
Lillian Hayes
Stacey Hinckley
Ray Holdaway
Sylvia Holdaway
Jeanette Holdaway
Lavee Holmes
Jake Jacobs
Thomas Jepperson
Bill Loy Jr.
Bill Loy Sr.
Henry Loy
Lyla Madsen
Evelyn Mason
Danny Potts
Virginia Shorthill
Nanalee Stratton
Roland Strong
Mildred Sutch
Clarence Taylor
Phylis Van Wagenen
Dale Vincent
The Ward Family
William Wilson
Norma Smith Wright
Laree Young

We would also like to thank the following organizations for access to historical information and images:

Brigham Young University Photo Archives
Brigham Young University Museum of Peoples and Cultures
LDS Church Archives
Spanish Fork Daughters of Utah Pioneers Museum
Springville Historical Society
Utah County Archives
Utah State Historical Society
Utah Valley Regional Family History Center at Brigham Young University