

Antelope Island

Antelope Island, on the south end of Great Salt Lake, is the largest island in the lake. It is a 28,240 acre refuge for huge amounts of wildlife. The island is approximately 15 miles long and 5 miles wide. The size of the island depends on the level of the lake; at low levels, the island becomes a peninsula. The island is primarily a grassland community, with several species of grass. The island consists of several flat slope areas (39%), with 34% medium slopes, and 27% of the island is steep slopes. The lake is outlined with beautiful white sand beaches and wetlands. Frary Peak, the highest point on the island, is 6,596 feet above sea level. That is over 2,000 feet above the lake level. Over forty major fresh water springs and numerous smaller springs are found on the island.

Antelope Island History

Human history on Antelope Island began with Native American use. Several prehistoric camps have been identified, but information regarding the extent of Native American use is sketchy at best.

In October of 1843, John C. Fremont and Kit Carson made the first known journey by Anglos to Antelope Island, where they observed several antelope, thus giving the island its name. From Fremont's journal: "We found water and several bands of antelope. Some of these were killed and in grateful supply of food the antelope furnished I gave the name of the island."

Daddy Stump was the first Anglo resident of Antelope Island. He was an "old mountaineer and bear hunter." His full name and background have eluded historians. He wintered his herds on the island and spent the summers pasturing them in Cache Valley.

Fielding Garr Ranch

Fielding C. Garr, a widower from Wayne County, Indiana and his eight children, ranging from three to 24 years of age, were among the early pioneers to cross the prairies and mountains seeking refuge in the Salt Lake Valley. After spending the cold months of 1846 in "Winter Quarters" (now Omaha, Nebraska) the long 1,000-mile westward trek began in June, 1847.

After 111 days crossing treeless prairies, enduring extreme hardships: hunger and illness, heavy rains, encountering Indians, and experiencing a bison stampede, the group of ten families arrived in the Salt Lake Valley in October 1847. Fielding Garr, a bonded herdsman, had been charged with the responsibility to herd this group's livestock to their new habitat. Fortunately, there were no large losses of stock incurred during the travel West.

The Garr family was assigned a lot in Salt Lake City where a small family home was built. Crops were planted and they continued to raise cattle, horses, pigs and chickens. With the large number of pioneer families arriving in the valley by fall of 1848, Fielding Garr, Thomas Thurston, and Joseph B. Noble traveled to Antelope Island to determine if the island would be suitable as a herd ground. The island was covered with good, abundant grasses, starch root, sunflowers, wild rose bushes, sage, berry bushes, and a few willows and shrubbery in the ravines. There was much evidence of fresh water springs in many places and excellent grazing fields on the eastern slopes of the island. They found Antelope Island to be unrivaled as a herd ground; most appealing, was the isolation and the protection offered from theft and disease. The island offered prime, ample grazing land.

Garr, Thruston, and Noble formed a company, and then drove the first herd of cattle 18 miles to their new grazing land on Antelope Island during the winter of 1848-49. Fielding Garr had quite a sizeable herd of his own by this time. The cattle drive took three days. The lake was dry most of the way where they crossed from the mainland to the south end of the island. The Garr family came over later, crossing the lake by horse and wagon over sand bars covered with coarse salt.

A small, one-room cabin was built as temporary living quarters for the family until a permanent dwelling could be constructed. It was located very close to what became known as "Garr Springs." The ranch house would be built further west of the Springs.

The five-room adobe house was built in the early pioneer architectural design. Two square rooms facing east had a window-door-door-window facade, with a large fireplace in each room. A lean-to extension faced west and included three small bedrooms, each with a window. Two bedrooms opened into the living room area, the third opened into the kitchen where the hired hands ate their meals. Natural material from the island was used to form the adobe bricks. Clay was mixed with straw and then sun dried. The walls were a foot thick. Being a skilled mason, Fielding Garr built his ranch house so well it has withstood the ravages of time for over 150 years.

The original Garr Ranch complex covered 25 acres. The oldest and most historic

buildings along with the ranch house are:

- a. The Bunkhouse (also used as a church and schoolhouse): An adobe two-story, gabled roof structure (now faced with cinder block and painted white), with a stone root cellar accessed by an outside stairwell.
- b. The Springhouse: A gabled roof structure of rocks built over the running spring waters and used for storage of perishables.
- c. The Barn Stable: A rock structure with sloping shed roof.
- d. The Blacksmith Shop: A rectangular, gabled roof adobe structure (now faced with cinder block and painted white). The second level was used as a bunkhouse.
- e. A large barn and corrals to the north. Several sheds for sheep, milk cows and calves, a hog pen, and a chicken coops. The cattle coral was large enough to hold 1,000 head of cattle. It was fenced in with large cedar posts and heavy maple poles, 7 high.

The complex also included a garden and fruit trees; a pole fence in front of the house made of 4-7 thick willow poles, and a landing wharf on the east shore. The east side of the house had locust trees.

Fielding Garr, known well as a bonded herdsman, was tasked to care for the herds belonging to the Stansbury Expedition in 1849-50. The Garr Ranch complex soon became known as the "Garr Herd Camp." Garr was also in charge of the LDS church's cattle sent to the island by the Perpetual Emigrating Company beginning in 1850. The church cattle were branded with "LDS" on their thighs, and Fielding Garr's were branded with "FS", symbolizing Fielding & Sons.

In September of 1850, legislation was passed designating Stansbury and Antelope Islands for the exclusive use of stock for the Perpetual Emigration Company. Thomas Thurston, Joseph Noble and others removed their cattle from Antelope Island; the company with Garr apparently dissolved. Fielding Garr was left in charge of the church's cattle, horses, and sheep, plus those of Heber C. Kimball, Brigham Young, and his own. In addition to all of the cattle, there were 600 horses turned loose on the island. The church had invested thousands of dollars in valuable stallions and brood mares.

By 1854, conditions on the island for grazing cattle began to deteriorate. Both the

island and Salt Lake Valley were infested with a plague of grasshoppers. The lake had also risen, making it necessary to haul cattle back and forth to the mainland by raft or ferry boat. Feed on the island had become scarce due to over-grazing, necessitating removal of the cattle.

Much of the church herd had been moved to Elk Horn Ranch in Cache Valley. The “Garr Boys” were in the process of moving their family herds to Millville, Cache Valley when the rigors of pioneer life took its toll on Fielding Garr. He fell very ill and died in the ranch house on June 15, 1855. It is believed his body is buried on the island, north of the ranch house.

Following Fielding Garr’s death, Briant Stringham became foreman of the Garr Ranch and the Island Ranching Company. He was responsible for all of the church stock. The lake waters had risen and animals were transported to and from the island by a large flat barge. Many acres of grain and alfalfa were planted and an orchard and large garden started. Mr. Stringham was caught on the Great Salt Lake during a storm. He developed lung congestion (pneumonia) and never recovered. He died August 4, 1871.

The LDS church lost interest in the island ranch after Stringham’s death, and in 1875, contracted with White & Sons to round up the horses and deliver them to Salt Lake City. During the next eight years, only a few of the wild horses were caught. Ten thousand sheep were ranging on the island throughout this period, cropping the grass to the earth. Feed became extremely scarce for the remaining horses, and many starved to death. In 1884, the Island Improvement Company was organized and leased the island to John White and Sons who considered the horses a nuisance and shot them.

By 1911, the Island Improvement Company was managed by John Dooley, Jr. Under his direction, existing buildings at the Garr Ranch were improved with construction of a new sheep shearing shed, corrals, and a silo. The company also built a water reservoir and a hydraulic ram jet, which brought piped water into the ranch house for the first time.

Sheep were the primary commodity. During the 1920's and 1930's the island was home to the largest sheep operation west of the Mississippi River. Over 10,000 sheep were kept on the island at that time.

During the 1940s, the deteriorating walls of the ranch house, blacksmith shop and bunkhouse were stabilized with four-inch cement blocks. A room was added to the north end of the ranch house. The addition contained a sink and shower for the ranch hands’ use. In 1951, the company in partnership with Salt Lake City, constructed the south causeway from the mainland to the island allowing cattle to be shipped directly by truck

both ways. Two fences were built across the island from east to west, creating three separate sections of range and preventing pastures from being over-grazed.

The island was sold to Anschutz Ranching and Livestock Company in 1972. During the following nine years that Anschutz owned the island, fences were extended, ranch buildings maintained and the south end causeway raised. Grass was sufficient to winter 2,000 head.

In 1981 the State of Utah purchased the southern 26,000 acres of Antelope Island from the Anschutz company. This extended Antelope Island State Park to include the entire island. The north 2,000 acres of the island had been purchased by the state as a state park in 1969.

Bison

By the late 1800's it was estimated only 800 bison were left on the continent of North America. At this time, conservationists around the country began to take steps to save bison from extinction. Two Utahns were instrumental in this effort. Together, William Glassman and John Dooly brought bison to Antelope Island. Glassman was developing Garfield City on the south shore of Great Salt Lake in Tooele County. The development included a planned zoological garden with a "Buffalo Park." The venture was not successful and Glassman began to look for buyers for his bison. John Dooly, who owned most of Antelope Island, purchased some of the bison for the island. On February 15, 1893, 4 bulls, 4 cows and 4 calves were boated to the island. These twelve animals provided the foundation for what has grown into one of the oldest and largest publicly owned herds of bison in the nation.

In 1922 a portion of the silent film "Covered Wagon" was filmed on the island in an area now known as Camera Flat. The bison herd was stampeded through the wagons for the movie. A camera man was almost killed during the stunt, but a quick cowboy saved the day, downing the errant bison just before he reached the camera wagon. Buffalo steaks were enjoyed that evening by everyone, with the camera man refusing to partake.

In 1926, a large buffalo hunt took place on the island. This was advertised as "The Last Great Buffalo Hunt." The hunters were charged \$300.00 a head for each animal taken. The famous boxer Jack Dempsey participated in the hunt. One source claimed that fewer than 100 of the 400 bison were taken and another claimed only 25 were spared.

In 1981 the State of Utah purchased the southern 26,000 acres of Antelope Island from the Anschutz Land and Cattle Company for a state park (The northern 2,000 acres had been purchased in 1969). Anschutz donated the bison herd to the people of Utah with the purchase of the land.

Since the mid-1800's the island had been over-grazed by domestic livestock. One goal of the State Park's Wildlife Management Plan is to restore the health of the rangeland on the island. Rangeland studies have been done and it has been determined that to maintain adequate forage for wildlife species other than bison, the bison herd should be maintained at between 550-700 animals.

From 1893-1986 the only management of bison on the island was hunting to keep the herd size down and limit competition with livestock. In 1987 the Division of Parks and Recreation prepared and initiated a bison management program. On November 7, 1987 the wild herd was captured for the first time. Blood samples were taken and at that time there were eight known gene alleles for the American Plains Bison species. However, a ninth allele, unique to the Antelope Island herd, was found. Each year since 1987 the bison are rounded up as part of the management program. The annual bison round-up is the primary tool utilized to control the bison herd size on the island. During the round-up the bison are also weighed, vaccinated and checked for pregnancy. After the animals are rounded up and any excess sold, the remaining herd is released back onto the range.

The bison thrive on the island due to the fact that most of the island is grassland and because of the 40 major fresh water springs found on the island. Due to fault lines, 37 of the springs are found on the east side of the island, providing over 36 million gallons of water per year.

The gestation period of bison is nine months. On Antelope Island most bison breed in July and August. A majority of the calves are born in April and May.

Depth and Quality of Ecosystem

Antelope Island is primarily a grasslands environment. During the summer the island is buffeted by summer thunderstorms and lightning caused fires are nearly an annual event. Fire allows grasses to out-compete woody vegetation such as trees and shrubs. Grasses can move much more quickly than woody vegetation in reclaiming burn areas. As a result around 90% of Antelope Island is grassland.

The fact that the island is primarily a grassland allows it to support large grazing species

such as bison. The grasslands are also preferred nesting habitat for many upland birds such as long-billed curlews and chukars. The grasses produce copious amounts of seeds which support large rodent populations (pocket gophers, kangaroo rats and several species of mice). The large rodent populations provide prey for many predators such as badgers, coyotes, bobcats, red-tail hawks and short-eared owls.

Another key ingredient contributing to the abundance of wildlife on Antelope Island is that the island has 40 major fresh water springs, along with numerous small springs and seeps. The springs of the island typically start at the Bonneville Terrace level, flow for awhile and disappear into sand and gravel alluvium and then reappear as a seep at lake level. These fresh water seeps, mixing with the salty lake water creates very dynamic marsh habitat along the shoreline of Antelope Island. The combination of upland habitat, with abundant large mammals, juxtaposed to rich waterbird wetland habitats, gives the island a truly unique blend of wildlife.

While the island is primarily grassland habitat, some areas have been protected from fire long enough to allow the establishment of shrubs such as sagebrush. The shrub lands are important habitat for antelope and mule deer. A key part of the park's fire suppression plan is to protect these shrub areas from fire.

The major springs cause riparian arteries to form providing yet another different habitat on the island. Along these riparian arteries rocky mountain maple, choke cherry, box elder and willows thrive. These trees provide habitat for porcupines and many songbirds such as warblers and flycatchers.

Peregrine falcons and five species of owls all nest on the island. The largest California Gull rookeries in North America are on small islands just off the Antelope Island shoreline.

Power of Migration Hemispheric Shorebird Reserve

The Great Salt Lake is one of the most important avian breeding and migratory staging areas in the United States. The lake is of particular importance to long-range migrants. This importance has been officially recognized with Great Salt Lake's designation as a Hemispheric Shorebird Reserve.

Long-range migrants are birds that nest in the northern latitudes and migrate to winter in

the southern latitudes. Long-range migrants must have staging and refueling areas in order to migrate such long distances. One of the most exciting stories is that of the Wilson's Phalarope. Wilson's Phalaropes nest in Canada and the western United States. After nesting season is over they migrate to Great Salt Lake. Arriving at the lake, they go through a hyperphagic state in which they gorge themselves on the plentiful brine flies and brine shrimp. Within a couple of weeks they will molt all their flight feathers and nearly double their weight. From Great Sale Lake they will fly almost non-stop to their wintering grounds in central Argentina. The flight takes four to five days.

It has been stated that long-range migrants take advantage of "eternal summers." They nest on the northern latitudes summer and migrate to the southern latitudes summer. Migration is primarily stimulated by changes in day length. The birds appear to navigate through a combination of celestial orientation, magnetic fields and recognition of physical features, depending on the species. Their travel patterns take advantage of prevailing winds. Migration can be characterized as an evolutionary process developed through time adapting to climatic changes. Each species has developed its own specific migration strategy. These migration strategies allow species to take advantage of abundant food sources.

Great Salt Lake is extremely important to both migrating and nesting species of birds for a number of reasons. Number one is that the lake produces brine flies and brine shrimp in extraordinary numbers. These macro-invertebrates are relatively free from predators with the exception of birds. Birds are the only animals which monopolize on this abundant food source. Great Salt Lake is in much better shape than the nation's other salt lakes. Other salt water lakes have had water development take away most of their water sources. The shorelines around Great Salt Lake have largely been kept free of development. Currently the lake has 400,000 acres of contiguous associated wetlands.

Great Salt Lake is a nurturer to these birds. It enables us to see these spectacular sights. These tremendous concentrations of birds are a blossoming of nature. The roots are in the contiguous habitat and the tremendous abundance of brine flies and brine shrimp.

The Great Salt Lake supports a spectacular population of a wide variety of birds. Some examples:

- Over 160,000 California Gulls, more than anywhere else in the world
- Over 10,000 Snowy Plovers nest on Great Salt Lake (largest inland population in the U.S.)
- 15,000 bank swallows in one flock in one day

- 30,000 Marbled Godwits, in one flock in one day (largest interior staging area in U.S.)
- 7,000 Sanderlings, in one flock in one day (Antelope Island Causeway)
- 60,000 Long-billed Dowitchers in one flock in one day
- 10,000 Western Sandpipers in one flock in one day
- 5,000 to 18,000 White Pelicans nest on Gunnison Island making it one of the largest rookeries in the U.S.
- Considered to be the single most important nesting area in the U.S. for White-faced Ibis

There is an interesting story regarding California Gulls. Almost all of the gulls on the rookeries are mature adults and first year young. The California Gull takes four years to mature. The immature birds fly to the west coast where they stay until they mature, and then the mature birds return to Great Salt Lake to breed.

Geology

Antelope Island is the largest island in Great Salt Lake. It is approximately 15 miles long and about 5 miles across at the widest point; 40 square miles in area. The highest peak (Frary Peak) is 6,597 feet, about 2,400 feet above the current level of the lake. The island is a small fault-block mountain range in the Great Basin which extends from the Wasatch Front to the Sierra Nevada mountain range. The island rocks were formed or deposited at widely spread times (billions to millions of years) and under diverse geologic conditions. The geology, oolitic sand beaches, relatively unaltered landscape and wildlife are the main attractions.

Geology is the foundation for Antelope Island, and reveals a long history of complex geologic processes. Rocks on the island range from the oldest to the youngest in the state of Utah. Five periods of geologic time are preserved in detail. Unconformities are due to the area being elevated above sea level wherein rocks were either never deposited or were eroded away. Little is known of the geologic events represented by the older unconformities. The geology controls the collection and distribution of ground water and the location and size of springs.

About 100 to 150 million years ago, the North American continental and Pacific oceanic plate of the earth's crust collided with and rode over each other causing faulting, earthquakes, metamorphism, volcanic activity, and mountain building. Deformation from this collision activity produced major thrust faults (sub-horizontal faults) wherein large sheets of rock, many miles across, were transported distances of 100 miles or more. The older rocks of Antelope Island originally formed

50 to 75 miles farther west and were transported to their present positions along one or more such faults. These long sheets of rock were faulted, intensely sheared, and subjected to low grade metamorphism. The Wasatch Formation located on the east side of the island contains detritus from thousands of feet of thrust-sheet mountain range that disappeared through erosion. Boulders and cobbles in the Wasatch Formation contain fossils of corals, brachiopods, crinoids, and other ocean-dwelling organisms.

Farmington Canyon Complex – Precambrian - Gneiss

Metamorphism is the alteration of rocks by heat and pressure. Rocks may deform like warm plastic and can even partially melt. Minerals within the rock tend to align, segregate or clump, forming layers. The high pressures cause the rocks to fold, fault, and flow creating complex swirls, contortions, and other patterns. Melted rock penetrates along zones of weakness forming dikes and sills.

Most of the exposed rocks on Antelope Island are part of what is known as the Farmington Canyon Complex, which is part of Utah's Precambrian "basement" rock. Because it is generally covered by younger sedimentary rock, the basement rock is rarely exposed on the surface. Metamorphism occurred within in this rock about 1.7 billion years ago when extremely high temperatures and pressures caused severe deformity, alterations, and partial melting. This intense metamorphism is preserved and evidenced almost everywhere in the rocks of the Farmington Canyon Complex.

The Farmington Canyon Complex is made up of these ancient rocks (1.7 billion years old). They are exposed on the southern two-thirds of Antelope Island. Most are gneiss, a coarse grained, irregularly banded metamorphic rock; granite gneiss, pink and salmon colored; quartz gneiss, almost white or translucent; and dark amphibolite gneiss. Feldspar, quartz, hornblende, and magnetite minerals are dominant; and mica, red and brown garnet and hematite are locally common. Rocks subjected to compressional forces were folded or contorted, while shearing forces smeared or granulated them into finer grained equivalents called schists and phyllonites.

Pegmatites have a granular and very light colored appearance. These rocks were partially melted by deep heat beneath the surface of the earth and cooled very slowly so the mineral crystals which developed grew to very large sizes.

Mineral Fork and Kelly Canyon Formations – Late Proterozoic - Diamicite, Dolomite, Slate

The Mineral Fork and Kelly Canyon formation overlay the Farmington Canyon Complex. These rocks were deposited between 710 – 600 million years ago. They are divided into

two parts:

The lowest is diamictite. It consists of poorly sorted pebbles, cobbles, and boulders mixed in a dark matrix of sand and granules. The thickness ranges up to 140 feet on Antelope Island. Geologists believe the diamictite is till from an extensive glacier that covered parts of this region in Proterozoic time.

The second part is a 25-foot layer of light tan to pink dolomite found on the eastern part of Elephant Head where it forms light colored cliffs and ledges. More than 200 feet of gray, purple, brown, green and red slate are found above the dolomite. Slate is formed by the metamorphism of fine grained sedimentary rocks (shale or mudstone).

***Cambrian – Tintic Quartzite**

Tintic quartzite rocks are the light tan to pale-gray to greenish-gray outcrops and rounded ridges found on the northern part of Antelope Island. These deposits are present in the boulder beaches of the island formed about 540 to 570 million years ago. It is pale orange to light gray quartzite, with many layers of pebble conglomerate. Many of the pebbles became elongated (stretched) as the quartzite was deformed under high pressure and temperature.

Fine- to medium-grained quartzite constitutes about 60% of the unit, with the other 40% being coarse-grained or conglomerate. The thickness of this unit is estimated at greater than about 1,000 feet (300 m).

Wasatch/Salt Lake Group - Tertiary - Gray/Red Conglomerate, Silt, Sand, And Clay

The conglomerate rocks consisting of limestone, dolomite, quartzite boulders and cobbles (gray and red), reddish orange silt, sand, and clay are located only on the south east side of Antelope Island. These rocks were deposited at the front of a mountain range as coalescing alluvial fans 45 to 60 million years ago. They originally laid in nearly flat positions, but are now tilted 20-45 degrees to the east, which indicates continued faulting and mountain-building activity. The sediments deposited by Lake Bonneville reach an elevation of over 5,000 feet.

The Salt Lake Group of rocks are of tuffaceous sandstone, volcanic tufts, white to gray conglomerate, friable sandstone, and multi-colored bentonitic clay. The large amounts of volcanic activity occurred in northern Utah during the deposit of these younger rocks 1.6 to 19 million years ago.

The Wasatch Group rock deposits were covered by Lake Bonneville sediments, but

were uncovered during excavation of the huge gravel pits for construction of I-80 in the late 1970s. Sixteen million cubic yards were excavated from alluvial fans and beach deposits on the southeastern side of the island. In early times, slate was quarried for flagstone and crushed for roofing stone. Oolitic sands mined elsewhere around Great Salt Lake were used for smelter flux. Other minerals present on the island include quartz, feldspar, hornblende, mica, red and brown garnet, staurolite and sillimite. Sand, gravel, flagstone (slate), metals (copper and gold), and quartzite are suitable for concrete aggregate and are some of the chief resources on Antelope Island.

Fresh-water Springs and Terraces of Lake Bonneville

Antelope Island has 40 fresh water springs that flow from rock and surface deposits. Generally, the springs are above 4,400 feet. Many are at lower elevations and become submerged when the lake level is high. The higher level springs are recharged by rain and snow infiltrating alluvial deposits and through fractured and jointed bedrock.

The basic chemical quality of these springs is good. Sodium and chloride ion concentrations are greater in the spring water on the island than those of the Wasatch Range. Storms passing over the Great Salt Lake and desert provide precipitation that recharges the springs with higher than normal concentrations of sodium and chloride ions.

Antelope Island mountainsides have distinctly visible terraces of the different shoreline levels of Lake Bonneville, the largest lake in the western United States during the Ice Age: 20,000 square miles. The highest Bonneville shoreline is approximately 5,240 feet above sea level. Other terraces were formed at the Provo level, 4,740 feet; Stansbury level, 4,500 feet; and Gilbert level, 4,250 feet. About 14,000 years ago, the highest peaks of the island were the only islands of Lake Bonneville.

Oolitic Sand

Oolitic sand beaches and dunes are found along the northern (Bridger Bay) and western (White Rock Bay) shores of the island. Ooids are sand-size particles of calcium carbonate deposited concentrically around a nucleus of quartz or brine shrimp fecal pellets. Agitation of the water by wind rolls the grains around on the lake floor to form the ooid. The ooids are egg-shaped. The oolitic sand gives the beaches a soft, slippery feeling.

Geology continues to be active on and around Antelope Island. The faults bounding the island move periodically, elevating and tilting the island. Rivers, streams, washes, and occasional volcanic eruptions continue to fill the surrounding basins with detritus. Erosion, primarily from rain, melting snow, and springs constantly alter the face of the island.

Sources: Geology and Antelope Island State Park, Utah (Utah Geological Association)
Geologic Map 127 of Antelope Island
Great Salt Lake, A Scientific, Historic, and Economic Review

Rocks of Antelope Island

Antelope Island has some of the oldest rocks in Utah and some of the youngest. The majority (2/3) of the island is comprised of the Farmington Canyon Complex.

Farmington Canyon Complex

The Farmington Canyon Complex is 1.7 billion years old. Most of the Farmington Canyon Complex rocks are classified as gneiss. Gneiss is a coarse-grained irregularly banded metamorphic rock. The Farmington Canyon Complex on Antelope Island is extremely banded and contorted and strikingly beautiful. The contorted bands observed in these rocks are good evidence of compressional forces.

Tintic Quartzite

The Visitor Center is located amidst outcrops of Tintic Quartzite. Tintic Quartzite is 550 million years old. Much of the Tintic Quartzite was deposited in a shallow marine environment as beaches. Quartzite is metamorphized sandstone.

Tufa

Tufa on Antelope Island was mostly deposited ten to fifteen thousand years ago (extremely young as rocks go). Tufa is comprised of calcium carbonate which precipitated out from wave action and algal activity of Lake Bonneville. Tuffaceous deposits on Antelope Island are typically a thin coating over previously deposited cobbles and pebbles, resembling cement. The best place to observe tufa on Antelope Island is on the Buffalo Point Trail.

Commonly Asked Questions

How deep is the lake?

Average: 14 feet

Deepest: 34-40 feet

Around the causeway: 4-5

What is the temperature of the lake?

70° in the summer

Why is Great Salt Lake Salty?

There are no outlets in the Great Salt Lake. Rivers flow in, but the only way water leaves the lake is through evaporation. Minerals (such as salt) are left behind to accumulate.

How Salty is Great Salt Lake?

Farmington Bay is 5%, the South Arm is 8-15%, and the North Arm is 28%. The differences are due to fresh water flowing into the southern part of the lake and not being able to flow freely into the North Arm (due to the railroad causeway).

How big is Great Salt Lake?

At its average level of 4,200 above sea level, the lake is 75 miles long and 35 mile wide at its widest point.

Are there fish in Great Salt Lake?

No. Brine shrimp and brine flies live in Great Salt Lake, and feed off of algae.

What makes the lake stink?

The unpleasant odor is caused by decaying plant and animal material (algae, brine shrimp and brine flies) in the shallow water and around the lake's shores, especially in Farmington Bay.

What animals live on Antelope Island?

Bison (700), mule deer (500), pronghorn antelope (230), California big horn sheep (120), coyotes, jack rabbits, cottontail rabbits, badgers, bobcats, kangaroo rats, mice, red fox, chuckar partridge, lizards, and snakes (gopher, blue racer, garter– none of which are poisonous).

Why are there so many birds?

Great Salt Lake is one of the most important avian breeding and migratory staging areas in the United States. The birds gorge on the plentiful brine shrimp and brine flies.

Are off-highway vehicles allowed on the island?

No!

Are dogs allowed on the island?

Yes. Dogs are allowed on the island, but they are to be kept on a leash at all times. Dogs are **not** allowed on the Frary Peak trail.

Are horses allowed on the island?

Yes, horses can be ridden on designated trails and anywhere on the North 2,000 acres of the island (except the beach and Bridger Bay Campground).

Is cross-country skiing allowed on the island?

Yes, but there is seldom enough snow to ski.

Are snowmobiles allowed on the island?

No! Wildlife use the north end of the island for winter grazing, creating a potential conflict with snowmobiles.

Are there boat rides available from the island?

Yes, through Gonzo Boat Rentals & Tours. 801-698-6288.
gonzofun.DG@gmail.com

Is there camping on Antelope Island?

Yes. Antelope Island has two campgrounds. Bridger Bay has 26 paved pull-outs, grills, picnic tables and pit toilets. On the beach (1/4 mile from Bridger Bay) are flush toilets and showers. Reservation for Bridger Bay can be made by calling (800) 322-3770. White Rock Bay has 5 group-use camping sites with pit toilets, picnic tables, and grills. Reservations may be made by calling (801) 773-2941.

What is the Fielding Garr Ranch House?

It is the oldest continually inhabited Anglo-built home in the state of Utah. The ranch complex consists of: an adobe house, a bunk house, spring house, sheep shearing barn, blacksmith shop, and corrals.