

# What's Happening Issues on the Bay

## Proposed Fairwinds Liquefied Natural Gas Import Terminal in Harpswell

Within a day of the Fairwinds proposal announcement, Casco Baykeeper Joe Payne started meeting with Fairwinds representatives and other stakeholders to raise environmental issues that could arise if an LNG facility is built on Harpswell Neck. Joe has shared FOCB's concerns, questions, and water quality requirements (all listed below) with Harpswell residents, Fairwinds representatives, FOCB members, and other Waterkeepers and environmental advocates who have had experience with LNG facilities in their watershed.

We know that many of these questions won't have answers until well into the permitting phase, if the Fairwinds project goes ahead. We will continue to work on these and new questions until we have answers.

### **Most of our concerns relate to the environmental impacts on water and air quality and habitat disruption by**

- **the ships and attending vessels** (i.e., routes, propulsion, potential discharges, etc.)
- **the docks** (as, possible disturbances to habitat, antifouling treatment to in-water structures, etc.)
- **desalination facility** (changes in salinity, water temperature, dissolved oxygen, chemical additives)
- **power generation** (air quality, no Bay intake or discharge)
- **site alteration** (especially disruption to nearshore habitat)
- **possible underwater pipeline** (route, burial, habitat disruption)
- **increased Bay use** during and after construction

The decision of whether to allow Fairwinds to go to the next level (environmental impact studies and permitting) is up to the people of Harpswell. In the interim, it is FOCB's intention to gain the most knowledge possible about potential environmental impacts on the Bay and work with those involved to address the issues. If the community accepts the Fairwinds proposal we will be working hard to make sure that Fairwinds has redundant, state-of-the-art environmental protection plans in place, and we will work closely with the community of Harpswell and with Fairwinds to minimize impacts to the Bay. As advocates for the Bay we will be watching the regulatory process closely and interceding on behalf of the Bay wherever and whenever necessary.

With that said, we believe it is premature at this stage to advocate a single position until the concerns we identify below have been addressed. It is our mandate to be credible and it has been our history not to be for or against an issue without knowing the facts. There is still much to learn.

We urge Harpswell voters to continue to ask questions of the staff at Fairwinds, as well as the town selectmen, tax assessor, land trust members, conservation committee members, Friends

of Casco Bay, etc., any and all, about the pros and cons to the community of Harpswell in this matter.

**THIS IS OUR INITIAL LIST OF CONCERNS, WE'LL ADD TO IT AS THE PROCESS EVOLVES.**

### **Ships**

**Concern: Increased ship traffic could increase safety hazards, unduly impact movement of other vessels, and increase the likelihood of undesirable ship discharges.**

#### *Questions:*

1. What would the proposed route be?
2. When a ship is in and in the event of high winds or an emergency, will there be a tug berthed at the site, or will it have to come from Portland?
3. Has the Coast Guard indicated what safety requirements re: number and type of tugs, route, safety zones, etc., will most likely be required?
4. When an LNG tanker is coming into the facility will the area become a no-fly zone?
5. What will be the impact of sediments resuspended by ship and tug activity in the vicinity of the facility?

#### *We would like to see:*

1. A required safety and environmental checklist to be reviewed and signed by the ship Captain and faxed back to the facility before a ship is allowed to enter Casco Bay.
2. Use of only Pilots and Docking Masters that meet Portland Harbor Commission requirements (they are more comprehensive than state regs).
3. All ship discharges prohibited in Casco Bay (including but not limited to, treated or untreated blackwater, gray water, oil/water separator discharge, bilge water, ballast water, desalination process water, galley waste, trash or garbage, etc.) not only by the LNG ships but by any attending vessels as well. Institute this policy for all vessels used during the construction phase too.
4. New LNG ships powered by gas turbine engines/natural gas fuel.
5. Backup ship fuel supply of road diesel used rather than Bunker C fuel.
6. High tech mooring and berthing systems used, such as that used by Portland Pipe Line.
7. A required safety and environmental checklist to be reviewed and signed by the ship Captain and faxed back to the facility before a ship is allowed to enter Casco Bay.
8. Ships "cold ironed" once they are at the dock, i.e., provide shore power to the vessels.
9. No use of tributyltin bottom paint.

### **Dock**

**Concern: Extending the dock will disrupt marine habitat.**

#### *Questions:*

1. What is the habitat being disturbed?
2. Will the extension be a dock or a jetty?
3. What mitigation is required. Is further mitigation going to be proposed?
4. What will be the impact of shading by the dock structure?
5. What will be the impact on marine flora and fauna in the surrounding area from night lighting required by safety and security regulations?

6. What antifouling treatment is proposed for in-the-water structures?

*We would like to see:*

1. No extension of the jetty out to 800 feet, as proposed in the Fairwinds brochure. A thoughtfully designed pier would have less environmental impact.

### **Desalination**

**Concern: Local Bay water quality will be impacted by a desalination process and by chemicals used in the process.**

*Questions:*

1. If desalination is used, what process is proposed? (Reverse osmosis is the assumption.)
2. How much would the salinity of returning water increase? (One reverse osmosis process mentioned would increase salinity by 33%, but more efficient processes are available and increase the discharge salinity more.)
3. Discharge options: Would Fairwinds discharge at the facility, or pump into the LNG tanker to be discharged while underway at sea or other?
4. What additives will be used as pretreatment to the reverse osmosis process? (e.g., polyacrylic acid for scale control; chlorine for biofouling; sodium bisulfite for corrosion control/oxygen scavenging/chlorine neutralization; ozone/UV/monochloramines as biocides; ferric/aluminum chloride as coagulants)
5. Will the pretreatment additives be discharged to the Bay
6. What periodic cleaning process will be used for the desalination equipment? (typically, both strong alkaline and highly acidic solutions are used, plus detergents and oxidants)
7. What will be done with the cleaning effluent?
8. How will concentration in the sediment of low levels of metals from the reverse osmosis process be prevented? (Metals present in seawater, usually at very low levels, are slightly concentrated in the reverse osmosis process; additionally minute amounts of metals are added from the equipment itself. With a denser, higher salinity discharge, these metals can build up in the near field Bay sediments.)
9. What process will be used to remove fouling organisms (e.g., mussels) from the intake and discharge structures and pipes?
10. What is the reduction in dissolved oxygen through the reverse osmosis process?
11. How does Fairwinds propose to deal with the entrainment and impingement of marine species through the seawater intake?

*We would like to see:*

1. Potable water purchased instead of building a desalination facility with an intake and discharge in the Bay.
2. If there is a desalination facility, a subsurface intake used (it's more like a sub-sea well), rather than an above bottom intake.
3. No thermal discharges into the Bay.

### **Power generation**

**Concern: Onsite power generation could impact water quality through Bay water intake and thermal discharge plus reduce air quality through stack emissions.**

*Questions:*

1. Will the power plant be closed loop – no Bay intake or discharge?
2. Will Fairwinds go beyond regulations and install Best Available Technology to minimize stack emissions?

*We would like to see:*

1. No cooling water intake/thermal discharge.
2. Best available technology to achieve very low stack emissions.
3. Natural-gas-fired turbines.

**Site alteration**

**Concern: Onsite sewage treatment could discharge nutrients and pathogens into the Bay (as well as being a conduit for the discharge of anything poured down a drain).**

*Questions:*

1. What treatment facilities will there be for sewage and waste water generated on the site? (septic system/leach field, or a treatment plant with Bay discharge, or other?)  
Note: Fractured bedrock subsurface presents septic system issues, i.e., possible direct short circuit of untreated waste into the Bay.
2. How will the nutrient export associated with wastewater treatment be prevented from entering the Bay?
3. Are accommodation barges for construction workers under consideration and, if so, how would discharges be addressed?

*We would like to see:*

1. No runoff from the site into Casco Bay.
2. No nutrients or pathogens discharged from the site into the Bay.
3. No partially treated sewage discharge (MSD II) from vessels or barges.
4. Integrated Pest Management practices used to minimize use of pesticides and fertilizers on facility grounds and landscaping. Should become a certified BayScaper property.
5. Regular collection of baseline water quality data in waters abutting the site, beginning before construction begins, supported by Fairwinds.

**Underwater Pipeline**

**Concern: A pipeline sited across Casco Bay will disrupt marine species and habitats and could have on-going impacts on biota and fisheries.**

*Questions:*

1. What is the proposed (preferred) route?
2. What would be its length?
3. What is the size of the proposed pipe and how would it be installed?
4. What is the width of area that will be disturbed?
5. What is the height of the proposed pipe above the pre-existing bottom?
6. What other routes are under consideration?
7. What is the extent and scope of impact of sediments, both redeposited and suspended, by the pipeline installation process?

*We would like to see:*

1. Before laying pipe under Casco Bay, videotape the length and width of the entire route to document the species and habitats that will be impacted. Send divers to examine areas of concern and to verify areas not clear in the video.
2. Habitat mapping with multibeam sonar. Use this, the video, and other info to choose a route with minimal impacts.
3. Mitigation proposed.
4. Pipeline laying scheduled when it would minimize disruption to marine species.
5. If there is a pipeline across Casco Bay, the top should be no higher than the pre-existing bottom.
6. Verification of the buried installation and width of impact with video.
7. As a bonus, admittedly out of Fairwinds control, the FPL Plant on Cousins Island converted to natural gas.

### **Increased Bay Use**

**Concern: Measures have been proposed to mitigate shore impacts. Measures should be proposed to mitigate what would be significant additional Bay use during construction and operation, such as, crew boats for construction crews (estimated 800-1,000 over the course of construction), barge traffic for subassemblies, a pipeline, ship and tug traffic, water withdrawal, etc.**

#### *Questions:*

1. What is the plan for the construction of a staging area(s)? Would it be in Portland, requiring potentially thousands of 12-mile trips across the Bay?
2. Is there a plan to mitigate the impacts of increased Bay use during construction and operation?

#### *We would like to see:*

1. A comprehensive circulation study of Casco Bay.
2. A comprehensive multibeam sonar habitat mapping of the Bay.
3. Underwriting of a Casco Bay Curriculum so students in Harpswell and around the Bay can understand the complexities of Casco Bay from the science and fisheries to the economics and tension among different users.
4. A shellfish/lobster population enhancement project to mitigate for the disruption of habitat if an underwater pipeline is laid.