What happens if we think we have an invasive species:

- Confirmation by the State (Anne Bove)
- Hire a professional to take the necessary action. There are companies that provide this service.
- Decide on the best action. It may help if we are aware of the different options so we are prepared to make a decision quickly.
- Apply to the State for a permit to take action. I was told we would need a permit before any type of remediation could begin and this takes roughly one month.
- Prepare for a long battle which most likely will take many years

<u>It appears there are three options for control</u>

- Herbicide
    i. This appears expensive, difficult to permit, and there is the concern that it may affect native species and wildlife.
    ii. It appears based on Lake Dunmore that they only permit for limited use, not the entire lake. At Lake Dunmore they have spayed recently, but it is only limited areas to try to control the spread. This wouldn't eliminate milfoil in the lake, only control the density.
- Harvesting
    i. I was surprised to learn that at both Crystal & Shadow have members that are trained to harvest milfoil. However, both lake associations hire professional divers to help control the milfoil.
    ii. The cost can vary depending on the time, but I think they pay as much as $15,000 per year for this service and some of the lakes pay a lot more!
    iii. My initial research suggested that perhaps harvesting doesn't work, but some lakes have had success controlling the spread with harvesting and matts.

- Benthic Matting - This sounds like it has potential, but there are also many limitations.
    - With a clear lake it can take a long time for the matts to kill the milfoil
    - The matts are hard to keep in place and with active recreation, can move.
    - Cost – you have to buy the matting and have it professionally installed.
    - It should be noted that you also need a permit from the State.

What can we do now to be prepared?

- Prevention – Our greeter program appears to be our best defense to prevent invasive species from entering the lake. However, we should remain open to any other ideas or any way to improve this program.
- Early detection - The lake surveys are critical because the sooner we identify an invasive species, the better chance we have to control the growth. However, perhaps we should consider ways to improve this system.
  - More trained VIP's
  - Better training
  - More eyes - If in addition to the VIP's we could get everyone on the lake looking for signs of invasive species it would help.
  - Consider hiring a professional diver to do an annual survey. This was recommended by my contact at Shadow Lake.

- Be prepared to act quickly if an evasive species is found.

- Have funds available to pay for services – While additional grant money may be available, having a reserve to allow for quick action could be very important. In addition, our operating costs could increase considerably if we have to fight the spread of milfoil, as indicated on the following table of operating expenses indicated on grant applications at other lakes.

Lake	Size - Ac.	Milfoil	Annual Exp.	Hand Pulling	Suction Harvest	Grant
Echo Lake	530	No	$20,350	No	No	$6,390
Crystal Lake	763	Yes	$20,697	Yes		$7,330
Lake Elmore	204	Yes	$36,214	Yes		$8,250
Lake Iroquuois	244	Yes	$77,785		Yes	$18,350
Lake Dunmore	1054	Yes	$287,867		Yes	$50,000
Lake St. Catherine	852	Yes	$125,910		Yes	$43,350
Lake Fairlee	457	Yes	$98,501	Yes	Yes	$28,110
Lake Morey	544	Yes	$66,185		Yes	$19,580

- Many of these lake associations receive considerable financial support from the town in which they are located. This may be an issued for us because of the small size of Charleston and the lack of any public beach areas on Echo.

References:

http://dec.vermont.gov/watershed/lakes-ponds/aquatic-invasives
http://dec.vermont.gov/sites/dec/files/wsm/lakes/ans/docs/apmcontractorlist_Feb2016.pdf
http://dec.vermont.gov/watershed/lakes-ponds/permit/control/aquatic-nuisance-control