SELECT TOUCHDOWN AREA

On final approach, select the touchdown area by searching for a null or smooth area in the swell system, avoiding rough areas if possible. When doing so, consider the conditions discussed in the following sections.

LANDING PARALLEL TO THE SWELL

When landing on a swell system with large, widely spaced crests more than four times the length of the floats, the best landing heading parallels the crests and has the most favorable headwind component. In this situation, it makes little difference whether touchdown is on top of the crest or in the trough.

LANDING PERPENDICULAR TO THE SWELL

If crosswind limits would be exceeded by landing parallel to the swell, landing perpendicular to the swell might be the only option. Landing in closely spaced swells less than four times the length of the floats should be considered an emergency procedure only, since damage or loss of the seaplane can be expected. If the distance between crests is less than half the length of the floats, the touchdown may be smooth, since the floats will always be supported by at least two waves, but expect severe motion and forces as the seaplane slows.

A downswell landing on the back of the swell is preferred. However, strong winds may dictate landing into the swell. To compare landing downswell with landing into the swell, consider the following example. Assuming a 10-second swell period, the length of the swell is 500 feet, and it has a velocity of 30 knots or 50 feet per second. Assume the seaplane takes 890 feet and 5 seconds for its runout.

Downswell Landing—The swell is moving with the seaplane during the landing runout, thereby increasing the effective swell length by about 250 feet and resulting in an effective swell length of 750 feet. If the seaplane touches down just beyond the crest, it finishes its runout about 140 feet beyond the next crest. [Figure 8-5]

Landing into the Swell—During the 5 seconds of runout, the oncoming swell moves toward the seaplane a distance of about 250 feet, thereby shortening the effective swell length to about 250 feet. Since the seaplane takes 890 feet to come to rest, it would meet the oncoming swell less than halfway through its runout and it would probably be thrown into the air, out of control. Avoid this landing heading if at all possible. [Figure 8-6]

If low ceilings prevent complete sea evaluation from the altitudes prescribed above, any open sea landing should be considered a calculated risk, as a dangerous but unobserved swell system may be present in the proposed landing area. Complete the descent and before-landing checklists prior to descending below 1,000 feet if the ceiling is low.

LANDING WITH MORE THAN ONE SWELL SYSTEM

Open water often has two or more swell systems running in different directions, which can present a confusing appearance to the pilot. When the secondary swell system is from the same direction as the wind, the preferred direction of landing is parallel to the primary swell with the secondary swell at some angle. When landing parallel to the primary swell, the two choices of heading are either upwind and into the secondary swell, or downwind and downswell. The heading with the greatest headwind is preferred; however, if a pronounced secondary swell system is present, it may be desirable to land downswell to the secondary swell system and accept some tailwind component. The risks associated with landing downwind versus downswell must be carefully considered. The choice of heading depends on the velocity of the wind versus the velocity and the height of the secondary swell. [Figure 8-7]

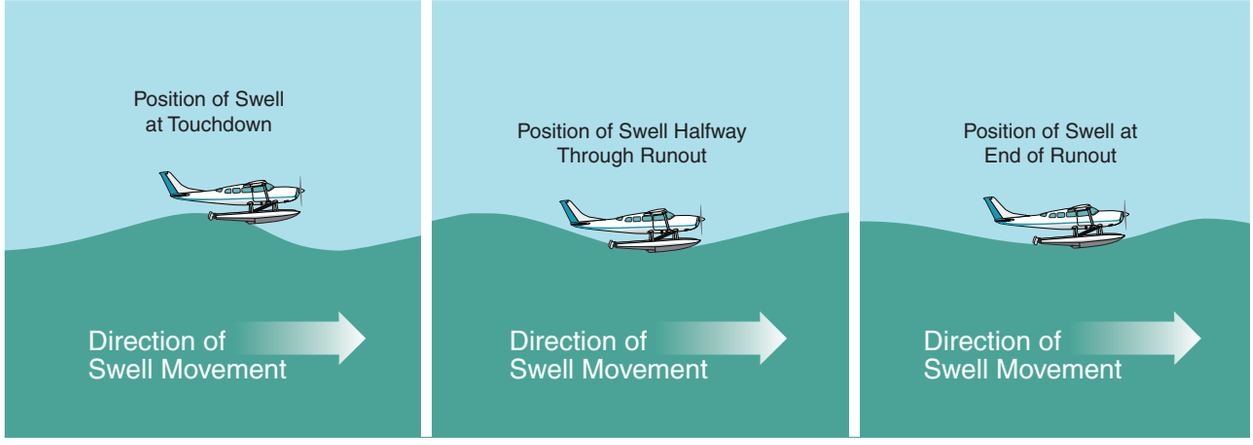

Figure 8-5. Landing in the same direction as the movement of the swell increases the apparent length between swell crests.