What is claimed is:

1. A method of improving the permeability of a membrane used in a wastewater treatment process or the flux through a membrane used in a wastewater treatment process, comprising subjecting the membrane to one or more bacillus strains that reduce or prevent ~~microorganisms capable of reducing or preventing~~ undesirable biofilm formation on the membrane, wherein the membrane is subjected to the one or more bacillus strains for about 1 minute to about 2 days before the membrane is subjected to the process, wherein the membrane is suitable for use in a membrane bioreactor system.

~~2. The method of claim 1, wherein microorganisms includes one or more bacterial strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~3.~~ 2. The method of claim 1, wherein the one or more bacillus strains ~~microorganisms~~ are spore forming bacillus strains that reduce or prevent ~~microorganisms capable of reducing or preventing~~ undesirable biofilm formation on the membrane.

~~4. The method of claim 2, wherein the one or more bacterial strains are spore forming bacterial strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~5. The method of claim 1, wherein microorganisms includes one or more bacterial strains, one or more fungal strains, or a mixture of one or more bacterial and fungal strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~6.~~ 3. The method of claim 1, wherein the one or more bacillus strains include bacillus species selected from the group consisting of ~~membrane is subjected to a strain of *Bacillus spp., e.g.,*~~ *Bacillus amyloliquefaciens*; *Bacillus atrophaeus*; *Bacillus azotoformans*; *Bacillus brevis*; *Bacillus cereus*; *Bacillus circulans*; *Bacillus clausii*; *Bacillus coagulans*; *Bacillus firmus*; *Bacillus flexus*; *Bacillus fusiformis*; *Bacillus globisporus*; *Bacillus glucanolyticus*; *Bacillus infermus*; *Bacillus laevolacticus*; *Bacillus licheniformis*; *Bacillus marinus*; *Bacillus megaterium*; *Bacillus mojavensis*; *Bacillus mycoides*; *Bacillus pallidus*; *Bacillus parabrevis*; *Bacillus pasteurii*; *Bacillus polymyxa*; *Bacillus popiliae*; *Bacillus pumilus*; *Bacillus sphaericus*; *Bacillus subtilis*; *Bacillus thermoamylovorans*; and ~~or~~ *Bacillus thuringiensis*.

~~7.~~ 4. The method of claim 1, wherein the improved flux allows for the use of a membrane having a smaller membrane surface area.

~~8.~~ 5. The method of claim 1, wherein the membrane is part of a membrane bioreactor system.

~~9. The method of claim 1, wherein the process is a water treatment process.~~

~~10. The method of claim 1, wherein the one or more micoroorganisms are capable of preventing or reducing biofilm formation through quorum sensing inhibition.~~

~~11.~~ 6. The method of claim ~~6~~ 3, wherein the one or more bacillus strains ~~strains of *Bacillus*~~ are selected from the group consisting of:

the *Bacillus megaterium* strain having the deposit accession number ATCC 14581;
the *Bacillus pumilus* strain having the deposit accession number ATCC 700385;
the *Paenibacillus azotofixans* strain having the deposit accession number ATCC 35681;
the *Bacillus licheniformis* strain having the deposit accession number NRRL B-50014;
the *Bacillus licheniformis* strain having the deposit accession number NRRL B-50015;
the *Bacillus pumilus* strain having the deposit accession number NRRL B-50016;
the *Bacillus subtilis* strain having the deposit accession number ATCC 6051A;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50017;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50018;
the *Bacillus subtilis* strain having the deposit accession number NRRL B-50136;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50141;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50304;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50349;
the *Bacillus megaterium* strain having the deposit accession number PTA-3142;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7541;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7542;
the *Bacillus atrophaeus* strain having the deposit accession number PTA-7543;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7544;

the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7545;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7546;
the *Bacillus subtilis* strain having the deposit accession number PTA-7547;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7549;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7790;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7791;
the *Bacillus atrophaeus* strain having the deposit accession number PTA-7792; and
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7793; and mixtures thereof. ~~or a mixture of two or more of the strains.~~

~~12.~~ 7. A method of increasing critical flux of a membrane bioreactor system membrane used in a wastewater treatment process, comprising contacting ~~subjecting~~ the membrane with ~~to~~ one or more bacillus strains that reduce or prevent ~~microorganisms capable of reducing or preventing~~ undesirable biofilm formation on the membrane, wherein the membrane is subjected to the one or more bacillus strains for about 1 minute to about 2 days before the membrane is subjected to the process.

~~13. The method of claim 12, wherein microorganisms includes one or more bacterial strains, capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~14.~~ 8. The method of claim ~~12~~ 7 wherein the one or more bacillus strains ~~microorganisms~~ are spore forming bacterial strains that reduce or prevent ~~microorganisms capable of reducing or preventing~~ undesirable biofilm formation on the membrane.

~~15. The method of claim 13 wherein the one or more bacterial strains are spore forming bacterial strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~16. The method of claim 12, wherein microorganisms includes one or more bacterial strains, one or more fungal strains, or a mixture of one or more bacterial and fungal strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

17. 9. The method of claim ~~12~~ 7, wherein the membrane is part of a membrane bioreactor system.

~~18. The method of claim 12, wherein the process is a water treatment process.~~

~~19.~~ 10. A method of reducing or preventing fouling of a membrane bioreactor system membrane used in a wastewater treatment process, comprising subjecting the membrane to one or more bacillus strains that reduce or prevent ~~microorganisms capable of reducing or preventing~~ undesirable biofilm formation on the membrane, wherein the membrane is subjected to the one or more bacillus strains for about 1 minute to about 2 days before the membrane is subjected to the process.

~~20. The method of claim 19, wherein microorganisms includes one or more bacterial strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~21.~~ 11. The method of claim ~~19~~ 10, wherein the one or more bacillus strains ~~microorganisms~~ are spore forming bacillus strains that reduce or prevent ~~microorganisms capable of reducing or preventing~~ undesirable biofilm formation on the membrane.

~~22. The method of claim 20, wherein the one or more bacterial strains are spore forming bacterial strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~23. The method of claim 19, wherein microorganisms includes one or more bacterial strains, one or more fungal strains, or a mixture of one or more bacterial and fungal strains capable of reducing or preventing undesirable biofilm formation on the membrane.~~

~~24.~~ 12. The method of claim ~~19~~ 10, wherein the membrane is part of a membrane bioreactor system.

~~25. The method of claim 19, wherein the process is a water treatment process.~~

~~26. The method of claim 19, wherein the one or more microorganisms are capable of preventing or reducing biofilm formation through quorum sensing inhibition.~~

13. The method of claim 7, wherein the one or more bacillus strains include bacillus species selected from the group consisting of *Bacillus amyloliquefaciens*; *Bacillus atrophaeus*; *Bacillus azotoformans*; *Bacillus brevis*; *Bacillus cereus*; *Bacillus circulans*; *Bacillus clausii*; *Bacillus coagulans*; *Bacillus firmus*; *Bacillus flexus*; *Bacillus fusiformis*; *Bacillus globisporus*; *Bacillus glucanolyticus*; *Bacillus infermus*; *Bacillus laevolacticus*; *Bacillus licheniformis*; *Bacillus marinus*; *Bacillus megaterium*; *Bacillus mojavensis*; *Bacillus mycoides*; *Bacillus pallidus*; *Bacillus parabrevis*; *Bacillus pasteurii*; *Bacillus polymyxa*; *Bacillus popiliae*; *Bacillus pumilus*; *Bacillus sphaericus*; *Bacillus subtilis*; *Bacillus thermoamylovorans*; and *Bacillus thuringiensis*.

14. The method of claim 13, wherein the one or more strains of *Bacillus* are selected from the group consisting of:

the *Bacillus megaterium* strain having the deposit accession number ATCC 14581;
the *Bacillus pumilus* strain having the deposit accession number ATCC 700385;
the *Paenibacillus azotofixans* strain having the deposit accession number ATCC 35681;
the *Bacillus licheniformis* strain having the deposit accession number NRRL B-50014;
the *Bacillus licheniformis* strain having the deposit accession number NRRL B-50015;
the *Bacillus pumilus* strain having the deposit accession number NRRL B-50016;
the *Bacillus subtilis* strain having the deposit accession number ATCC 6051A;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50017;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50018;
the *Bacillus subtilis* strain having the deposit accession number NRRL B-50136;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50141;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50304;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50349;
the *Bacillus megaterium* strain having the deposit accession number PTA-3142;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7541;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7542;
the *Bacillus atrophaeus* strain having the deposit accession number PTA-7543;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7544;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7545;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7546;
the *Bacillus subtilis* strain having the deposit accession number PTA-7547;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7549;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7790;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7791;
the *Bacillus atrophaeus* strain having the deposit accession number PTA-7792; and
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7793; and

mixtures thereof.

15. The method of claim 10, wherein the one or more bacillus strains include bacillus species selected from the group consisting of *Bacillus amyloliquefaciens*; *Bacillus atrophaeus*; *Bacillus azotoformans*; *Bacillus brevis*; *Bacillus cereus*; *Bacillus circulans*; *Bacillus clausii*; *Bacillus coagulans*; *Bacillus firmus*; *Bacillus flexus*; *Bacillus fusiformis*; *Bacillus globisporus*; *Bacillus glucanolyticus*; *Bacillus infermus*; *Bacillus laevolacticus*; *Bacillus licheniformis*; *Bacillus marinus*; *Bacillus megaterium*; *Bacillus mojavensis*; *Bacillus mycoides*; *Bacillus pallidus*; *Bacillus parabrevis*; *Bacillus pasteurii*; *Bacillus polymyxa*; *Bacillus popiliae*; *Bacillus pumilus*; *Bacillus sphaericus*; *Bacillus subtilis*; *Bacillus thermoamylovorans*; and *Bacillus thuringiensis*.

16. The method of claim 15, wherein the one or more strains of *Bacillus* are selected from the group consisting of:

the *Bacillus megaterium* strain having the deposit accession number ATCC 14581;
the *Bacillus pumilus* strain having the deposit accession number ATCC 700385;
the *Paenibacillus azotofixans* strain having the deposit accession number ATCC 35681;
the *Bacillus licheniformis* strain having the deposit accession number NRRL B-50014;
the *Bacillus licheniformis* strain having the deposit accession number NRRL B-50015;
the *Bacillus pumilus* strain having the deposit accession number NRRL B-50016;
the *Bacillus subtilis* strain having the deposit accession number ATCC 6051A;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50017;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50018;
the *Bacillus subtilis* strain having the deposit accession number NRRL B-50136;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50141;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50304;
the *Bacillus amyloliquefaciens* strain having the deposit accession number NRRL B-50349;
the *Bacillus megaterium* strain having the deposit accession number PTA-3142;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7541;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7542;
the *Bacillus atrophaeus* strain having the deposit accession number PTA-7543;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7544;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7545;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7546;
the *Bacillus subtilis* strain having the deposit accession number PTA-7547;
the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7549;

the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7790;

the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7791;

the *Bacillus atrophaeus* strain having the deposit accession number PTA-7792; and

the *Bacillus amyloliquefaciens* strain having the deposit accession number PTA-7793; and a mixture of two or more of the strains.