EDITOR'S NOTE: Although living underwater is a very sophisticated aspect of diving and is not something to be taken lightly, upon receiving David Schloerb's manuscript, we could not resist publishing it. The imagination and ingenuity of this 17-year-old boy is equalled only by his ability to clearly record on paper, in a concise and easy-to-read style, the results of his project. We think you'll enjoy sharing his fine adventure with him. However, SKIN DIVER cautions younger about attempting similar projects due to the potentially dangerous nature of living underwater for extended periods of time.

I turned to my mother on the porch and tried to think of something light to say. I didn't want her to worry so much. A few words passed between us. She said, "Be careful." I said, "I will." I left the porch and headed down to the lake in my swimsuit and tee shirt.

Brian Kittle, my best friend and diving buddy, was waiting for me by our tent. It was still light, the end of a warm August day. Like so many other days, getting into the water, going diving was just routine. I moved the same way, did the same things, but this dive was different. I had dreamed of living underwater since I was ten years old and now, seven years later, in a very limited sense, I was about to do just that. I waded out by the pier in front of my grandmother's cottage, fitted my mask, slipped on my fins, and submerged.

I swam out, slowly, along the hose, listening to the air which forced through it with the sound of the pump on shore. The lake bottom changed as I moved deeper, until at 12 feet, the last weeds gave way to an endless stretch of mud and silt. Twenty-five feet down and a couple hundred feet from shore my destination came into view.

Larger, more expensive versions are called underwater habitats. Places for men to eat and sleep under the sea. The Navy's Sealab and Cousteau's Conshelf projects are examples. It is only in a very loose sense that I compare my project with these; saturation diving is not for sport divers. Also, if one considers that the most expensive piece of equipment in my project was the $60 hooka compressor, the difference is apparent.

The proper name of my habitat — I prefer the word house — was Julius. Julius was four and a half feet high and two feet in diameter. It was made from oil drums, pieces of pipe, plastic, scrap wood, and a number of obscure things I had collected over the past few years. The air inside Julius gave it a buoyancy on the order of a thousand pounds. This was compensated for by a few tons of rock in a bin, left from a previous project, which had long since disappeared into the muddy lake bottom, leaving only the cables, to which the house was attached, visible. Bolted on the side of Julius was a small flooded room which served as an equipment storage area. We named this room "it," unable to think of a more appropriate name.

As I approached the house I could see a number of small bluegills hovering about Julius and it. The hose I was following now slanted up to the house which was suspended five feet above the bottom. A constant flow of air came from underneath Julius as the air inside was replaced. Everything looked good.

I removed my tank and stored it in the appropriate place in it. Still breathing from the tank I placed my flippers in their cubby hole and then closed the valve on the tank. I moved somewhat like an as-
tronaut making a space walk. Being care-
ful not to entangle myself in any loose
cables or hoses, I pulled my way around
the house and slipped underneath Julius.
Then I pulled myself onto the step below
its entrance and sat up with my head in
the region of the air above. My ears came
alive with the sound of air bubbling
from the hose, such a contrast to the
peaceful quiet normally found underwa-
ter. I placed my weight belt in its special
box and hung my mask under the seat
inside Julius. After attaching the leads
to a lantern battery which hung under the
seat, and which supplied electrical
power, I stood up and pulled myself onto
the seat. If everything worked right this
would be my home for the next 24 hours.
It was now a little after 7 pm.
Lifting the earpiece, part of an old
house phone which served as our inter-
com, I pressed the 'call' button. I was
immediately rewarded with a loud buzz
which indicated that its twin was ringing
in the tent on shore. After a moment the
earpiece squawked, "Hello." I shouted,"B",
"B", I'm here. Everything looks good.
"B" responded with, "I think you have
the wrong number," and hung up. I cal-
led back and we talked for a while but it
became too hard to keep up the shouting.
I signed off and turned my attention to
my surroundings.
I checked the lights. Everything was
working fine. I looked out the window
and noted it was getting dark. A boat
zoomed by overhead; probably some-
one getting in his last ski ride of the day.
A small bluegill drifted by my window
and hovered there for a few minutes. He
maintained his position and attitude with
an ease I envied as a scuba diver. Then,as
if he had been observing me and found
nothing of interest, he drifted away.
Around 8 pm I called Brian. He said he
was about to bring down some dinner.
A few minutes later Brian floated past my
window and popped his head through the
bottom of Julius. He handed me a
jar with milk in it and a plastic bag
which contained a couple pieces
of chicken. At first the jar wouldn't open
because of the pressure. Fortunately its
seal was not perfect and after a couple
of minutes enough air had leaked in so
that it could be opened. Brian and I talked
awhile. It was nice not having to shout.
Then he went outside to give me a little
show. He floated by upside down, or
sideways, and peered around the edge
of the window making faces. He wasn't
wearing a tank, so every now and then
his head opened up and he took a deep
breath for a breath of air. Finally he waved
good-bye and drifted upward, giving
Julius a little push as he went.
As I finished my dinner it became too
dark to see, so I turned on the interior
light. Then I tried the outside spotlight.
The first thing I noticed was a number of
bubbles rising past the window. A clamp
holding the hose had slipped so that most
of the air, from the surface, was pumped
outside rather than inside the house. I
remedied this by pushing the hose back
into place with my foot. Then I flipped off
the interior light to get a view outside.
Looking out the window reminded me
of Cousteau's second Conshelf project
during which his group had done a simi-
lar thing. The only difference was that
his group was sitting in their living room,
looking into the Red Sea, while I was
sitting in an oil drum looking into a
muddy lake. I had to wipe the window
with a rag every few minutes because of
the moisture. Everything inside was wet.
About 8:45 pm I called Brian to tell
him I was going outside and that he
should come down and join me. I slipped
my seat onto the step and turned off
the interior light. The water seemed very
cold as I fitted my mask. I put on my
weight belt, then maneuvered myself
to reach the Hooka attached just outside.
I use the term "Hooka" to suggest surface
supplied diving apparatus. The device
itself was of the simple free flow type
which consisted of a number of pipe fit-
tings in a plastic case strapped to my
chest, and two flexible rubber hoses
coming out of the case and connecting
to a mouthpiece. I worked my arms
through its straps and turned a valve which
diverted the air from Julius to the Hooka.
When it started bubbling I inserted the
mouthpiece and tried a few breaths.
Satisfied that it worked, I eased outside
and pulled myself around into it to don
my flippers.
Suddenly a light shined in my eyes
-Brian had arrived. He turned it on him-
selves so I could see him, and it was nice
having someone around again. Having
to spend most of my time down there
alone was not something I enjoyed. We
swam around looking at the house and at
each other. After about 40 minutes I
started getting pretty cold and signaled I
was going back inside. Brian waited for
me to get in, helping with my equipment,
then waved through the window and
floated away.
Inside I decided to write a letter to my
high school counselor. I opened the
small storage compartment in my control
panel. The door of the compartment
served as my table. Taking out some al-
most dry paper and a pen, I began to
write the sort of letter I had always
dreamed of, starting with, "You'll never
guess where I am!" Halfway through
the letter, I turned off the interior light
to watch some minnows dancing in the out-
side spotlight. By 10 pm I had finished
the letter. I decided to rest by leaning
forward against the opposite wall of the
drum. This didn't involve leaning at any
great angle. The drum was so small that
Brian, who is four inches taller than I am,
could just barely squeeze inside.
Slowly I became aware that something
was wrong. The hose clamp had slipped
again. I could not work it back with my
foot so I grabbed a pair of pliers from the
storage compartment and climbed down
to fix it. Then I donned my mask and
Hooka to try to work on it outside.
When I had done the best I could, I
floated up for a look in the window. I had
started to shake from the cold and now I
began to vomit into the mouthpiece of
the Hooka. (Several months later, I dis-
covered that the pump was off causing an
at approximately the resonant frequency
of my stomach.) I told myself, "Take it easy
Dave, keep control." I was able to pull
myself back onto the step but, as I re-
moved my equipment, my numb hands
couldn't hold everything and I dropped
the pliers. Reaching for the pliers, I dropped my mask.
After climbing back inside I called
Brian. He had to turn off the pump to hear
me. I told him to bring down another
mask. I'm still not too sure what hap-
pened next. On shore the pump is just
a noise in the tent, and as Brian started
going to the pump back on. Whatever happened, I suddenly realized
I wasn't getting any air! I shouted and
buzzed until my little brother John
picked up the phone. I yelled, "John!
Turn on the pump!" John went to get
Brian and I think I heard my mother's
voice, "What is it John? Brian's busy." I
was preparing to leave when the house
started to gurgle again.
By 10:30 pm Brian had come and
gone. He had found the mask I lost, and I
had made my point about the importance
of that noise in the tent. He told me that
my parents wanted me to come up. I
agreed it was a good idea: I was getting cold
and too many things were going wrong,
but I decided to wait until eleven o'clock.
The interior light had gone out, so I sat
watching the minnows outside
window. Brian sent some music
down from a tape recorded on shore
intercom. I could just hear it over
the constant gurgle of the hose. A little
after 11 pm I told Brian to come get me.
Six minutes later, Brian's face ap-
curred in the window. On his head was
a green army cap with a large capital 'B'
sown on the front. He handed in my cap,
the one with the capital 'D,' and we
looked at each other through the
window. It's hard to explain the meaning
of the 79^h hats with the homemade
emblems. They made us laugh at a project,
with all its long hours of planning and
building, which was too much of a fail-
ure to be considered a success. It was just
a simple joke — one of those things
which makes us human and gives hope
for the future. I turned off the remaining
lights and climbed down onto the step.
We ascended in darkness and surfaced
into another world. The area was illumination
by a floodlight on shore and a yellow
light hanging in the tent. I could hear
my parents, who stood on the pier, talk-
ing in the still night air. I waved to them
to show I was all right. Then Brian and I
swam slowly to shore, on our backs,
looking at the stars.