# 2. Determine Basin Depth

Basin depth is a function of vessel draft, design low water, and clearance for safe navigation. Harbors designed to accommodate sailing vessels need to allow for greater depths than those that accommodate only powerboats.

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## 2.10 Basin Depth

Estimate depths required for each vessel class based on the length and required keel clearance. Find fleet characteristics and local user concerns through communication with local residents, harbor personnel, community officials, and other sources.

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**For BASIN DEPTH, you should consider the following:**

**1)** Vessel design drafts for both light and laden conditions. Laden conditions may include a full load of fuel, water, provisions, cargo, and gear.
**2)** Safe clearance beneath the keel will depend on hard or soft bottom materials, induced vessel motions from inner harbor wave conditions, and in some cases, vessel squat.
**3)** Mean lower low water (MLLW, see Note 1).
**4)** Number of boats in each size (draft) category.

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**Note 1.** Make certain that you properly identify the vertical data. You should usually base water depth analyses on mean lower low water (MLLW); however, you may use other data.

**Note 2.** Consider the **control datum age** when factoring the depth. Conditions may change, invalidating an existing datum. Areas in southeast Alaska, for example, are experiencing eutectic rebound from retreating glaciers. The 1964 earthquake affected other areas of the state.

**Note 3.** The local harbormaster often documents vessel drafts. You may also find them through the Coast Guard Registry.

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**REFERENCES:**

1. ASCE Manual No.50. Task Committee on Marinas 2000. 1982. *Planning and Design Guidelines for Small Craft Harbors.* New York. Pg. 85-119.

2. Tobiasson, B.O. & Kollmeyer, R.L. 1991. *Marinas and Small Craft Harbors.* New York: Van Nostrand Reinhold. Pg. 231-242,279-280.