

Flooding vs Bilge Pumps

The Navy 44 has the following bilge pumps:

Pump	Rating
Electric Rule 3500	- 58 gal/min
Edson Model 638A	- 30 gal/min
Edson Model 554	- 30 gal/min

If a Navy 44 has a 1.5 in diameter hole at 3.5 feet below the water line (speedo thru-hull) it will experience a 82.4 gal/min influx of water.

When activated, all three pumps can dewater the boat at a rate of 118 gallons per minute. If only one manual pump and the electric pump are working, you will barely be able to stay ahead (88 gal/min) of the inflow.

With water flowing into the boat at a rate of 82 gal/min you can expect the bilge alarm to sound in about 2-3 minutes. By this time you already have over 200 gallons of water in the boat. If the alarm does not sound, it will take about 12 minutes for the water to breach the deck plates. By then, you have about 900 gallons of water in the boat. Since water weighs 8 lbs per gallon, in just 12 short minutes you have added over 3 1/2 tons to the boat. The bilge pump draws 15 amps. Although the bilge alarm only draws 0.25 amps, once everyone has been alerted, you should consider silencing the alarm to improve communications while you determine the source of the leak.