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Department of Environmental Protection  
Commonwealth of Massachusetts

IN THE MATTER OF THE  
JAN

COMPANIES  
, INC.

Docket No. 97-069  
File No. SE 157-241

April 14, 1999

Foxborough  
Subject: Wetlands Appeal

Procedural: Final Decision

**FINAL DECISION**

**Summary**

The bridge construction that is a component of this project would occur within the wetlands wildlife habitat of two rare species, the blue-spotted salamander and the Mystic Valley Amphipod. The bridge will adversely affect that habitat and consequently, the project is denied.

Matthew Watsky, Esq. , Dedham, for the Petitioner

Phillip W. Henderson, Foxborough, for the Intervenor

Elizabeth Kimball, Esq., Boston, for the Department

**Introduction**

This appeal concerns a relatively undeveloped area of Foxborough that contains a wetland bordering an intermittent stream. Within the wetland there is a large vernal pool that is claimed to be home to three rare species. The 5.74 acre site lies at the intersection of Fisher Street and Route 140, a limited access highway. The site is bounded by residential land to the west and undeveloped commercial land to the south. The applicant/petitioner, Jan Companies, Inc., proposes to construct a Burger King restaurant on the upland portion of the eastern part of the site. The wetland occupies the central and southern portions of the site. The wetland continues off-site and the four acre vernal pool lies within it. Approximately two-thirds of the pool lies on the adjacent undeveloped land. Access to the restaurant is proposed via a bridge over the stream that flows out of the wetland's northeast corner and offsite parallel to Route

140. The crossing area is within 100 feet of the applicant/petitioner's vernal pool boundary delineation. The intermittent stream is flanked by bordering vegetated wetland (BVW). The wetland and pool historically drained through a culvert at its southern end. The culvert became blocked so that now, when the basin's capacity is exceeded, water overflows via the stream.

The size of this vernal pool sets it apart from the more common smaller, ephemeral pools in that the size and depth of the pool assures that it will contain sufficient water in most years for amphibians to complete their breeding cycle. Water depth in the pool ranges from several inches to five feet. The pool supports a diverse array of invertebrate obligate vernal pool species. Such species are found in vernal pools for all or part of their life cycle and require fish-free waters for their survival. The pool lies within a mature forested wetland; a combination of marsh, shrub swamp and wooded swamp. Tree and shrub coverage is extensive; the wetland tree canopy closure ranges from 50-80%; the shrub canopy closure averages 60%. The tree cover provides shade to moderate water temperatures and provides abundant leaf litter that is an essential food source for invertebrates.<sup>[FN1]</sup>

#### *Background and Regulatory Framework*

The applicant filed its Notice of Intent under M.G.L. c. 131, §40, the Wetlands Protection Act (Act), on April 5, 1994. The Notice of Intent proposed filling a portion of the wetland at the site for an access road. At the time the applicant filed its Notice of Intent the site had not been designated rare species habitat on any Estimated Habitat Map<sup>[FN2]</sup> prepared by the Natural Heritage and Endangered Species Program (Natural Heritage Program or Program), an agency within the Department of Fisheries, Wildlife and Environmental Law Enforcement. Nor had the vernal pool been certified by the Natural Heritage Program.<sup>[FN3]</sup> On July 8, 1994, however, Phillip Henderson, the representative of the intervenor group in this appeal, submitted a photograph to the Program of an animal he believed was a spotted turtle. The photograph was taken by Mr. Henderson near the project site. The Natural Heritage Program confirmed that the animal was a spotted turtle, a rare species.

At the Natural Heritage Program's request, the applicant then sent a copy of its Notice of Intent to the Program which it received on July 15, 1994. The Natural Heritage Program responded with a written opinion dated July 25, 1994. The opinion stated that the project would be located partly within the spotted turtle's wetlands habitat; however, the project would not adversely affect that habitat. Following a site visit, however, the Natural Heritage Program reversed part of its original opinion and, in a letter dated August 26, 1994, concluded that the project would have an adverse impact.

On October 25, 1994, Mr. Henderson submitted a photograph to the Program of an animal he believed to be a mole salamander. This photograph was taken on the site. The Natural Heritage Program determined that the animal was a blue-spotted salamander, another rare species.

On July 15, 1994, while the proceedings before the Foxborough Conservation Commission were ongoing, the Natural Heritage Program certified the vernal pool based upon the documented occurrence of obligate vernal pool species in it. The Conservation Commission then requested that the applicant study the site further.

The applicant supplemented its Notice of Intent on February 12, 1996, with information that included a revised plan. Rather than filling any of the wetland as originally contemplated, the applicant now proposed a 33 foot wide pile-supported bridge spanning a portion of the wetland but not the vernal pool itself. By this time, the Natural Heritage Program had included the site on its 1995-1996 Estimated Habitat Map. At the request of the Commission, the applicant submitted the plan revision and other supplemental information to the Program on February 22, 1996. After reviewing the project revisions, the Natural Heritage Program issued an opinion on March 21, 1996 in which it concluded that the project would have an adverse effect on the actual wetlands habitat of two rare species, the spotted turtle and the blue-spotted salamander.

Following proceedings before the Conservation Commission and its approval of the revised project on June 11,

1996, a group of town residents, represented by Mr. Henderson, requested a superseding order of conditions from the Department. The Department denied the project on May 16, 1997, based solely on the opinion of the Natural Heritage Program that the project would occur within the actual wetland habitat of two rare species and that it would have an adverse effect on the habitat of those species.

Following the applicant/petitioner's request for an adjudicatory appeal, the residents' group moved to intervene and was allowed to do so. The Department and the petitioner initially identified two issues for adjudication: whether there was rare species habitat on the site, and if so, whether the project would adversely affect that habitat. The intervenor requested that an additional issue be considered: whether the provisions of 310 CMR 10.57 (bordering land subject to flooding) concerning the boundary of and work within a vernal pool should be applied to a vernal pool located within bordering vegetated wetland.<sup>[FN4]</sup>

*a. Regulatory Framework*

In 1986, the Act was amended to include "wildlife habitat" as a wetland interest. Wildlife habitat is defined in the Act as "those areas subject to [[the Act] which, due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or overwintering areas, or breeding areas for wildlife." In order to ensure that wildlife habitat for rare species is protected, the performance standards for work in each of the various inland wetland resource areas all provide that no project may be permitted which will have an adverse effect on specified habitat sites of rare species, as identified by the procedures established under 310 CMR 10.59. This provision establishes the process for involving the Natural Heritage Program and sets the performance standard that must be met if work will alter rare species habitat.

If a project is located within the estimated habitat of a rare species, based upon the Program's most recent Estimated Habitat Map for that location, 310 CMR 10.59 requires an applicant to submit a copy of its Notice of Intent to the Natural Heritage Program at the time it files the Notice with a conservation commission. Within 30 days of the filing of the Notice of Intent with a commission, the Program is to determine whether the area to be altered is in fact part of the rare species habitat. *Id.* Such a determination by the Natural Heritage Program is presumed correct. *Id.* If a project's location is not on the most recent Estimated Habitat Map, it is presumed not to be within rare species' habitat. *Id.* Each of these presumptions is rebuttable and may be overcome by a clear showing to the contrary. *Id.* If the issuing authority fails to receive a response from the Program within 30 days, the regulation directs it to issue a decision based upon the available information; however, the fact that a site is located on the most recent Map is not sufficient information in itself upon which to determine that the project is within the habitat of a rare species. *Id.*

If the Natural Heritage Program determines that the resource area to be altered is in fact within rare species habitat, it is directed to provide the issuing authority with all relevant information it possesses regarding the species' location and habitat requirements in order to assist the issuing authority in determining whether the project would pose any short or long term adverse effect on the habitat. If the Program provides a written opinion to the issuing authority regarding the presence or absence of such adverse effects, that opinion is presumed correct. *Id.* This presumption is rebuttable and may be overcome by a clear showing to the contrary. *Id.*

A conservation commission may not issue an order of conditions for at least 30 days after a Notice of Intent is filed unless the Natural Heritage Program determines before that time has elapsed that the project location is not in fact rare species habitat or, if it is, issues a written opinion regarding whether the project will have an adverse effect on that habitat. *Id.*

*b. Petitioner's motion for summary decision*

Before the hearing in this forum, the petitioner filed a motion for partial summary decision regarding the effect in this appeal of the regulatory presumptions established in 310 CMR 10.59. The Department and the intervenor opposed the motion. The Department also cross-moved for summary decision in its favor and the petitioner filed a reply. The petitioner addressed this issue again in its closing brief.

I issued a short-form ruling on March 13, 1998, in which I denied the petitioner's motion. I ruled that any presumption that the site was not rare species habitat because it did not appear as such on the Program's Estimated Habitat Map at the time the Notice was filed had been rebutted. I also ruled that the site is presumed to be habitat for the blue-spotted salamander as well as the spotted turtle and that the project is presumed to have an adverse effect on their habitat.

The petitioner argued that the Department's determination that the Natural Heritage Program's March 21, 1996 letter created the presumptions that the project site was actual habitat for the spotted turtle and the blue-spotted salamander and the project would adversely affect that habitat was incorrect. At most, according to the petitioner, the letter should have been viewed by the Department as evidence rebutting the presumptions that no rare species existed and that the project would cause no adverse effects.

The petitioner maintained that the lack of mapped habitat created a presumption that at the time it filed the Notice of Intent no rare species existed on the site. According to the petitioner, after 30 days from the date a Notice of Intent is filed, a determination by the Natural Heritage Program that the site is in fact rare species habitat and an opinion regarding a project's adverse effect on that habitat is not binding and does not create a presumption. Consequently, it argues that the initial presumption in its favor that the site is not rare species habitat still stands. Alternatively, the petitioner argued that the July 25, 1994 opinion from the Natural Heritage Program created the presumption that the project would not have an adverse effect on rare species habitat because it was issued within 30 days of the date the applicant sent a copy of its Notice of Intent to the Program. The petitioner maintained that an applicant should be able to rely on the fact that a site does not appear on an Estimated Habitat Map when planning a project in the same way that he can rely on the binding effect of a determination of applicability.

The Department contended that because of the substantial project revisions described in the petitioner's supplement to its Notice of Intent, principles of "fairness and equity" dictated that February 12, 1996 (the date the supplemental material was filed) should be taken as the filing date of the Notice for the purpose of applying the presumptions at 310 CMR 10.59. Alternatively, the Department argued that even if the initial filing date of April 5, 1994 was utilized, the petitioner was not entitled to a presumption that the site is not rare species habitat. In the Department's view, that presumption was rebutted by the Natural Heritage Program's opinions to the contrary in its letters dated July 25, 1994 (regarding the spotted turtle) and March 21, 1996 (regarding the blue-spotted salamander). The Department should rely on the most recent opinion offered by the Natural Heritage Program, as it did here, the Department maintained.

The intervenor supported the Department's view that February 12, 1996 should be taken as the filing date of the Notice of Intent. The intervenor asserted that where the Program provided its March 21, 1996 opinion within 30 days of the date it was notified of the project revisions by the petitioner, that opinion created the presumptions that the project would pose an adverse effect on the actual habitat of the two rare species.

The petitioner countered that the supplemental information was not a new filing. It also asserted that the Natural Heritage Program's opinions were based on "flimsy, insubstantial information" and were insufficient to overcome the presumption that no rare species habitat exists on the site. Consequently, the petitioner maintained that the burden should be on the Department and the intervenor to demonstrate, through "clear and convincing evidence," that the site contained rare species habitat.

I agree that, when the petitioner filed its Notice, it was entitled to a presumption that the area to be altered by the project was not within rare species habitat because the site did not appear on an Estimated Habitat Map. That presumption continues to apply unless there is a clear showing that the area to be altered is rare species habitat, at which point the presumption disappears.<sup>[FN5]</sup> As the petitioner noted in its motion, whether the presumption has been rebutted is a question of fact to be decided at the hearing. I consider the evidence on this point later in this decision.

I turn next to the presumption at 310 CMR 10.59 regarding whether the project would have an adverse effect on rare species habitat. The petitioner would have me conclude that a determination by the Program regarding adverse effects can be given presumptive effect only if it is made within 30 days of filing of the Notice of Intent. Under 310 CMR 10.59, once the issuing authority determines that the area to be altered is part of rare species habitat, an opinion of the Natural Heritage Program regarding a project's adverse effects on that habitat shall be given presumptive effect. The regulation does not limit this determination to within 30 days of when a Notice is filed. Nor does the regulation specify another time period.

Consequently, I do not accept the petitioner's argument that the Program's opinion on adverse effects must be given within 30 days of when the Notice is filed. The absence of a specific time period reasonably allows the Natural Heritage Program to consider project impacts based upon project revisions or other new information whenever it becomes available during the permitting process. When a project site is not mapped, an applicant is not required to submit the Notice to the Natural Heritage Program and the area to be altered is presumed not to be rare species habitat. Only when a person comes forward with evidence to rebut this presumption and the issuing authority determines that the resource area to be altered is part of rare species habitat may the Program evaluate the proposed project for potential adverse effects.

I do not accept the petitioner's argument that the finality afforded to determinations of applicability should apply here as well. First, a determination of applicability and a rare species habitat opinion serve different functions under the Wetlands Regulations. The former is a jurisdictional determination; the latter triggers the application of a particular performance standard for work in a wetlands resource area. Second, the Wetlands Regulations establish that a determination is effective for three years once it becomes final. The permit decision under review here is not final. A consideration of a project's adverse effects is similar to the discovery of new information concerning the presence or extent of a resource area during the permit review process. The Department has routinely considered such information before a permit decision becomes final.

I conducted a hearing on May 12, 14 and 15, 1998. I conducted a view of the site on May 26, 1998.

## **Discussion**

### *Witnesses*

Testimony on the presence of rare species habitat and the project's effect on it was presented by Michael J. Marcus for the petitioner, Patricia A. Huckery from the Natural Heritage Program for the Department and Catherine Pedevillano for the intervenor. Mr. Marcus holds a Masters in Science in Zoology/Wildlife and is a principal with New England Environmental, Inc. (NEE). He has studied vernal pool ecology since 1981, while a graduate student. Ms. Huckery is a biologist and has worked for the Natural Heritage Program for six years. She holds a Masters in Science in Environmental Science. Her principal area of expertise is wetlands ecology. She is responsible for drawing and updating the Program's Estimated Habitat Maps. Ms. Huckery provides technical assistance to municipalities, state agencies and the private sector on vernal pools and supervises the vernal pool specialist for the Program, Matthew J. Burne. Ms. Pedevillano holds a Masters in Science in Wildlife Resources and has over fifteen years experience as a wildlife biologist and wetlands scientist. Since 1996 she has been an independent environmental consultant; before then she was employed by the U.S. Fish and Wildlife Service and for six years served as its liaison with the Army Corps of Engineers on wetlands wildlife habitat issues. One of her areas of expertise is vernal pools. I find that all three witnesses are competent to testify as expert witnesses, based on their training and experience, about the rare species habitat matters at issue in this appeal.

Christopher Ross is an environmental engineer with almost ten years experience with the Department's wetlands division. Mr. Ross has a Bachelor of Engineering Technology in civil engineering technology. He testified about the project's compliance with the performance standards for work in BVW and his reliance on the opinions of the Natural Heritage Program regarding the rare species issues.

Larry E. Tilton, P.L.S., C.E. is the president of Tilton and Associates, Inc. He holds a Bachelor of Science in Civil and Highway Engineering and is a professional land surveyor. He testified on the petitioner's behalf regarding engineering and site surveying matters. I find that Mr. Tilton is competent to testify as an expert witness on these matters, based on his training and experience.

*Extent of Rare Species Habitat*

*a. Bordering Vegetated Wetland*

The bridge crossing over the intermittent stream is proposed within BVW. There is no dispute that the work will alter portions of that BVW. The performance standards at 310 CMR 10.55 (4) allow the alteration of up to 5000 square feet of BVW, provided the area altered is replaced in accordance with the regulation. Shading impacts from the bridge will alter approximately 2,850 square feet of wetland. The petitioner proposes a replacement area of approximately 3000 square feet.

The focus of the hearing in this matter was on 310 CMR 10.55 (4)(d), which, notwithstanding a project's compliance with 310 CMR 10.55 (4)(a) - (c), prohibits the permitting of a project that will have an adverse effect on rare species habitat, as identified by the procedures in 310 CMR 10.59. That section provides that a "project shall not be permitted to have any short or long term adverse effects on the habitat of the local population of that species."

Mr. Marcus and Mr. Tilton testified on behalf of the petitioner that the project satisfied the performance standards at 310 CMR 10.55 (4)(a) and (b).<sup>[FN6]</sup> Mr. Ross testified on the Department's behalf that the project met these performance standards and he denied the project only because of the presumptions afforded the opinions of the Natural Heritage Program under 310 CMR 10.59. The intervenor disputes whether the project complies with the performance standards. Because of my decision on the project's compliance with the rare species habitat provisions of the regulations, I do not reach issues concerning its compliance with 310 CMR 10.55 (4)(a) and (b).

*b. Extent of Vernal Pool Habitat*

The parties disagree about the location of the vernal pool's boundary within the BVW and what portion of the site is vernal pool habitat. "Vernal pool habitat" is defined as "confined basin depressions which, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and which are free of adult fish populations, as well as the area within 100 feet of the mean annual boundaries of such depressions, to the extent that such habitat is within [a resource area]." 310 CMR 10.04.

The mean annual boundary of the pool is important because it provides the point from which one measures out 100 feet in order to calculate the limits of vernal pool habitat (provided that the distance measured is within a resource area.) In this case, there is no real dispute that the wetlands habitat of the rare species coincides with the extent of vernal pool habitat.

The regulations governing work in BVW at 310 CMR 10.55 are silent regarding vernal pool habitat. Procedures for calculating the boundary of a vernal pool in isolated and bordering land subject to flooding are at 310 CMR 10.57 (2)(a)6. The Department points out that these are the only procedures for establishing the mean annual boundary of a vernal pool anywhere in the Wetlands Regulations and argues that they should be utilized here. The Department argues that, in any case, the bridge crossing is proposed within 100 feet of the petitioner's vernal pool boundary and within the BVW. Consequently, the Department maintains, it falls within vernal pool habitat.

Where the regulations governing work in a BVW do not provide procedures for determining the boundary of a vernal pool --- critical to a determination of the extent of vernal pool habitat --- what procedures should apply? The preface to the 1987 regulatory revisions provides some insight as to why 310 CMR 10.55 does not address vernal pools. The preface notes that, with the exception of the addition of 310 CMR 10.55 (4)(d) regarding rare species habitat, the performance standards for work in BVW were not altered when wildlife habitat was added as an interest

to be protected under the Act because the existing standards allowed no large scale alteration and small alterations must be replicated. This approach acknowledges that all BVW is presumed significant to the wildlife habitat interest. Unlike BVW, however, only certain portions of land subject to flooding are presumed significant to wildlife habitat. These areas are the lower floodplain and vernal pool habitat. As a result, the procedures for identifying the boundary of a vernal pool and standards for work within vernal pool habitat were included within 310 CMR 10.57.

Mr. Marcus testified that he established a vernal pool boundary based upon his observation of the high water elevation within the pool - that is, the elevation at which the water overflows into the intermittent stream.<sup>[FN7]</sup> He flagged this line in the field. It was surveyed by Tilton & Associates as elevation 194.9. Mr. Marcus made his initial observation on April 25, 1995; he testified that the boundary has remained consistent since then despite years of high and low rainfall. He testified that the elevation of the pool is fixed, because it is established by the outlet elevation. Mr. Tilton testified that, because of the similarity of the basin on the site to the resource area known as isolated land subject to flooding, he calculated the limits of the pool using the procedures at 310 CMR 10.57 (2)(a)6. His calculation produced an elevation of 194.86.

Mr. Marcus opined that the crossing area is not part of the vernal pool because it is not a confined basin and does not hold standing water for two consecutive months during the breeding season in most years. In his mind, the area exhibited more of the characteristics of BVW. NEE did not find amphibian egg masses in the area and Mr. Marcus viewed this as further evidence of the lack of breeding activity.<sup>[FN8]</sup> Mr. Marcus concluded that all breeding activity by vernal pool species occurred within elevation 194.9.

Ms. Huckery testified that the crossing area is part of the vernal pool. Ms. Huckery based her opinion on her conclusion that the crossing area is within the mean annual boundary of the pool and on her determination that the area was available habitat for vernal pool species. Although Ms. Huckery testified that the Natural Heritage Program generally does not determine a boundary for a vernal pool, on November 8, 1994, she visited the site and established a vernal pool boundary based on hydrologic indicators, such as leaf staining. The crossing area is included within the boundary she staked, which was surveyed by Mr. Tilton at elevation 195.32. Ms. Huckery agreed that the crossing area is not within a confined basin. She acknowledged that her opinion was based primarily on her assessment of the biological characteristics of the area. Ms. Huckery acknowledged that the area may not be ideal for salamanders to deposit eggs, as they prefer deeper water for egg deposition. However, in her view, the crossing area is suitable for courting, the deposition of spermatophores by males and foraging by larvae and juvenile salamanders. The abundant leaf litter and presence of an obligate vernal pool species, fairy shrimp, in the crossing area would attract foraging larvae, according to Ms. Huckery.

The different elevations arrived at by Mr. Marcus and Ms. Huckery are not necessarily inconsistent, but reflect different considerations. Mr. Marcus waited for the water to subside in the overflow area to determine the point at which the water stopped flowing out of the basin. Ms. Huckery looked to indicators of high water during flood events. Ms. Huckery's reliance on hydrologic indicators and flooding levels would tend to produce an elevation above that of the water level confined by the basin.

I conclude that the boundary of the pool is elevation 194.86 as calculated by Mr. Tilton in accordance with the Wetlands Regulations. In the absence of any specific provision in 310 CMR 10.55 (BVW) concerning standards for vernal pools, it is reasonable to look to the procedures in 310 CMR 10.57 to establish a boundary for the pool. There are geographical similarities between the pool on the site and a basin within isolated land subject to flooding. The regulations at 310 CMR 10.57 outline a specific process to follow when there is a conflict of opinion, which Mr. Tilton used.<sup>[FN9]</sup> Mr. Tilton's calculation is within 4/100ths of the elevation flagged by Mr. Marcus based on his actual observations. Ms. Huckery's reliance on biological characteristics is encompassed within the definition of vernal pool habitat. As set out in the preface to the 1987 version of the Wetlands Regulations, areas immediately surrounding vernal pools serve as important nonbreeding habitat for amphibians; thus the area within 100 feet of a vernal pool is protected under the Regulations.

As a practical matter, even though I accept the petitioner's smaller boundary, the project still falls within vernal pool habitat. Mr. Marcus admits that the footprint of the proposed bridge is within the intermittent stream and BVW and within 100 feet of the vernal pool depression.<sup>[FN10]</sup> Moreover, the area functions as vernal pool habitat --- Ms. Huckery observed fairy shrimp in the crossing area and testified that the area was suitable habitat for breeding and feeding.

*Presence of Mystic Valley Amphipod and Project's Impact on Its Habitat*

On March 10, 1998, Ms. Huckery collected an animal from the crossing area that she later confirmed was the Mystic Valley Amphipod (*Crangonyx aberrans*), a species of special concern. According to Ms. Huckery, the Mystic Valley Amphipod is a freshwater crustacean. The adults are approximately 2-4 inches in size. The species is found in cool, shallow water with leaf litter or small permanent water bodies characterized by low flow or stagnant water. Their distribution is limited to eastern Massachusetts. The Mystic Valley Amphipod is nocturnal; it spends the day concealed in leaf litter or under stones. The Mystic Valley Amphipod is a detritivore, that is, it feeds on disintegrating organic matter, such as leaves. It spends its life in wetland areas with an abundance of leaf litter.

When Ms. Huckery identified the Mystic Valley Amphipod at the site, a presumption still existed that the resource area to be altered by the project was not rare species habitat because it was not mapped as such at the time the Notice was filed. I conclude that Ms. Huckery's testimony regarding the collection and identification of the species constitutes a clear showing to the contrary sufficient to overcome the presumption.

Mr. Marcus acknowledged that he had observed amphipods on the site, but he had not used a "key" (an aid used by biologists to distinguish characteristics of different species) to identify the species because the Mystic Valley Amphipod was not listed as a species of special concern in 1995, when he began his investigation. He does not dispute Ms. Huckery's identification of the species, its essential characteristics as described above, or the fact that the crossing area is actual habitat for the species. I conclude that the resource area to be altered by the project is within the habitat of a rare species, the Mystic Valley Amphipod.

Ms. Pedevillano testified that the pilings would alter the crossing area by removing habitat. The pilings, according to Mr. Tilton, would occupy 23 square feet of wetland. Ms. Huckery testified that the crossing area would be altered by the removal of approximately 30 mature trees throughout the area. In addition, the shading that would result from the bridge placement would prevent the accumulation of leaf litter throughout the area. The Amphipod habitat would be adversely affected because the animal will not forage in an area without many layers of leaf litter, according to Ms. Huckery. She opined that leaves will not fall freely into the crossing area because it would be blocked by the bridge which will occupy approximately 2850 square feet, according to Mr. Tilton. Leaves that blow under the bridge cannot replace the abundant biomass that now falls straight down from the mature tree canopy and shrub understory, she maintained. The Mystic Valley Amphipod spends its life in leaf litter and, she concluded, the project would render the crossing area unavailable to it as habitat.

Mr. Marcus maintained that the project will not have an adverse effect on the Mystic Valley Amphipod.<sup>[FN11]</sup> Mr. Marcus disagreed that the bridge would prevent the accumulation of leaf litter. He testified that leaf litter would continue to be carried downstream, would blow under the bridge and would fall from shrub vegetation growing under the bridge. However, he admitted that, if the project were constructed, one could expect to see a 50% reduction in the amount and type of vegetation at the crossing within the following five years.

*a. Meaning of adverse effect*

310 CMR 10.59 prohibits the permitting of a project that would have any short or long term adverse effects on the habitat of a local population of a rare species. In order to evaluate the testimony, I must determine what level of alteration constitutes an "adverse effect." I asked the parties to brief the meaning of that term in the context of 310 CMR 10.59. The term is not included in the general definitions at 310 CMR 10.04 applicable to all wetlands. While the term is defined in the context of non-rare species wildlife habitat at 310 CMR 10.60 (1)(a), that provision by its own terms does not apply to rare species habitat. Quoting from 310 CMR 10.60 (1)(a), the petitioner argues that



“adverse effect” means “the alteration of any habitat characteristic ... insofar as such alteration will ... substantially reduce [the wildlife habitat's] capacity to provide the important wildlife habitat functions.” Eliminating the reference to two growing seasons, this is essentially the definition set out in 310 CMR 10.60 (1)(a). In the petitioner's view, the difference in 310 CMR 10.59 and 10.60 is the extent to which short term impairments are allowed.

The intervenor argues that as the regulations give greater protection to rare species habitat, one does not have to show a substantial reduction in the habitat's capacity to provide wildlife habitat functions. It advocates that it is enough to show that the habitat will be eliminated or that the habitat will provide for fewer of the habitat functions.

The Department, relying on DWW Program Policy 90-2,<sup>[FN12]</sup> maintains that in order to show that an alteration will not adversely affect the rare species habitat, the petitioner has the burden of demonstrating that “...the proposed work will not alter any habitat characteristics which are providing important wildlife functions [food, shelter, breeding, overwintering] for the rare species.”

The petitioner's recommendation is problematic because 310 CMR 10.60 (1) states that the standard set out in that section does not apply to the habitat of rare species. Nor does it apply to alterations of BVW. Program Policy 90-2 does not support the petitioner's interpretation. However, the Department's interpretation also is problematic in that it appears to equate “altering a habitat characteristic” and “adverse effect.” This is not entirely consistent with 310 CMR 10.59 which provides that “if a proposed project is found ... to alter a resource area which is part of the habitat of a state-listed species, such project shall not be permitted to have any short or long term adverse effects on the habitat of the local population of that species.”

While a definition of “adverse effect” is not within the definitions at 310 CMR 10.04, the term is defined at 310 CMR 10.23, within the definitions applicable to work in coastal wetlands, as “a greater than negligible change in the resource area or one of its characteristics or factors that diminishes the value of the resource area to one or more of the specific interests of [the Act] as determined by the issuing authority. ‘Negligible’ means small enough to be disregarded.” “No adverse effect” on various functions performed by coastal formations is the general performance standard applicable to work in coastal resource areas. The manner in which the term is used in the coastal regulations is similar to its use in 310 CMR 10.59, in that in both instances the term identifies the performance standard for work in a resource area. The definition at 310 CMR 10.23 is not specific to or dependent on coastal processes. The part of the regulations specific to coastal wetlands also contains a provision regarding rare species habitat that is virtually identical to 310 CMR 10.59. Consequently, the definition at 310 CMR 10.23 no doubt would apply were this project proposed in a coastal wetland. Accordingly, I will look to the definition of adverse effect from 310 CMR 10.23 for guidance in deciding whether this project will comply with the performance standard at 310 CMR 10.59.

Ms. Huckery's direct testimony is an opinion from the Natural Heritage Program that the project would have an adverse effect on the Mystic Valley Amphipod habitat and, under 310 CMR 10.59, is presumed to be correct. I conclude that, even if I assume that the petitioner rebutted the presumption, the bridge will have an adverse effect on the Mystic Valley Amphipod habitat in the crossing area. Based on the testimony of Ms. Huckery, I find that food, shelter, overwintering and breeding functions are provided for in this area. The species carries out its life cycle in this habitat. In finding that the quantity and composition of leaf litter will be adversely affected, I credit the testimony of Ms. Huckery. While leaves may well blow into the area and be carried downstream from adjacent areas; that amount cannot compensate for the quantity that now falls from the existing tree canopy. The removal of trees to allow bridge construction will reduce the amount of leaf litter in the crossing area. Leaves that would fall from trees in adjacent areas will be blocked by the bridge. Mr. Tilton testified that there will be five feet of clearance between the bottom of the bridge and wetland surface. The limited clearance will increase shading impacts under the bridge. The reduction in shrub vegetation conceded by the petitioner will further reduce the quantity of leaf litter in the crossing area.

My finding that the project will have an adverse effect on the Mystic Valley Amphipod habitat at the crossing area means that the Department must deny a wetlands permit to the petitioner. Nonetheless, given the investment of the

parties in the identification of and habitat assessment for the spotted turtle and the blue-spotted salamander, a discussion of the project's impact on these species is warranted.

*Presence of Spotted Turtle and Project's Impact on Its Habitat*

According to Ms. Huckery, the spotted turtle (*Clemmys guttata*) is a species of special concern. It is 3-5 inches in size, with bright yellow spots in its black upper shell, limbs, tail and head. The spotted turtle frequently is found in forested wetlands and vernal pools. It prefers areas with aquatic vegetation. The spotted turtle spends up to 50% of its time in a given year within vernal pools. During the early spring in particular, spotted turtles can be found secretively basking, alone or in groups, along the water's edge, on hummocks, by overhanging vegetation or on sphagnum mats. They hide for long periods in mud and detritus when disturbed. Mating occurs during March-May, usually in water. Females nest from mid May-June in well-drained open meadows, fields or along roadsides.

*a. Whether the site provides actual habitat for the spotted turtle*

Mr. Henderson submitted to the Natural Heritage Program a photograph of a turtle crossing a road approximately 1000 feet from the closest edge of the vernal pool. Ms. Huckery identified it as a spotted turtle and her identification is not disputed by the petitioner. She determined that the vernal pool on the site, together with another wetland area 2000 feet to the south and hydrologically connected to the vernal pool, provided the only suitable habitat for the spotted turtle in the vicinity where it was found. She described these areas as a "biological island" surrounded by developed areas. I find that Ms. Huckery's testimony is sufficient to overcome the presumption that the proposed project is not within rare species habitat.

However, based on the fact that, since the original siting, there have been no other reported observations of a spotted turtle in the pool or its vicinity, the petitioner argues that no local population of the spotted turtle is present on the site. The evidence on this point focused on the thoroughness and sufficiency of NEE's site investigations.

*i. NEE Site Investigations*

The following summarizes Mr. Marcus' testimony regarding his field investigations.<sup>[FN13]</sup> All field work was conducted by Mr. Marcus or by individuals under his direction. The investigations in 1995 focused on determining whether the water body was a vernal pool and whether the blue-spotted salamander or spotted turtle used the pool. There was one site visit in January, 1995 and two or three in February, 1995 in order to observe the water flow and look for evidence of breeding activity. From March 8 through June 22, 1995, NEE conducted weekly field investigations that included searches through the pool with waders and dip nets to collect and examine species in the pool. Full night investigations were conducted by NEE on May 2 and 9, 1995. These visits coincided with the time of peak amphibian breeding activity for that year. "Very few" visits were made during the summer of 1995. These were "less intensive" and were conducted during the post breeding season through August 1995 in order to document drying of the pool. During these visits, Mr. Marcus would generally walk around the pool and through the crossing area. He would spend about one to one-and-one-half hours at the site. During 1995, Mr. Marcus spent an unspecified number of early evenings at the site, usually when he was in the area on other projects.

In 1996, having determined that the water body was a vernal pool, NEE concentrated more on looking for evidence of the blue-spotted salamander and spotted turtle on the site. NEE conducted four field investigations from March until early June. April 4 marked the beginning of the 1996 breeding season. Site investigations on May 2, 1996 and June 4, 1996 were to collect information on breeding activity within the pool and use of the crossing area by vernal pool species. Wearing waders and using dip nets, Mr. Marcus and others on the NEE team sampled the pool. Site investigations for the blue-spotted salamander included searches under rocks and logs and in animal burrows throughout the upland. NEE scanned the pool and crossing with binoculars looking for spotted turtles. While there were investigations at night, Mr. Marcus did not recall when they occurred, or if they included rainy nights. Marcus testified that he conducted additional "look-see" visits during 1996, but was unable to identify the dates or duration of those visits.

The record does not contain the dates of site investigations or their duration during 1997, other than the fact that Mr.

Marcus testified generally that they were less extensive than in 1995, were concentrated within the spring breeding season, and focused on looking for rare species.<sup>[FN14]</sup>

Mr. Marcus testified that his site visits in late March-May in 1996 and 1997 were at a time of year when he would expect to see turtles basking. During the summer, he continued, they are more difficult to see because of the dense vegetation at the pool's edge. Also, because spotted turtles are sensitive to heat, he said that they tend to be underwater or in burrows during the summer months. Turtles tend to move around within a discrete area known as their "home range." Mr. Marcus testified that the spotted turtle does not travel great distances to forage or lay eggs. In spite of his search for spotted turtles in the pool, he did not see any.

The petitioner also attempted to show that the vernal pool habitat is not the wetlands habitat of the spotted turtle observed near the site. The spotted turtle was moving westerly at the time it was observed by Mr. Henderson. Mr. Tilton testified that he reviewed area maps and other information to determine if a wetlands existed westerly of the site. He reported that he found such a location described as a "wet area" in a 1972 consultant's report. Mr. Tilton visited the area in the spring of 1998. Marcus viewed aerial photographs of this area, but did not visit it. Mr. Tilton reported that the turtle was closer to this "wet area" at the time it was observed than to the project site.

Ms. Huckery testified that the vernal pool and crossing area is "exemplary" vernal pool habitat. The pool is similar in hydrology, plant community composition and substrate to other vernal pools where she has seen or caught spotted turtles. Ms. Huckery admitted that the spotted turtle has a preference for vernal pools under .5 acres, but said in her experience she has known it to use larger pools as well. The spotted turtle sighting was within 1000 feet of the pool, which she said is well within the home range distance of 3400 feet for this species. Ms. Huckery stated that spotted turtles move about in search of nesting sites and dispersing juveniles look for other habitat. Mr. Henderson's observation of the turtle in June was consistent with the time that one would expect to see females looking for nesting sites. Ms. Huckery examined some of the other water bodies within the home range distance from where the spotted turtle was seen, although not those on the other side of Route 140, because, she stated, highways are absolute barriers to migration. She concluded that the vernal pool was the only suitable habitat in the area for the spotted turtle found near the site.

According to Ms. Huckery, the vernal pool is well vegetated and tannic, making it difficult to see turtles. Spotted turtles can dive for cover before being seen. She was critical of Mr. Marcus for not deploying turtle traps which, she stated, are an accepted method of turtle study. If one's objective were to demonstrate that spotted turtles did not use the vernal pool, particularly one this large, then traps should have been used over a significant period of time, preferably March through June and checked often.

Ms. Huckery testified that the site provides actual habitat because it has the characteristics to support a population of the spotted turtle and is located a reasonable migration distance from the reported observation. She acknowledged that if other water bodies within the home range were shown to be suitable habitat, the turtle could use them, too. Although adult turtles tend to use one pool, recruiting juveniles go to other pools. Thus she said she might identify more than one pool in an area as estimated habitat for the spotted turtle.

Ms. Huckery focused on the crossing area as suitable basking habitat. The spotted turtle could use hummocks within the crossing, the drying edges of the pool or take cover within the low shrub growth. The area is available for basking from early March, when the turtles emerge from hibernation, until May, when the leaves are out on the trees. She maintained that basking was within the shelter function as it is an activity that allows the turtle to carry out its life requirements of feeding, breeding and laying eggs.

I am not convinced that the site currently provides actual habitat for a local population of the spotted turtle. The reported observation was not on the site but 1000 feet away. Ms. Huckery acknowledged that there was another area nearby that could also be suitable habitat. Her principal reason for concluding that the vernal pool was actual habitat

for the turtle was that the pool was close enough to the location where the turtle was observed and possessed the characteristics of exemplary spotted turtle habitat. While the number and extent of site investigations by NEE, particularly during March - May, were limited, they were sufficient to determine if spotted turtles utilized the site. I find that the site does not provide actual habitat for a local population of the spotted turtle. In light of this finding, I need not consider the evidence presented regarding whether the project would pose a short or long term adverse effect on such a local population.

*Presence of Blue-Spotted Salamander and Project's Impact on Its Habitat*

While the parties disagree about the presence of the blue-spotted salamander on the site, they are in basic agreement about the general characteristics of the species. I have relied upon the testimony of both Ms. Huckery and Mr. Marcus for the following description of the species. The blue-spotted salamander (*Ambystoma laterale*) belongs to the mole salamander family, so-called because they have a narrow, rounded snout fitted for digging. A secretive species, they are often found under the ground, in leaf litter or downed debris. They are part of the Jefferson Salamander complex. *A. Jeffersonianum* and *A. laterale* interbreed to form two hybrids comprised almost entirely of females. The blue-spotted salamander, Jefferson salamander and the hybrids are species of special concern in Massachusetts.<sup>[FN15]</sup>

The blue-spotted salamander is approximately 4-5 inches in length, with dark blue to black dorsal pigmentation and bright blue spots on the lower sides of the body. The Jefferson salamander is approximately 5-8 inches in length. The larger hybrids are upwards of 7-8 inches in length. The hybrids tend to be more brownish with lighter blue spots or gray spots. Both Ms. Huckery and Mr. Marcus agree that an individual salamander found in Foxborough is more likely to be a hybrid. When I refer to blue-spotted salamanders throughout this decision, I am referring to both the pure species and the hybrids.

The blue-spotted salamander tends to favor vernal pools that are 2-3 feet deep, with an abundance of dead and decaying leaves for cover and overhanging trees, bushes and grasses for egg deposition. Breeding activity takes place in late February/early March to mid April. Juveniles exit the pool in late summer and move to upland habitat where they live under rocks, rotting logs or in small animal burrows. Except when breeding, adults are rarely seen above ground and move within territories of less than a square yard.

*a. Whether site provides actual habitat for the blue-spotted salamander*

The vernal pool was identified as rare species habitat for the blue-spotted salamander based upon a color photograph taken by Mr. Henderson, representative for the intervenors, and submitted to the Natural Heritage Program. Ms. Huckery identified the animal in the photo as a blue-spotted salamander. Ms. Huckery testified that the distinguishing characteristics of rare amphibians are easily seen in a photograph. She took into account the fact that another individual was present when Mr. Henderson took the photograph and that the observation was made at a time of year when one would expect to see the animal foraging within its upland habitat. I find that Ms. Huckery's testimony is sufficient to rebut the presumption that the proposed project is not within rare species habitat.

The petitioner sought to establish that the vernal pool habitat was not within the habitat of the blue-spotted salamander in three ways. First, it asserted that the animal in the photograph relied on by the Natural Heritage Program is not a blue-spotted salamander. Second, it attempted to show that the animal was not originally found on the site, but was moved there by project opponents. Third, it argued that, even if a blue-spotted salamander was found on the site, it is the only one that exists there and thus, no "local population" exists on the site.

When preparing his prefiled testimony, Mr. Marcus viewed a color photocopy of the photograph that he acknowledges was of "reasonably good" quality. He viewed the original at the hearing. He testified that because the animal was partially hidden under leaf litter, many of its features were obscured. The photo lacked a scale as well. Nonetheless, based upon its estimated size, slender body shape, curled body position and coloration Mr. Marcus was able to state "with confidence" that the animal in the photo is the "lead back phase" of the common red-backed salamander. Mr. Marcus testified that he found lead back phase red-backed salamanders on the site with blue spots on their sides

and that these are often confused with blue-spotted salamanders. Mr. Tilton used a red oak leaf in the photograph as a reference to determine the size of the salamander by proportional scaling. He measured the salamander with a map wheel, a device used to measure curved objects. He determined that the animal was between 1.5 to 3.5 inches in length. Mr. Marcus testified that Mr. Tilton's determination was consistent with his interpretation of the photograph.

At the hearing, Ms. Huckery was quite confident that the animal is a blue-spotted salamander. She did not base her identification on size. She relied on aspects of the animal visible in the photo both to the naked eye and under a microscope. She testified that the body was "chunky" rather than slender with an elliptical rather than a roundish tail. (She also noted that part of the tail was missing.) Ms. Huckery testified that the spots were blue, although not the brilliant blue of the pure species. She also observed that the spots were larger than those on the lead back phase red-backed salamanders she found on the site. She observed blue coloration on the animal's head, which she testified the lead back phase does not have. She observed the wide upper leg characteristic of the blue-spotted salamander. When questioned about certain characteristics she could not observe in the photograph, Ms. Huckery explained that it was not necessary to see every characteristic of an animal in order to identify it accurately.

I credit the testimony of Ms. Huckery regarding her identification of the animal in the photo. Mr. Marcus primarily relied on size whereas Ms. Huckery outlined in detail and in a very assured manner the characteristics she observed to make the identification. She testified that she has seven years experience looking at photographs of possible blue-spotted salamanders submitted to the Program. She also viewed the photo under a microscope and thus was able to see distinctions not visible to the naked eye. There is no evidence that Mr. Marcus looked at the photo under a microscope.

Admittedly, the opinions of Mr. Tilton and Mr. Marcus about the size of the animal in the photograph are more consistent with a conclusion that it is not a blue-spotted salamander because the hybrid that is likely to be found on the site probably would be larger than 3.5 inches in length. I find, however, their opinions regarding the size projection of a partially hidden animal to be less reliable evidence than the readily observable features relied on by Ms. Huckery.

Mr. Henderson reported to the Natural Heritage Program that the salamander was located and photographed under a rock on the upland portion of the site where the restaurant is proposed to be located. Ms. Huckery testified that it was found approximately 50 feet from the pool. This location was confirmed by the testimony of Steven C. Smith who was with Mr. Henderson when the salamander was discovered. Mr. Smith testified that he discovered the salamander under a flat, shallow rock that had been turned over initially by Mr. Henderson. The rock was lying on the ground, not imbedded in the soil, he said. Mr. Smith recalled that there were leaves under the rock. He stated that neither he nor Mr. Henderson picked up the animal or measured it. As Mr. Smith held the rock, Mr. Henderson photographed the salamander. Mr. Smith testified that the photograph was an accurate representation of what he saw.

The petitioner questions Ms. Huckery's reliance on the information Mr. Henderson submitted to the Program regarding the location where the salamander was found because Mr. Henderson opposes the project. Ms. Huckery explained that she does not make an independent inquiry into the veracity of a reported siting of a rare species because, in her experience, reported sitings by lay people have proven to be reliable. Where identification can be readily determined from a photograph, Ms. Huckery testified that the qualifications of the observer are not important. Rather, she looks at whether an accurate identification can be made to species level from the photograph, something she was able to do here. The picture was taken in September at a time when Mr. Marcus acknowledged that one could expect to see salamanders moving from the pool to upland.

The petitioner argues nonetheless that the condition of the leaves in the photograph is not consistent with the condition of leaves located under a rock. Ms. Huckery testified that the salamander may have been moved. She said it was not unusual for people to move animals into more favorable photographic settings. However, Mr. Smith could not recall whether he or Mr. Henderson moved the animal. Ms. Huckery also testified that the blue-spotted salamander does not move quickly on land and does not tend to move away when disturbed.

I do not find the conditions shown in the photograph to be inconsistent with finding a salamander amongst the leaves. I credit the testimony of Mr. Smith, who stated that the photograph represented what he saw at the time it was taken. Mr. Smith testified that the rock was not imbedded in the soil. No animal burrow was found under the rock, so there would have had to be sufficient space for the animal to crawl under it. The conditions shown in the photograph are consistent with dry leaves having blown under the edge of the rock. The salamander was found at the time of year that one would expect to see it in the upland habitat.

I conclude, based on the testimony of Ms. Huckery and Mr. Smith, that a blue-spotted salamander was found on the site. I now look to whether there is a "local population" of that species on the project site. Again, the evidence on this issue focused on the thoroughness and sufficiency of the petitioner's site investigations,<sup>[FN16]</sup> as described above at 23-24 and as follows.

In March of 1997, Ms. Huckery suggested that the petitioner conduct a pit fall trap study. Drift fences and pit traps form a vertical barrier that the migrating salamanders cannot cross over, so they turn, walk along the barrier and drop into water-filled containers buried at intervals along the fence. Because the breeding season for the blue spotted salamander occurs late February-early March, the study was delayed until the 1998 breeding season.

Mr. Marcus' testimony about the study and its results can be summarized as follows. The study began on February 25, 1998 and ended on April 15, 1998. Nine-hundred linear feet of fencing and pit traps (one gallon buckets) on either side of the fence were placed along the vernal pool boundary on the Jan Companies property. The pool was not completely encircled. The traps initially were open only on rainy nights. On the available trap nights, 275 red-back and lead-back phase red-back salamanders were captured as well as 44 yellow-spotted salamanders. No blue-spotted salamanders were captured. The first yellow-spotted salamanders were trapped at the end of February. At the end of the study, Mr. Marcus began to capture salamanders coming out of the pool to return to the upland. The blue-spotted salamanders migrate earlier than the yellow-spotted salamanders and so would have preceded them both going into and coming out of the pool.

Mr. Marcus opined that a salamander located on the knoll in the area where the blue-spotted salamander was found would have been intercepted by the fencing and pit trap array set up in that area of the site. Without the study Mr. Marcus would have concluded that the site was not likely to contain a population of blue-spotted salamanders. Based on the results of study, Mr. Marcus expressed a "high degree of confidence" that no population of blue-spotted salamanders exists on the site.

Ms. Huckery and Ms. Pedevillano agreed that, in their view, the petitioner's efforts were insufficient to demonstrate that there are no blue-spotted salamanders on the site. They criticize the extent of site investigations during 1995-1998 and in particular the pit fall trap study.

On March 10, 1998, following a call from the Foxborough conservation agent who reported that pit fall fencing was in place, Ms. Huckery went to the site. She found the pit fall traps in place, although the Natural Heritage Program had not yet issued a scientific collecting permit for the study. Ms. Huckery found 26 spotted salamanders in the traps. She concluded that a mole salamander migration took place the previous night. She released the salamanders and pulled up the fencing at 20 foot intervals, because the trapping was not permitted at that time. Three days passed before a member of Marcus' staff called the Program to ask why the traps were closed. Ms. Huckery took this as an indication that three days passed before someone from NEE returned to the site to check the traps. Traps must be checked more frequently, she testified, because the trapped animals can be killed by predators or exposure. She observed that several of the buckets were filled to the brim with water which would allow salamanders to escape, she said. Ms. Pedevillano pointed out that the blue-spotted salamander could have migrated during the two nights in March when the traps were not in operation.

Ms. Huckery testified that a migrating salamander from the knoll could have skirted the fencing because it did not surround the pool. It is possible that only a fraction of a local population inhabits the knoll, she testified. Also, the fencing was not imbedded in the ground in some locations, including the crossing, so animals could have slipped underneath it. She stated that the fencing was not left in place through August and September, 1998 in order to determine how juveniles emerging from the pool were recruited into the existing population.<sup>[FN17]</sup> Juveniles leaving a pool, she explained, disperse randomly into the uplands in all directions, a point with which Mr. Marcus agreed. Ms. Huckery testified that she would expect a thorough survey to include two or more years of pit fall study data from mid February to October of each year. She stated that a single year of data is likely to miss individuals of a population because of the variation in breeding effort. The traps should be checked 4 or 5 times each week, she said, especially after any significant migration event.

Mr. Marcus testified that it was not necessary to encircle the pool in order to trap salamanders on the site. In his opinion, two years of pit fall trap study data were not necessary. He stated that a study in a single year will capture most, and certainly one individual, of each migrating species. He testified that salamanders exhibit fidelity to their natal pool, meaning that they return year after year to the pool in which they originated. Mr. Marcus and Ms. Huckery agreed that an entire population may not migrate every year but approximately 50%-60% will breed each year. They also agreed that the adult salamanders move between the upland and the pool in a fairly straight line.

According to Ms. Huckery, the sufficiency of an investigation is related to one's goal. She testified that, particularly where the petitioner sought to demonstrate that a population of blue-spotted salamanders did not exist on the site, "diligence" and "thoroughness" are required. As examples of the deficiencies in the petitioner's efforts, she stated that it was important to have encircled the entire pool, in spite of its size, because it is important to know what animals, if any, are coming into the pool from other terrestrial habitat. Another consideration, in her mind, was the experience level of the NEE team. The person responsible for searching for salamander egg masses had no rare species or vernal pool experience. However, she continued, blue-spotted salamander eggs are difficult to find because they do not lay large masses of eggs, but rather lay individual eggs or small clusters on the underside of leaves or blades of grass. Throughout four spring seasons, there were only two documented all night investigations, but it was not clear whether these were rainy nights.

I am not convinced that a local population of the blue-spotted salamander is absent from the vernal pool or the site and I find that such a population does exist. Mr. Marcus acknowledged that he could not rule out the possibility that a population exists within the pool in spite of his conviction that one does not exist on the site. There is a documented occurrence of the species on the site. I find that during each year between 1995 and 1998 there was some aspect of the investigation that was not as thorough as it needed to be to establish that the site is not actual habitat. In 1995, it is not clear whether the two all-night investigations occurred during rain events. Yet, the experts agreed that rainy nights during the breeding season is when one is most likely to see salamanders migrating to a vernal pool. While Mr. Marcus testified generally that his investigations included warm, rainy nights, he did not identify the dates. Furthermore, two nights of a breeding season that may extend over several weeks is insufficient from which to draw any conclusions about a species' migration. In 1996, only four investigations were conducted from March until June. During both 1996 and 1997, there is no information in the record from which to conclude that any of the investigations occurred during rainy nights. In 1997, the record is devoid of any specific information about the dates and extent of site investigations. For all years, there is no information from which to conclude that investigations during the late summer and early fall were timed so as to observe juvenile salamanders leaving the pool. In 1998, Ms. Huckery and Ms. Pedevillano provided several plausible reasons why the pit fall trap study failed to capture any blue-spotted salamanders, as described above at 33-34.

*b. Whether project would have short or long term adverse effect*

Mr. Marcus maintained that, if there was a population of blue-spotted salamanders on the site, the project would not have an adverse effect on its habitat because the crossing area did not serve any important wildlife habitat function for it. He relied on his opinion that the crossing area is not part of the vernal pool itself, nor does it share the characteristics of vernal pool habitat. In his view, the blue-spotted salamander would not use the crossing for foraging,

shelter, migration, overwintering, or breeding because it would prefer to use the pool itself. If it did use the crossing area, he stated that the bridge would not pose any adverse impact.

I have already concluded that the crossing area is within vernal pool habitat. See above at 13-17. To the extent Mr. Marcus' opinion is based on his view that the crossing area does not serve a sufficiently important habitat function, I reject it. According to the preface to the 1987 version of the Wetlands Regulations, wetlands wildlife habitat of rare species always serves an important function. Consequently, the preface continues, no adverse effects are permitted, although small alterations of non-rare species wetlands habitat are allowed. See 310 CMR 10.59; Matter of Dukes County Commissioners, Docket No. 94-058, Final Decision at 10, 3 DEPR 106, 109 (June 4, 1996.) Therefore, to the extent Mr. Marcus' opinion regarding adverse effects is based on his subsidiary opinion that the habitat does not serve a sufficiently important function, I reject it as inconsistent with the regulatory scheme.

Ms. Huckery testified that the bridge crossing would permanently shade a portion of the vernal pool habitat and alter the plant community composition and leaf litter quantity and composition. Ms. Huckery testified that in her opinion the amount of vegetation would be reduced by 50% - 75%. Ms. Pedevillano essentially agreed, stating that the amount of vegetation would be reduced by at least 50% and that such a change would cause an adverse effect on the habitat. Ms. Huckery stated that adult blue-spotted salamanders, larvae and juveniles use leaf litter as cover while they breed and forage. If the litter is not present, the animals will not be attracted to the area. The leaf litter also attracts the invertebrate food source to the area.

Mr. Marcus would not admit that the blue-spotted salamander would breed or forage within the crossing area because he had not seen them there. Mr. Marcus disagreed that the bridge would prevent the accumulation of leaf litter, as described above at 18-19.

I previously rejected Mr. Marcus' view that the crossing did not serve an important wildlife habitat function for the blue-spotted salamander. Based on the testimony of Ms. Huckery, I find that the habitat area provides food, shelter and breeding functions for the species. Based on the testimony of both Ms. Huckery and Mr. Marcus, I find that the quantity and composition of leaf litter will be altered in such a way that it will adversely affect these functions. See above at 18-19 and 21. I conclude that the petitioner has not overcome the presumption that the bridge will have an adverse effect on the wildlife habitat for the blue-spotted salamander at the crossing.

### **Disposition**

The project denial issued by the Department's southeast regional office is made final.

### **Reconsideration and Appeal Rights**

The parties to this proceeding are notified of their right to file a motion for reconsideration of this decision, pursuant to 310 CMR 1.01 (14)(d). Such a motion must be filed with the Docket Clerk and served on all parties within seven business days of the postmark date of this decision. Any party may appeal this decision to the Superior Court pursuant to M.G.L. c. 30A, §14(1). The complaint must be filed in the Court within thirty days of receipt of this decision.

Bonney Cashin  
Administrative Law Judge

FN1. This description was drawn from the Wildlife Habitat Evaluation prepared by Catherine Pedevillano for the U.S. Fish and Wildlife Service and from the Notice of Intent-Supplemental Information prepared by New England Environmental, Inc., the applicant/petitioner's consultant. These facts are uncontroverted.

FN2. The Natural Heritage Program receives reports from professionals and the general public of rare species observations. It accepts reports based upon an evaluation of nine criteria. See "Criteria Used in Determining Acceptability



of Rare Wildlife Species Reports.” Accepted reports are entered into the Program's database and used in the preparation and updating of Estimated Habitat Maps, which identify the estimated geographical extent of the rare species reported.

FN3. Under the Wetlands Regulations, 310 CMR 10.00, vernal pool habitat is presumed to exist only when it has been “certified” by the Natural Heritage Program. According to the certification guidelines published by the Program, it will certify a pool when it receives information satisfying the criteria in the guidelines for the following: a) biological and physical indicators used to identify a vernal pool, such as the presence of obligate vernal pool species; b) documentation of field observations; and c) documentation of the pool's location. Use of official forms also is required. “Guidelines for Certification of Vernal Pool Habitat.” See also 310 CMR 10.57 (certification and presumption applicable to vernal pools within land subject to flooding.)

FN4. I previously ruled that, under the Wetlands Regulations, the petitioner bears the burden of going forward as to the first two issues and the intervenor bore that burden as to the third issue. See 310 CMR 10.03 (2). I also ruled that the applicant/petitioner bears the ultimate burden of proof under 310 CMR 10.03 (1) of demonstrating that the project will contribute to the protection of the interests under the Act by complying with the applicable performance standards.

FN5. Upon further reflection, I have determined that my earlier conclusion that the Natural Heritage Program's opinions regarding the spotted turtle and blue-spotted salamander both rebutted the presumption that the site was not rare species habitat and replaced it with a presumption that the site was rare species habitat was in error.

FN6. The performance standard at 310 CMR 10.55 (4)(c) does not apply to the project at issue here.

FN7. The petitioner argues in its closing brief that there is no presumption that a vernal pool exists on the site because the pool was not certified until after its Notice of Intent was filed. I agree. The petitioner further submits that the evidence at the hearing fails to support a conclusion that a vernal pool exists on the site; rather the area of open water should be regulated as either BVW or a pond fringed with BVW. The petitioner's latter argument is puzzling to me and I reject it. Mr. Marcus repeatedly acknowledges in his testimony and elsewhere in the record of this appeal that the large body of water on the site is a vernal pool and that it was eligible for certification. As discussed above, he does dispute whether the crossing area is within the boundary of the pool itself. Ms. Huckery's testimony also supports a conclusion that the water body is a vernal pool.

FN8. Mr. Byrne from the Natural Heritage Program found yellow spotted salamander egg masses 50-100 feet from the crossing.

FN9. However, there is no reason to apply the performance standard in 310 CMR 10.57 applicable to vernal pool habitat because the performance standard for rare species habitat is more stringent.

FN10. Although I reject the petitioner's argument that there is no vernal pool habitat on the site, only BVW, my conclusion has little practical impact. The limits of the Department's wetlands jurisdiction over the wetlands habitat of the rare species in either case is no greater than the edge of the BVW.

FN11. Mr. Marcus also testified that an alternative bridge design without pilings was now feasible. The Massachusetts Highway Department is willing to grant the petitioner a temporary access permit from Route 140 that would allow construction of the alternative bridge configuration. A fully spanned bridge would eliminate any impact due to the placement of pilings. However, such an alternative design is not before me. As the project that is under review utilizes pilings, I must evaluate their impact. Moreover, a spanned bridge design does not eliminate impacts due to shading.

FN12. "Rare Species: Standards and Procedures for Determining Adverse Impacts to Rare Species Habitat."

FN13. This summary is drawn from Mr. Marcus' testimony and two reports concerning his site investigations. One report is found within a letter dated March 22, 1996 from Mr. Tilton to William Hocking, the chair of the Foxborough Conservation Commission. The second is within a letter dated November 25, 1996, from Mr. Marcus to Mr. Ross. Where the testimony was less specific or inconsistent with the contents of the reports, I relied upon the reports as they were prepared closer in time to the actual investigations and Mr. Marcus testified that he could not recall specific dates or weather conditions.

FN14. As a general matter, Ms. Huckery testified that the ability to review Mr. Marcus' field notes was critical, but that they were not provided to her. The notes should describe the survey methods, time expended, dates and times the methods were employed. Neither the Department nor the intervenor sought a discovery order to require production of the field notes. Thus the petitioner had no obligation to provide them. Nonetheless, the petitioner's failure to produce the notes for the record left me with testimony that was general rather than specific regarding many details of the site investigations.

FN15. A species may be listed as one of "Special Concern" under the Massachusetts Endangered Species Act, M.G.L. c. 131A and its regulations, 321 CMR 10.00. The wetlands regulations define "rare species" to include those officially listed as of special concern. 310 CMR 10.04.

FN16. The petitioner points out that throughout the permit review process, no wildlife scientist has found a blue-spotted salamander or spotted turtle on the site, although they have searched for them. While Ms. Huckery, Ms. Pedevillano and other state and federal scientists have looked for indications of the species' presence while on the site for various reasons, there is no evidence of a systematic search by any of them.

FN17. Obviously this is after the hearing took place, however, arrangements could have been made to have the results of the study entered into the record. Also, I see no reason why the fencing and traps could not have been utilized during the fall in 1997 in order to capture juveniles emerging from the pool in that year.

I adopt this decision in Docket Number 97-069 as my final decision in this proceeding.

Edward P. Kunce  
Acting Commissioner

1999 WL 419484 (Mass.Dept.Env.Prot.)  
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