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**Royale Air's
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Sweet Spot**



ROYALE AIR

Hitting the Sweet Spot

Living the dream
of commercial
seaplane flying

By Mark Twombly

You say you wanna shuck your nicely compensated but listless day job to seek entrepreneurial adventure on the water and in the air?

Think you're ready to start living your dream by becoming a commercial seaplane operator? Before turning your back on the corner office, you might want to consider some of the hefty challenges you'll encounter along the way. First, in most parts of the country commercial seaplane flying is a seasonal activity, so if you want to earn a living year-round you'll be nomadic by necessity. Second, the cost of doing business is high, from acquiring the equipment to fueling, maintaining and insuring it. Third, when you try to hire some flying help you'll find that just about everyone who holds a Commercial certificate and has a pulse is being courted by someone. Fourth, you'll always be at the mercy

of some forces you can't control, like the weather gods' unpredictable moods. Still game? Then take your inspiration from Jon Rector.

NOT A HAPPY PILOT

Since late 2013 Rector has owned and operated Royale Air Service, which does business as Salt Island Seaplanes during winter months in Naples, Florida, and as Isle Royale Seaplanes during summer months in Michigan's Upper Peninsula. For 25 years prior to that he had what many would consider a dream job—flying jets for a regional airline, with a certain move to its major airline parent in his sights. But Part 121 scheduled air-

The Kenmore floatplane experience solidified his desire to get into commercial seaplane flying.



Salt Island Airways plies Southwest Florida's Gulf Coast, from the barrier islands north of Sanibel Island to Key West and the Florida Keys.



The only vehicles on Isle Royale National Park are canoes and kayaks.



Royale Air Maneuvers with Reversing Prop Mod

As a commercial seaplane charter and sightseeing operator, Royale Air Service, operating as Isle Royale Seaplanes and Salt Island Seaplanes, has to be capable of operating in marginal conditions and situations beyond typical recreational seaplane flying scenarios. One aircraft modification that gives Royale Air that capability is an MT composite propeller with reverse option.

Much like the reversing prop on turbine-powered seaplanes, the lightweight MT Propeller system gives Royale Air's Cessna 206 impressive maneuverability on the water. Toggling a switch on the back of the yoke changes the pitch of the prop blades from positive to flat to negative and back again, giving the pilot uncannily precise control over slow-speed movement of the airplane on the water, especially when docking in windy or confined conditions.

"We go to a place on Boca Grande (an island off Southwest Florida's Gulf coast) where the reversing prop saves our bacon," says Royale Air's Jon Rector. "When we pull into the spot we're looking at a concrete seawall ahead and an eight-million-dollar yacht to the right. With the reversing prop we can modulate our forward progress."

"In a crosswind we can run in to the dock, stop quickly and shut down by tugging on the toggle switch and pulling the mixture at the same time. The prop stops immediately."

Royale Air's Key West destination is a floating dock that weathervanes with the wind. The reversing prop enables the pilot to safely ease up to the shifting dock.

It's not possible to use still photos to show how much control the reversing prop gives the pilot, but plenty of videos that do are available on YouTube (search YouTube for "MT Propeller Reverse").

Soon after acquiring Royale Air, Rector installed an MT Propeller on the 206 to save weight—about 20 pounds, and to reduce blade erosion. When MT certified the reversing option for the 206 a few years later, Rector had it installed.

The beefy three-blade prop is comprised of highly compressed, thin-laminate

beech and spruce wood cores covered with several layers of epoxy-impregnated carbon fiber/fiberglass cloth with nickel/cadmium leading edges and a one-piece aluminum alloy hub.

On the water, the system is armed with a guarded switch on the panel. When reverse thrust is desired, activating a spring-loaded switch on the back of the yoke commands the two-stage MT reversing governor to engage the high-pressure section. Increased oil pressure pushes the blade-position piston in the hub through the two-stage internal spring, which in turn moves the blade roots inside the hub into negative pitch (reverse). The pilot may then add power as needed to control the amount of reverse thrust.

When the toggle switch is released, oil pressure in the governor returns to normal and springs in the hub push the propeller blades back into positive pitch. A centrifugal lock in the hub prevents the blades from going into reverse pitch above about 1200 rpm, and an airswitch prevents reverse operation at speeds above normal taxi. The prop can be set to lock in neutral (flat pitch) during engine shutdown so the next start and warm-up is done with zero (neutral) thrust.

"We can control sailing by varying the pitch of the prop," explains Isle Royale pilot Tomas Sowles. "We can back up as well, but steering is not so good when backing up—the nose yaws to the right. We don't use water rudders when backing up because of the pressure on the rudders."

The MT prop also reduces Royale Air's maintenance bills. "With our previous metal prop we had to dress it every five-to-ten hours," Rector says. "The nickel leading edge on the MT Prop is much harder than aluminum, and completely impervious to erosion."

Rector has acquired a second 206 and has purchased an MT reversing prop system for it.

Flight Resource LLC owns supplemental type certificates (STCs) for installation of the MT Composite Propeller and reversing option for many aircraft models, including most Cessna singles. For more information see www.Flight-Resource.com.



Guarded panel switch activates reversing system.



Annunciators for reversing function armed and activated, along with CB.



Toggle switch on back of yoke is used to move prop into reverse. Throttle controls amount of reverse thrust up to about 1200 rpm.

line ops is not for everyone, and Rector is one of those who find they don't like the taste of that Kool-Aid. He was not a happy pilot. "I hated it from day one," he says.

Rector had always enjoyed flying small airplanes, and he had a long-standing fascination with seaplanes. In the mid-1990s he began thinking about what he could do in terms of making a living flying floats. On a trip to Seattle he booked a flight to the San Juan Islands with Kenmore Air, and the Kenmore floatplane experience solidified his desire to get into commercial seaplane flying.

Rector and a fellow airline pilot bought a Cessna 180 on floats and launched a part-time sightseeing business. "It was never viable financially, but it gave us a lot of floatplane experience," he says. Meanwhile, Rector and his wife, Christine Hamilton Rector, also a pilot with the same airline, shared a plan to retire early and start living their dream: operating a seasonal floatplane business in two locations—up north in the summer, and in Florida in the win-

ter. They spent seven years looking for an opportunity and eventually found it—Royale Air Service in Hancock, Michigan. Christine ultimately decided that "somebody has to have a real job," Rector says, so she kept her airline seat. He took the plunge and retired from the airline to operate and grow their new floatplane venture.

The business they bought held the flight concession in Isle Royale National Park, a cluster of remote, car-free, wilderness islands in northwestern Lake Superior near Michigan's Canadian border. Isle Royale is the largest island in the national park and is reachable only by a six-hour boat ride or 40-minute flight in an Isle Royale seaplane, which operates from the Portage Canal Seaplane Base in Hancock.

Soon after taking over Isle Royale Seaplanes, Rector launched its wintertime southern cousin, Salt Island Seaplanes, which operates out of the Naples, Florida, Municipal Airport. Salt Island offers charter and sightseeing flights in an amphib 206 to various destinations in the Florida Keys including

Three-blade MT Prop has a laminated wooden core sheathed in epoxy-impregnated carbon fiber/fiberglass cloth.



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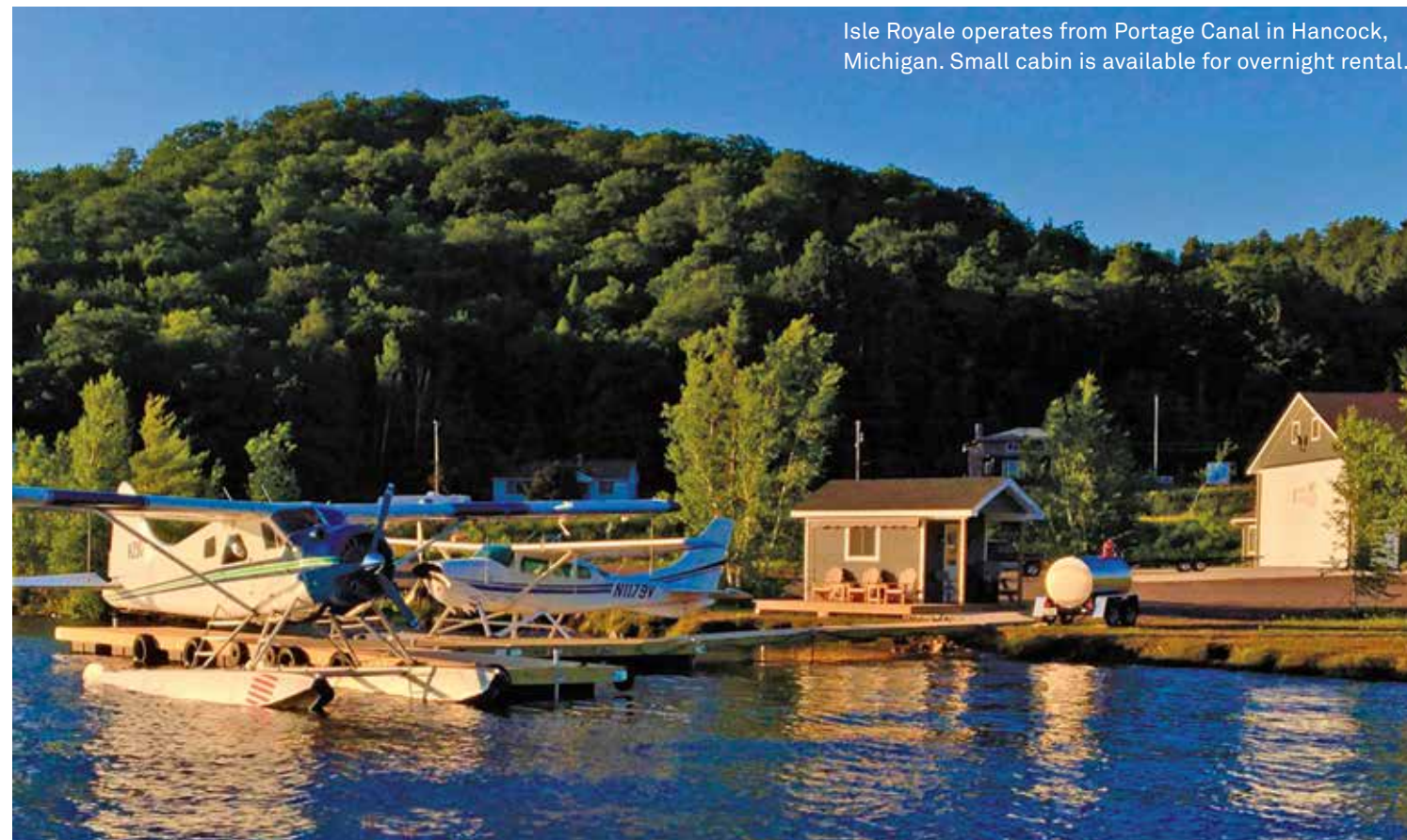
Key West and Little Palm Island, as well as to the Southwest Florida barrier islands of Boca Grande, Cabbage Key, Useppa, and Captiva.

In 2018 Isle Royale Seaplanes will begin operating out of a second location—Cook County Airport in Grand Marais, Minnesota, a small town on Minnesota's Lake Superior shoreline west of Isle Royale National Park. The new base is intended to fly Minnesotans to Isle Royale. Rector also is hoping to get approval to fly visitors to Voyageurs National Park on Minnesota's Canadian border.

As the business grows, so grows the Royale Air fleet. Rector began with a single 206 amphib—it's doing double duty in Michigan and Florida—and has added a de Havilland Beaver on straight floats. This year he is bringing a second 206—this one on straight floats—to the Isle Royale concession.

SEMI-ANNUAL MOVES

The staff is lean—Rector, Chief Pilot Tomas Sowles, Director of Maintenance



Isle Royale operates from Portage Canal in Hancock, Michigan. Small cabin is available for overnight rental.



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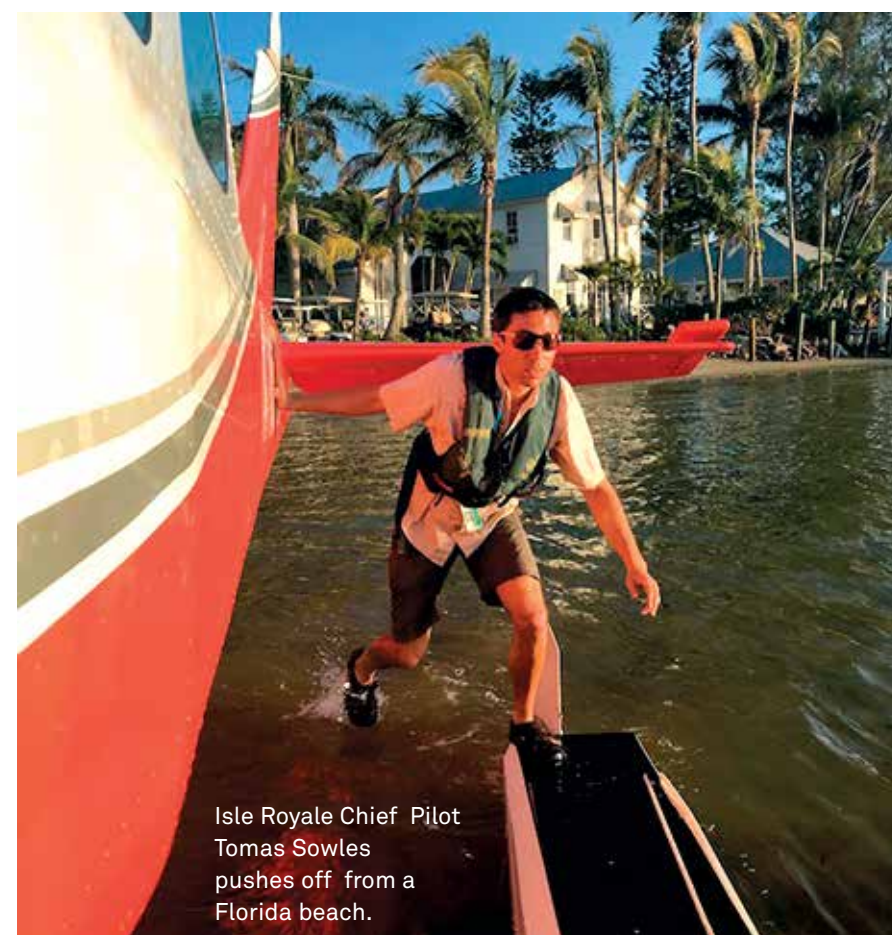
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As the business grows, so grows the Royale fleet.

Sowles in the Beaver with a happy passel of passengers on their way to Isle Royale National Park.



Isle Royale Chief Pilot Tomas Sowles pushes off from a Florida beach.



Royale owner Jon Rector (left) with Chief Pilot Tomas Sowles and the amphib 206



Royale Air home base in Hancock

Don Simmons, a part-time customer service representative and, new this year, an office manager and an additional pilot. Sowles, Simmons, and Rector and his wife and seven-year-old daughter, and dog, all make the semi-annual move from Michigan's forested, sparsely populated Upper Peninsula to subtropical, sophisticated Naples in the fall, and back again in late spring.

It's unusual to have a full-time mechanic for a three-aircraft operation, but in Rector's view it's necessary to avoid the inevitable delays that come with contract maintenance, and the only way to stay ahead of the corrosion issues that accompany Salt Islands' saltwater ops.

"The corrosion maintenance routine is to wash the airplane with soap and water at the end of every day," Rector says. "We regularly spray the airplane with corrosion inhibitor, and twice a year coat the inside of the airframe with Corrosion X." After four seasons of Florida saltwater flying Simmons did a thorough internal inspection of the 206 and found only a few areas of minor corrosion.

Sowles grew up in Maine flying with his father in the family's Aeronca Champ and, thinking he wanted to be an airline pilot, studied Flight Technology at Purdue University. His timing was bad, however—he entered college a year before the 2008 recession. After graduating, Sowles decided to try something different than the airline track and went to work for Penobscot Island Air in Maine. He began with wheelplanes, and in 2012 began flying floats after being awarded a Tyler Orsow/Chuck Kimes Memorial Seaplane Rating Scholarship. He was nominated and subsequently

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Royale Air's straight-float de Havilland Beaver and amphib Cessna 206

Seaplane-Accessible Solitude

By Crista Worthy

Most pilots know that it's generally illegal to land your airplane in a national park, except in case of emergency. But there are exceptions. Notably, Alaska, where people land in the parks all the time, as well as Wyoming's Teton National Park, the only national park with a commercial airport inside it. And then there's that Great Lakes gem: Isle Royale National Park, where seaplanes can land and dock at three separate areas. If you're searching for stunning natural beauty and want to escape the crowds, this is the place.

Isle Royale (www.NPS.gov/isro) is the least-visited national park in the lower 48 states, averaging around 17,000 visitors per year. It's also a designated wilderness, so there are no motor vehicles. It therefore offers deep solitude for backpackers, kayakers and canoeists, hikers, and scuba divers. Part of the reason for the low visitor numbers is that the park is an island (with many tiny islets around it) in the northwest section of Lake Superior, near the Canadian border, so the only access is via boat or seaplane. Furthermore, the park is only open from April 16–October 31. The park is closed to all visitors November 1–April 15. Fly in and visit for the day or spend a week kayaking or hiking and camping in this remote, forested wonderland of moose, mink, and martens.

The closest airport to Isle Royale is Grand Marais/Cook County (CKC) in Minnesota, about 30 nm to the west. The Grand Marais/Cook County Seaplane Base (0G5) is less than a mile from CKC, on the northeast shore of Devil's Track Lake. The lake is generally open May–November; the dock goes in by Memorial weekend. Planes with skis may land on the lake in the winter, although the seaplane base is not maintained. Fuel is available during open-water season. If you need to stay here on your way to or from the park you can rent a cabin, cottage,

or lake home at the Skyport Lodge (www.SkyportLodge.com), which offers free airport pickup and a restaurant. If you have an amphib, fuel is also available at Houghton County Memorial (CMX) in the Keweenaw Peninsula of Michigan. By the way, it is legal to land your seaplane around any of the islands that surround the Keweenaw Peninsula.

Seaplanes may land and dock at three sites in Isle Royale National Park. The locations are shown on the sectional with asterisks but are not named, so I'll explain: the locations are Windago (at the southwest end), Tobin Harbor (near Rock Harbor at the northeast end), and Mott Island (3.5 nm southwest of Rock Harbor). Although you may dock at Mott Island, it is a park service administrative base and has no visitor services, so we'll focus on the other two landing sites. Remember that 99% of Isle Royale is federally-designated wilderness. The park requests that pilots attempt to conduct flight ops over the lake rather than over the land, to minimize noise disruptions to wildlife and wilderness users.

Rock Harbor and Windago each have a visitor's center, plus canoe and kayak rentals. Rock Harbor (www.NPS.gov/isro/planyourvisit/rock-harbor-lodge) offers a full-service lodge with 60 rooms and two restaurants. Each room provides a view of Lake Superior and private bath for up to four. Twenty duplex cottages each accommodate six with private bath and kitchenette. A grocery store stocks camping food and supplies, fishing supplies, and sundries. Amenities are sparser at Windago (www.NPS.gov/isro/planyourvisit/windigo.htm): a pair of camper cabins, each with electricity, a BBQ grill, and bunk beds (linens and cooking sets can be rented for a nominal fee) and a general store. The island also has 36 campgrounds (www.NPS.gov/isro/planyourvisit/camping.htm) across its 40-mile length. Pets are not allowed in the park.

Before departure, pull up Isle Royale on Google Earth to get a better look at the island. Call the park at 906-482-0984 to let them know you're flying in. This way they can expect you, they can let the commercial seaplane pilot (more on him below) know to keep an eye out for you, and you can clarify exactly where to tie up. The Windago docks are at the far northeast end of Washington harbor, with Beaver Island in the center. If winds are strong out of the south, you might want to come around to the north side of Beaver Island. Rock Harbor has a large marina that is designed for the ferries and other boating activity, not seaplanes. Tobin Harbor lies just north of Rock Harbor, is sheltered from waves, and that's where you'll land. It's only about a 700-foot walk across the narrow spit of land from Tobin to Rock Harbor. After docking, check in with a ranger at the visitor's center. Pay the low day-use fee and arrange for your free overnight permit if you're staying overnight. There are no fuel services.



mentored by Maine resident and SPA Board member Steve Williams.

DECISION-MAKING

When Rector was casting about in 2015 for a pilot to hire, Sowles came highly recommended by those who flew with him. Rector met Sowles and found him to be “an exceptional pilot in terms of natural ability,” but he had reservations because of Sowles's relatively low total time, especially on the water. What won Rector over was the kind of flying Sowles had been doing. “When I heard

he had dealt with wind, fog, snow and ice and the decision-making it takes to fly safely in Maine year-round, that was more important than anything else.”

When Rector bought Royale Air Service it was making a profit, and in the nearly four years since revenue has more than tripled. A lot of the profit goes back into growing the business—expanding to the Florida operation and now Grand Marais, leasing the Beaver, purchasing a second 206, and modifying both 206s with the MT reversing prop (see sidebar).

The Isle Royale concession brings in

the majority of business and revenue even though it operates only four-and-a-half months each summer. As activity increases at Salt Island Seaplanes and the Cook County base gains traction, revenue from each of the three locations should be less lopsided. Rector is not looking to super-size, however. “We don't want to grow a lot more,” he says. “We want to be a stable, profitable company.”

That will be the sweet spot. That's when Rector can look back on the Kenmore flight and say he's now living that dream. ■



Rock Harbor (with docks) is for boats only). Seaplanes land and take off in Tobin Harbor just beyond the three small islands just beyond Tobin Harbor. Seaplane docks are between the two islands at top-center and top-right of the photo. It is just a short walk across the hill from Tobin Harbor to Rock Harbor. Photo courtesy NPS.

If you'd rather fly with Isle Royale Seaplanes, Jon Rector has a one-bedroom cabin at his private seaplane base in Houghton County where you can spend the night before your departure to Isle Royale.

What can you see in this beautiful and remote park? Thick quiet forests and grasslands, but only 19 mammal species. Of those, seven are bats. The wolves and moose of Isle Royale are known worldwide, and they are the focus of the longest-running study of a predator-prey system in the wild (more than 50 years and ongoing). Moose apparently swam to the island and established a population in the early 1900s, and wolves followed during the winter of 1948–49, traveling over the frozen Lake Superior. Unfortunately, with warmer winters due to climate change, the wolf population became isolated and inbred, declining to only two as of 2018. The moose population has now risen to around 1,700.

Over the next few years, 20–30 wolves will be released on the island to replenish the population, so the moose don't eat themselves out of house and home. Other animals include foxes, otters, weasels, martens, beavers, red squirrels, deer mice, and plenty of birdlife. Check the photos; if you like what you see, make reservations soon!

Crista Worthy is a 1,200-hour private pilot with single-engine land and sea ratings. Somewhere around 350, she lost count of how many aviation travel articles she's had published since 2006. She's currently the writer for AOPA's "Destinations" travel section (www.AOPA.org/travel/destinations) and Editor of The Flyline, the monthly publication of the Idaho Aviation Association. She lives in Hidden Springs, Idaho.