



Sentry Debrief - 2010



Only one cruise to report: Galapagos (Sinton *et al.*)
Sentry + TowCam night program between *Alvin* dives

- Precruise planning good, but web-based form needs refinement and clarification

The web site form is still undergoing improvements and has been vastly improved in the last year.

Problem - only 1 site can be entered (approval for 2nd area at sea)

The web site does have a place to list multiple stations, but this omission should have been caught at the pre-cruise meeting and review.

- Mobilization/demobilization - only minor issues (despite EQ just before sailing)

A member of the Sentry team suffered a scuba-diving accident while on vacation just prior to mobilization in the Galapagos and was not able to participate on the cruise thus leaving us short-handed. His mobilization and operations tasks were re-distributed.

- Operations - hardware problems for first dive but quickly fixed

A hardware communications problem caused the emergency controller to abort the dive during the descent. This was fixed in the emergency controller and programmed error checking was enhanced to screen corrupted communications.



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- Fins and control problems

A wing servo controller was pitching the forward wings at an inappropriate angle. This was traced to a faulty power controller allowing a power “brown-out” to occur. On the second dive (039), a ballasting error and control problems contributed to less survey distance than expected. This was corrected and dive 040 covered over 21 km.

- Leak in housing and fire damage required heroic rebuild - outstanding effort

We had enough spare parts to supplement the salvaged and repaired components to make the vehicle operational and able to power all of the instruments that were required by science.

- NDSF equipment - main data needed: Eh sensor, multibeam, magnetometer all very good; did not use new subbottom profiler
New sub-bottom profiler was only tested briefly on several dives.

Not noticed that backscatter sensor was not recording for part of cruise

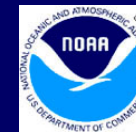
The check lists have been updated to help prevent this from being overlooked.

- Navigation - USBL was very good but still in transition

The USBL system with its acoustic modem has capabilities we are only starting to exploit.



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- Data management - good turn-around time on multibeam maps (hours), but worked well because science party helped with processing
This is an important issue and is discussed under vehicle deliverables in another session.
- Overall recommendations: *Sentry* is excellent & considered ready for NDSF
A separate session discusses this and provides data to support acceptance into NDSF.