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BATTERY POWER ISN'T GENERALLY a concern with small boats powered with pull-start outboards. A 12-volt trolling motor and a single deep-cycle battery typically suffices. Larger boats, equipped with an electric-start outboard, 24- or 36-volt trolling motors, and other power eaters such as electronics, bilge and livewell pumps, nav and deck lights, radio, and more, suck up amp hours requiring increased energy capacity and batteries serving different functions.

Starting batteries are designed to provide high bursts of power for short periods, and as such they're not suitable for providing trolling and deep-cycle power. Deep-cycle batteries are designed to provide continuous operating time for trolling motors and other electronics like depth finders, livewells, and lighting. They can be repeatedly discharged and charged hundreds of times. It's often recommended that deep-cycle batteries aren't completely discharged, but down to a level of about 20 percent, before recharging. Two or three deep-cycle batteries can be connected in series to power 24- and 36-volt trolling motors.

Dual-purpose batteries combine starting power with deep-cycle capabilities. Companies like Exide have manufactured dual-purpose lead-acid batteries for years, allowing you to start the engine and power a few electronics. In small boats with lower horsepower and limited electronics, a single starting/deep-cycle battery might suffice.

In addition to function, today's marine batteries also vary in how they're constructed, providing more choices and price options. Traditional lead-acid wet-cell or flooded-cell batteries, typically the least expensive type, contain a mix of sulfuric acid and distilled water. These batteries require venting to let gases escape while being charged, and require adding distilled water to replace evaporation losses.

Filled with a liquid electrolyte that's gelled with silicates, gel-cell batteries are sealed and maintenance-free (no need to add distilled water). Perhaps their best attribute is resistance to overcharging that can damage other battery types. And they can be stored for extended periods without losing significant charge. With this advantage, however, comes the need to use chargers designed for gel batteries.

Absorbent Glass Mat (AGM) sealed lead-acid batteries use a glass-mat separator that absorbs the electrolyte. This allows oxygen to recombine with hydrogen.
**BATTERY OPTIONS**

**INTERSTATE:** Interstate offers a wide range of marine starting dual-purpose and deep-cycle batteries. Twelve-volt deep-cycle options use conventional wet cells, including the popular Mega-Tron SRM-27, which offers 95 amp hours (Ah), 600 cold cranking amps (CCA), and a 160-minute reserve capacity. Additional batteries in 24 to 29 group sizes also are available, as well as 24, 27, and 29 size cranking/starting batteries with up to 675 CCA. [interstate.com](http://interstate.com)

**ODYSSEY:** As a dual-purpose power source, Odyssey Extreme AGM dry-cell batteries offer expanded starting power and a deep cycling capability of up to 400 cycles at 80 percent depth of discharge. They reportedly offer twice the overall power and three times the life of conventional batteries. Leak-, corrosion-, and maintenance-free dry-cell batteries can be stored for up to two years without recharge. The Trolling Thunder/Marine Dual Purpose 34M-PC1500 provides 1,500 cranking amps for 5 seconds and 135 reserve minutes. The PC925 Trolling Thunder/Marine Dual Purpose battery can be purchased with a protective metal jacket for mounting in high temperature locations. [odysseybattery.com](http://odysseybattery.com)

**OPTIMA:** Optima AGM batteries offer extended power and longevity with a lead-tin grid that resists internal plate corrosion and a completely sealed box that prevents water loss. SpiraCell Technology offers additional plate surface and closer plate spacing that produces increased power within a smaller battery package. Four "BlueTop" marine series batteries include both sealed lead acid starting (34M) and dual-purpose engine start/deep-cycle models (D27M, D31M, and D34M). [optimabatteries.com](http://optimabatteries.com)

**TROJAN:** Trojan Battery Company engages in research and advanced technology to produce innovative products. Founded in 1929, the company is a research partner with the Bulgarian Academy of Sciences, world-renowned for industrial research. Innovations include advanced robotics in manufacturing plants; heat-sealing to reinforce structural integrity; pressure-testing to ensure integrity of seals on AGM deep-cycle batteries; and advanced testing of longevity. Their Alpha Plus flooded batteries use Trojan's Alpha Plus Paste, a proprietary, high-density formulation engineered for outstanding performance, thanks to a patent-pending T2 Technology used to create adhesion between the paste and the grid frame. The deep-cycle line also includes a GEL Series with gelled electrolyte that delivers consistent performance in temperature extremes. AGM Series maintenance-free batteries, built with robust plates, are popular with anglers. A low-calcium grid alloy reduces gas emissions, while shock and vibration-resistant construction allows peak operation in difficult conditions. [trojanbattery.com](http://trojanbattery.com)
gas, constantly replenishing the battery's water and eliminating the need to refill. These batteries also are spill-proof, eliminating worries about gassing. Further benefits of AGM batteries include shock- and vibration-resistance, the ability to function at any angle, and a very low self-discharge rate during storage. They also charge quickly, can serve starting and deep-cycle needs.

Deep-cycle batteries require a well-matched charging system. Gel batteries, for example, charge at lower voltages than flooded-cell or AGM batteries. Be sure to use a charger suitable for the job, and follow the battery manufacturer's charging recommendations. Some of today's chargers can charge different battery types, even on different banks at the same time. Too extensive to cover here, Trojan Batteries provides a handy white paper on battery maintenance—flooded, AGM, and gel—at trojanbattery.com.

**NEXT-GENERATION POWER**

Bass pro Ott DeFoe uses Lithium Pros lithium-ion batteries to power his Nitro bass boat. "In a pinch, I've found these batteries run fine for five full tournament days without recharging," he says. "I normally charge them every couple of days, but they still have plenty of power." DeFoe is one of a handful of pros who have made the jump from conventional lead-acid batteries to lithium-ion ones.

Their advantages, in addition to holding a charge for days, include light weight and small size, fast recharge time, and ability to cycle far more than conventional batteries (estimated up to 2,000 full discharge cycles, compared to about 200 for the average deep-cycle battery).

Kevin Bennet is a battery engineer and president of Lithium Pros Batteries. His background is in motorsports, where reduced weight and size are at a premium in race cars.

"The advantages of lithium-ion technology translate directly to fishing," he says. DeFoe told In-Fisherman Senior Editor Steve Quinn that when he switched to Lithium Pros batteries, he cut 150 pounds of weight from his boat, resulting in greater speed, reduced gas consumption, and better hole shot.

"Florida FLW pro Scott Martin also is running our batteries," Bennet says, "but he uses a single 36-volt battery for his trolling motor. That one weighs just 33 pounds." Quinn reports that he's had fantastic service from his trio of Odyssey Thunder batteries, but their combined weight is over 230 pounds. And Bennet notes that the single 36-volt battery can typically be recharged in less than 5 hours. "We have guys running flats boats down on the Gulf and they don't have to plug in the charger for weeks," he says. "They run long distances and the boat's alternator charges them on the way home. Lithium-ion batteries accept a charge far more readily than lead-acid ones, so they're far more efficient in many ways."

The downside for the consumer is the cost of this new technology. The 36-volt battery costs $2,499, including the charger. But top-end lead-acid batteries can exceed $500 apiece and you need three of them to run a 36-volt system. And Bennet estimates the Lithium Pro will last at least 5 times longer, which brings economic factors into balance over the long term.

As you might expect, this technology is advancing rapidly as pressure to improve gas mileage on automobiles leads to efforts to reduce weight. The battery is an obvious place to start. Along the way, anglers can reap benefit.

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**BATTERY TERMS**

**Terminology used in the battery industry** is ever-expanding with new technology and can be confusing at times. Interstate Batteries provides a handy, comprehensive glossary of battery terms at batteries-faq.com/activekb/glossary.php. A few terms used in this article:

**Amp-Hour Rating:** Unit of measure for a battery's electrical storage capacity, obtained by multiplying current in amps by time in hours of discharge. For example, a battery delivering 10 amps for 20 hours has a 200 amp-hour rating.

**Cold Cranking Amps (CCA):** A rating of a battery's ability to start an engine under low-temperature conditions. Battery Council International (BCI) defines it as the number of amps a lead-acid battery at 0°F can deliver for 30 seconds and maintain at least 1.2 volts per cell (7.2 volts for a 12-volt lead-acid battery).

**Reserve Capacity:** BCI defines it as the number of minutes a new, fully-charged battery at 80°F can be discharged at 25 amps and maintain voltage equal to or higher than 1.75 volts per cell (10.5 volts for a 12-volt battery). This rating represents the time a battery can continue to operate accessories in the event of a charging system failure.