Here is some recent information about electric passenger ferries and their service locations as of 2024:

1. \*\*Belfast and Bangor, Northern Ireland\*\*: Artemis Technologies has partnered with Condor Ferries to operate the EF-24 Passenger ferry. This zero-emission ferry, named ‘Zero’, is expected to be in service in 2024 between Belfast and Bangor in Northern Ireland. It's part of a broader initiative to provide green transport solutions in various water-based cities worldwide【6†source】.

2. \*\*California, USA\*\*: Candela, a company specializing in electric ferries, has established an office in California. They aim to deploy the P-12 Shuttle on routes that require fast, efficient ferry service, including the Sausalito to San Francisco route【7†source】. Additionally, California is launching its first electric short-hop ferry in 2024【9†source】.

3. \*\*Michigan, USA\*\*: The Mackinac Island Ferry Co. received a grant to convert the ferry Chippewa to electric power. The project involves replacing the ferry's diesel engines with electric propulsion motors. This conversion is a pilot project for potentially electrifying more ferries in the area【7†source】.

4. \*\*New York, USA\*\*: Eastern Shipbuilding Group Inc. is constructing a new passenger/vehicle ferry for service between Bridgeport, Connecticut, and Port Jefferson, New York. This new ferry will join the fleet providing service across Long Island Sound, featuring advanced emission reduction technologies【7†source】.

5. \*\*Alabama, USA\*\*: The first all-electric ferry in the U.S., operating in Alabama, makes round trips across the Alabama River between Gee’s Bend and Camden. It's a zero-emission 15-vehicle/132-passenger ferry that began service in 2023【10†source】.

6. \*\*Wellington, New Zealand\*\*: The Southern Hemisphere’s first fully electric passenger ferry, the Ika Rere, operates in Wellington. It carries up to 132 passengers across Wellington Harbor and is estimated to save approximately 640 tons of CO2 annually compared to a diesel alternative【11†source】.

7. \*\*Argentina\*\*: There are plans to introduce over 170 electric passenger ferries in Argentina, though specific details about their operation and service areas are not mentioned in the provided information【8†source】.

These developments indicate a growing trend towards adopting electric ferries globally, driven by the need for more sustainable and environmentally friendly transportation solutions.

As of my last update, the following electric passenger ferries are in service:

1. \*\*Alabama, USA\*\*: The first all-electric ferry in the U.S. is in service in Alabama. It operates across the Alabama River between Gee’s Bend and Camden, making five round trips daily. This 132-passenger ferry started service in 2023【10†source】.

2. \*\*Wellington, New Zealand\*\*: The Ika Rere, the Southern Hemisphere’s first fully electric passenger ferry, is in service in Wellington. It transports up to 132 passengers across Wellington Harbor and was estimated to enter full service by the end of the first quarter of 2022【11†source】.

The other projects mentioned, like the EF-24 Passenger ferry in Northern Ireland and the P-12 Shuttle in California, USA, are planned to be in service in 2024 but are not operational as of now【6†source】【7†source】【9†source】. The conversion of the Chippewa ferry in Michigan, USA, and the new passenger/vehicle ferry in New York, USA, are also ongoing projects with future service dates【7†source】.

The all-electric ferry operating in Alabama offers some noteworthy features and details:

1. \*\*Location and Service\*\*: The ferry operates across the Alabama River, connecting Gee’s Bend and Camden. It makes five round trips daily.

2. \*\*Vessel Specifications\*\*: The ferry is 95 feet long, 42 feet wide, and has a draft of 5 feet. It is designed to carry 15 vehicles and 132 passengers.

3. \*\*Charging and Battery\*\*: The ferry has charging stations on both sides of the river, but it was designed to charge on just one side if needed. Charging takes about 20-25 minutes on one side, or 10-15 minutes if using both sides.

4. \*\*Regulatory Challenges\*\*: One of the challenges in the development of this ferry was the lack of specific U.S. Coast Guard regulations for lithium-ion battery-powered vessels. The design team worked closely with the Coast Guard to ensure safety and compliance.

5. \*\*Design and Engineering\*\*: The vessel was designed with a focus on energy efficiency and sustainability. The ferry's propulsion system and other key components were selected and designed to minimize emissions and maximize efficiency.

6. \*\*Environmental Impact and Cost Savings\*\*: Operating costs for the ferry are expected to be about 50% less than a traditional diesel-powered ferry, primarily because fuel costs are replaced by cheaper electricity for charging. This aligns with broader environmental goals and can lead to significant reductions in greenhouse gas emissions.

7. \*\*Funding and Development\*\*: The project cost $1.8 million, partly funded by a $1.09 million Environmental Protection Agency (EPA) Diesel Emissions Reduction Act (DERA) grant. The conversion process at Master Marine Inc., Bayou La Batre, Alabama, involved removing the original diesel engines and installing new electric propulsion motors, battery banks, and a fire suppression system.

8. \*\*Operational Experience\*\*: The ferry has been operational since 2023 and represents a pioneering step in the adoption of electric ferries in the United States. Its successful deployment is likely to influence similar projects across the country【10†source】.