

Mr. Robert F. Janson
Acting Executive Director
Asset Management
U.S. Customs and Border Protection
Department of Homeland Security
El Paso Fence and Lights EA
c/o Gulf South Research Corporation
8081 GSRI Ave.
Baton Rouge, LA 70820

Dear Mr. Janson:

The Environmental Protection Agency (EPA) Region 6 has reviewed the Draft Supplemental Environmental Assessment (EA) for the Proposed Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Border Patrol El Paso Sector, El Paso, Ysleta, Fabens, and Fort Hancock Stations Areas of Operation, prepared by the U.S. Department of Homeland Security, U.S. Customs and Border Protection. The Draft EA contains insufficient information for an adequate review and does not provide a basis for a finding of no significant impact (FNSI). EPA suggests that USBP issue a Notice of Intent (NOI) to prepare an EIS on this project or circulate a revised Draft EA for stakeholder and agency review. Specific comments on the Draft EA are enclosed.

Of particular concern to EPA is the potential for adverse environmental and ecological habitat impacts in the study area, particularly long-term impacts and those due to lighting. The EA has many of the same potentially significant environmental impacts as the Lower Rio Grande Valley Fence EIS. It is unclear why an EIS was prepared for 21 miles of segmented fence in the Lower Rio Grande Valley Sector, but not for 56 miles of unbroken fence in the El Paso Sector.

If you have any questions or would like to request assistance, please feel free to contact Sharon L. Osowski, Ph.D. as primary point of contact for this project. She can be reached at 214-665-7506 or by email at osowski.sharon@epa.gov.

Sincerely yours,

Cathy Gilmore, Chief
Office of Planning and
Coordination

Enclosures: Comments

Cc: Mr. Charles McGregor
U.S. Army Corps of Engineers
Fort Worth District

Comments on the Environmental Assessment for the Proposed Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Border Patrol El Paso Sector, El Paso, Ysleta, Fabens and Fort Hancock Stations Areas of Operation

General Comments

The EA contains insufficient information to provide a basis for a finding of no significant impact (FNSI). In some instances, it provides no quantitative information on existing conditions in the project area. Of particular concern to EPA is the potential for adverse environmental and ecological habitat impacts in the study area, particularly long-term impacts and those due to lighting. Conclusions are stated with little or no supporting analysis.

The EA meets the definition of significantly under CEQ regulation Section 1508.27; specifically subsections (a) context, (b) 4 controversy, (b) 5 unique/unknown risks, (b) 6 precedence, and (b) 7 “piecemealing.” From our perspective as a resource agency, the current EA has been prematurely released. Unless USBP issues a Notice of Intent (NOI) to prepare an EIS on this project, we suggest a revised Draft EA with specific mitigation measures be circulated for stakeholder and agency review.

The EA has many of the same potentially significant environmental impacts as the Lower Rio Grande Valley Fence EIS. It is unclear why an EIS was prepared for 21 miles of segmented fence in the Lower Rio Grande Valley Sector, but not for 56 miles of unbroken fence in the El Paso Sector.

Purpose and Need. The EA describes Purpose and Need narrowly as “construction, operation, and maintenance of tactical infrastructure in the form of primary pedestrian fences, roads, and supporting technological and tactical assets.” This appears to have limited the range of alternatives considered in the Supplemental EA and some readers may conclude that USBP has not integrated NEPA in its decisional process, but has instead written the EA to justify an earlier decision.

Recommendation: One means of explaining Purpose and Need would be to summarize USBP discretion under the Secure Fence Act and other enabling authority, then explain how USBP applied that discretion to determine basic project needs. How, for instance, would the fence in the specific locations identified in the Draft EA deter crossings and provide Border Patrol with the tools it needs to carry out its mission?

Section 2 Proposed Action and Alternatives

40 CFR Section 1508.9(b) requires comparative analysis of the environmental impacts of the proposed action and alternatives. An EA need not consider alternatives to the same extent as an EIS, but it should look at various alternatives consistent with enabling legislation. The EA generally limits its analysis to the preferred design alternative and a floating foundation fence design. The “no action” alternative appears to have been included because “CEQ regulations require inclusion of the no action alternative.” Other

alternatives the EA identifies and dismissed without analysis as either not meeting project purpose or unidentified “screening criteria.”

Other alternatives should have been evaluated. Even if project purpose and need are as limited as the EA suggests, alternatives of constructing each tactical infrastructure section without the others should have been evaluated if they possess independent utility. Other tactical infrastructure NEPA documents state each fence segment has independent utility (page 2-2 of the Del Rio Sector EA). However, this EA does not provide any information regarding the independent utility of the fence segments described in Figures 2.1a-p. Even though Alternative 2.3.1 and 2.3.2 were eliminated, an alternative that combines aspects of these separate alternatives was not investigated. In addition, an alternative that uses strategic partnerships with cities, towns and other agencies with combination of fences, and technology should be investigated. The addition of permanent lighting also creates new alternatives that should be investigated.

Recommendation: Investigate further alternatives in detail, including:

Alt A: Combination of technology and increased number of USBP agents.

Alt B: Strategic partnerships for border enforcement. This alternative should include construction of fencing in areas where one or more landowners consent, plus technology, plus the development of memoranda of understanding (MOUs) or other multi-jurisdictional instruments to use local law enforcement resources. For example, a city may enter into an agreement with the Border Patrol (USBP) to provide a specified number of city law enforcement personnel dedicated to patrolling the border area within their jurisdiction. These types of agreements would alleviate the necessity for requiring a 150% increase in USBP agents and constructing fencing in areas that are sensitive environmentally (or for other reasons).

Alt C: A combination of the items listed in Alt A and B plus enforcing immigration laws designed at decreasing the job opportunities in the US. This may not prevent illegal drug operations, but may decrease the number of illegal border crossings for the purpose of obtaining employment in the US. Section 2.2.1 only considers enforcement, but does consider enforcement in combination with other measures.

Alt D: El Paso tactical infrastructure sections (K-2A) only

Alt E: Ysleta/Fabens tactical infrastructure section K-2B & C only.

Alt F: Fabens area tactical infrastructure section (K-3) only.

Alt G: Fabens/Fort Hancock tactical infrastructure section (K-4) only.

Alt H: Fort Hancock area tactical infrastructure section (K-5) only.

Section 3. Affected Environment and Environmental Consequences

There is no information describing Total Maximum Daily Loads (TMDLs) or how the fence would impact water quality. The Rio Grande is an impaired water body requiring a TMDL.

There is no information describing gates or other access points for landowners, etc. and the criteria for selecting the access points.

There is no information describing the heating effects of the fence, either the fence heating to extreme temperatures and killing small animal species, or causing a heat “umbrella” and differentially heating soil or vegetation.

There is no information describing the effects of the fence on soil and soil organisms if the fence is a solid sheet below ground.

Recommendation: USBP should provide more quantitative information throughout Section 3, including supporting information like technical studies, scientific literature, field studies, methods, and analysis.

There is no information describing the use of pesticides, herbicides, etc. in routine maintenance activities.

Recommendation: USBP should discuss what compounds are likely to be used and their duration of use (e.g., during construction only or for long-term maintenance). USBP should provide specific information on the risk to biota, especially if use is long-term and occurs at regular intervals.

There is no information or assessment describing the potential impacts of a fence to changes to animal movements, access to water resources, or maintenance of genetic diversity.

The action agency is responsible for the conduct of its contractors. Descriptions of how contractors would be held responsible for inappropriate actions should be incorporated into the EA, particularly in the mitigation section. USBP could state what types of conditions would be required in contracting instruments along with consequences.

Recommendation: Describe what contractors are responsible for and the consequences of mishandling wastes, poor work practices, or in other sections, for contact with resources (e.g., endangered species, cultural resources, wetlands, etc.) and mitigation measures that will be implemented.

The Biological surveys that were performed in 2003 and 2007 are not included as appendices to the EA.

Recommendation: Provide the 2003 and 2007 biological surveys as appendices to the EA.

Section 3.7. There is no information describing the potential impact of the fence on migratory species or impact to their home ranges, in particular, large mammalian species (e.g., deer or carnivores) or avian rookeries.

Section 4. Cumulative Impacts

There is no information describing DHS Phase II (approximately 300 miles of fence) relative to DHS Phase I (225 miles of fence). There is no information describing the cumulative impacts of these proposed fence projects. For example, would wildlife, bird migration patterns, or endangered species foraging ranges shift northward based on the proposed Rio Grande Valley Sector Fence, the Del Rio Sector Fence, and the Marfa Sector Fence?

There is no information describing the secondary or indirect impacts to the ecological community (e.g. food chain effects) due to the fence or lighting.

Section 5. Mitigation and Best Management Practices.

There is a lack of specificity in Section 5. In order for the mitigation to offset any significant impact, specific measures for specific resource areas need to be described. BMPs as well as other mitigation measures need to be approved before the EA and FNSI become Final. In order to determine whether USBP has done this, EPA and other stakeholders need an adequate opportunity to comment on mitigation measures. Stating that the development of specific mitigation measures would be required for certain activities does not provide stakeholders this ability.

Environmental Justice

It would be helpful to encourage and make provisions for community input to monitor progress and identify potential community concerns by forming something such as a Community Advisory Board.

Also, USBP should consider alternative locations for fence placement that will result in the least impacts and cause less disruption on homes, landowners, and the livelihood of residents.

There is no information describing the potential impacts to colonias along the proposed fence alignment or staging areas.

Specific Comments

The comments listed below are representative of the concerns EPA has in the information presented in the EA. The comments are not exhaustive and do not list every instance in which similar language or text occurs.

p. 1-6, lines 13-14 “...Step 5 relates to mitigation and is currently undergoing development.”

USBP should provide information on possible mitigation measures and to what extent they would be implemented. Best-case and worst-case scenarios should be part of this analysis.

Recommendation: USBP should provide best- and worst-case scenarios and explain what mitigation would occur in each instance.

p. 2-1, Section 2.1. Screening Criteria

Although this section describes general issues that would influence fence design and placement, it does not describe specific criteria or methods based on data. For example, the USBP operational requirement states that the selected alternative must hinder or delay individuals crossing the border. The criterion should explain what an acceptable level of delay is in order to meet the USBP mission. Determining whether this level of delay is achievable for each alternative should also be examined. Line 26 states that “other operational criteria are also considered.” but fails to describe these criteria.

Recommendation: USBP should provide best- and worst-case scenarios and describe what mitigation would occur in each instance listed for USBP Operational Requirements, threatened and endangered species, Wetlands/Floodplains, Cultural/Historical Resources and Suitable Landscape. Technical studies upon which assessments and mitigation are based should be included as appendices.

p. 2-3, lines 27-29 *“The use of physical barriers has been demonstrated to slow cross-border violators and provide USBP agents with additional time to make apprehensions.”*

There is no information describing the deterrence time or USBP response time in this document. A reference is provided to a 2000 USACE document. An interested stakeholder wanting to find more information would need to search for particular statements.

Recommendation: Estimate the amount of time each fence section is anticipated to slow a cross-border violator. Estimate the USBP response times to intercept cross border violators both with and without a fence (i.e., the no action alternative). If a reference is used, summarize the information from that document and provide a page reference so that interested individuals can find the information.

p. 2-4, lines 10-12 *“Increased numbers of patrol agents would aid in interdiction activities, but not to the extent anticipated by construction of primary pedestrian fence and other TI....”*

There is no information describing the levels USBP anticipates from the Proposed Action and comparing them to the No Action Alternative.

Recommendation: The EA should describe the anticipated extent USBP expects from the Proposed Action and compare it to the other alternatives, including those that were eliminated from further consideration.

p. 2-7, lines 3-5 “ *A primary pedestrian fence (Photograph 2-1) would be installed...* ”
and lines 26-27 “ *Fence designs that would be installed in this area are included in Appendix C.* ”

It is unclear whether there is one fence design (Photo 2-1) and Appendix C provides the engineering blueprints or whether there are multiple fence designs (with no photographs).

p. 2-7, lines 29-31 “*Gates would be installed in the fence at canal bridge locations and at set intervals ...for ingress/egress or USBP agents and USIBWC personnel.*”

There is no information that describes whether there are landowners or other stakeholders that would need access.

Recommendation: Display the potential locations of the gates on maps similar to those in Figures 2-1a-p. The potential impacts to those who do not have gate access on their property should be described in Section 3.

p. 2-7, line 34

Compared to similar NEPA documents (p.2-3 Del Rio Sector EA, p. 2-5 Deming Station SEA, p. 2-5 Marfa Sector EA, p. 2-7 Rio Grande Valley Sector EIS) , this EA does not state that a preliminary design performance measure of the fence must be designed to reduce or minimize impacts on small animal movement.

Recommendation: USBP should explain why fence design performance measures are not required to reduce or minimize impacts on small animal movement. Assuming that fence design could have an impact on small animal movements, USBP should assess the potential impacts of the fence design (Photo 2-1?) on biota, both large and small. There is a large body of scientific literature that addresses small animal movements, home ranges, and behavior. Technical studies should be initiated to determine the potential effect and significance of fence design on biota.

p. 2-28, lines 2 “*CEQ regulations require inclusion of the No Action Alternative.*”

There is no information describing current operational activities.

Recommendation: Provide information to support the No Action Alternative. Current educational initiatives, successful prosecutions or convictions, surveillance, and other enforcement activities should be included.

p. 2-28, line 8 Identification of the Environmentally Preferred Alternative

It is not clear whether this section is meant to describe USBP’s preferred alternative (Proposed Action) or the environmentally preferred alternative, which may be two

different alternatives. The environmentally preferred alternative would seem to be the No Action Alternative.

p. 3-2, lines 21-23 “...in the case of creating holes for either fence posts or light poles, the impacts will occur to only a very small surface area...”

There is no information on the extent of the staging areas for each light pole or fence post and the method of post or pole construction. These activities, at the fence location, could impact soils. In addition, the effects of lighting on the soil, particularly any increases in soil temperature at night, should be analyzed.

Recommendation: Describe the impacts of post and pole construction and the extent of the construction area around each pole/post location. Describe the potential impacts of lighting on soil.

p. 3-7, lines 8-10 “None of these wetland areas are located within the proposed project construction footprint; however, the Rio Bosque Wetland Park, the Alamo Arroyo and the Diablo Arroyo are located adjacent to the project corridor.”

Although not directly in the project construction footprint, there could be significant secondary or indirect impacts to these areas.

Recommendation: Secondary and indirect impacts of the proposed project should be assessed in either Section 3 or Section 4.

p. 3-11, lines 40-42 “Beneficial, indirect effects on the Rio Bosque would be expected as illegal traffic through the park is reduced or eliminated once the TI is completed.”

There is no information describing negative indirect effects on the Rio Bosque Wetland Park. These could include negative impacts on animal movement, vegetation dispersal, visitor attendance, etc. Additionally, it does not seem that USBP assessed the potential impacts outlined in a letter from John Sproul, Rio Bosque Wetland Park Manager (Appendix D).

Recommendation: Analyze the potential impacts and the suggested alternatives described in the letter from John Sproul.

p. 3-13, lines 6-7 “...canals are sometimes dry during droughts and non-irrigation seasons, and thus would not support a viable aquatic fauna population.”

There is no information describing the use of these canals by species that do not need a perennial water source. For example, amphibians and some insects need water for part of their life cycle.

p.3-12, line 8 Section 3.7.1. Affected Environment

Although birds and mammals are listed, there is no information describing reptiles, amphibians, or invertebrates.

Recommendation: Revise the Affected Environment section to include species other than birds and mammals. Include environmental consequences to these species in the appropriate sections (3.7.2)

p. 3-13, lines 16-29 “ *many animals would simply choose to move away from the lights...* ” “ *...sodium vapor lamps does not attract insects to the extent of mercury vapor lamps...* ” “ *...shielding would reduce the impact to less than significant levels.* ”

It is unclear where animals would move to avoid the lighting when the proposed project is a solid fence extending approximately 56 miles with lighting approximately every 125 feet in approximately 21 miles of fence. There is not enough information provided to determine that the effects of the lighting in combination with a 56 mile long fence are insignificant. Although there are 3 references listed regarding the effects of lighting on fauna. The Longcore and Rich book has several other chapters that could have been used in the preparation of this section. In addition, USBP could have searched the primary scientific literature (i.e., journals) for appropriate studies that have experimental data. EPA has enclosed the results of a short literature review on this subject for the benefit of USBP.

Recommendation: Conduct technical field studies to determine that potential impacts from lights on fauna are insignificant. If the effects are determined to be significant, prepare a Notice of Intent to prepare an EIS.

p. 3-14, line 2 “*The results of this study can be found in Appendix B.*”

Appendix B consists of raw data without explanation or comment. It is difficult to understand the text since it is written in short-hand, the figures do not include legends or explanations of the numbers in the contour lines, and the table columns do not have headings as to what they represent.

Recommendation: Prepare an introduction for Appendix B that explains the information. Properly label tables and figures so that a reader unfamiliar with lighting tests can understand the information.

p. 3-14, lines 22-29 “*Species that could be affected by construction would include passerine birds... and small mammals...Since the highest period of movement for most wildlife species occurs during night time...temporary noise impacts are expected to be insignificant.*”

There is no information describing reptiles, amphibians, or invertebrates. Some species, like passerine birds, are active all day. Ectotherms, like reptiles and amphibians, may also be active throughout the day. Even though this statement occurs in reference to

noise impacts, the EA does not adequately analyze the potential long-term impacts of the proposed action (including lighting) on animal movement.

Recommendation: Provide information regarding the potential impacts to reptiles, amphibians, and invertebrates. Provide supporting documentation that most species movement, particularly those species that use the area, occur at night or during low daylight hours.

p. 3-15, lines 10-16 *“The presences of a continuous canal...constitutes an existing impediment to the migration of ...wildlife north from Mexico...the heavily developed and populated areas south of the Rio Grande...would also discourage wildlife migration. Therefore, the addition of a fence south of the canal would not significantly increase impediments to...migration of...wildlife...”*

The information stated above could be used to suggest that there is a significant cumulative impact of the proposed fence in that the fence will remove most of the remaining corridors of species movement. In addition, canals and populated areas may represent “soft” barriers that some species may cross compared to the “hard” barrier of a fence where species must travel miles (potentially 56 miles) in order to get around it. The same reasons that the fence is needed by USBP (deterring illegal border crossing) is the same reason that some non-human species movement will be deterred.

Recommendation: Provide supporting documentation or technical field studies that show that animal movement will not be significantly impacts by the proposed fence or provide specific mitigation measures to promote animal species movement.

p. 3-17, line 3.8.2.2 Proposed Action Alternative.

Even though this section describes short-term impacts to species, long-term environmental consequences of the proposed action are not described.

Recommendation: Provide a draft Biological Assessment or similar information assessing the long-term potential impacts of the proposed fence.

p. 3-35, line 25-27 *“USBP will coordinate with the city and the county to ensure that future expansion of the existing trail and the proposed fence do not conflict with each other.”*

It is a significant impact if proposed recreational opportunities will be foreclosed due to the proposed project.

Recommendation: Specific mitigation measures to address the trail expansion and access to the Rio Grande floodplain should be included in Section 5.

p. 4-6, line 5-11 *“Cumulative impacts due to fragmentation of habitat would be considered minor...” “The loss, when combined with other ground disturbing or development projects in the project region, would not result in significant cumulative negative impacts on the region’s biological resources.”*

See previous comment (e.g. p. 3-15). The opposite could be argued, specifically regarding animal movement. A project can have significant cumulative impacts even if the potential direct impacts are minimal. This EA states that the proposed fence will have an insignificant impact on animal movement because there are other impediments to animal movement. Even if one accepted that the fence would have insignificant direct impacts on faunal movement, one could argue that the fence may remove remaining avenues of movement, convert a “soft” barrier” into a “hard” barrier” or completely cut off the north side from the south side, thus creating a significant cumulative impact.

References on artificial lighting on biota

Baker, B.J.; Richardson, J.M.L. The effect of artificial light on male breeding-season behaviour in green frogs, *Rana clamitans melanota*. *Canadian Journal of Zoology* 84(10), October 2006: 1528-1532.

Beier, Paul. Effects of artificial night lighting on terrestrial mammals. Rich, Catherine; Longcore, Travis [Eds]. *Ecological consequences of artificial night lighting*. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 19-42.

Boldogh Sandor ; Dobrosi Denes; Samu Peter. The effects of the illumination of buildings on house-dwelling bats and its conservation consequences *Acta Chiropterologica* 9 (2): p 527-534 2007

Buchanan, Bryant W. Observed and potential effects of artificial night lighting on anuran amphibians. Rich, Catherine; Longcore, Travis [Eds]. *Ecological consequences of artificial night lighting*. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 192-200.

de Molenaar, Johannes G.; Sanders, Maria E.; Jonkers, Dick A. Road lighting and grassland birds: local influence of road lighting on a black-tailed godwit population. Rich, Catherine; Longcore, Travis [Eds]. *Ecological consequences of artificial night lighting*. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 114-136.

Eisenbeis, Gerhard. Artificial night lighting and insects: attraction of insects to streetlamps in a rural setting in Germany. Rich, Catherine; Longcore, Travis [Eds]. *Ecological consequences of artificial night lighting*. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 281-304.

Frank, Kenneth D. Effects of artificial night lighting on moths. Rich, Catherine; Longcore, Travis [Eds]. *Ecological consequences of artificial night lighting*. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 305-344.

Gauthreaux, Sidney A., Jr.; Belser, Carroll G. Effects of artificial night lighting on migrating birds. Rich, Catherine; Longcore, Travis [Eds]. *Ecological consequences of artificial night lighting*. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 67-93.

Johnsen S; Kelber A; Warrant E J; Sweeney A M; Widder E A; Lee R L; Hernandez-Andres J. The color of night: Twilight and nocturnal illumination and its effects on color perception *Integrative and Comparative Biology* 45 (6): p 1021 2005

Lebbin Daniel J; Harvey Michael G; Lenz Timothy C; Andersen Michael J; Ellis Jesse M. Nocturnal migrants foraging at night by artificial light *Wilson Journal of Ornithology* 119 (3): p 506-508 2007

Miller Mark W. Apparent effects of light pollution on singing behavior of American robins *Condor* 108 (1): p 130-139 2006

Montevecchi, William A. Influences of artificial light on marine birds. Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 94-113.

Moore, Marianne V. (a); Kohler, Susan J.; Cheers, Melani S. Artificial light at night in freshwater habitats and its potential ecological effects. Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 365-384.

Navara Kristen J; Nelson Randy J. The dark side of light at night: physiological, epidemiological, and ecological consequences Journal of Pineal Research 43 (3): p 215-224 2007

Nightingale, Barbara; Longcore, Travis; Simenstad, Charles A. Artificial night lighting and fishes. Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 257-276.

Papi Floriano; Gagliardo Anna; Meschini Enrico. Moon orientation in sandhoppers: effects of lighting treatments on the persistence of orientation ability Marine Biology (Berlin) 150 (5): p 953-965 2007

Perry, Gad; Fisher, Robert N. Night lights and reptiles: observed and potential effects. Source: Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 169-191.

Rich, Catherine; Longcore, Travis [Eds] Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458.

Rydell, Jens. Bats and their insect prey at streetlights. Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 43-60.

Salmon, Michael. Protecting sea turtles from artificial night lighting at Florida's oceanic beaches. Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 141-168.

Wise, Sharon E.; Buchanan, Bryant W. Influence of artificial illumination on the nocturnal behavior and physiology of salamanders. Rich, Catherine; Longcore, Travis [Eds]. Ecological consequences of artificial night lighting. Island Press, Washington, Covelo & London. 2006: i-xx, 1-458. Chapter pagination: 221-251