

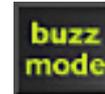


# Introducing SonoBat Next Generation version 30

(SonoBat: since1991)

## Update highlights of SonoBat at 30

- **Increased performance and throughput.** Classifiers enhanced with additional **expert decision steps**, and made more robust through thousands more library recordings.
- **Buzz Detector** and **Buzz Detection vetting tools.** (See examples below.)
  - View the guide: [https://sonobat.com/sonobat\\_buzz\\_detector](https://sonobat.com/sonobat_buzz_detector)
  - Edit **Buzz Counts** using editing buttons on main panel or pull-down selection on **Vetting Table**.
- **Faster, more responsive Vetting Table.**
  - Smoothly scroll through thousands of files.
  - Manual **Buzz Count** buttons on main panel and pull-down selection on Vetting Table.
  - Manual **2<sup>nd</sup> bat** and **3<sup>rd</sup> bat** pull-down selectors on Vetting Table with entries adding to bat tally count and species counts in project summaries.
  - Selectable **Vetting Table** layouts, and ability to set a customized default layout.
- **Search phase recognition assistance.** Zoom-selection-sensitive calculation of calls per second, with color display indicating goodness of a likely search phase.
- Enhanced **intelligent call pulse discrimination** to recognize and extract lower power and shorter signals, and to find more call signals buried in noise. This step adds to classification throughput, and allows at-a-glance visualization of sequence structure while in compressed view. (See example screens below.)
  - Shows approach and entry to terminal phase calls, even in compressed view, to assist in interpreting calls in context with bat behavior.
  - Tighter call spacing in compressed view to better view more information content.
  - Enhanced sensitivity and resolution of realtime views for better revelation of lower amplitude components and buzzes.
- Although now displaying more sequence content to aid vetting, **SonoBat will still reject non-search phase calls** from classification analysis (although it does consider selected social calls).
  - SonoBat has always classified with this behavior, but this update enhances the proficiency of non-search phase call recognition to prevent diluting sequence decision logic with these calls.
- Updated sonogram color rendering to support more vivid colors against the black background. Raising the intensity adds more contrast to displays when printed or projected on screen, while retaining gradation at low signal levels.
- **Classify** can now remain enabled to process each file when opened.
- Added **second static ruler** to complement cursor-movable ruler.
- Immediate flipping between **compressed** to **realtime** view or vice versa once first rendered.
- Intelligent **Long File Parser** for processing large files from continuous recordings, e.g., from AudioMoth, into separate files of pass events.



|   |   |
|---|---|
| 0 | 1 |
| 2 | 3 |
| 4 | 5 |
| 6 | 7 |
| 8 | X |

|                        |
|------------------------|
| mean calls/sec<br>10.1 |
| mean calls/sec<br>18.9 |
| mean calls/sec<br>22.9 |
| mean calls/sec<br>30.1 |
| mean calls/sec<br>51.8 |



## Additional changes notes

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- Return from **standard view** back to compressed view now shows classification graphics if previously active.
- Species decision labels and classify trend lines now switch on and off faster.
- The default **maximum number of calls to consider** for sequence decisions remains at 32. Users should find and select a value that best suits their needs and workflow. For example, the NABat protocol suggests 16. Although 16 calls does work better with the improved version 30 call selection algorithm compared with 16 calls with version 4.x, sequences with multiple bats and many calls from high frequency bats still often produce better results using 32 calls per sequence. (Twenty-four calls may provide a sweet spot for general use.)
- Changed **zoom selection** tool marquis for the default **hold frequency zoom** to make clear that you don't need to select the frequency range when zooming. This also helps to indicate location of zoom selection along the oscillogram timeline below the main sonogram.
- Renamed harmonics in the **Harmonic Explorer** tool to the more intuitive scheme such that fundamental = H0, first harmonic above fundamental = H1, second above fundamental = H2.
- Improved **autofilter** selection. Most audible bats will get properly recognized and filtered with the new autofilter algorithm, but selecting **autofilter low** may still eke out a few more lower power calls buried in noise. (Some signal situations can still befuddle the autofilter; use a manual filter for targeting specific call types.)
- Added additional values to **max seg to process** to enable up to 60-second segments.
- GUANO metadata now correctly enters SonoBat **version** and **Accp Quality Vetting**, and these now correctly display in the **Vetting Table** and output sheets.
- Classifier Region and Subregion now added to GUANO as SB|Region, SB|Classifier.
- Added GUANO entry for species list of the classifier used. Can add this to display as a column in the **Vetting Table** (and for export to data sheets), as with any GUANO field.
- Updated sequence classification prevalence array to include both HiF bat and LoF results (**1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>** columns in **Vetting Table**).
- Bug fixed to generate proper column order of legacy output sheets during **SonoBatch**.
- Fixed issue that caused some lack of responsiveness when selecting std views with species labels displayed.
- **SonoBatch** now properly updates title bar to reflect the currently active regional classifier.
- Fixed bug that would show cursor on left of oscillogram in some realtime displays.
- Many programmatic elements optimized to increase speed and responsiveness.

Comparison screen shots of the same files rendered in SonoBat version 4.4.5 and version 30.

