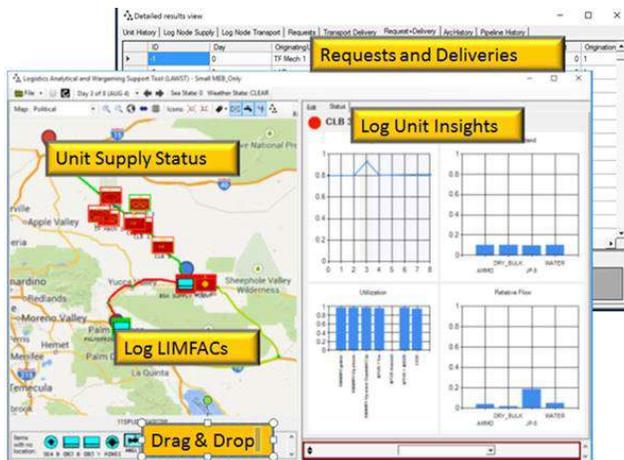


Logistics Analysis and Wargame Support Tool (LAWST)



The Logistics Analysis and Wargame Support Tool or LAWST is a data-driven virtual simulation of surface and air logistics operations across the Area of Operations. It was designed to assist with operational planning and the conduct of wargames, but has since been applied to a variety of other applications.

LAWST describes military units by their location, strength, posture (or activity), desired stockage level, and other characteristics. Units' posture and other data drive their demand for commodities (such as fuel, food, or ammunition). Users specify the primary logistical support relationships among units. LAWST simulates the distribution of commodities from supporting units' on-hand inventory to supported units using organic transportation assets (trucks, aircraft, etc.). A key design goal for LAWST is to trace the fuel expended across the distribution network by supported unit and commodity type.

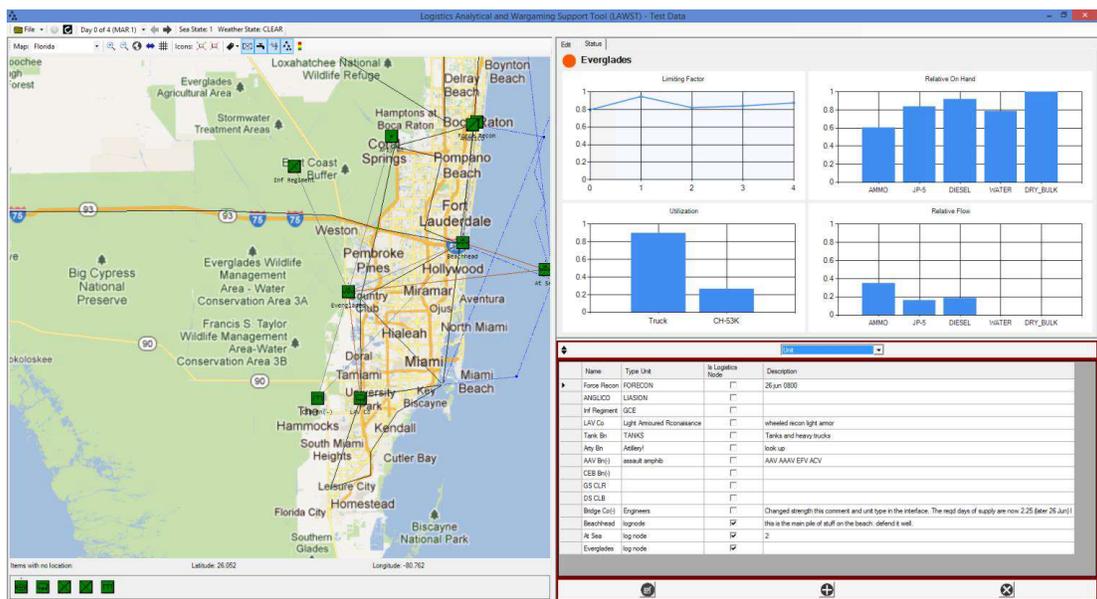


- Supplies:**
- Unit supply status
 - Supply shortfalls
 - LCE o/h supplies
 - Lift utilization
 - Storage utilization
 - Log LIMFACs

- Characteristics:**
- Net based tool
 - Non-proprietary
 - USMC-owned
 - 24-hr timestep
 - Map based
 - Drag & drop

LAWST provides understanding of the logistical feasibility of a scenario and quantifies the impacts that kinetic and non-kinetic actions on combat units, support assets, and infrastructure have on logistical network capabilities.

LAWST exposes the modeled entities to users through a graphical Windows application. The graphical application, like the rest of LAWST, requires no installation for Windows users. The main component of the app experience is a map with moveable and editable unit counters.





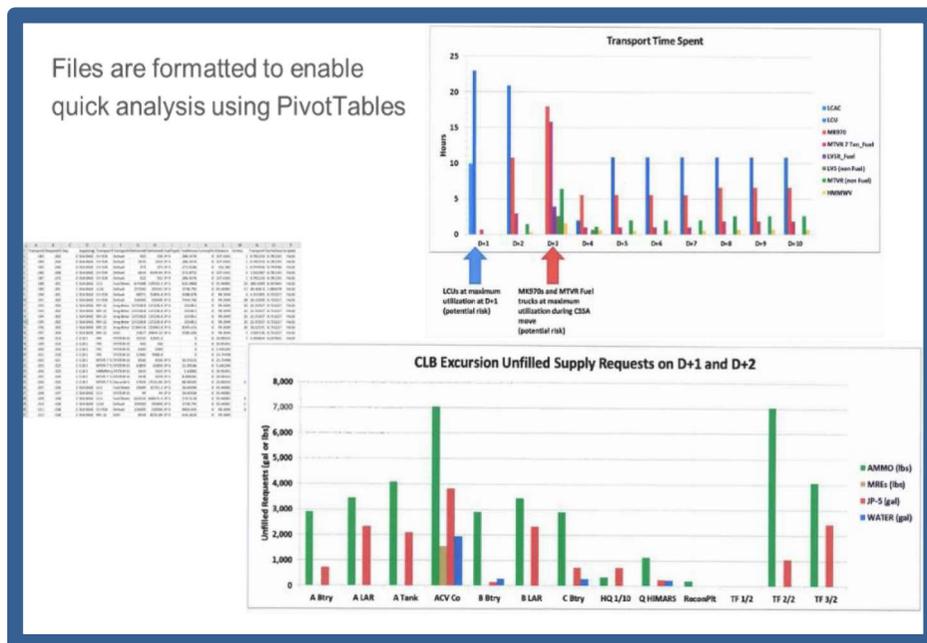
An additional design goal for LAWST is to operate quickly enough to re-evaluate logistical distribution. Users are currently able to modify: support relationships, distribution capacities, transportation asset assignments, unit postures, unit desired stockage levels, unit locations, and more.

The screenshots show the LAWST software interface. The left window displays the configuration for 'JP-5' fuel, including its supply type, class, and weight. The right window shows the configuration for a 'CH-53K' aircraft, including its category, availability, fuel efficiency, and max range. Below these are tables for 'Supply Type' and 'Transportation Asset Type'.

| Name | Supply Class | Is Liquid | Weight # Liquid (lb/gal) | Description |
|------------|--------------|-------------------------------------|--------------------------|----------------|
| JP-5 | CLASS_II | <input checked="" type="checkbox"/> | 6.8 | All ammunition |
| DRY_BULK | CLASS_II | <input type="checkbox"/> | 0 | |
| WATER | CLASS_II | <input checked="" type="checkbox"/> | 0.96 | |
| DF-M | CLASS_II | <input checked="" type="checkbox"/> | 6.8 | |
| DRY_STORES | CLASS_II | <input type="checkbox"/> | 0 | |

| Name | Category | Availability (hr/day) | Description |
|---------------|----------|-----------------------|--|
| CH-53K | AIRCRAFT | 4.2 | |
| LCAC | VESSEL | 4.2 | landing craft air cushioned |
| HMMWV generic | VEHICLE | 18 | Prototype HMMWV (Truck, Utility) based on TM 1 |

LAWST quantifies supply capacity, examines robustness of logistical networks, and provides insight into critical points in the supply chain. It supplies immediate feedback regarding the current and (likely) future status of energy supply across the surface and air network thereby enabling rapid feasibility of support analysis during COA generation and live wargame support.



PROJECT STATUS:

LAWST is a directed modeling effort championed by U.S. Marine Corps Expeditionary Energy Office (E2O) to support Operational Reach 2015 wargame and subsequent studies. It arms planners and logisticians with the tools they need to assess and address energy-based risk. Group W, Inc. is the developer in support of E2O.

DEMO VIDEO: <https://youtu.be/Wii8yn1vUpl>

