SEAMAIL™

TO: Virtual Deep-Sea Science Team
FROM: Tracey Sutton
SUBJECT: Exploring with the Global Explorer ROV

The good weather continued for us this morning and we were able to continue with doing our science work! At about "zero seven hundred" -- that's ship talk for 7 a.m. -- the Global Explorer Oceaneering crew assembled everyone. They gave us a thorough safety briefing about how best to deploy the Global Explorer ROV.

The ROV weighs about 7,500 pounds. In the words of our chief scientist, Dr. Sonkë Johnsen, it is the equivalent of lifting a multimillion dollar luxury vehicle off the deck of the ship by a crane. Then trying to set it in the water on a rocking ship while avoiding injury to anyone or any of the equipment or ship. It involves an enormous amount of teamwork and expertise that is truly phenomenal. Of course, bringing the ROV back aboard has the same challenges, just in reverse order!

The ROV pilot/control center is every gamer's dream job! They get paid to use a joystick control to drive a robot that searches for things in the water. I say this lightly because the job is super cool with several 4K video screens in a control room, but it is not that easy! I know firsthand because I have driven very small ROVs with our students that compete in the MATE Project in a pool. It is extremely difficult and these Oceaneering pilots have the added stress of extremely expensive equipment at deepwater depths where many things can go wrong!

We started running transects. Those are patterns sort of like mowing the lawn, where the ROV moves back and forth horizontally in the water column. While the ROV moves, it uses high-definition video cameras. We hope to capture information about the animals in the midnight zone.

We started at 1,000 meters (3,280 feet) and ran a transect for 15 minutes at that

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depth and then dropped a 100 meters (328 feet) every 15 minutes with 15 minutes in between the transects to be able to descend. Why do you think we do it this way? Can you draw a picture of what it might look like as we move back and forth and slowly move downward?

It took several hours, but we got some amazing images of some organisms in their natural habitat.

Tracey

Tracey Sutton
Deep-Sea Explorer
Journey into Midnight
WhaleTimes.org

Fellow Science Team members, I'm wondering about you.
How does a job driving an ROV to explore the ocean sound to you? What kind of animal would you like to discover in the deep? Can you draw a picture of it and describe all its body parts and how it uses them to survive? Think about how deep it lives, what it eats, and what eats it.

Ocean Exploration and Research

Journey into Midnight: Light and Life Below the Twilight Zone research funded by NOAA-Office of Exploration and Research

Photo 1

Photo courtesy NOAA-OER/Global Explorer

Photo 2

Photo 3

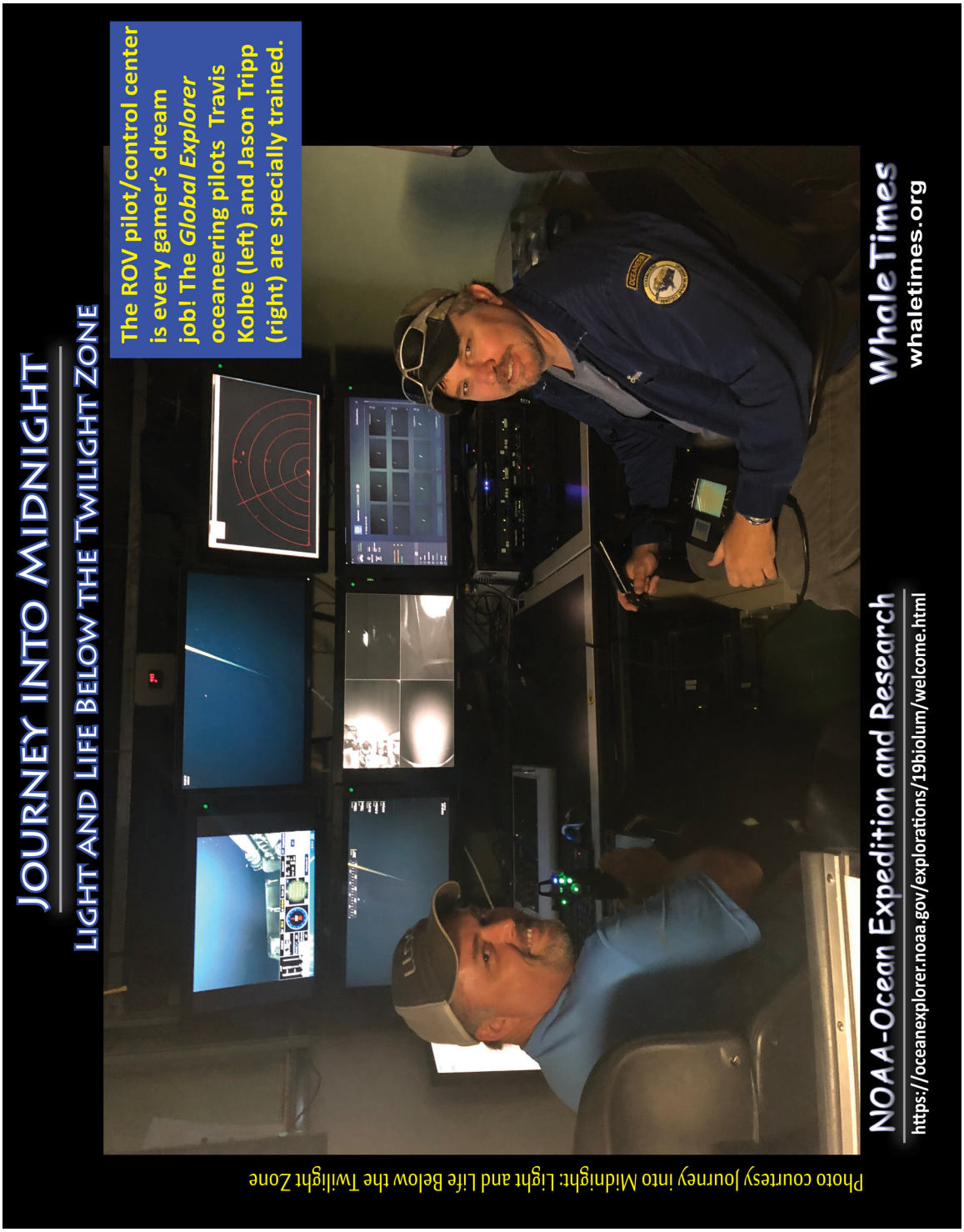

Photo courtesy Journey into Midnight: Light and Life Below the Twilight Zone

Exploring with the Global Explorer ROV CONTINUED

Photo 4

Photo courtesy Journey into Midnight: Light and Life Below the Twilight Zone.

Photo 5

Photo 6

Photo 7

Photo 8