SJC-09570

FRIENDS AND FISHERS OF THE EDGARTOWN GREAT POND, INC., & others[1] vs. DEPARTMENT OF ENVIRONMENTAL PROTECTION & another.[2]

Suffolk. February 9, 2006. - June 1, 2006.

Present: Marshall, C.J., Greaney, Ireland, Spina, Sosman, & Cordy, JJ.

Massachusetts Clean Water Act. Permit. Regulation. Department of Environmental Protection. Administrative Law, Judicial review, Regulations, Agency's interpretation of regulation, Evidence. Evidence, Administrative proceeding.

Civil action commenced in the Superior Court Department on September 18, 2002.

The case was heard by Joseph M. Walker, III, J., on a motion for judgment on the pleadings.

The Supreme Judicial Court on its own initiative transferred the case from the Appeals Court.

Douglas H. Wilkins for Friends & Fishers of the Edgartown Great Pond, Inc.
Michael S. Nuesse for Group of Ten Citizens.
Siu Tip Lam, Assistant Attorney General, for Department of Environmental Protection.
Lisa C. Goodheart (Ronald H. Rappaport with her) for

[1] Group of Ten Citizens; Michael Picciandra; Martha's Vineyard Aquafarms, Inc.; Robert Plante; Benjamin Hall; Benito Mancinone; Peter Jackson, Jr.; Paul Jackson; Leonard Donoroma; Jay Guest; Denise Guest; Peter McGuire; Richard Osnoss; Jan Buhrman; Burt Jamochian; and Judith Fuller.

[2] Edgartown Wastewater Commission.

Edgartown Wastewater Commission.

IRELAND, J. The individual plaintiffs are members of two citizen groups formed to contest the grant of a groundwater discharge permit to the Edgartown Wastewater Commission (commission) in 1999, for the operation of a municipal wastewater treatment plant (plant or facility). A judge in the Superior Court affirmed the decision of the Commissioner (commissioner) of the Department of Environmental Protection (department) granting the groundwater discharge permit to the commission. We transferred this case from the Appeals Court on our own motion to determine whether the department erred in granting the permit. Because we have determined that the department's interpretation of the applicable regulations to allow the use of the allocation method to set the discharge permit limits was reasonable, and that the department committed no error in refusing to hear cross-examination testimony regarding the contribution of nitrogen from other sources, we affirm the judgment of the Superior Court judge.

We summarize the facts and procedural history.

Background. 1. Procedural history. In 1999, the department granted the commission a wastewater discharge permit to operate an upgraded wastewater treatment facility in the town of Edgartown (town), on Martha's Vineyard. The plaintiffs appealed from the grant of the permit, and an administrative law judge issued a recommended final decision concluding that the

permit complies with the Massachusetts Clean Water Act, G. L. c. 21, §§ 26-53; the groundwater discharge permit program, 314 Code Mass. Regs. §§ 5.00 (1997); the groundwater quality standards, 314 Code Mass. Regs. §§ 6.00 (1996); and the applicable portions of the surface water quality standards, 314 Code Mass. Regs. §§ 4.00 (1997). The administrative law judge also recommended that the department uphold the discharge permit. The commissioner adopted this recommendation and added a brief statement of reasons in support of the decision. Pursuant to G. L. c. 30A, § 14, the plaintiffs appealed from the decision of the commissioner to the Superior Court. The plaintiffs also moved for judgment on the pleadings pursuant to Mass. R. Civ. P. 12 (c), 365 Mass. 754 (1974). The department and the commission each filed an opposition and cross-moved for judgment on the pleadings. The judge denied the plaintiffs' motion and entered judgment for the defendants, affirming the decision to grant the groundwater discharge permit. This appeal followed.

2. Edgartown Great Pond. Edgartown Great Pond (Pond) is an 890-acre brackish coastal pond that is separated from the Atlantic Ocean by a barrier beach.[3] The Pond is fed primarily by

[3] Brackish water contains more sea salt than freshwater but less sea salt than the open sea. Edgartown Great Pond (Pond) is "a coastal and marine water formed in the sandy soil of the outwash plain of the melting glacier that created Martha's Vineyard." Johnson v. Edgartown, 425 Mass. 117, 123 (1997). The Pond opens naturally to the ocean from time to time, and the town sometimes intentionally breaches the Pond to the ocean by dredging a channel from the Pond to the ocean.

groundwater that emanates from a recharge area[4] of approximately 5,000 acres. About one-half of this acreage is protected forest and other conservation land, which contributes fresh, clean groundwater to the Pond. The remainder of the recharge area includes 600 homes (many with septic systems, lawns, and gardens) and several farms. The effluent discharge location for the town's wastewater treatment facility (discussed below) also is located in the recharge area.[5]

The department has classified the Pond as Class SA water. See 314 Code Mass. Regs. § 4.06(3) Table 32 (1995). Class SA waters are an "excellent habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. In approved areas they shall be suitable for shellfish harvesting . . . . These waters shall have excellent aesthetic value." 314 Code Mass. Regs. § 4.05(4)(a). Historically, the Pond was ecologically healthy, but more recently, it has become vulnerable to nutrient pollution from excess nitrogen, or eutrophication,[6] which promotes plant growth that periodically deprives the water of oxygen (anoxia). This anoxia kills fish, shellfish, and other

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[4] A recharge area is an area of land that contributes groundwater to a body of water.

[5] "Effluent" is "a discharge of pollutants into the environment, whether or not treated." 314 Code Mass. Regs. § 3.02 (2003).

[6] Eutrophication is the process by which a pond or lake becomes overloaded with mineral and organic nutrients. This causes the proliferation of certain plant life, like algae, that reduces the amount of dissolved oxygen in the water and often causes the extinction of other organisms.

organisms within the Pond.

3. The wastewater treatment facility. The current wastewater treatment facility is an upgrade of the town's original wastewater treatment facility, built in 1973. The former plant was not designed to remove nitrogen from the wastewater it treated. It employed a conventional secondary method, whereby it received wastewater, treated it, and discharged the treated effluent into the ground. Nitrogen discharged from the original plant formed a plume, or cloud, of nitrogen in the ground that is currently moving toward the Pond and is most likely already contributing to the nitrogen in the Pond.[7]

In 1996, the commission completed construction of the current plant to alleviate overloading of the original facility due to population growth. The upgraded facility was granted a permit and became operational in 1996.[8] Unlike the original

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[7] Effluent discharged from the plant takes approximately fifteen to twenty years to reach the Pond. Therefore, the amount of nitrogen flowing to the groundwater from the new facility (discussed infra) will not reach the Pond for approximately fifteen to twenty years.

[8] In 1996, the department issued a two-year interim groundwater discharge permit for the upgraded facility. The plaintiffs appealed from the grant of the 1996 permit. The appeal was stayed pending completion of a nutrient-loading study that the administrative law judge determined would be material to a decision. After the study was completed and the 1999 five-year discharge permit was issued, the administrative law judge dismissed the 1996 permit appeal as moot. The Appeals Court upheld that decision. Friends & Fishers of Edgartown Great Pond, Inc. v. Edgartown Wastewater Comm'n, 60 Mass. App. Ct. 1112 (2004).

facility, which discharged effluent containing more than thirty milligrams of nitrogen per liter, the upgraded facility uses a state of the art tertiary treatment system that removes nitrogen from the wastewater it treats. Since the upgraded facility began operations in 1996, effluent discharged by the plant has consistently tested at less than three milligrams of nitrogen per liter. The upgraded facility has the capacity to treat up to 750,000 gallons of wastewater per day; however, its maximum daily discharge has never reached 400,000 gallons per day.

4. The Wilcox Report. The total amount of nitrogen that the Pond can assimilate on an annual basis (loading limit) was the subject of a detailed scientific study (Wilcox Report or report) that was completed shortly before the 1999 discharge permit was issued to the plant.[9] The administrative law judge's decision, adopted by the commissioner, relied on the Wilcox Report.

The Wilcox Report examined the extent of contributions of nitrogen from various sources to the Pond and concluded that nitrogen loading within the watershed of the Pond is produced by many sources, including area septic systems, residential lawns and gardens, agricultural enterprises, the wastewater plant, and acid rain. It assessed the impact of growth within the Pond watershed by making projections of nutrient loading for different

[9] The project director and principal author of the report is William M. Wilcox, a geologist employed as a water resource planner by the Martha's Vineyard Commission, a regional planning agency.

growth scenarios. It also estimated the critical loading limit that the Pond can tolerate without manifesting the undesirable side effects of eutrophication.[10]

As to future nitrogen loading of the Pond, the Wilcox Report estimated that the Pond could assimilate between 10,585 to 20,440 kilograms per year, and still meet the Class SA water quality standards. The report recommended that the total nitrogen loading to the Pond not exceed the midpoint of this range, or 15,513 kilograms per year.

The Wilcox Report then estimated the future growth of land use within the watershed and projected the nitrogen contribution to the Pond's recharge area in low, moderate, and high growth scenarios. To maintain a conservative estimate and to compensate for added uncertainties in the growth projections, the report

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[10] Presently, the total nitrogen loading to the Pond's recharge area (i.e., nitrogen that will reach the Pond in approximately fifteen to twenty years) is 7,923.0 kilograms a year. The Wilcox Report found the current sources of this nitrogen to the recharge area of the Pond to be (1) acid rain: 3,563.1 kilograms per year, or 45% contribution; (2) septic systems: 2,374.7 kilograms per year, or 30% contribution; (3) farms: 1,145.6 kilograms per year, or 14% contribution; (4) treatment plant: 625.0 kilograms per year, or 8% contribution; (5) lawns and gardens: 214.6 kilograms per year, or 3% contribution. The nitrogen content of the plume now being formed is substantially lower than the nitrogen discharged to the groundwater in the first years of the plant's operation, which is likely now flowing to the Pond.

The Wilcox Report found that the present day total nitrogen release to the Pond itself is approximately 10,327 kilograms per year. As discussed supra, the nitrogen currently flowing to the Pond attributable to the facility is the result of effluent discharged from the former wastewater treatment plant over the first twenty years of the plant's operation.

included a somewhat higher projection of nitrogen within each of the scenarios. The Wilcox Report then determined that the moderate growth scenario was the most likely outcome within the Pond's recharge area. In the moderate growth scenario, the projection of total nitrogen contribution to the recharge area from the identified sources is 15,451 kilograms per year.[11] Of that total, the facility's projected contribution of nitrogen is 2,218 kilograms per year.

Based on these projections, the Wilcox Report addressed recharge area management options and recommended various strategies to be undertaken to reduce the risks of eutrophication of the Pond. The report recommended that the plant be assigned an annual loading of 2,200 kilograms of nitrogen. In addition, the report recommended retaining the plant's operational capacity to collect sewage from 300 houses in the Pond's recharge area to reduce the amount of nitrogen flowing to the recharge area from septic systems.

5. The 1999 permit. In 1999, the department issued the five-year groundwater discharge permit for the plant that is the subject of this appeal.[12] The permit contained terms and

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[11] The projection of source contributions of nitrogen to the recharge area in the low growth scenario is 12,475.4 kilograms per year. In the high growth scenario, it is 17,425.7 kilograms per year.

[12] The five-year term of the 1999 permit expired during the course of this litigation, and the facility is currently operating under a five-year renewal permit issued on September 7, 2004. The terms of the 2004 permit are substantially the same as those of the 1999 permit. The plaintiffs are now pursuing an

conditions that were based on the recommendations of the Wilcox Report. During its effective term, the permit allowed the plant to discharge treated effluent into groundwater, up to the plant's design capacity of 750,000 gallons per day. Pursuant to the groundwater quality standards set forth in 314 Code Mass. Regs. §§ 5.10(3)(c) and 6.06(1)(n), the permit established a daily total nitrogen limit of ten milligrams per liter (the standard for drinking water, see 310 Code Mass. Regs. § 22.06[2] [2001]). The permit set an additional limitation of seven milligrams per liter as the monthly average of total nitrogen in the plant's effluent per day, and an annual operational goal of five milligrams per liter per day during the recharge area's off-season. The record indicates that this is the lowest nitrogen limit ever established in a groundwater discharge permit within the region where the plant is located.

The permit also required that the commission "work to maintain a target goal of 2200 [kilograms per year] of total nitrogen discharged from the facility." Under the permit, if the discharge reaches 80% of the 2,200 kilogram limit in any year,

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adjudicatory appeal of the 2004 permit, which is now pending before the department.

In this case, the permit has expired, thus rendering the issue moot. However, as the appeal of the 2004 permit shows, the issue is capable of repetition. See note 8, supra. See Boston Herald, Inc. v. Superior Court Dep't of the Trial Court, 421 Mass. 502, 504 (1995). See also Commonwealth v. Gomes, 419 Mass. 630, 631 n.2 (1995), and cases cited (where issue is of significant public importance, consideration of moot case is matter of judicial discretion).

the town must notify the department in writing and must, within 150 days thereafter, "develop a plan on specific actions that will be taken to keep within the target goal, with estimated nitrogen loads for each proposed action to keep within the goal." The permit further required the town to "prepare a nutrient management study to recommend a long-term strategy for the allocation of nitrogen from the various sources in the Edgartown Great Pond watershed."

Discussion. 1. Standard of review. Under G. L. c. 30A, § 14, we review the findings below only to determine whether the agency's decision was unsupported by substantial evidence, arbitrary and capricious, or otherwise based on an error of law. Massachusetts Inst. of Tech. v. Department of Pub. Utils., 425 Mass. 856, 867-868 (1997). "It is a standard of review 'highly deferential to the agency,' which requires . . . according 'due weight to the experience, technical competence, and specialized knowledge of the agency, as well as to the discretionary authority conferred upon it.'" Hotchkiss v. State Racing Comm'n, 45 Mass. App. Ct. 684, 695-696 (1998), quoting Flint v. Commissioner of Pub. Welfare, 412 Mass. 416, 420 (1992). We give deference to the decision of an agency interpreting its own regulations. Hurst v. State Ballot Law Comm'n, 428 Mass. 116, 120 (1998). Boston Police Superior Officers Fed'n v. Boston, 414 Mass. 458, 462 (1993). Brookline v. Commissioner of the Dep't of Envtl. Quality Eng'g, 398 Mass. 404, 411 (1986). We do "not intrude lightly within the agency's area of expertise,"

Brookline v. Commissioner of the Dep't of Envtl. Quality Eng'g, supra at 410, as long as the regulations are interpreted with reference to their purpose and to the purpose and design of the controlling statute. See Maslab Liquidation Trust v. Commonwealth, 61 Mass. App. Ct. 1, 8 (2004). See also Brookline v. Commissioner of the Dep't of Envtl. Quality Eng'g, 387 Mass. 372, 382 (1982), S.C., 398 Mass. 404, 411, 414 (1986).

2. Statutory and regulatory background. The Massachusetts Clean Water Act (Act), G. L. c. 21, §§ 26-53, is a comprehensive program for protection of the surface and groundwaters of the Commonwealth. General Laws c. 21, § 27 (6), vests authority in the department to adopt water quality standards and to prescribe effluent limitation, permit programs, and procedures for management and disposal of pollutants. The department may grant a permit if it determines that the discharge will conform to effluent limitations specified in the permit and to receiving water quality standards. G. L. c. 21, § 43 (5). The water quality standards are grouped according to whether the discharge enters surface or groundwater.

The department promulgated the surface water discharge permit program, 314 Code Mass. Regs. §§ 3.00 (1996), to regulate the discharges of effluent to surface waters. The surface water classifications and water quality criteria are regulated by the surface water quality standards, 314 Code Mass. Regs. §§ 4.00 (1997). As noted supra, the Pond is classified SA.

As to groundwater quality, the groundwater discharge permit

program, 314 Code Mass. Regs. §§ 5.00 (1997), regulates discharges of effluent to groundwaters. The permit program incorporates the groundwater quality standards, 314 Code Mass. Regs. §§ 6.00 (1996), which establish groundwater quality standards, and the surface water quality standards. Martha's Vineyard Island is designated a sole-source aquifer. The groundwater of the island and, thus, the recharge area of the Pond, is classified Class I, which denotes "fresh ground waters . . . designated as a source of potable water supply." 314 Code Mass. Regs. § 6.03(1).

Pursuant to the Act, discharge permits may be granted only if the discharge will not run afoul of the regulations. The Act suggests great discretion in determining whether a regulation has been violated. This statutory and regulatory program recognizes "the need of society to tolerate certain [levels of pollution]," Brookline v. Commissioner of the Dep't of Envtl. Quality Eng'g, 398 Mass. 404, 413 (1986), and "has chosen to put into the hands of an expert administrative agency the decision making regarding complex issues of environmental . . . science." Id. at 411. The statutory purpose of the Act, expressed through its text, makes it clear that the department has the discretion to create regulations that will best preserve and also restore the quality of our waters.

The plaintiffs argue that the commissioner did not apply the correct legal standards to issue the permit, and that the commissioner excluded relevant evidence relating to limiting

additional sources' contributions of nitrogen to the Pond.

3. Validity of permit under the groundwater discharge permit program. The question before the court is whether the commissioner applied the appropriate legal standards when she affirmed the issuance of the discharge permit. We conclude that the correct legal standards were applied, and that the discharge permit comports with the agency's statutory mandate to protect the environment.

As discussed supra, a portion of the Pond's nitrogen loading limit of 15,513 kilograms per year is allocated to the plant (allocation method). This limit is reflected in the plant's discharge permit through the recommended target goal of a maximum 2,200 kilograms of nitrogen per year. The commissioner concluded that based on the current sources of nitrogen discharge in the recharge area (acid rain, septic systems, farms, the plant, and lawns and gardens), and the projected discharge of the plant under the moderate growth scenario, the 2,200 kilograms per year allocation is appropriate to achieve the Pond's site-specific nitrogen limitation of 15,513 kilograms per year. The plaintiffs' main argument is that the commissioner's reliance on the allocation method does not adequately apply the groundwater discharge permit regulations that prohibit the issuance of a permit where the discharge will "cause or contribute to a condition in contravention of standards for classified waters of the Commonwealth, pursuant to 314 [Code Mass. Regs. §§] 4.00 and 6.00." 314 Code Mass. Regs. § 5.06(1). See 314 Code Mass. Regs.

§ 5.19(1). We disagree.

The permit fully meets the requirements of the groundwater discharge permit program, which incorporates the relevant ground and surface water quality standards. See 314 Code Mass. Regs. §§ 5.06(1), 5.19(1) (providing that a groundwater discharge permit may not be issued in contravention of the groundwater and surface water quality regulations).[13] We individually address these standards below, and conclude that given that there is no violation of the relevant water quality standards, the commissioner's decision to use the allocation method to comply with the "cause or contribute to a condition" language in 314 Code Mass. Regs. § 5.06(1) was reasonable, particularly in light of the statutory purpose of restoring the quality of waters. See Maslab Liquidation Trust v. Commonwealth, 61 Mass. App. Ct. 1, 8 (2004).

A. Groundwater quality standards. As to the groundwater quality regulations, the permit complies. Title 314 Code Mass. Regs. § 6.06(1)(n), provides, in pertinent part: "Class I and Class II Ground Waters. The following minimum criteria are applicable to all Class I and Class II ground waters . . . (n) pNitrate Nitrogen (as Nitrogen) [s]hall not exceed 10.0 [milligrams per liter]." The effluent from the plant is

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[13] Title 314 Code Mass. Regs. § 5.19(1) (1996) provides, in relevant part: "No discharge authorized in the permit shall result in a violation of the Massachusetts Surface Water Quality Standards [314 Code Mass. Regs. §§ 4.00] or the Massachusetts Ground Water Quality Standards [314 Code Mass. Regs. §§ 6.00], or any amendments thereto."

discharged into Class I groundwaters, and the permit contains a nitrogen limitation of ten milligrams per liter. Moreover, at the time of the Wilcox Report, the plant was discharging at a rate of three milligrams of nitrogen per liter, well below the limit set by the permit.

The permit also meets the requirements of 314 Code Mass. Regs. § 6.07(2), which provides, in relevant part:

> "In regulating discharges of pollutants to ground waters of the Commonwealth, the Department shall limit or prohibit such discharges to insure that the quality standards of the receiving waters will be maintained or attained. . . . [T]he Department must consider natural background conditions, must protect existing adjacent and downgradient uses and must not interfere with the maintenance and attainment of beneficial uses in adjacent and downgradient waters. Toward this end, the Department may provide a reasonable margin of safety to account for any lack of knowledge concerning the relationship between the pollutants being discharged and their impact on the quality of the ground waters."[14] (Emphasis added.)

The plaintiffs argue that the department did not comply with the requirement that it "insure" that the Pond is protected because it did not adopt the most pessimistic scenario in the Wilcox

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[14] Title 314 Code Mass. Regs. § 6.07(2) applies to groundwater quality standards. The "receiving waters" and "adjacent and downgradient waters" referred to in the regulation are groundwaters, as demonstrated by the initial phrase limiting the application of the section to "discharges of pollutants to ground waters," and by the remainder of the section that requires the department provide for "a reasonable margin of safety to account for any lack of knowledge concerning the relationship between the pollutants being discharged and their impact on the quality of the ground waters." The plaintiffs' argument concerning this regulation introduces a lengthy discussion of the surface water quality of the Pond, again merging the applicable groundwater quality standards and the surface water quality standards. This reading contradicts the intended application of the regulation because the Pond is not groundwater.

Report. This argument fails.

The commissioner set the nitrogen limits of the plant based on the comprehensive and undisputed Wilcox Report, which found the moderate growth scenario most likely. The report recommended nitrogen discharge limits based on the moderate growth scenario. Substantial evidence in the record supports the department's decision to adopt these limits.

Each of the scenarios discussed in the Wilcox Report contemplated various growth patterns that might affect the amount of nitrogen flowing to the Pond. The report was the result of a studied analysis of various sources' contributions of nitrogen to the recharge area and the watershed. It was reasonable for the department to rely on this study. Furthermore, although the recommended annual 2,200 kilograms per year nitrogen limit for the plant may not be the most conservative estimate in light of the various projected scenarios, the commissioner's adoption of this limit was reasonable. See Seagram Distillers Co. v. Alcoholic Beverages Control Comm'n, 401 Mass. 713, 721 (1988) (even if court would justifiably have made different choice had the matter come before it de novo, it may not dispute agency's reasonable choice). Moreover, as the department concluded, and we agree, the Pond will ultimately benefit from the operation of the upgraded facility.[15]

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[15] Prior to construction of the original facility, sewage from downtown Edgartown flowed untreated into Edgartown Harbor. Even though the 1973 plant was built to handle 250,000 gallons of wastewater per day, it was not designed to remove nitrogen from

Contrary to the plaintiffs' assertion, there is an additional written safeguard in the permit to ensure the water quality standards are met. The permit requires the town to conduct a more comprehensive nutrient management study for the allocation of nitrogen from various sources in the watershed. Should the surface water quality be in jeopardy, the department may modify the Permit accordingly.

As the department found, and the foregoing discussion illustrates, the plant's discharge does not have to be nitrogen free to "insure" compliance with the applicable water ground quality standards. The allocation of a portion of the Pond's site-specific nitrogen limitation to the plant and the measures included in the permit "insure" the Pond's protection. It was

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the wastewater, and instead, the plant discharged water containing more than thirty milligrams per liter of nitrogen into the ground. It is undisputed that the current conditions in the Pond are a result of this excess nitrogen loading. Under the new permit, modernized tertiary treatment systems are used to remove nitrogen from the wastewater. The effluent discharge from the plant consistently tests less than three milligrams per liter for nitrate, well within the groundwater quality standards; and as the department and commission aptly point out, this level of nitrogen in the plant's effluent equals that of bottled waters like Evian and Perrier. Therefore, any effluent from the current plant that eventually reaches the Pond will contain substantially lower amounts of nitrogen than the subterranean nitrogen plume created by the older facility.

Moreover, significantly, the plant also has been lauded for its environmental efforts. "In recognition of its commitment to clean water through outstanding operation and maintenance," the United States Environmental Protection Agency (EPA) awarded the plant first place in its annual operation and maintenance competition. The plant also received a certificate of recognition from the Commonwealth of Massachusetts in 1999 for its positive environmental impact.

reasonable for the department to interpret the regulation in this way, and therefore the permit complies with the law.

B. Surface water quality standards. Because the plaintiffs are concerned with the degradation of the Pond, they have made numerous arguments that merge the regulations relating to groundwater quality and surface water quality. Indeed, the surface water quality standards comprise a large portion of the plaintiffs' brief. Although we understand the plaintiffs' argument that the effluent currently discharged from the plant will eventually reach the Pond, contrary to their citations to numerous surface water quality regulations, the surface water quality regulations, 314 Code Mass. Regs. §§ 4.00, do not generally apply to this groundwater discharge permit. See also Norfolk v. United States Army Corps of Eng'rs, 968 F.2d 1438, 1450-1451 (1st Cir. 1992) (affirming agency decision that groundwaters are not surface waters). As to the relevant surface water quality standards, we conclude that the standards are met.

As the commissioner determined and we agree, because the discharged effluent from the plant is not being discharged directly into the Pond (i.e., surface water point source discharge), the only relevant surface water quality standards are those dealing with the nitrogen loading and eutrophication of the Pond from nonpoint source discharges into groundwater, 314 Code Mass. Regs. § 4.05(5)(c), and, to some extent, the antidegradation provisions of the surface water quality standards, 314 Code Mass. Regs. § 4.04(5).

Unlike the groundwater quality standards, 314 Code Mass. Regs. § 6.06(1)(n), the applicable surface water quality provision, 314 Code Mass. Regs. § 4.05(5)(c), does not contain a general limit on the concentration of nitrogen, but instead requires the setting of a site-specific limit on nutrients. It provides that "[n]utrients [s]hall not exceed the site-specific limits necessary to control accelerated or cultural eutrophication." The permit explicitly set the amount of nitrogen the plant may discharge based on the site-specific nitrogen limits of the Pond, and therefore, as to the surface water quality regulations, the applicable standards are also met.

The plaintiffs additionally argue that the commissioner failed adequately to address the antidegradation provisions of the surface water quality provision, 314 Code Mass. Regs. § 4.04(5), which provides, in relevant part:

> "There shall be no new or increased point source discharge to tributaries of lakes or ponds that would encourage cultural eutrophication or the growth of weeds or algae in these lakes or ponds. Any existing point source discharge containing nutrients in concentrations which encourage eutrophication or growth of weeds or algae shall be provided with the highest and best practical treatment to remove such nutrients. Activities which result in the nonpoint source discharge of nutrients to lakes and ponds shall be provided with all reasonable best management practices for nonpoint source control."

The commissioner explicitly noted that the antidegradation provision additionally requires the protection of the existing uses of the Pond, protection of the existing level of water quality, and nonpoint source controls to address eutrophication. However, the commissioner further noted, additional permit

conditions were unnecessary to meet these provisions, given that the permit limitations result in increased discharge volume, but no actual increase in the nitrogen loading to the Pond. The commissioner's discussion of this provision was sufficient.[16]

There is no dispute that the waters of the Edgartown Great Pond are already stressed. See Johnson v. Edgartown, 425 Mass. 117, 124 (1997) ("The pond is on the brink of, and sometimes crosses the line of, becoming unhealthy"). However, it was reasonable for the department to conclude that the substantially upgraded plant itself will not contribute to a condition in violation of the groundwater or surface water quality regulations if it remains within its allocated nitrogen discharge limit. Moreover, the possibility that the condition of the recharge area might change in fifteen to twenty years did not foreclose the agency's reasonable decision, based on scientific projections, to grant a discharge permit to the substantially upgraded facility, which contributes effluent that currently meets all of the applicable groundwater and surface water quality standards and

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[16] The plaintiffs also argue that the department could not have issued the permit under the correct standard because the evidence showed a violation of numerous surface water quality standards in the Pond, including, inter alia, standards for SA water quality, dissolved oxygen, solids, and nutrients. They further assert that the department was required to make findings regarding whether the plant will cause or contribute to a condition in contravention of the surface water quality standards. In this case involving the groundwater discharge permit of the plant, the administrative law judge was not required to make these specific findings. As noted supra, these arguments merge the surface water regulations with the standards that apply to this groundwater discharge permit, and they have no merit.

will eventually enhance the over-all quality of the Pond.[17]

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[17] Despite the permit's facial compliance with the applicable groundwater and surface water quality standards, the plaintiffs also argue that the commissioner impermissibly relied on Arkansas v. Oklahoma, 503 U.S. 91 (1992), a case that involved a Federal regulatory scheme, to conclude that the groundwater quality regulations allow the allocation method. They argue that an unpublished EPA Appeals Board case should apply, even though the regulations in the case also are not analogous. We disagree.

In the Arkansas case, the Supreme Court of the United States deferred to the EPA's determination that a wastewater discharge permit to an Arkansas facility would ensure compliance with Oklahoma's water quality standards, and held that the Federal Clean Waters Act does not impose a categorical ban on discharges that would reach waters already in violation of existing water quality standards. The Court found that it was within the agency's authority to determine whether, "given the benefits to the river from the increased flow of relatively clean water and the benefits achieved in Arkansas by allowing the new plant to operate as designed[,] allowing the discharge" ensured compliance with water quality standards. Arkansas v. Oklahoma, supra at 114.

Similar to Arkansas v. Oklahoma, supra, the record in this case illustrates that the upgraded plant will ultimately enhance the current state of the Pond by contributing effluent that contains substantially lower amounts of nitrogen than the current plume moving toward the Pond. The Legislature has entrusted the department with the authority to make the determination whether such upgrades will comply with water quality standards, and we see no need to disturb the commissioner's reasoned decision. See, e.g., id. at 108 (noting that a contrary rule "might frustrate the construction of new plants that would improve existing conditions").

Moreover, the EPA case does not help the plaintiffs, because in that case the appeals board determined that the Puerto Rico Aqueduct and Sewer Authority failed affirmatively to show that discharge into already stressed waters would not contribute to already existing environmental conditions, as required by the Clean Water Act. Unlike the sewage treatment facility in the EPA case, the Edgartown facility uses a tertiary method, rather than a primary treatment method, to remove nitrogen from the effluent discharged from the plant. The commissioner's citation to the Arkansas case was proper.

Given the unfortunate byproducts that often accompany our modern way of life, this permit is reasonable and complies with the department's statutory obligation under the Massachusetts Clean Water Act, G. L. c. 21, §§ 26-53, to protect fragile environmental resources. See Brookline v. Commissioner of the Dep't of Envtl. Quality Eng'g, 387 Mass. 372, 379 (1982) ("What may be injurious to life or interfere with the comfortable enjoyment of life is best left to the [department] to determine on a case-by-case basis in light of the most current scientific evidence"). We now address the plaintiffs' evidentiary dispute.

4. Cross-examination testimony. The plaintiffs argue that the administrative law judge erroneously excluded material they attempted to introduce through cross-examination concerning whether sufficient limitations exist to cause nitrogen reductions from other sources, which was crucial to the allocation approach that the administrative law judge employed, and the commissioner adopted. There was no error.

An administrative law judge "may exclude the testimony of any witness which would be duplicative, irrelevant, or otherwise unnecessary." 310 Code Mass. Regs. § 1.01(13)(f)(1) (2004). We give deference to his determinations of evidentiary matters, as these matters are well within the his discretion. See Sudbury v. Department of Pub. Utils., 351 Mass. 214, 219 (1966). "'[U]nless the admission [or exclusion] of the evidence resulted in a denial . . . of substantial justice,' the appellants have no valid complaint." Id. at 220, quoting Mayor of Everett v. Superior

Court, 324 Mass. 144, 148 (1949).

The record illustrates that, over the course of the five-day hearing, the administrative law judge carefully considered all of the relevant evidence and then, on two separate occasions, rejected the proffering of cross-examination testimony from two of the department's witnesses regarding controlling future nitrogen loading of the Pond from sources other than the facility. The administrative law judge carefully explained the reasons for doing so and ultimately concluded that the testimony was irrelevant. The adoption of the annual nitrogen target limit of 2,200 kilograms for the plant, as allocated and recommended by the Wilcox Report, did not broaden the permit proceedings into an inquiry of what measures are necessary to limit nitrogen contribution from the other sources named in the report. This evidence was not material to the groundwater permit proceedings. Given that the Wilcox Report analyzed all of the data regarding all of the likely growth scenarios; that the plaintiffs do not dispute the factual conclusions reached in the report; and that the requirement in the groundwater discharge permit that the town create a study to manage all nitrogen loading the Pond, the additional cross-examination testimony of the department witnesses was unnecessary. The administrative law judge concluded, and we agree, that the testimony would have added little to the administrative record. Because there was no denial of substantial justice, we will not disturb his evidentiary ruling.

Conclusion. For the foregoing reasons, the judgment of the Superior Court judge is affirmed.

So ordered.