JIM VAN LEEUWEN

Hooper, UT

An Interview by

Becky B. Lloyd

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THIS IS AN INTERVIEW WITH JIM VAN LEEUWEN ON DECEMBER 11, 2014. THE INTERVIEWER IS BECKY B. LLOYD. THIS IS THE GREAT SALT LAKE ORAL HISTORY PROJECT. TAPE No. u-3286.

BBL: This is an interview with Jim Van Leeuwen. We are in Hooper, Utah. Today's date is December 11, 2014. This is part of the Great Salt Lake Oral History Project. My name is Becky Lloyd.

Jim, let's start with when and where you were born.

JVL: I was born here in Utah, Salt Lake City, Utah, 1962, Holy Cross Hospital. Spent most of my time in the city of Salt Lake and then we moved to Dugway Proving Grounds when I was six years old and was raised and grew up on the military base out there. So as far as being a Utahn, a typical Utahn, I wasn't exposed to Utah itself; I was surrounded by people from all over the country out there.

BBL: Interesting. So was your father in the military? Or was he civilian?

JVL: Both my parents were civilians. The military was hiring civilians out there. There was a lot, quite a few civilian families out there. They're either engineers or chemists, or like my mom was, she was a telephone operator with the old type circuit board plug in cords.

BBL: So you stayed there in Dugway until you became an adult?

JVL: Until I graduated high school. I guess adult is relative, but, yeah. I knew I wanted to go to school and all my friends were going to school. It's typical, I guess. I attended the University of Utah for three quarters, spent a lot of money not getting very good grades, didn't know why I was there, just all my classmates and friends were there. Then I dropped out and went to work mainly as a landscaper and various other jobs. I actually worked in, I went back out to Dugway and worked for the military for a couple of years.

Then went back into Salt Lake and did odd jobs there, mainly landscaping. Hurt my back; had to get surgery on my back and my doctor suggested I do something other than dig ditches and move rocks and plant trees. So I decided to go back to school. Wildlife was always my interest, passion, I guess, so I went in to wildlife and went up to Weber State University, got a degree in zoology. I was going to be what people call a fish copper or conservation officer—so I got a minor in criminal justice as well.

From there I got my first seasonal job with…

BBL: Let me interrupt you for just a second.

JVL: Go ahead.

BBL: So you say that wildlife was always your passion, your interest.

JVL: Correct.

BBL: Why is that?

JVL: I actually wanted to be a marine biologist, but the ocean is very far away from here and I went out there and looked at Humboldt State University and it was always foggy and rainy. That just wasn't me. But they just said, "Well, what you need to do is move inland twenty miles and you'll be all right." But, I don't know, I guess I got scared away from being out there; fish out of water.

BBL: Yeah. Growing up, Dugway is kind of a wild place, almost wilderness—at least it was.

JVL: It's a desert.

BBL: Did you spend a lot of time outdoors?

JVL: All the time. My mom was always complaining about me bringing home lizards, snakes, owl chicks. My friends and I, we'd go out in the desert and build our forts, as we

called them. There are some areas out there where it's sandy, so it's fairly easy digging, so we'd bring out some plywood and actually make an underground fort and just brace the walls up with plywood. So yeah, I guess; we were out there. Yeah, I spent most of my time either there or at the swimming pool. Not much else to do out there. But you're free to go wherever you wanted without any worries of being kidnapped or abducted or whatever. You could actually grow up as a kid and do what you want.

BBL: Sounds fun. So I interrupted you. You said you graduated from Weber State.

JVL: Weber State.

BBL: In zoology.

JVL: Correct. I noticed a job posted in the employment office there for a seasonal technician at the Utah Division of Wildlife Resources. So my first job here was entering data from stream survey data from 1941 to the present. It was all on paper. It hadn't been transferred into a computer into a regular database. It was a tedious job but it was interesting to read the history of all these stream surveys.

From there it went to native species, which is cutthroat trout and amphibians, mainly in that aspect. And then from there, there was a permanent job—well, semi-permanent job; more permanent job—here at the Great Salt Lake, and that was in 1999. So I've been here for about sixteen years.

BBL: You say that semi-permanent job was here, actually here-here?

JVL: Correct. It was a two-year time limited position that worked into a permanent position.

BBL: And what was that job? Or what were you doing?

JVL: It was mainly surveying brine shrimp populations, helping out with the water fowl and shorebird populations. But our main duty around here is monitoring brine shrimp performances and population and dynamics.

BBL: Yeah, okay. So that job, though, started out temporary, you say it moved into then a permanent job.

JVL: Correct.

BBL: And basically the same responsibilities? Or have those changed over the years?

JVL: Those have progressed into more or less the same duties, but they have expanded depending on, say if we have avian research, I help out with that quite a bit. But we knew so little back then, sixteen years ago, plus, so there's a lot more research going on here and there, whether it was either with brine fly or brine shrimp. You've got to start at the beginning to understand the, being it's an ecosystem you have to start at the beginning to fill in the gaps of all the interconnection of all the species within the Lake. Yeah, we knew there was brine shrimp out there, but what about them? And, yeah, we knew there was brine fly out there, but what about them and how many species and what's their lifecycles and such like that. I don't know if that answered the question.

BBL: Yeah, that's good. So tell me what you do in your job. Tell me about your responsibilities.

JVL: My main duties, on average, we're out on the Lake once a week, if not more. On average, it's about fifty-two times a year. We used to have twenty-two sampling sites scattered around the south arm of the Lake; now we're down to seventeen, on the verge of losing more because of the dropping lake elevation. But, anyway, we'll go out to those seventeen sites, take a bunch of physical parameters, dissolved oxygen, salinity,

temperatures, collect phytoplankton, chlorophyll. But the main purpose is for us to collect brine shrimp at those seventeen sites, bring them back to the lab, innumerate those and come up with an average density of brine shrimp as well as the demographics: how is that population broke up into females, juveniles, pregnant females, or gravid females, or nauplii, and right down to the egg themselves. So we'll monitor those all year round, more intensely during the brine shrimp season just to stay on top of things.

BBL: So when you say more intensely, does that mean you have to go out…

JVL: More frequently.

BBL: …two times a week?

JVL: Yeah, at times. The higher the cyst density, we're not so worried because our cutoff is like twenty cysts or twenty eggs per liter. So if we're up around 150, it's not so dire that we get out there because just the variance of our counts are going to be way up there. The higher the cyst count, the higher the variance. We'll get more erratic counts the higher the egg density is. So as that number starts to drop towards the end of the season, like it is now, that variance will start to narrow down and our numbers will become more reliable, more accurate.

BBL: And I guess that's when it's most important that that happen.

JVL: Right.

BBL: So what kind of a boat do you go out in?

JVL: We have multiple pieces of equipment here. It's a big lake, 900 square miles right now. So we've got ATVs; small Jon boats, seventeen-foot Jon boats; airboats—that's for shallow water. Our bigger boats, we've got a twenty-seven foot and a thirty-foot V-hull aluminum cabin cruisers that we can put up to ten people on there. But we usually don't

do that; we've got a bunch of equipment. At times we'll take people out during, like, the Great Salt Lake Bird Festival, we'll take people out and tour them around, show them the Lake and answer questions.

BBL: So typically how many people would go just on a regular trip?

JVL: Three.

BBL: Three, okay. Then you go to all seventeen of those sites in one day?

JVL: Correct. It's about a 125 mile trek. The day's probably, easy, a ten-hour day. We're not on the Lake for ten hours, but there's clean-up to do and processing the samples. But in general, it's probably 125 miles; you can probably do in six hours or so. Then we've got to take boats out of the water and flush the motors. The motors aren't meant for this type of salinity and weren't built to do so, but even the ocean—in fact the ocean—is all they're intended for, three percent, whereas the Lake is right now, what is it? About sixteen percent.

BBL: I think I saw a video with you and someone else and you were showing us what you do on the Lake, the different measurements that you take, or the different processes that you use to measure what it is that you're measuring. Maybe you could walk us through a stop. So you're at one of these sites and what happens.

JVL: So we get to these sites with the G.P.S. These sites were randomly picked way back when by Doyle Stevens and U.S.G.S. on a computer. Some of them didn't end up in accessible areas; they were too shallow, and even right now there are some areas that are too shallow to get to, that's why we only have seventeen where we had twenty-two. So start our day loading up the boat, leave the marina, mark our waypoint onto the GPS and go to that point. All those points are pretty well marked out on our chart plotter. So we'll

arrive on that—well, it's pretty repetitious, so if I tell you once what we do at one site we'll pretty much do at all sites. So we'll get to that first site, drop anchor. First thing we'll do is take a depth, because we want to know that depth. That has to do with how much water is going to be filtered through our net. So once we take that net through the water, we know how wide, or what the diameter of that net is, and we have the depth, so we've got a formula to figure out how much volume was filtered. Once we innumerate the shrimp in that sample, that net haul, we can extrapolate that back out to numbers per liter. So depth, the net haul, and we've got a sonde or a probe that takes multi-parameter readings, such as dissolved oxygen, conductivity, water temperature, pH, so we'll have all those parameters, we'll be able to later on maybe have an answer why some dynamic changed in the Lake because it was, whether it was salinity or whatever. As well as those parameters, we'll take water samples and filter them later for chlorophyll, so that will give us an idea of how much algae is out on the Lake. Brine shrimp eat the algae, so we'll have an idea of the concentrations of that. There's a Secchi disc…

BBL: Say that again.

JVL: Secchi. It's S-e-c-c-h-i

BBL: Is it an acronym for something?

JVL: It's some guy's name.

BBL: Oh, somebody's name.

JVL: Some Italian guy's name, an Italian limnologist way back when. Any instrument usually gets somebody's name tied to it. What that does is it's a white and black semi checkered disk and that gives us an idea of the water clarity. In other lakes it's mainly for turbidity, silt in water, but this, we use it to correlate that with our chlorophyll or algae,

because if the water's clear or more opaque, that's because of the presence or absence of algae. So we use that as an indicator for that.

We also take salinity. We use the refractometer for that. Every element in the periodic table has a refractive property. We just place some water on it and it will give you a concentration or percentage of that.

Then we'll collect phytoplankton as well. Those are bottled up and sent to the lab and gives us an idea of the diversity of algal cells, whether they're diatoms or flagellates or cyanobacteria. So we know what kind of algae brine shrimp prefer and what types of algae they can't ingest. So sometimes the algae dynamics change to where it's either diatoms or cyanobacteria or just chlorophytes—blue-green algae.

So we're monitoring all these dynamics just to know how the Lake itself is performing and how it's changing for the better or the worse. So as well as taking all those readings, they're all documented in a field book and then brought back here and put into the database so it's permanently stored and it's backed up on a database out of Salt Lake so it can never be lost if we have a fire. So that's good.

I'm trying to think if I'm missing anything else. I think that's about it. Those are the parameters we take. So, anyway, times that by seventeen, that's the day on the Lake.

BBL: That sounds to me like, you say if you can make that trip in six hours, that sounds like you're booking it!

JVL: Yeah, it's pretty efficient. It's fifteen years of practice, so you've come up with different ways to streamline the efforts.

BBL: So you've got a routine, I guess, a system.

JVL: Right. New people that come onboard think I'm fairly anal about the way we do things on the boat, but if it's done this way it's just more efficient and speeds up our day.

BBL: Sure. That makes sense.

So there must be days when you think you're going to go out, but then the weather is bad?

JVL: Right. Our cutoff is probably ten to twelve miles an hour and people think *that's hardly anything; that's like a breeze.* But out there, it takes a lot of wind to get that lake going, but once it's going, it takes a while for it to stop, of course, because it's more dense. Our boat sits higher in the water because of the heavy saline water, so we're more exposed to the wind. We don't have as much traction as you would in fresh water because we're sitting higher in the water. The waves pounding against the boat are much harder because the density of the Lake. When in a gigantic, well, a thirty-foot aluminum boat, those waves feel like you're an aluminum can and you can't travel very fast. You won't last longer than a couple of hours, just because it beats the heck out of you. I've been out there where there are ten-foot troughs, from crest to trough. People don't believe it, but if you've talked to anybody who's been on the Lake during those periods, they'll confirm it.

The worst time is at the beginning of a storm and at the end of the storm because the crests, there's a, what do you want to call it? Less frequency. So from peak to peak is wider. As that wind storm progresses the peaks become closer together so the frequency is tighter, so you're not slamming each wave, you're actually going from crest to crest on each wave, but the wider that frequency of the wave, the worse it's going to be on your boat and the more dangerous it's going to be as well. Yeah, so the wind affects you out

there. But ten to twelve is more so…that's when it starts to white cap out there and it gets bumpy. It's still workable and you can still travel the speeds you need to travel to get done for the day—but then, like I said, when you get to that site you anchor—that wind and that boat sitting so high in the water, that your boat will start acting like a kite—does that make sense? So it will sit there and drift back and forth. We need a vertical sample with our net, so if your boat's moving side to side, that's going to drag the net side to side and you're not going to get a straight up and down sample.

The Lake's got its own weather pattern out there. It can be blowing twenty-five miles an hour in Salt Lake City and not doing anything out there. But it can be blowing three miles an hour in Salt Lake and blowing twenty-five-plus on the Lake. It's very odd. I just tell people it's got its own weather pattern out there. "What do you mean you're not on the Lake today?" "It's windy out there." "It's fine here." Anyway. We've got a couple of weather stations out there. One's on Hat Island and another one's located on Gunnison Island, so we can get a ballpark idea what the wind's doing, fairly good idea what the wind's doing, so it helps us out. Before we even start our day we'll look at that and make sure it's not blowing so we're not wasting our time for prep.

BBL: I've had some people tell me that storms come up really quickly and unexpectedly sometimes on the Lake, so I'm guessing you've been out there sometimes where it was fine and then all of a sudden it wasn't.

JVL: Yes. Within ten minutes it can be going from flat water to those ten foot waves. That's my example. That's where it gets spooky.

BBL: So you're telling me that time when you had the ten-foot trough, it was flat water and then…

JVL: Ten minutes later it's ten-foot waves. I was in Gilbert Bay proper, we were on the west side of Stansbury Island, well, east side of Stansbury Island. We were anchored. The boat was pointing south and you can see on the horizon just a big black line coming. If you've ever seen the causeway, that's what it looked like, it looked like the causeway was coming at you. It just looked like a big black wall line because the water we were on was just dead glass, mirror glass. This big black wall was approaching. We were sampling. I periodically look up at it and it just kept getting closer. What the…? Anyway. I could tell it was a wind line, but I didn't know it was from two miles an hour to thirty miles an hour, so that was the difference. We were, at that time we were working out of Antelope Island Marina, so we were clear on the other side of the Lake, in Gilbert, and the waves were coming in from the south. So we had to run parallel to get back to Antelope Island, parallel to the waves direction, because the waves were coming in from the south, we were trying to travel east. So we had this parallel run. One thing you never want to do in a boat is run parallel to the waves because you just start rolling from side to side. You want to stay forty-five degrees to that direction of that wave. So, it took us a while to get back to the marina and it was pretty scary (laughs). We had salt water all over our windshield, you could barely see. At that time boats didn't have windshield wiper fluid, so we had to stop the boat and get some fresh water from your water bottle and splash it on the windshield so you could see. The top of the boat was just totally covered, encrusted in salt. No, I didn't ever want to experience that again. So I look at the wind more closely and the wind forecast.

There was another time we were, what is it? We were ten to fifteen miles outside of Antelope Marina, northwest of Antelope. It took us, we were in a storm, it took us four

hours to get back. Four hours to travel ten miles. And that's just from pounding waves, working through pounding waves. Anyway, it's not fun. It's not good on your back, either.

BBL: That sounds terrible. Scary.

JVL: Yeah. But it's been happening for a long time. Have you ever heard of the book *Tale of the Lucin*?

BBL: Yes.

JVL: It mentions all sorts of vessel activity back then. It's a very interesting book. It's a short read, but it's very enlightening. That lake used to be hopping back then. There are a lot of boats on the bottom of the Lake (laughs).

BBL: Yes, that's what I hear. Did you have much boating experience before you started here?

JVL: A little bit on some freshwater lakes. When we first started, like I said, I was working with native aquatic species, cutthroat trout and sport fisheries and amphibians. A lot of the freshwater lakes I worked on gillnetting. Pineview Reservoir. Most of the reservoirs in Northern Utah: Pineview, Willard, East Canyon, Flaming Gorge. We had our experiences on those lakes, too, but they were smaller boats. That mainly consisted of gillnetting fish. Set out gillnets one day and then go back the next day and pick them up. That was to get some population estimates and age class estimates for different fish on that particular water. Not much. And those were all, like I said, seventeen-foot Jon boats, single motor, nothing this big. But those lakes weren't that big, either. We ran into a few storms on some of the freshwater lakes, on Willard. Had a boat capsize there. We went

out with three boats and then it was two boats. One of them capsized and had to help them get out of the water, rescue them, essentially. Yes. Check the weather (laughs).

BBL: No kidding.

When you're not doing boat duty during the week, what are some of your activities?

JVL: Helping out to enumerate those samples. There are other entities that don't have access to the Lake, such as universities, or state agencies or government agencies that don't have boats to get on the Lake, so I'll take them out there and help them collect their samples as well, whatever those samples might be. That's what I mean. Just for us and our shrimp sampling it's once a week, but then there's other entities out there that need access to the Lake, so we help them out as well. That actually helps our research with the Lake itself, and education about the Lake to get the word out there that it's an important lake and it's not a stinky, dead, salty lake. Instead we're trying to break that stigma down.

What else? Work up data and do a lot of computer work. I should have brought a list but I didn't.

BBL: Write reports.

JVL: Yeah, write reports. Process research and then write those up as well. We don't really have a downtime around here. Usually, the typical biologist has a field season and then he'll use the offseason to do all his paperwork and data crunching and mining. Ours is, being that we do this all year-round, we do that when we can fit it in. So if we're not on the Lake, we're processing the data that we collected while we were on the Lake.

There's maintenance as well. I don't think anything mechanically or electronically is meant on to be on that lake, just because it's so salty. So there's a lot of preventative maintenance for equipment, so we'll do that.

BBL: Do you do that?

JVL: Preventative maintenance, I do. If it's anything major we have a couple of shops that we take our boats to, but those are usually major breakdowns and it's either engine repair or replacement.

BBL: Right. So are the boats here?

JVL: One is, in fact, one is in for engine repair. They just notified me today that it's fixed. The other one is actually at Saltair Marina. We keep that in the water there.

BBL: But, normally then, would you launch from here?

JVL: Right. We used to launch, like I said, out at Antelope. The Lake's gotten so low that you can't launch out of there anymore. I think we're historically a foot above the record low level, which was in 1962. Even down in Saltair it's getting pretty shallow there. Considerations of dredging the channels probably need to be done this year for a pickup in water, or else there won't be much work done by us anyway. So one's in the shop and one's in the marina itself. Typically, we like to just take the boat out of the water and rinse and flush the boat, but the facilities there are such that it's not necessary because we're able to fuel our boats right on the water because they've got a fueling station there. So that saves a little time in our day. We did that last year as well. We had to wait till the spring runoff, what little there was, to make room for us to get back in the Lake at Antelope Island.

Additionally what happens in the wintertime at Antelope is you get the freshwater inflow from Farmington Bay that wraps around the spit at the marina and creates a nice…you wouldn't think salt water would freeze, but if you have enough freshwater, it just sits on top and it will get about four inches of ice, so it makes it unusable. That was the main reason we went to Saltair last winter. But now it's more of lake depth.

BBL: Is your airboat here too?

JVL: They're in our shop right now. Yeah, we keep those here. Those are fairly light and mobile because they're only seventeen-foot long. Easy to get around. So if we use them, we'll take them out in the field and bring it back and rinse them down and store them into our shop.

BBL: I know you go out during the season, the shrimping season to monitor the level, but then the rest of the year, when it's not the shrimping season, you're still doing the same thing? The same testing that you do year round?

JVL: Right. Yes. The regimen will go from every week to bi-weekly. That's, I guess, that's really when we're able to look at our data and crunch data and look at it more thoroughly because there's more office, not so much lake time. But then there are bird surveys that start up in the warmer months, so we help out with those. Yeah. It's when we do a lot of our maintenance and processing of all the information that we've collected. But it never stops. We're out there. We don't have an offseason.

BBL: Do you like going out on the water?

JVL: For the most part. The wintertime is probably the worst and when I don't like it, just because I think it's more so the cold and the frequency of time out there. It gets pretty repetitious. We have to wear survival suits and it limits your range of motion. They

keep you warm but they're restrictive. The water gets below freezing. I think if we did fall in the Lake for any period of time that, they happen to be orange and we joke around that, well, at least the suits will help them find our bodies. I stuck my hand in the water and it was a negative 2C—I don't know if you've ever done that, because nobody really gets to experience below zero freezing water—it feels like an ice cream headache in your arm; say, if you dip your hand in the water to your elbow, it feels like an ice cream headache pain, I guess. That's the best I can describe it. It gets foggy in the wintertime and there are times where we drive around the whole Lake, flying around—well, I call it flying around—by instruments. Your visibility, you can't even see the water in front of the boat. The only way you could see the water is look straight down, but straight ahead is white. Do that for six hours, in the cold, not knowing, hoping that your chart is correct for where you are. Not much to look at when it's foggy out there. It just gets so foggy out there because it's the lowest point in the valley. All that cold air sinks to that point in the valley. So that's probably the last place in the valley that that fog breaks up, plus you've got slightly warmer water at times to create even some more fog. But, anyway, to answer your question, I don't like going out there in the winter much. Those are the reasons why.

BBL: You told me about some of the more harrowing times. Have you had times out there when it was like *I love this; I could live here*?

JVL: Most of the time.

BBL: Is it?

JVL: Yeah, most of the time. Most of the time. Being out there, you can see all the different lake elevations from Lake Bonneville on either side, because you've got Stansbury Island and Antelope Island and then you've got the Oquirrhs and Promontory

and all those mountain ranges have, you can see the old shorelines on those. I don't know, to break it up I daydream of what it was like back then. You could cruise across the whole state of Utah on water, because a third of the state was covered with water. Daydream of wooly mammoths and saber tooth tigers on these different points of the Lake. Then you add eight to ten million birds that visit that lake and it's always different from season to season out there. You'll have grebes out there or waterfowl, phalaropes. You can always tell what season it is by what bird species are out there.

The brine shrimp can literally clean off all the algae within that lake pretty much. So that lake will actually turn turquoise. I don't know if you've been to Bear Lake, but it looks like that. You can be in thirty foot of water and almost see the bottom. That's how efficient they are in cleaning off all the algae.

Yeah, I enjoy being out there. The wintertime not so much. It's trying. I always give John crap about him getting hazard pay to fly around the Lake and I don't get any hazard pay for horrible weather or driving a boat in fog in nineteen degree weather.

When you're out there, you're always looking back at the Wasatch Front, so you're looking at the Wasatch Front from the outside looking in. When you're in the city, you can't really see beyond the city, but when you're on the outside, it's a different perspective. You can see how fast the pollution moves in now than what it did fifteen years ago. When it blew the smoke out of the valley fifteen years ago, the sky would stay clear. I'm sure you would remember, if you've been in the valley for a while, but the valley would stay clear for at least three days before it choked back in. Now it's barely twenty-four hours. You can see that from the Lake.

Yeah, I like being out there.

BBL: When you're out there and going and traveling, it's monotonous and all that, is there something you do? Do you have songs you sing, your crew, or games you play, or you know what I'm saying?

JVL: The technician a while ago, we don't have a musical radio in there, a technician a while ago brought a portable boom box that runs on batteries and you're able to hook up a mp3 player to it, so we've got music. So if there isn't music, it's pretty, pretty boring. So it's mainly music and conversation. Doing that same effort seventeen times is pretty robotic. Obviously we're not robots, so the music and conversation breaks that up a little.

BBL: Do you guys just take lunch out with you?

JVL: Yeah. We'll eat it between sites.

BBL: Just pack sandwiches or something.

JVL: Yeah. Coffee in the wintertime to keep us warm, or hot chocolate, whatever, tea. And mainly music and conversation. Something we definitely notice is when the music isn't playing. All you can hear is the motors, the thrum of the motors. You don't want to hear that for six hours.

BBL: What's your favorite place on the Lake?

JVL: Hmmm.

BBL: Or places, if there's more than one?

JVL: On the Lake or around the Lake?

BBL: On or around, yeah.

JVL: I like going to Hat Island. You can see all the bird activity there, you can see all the history there. They used to harvest guano from Hat Island way back when in the early 1900s. You can see where they brought their boats in, because they'd have to haul it off

the island at that time with boats. To get there they had to get there by boat. You can see the trails, the rock trails that they would roll their carts of guano up and down this hill. Then you almost have a 360-degree view from right in the middle of the Lake. It's a good vantage point. I would say that's probably my favorite.

But then being an island you'll still see things that are, well, what used to be. So you've got lizards smack dab in the middle of the Lake and you've got rabbits, coyotes, things you wouldn't associate with an island. It's a good vantage point. I think that's probably why I like it the best. You can stand in one place and turn 360 degrees and get a good grasp of the Lake.

But the middle of Gilbert is pretty good as well because you can see all the shorelines from there. But that's when the daydreaming starts when I start looking at the shorelines, but I never get bored looking at them just because there are multiple tiers of shoreline. And what were the storms like back then? If it covered the state of Utah, how big were the waves then? Because it would get so much more wind exposure. Definitely wouldn't want to be out there (laughs). You can see all the erosion on the mountains from all the waves impacting the side of these mountains. They've just eaten the rocks away. Daydreaming about when Lake Bonneville broke and went into the Snake River or out the Columbia, out to the ocean. Five hundred million cfs of water. Probably took a lot of saber tooth tigers and giant sloths and all the other critters that were around then, just flushed them out to the ocean. That was probably a pretty nasty sight.

Yeah, that breaks up the repetition of the seventeen sites, daydreaming, conversation, music.

BBL: Is there a time when something really weird happened out there? What's the weirdest thing you've seen out there? I guess a ten-foot trough would be one.

JVL: I saw thirteen loons out there. Loons eat fish and hang out in fresh water. Apparently they took a wrong turn at Albuquerque and landed in the Great Salt Lake. We actually stopped the boat and watched their behavior, looking for fish. You could just tell when they came back to the surface, "Who guided us here? There's no fish in here. It's the last time I'll follow you!" To see thirteen loon anywhere, grouped together, that's pretty rare. Usually on freshwater lakes it's a few here and there, but you never see them in flocks like that, even when they're on the Great Salt Lake.

BBL: Did you get pictures of it?

JVL: No. They're trapped in my mind, my own pictures, I guess. Of course, Pink Floyd, the flamingo, got to see him before he died. Or her. I don't know which it was.

BBL: I was just reading something recently and somebody said they thought there was a sighting of a new Pink Floyd, another flamingo here this year.

JVL: I haven't heard yet.

BBL: Well, you'd know. Probably just wishful thinking.

JVL: Seeing two million of anything in a small area on the Lake probably in a four-square-mile area is amazing. I don't know if you can see that any other place. When the grebes come in, they'll all flock in together and just gradually over time disperse, but when they're all in one area, still incoming, hanging out together, it's just amazing. That's one thing that needs to be filmed, is that episode, or those episodes. It's like Woodstock times ten, as far as people goes. I don't know how many people were at Woodstock, or any public event that involved humans, that could match that event. Yeah,

to see two million of anything is pretty incredible, especially birds, I don't know if you would ever see two million birds in that small of an area.

I guess those are the big ones as far as interesting things. That happens every year, too, the grebes come in. So it's not like it's here and gone. People can see that if they have a boat, but you'll never see it until you get a boat on the Lake. People will never see that.

BBL: And that, I'm sure, never gets old, year after year.

JVL: No. It happens twice a year in the spring and in the wintertime. In the spring when they show up on their way up to Canada and then they'll winter here. The odd thing is with that many birds you would think you would hit, going forty miles an hour, you'd think you hit the birds, but they get out of the way. It's amazing. I used to worry about hitting them; not so much anymore, they just get out of the way. So we have to drive through them. When you've got a four-square-mile flock of two million birds, or whatever, you can't go around them. And you don't really want to slow down because you have a certain amount of time in a day to get a certain amount of things done, so you can't go around them, but they move. So I'm not too worried about that.

BBL: There are stories from long ago about a Great Salt Lake monster. You've heard those?

JVL: I've heard many, I guess.

BBL: Never seen it?

JVL: No. No. There's other stories. I don't want to elaborate too much on myths. They tried to introduce a whale in Farmington Bay. Squid. Saltwater fish. There's a small pond in the south part of the Lake by Grantsville. People scuba dive there. They have

introduced ocean species, sharks and such, but that salinity is five percent, whereas the Lake hasn't been below five percent for a long time. I don't think it was back then either when these stories developed.

BBL: I didn't know about that lake out there. Or what do you call it? Just a spot?

JVL: I don't know if you want to call it a spring or not. I'm sure they got backhoes in there and made it wider than it was, but it's a deeper than it is wide. It's called Seabase, is what they call it, I think.

BBL: Is that on private land?

JVL: I would assume so. It's privately owned, but you can scuba dive there.

BBL: That's interesting.

JVL: There's a similar lake in Wendover that's wider and deeper, fresher, though. But I think it's only a hundred yards wide, but I think I dove down to eighty feet or something. You start to lose the light when diving that deep. It's interesting.

BBL: Have you been there before?

JVL: A couple of times. But I haven't scuba dived at Seabase. My daughter has, though. She told me all about it. I'm the one that kind of got her interesting in doing it, going there, then she found out she's semi-claustrophobic and didn't like it much. "There's a shark in there." "Well, it's only a nurse shark. It's not going to hurt you." Anyway, I think they put lobster in there and they'll have a lobster harvest. It's just for the locals.

BBL: Huh. So what have you seen in terms of, with your work, trends in the Lake or changes that are really noticeable to you?

JVL: In my tenure, the obvious one is elevation. The Lake started dropping as I came on, so I got to see what it is normally—well, "normally"—down to a foot above the record low.

BBL: Is that where it is now, a foot above record low?

JVL: Right. I think the record low was in 1962. The way this winter's panning out—we'll see what happens.

That's the main one is lake elevation. With lake elevation you get changes in salinity. The lower the water, the higher the salinity and vice versa. Salinity changes a lot of things in the biological community out there. The freshwater opens up more diverse algal species whereas in higher saline conditions, like it is now, you get a more narrow diversity of algal species. With elevation drop you'll get higher temperatures because it's shallower water. Essentially the Lake is just a big dinner plate of water, if you want to look at it; it's not a deep lake. So even little elevation changes, biologically and physically it changes a lot out there. I said salinity. Temperature. Just the area of the Lake itself, it will shrink. So for example, you'll take those two million grebes that show up twice a year and then put them in a smaller puddle of water, they're going to reside closer. I don't have proof of this but the frequency of winter mortality with grebes probably is enhanced by how close they are to each other, in transmission of disease in wintertime. Yeah, mainly lake elevation is probably the main big change that I've seen.

It's not all bad. I've seen awareness of the Lake itself improve since I've been here. I know what I thought about the Lake before I got here, so I know what the general public thinks about the Lake, and that's improving. People are becoming more aware and more active about it's a place worth preserving, so to speak. When you explain to them

how many birds have been using this lake for thousands of years in their migration, it's not just a dead sea with no fish, it actually has some importance. Education is the big thing, I guess, and that's changed a lot compared to when I was here fifteen years ago. Trying to change that stereotype of the Lake. I think that's probably our main goal, at least, just have people become more aware of the Lake. If they know more, they won't be pre-judgmental and ignorant towards the Lake.

That's about it, that I can think of. I guess the original question was what's the biggest changes that I've seen?

BBL: Or what trends do you see happening?

JVL: Trends. Okay. Population growth on the Wasatch Front. People are going to have to realize that the Lake is there just because they're becoming pushed towards the Lake, I guess. Development. There are a lot of people out there that think, a lot of agriculture components that think any water that makes it to the Lake is a waste of water and that attitude is still there. But that's easily solved with education. Yeah. That's as much as I can think about or know of as far as trends go, what's trending in Great Salt Lake.

Anyway, that's all I've got.

BBL: Okay. Is there anything I haven't asked you that you think I should, or that you'd like to tell about your thoughts or your experiences at Great Salt Lake?

JVL: Anything that you should have asked me. Nothing that I can think of at this point.

BBL: Okay.

JVL: I think you're doing a good thing.

BBL: Well, thank you so much. This has been interesting. I've enjoyed hearing you talk about your job and your thoughts about the Lake. It's been really good. I think it will be a nice addition to our collection. I appreciate your willingness to talk.

JVL: No problem. If you need any elaborations, let me know.

BBL: Will do.

JVL: My mom always told me that I should have taken Toastmaster classes, but I never did. As far as conversing with people or presentations, not so good. Sometimes I'll get off on a tangent. So if you see anything that I needed to elaborate on, let me know.

BBL: Will do. Thanks again, Jim.

JVL: You're welcome.

END OF INTERVIEW