Rich Passage Passenger Only Fast Ferry Study Update

Newsletter for Waterfront Property Owners
Welcome to the Third Edition

This is the third in a series of newsletters informing waterfront property about the study under way to investigate the feasibility of a Seattle-Bremerton passenger fast ferry service.

Since the last newsletter in January, the project team has been focused on daily field trials of M/V Spirit, a low-wake, foil-supported catamaran. The aims of these field trials are to study wake generation by this type of low-wake, high-speed vessel and to identify the potential shore response.

Since the beginning of the M/V Spirit field trials, Luis Barrantes, Phil Osborne, Bryan McConaughy, and Marie Garret have responded to a number of inquiries for further information regarding the study. We have also received a number of helpful comments provided by waterfront property owners and residents along the ferry route. We are most grateful for these comments and observations and we encourage you to continue to provide input via e-mail, phone call, or by submitting beach observation data sheets.

Take a Test Ride

Special tours of the M/V Spirit are being arranged for waterfront property owners. If you are interested in touring the vessel and taking part in a test run through Rich Passage, you can join us on the following dates:

Port Orchard Resident Ride
Friday March 18, 2005
3:00 pm Boarding
Guest Dock, Gate 4, Port Orchard Marina
707 Sidney Pkwy, Port Orchard, WA

Bainbridge Island Resident Ride
Friday March 18, 2005
5:00 p.m. Boarding
Eagle Harbor Waterfront Public Dock
370 Brien St., Bainbridge Island, WA

A Bremerton Community ride is in the planning process.

FIRST TWO WEEKS OF VESSEL TRIALS

Field trials of the M/V Spirit were conducted on a portion of the Seattle to Bremerton route in the first week of February 2005. These trials, held near Port Orchard, are providing a large dataset on the wake generation characteristics of the vessel, which will help us to assess various aspects of vessel operation and design in reducing wakes. In subsequent weeks, high speed transits through Rich Passage will be undertaken. These trials will help to quantify shore impacts and wake behavior near the shore.

Water tanks are used for extra ballast. This technique has been used to account for the weight of up to 149 passengers.

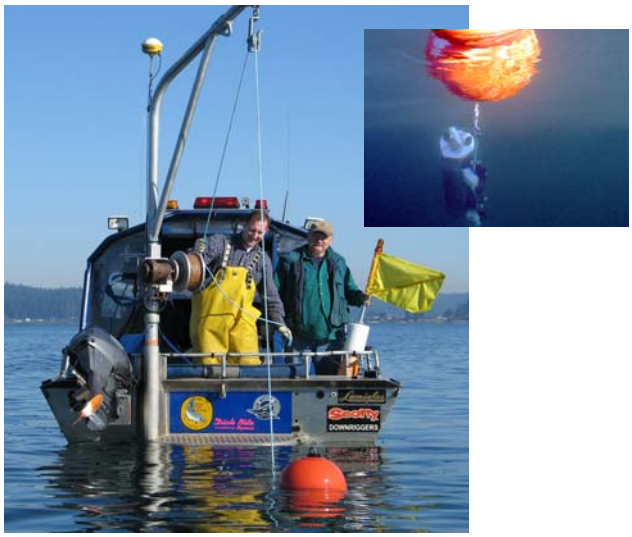
The Pacific International Engineering study team is striving to ensure that the test conditions are realistic. The M/V Spirit is designed to carry up to 149 passengers and the weight of these passengers would have a significant affect on the displacement and performance of the vessel. During the field trials, large water tanks have been installed on the vessel to provide extra ballast to represent the passengers' weight. A full or partial load of passengers can be simulated simply by adjusting the water levels in these tanks.

ON-BOARD MEASUREMENTS

The wake produced by a high-speed vessel is strongly influenced by a number of factors, including its speed, its hull shape and the depth of water. The hull shape is especially important, and its influence is the most difficult to assess, since the draft and trim of the vessel varies with its speed. Several instruments have been installed on the M/V Spirit to record the dynamic motion of the vessel (heave, pitch, roll), as well as its vertical and horizontal position in time. The data from these instruments will be used to determine the trim of the vessel and lift created by the vessel's foil – two important parameters in wake reduction – and the vessel's speed and position. The latter data will help to assess the influence of vessel route on wake heights at the shore. Considerable effort is being expended to determine the optimum route for the vessel in sensitive areas such as Rich Passage.

WAKE MEASUREMENTS

The wake produced by the M/V Spirit will be measured at a number of locations throughout the field trials. Offshore measurements help us to determine the wake characteristics of the vessel as a function of its speed, passenger loading and the tidal conditions.



Deployment of a wave gauge in Port Orchard Reach.

During the Port Orchard trials, a number of instruments were deployed in a cross-shore array. These instruments include sensors to measure wake heights, velocities, directions and wake periods at a range of distances from the sailing line. The instruments will also measure the wakes of other vessel traffic, including the WSF car ferries Hyak and Walla Walla. This data can be used for comparison with the high speed vessel wakes.

Monitoring wake heights at the Rich Passage shore

Measurements of wake heights at the shore will be taken at a number of points throughout the field trials. These will help us to identify local areas of high and low wake energy. Aerial photographs were taken during the trials to determine the wake patterns at a number of speeds.

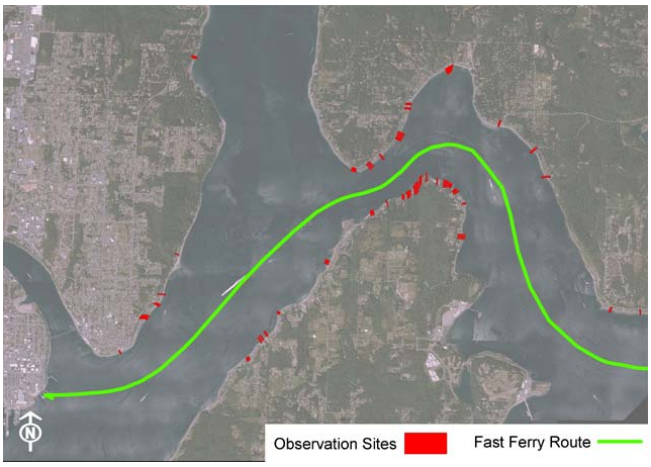
FIELD TRIAL PROGRAM

During the Port Orchard trials, the M/V Spirit is being run back and forth along a straight route at speeds between 10 and 40 knots. In the Rich Passage trials, the vessel follows the actual ferry route from the Bremerton ferry terminal through Port Orchard Reach and Rich Passage to a point east of Orchard Point on Puget Sound. The Spirit has been making between 4 and 8 return trips on this route each day to allow data on wake and shore conditions along the route to be gathered during a wide range of weather and tide conditions.

Locations of instruments deployed during the Rich Passage trials.

SHORE MONITORING

Surveying of selected beach profiles, observations of shoreline conditions, and biological monitoring continued in January and February. Beach profiles at the 14 monitoring sites were last surveyed during the week of January 16-21 and the next monitoring survey is scheduled for early March. Observations of beach sediments, exposed bedrock and bulkheads have been significantly intensified since early January.



Proposed ferry route and locations of shore monitoring stations.

Luis Barrantes, a field research assistant with Pacific International Engineering, has made almost daily observations of shorelines through the latter half of January and throughout the first two weeks of February as the trials through Rich Passage got under way.

During this period, Luis was able to document representative portions of the shoreline along the ferry route to provide a baseline for the trial. The data collected, including photographs and observations, is being input into a Geographical Information System (GIS). This will continue throughout February, March and April. Luis is very willing to take time to speak to waterfront residents about their perspectives on wake issues and to provide additional information on the study.

Biological monitoring of the Rich Passage shoreline.

The first biological monitoring survey was done during the week of January 25 at five monitoring sites in Rich Passage and one reference site near Rich Passage. Observations by biologists were made at 15 ft intervals along lines perpendicular to the shore. Records of the presence and abundance of macroalgae, invertebrates and fish, and beach composition were recorded at these locations. Biological monitoring of these and several additional sites will continue between February and May.

Karl Duff (right) waterfront owner on Rich Passage, talks with Phil Osborne (center) and other Pacific International Engineering study team members, about his perspective on fast ferry wakes in Rich Passage.

Web Site, Project Information and Feedback

We encourage your input and comments regarding this study, and the upcoming trials.

To help you gather information in a systematic way, a Beach Observation data sheet is available at:

www.pugetsoundfastferry.com\contact.htm

Further information on the study can be obtained from the project web site at:

***www.pugetsoundfastferry.com* or by sending e-mail to *CoastalWA@piengr.com* or contacting Bryan McConaughy at, *BMcConsult@comcast.net*, (206) 953-6026 or Marie Garrett at, *marieg@piengr.com*, (509) 669-1800.**

The web site will be updated as data from the experimental trials are gathered and analyzed.