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BEHAVIOR LOG

Behavior Log is a data product available on SPLASH10 tags and is used to describe the dive behavior of air breathing animals. This is a great way to get summary information for individual dives without having to recover the instruments. Dive behavior is subdivided into two modes:

Tags Containing This Data Product
SPLASH10

1. Dives
2. Surface

Qualified Dives

The Dive Definition is set when programming the tag. There are 3 parameters that must be chosen:

- Surface: this is used to start and end the dive. It can be either a depth or the wet/dry sensor.
- Qualifying Depth: any dive that passes below this depth AND satisfies the qualifying duration will be logged as a dive.
- Qualifying Duration: any dive that is longer than this AND satisfies the qualifying depth will be logged as a dive.

You can also choose to use either depth OR duration to qualify a dive…you do not have to use both. For every qualifying dive, the following are reported in the Behavior.csv file:

- Dive Duration
- Maximum Dive Depth
- Dive Shape: Square, "V," "U," and Unclassified

Dive shape classification uses total dive duration and bottom time (≥ 80% of max dive depth) to assign one of 3 shapes:

Classification	Bottom Time
Square	Bottom Time > 50% (Total duration)
U	20% (Total duration) < Bottom Time ≤ 50% (Total duration)
V	Bottom Time ≤ 20% (Total duration)

Surface

The "Surface" includes all of the time the animal spends in the water, after a qualifying dive ends. For each qualifying dive, the following surface information is reported:

- Post-dive surface interval (Duration)

- Time spent shallow. This is the time spent above the defined start/end depth of a dive, or time dry if using the wet/ dry sensor to trigger a dive start/end, while in a surface interval.

- Time spent deep. This is the time spent below the defined start/end depth of a dive, or time wet, while in a surface interval. This would occur if the animal passed the depth threshold to start a dive, but the duration of the dive did not meet qualification.

Transmitted Data

A single Argos message will contain roughly five dives with associated surface periods. If your dive definition identifies numerous dives, it will take a lot of messages to transmit all of the data. This will either result in an amazing dataset, or you may end up with gaps if some messages do not make it through. It is important to have an accurate dive definition. If your definition is too broad and many dives qualify, then you will end up with too many behavior messages. If your definition is too narrow, you may miss important dives.
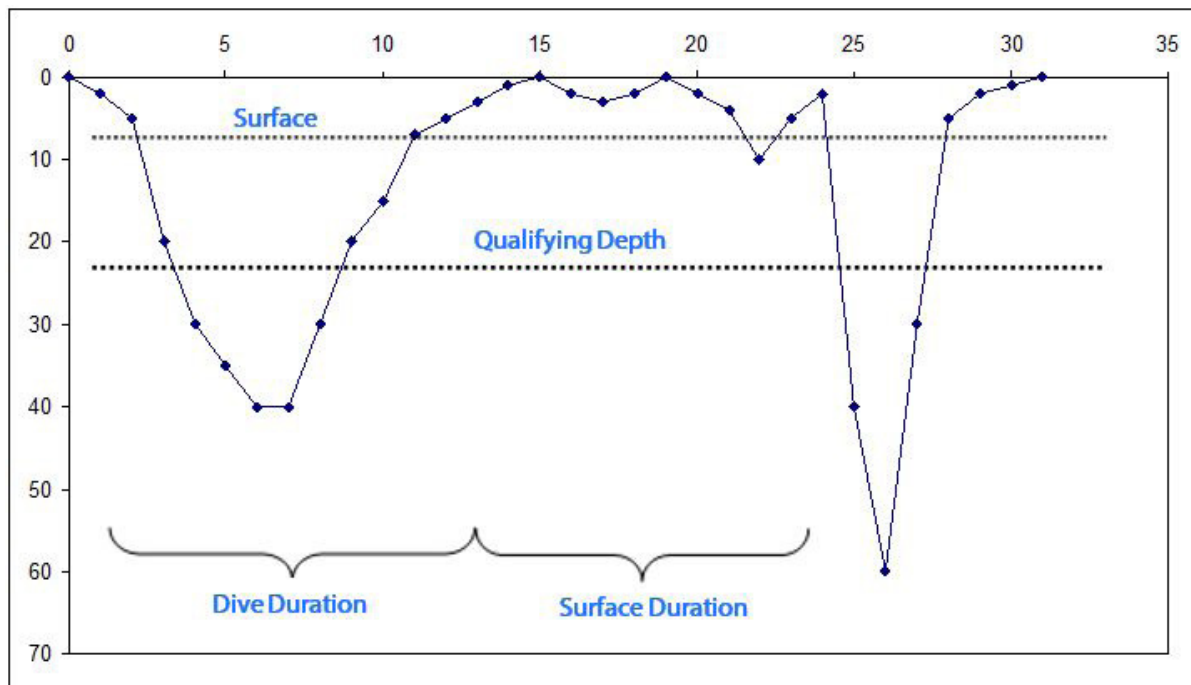

Figure 1. Visualization of a 'qualifying dive' for Wildlife Computers data products. Surface is the depth reading to determine the start and end of a dive (e.g. 7 m). Qualifying Depth is the depth that must be passed for a dive to qualify (e.g. 23 m).

To Learn More Call: **+1 (425) 881-3048** or Email: **tags@wildlifecomputers.com**