

FIREBRIDGE CALC

# Complete Tab & Feature User Guide

A printable reference for every tab, input, result, scenario control, converter, feedback feature, and owner-only readout in the current FireBridge beta. This public-facing edition explains use and interpretation without disclosing arithmetic or proprietary methodologies.

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## READ THIS FIRST

For planning, training, and beta evaluation only. Independently verify inputs, aircraft capability, drop patterns, agent performance, and results. A modeled aircraft count or green result is not a guarantee of suppression.

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Scope: FireBridge Calc only. The separate Wildland Engineers Calc Beta has different features and is not documented here.

# Getting started & shared controls

Use the bottom navigation to open Dashboard, Inputs, Fire, Aircraft, Mission, Convert, or More. Scroll within each tab to reach every panel.

## A practical reading order

- **1 — Inputs:** enter the observed or chosen fire, aircraft, drop, and water values. Results update automatically; there is no separate Calculate button.
- **2 — Fire:** review heat rate, water demand, and Coverage Level Required.
- **3 — Aircraft:** compare selected CL with required CL before interpreting the aircraft count, then inspect each aircraft's section.
- **4 — Dashboard and Mission:** read the summary, whole-aircraft count, fractional load estimates, and quarter-line plan.
- **5 — Save:** name the scenario. Separately record Blaze Tamer state, input units, observations, assumptions, and time; not all settings are included in a saved scenario.

| Feature / readout | What it means and what it uses                                                                                                                              |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMP / SI toggle   | Changes the primary units on result tabs. It does not change the underlying scenario. Some legacy heat and distance rows remain imperial.                   |
| Input unit badges | Tap an eligible field's unit badge on Inputs to enter its metric or imperial equivalent. These per-field switches are separate from the result-tab toggle.  |
| Beta banner       | A reminder to field-verify the model. It does not indicate that a scenario has been tested, approved, or made safe.                                         |
| Number formatting | M means million; B means billion. Values may be rounded. An em dash (—) means unavailable or non-finite, not zero.                                          |
| Offline use       | The installed calculator, local scenarios, and converter do not need a network for their math. Feedback, owner analytics, downloads, and external links do. |

### INPUT QUALITY

Only enter defensible values. Validation ranges are software limits, not proof that a number is physically realistic or operationally suitable.

# Inputs: fire parameters

The Inputs tab is the scenario's source data. Select the intended units before entering values, and use the hints to check your entries.

| Feature / readout        | What it means and what it uses                                                                                                                                                                                                                                           |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rate of Spread           | <b>Meaning:</b> forward fire spread rate, initially ch/hr; metric entry is m/hr.<br><b>Uses:</b> drives spread speed, new burn-area rate, fire-line intensity, heat generation, and water-demand planning.                                                               |
| ROS hints                | Shows ft/s, m/s, and the alternate hourly unit. These alternate displays help you recognize the units and check entry consistency. Displayed values may be rounded.                                                                                                      |
| Heat per Unit Area       | <b>Meaning:</b> energy released per ground area, initially Btu/ft <sup>2</sup> .<br><b>Uses:</b> describes the fire's energy characteristics for heat, coverage, and water-demand planning.                                                                              |
| HPA hints / metric entry | Shows alternate area units and an energy conversion. The current metric badge says kW/m <sup>2</sup> , but this is an energy-per-area display that should be read in <b>kJ/m<sup>2</sup></b> . Use imperial HPA entry until that energy-versus-power label is corrected. |
| Fire Line Length         | <b>Meaning:</b> length of the line being analyzed, not an entire fire perimeter unless intentionally entered.<br><b>Uses:</b> identifies the scope of full-line, aircraft-section, and quarter-line planning.                                                            |
| Fire Altitude            | <b>Meaning:</b> elevation above mean sea level (MSL), not aircraft height above ground.<br><b>Uses:</b> supplies the elevation context for the boiling-point and thermal-capacity readouts.                                                                              |
| Altitude hints           | Shows the converted MSL elevation and estimated boiling point in °F and °C. The boiling-point readout is an estimate, not a live atmospheric-pressure measurement.                                                                                                       |

## HPA UNITS

Heat per area is not heat per time. Never substitute a measured kW/m<sup>2</sup> heat flux for a Btu/ft<sup>2</sup> energy value without an independently justified time basis.

# Inputs: aircraft, drop & environment

These fields describe the aircraft, planned drop, and water conditions. Use actual usable load and an independently justified drop pattern.

| Feature / readout   | What it means and what it uses                                                                                                                                                                                                 |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aircraft Speed      | Entry is knots; the hint shows mph. <b>Uses:</b> records the planned aircraft speed for the performance readouts. It is not a live aircraft-speed measurement.                                                                 |
| Load Size           | Usable agent volume in US gallons, or liters via the badge. <b>Uses:</b> records the usable volume for aircraft load and coverage planning. Do not substitute tank rating for verified usable load.                            |
| Coverage Level (CL) | Selected deposition in <b>gal per 100 ft<sup>2</sup></b> , not an aircraft count. The hint also shows deposition in gal/ft <sup>2</sup> . <b>Uses:</b> specifies the planned deposition level and supports the adequacy check. |
| Drop Width          | Assumed ground swath width in ft or m. <b>Uses:</b> records the expected ground swath for drop planning. The app does not measure the real pattern.                                                                            |
| Water Temperature   | Initial agent temperature in °F or °C. <b>Uses:</b> records the initial water condition for thermal-capacity planning. This is an entered value, not a sensor reading.                                                         |
| Blaze Tamer switch  | Enables the app's Blaze Tamer planning mode; an Active badge identifies the selected state. Record the state with the scenario. This mode is not a measurement or guarantee of product performance.                            |
| Live summary chips  | Shows burn-area rate in ft <sup>2</sup> /s and m <sup>2</sup> /s, water demand in gal/s and L/s, CL Required, and fractional adjusted A/C Loads. Uses the current inputs and current Blaze Tamer switch state.                 |

## VERIFY THE CURRENT SCENARIO

Do not read the on-screen standardization note as confirmation that your current entries match a reference scenario. Check the entered altitude, water temperature, and agent state before interpreting the results.

# Scenarios, reset & units

Scenario controls are on the Inputs header. Inputs and named scenarios are stored locally on the device/browser, not in a shared scenario cloud.

| Feature / readout                | What it means and what it uses                                                                                                                                                                                           |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Save</b>                      | Opens the name form and saves current numeric input strings. A nonblank name is required; Cancel closes without saving. Trimmed names identify scenarios; a saved time is shown in the list.                             |
| <b>Existing name / Overwrite</b> | The save form detects an existing name without case sensitivity. Save New keeps a separate entry; Overwrite replaces the existing inputs and saved time. Use distinct names to avoid ambiguous duplicates.               |
| <b>Saved-scenario icon</b>       | Opens the list; its badge shows the scenario count. Tap an item to load its numeric inputs and close the list.                                                                                                           |
| <b>Rename</b>                    | Hold a saved item to open its actions, then choose Rename. The form is populated with the selected name. Renaming does not change its inputs.                                                                            |
| <b>Delete</b>                    | Hold an item or use its delete control, then confirm. The entry is removed from local storage; the deletion cannot be undone through the app.                                                                            |
| <b>Reset arrow</b>               | Restores the nine numeric default inputs. It does not delete saved scenarios or reset the separately stored Blaze Tamer/global unit preferences.                                                                         |
| <b>Settings persistence</b>      | Current numeric inputs, result-unit preference, and Blaze Tamer state persist separately. Named scenarios currently contain numeric inputs only: they do not restore Blaze Tamer state or per-input badge choices.       |
| <b>Unit / load mismatch</b>      | Metric field display text is separate from stored imperial values and can become stale after loading or reset. Verify in imperial mode, then refresh the metric field switch and re-check before using a saved scenario. |

## REPRODUCING A SAVED CASE

Saving a scenario is not a full operational record or a backup. Record agent state, units, observation time, assumptions, and independently verified results outside the app. Uninstalling or clearing browser/app storage can remove local scenarios.

# Dashboard

This tab summarizes the current shared calculation. Its large aircraft number is a coverage-planning estimate, not a guarantee of adequate CL or successful suppression.

| Feature / readout                      | What it means and what it uses                                                                                                                         |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Aircraft Required — Suppression</b> | Shows the app's whole-aircraft coverage estimate for the current scenario. Read Aircraft / CL Adequacy separately before using the number in planning. |
| <b>Fire Active Burn Line Area</b>      | Shows the estimated area newly involved each second. Displays ft <sup>2</sup> /s and m <sup>2</sup> /s, not a static total fire area.                  |
| <b>Full Line Water Req'd</b>           | Shows the modeled water-flow demand across the entire entered line. It is a rate, not a tank volume or measured water delivery.                        |
| <b>Per A/C Water Req'd</b>             | Shows the modeled water-flow demand for an assigned aircraft section. This is not a measured aircraft discharge.                                       |
| <b>Per A/C Fire Section</b>            | Shows the planned line-section length associated with each aircraft, in ft and m. Actual terrain and fuel are not mapped.                              |
| <b>BTU Generation / Run Time</b>       | BTU Generation describes the estimated fire heat rate. Run Time shows the modeled duration of one load, not a full sortie.                             |
| <b>Drop Coverage</b>                   | Shows how the modeled drop coverage relates to an assigned section. A favorable highlight does not by itself establish CL adequacy.                    |
| <b>¼ Line Rate</b>                     | Shows the estimated water-demand rate for a quarter-line planning segment. It is not a selected aircraft's nozzle rate or refill flow.                 |
| <b>A/C at ¼ Line</b>                   | Shows the whole-aircraft estimate and fractional load readouts for quarter-line planning. These are not a sustained fleet schedule.                    |

**DO NOT READ THE HEADLINE ALONE**

A count and favorable coverage highlight can appear even when the selected CL is inadequate. Always check the Aircraft tab's CL Margin and warning message before interpreting the headline.

# Fire: dimensions & heat

The Fire tab describes the estimated fire dimensions and heat characteristics of the current scenario.

| Feature / readout          | What it means and what it uses                                                                                                                                               |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Active Width          | Despite its name, this row is <b>spread speed</b> in ft/s or m/s. It is not a measured width of flames, a burn strip, or a drop swath.                                       |
| Fire Active Burn Line Area | Shows the estimated rate of newly burning area. The units are ft <sup>2</sup> /s or m <sup>2</sup> /s. Do not read this as the fire's total ground area.                     |
| Fire Line Length           | The entered line length, converted to the chosen display units. Uses only the current length input.                                                                          |
| Required Run Time          | Shows the modeled time to traverse the analyzed line. This is not tank-emptying time, travel to base, or a complete sortie time.                                             |
| Total Fire Heat Rate       | Shows the estimated heat-release rate for the entered line. The current SI version of this row has a legacy display issue; use the dedicated Energy Output row for SI power. |
| Energy Output              | Shows the fire's estimated power in kW. Use this row when comparing power in SI units.                                                                                       |
| Fire Line Intensity        | Shows the estimated heat rate per unit line length, displayed in Btu/s/ft. It is distinct from the full-line heat rate.                                                      |

## Reading the dimensions correctly

These are planning estimates, not a live fire map or observation system. The readouts do not establish fuel variation, wind changes, slope, spotting, flame height, terrain, or actual fire-front geometry.

### A SPEED IS NOT A WIDTH

Never compare 'Fire Active Width' directly with a drop width; their units describe different physical quantities.

# Fire: water & coverage

The remaining Fire panels compare modeled demand, one-aircraft deposition, and the coverage level indicated for the current scenario.

| Feature / readout                  | What it means and what it uses                                                                                                                                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gallons / Liters                   | Water Required per Second reports full-line demand, not a load total. Both unit systems are shown, with the preferred result system highlighted.                       |
| Required                           | Shows the water-flow demand for the full entered line. It describes modeled demand, not water actually applied.                                                        |
| Dropped (Est.)                     | Shows the modeled deposition rate of one aircraft. Do not treat it as the delivery rate of the entire displayed fleet.                                                 |
| Deficit / Surplus / Balanced       | Labels the relationship between the two displayed rates. Read the label and the scope of the comparison together; it is not an operational success or failure verdict. |
| Gals Required per ft <sup>2</sup>  | Shows modeled deposition demand expressed as US gallons per square foot of ground area.                                                                                |
| Liters Required per m <sup>2</sup> | Shows modeled deposition demand expressed as liters per square meter of ground area.                                                                                   |
| Coverage Level Required            | Shows the app's indicated coverage requirement. Compare this value with the selected CL on Inputs and CL Margin on Aircraft.                                           |

## COMPARISON SCOPE

The Required vs Dropped comparison has unequal scopes: full-line demand versus one aircraft's deposit rate. A displayed deficit is **not** proof that one aircraft cannot serve its assigned section, nor a complete fleet or sustained-suppression assessment.

A rate in gal/s is not a total volume, a usable load, or a refill plan. The app does not provide a sustained schedule of repeated aircraft sorties. Verify the real delivery plan independently.

# Aircraft: load coverage & sections

The Aircraft tab separates the coverage distance of one load from the amount of agent needed per ground area.

| Feature / readout                  | What it means and what it uses                                                                                                                                                            |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Headline / summary                 | Repeats the same whole-aircraft count used by Dashboard, plus one-aircraft deposit rate and load duration.                                                                                |
| BTU Rate per Foot of Line          | Shows the estimated heat generated each second per linear foot. This local intensity readout is distinct from total-line heat.                                                            |
| Water Demand per Foot / Metre      | Shows modeled water-flow demand associated with a unit of line length. Read the displayed length and flow units together.                                                                 |
| Adjusted Run Length                | Shows the app's effective coverage-distance estimate for one load in the current mode. It is not a surveyed or guaranteed ground deposit length, especially when an agent mode is active. |
| Run Time / Deposit Rate            | Run Time shows modeled load duration. Deposit Rate shows modeled water delivery per unit time. Neither is a live aircraft measurement.                                                    |
| Aircraft Required / Section Length | Shows the whole-aircraft coverage estimate and the associated assigned section length. Verify real aircraft capability and section conditions independently.                              |
| BTU Load per Section               | Shows the estimated fire heat rate associated with an assigned section. Despite 'Load' in its label, this is a <b>rate</b> in Btu/s.                                                      |
| Water Demand per Section           | Shows the modeled demand for an assigned fire-line section. This is distinct from the full-line demand and actual water delivery.                                                         |
| CL Required / Selected / Margin    | Required shows the app's indicated requirement; Selected shows your entry; Margin is the adequacy readout. Read the red warning or green status message before using the aircraft count.  |

## CL ADEQUACY

Assigning more aircraft to separate line sections does not establish adequate deposition on each section. Correct inadequate CL before treating a coverage estimate as a suppression plan.

# Aircraft: speed & thermal capacity

These panels describe travel and estimated thermal performance. They are planning readouts, not measured aircraft or agent performance.

| Feature / readout                      | What it means and what it uses                                                                                                                                                          |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Speed & Distance                       | Shows the entered speed in knots, mph, and kph, plus travel distance per second. Unit highlights reflect the selected display mode.                                                     |
| Boiling Point at Altitude              | Shows the estimated boiling temperature for the entered elevation, in °F and °C. It is not a temperature or pressure measurement.                                                       |
| Thermal Capacity (lb H <sub>2</sub> O) | Shows the estimated heat-absorption capacity associated with water, in Btu/lb. It is a planning estimate, not measured field cooling.                                                   |
| A/C BTU Capacity                       | Shows the estimated total heat-absorption capacity of an aircraft load. The unit is Btu, not Btu/s.                                                                                     |
| Coverage Area                          | Shows the estimated thermal coverage area, in ft <sup>2</sup> or m <sup>2</sup> . It is distinct from the geometric run-length and assigned-section readouts.                           |
| BTU Absorption/sec                     | Shows modeled heat absorption per unit time in Btu/s. It does not demonstrate achieved operational cooling.                                                                             |
| Rec'd Drop Width                       | This is a legacy readout, not a validated operational width recommendation. <b>Do not use it to select drop width.</b> Enter width from independent aircraft and drop-pattern evidence. |

## Keep thermal and coverage readouts distinct

Thermal capacity, water demand, and geometric coverage describe different planning questions. Do not treat one favorable readout as validation of all the others. Review the applicable units, warning messages, and current entries.

### IDEALIZED ABSORPTION

Actual losses, incomplete contact, evaporation before impact, drift, canopy interception, concentration, and ground pattern are not simulated. The app's thermal capacity is not evidence of achieved operational cooling.

# Mission planning

Mission summarizes full-line and quarter-line coverage planning. Some secondary rows are ratios even though the current UI labels them A/C.

| Feature / readout          | What it means and what it uses                                                                                                                                                      |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aircraft Required headline | Shows the whole-aircraft coverage estimate for the current scenario. It is the same headline estimate shown on Dashboard and Aircraft.                                              |
| At Coverage Rate           | Shows a heat-rate comparison readout. Despite its A/C label, it is not the whole-aircraft dispatch count or a refill/rotation plan.                                                 |
| At Selected Coverage Level | Shows a coverage-adequacy comparison readout. Despite its A/C label, it is not a fleet count. Review the Aircraft tab's CL status for the operational warning.                      |
| Estimated Run              | Shows the thermal coverage-distance estimate for one load. It is different from Adjusted Run and should not be treated as interchangeable.                                          |
| Adjusted Run               | Shows the effective load-coverage distance in the selected scenario and agent mode. It is an estimate, not a surveyed drop track.                                                   |
| Coverage Percent           | Describes the relationship between the run-analysis readouts. This is NOT Dashboard's assigned-section coverage indicator and does not independently prove full-line coverage.      |
| Est. Run / Adj. Run loads  | Shows load-equivalent estimates associated with the respective run readouts. They are not whole dispatchable aircraft. Use the headline and a separately verified operational plan. |
| Quarter Distance Plan      | Shows the quarter-line segment length and its modeled water-demand rate. The quarter-line rate is not a selected aircraft's actual deposition setting.                              |

## WHAT MISSION DOES NOT MODEL

No refill locations, turnaround, travel to base, duty cycle, fleet availability, crew duty time, drop sequencing, or repeated-pass timing are modeled. A fractional-load estimate is not a sustained fleet schedule.

# Convert / Unit Converter

This is a stand-alone, two-way calculator. Type in either side of a row; the opposite side updates. It does not write values into Inputs.

| Feature / readout    | What it means and what it uses                                                                                                                                                                         |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Length: ft / m       | Converts a linear length between feet and meters. Enter either side and read the other side's unit label.                                                                                              |
| Distance: mi / km    | Converts travel distance between miles and kilometers. This row does not convert speed.                                                                                                                |
| 'Area': chains / m   | Converts between chains and meters. Despite the row title Area, chains and meters here are <b>linear distance</b> , not area. Do not use it to convert square-area values.                             |
| Volume: gal / L      | Converts volume between US gallons and liters. These are US, not imperial/British, gallons.                                                                                                            |
| Weight: lb / kg      | Converts weight entries between pounds and kilograms. Keep weight separate from water-volume entries.                                                                                                  |
| Temperature: °F / °C | Converts temperature between Fahrenheit and Celsius. This row is for temperatures, not a change in temperature.                                                                                        |
| Clear                | Clears both fields in that one row. Other rows and calculator scenario inputs are unaffected.                                                                                                          |
| Entry / precision    | Each row keeps its own temporary text. Valid results use up to six significant figures. Blank, incomplete, or non-numeric input can leave the other side blank; avoid letters or thousands separators. |

## Current scope

The present converter has these six fixed pairs. It does not yet offer pair selection, dedicated speed conversions, flow-rate conversions, square-area conversions, or CL-to-L/m² conversion. Those should not be assumed from other tabs' metric displays.

### CONVERSION CHECK

A displayed conversion is rounded. For a planning input, keep enough precision for the field and verify that you selected the intended physical quantity.

# More: About, Contact & feedback

More contains About, Contact, and Owner subtabs. Ordinary calculator features remain available without unlocking the Owner dashboard.

| Feature / readout            | What it means and what it uses                                                                                                                                                                                          |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| About                        | Shows FireBridge identity, beta/version text, platform information, and a field-verification notice. Some framework/minimum-OS/standards labels are legacy metadata; they do not prove compatibility or certification.  |
| Contact identity             | Identifies Joseph Moylan, Wildland Apparatus Engineer, SP., and the creator of FireBridge and the separate engineer calculator.                                                                                         |
| Phone / email / fax          | Phone and email open the device's dialer/mail app. Fax is a displayed contact number, not an in-app fax service. Email shown: hydro@wildfireengineer.com.                                                               |
| Website / Substack / mailing | Website and Substack open external pages and need network access. The postal-address card is a reference, not a message sender.                                                                                         |
| Send Feedback                | Opens a form with Bug Report, Calculation Issue, Feature Request, or General Feedback. Type a nonblank message; category classifies it on the server.                                                                   |
| Attach image                 | Choose an image from Photos or take one with Camera after permission. The app uses compressed image data; a preview/remove control lets you review the optional attachment.                                             |
| Send / success / error       | Sends category, message, app-version label, and optional image to the backend. Success means the server accepted the submission, not that an email was delivered or a correction is complete. On error, retry or email. |
| Done / close                 | Closes and clears the feedback form, including message and attachment. The app does not provide an offline feedback outbox.                                                                                             |

## USEFUL FEEDBACK

To report a calculation issue, include all nine input values, units, Blaze Tamer state, the exact tab/readout, expected result, and your independent reference. Do not send passwords, API keys, confidential incident data, or unnecessary personal information in text or screenshots.

# More: Owner & data privacy

Owner is an access-controlled analytics view for the app owner, not an extra calculator tab for beta testers. This guide intentionally contains no PIN.

| Feature / readout               | What it means and what it uses                                                                                                                                                             |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PIN / Unlock</b>             | Enter the owner's authorized PIN to open Owner Dashboard. An incorrect entry displays an error. The access gate does not validate calculator results or create a named tester account.     |
| <b>Refresh / Updated</b>        | Fetches current server statistics and displays the server-generated update time. Network/backend access is required; a loading indicator or error state may appear.                        |
| <b>App Sessions</b>             | Server counts of session-start events, shown all-time, last 7 days, and last 30 days. They are not counts of distinct people.                                                              |
| <b>Calculation Runs</b>         | Event counts all-time / 7 / 30 days. The current app logs the first meaningful input edit per session, not every recalculation or every result-tab visit.                                  |
| <b>Blaze Tamer Activations</b>  | Counts logged switch-on actions all-time / 7 / 30 days. This does not measure agent gallons used, treatment quality, or success.                                                           |
| <b>Scenarios: Saves / Loads</b> | Aggregated event counts, not a cloud list or backup of testers' scenario values. Scenario contents remain in local storage.                                                                |
| <b>Feedback Submissions</b>     | Shows total accepted submissions, email-sent count, and counts by category. Email-sent records a backend send success, not guaranteed inbox delivery or that the report has been reviewed. |

## What stays local and what is sent

Numeric scenario inputs and named scenarios are stored on device/browser. The app separately sends usage-event type and a session identifier; feedback sends message/category/version and optional image. The backend stores feedback and analytics and can forward feedback through an email provider.

### DATA HANDLING

The About claim 'On-device only' should not be read as applying to all data. Feedback and analytics use online services. Failed analytics requests are silently ignored so they do not stop calculator use.

# Understanding planning readouts

Use the readouts to understand the scenario, not to infer the app's proprietary calculation methods. Each display answers a different planning question.

| Feature / readout        | What it means and what it uses                                                                                                                       |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scenario inputs          | The entries describe the fire, aircraft, planned drop, and water conditions. Their quality determines whether the planning discussion is meaningful. |
| Fire area / heat         | Area-rate readouts describe newly involved ground. Heat-rate readouts describe energy released over time. Neither is a live measurement.             |
| Water demand             | Describes the estimated need, not the amount actually carried or successfully delivered. Keep demand separate from delivery.                         |
| Coverage requirement     | Describes the app's indicated deposition requirement. Review the selected CL and the adequacy message before using a coverage estimate.              |
| One-aircraft performance | Run duration, deposit rate, and run length describe different aspects of one modeled load. Do not read them as a full sortie schedule.               |
| Aircraft count / section | The headline identifies the coverage-planning aircraft estimate. The section readout describes an associated part of the line.                       |
| CL / section checks      | CL status and section coverage are separate checks. A favorable result in one does not establish a favorable result in the other.                    |
| Thermal readouts         | Describe estimated heat-absorption performance. They are not proof of real contact, cooling, or suppression on the ground.                           |
| Quarter-line planning    | Describes a smaller planning segment of the analyzed line. It is not a separate automatic aircraft operating mode.                                   |
| Agent state              | Identifies the selected planning mode. Document it explicitly and verify the real product, concentration, and approved use independently.            |

## PROPRIETARY METHODOLOGY

The arithmetic and underlying methodologies are proprietary and intentionally omitted. This guide explains controls, units, readout meanings, and limitations without describing how results are produced.

# Scenario review walkthrough

Follow this review process with your own verified training or planning scenario. No arithmetic, calculated example, or proprietary methodology is shown.

| Feature / readout       | What it means and what it uses                                                                                                                                          |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Confirm fire entries    | Enter the observed spread, defensible heat-per-area value, analyzed line length, and MSL elevation. Check the unit badge beside each entry.                             |
| Confirm aircraft / drop | Enter verified usable load and planned speed, coverage level, and swath width. Record the source of each value.                                                         |
| Confirm water / agent   | Enter the water temperature and select the intended Blaze Tamer state. Keep a separate record of actual product and concentration.                                      |
| Read Fire               | Review dimensions, heat, water demand, and coverage requirement. Check the scope of Required vs Dropped before interpreting its status.                                 |
| Read Aircraft           | Read the CL adequacy message first. Then review load coverage, assigned section, and thermal readouts. Resolve any warning before proceeding.                           |
| Read Dashboard          | Review the headline, full-line demand, per-aircraft readouts, section coverage, and quarter-line summary together.                                                      |
| Read Mission            | Keep the headline aircraft count separate from comparison readouts and fractional loads. Confirm which coverage indicator you are reading.                              |
| Save and verify         | Save under a distinct name. Record units and agent state outside the scenario. After loading, verify that entries and displayed settings still match the intended case. |

## INTERPRETING AN APPARENT CONFLICT

Fire's Required vs Dropped panel and Aircraft's section readouts describe different scopes. Likewise, Dashboard and Mission coverage indicators describe different planning comparisons. Do not interpret different labels as contradictions without checking what each display represents.

Obtain independent operational review before treating a saved scenario as a resource request or field plan. Keeping an external record helps preserve the observations and decisions the app does not store.

# Limitations & troubleshooting

Read this page before treating any result as a resource request or field decision. The guide documents current behavior; it does not change or repair the app.

- **Warnings and clamping:** invalid/blank entries can be replaced or clamped for calculation. The displayed text may therefore differ from the value used. Resolve every input warning before reading results.
- **Empty or zero entries:** missing or unusable scenario values can produce unavailable readouts. '—' is unavailable, not a usable planning value.
- **Software ranges:** follow each field's warning and permitted range. Software acceptance does not establish a physically realistic or operationally safe value. Some metric warnings still use imperial range labels.
- **Temperature sanity:** liquid water cannot simply be assumed at arbitrary negative or above-boiling temperatures. The broad temperature range does not validate phase behavior; use physically plausible conditions.
- **Metric labels:** HPA's kW/m<sup>2</sup> badge has an energy-versus-power labeling issue. Fire's SI Total Fire Heat Rate is a legacy display issue. Use imperial HPA and the dedicated Energy Output kW row for clarity.
- **Legacy width readouts:** 'Fire Active Width' is a rate, and 'Rec'd Drop Width' is not a validated width recommendation. Older wasted-gallons or width-deficit figures should not be treated as reliable planning recommendations.
- **Counts versus comparisons:** use the whole-aircraft headline for the model's section count. Mission's secondary A/C-labelled ratios are not rounded fleet counts.
- **Saved case differences:** verify Blaze Tamer state and field units when loading. Named scenarios do not capture those settings, and metric field text can be stale.
- **About metadata:** legacy SDK/OS/standards/on-device wording may not describe the installed build or online features. This guide makes no certification claim.
- **No real-world loss model:** weather, terrain, fuel variability, drop pattern, drift, refill cycle, incomplete heat transfer, and agent concentration are outside the model. Validate operational assumptions independently.

# Field checklist & glossary

Use this as a review aid for a training or planning scenario, not a substitute for incident command, aviation procedures, or qualified engineering judgment.

## Before accepting a scenario

- Record the observation time, analyzed line segment, data source, and nine inputs.
- Confirm unit badges, US gallons, MSL elevation, and energy-versus-power units.
- Record agent type/concentration and Blaze Tamer switch state separately.
- Resolve all warnings and reject unavailable or physically implausible values.
- Check CL Margin before interpreting a highlighted section-coverage result.
- Separate whole-aircraft count, fractional loads, and heat/CL ratio readouts.
- Independently verify usable load, swath width, deposition, and aircraft capability.
- Save the case and retain an external record; verify it again after loading.

| Feature / readout    | What it means and what it uses                                                                                          |
|----------------------|-------------------------------------------------------------------------------------------------------------------------|
| A/C                  | Aircraft. A displayed A/C unit on a secondary ratio does not make that ratio a dispatchable whole count.                |
| CL                   | Coverage level: US gallons deposited per 100 ft².                                                                       |
| HPA / ROS            | Heat per unit area (energy per area) / rate of spread (distance per time). They describe different physical quantities. |
| MSL / kts            | Mean sea level elevation / nautical miles per hour (knots).                                                             |
| Btu / Btu/s / kW     | Heat energy / heat rate / SI power. kJ/m² is energy per area, not kW/m².                                                |
| Run / section / load | Run: modeled distance one load covers. Section: an aircraft's assigned share of the line. Load: usable agent volume.    |
| IMP / SI / —         | Imperial-style / metric-style result display / unavailable or non-finite value.                                         |

Scope: current FireBridge screens, input controls, scenario storage, feedback, and owner analytics. Proprietary arithmetic and methodologies are intentionally excluded. This guide does not certify the app's results.

Print on US Letter at Actual Size / 100%. Designed for color or grayscale. Keep this guide with the app version being evaluated.