



International Dark-Sky Association

Chapter Handbook

Mission:

To preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting.

Goals:

1. Improve the nighttime environment by reducing light pollution through better lighting practices that provide:

- Energy savings resulting in economic benefits
- Superb nighttime ambience and quality of life
- Conservation of nocturnal wildlife and ecosystems
- Safeguarding of scientific and educational opportunities, such as astronomy
- Preservation of cultural heritage and inspiration for the arts
- Increased visibility, safety, and security at night by reducing glare
- Protection of human health;

2. Raise awareness about curtailing light pollution, the beneficial effects of doing so, and its solutions;

3. Educate about the values of environmentally responsible outdoor lighting while collaborating with other like-minded organizations;

4. Promote responsible legislation, public policy, research, and standards in a professional and scientifically sound manner; and

5. Seek specific solutions that mitigate light pollution, including:

- Reduce total light in the nocturnal environment (total lumens in use) through;
 - Densities (i.e. lumens per square foot or square meter)
 - Warranting
 - Controls (e.g. on/off capabilities, time-of-night sensors)
 - Energy Codes
- Shielding and directionality
- Consideration of spectral distribution



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Introduction

Welcome to the International Dark-Sky Association (IDA). You have chosen to be part of a dynamic organization that is working “to preserve and protect the nighttime environment and our heritage of dark skies through environmentally responsible outdoor lighting.” IDA is the leading organization combating light pollution worldwide.

IDA began as a volunteer organization, so we know the value that our volunteers bring to the organization. This handbook is designed to get you started on your Chapter’s mission to reduce light pollution in your area. It is a constantly changing document and you are welcome to recommend changes, additions, or enhancements.

IDA has developed a wide variety of materials to help Chapter Leaders do their job. We are continually updating brochures, practical guides, posters and presentations tailored to help raise awareness of the effects of light pollution, and the solutions. There are complete curriculums for elementary and middle school age students. All of this material is available 24/7, online and free of charge at www.darksky.org.

The IDA message goes beyond protecting the skies for the astronomy industry to include more wide ranging issues. Better quality lighting benefits everyone in a variety of ways: it saves energy, improves human health, reduces the adverse impact on wildlife and their environment, and by reducing glare and harsh shadows it is safer for the public. By protecting the beauty of our night skies, everyone wins.

Thank you for your support. We could not do this without you.

W. Scott Kardel
Managing Director
IDA – Tucson, AZ

IDA is incorporated in Arizona and is an IRS tax-exempt, non-profit organization.



Developing a Chapter

The local volunteer Chapter is the backbone to effective progress. They work with planning and zoning Boards, county commissions, city councils, developers, business owners, local lighting engineers and architects to educate them about the value of quality lighting and dark skies.

IDA's Role: We at IDA know how complex some of these issues can be, so we are here to help the volunteer Chapters as a source of information, networking, and advice.

Goals: The goals of a Chapter should focus on community outreach, education, sharing information and strategies for working with local government. Chapter Leaders agree to adopt this attitude as they represent themselves as an IDA Chapter.

Who: The core of the Chapter is a group of committed individuals, (i.e. astronomers, a lighting company, students, a homeowner's association, a neighborhood association and/or an environmental group. Ideally Chapters would include volunteers from diverse backgrounds. The Chapter Leader will have their contact information posted on the IDA Web site for public viewing. A Chapter Leader must be a member of IDA in good standing, and maintain that good standing.

A Chapter Leader cannot do this alone. ***A Chapter should have 3/4 volunteers who ideally are IDA members as well.*** Being a member of IDA shows their commitment and support to the organization. There is a lot of time required to make progress, especially when one is starting a campaign for good lighting from scratch. There has been quite a lot accomplished in some locales already, so don't think you have to reinvent the wheel.

NOTE: Neither IDA, nor our Chapters, are the lighting police. We cannot write a ticket for bad lighting, and we do not take down an offending light, and we do not advocate vandalism in any way.

First Steps Summary:

- Any group interested in developing an IDA Chapter should contact IDA to obtain an application package (application, agreement form, handbook with bylaws).
- After filling out the application they can submit it electronically, (which is preferred) at IDA@darksky.org or via mail, the contact information is at www.darksky.org.
- The Board of Directors will review the applications as they are submitted, and they will determine if the proposed Chapter meets the necessary criteria.
- See if there is a Chapter already in your area. Go to www.darksky.org, click on the "About IDA" tab, click on the "Chapters" tab, and scroll down.
- The Chapters Coordinator will then inform the candidate of the voting results. A majority of the board voting yes is required.
- If approved, the Chapters Coordinator will provide a "Welcome Package" to the new Chapter and add them to the Web site and the mailing list.



Suggested Chapter Activities

After a Chapter has been approved you can begin the fun. IDA Chapters share the goals of protecting the nighttime environment through environmentally responsible outdoor lighting, and we also share responsibility for how we perform that work. We are a volunteer organization and you do not need to come up with your own plan of action or conduct radical measures. **IDA's motto is to make friends, not enemies.** Determine what matters to your audience, and share with them what responsible outdoor lighting can do for them. Education and community outreach are powerful motivators if they are done in a professional, consistent manner. Chapters operate as "chapters" for IDA and as such they are covered by the IDA 501(c)(3) status as a non-profit organization. You may solicit donations using our federal tax ID number. *Make your life easier and take minutes at your meetings and fill out summaries of events. This will help you fill in the necessary information for your end of the year report.*

Many Chapters have used the following activities to great success:

1. The Basics - Article IX of the IDA Bylaws (available on the web site at the "About IDA" tab) contains the formal criteria for an IDA Chapter.

- Hold regularly scheduled meetings
 - Focus on timely issues in the area
 - Make everyone feel a part of the team (call IDA for ideas)
 - Encourage attendance with some of the fun stuff below
- Follow the IRS rules for a 501(c)(3) organization, www.irs.gov/charities/index.html
- *Prepare and send an annual financial report to IDA by January 31st each year*
- Chapters must follow Articles II (Chapters 1, 2 and 3) and XII of the IDA bylaws
- Optional "Chapter Bylaws" must follow IDA Bylaws
- Standard names are essential, such as IDA North Carolina Chapter
- It is essential to have a uniform philosophy, with goals as stated in the IDA Bylaws
- Any use of the IDA name or logos requires that the Chapter be formally approved.
- Don't forget to ask for help, guidance, or recognition from IDA Headquarters

2. Develop local materials

- Please share with IDA Headquarters, to keep our information database updated, thank you
- Slides and images of good and bad lighting – very effective
- You may develop materials for your Chapter (i.e. brochure, fact sheets, newsletter), however, this is not a requirement.
- Develop a database (Excel is fine) of interested and sympathetic persons. IDA will start you out with the IDA members in your region.
 - Individuals
 - Policy Makers
 - Businesses, organizations, suppliers and vendors
- Local mailings



-Develop PowerPoint presentations. We do have free presentations available in our “members only” tab on the Web site.

3. Work with media outlets in your area. Examples are:

- IDA slide sets + local ones
- A speaker’s bureau
- Get on the local talk circuit (radio & local cable shows)
- Newspaper articles, letters to the editor
- Malls, libraries, museums, community centers, and other displays
- IDA will help supply ideas; various resources are available from IDA
- Issue press releases to local media

4. IDA membership growth is essential and not as difficult as you may think, remember to ask.

- Increase awareness and educational efforts
- Increase cash flow, for program growth
- Increase effectiveness, worldwide visibility
- Increase helpers to do the work

5. Develop partnerships:

- The whole is more than the sum of the parts
- Plan/host regional meetings with other IDA Chapters or IDA Headquarters.
- Attend meetings of educational value such as the IESNA, CIE, USGBC and AIA
- Work with other non-profit organizations in your area
- Work with planning and zoning officials

6. Fun activities:

- Conduct tours on outdoor lighting
- Host Star gazing parties
- Host Local Lighting or Service Awards
- Encourage attendance at events/meetings with door prizes or tours.

7. Development of fundraising techniques, again, not really that difficult:

- Research grants on the web or at your library
- Don’t forget to ask for in-kind donations for an event or meeting.
- You may ask for membership fees for your Chapter in addition to the IDA membership fee.

Remember you do not have to do this alone, or all at once. Think of this as an ongoing process. We will do this together!



Procedures for Use of IDA Membership Rosters

IDA does not give out member names or contact information. IDA Chapters are provided access to membership rosters for their areas, provided the lists are used in support of IDA's mission. Chapters must adhere to IDA's guidelines, including bylaws and instructions on membership privacy. Since we value our member's privacy, we repeat these concepts when we send such lists.

Policy: IDA and its Chapters will not share member contact information with the media, potential members or random inquirers. (We do share general statistics, such as number of members in an area.) Media inquiries or requests from people who want to reach others in their community are valid and important requests. To assist in those cases, IDA will:

- 1) forward inquiries to Chapter Leaders since they may know more of the personal preferences and strengths of the local members,
- 2) log preferences of more involved members as to whether IDA may give their contact information when such requests come through, or
- 3) contact a member or two in an area to ask if they agree to contact by the person requesting who wants to reach them for the listed reason.

Chapters may contact members with short announcements either by email or postal mail. Clearly email is preferred because there is no expense involved. If recipients respond that they do not want such contact, then we request the Chapter to let us know as well. Use a blind copy when sending e-mail so members' addresses are not broadcast to everyone and members are not accidentally deluged with replies from other members. IDA receives new members daily, and you are welcome to get updated lists anytime for your region.

If a Chapter has received special permission from members, then that supersedes the instructions above. Please let the IDA Tucson office know; we'll add a note to that member's profile that he/she agrees that their contact information may be given out to reporters.

Addendum for Chapters facing legislation or elections:

Contacting IDA members and asking them to vote certain ways is not an appropriate use of the list. However, organizational limitations should not discourage individual members from communicating with their representatives. They can do this as often as they like, they just can't speak for IDA for the Chapter.

Light pollution is a broad social problem that needs immediate attention. IDA may offer useful information to help educate everyone, including elected officials. In general, respect people's privacy and let them respond to you for further interaction. Offer them quality information, but do not ask IDA members to vote for anyone in particular or to give donations or cash to a specific political party or candidate.



Lobbying Guidelines for USA Chapters

Note: These descriptions of lobbying and donations do not apply to IDA Chapters outside the USA. Like other non-profit organizations, IDA enjoys certain tax benefits. In return, however, it is subject to some limitations on expenditures for lobbying. As a result of IDA's filing a special IRS form in 2009, these limitations are much less restrictive than they have been in the past.

Three types of activities may be considered lobbying: seeking to influence executive, administrative, or judicial bodies; seeking to influence legislative bodies; and seeking to influence the election of a candidate for public office. In all cases, the same rules apply for federal, state, and local governments.

The IRS form filed in 2009 permits IDA and affiliated organizations to engage in legislative lobbying as long as total expenditures do not exceed certain limits based on IDA's annual income. These limits are high enough that, as a practical matter, **money spent by IDA Chapters on legislative lobbying is not likely to be a problem.** However, please touch base with headquarters first since Chapter spending counts toward the IDA total. (If your Chapter has its own 501(c)(3) registration but has not filed Form 5768, you will still be subject to the "substantial part" test--again, please consult with headquarters first.)

Executive/administrative/judicial

There are no limitations on this type of lobbying by IDA or its Chapters.

Legislative

The major change resulting from the Form 5768 IRS filing is for legislative lobbying. *Legislation* includes action by a legislative body with respect to acts, bills, resolutions, or similar items (such as legislative confirmation of appointive office) or by the public in referendums, ballot initiatives, constitutional amendments, or similar procedures. Legislative lobbying covers both *direct lobbying* (attempting to influence a member or employee of a legislative body or any other government employee who may participate in formulating legislation) and *grass roots lobbying* (attempting to influence legislation by affecting opinions of the general public or a segment thereof).

The IRS form filed in 2009 permits IDA and affiliated organizations to engage in legislative lobbying as long as total expenditures do not exceed certain limits based on IDA's annual income. These limits are high enough that, as a practical matter, **money spent by IDA Chapters on legislative lobbying is not likely to be a problem.** If you plan on spending any money, \$5 or \$500, please let us know. Since you are all working under the IDA 501 c 3 designation, your spending is cumulative for the organization.

An organization may communicate with its members about legislation of direct interest to the organization; such communications will not count toward the expenditure limit unless they directly encourage attempts to influence legislation.

Please note also that individuals spending their own money and using their own name (without IDA association) are not subject to any limitations on legislative lobbying.



Candidates for public office

No IDA (or Chapter) endorsements or money may be spent on efforts, to elect or defeat a candidate for public office. We can, however, mention that a candidate "did or did not" support certain legislation. Again, individuals can attempt to elect/defeat a candidate or donate to a candidate's campaign.

Sources:

IRS Publication 557 (Rev. June 2008), <http://www.irs.gov/pub/irs-pdf/p557.pdf>
Measuring Lobbying Activity, <http://www.irs.gov/charities/article/0,,id=163394,00.html>

Chapter Financial Reporting

IDA Chapters have several options for fundraising and financial activities. These procedures **do not** apply to Affiliates or Chapters located outside the USA, unless IDA is providing some sort of funding. IDA Chapters can elect to obtain their own IRS Tax ID number and 501(c)(3) nonprofit status. In this case, they would pay their own IRS application fee (approximately \$150 to \$500). The Chapter would still be required to uphold IDA's bylaws and adhere to IRS rules. Annual financial reports would be sent to IDA, but the Chapter would need to prepare and send their own IRS tax report.

USA Chapters must comply with state and local tax laws. In some locations, states and cities do not grant sales or other tax exemptions to 501(c)(3) non-profit organizations. The IDA Tucson office is unable to stay current on all local tax laws, so this would become the responsibility of the Chapter. If the IDA Chapter elects to use the IDA Tucson office tax ID, then they will need to keep all receipts for expenses, receive and issue receipts for donations of \$250 or more made to the Chapter, and send an annual report to IDA. In this case, IDA would include the Chapter's financial activities in the main IRS report.

All IDA Chapters are required to send annual financial reports to IDA even if the report shows no activity. These are required by January 31, each year. IRS guidelines and IDA bylaws require this action. Failure to send these reports could result in an audit by the IRS, or removal of Chapter status. *If your Chapter has held any meetings over the year, use the minutes from your meetings as a guide for the end of the year report.*



Procedures for Processing Donations for USA Chapters

The rules for tracking tax deductible donations are described in IRS Pub 526, Charitable Donations. General procedures:

- Chapters must keep receipts for expenses, and records must be kept for 'non-cash' donations, commonly referred to as "in-kind" donations. The next page includes a sample letter for a cash donation. A copy must be sent promptly to IDA.
- Chapters must establish non-profit organization bank account(s).
- Chapters issue a written receipt and letter for all donations valued at \$250 or more.
- If donor receives an in-kind gift, a receipt must be issued for anything over \$75. The receipt must show fair market value of the gift and the amount of donation that is deductible.
- Donations for a specific Chapter will go to that Chapter, not to IDA.
- A Chapter treasurer must be appointed and send an annual treasurers' report sent to IDA.
- A change of treasurer must be reported to IDA.



Format of USA IDA Chapter Annual Financial Report

Opening Balance as January 1.

Income: (List all income and donations individually)

	Date	Name of Donor	Amount
Total income for year.			

Expenses for Year (list all expenses)

	Date	Paid to Whom	Amount
Total expenses for year.			

Closing Balance as on December 31.

Notes:

1. Send copies of bank statements.
2. Send IDA copies of all receipts.
3. A breakdown of expenses by category must be sent to IDA, e.g., postage, printing, supplies, etc.
4. Major grants (over \$1,000) require additional reporting. Contact IDA for details.
5. Meetings from minutes can be included as well. They are a great source of information from the year's activities.

International Chapters' Financial Reporting

- Non-USA Chapters must comply with their own national procedures and tax laws.
- Send abbreviated financial reports to IDA.

Requesting Grants and Fundraising Campaigns

Chapters are encouraged to solicit funds and donations. Fundraising is an essential part of IDA's mission. Chapters, and IDA, need funds to accomplish our goals. This subject will be covered in more detail in future drafts of this handbook.



Sample Letter Asking for Donations

International Dark-Sky Association -*Include Chapter Address*

Thank you for your generous donation to the International Dark-Sky Association (IDA). Your donation enables IDA to continue its mission of preserving and protecting the nighttime environment and our heritage of dark skies through quality outdoor lighting, lighting which improves vision, safety, and security and conserves energy.

Through a consistent program of education, IDA has grown to over 11,000 members from 70 countries and every state in the USA. IDA enjoys support from professional and public communities. By working together, we can accomplish much more than we can individually to educate others as to the value of dark skies and good nighttime lighting. IDA leverages your contributions in many ways and provides information and resources that are used by people around the world. For example we have established a "Dark-Sky certification" of fixtures, and we are establishing scholarship programs.

We welcome your input and questions at any time. To access additional information, please visit our website at www.darksky.org.

Thank you again for your donation.

Sincerely, Chapter Leader

DONATION

Name: _____

Address: _____

City _____ State _____ Zip _____

AMOUNT OF DONATION (USA dollars)

<input type="checkbox"/> \$15.00	<input type="checkbox"/> \$75.00	<input type="checkbox"/> \$200.00	<input type="checkbox"/> \$500.00	<input type="checkbox"/> \$1,750.00
<input type="checkbox"/> \$30.00	<input type="checkbox"/> \$100.00	<input type="checkbox"/> \$250.00	<input type="checkbox"/> \$650.00	<input type="checkbox"/> \$2,000.00
<input type="checkbox"/> \$50.00	<input type="checkbox"/> \$150.00	<input type="checkbox"/> \$350.00	<input type="checkbox"/> \$1,000.00	<input type="checkbox"/> \$3,000.00
				<input type="checkbox"/> Other _____

Paid by Check #_____ Visa M/C Cash

No goods or services were provided by International Dark-Sky Association in exchange for this contribution. IDA is a non-profit organization Chapter 501(c)(3) of the IRS. The Federal ID Number is 74-2493011.

Signature: _____

Date: _____



Sample Thank You Letter

(Date)

Dear X;

Thank you for your generous gifts of \$300 (your check) and \$50 cash to the North Central Texas International Dark-Sky Association Chapter (NCT IDA). Your donations will be used to pay for some of the costs of hosting an IDA speaker sponsored jointly by the Texas Astronomical Society of Dallas and NCT-IDA. The remainder of the funds will be used for educational purposes to further member and public awareness of the problem of light pollution and how to combat it.

Best Regards,

Julie Schaar
President and Coordinator of NCT IDA

SAMPLE YEAR END REPORT

Communications and Membership:

During the year several informational group emails were sent to NCT IDA members. When NCT IDA was formed in October 2001, there were 125 members in the area. By July 2002, this number had increased to 140, a 12% increase. When the IDA Board approved expansion of NCT IDA to be the Texas Darksky Association (Texas IDA), the membership list for Texas numbered over 500 members.

EarthFest 2002, April :

Paid \$75 to participate in this outdoor event sponsored by the DFW Green Alliance, for a display table. Volunteers handed out 'Help us Save the Stars' a four-Chapter, eight-panel flyer including a new page six, 'Signs of Light Pollution, Effects and Solutions', which replaced a list of IDA information sheets. A copy was sent to Liz Alvarez during the summer. Several Haas Shields were given away to volunteers and to the public by drawings.

Astronomy Day, April:

IDA and Texas Astronomical Society of Dallas members manned a table with IDA display and 10-minute continuous video of 'Saving the Night Sky'.

Sustainable Dallas Conference, May:

International Dark-Sky Association, Inc.
3223 N First Ave
Tucson, Arizona 85719-2103
USA

www.darksky.org
ida@darksky.org
520-293-3198

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Sponsored by the Dallas County Community College District, IDA members had a display table with continuous video of 'Saving the Night Sky' and a 4-member panel which presented an adapted version of 'Light Right for Sight at Night'.

James Benya presentation, August:

"Light Pollution and How to Combat It", program sponsored by the Texas Astronomical Society of Dallas at their monthly meeting, was well-received by non-IDA and IDA members, including a group from the IES-NT chapter. Invitations and other information were sent to all 140 NCT IDA members by email and US mail. The NCT IDA coordinator and Mr. Benya met for an hour with the NCT Council of Governments' Director of Environmental Health, John Promise, about how they work with other agencies. Mr. Promise cited the regional development and distribution of a CD about saving water through water-wise gardening, which was widely distributed. The same type of thing might be done to educate people about light pollution or perhaps about how to implement Model Lighting Ordinance.

Local Ordinances:

Outdoor lighting ordinances that I know of in Texas, are the municipalities of Flower Mound, Plano, Glen Rose, Harker Heights and one pending for El Paso. I plan to encourage members to be educating their communities to prepare them for use of the MLO as soon as it is available for use.

For Liz Alvarez' report for the June 2003 CIE meeting:

The Texas Dark-Sky Association was just formed as of October 2002, after existing for a year as the North Texas IDA. We are in the process of setting up a web site to communicate statewide with Texas members of IDA and with other interested individuals to spread the word about light pollution and how to combat it in Texas.

We are keeping in close touch with the Effective Outdoor Lighting Council (EOLC), IDA's Associate member for legislative focus in the new congressional session starting in January 2003. The status of our current state laws is as follows:

HB 915, September 1999, mandates 'cut-off' luminaires for all new state-funded roadway lighting. The continuing controversy over the assumed need for uniformity seems to be affecting TX DOT's use of full cut-off lighting. Perhaps the new flat lens cobra-style street and walkway lights in downtown Dallas were influenced by this law.

More quality outdoor lighting is appearing in area parking lots, but problem areas include light trespass and glare from sports lighting, private property security lighting, roadway glare from the use of unshielded acorn-style luminaires, and the perception that more lighting is better for security. DFW airport is going ahead with plans to increase illuminance on their outdoor parking lots 5 foot-candles, to match the covered parking areas, because of employee and customer demand.



SB 164, June 2001, authorizes counties to regulate outdoor lighting if they contain observatories that have telescopes of 69 inches or more objective diameter, and are permanently mounted. Otherwise, Texas counties are not allowed to do so; only municipalities. Groups are working with county authorities to implement this law for the George Observatory near Houston, Stephen F. Austin University at Nacogdoches, and within a 57-mile radius of McDonald Observatory in southwest Texas. Security lighting in other unincorporated rural areas of the state continues to be a problem, partly because electric coops provide and install yard lights without charge in order to make up for their otherwise unused peak flow production. Shields, light switches or motion detectors are usually not provided.

The 2003 focus of Texas IDA will be to increase awareness of the problem of light pollution and how to combat it in Texas. We will also take advantage of opportunities as they arise to educate our communities and to connect people who are interested in acting locally in this effort. Other venues for the future might be local chapters of IES-NA, city councils or P & Z committees, or Neighborhood Associations.

Respectfully submitted,
Julie Schaar, Coordinator/President and Charles Donald, Treasurer
Texas Dark-Sky Association (Texas IDA)



DEACTIVATING A CHAPTER

IDA and our Chapters must work together to reduce light pollution, however, from time to time a Chapter may choose to drop out of the program, or may be asked to resign by the IDA Tucson office. Circumstances that may result in deactivating a Chapter:

Personal reasons of the Chapter Leader: These could include moving, more attention to family or work, illness, or time constraints. IDA will do everything it can to assist you and we would encourage recruiting an existing member to take on the leadership of the Chapter (they must be an IDA member in good standing).

Change in Motivation: From time to time a volunteer may have a change of motivation including disagreement with IDA's mission, goals or affiliations. If a Chapter Leader feels this way we would encourage them to find another member to take over the leadership role.

No Contact: If IDA has not received a response from a Chapter in 6 months, we will contact them directly to determine the situation. If no further responses are received within a month, then IDA will send a letter, via postal mail, notifying the Chapter Leader that their Chapter will be resigned in 30 days. After 30 days the Chapter contact information will be removed from the IDA Web site.

Non-Compliance with IDA's Goals/Mission: IDA's philosophy is to make friends, not enemies. We work **with** lighting manufacturers, municipalities, builders and retailers to provide and require environmentally responsible lighting. If a Chapter speaks against this philosophy verbally, in writing, or electronically then they will forfeit their status as an IDA Chapter.

Lobbying: Chapters can and are encouraged to educate the public about outdoor lighting issues in their communities; however, they cannot influence legislation, or encourage support of a specific candidate. An organization will be regarded as attempting to influence legislation/election if it contacts, or urges the public to contact, members or employees of a legislative body for the purpose of proposing, supporting, or opposing legislation/candidate, or if the organization advocates the adoption or rejection of legislation/candidate.

Violation of Member's Privacy: All Chapter Leaders will receive the names and contact information of IDA members in their area/state. This information will be used for IDA purposes only. Any attempt to use this list for lobbying, monetary gain, or forwarding it to another organization will result in the Chapter's status being forfeited.

No Year End Report Filed: Because our Chapters operate under the 501(c)(3) status of IDA, we are required by law to report the activity of our Chapters to our auditors on a yearly basis. Failure to send in a report will result in forfeit of the Chapter's status. Even if the Chapter has no activity to report, then we still need to see a year-end report for accounting purposes.



Light Pollution: The Issues, The Solutions

Abstract: *The beauty of the night sky is a wonderful thing to all. Light pollution exists almost everywhere, and it is still growing. Fortunately, there are solutions. There is a great deal of apathy and inertia to be overcome, however, progress is being made. All communities must become much more involved if we are to preserve the quality of our nighttime skies, both for research and for the public. Everything done to decrease the adverse urban sky glow helps to improve the quality of night the nighttime environment. With good lighting, we improve visibility, safety, and security, as well as minimizing energy waste, and we have a much more comfortable nighttime environment. There are resources to help, within the non-profit community and the lighting industry, and these are growing. The International Dark-Sky Association is a great source of information that is available on our web site at www.darksky.org.*

I. Introduction

For most people on earth, the dark skies of our ancestors have disappeared. The problem is urban sky glow, due mostly to bad lighting. It has adversely affected most of our observing sites, our health, our environment and it is a waste of energy.

There are solutions to the problem, but a key point is that we must join together in our efforts encouraging the use of only good nighttime lighting for all applications. With good lighting, we all win. We help preserve the dark skies, we see better at night (and are safer and more secure), we have a more pleasant environment, and we save a great deal of energy and money doing so. No one needs the adverse environmental effects of poor lighting. We should not tolerate it. We must do all we can individually and organizationally, to preserve the beauty of the night sky, for all creatures.

II. Current Situation

There are many good reasons for artificial lighting at night: to help us see better, for security, safety, utility, and for an attractive nighttime environment around us. There is no way outdoor lighting is going to disappear. There are many good reasons for such lighting, but not all lighting is good lighting. Far too much of our present nighttime lighting does not meet its objectives. The following are common components of bad lighting:

1. *Urban sky glow* is defined as the unwanted light emitted in the night sky from poorly aimed lamps, and the result is brightening the skies over our heads. This problem becomes worse in polluted urban areas because of the increased refraction of particulates in the atmosphere.
2. *Glare* is light which spills from fixtures in all directions, causing discomfort, or the inability to see properly. Glare effects safety issues of lighting because it creates shadows which



conceal instead of lighting the area it's supposed to illuminate. Glare actually reduces visibility. We should strive for and accept only a glare free environment.

3. Light trespass. Many present lighting installations are bothersome rather than helpful. The wasted light shines into our yards and our windows, affecting our sleep and causing a general nuisance. As with noise pollution, we don't need any of these intrusions. Light trespass does not meet the goals of good quality lighting.
4. Esthetics. Outdoor lighting plans that produce uniform, low wattage light from fully shielded fixtures is the goal of IDA. This produces an attractive nighttime environment and does not compound the problem.
5. Energy waste. We waste an astronomical amount of energy and money by using bad lighting, shining it where it is not needed or wanted, and by using energy inefficient light sources and lighting designs. In the United States alone, over one billion dollars is wasted every year just to light up the night sky.
6. Health. There is not a definitive cause and effect, but there is a strong correlation between exposure to light at night and an increase in breast cancer. Being exposed too much artificial light at night decreases melatonin levels in humans. Melatonin is an antioxidant, and helps to suppress tumors.
7. Environment. Poor quality lighting also exposes animals to dangers they normally would not encounter. Birds are confused by buildings lit up at night and fly into them. Hatching turtles are attracted to the brightest light source, which used to be the stars over the ocean, leading them out to sea. Man-made light attracts them to the wrong direction. Insects, most sea turtles, and songbirds are all endangered, and poor outdoor lighting continues to diminish their numbers.

III. There Are Solutions

The key is outdoor lighting that is environmentally responsible.

1. Make sure all outdoor lighting is fully shielded. This means no light is emitted above the 90 degree angle. This puts the light on ground where it is needed.
2. Use time controls (*i.e.* dimmers, timers) to insure that light is on only when needed, and off when it is not needed.
3. Design and install lighting to insure that glare is minimized. Most all glare comes from poor fixtures or poor installations.
4. Use the right amount of light for the task. "More light" is not good design. The eye is a marvelous instrument and can see very well at what seems to be quite low lighting levels. In addition, going from over-lit areas to darker areas means that we don't see too well (transient adaptation), and the opposite holds as well.
5. Use energy efficient light sources. Light sources vary greatly in their efficiency. Consider the use of low pressure sodium (LPS) lamps; they are the most efficient of all. Compact fluorescent lights, solar lights and solid state lighting is very efficient, but it needs to be fully shielded to reduce glare and skyglow



IV. Progress in Implementing Solutions

Cities are benefiting by better lighting for their citizens, by a great deal of energy savings, and by darker skies (but not darker streets). We all really do win. Awareness of the issues and of the solutions is increasing rapidly, in the public area and especially in the lighting community.

The International Lighting Commission (CIE) and many national organizations now have technical committees addressing the issues, and reports and recommendations are pending. Good lighting makes sense because it is a cost saver, it is better for people and the environment.

One effective method for communities is to appoint an Outdoor Lighting Working Group to consider the issues and to recommend specific solutions tailored to local needs (including lighting control ordinances to set community standards; hundreds of these have now been enacted). Such "committees" have been very effective in all locales where they have been implemented. They have the added advantage of educating many people about the issues.

Education is the main thrust of most current activities. It should be stated that even with education a great deal of apathy still exists. Some consider it too big an issue to become involved with, others feel that it is not important enough. Awareness with action is needed, and that can be a tough combination to instill in the general population.

VII. Help Is Available

The International Dark-Sky Association, a non-profit organization, is a powerful ally to help anyone with their educational efforts. It is a membership-based organization with over 11,000 members now from 70 countries. IDA has produced over 190 information sheets discussing the issues, and they are an important resource for those who want to become informed and who want to help spread the word to others. IDA's Web site <http://www.darksky.org> contains excellent information about the issues and links to many other interesting sites. While there is a growing awareness of the problems, and of the solutions, much more educational outreach is needed. IDA needs many more individual and organizational members, nationally and internationally.

VIII. Conclusion

Light pollution is a very real problem and it is getting worse most everywhere. However, there are solutions, and they work. They improve the quality and effectiveness of our nighttime lighting, and they help us save a great deal of energy and money. **We know that for sure.** Lack of awareness and apathy are the main obstacles. Action is called for now by all of us. The bottom line is that "We All Win."



Please do help build awareness and overcome apathy, everywhere. The stars and the universe need the support of us all. Join with us to help preserve mankind's view of the beauty of the night sky!

Glossary of Outdoor Lighting Ordinance Terms

Purpose of an ordinance: Outdoor lighting ordinances encourage better quality lighting, lighting which reduces glare, light trespass, and energy waste. It protects the nighttime environment and preserves our heritage of beautiful night skies. Form a code committee to get started.

Terms Used in the Ordinance: The ordinance should be easy to understand with standard terminology.

Downward Directed Light: Fully Shielded or Full Cut Off lighting, no light above the 90 degree angle, is best for most lighting situations.

Privacy Issues: Light trespass or "spill light" should be addressed.

Glare Reduction and Control: These problems adversely impact traffic and personal safety.

Environment Issues: Locations near wildlife areas must consider the adverse impacts of night lighting, such as with sea turtles, migrating birds, insects, and mammals.

Lighting Zones (LZs): Many codes are now including the concept of L-zones to distinguish between different types of lighting areas. For example, near national or state parks, or wildlife refuges, or astronomical observatories there should be much lower levels of lighting than in city centers.

Public Safety: Where applicable, ordinances must comply with national lighting safety standards. This issue is a hot button with members of a community. It needs to be stressed that dark sky elements in a lighting ordinance does not mean dark ground.

Energy Waste: Quality lighting can reduce the demand for electricity. When a lamp is fully shielded and directs the light downward, a lesser wattage lamp can be used to achieve the same light level. This saves money and energy.

Curfews and Time Controls: If a business closes, they don't need all their parking lot lights on all night. Motion sensors can take over after hours in case someone does need to use the lot later. Sports lighting should always be turned off when the events are over.

Lighting Levels: New service stations, convenience stores, and some shopping malls are installing outdoor lighting that is much brighter than levels recommended by national and international



lighting organizations. Such lighting can compromise safety by causing blinding glare making driving unsafe, and over lighting wastes energy and money.

Exemptions: Do some kinds of lighting need to be exempt? Examples are low level holiday lighting, quality monument lighting, and such. Time controls should still be used, and manufacturers are improving their inventories to include more dark sky friendly luminaires for these applications.

Astronomical Issues: Observatories are negatively impacted by poor outdoor lighting. Large telescopes can refrain from searching in the spectrum used by Low Pressure Sodium lights since this is such a narrow spectrum of light without interfering with observing practices.

"Sunset" or "Grandfathering": Should the ordinance exempt all present lighting? Or should such lighting have a time limit set when it must be replaced?

Enforcement Issues: Outdoor lighting is somewhat different than other zoning issues. Plan approval is similar, but how to address inspections at night?

Public Education and Awareness: This is an essential element in the process, pre-ordinance and afterwards. It is good to involve as many elements of the community as possible, at all stages. Form an outdoor lighting code committee.

Note: IDA has developed an Outdoor Lighting Ordinance Handbook. It covers in much detail all the above issues and more. It is available from IDA, and it is on the IDA Web site: www.darksky.org. In addition, IDA is developing a Model Lighting Ordinance (MLO) to be available soon. It will cover all these issues in detail with a goal of providing a uniform model code for all communities – a National Lighting Code, in fact.

GLOSSARY OF TYPICAL LIGHTING TERMS

Ampere: The standard unit of measurement for electric current that is equal to one coulomb per second. It defines the quantity of electrons moving past a given point in a circuit during a specific period. Amp is an abbreviation.

ANSI: Abbreviation for American National Standards Institute.

Ballast: A device used to operate fluorescent and HID lamps. The ballast provides the necessary starting voltage, while limiting and regulation the lamp current during operation.

Candela: Unit of luminous intensity, describing the intensity of a light source in a specific direction.



Candlepower: A measure of luminous intensity of a light source in a specific direction measured in candelas.

Compact Fluorescent: A small Fluorescent lamp that is often used as an alternative to incandescent lighting. The lamp life is about 10 times longer than incandescent lamps and is 3-4 times more efficacious. Also called PL, Twin-Tube, CFL, or DIAX lamps.

Contrast: The relationship between the luminance of an object and its background.

Cut-off Angle: The angle from a fixture's vertical axis at which a reflector, louver, or other shielding device cuts off direct visibility of a lamp. It is the complementary angle of the shielding angle.

Direct Glare: Glare produced by a direct view of light sources. Often the result of insufficiently shielded light sources

Efficacy: A metric used to compare light output to energy consumption. Efficacy is measured in lumens per watt. Efficacy is similar to efficiency, but is expressed in dissimilar units. For example, if a 100-watt source produces 9000 lumens, then the efficacy is 90 lumens per watt.

Footcandle (FC): The English unit of measurement of the illuminance (or light level) on a surface. One footcandle is equal to one lumen per square foot.

Glare: The effect of brightness of differences in brightness within the visual field sufficiently high to cause annoyance, discomfort or loss of visual performance.

HID: Abbreviation for high intensity discharge lamp. Generic term describing mercury vapor, metal halide, high pressure sodium and (informally) low pressure sodium light sources and luminaires.

High-Bay: Pertains to the type of lighting in an industrial application where the ceiling is 20 feet or higher.

High Pressure Sodium Lamp: A high intensity discharge (HID) lamp whose light is produced by radiation from sodium vapor (and mercury).

IESNA: Abbreviation for Illuminating Engineering Society of North America.

Illuminance: A photometric term that quantifies light incident on a surface or plane. Illuminance is commonly called light level. It is expressed as lumens per square foot (footcandles), or lumens per square meter (lux).



LED: Abbreviation for light emitting diode. An illumination technology used for exit signs. Consumes low wattage and has a rated life of greater than 80 years.

Lumen: A unit of light flow, or luminous flux. The lumen rating of a lamp is a measure of the total light output of the lamp.

Luminaire: A complete lighting unit consisting of a lamp or lamps, along with the parts designed to distribute the light, hold the lamps, and connect the lamps to a power source. Also called a fixture.

LUX: The metric unit of measure for illuminance of a surface. One lux is equal to one lumen per square meter. One lux equals 0.093 footcandles.

Photocell: A light sensing device used to control luminaires and dimmers in response to detected light levels.

Reflector: The part of a light fixture that shrouds the lamps and redirects some light emitted from the lamp.

Refractor: A device used to redirect the light output from a source, primarily by bending the waves of light.

Retrofit: Refers to upgrading a fixture, room, or building by installing new parts or equipment.

Shielding Angle: The angle measured from the ceiling plane to the line of sight where the bare lamp in a luminaire becomes visible. Higher shielding angles reduce direct glare. It is the complementary angle of the cutoff angle.

Volt: The standard unit of measurement for electrical potential. It defines the “force” or “pressure” of electricity.

Voltage: The difference in electrical potential between two points of an electrical circuit.

Watt: The unit for measuring electrical power. It defines the rate of energy consumption by an electrical device when it is in operation. The energy cost of operating an electrical device is calculated as its wattage times the hours of use. In single phase circuits, it is related to volts and amps by the formula: volts x amps x PF = watts.



As Amended, 8 September 2006

**BYLAWS
of the
INTERNATIONAL DARK-SKY ASSOCIATION**

ARTICLE I: NAME AND LOCATION

Chapter 1: The name of the organization shall be "The International Dark-Sky Association," hereinafter referred to as "IDA" or as "the Association", a non-profit corporation, incorporated in the State of Arizona.

Chapter 2: The offices of the Association shall be located in the State of Arizona, City of Tucson, and/or in such other localities within the State as may be determined by the Board of Directors.

ARTICLE II: OBJECTIVES

Chapter 1: Service to the membership and the public via scientific research, education, and public information concerning the issue of light pollution.

Chapter 2: Any monies or funds from memberships, programs, or services shall be used totally for research and education, and to further the goals of the Association. No funds shall be used for personal gain except for reimbursement of expenses for program activities.

Chapter 3: The Association has been organized exclusively for educational and scientific purposes within the meaning of Chapter 501 (c) 3 of the Internal Revenue Code of 1987 as it now exists or may be amended in the future, and for any or all lawful business for which non-profit corporations may be incorporated under the laws of the State of Arizona, as they may be amended from time to time, and, in particular, for the purposes described herein and in the Articles of Incorporation.

ARTICLE III: MEMBERSHIP

Chapter 1: Active members: Any individual interested in the issue of light pollution and related topics may become an active member by officially joining the Association, paying dues at any of the several category levels that may from time to time be set by the Board of Directors. Such active members receive benefits of no commercial value that may be determined from time to time by the Board of Directors. Such items are sent to many non-members as well.

Chapter 2: Organizations or corporations may become active members by paying dues at levels established from time to time by the Board of Directors.

Chapter 3: Applications for membership can be made to the Association at any time. Memberships shall be on an annual basis. Renewals will be on a schedule as determined by the Board of Directors.

Chapter 4: Active membership Suspension or Removal: Once a person or organization has joined the Association, such person's or organization's name shall remain as an active member on the Association records as long as such a person or organization continues to pay the required dues. Should such a member not pay the required dues within 360 days of the due date, such active member shall be automatically suspended and their name removed from the active member list. The Association may at its discretion appoint a number of free members where such membership is deemed in the best interests of the Association. Such free members shall have all rights of membership except that of any voting rights as called for in these Bylaws. Such free memberships shall be reviewed on an annual basis for continuation.

The Board of Directors may remove an active member from membership in the Association upon a two-thirds vote of the Board of Directors present at any meeting of the Board, for failure to adhere to the purposes of the Association. Before such an action can be taken, such person must be mailed, faxed, or e- mailed a notice of the Board's intended action and such a person shall be entitled to address the Board, if desired, to state why they feel they should not be so removed from membership. Such "address" may be in person or by mail, fax, or e-mail. If a member is removed from membership in the Association, the current years dues paid by such a member shall be refunded to them.

ARTICLE IV: ANNUAL MEETING

Chapter 1: Annual Business Meeting: The Annual Business Meeting of the Association shall be held during the first half of each year, at such place and time as may be determined by the Board of Directors.

Chapter 2: Special Membership Meetings: Other meetings of the membership may be held at such places and times as may be determined by the Board of Directors.

Chapter 3: Notice of Membership Meetings: The Secretary shall notify the members when a meeting is to be held. Such notice of the time, place, and purpose shall be served by mail, fax, e- mail, or in person not less than 10 days in advance of the meeting. Notice shall be directed to a member at the address as it appears on the books of the Association.

Chapter 4: Regional Meetings: Regional meetings of the Association may be held at the discretion and approval of the Board of Directors. This provision may be waived by the Board of Directors at their discretion.

Chapter 5: Voting: Each member who has been an active member of the Association for at least the 60 days preceding such meeting shall have one vote. All voting must be by written ballot (mail, fax, or e- mail), and votes from at least 10 percent of the active membership must be received in order to constitute a valid action. A majority of the votes cast shall determine the outcome of the action. Votes shall be tallied by the Board of Directors or their especially appointed delegate.

Chapter 6: No annual or special meeting shall be held unless 15 or more active members of the Association are present in person.

Chapter 7: Cancellation of meetings: The Board of Directors may cancel any annual or special meeting for cause. In event of cancellation of the Annual Business Meeting, the Secretary shall mail, fax, or e-mail to the membership the written report of the Nominating Committee and of the Board of Directors or post such on the Association's website.

ARTICLE V: DUES AND FEES

Chapter 1: Establishment of Dues and Fees: Various categories of membership and dues and fees (if any) for these categories of membership shall be established by the Board of Directors. Such dues are solely to defray the costs and expenses of operating the Association and to promote the purposes of the Association and to maintain or improve any of the property owned by the Association as provided in the Articles of Incorporation.

Chapter 2: Disbursements. The Board of Directors shall have complete use of the proceeds of the dues or other funds or assets owned by the Association in the exercise of its powers and duties.

ARTICLE VI: AFFILIATIONS

Chapter 1: Affiliation with Other Organizations: The Board of Directors may establish affiliation with local, national, and international scientific and professional organizations, may elect representatives thereto as are necessary, and may authorize the payment of fees for such affiliation. When, in the opinion of the Board of Directors, it is no longer in the interest of the Association to continue such affiliation, the Board of Directors shall determine whether to terminate such affiliation.

ARTICLE VII: BOARD OF DIRECTORS

Chapter 1: There shall be a Board of Directors, consisting of no less than four members, not more than 17 members. Up to half of such members may be selected and appointed by the Board. Board members shall hold office for three years, and may be reappointed or reelected. Terms for Board Members shall be staggered so that approximately one third of the Board are elected or appointed each year. Unless otherwise elected to the Board, the immediate past president is an ex-officio member of the Board who shall be invited to all Board meetings. He/she shall have full right of participation at board meetings but shall have no vote.

Chapter 2: Management of Affairs. The business and property of the Association shall be managed and controlled by the Board of Directors. The Directors must be active members of the Association. The Board may at any time appoint an Executive Committee to act on behalf of the Board between regular Board meetings. Such Executive Committee members must be members of the Board, with the Board President acting as Chair of the Executive Committee.

Chapter 3: Any board member may resign at any time by giving written notice of such resignation to the Board of Directors.

Chapter 4: Voting: Voting rights of a Board member shall not be delegated to another nor exercised by proxy. A Board Member may vote in person or by mail, fax, or e-mail.

Chapter 5: Vacancies: In event of a vacancy on the board, the President may fill the vacancy by appointment for the balance of the term, subject to approval of the Board of Directors.

Chapter 6: Removal of Director: If a Board member misses three consecutive board meetings, his/her position as a board member may be terminated at the discretion of the Board of Directors.

Chapter 7: Committees: Committees may be created to facilitate the aims of the Association. The functions of the committees shall be to carry out the objectives as expressed by the Board of Directors in the particular field the name of the committee indicates. Committees shall be appointed by the President, subject to the approval of the Board of Directors.

There shall be a Nominating Committee to consist of five active members of the Association appointed by the President and approved by the board to serve for the term of the President. The committee shall submit to the Board of Directors a slate of potential Board members to be voted on by the membership or appointed by the Board of Directors, each proposed board member nominee to have been interviewed by the committee and to have agreed in advance in writing to be willing to serve if elected. The number of nominees proposed shall be established by the Nominating Committee, who shall also insure that there shall be adequate topical and geographical make up of the Board. Names and documentation for all candidates for election to the Board must be submitted by the Nominating Committee to allow adequate time for the election. Each must include a detailed vita and other supporting documentation. Each shall have signed a formal board member agreement, as established from time to time by the board. Active members may petition the Nominating Committee to consider a candidate for election to the Board.

Chapter 8: Contracts and Services: The directors and officers of the Association may freely make contracts, enter transactions, or otherwise act for and of behalf of the Association, notwithstanding that they may also be acting as individuals, or as trustees or as agents for other persons or corporations; provided however that any contract, transaction, or act of behalf of the Association in a matter in which the directors or officers are personally interested shall be at arm's length and not violative of the proscriptions in the Article of Incorporation against the Associations use or application of its funds for private benefit; and provided further that no contract, transaction, or act shall be taken on behalf of the Association if such contract, transaction, or act is a prohibited transaction or would result in the denial of the tax exemptions under the Internal Revenue Code and its Regulations as they now exist or as they may hereafter be amended. In no event, however, shall any person or other entity dealing with the directors or officers be obligated to inquire into the authority of the directors and officers to enter into and consummate any contract, transaction or other action.

Chapter 9: Compensation: Directors shall not receive any salary or fee for their services, but a reasonable sum for expense of attendance, if any, may be allowed for attendance at each regular or special meeting.

Chapter 10: Powers. All the corporate power, except such as is otherwise provided for in these Bylaws and in the laws of the State of Arizona, shall be and is hereby vested in and shall be exercised by the Board of Directors. The Board of Directors may by general resolution delegate to committees of their own number, or to officers of the Association, such powers as they see fit.

Chapter 11: Annual Report: The Board of Directors shall present at the Annual Meeting of members

a report, verified by the President and the Treasurer, or by a majority of the Directors, showing in appropriate detail the following:

a. The assets and liabilities of the Association as of the end of the fiscal year immediately preceding the annual meeting.

b. The principal changes in assets and liabilities during the year immediately preceding the date of the report.

c. The revenue or receipts of the Association, both unrestricted and restricted to particular purposes, for the year immediately preceding the date of the report.

d. The expenses or disbursements of the Association, for both general and restricted purposes, during the year immediately preceding the date of the report.

e. The number of members and active members of the Association as of the date of the report, together with a statement of the increase or decrease in such number during the year immediately preceding the date of the report.

The Annual Report of the directors shall be filed with the records of the Association and an abstract thereof entered in the minutes of the proceedings of the annual meeting.

ARTICLE VIII: OFFICERS

Chapter 1: The officers of the Association shall be the President, Vice-President, Secretary, and Treasurer, and other officers with such powers and duties not inconsistent with these Bylaws that may be appointed and determined by the Board of Directors. Any person may hold two or more offices except that the President shall not also be Treasurer. The Board of Directors shall have the power to appoint an Assistant Secretary who shall perform the duties of the secretary when the Secretary is absent or to assist the Secretary when deemed necessary.

Chapter 2: Election, Term of Office, Qualifications. The President shall be elected annually by the Board of Directors from among their number, and the other officers shall be elected annually by the Board of Directors from among such persons as the Board of Directors may see fit.

Chapter 3: Quorum of the Board of Directors. At any meeting of the Board of Directors, no less than 50% of the members of the Board of Directors shall constitute a quorum. A majority vote of those attending shall be required on all issues, except as otherwise stipulated in these Bylaws. Attendance may be in person or by a phone link capable of being heard by all attending in person or by phone link.

Chapter 4: Meetings of the Board of Directors. A regular meeting of the Board of Directors shall be held no less than once during each year, at such time and place as the Board of Directors may prescribe. Notice of such meetings shall be given to the Board of Directors at least 30 days in advance of the date of the meeting. Special meetings of the Board of Directors may be called by the President. Notice of such a special meeting shall be given to the Board of Directors not less than 72 hours in advance of such meeting, together with the specific purpose for which the meeting is called.

Chapter 5: Vacancies. In the event of a vacancy in an office, the President may fill the vacancy by appointment for the balance of the term subject to the approval of the Board of Directors.

Chapter 6: President. The President shall preside at all meetings of the Association and of the Board of Directors, and shall be an ex-officio member of all committees. He/she shall have and exercise general charge and supervision of the affairs of the Association and shall perform such other duties as may be assigned by the Board of Directors.

Chapter 7: Vice-President. The Vice-President shall preside at meetings in the absence or disability of the President. He/she shall have such other powers as the Board of Directors may determine, and shall perform such other duties as may be assigned by the Board of Directors.

Chapter 8: Secretary. The Secretary shall notify members when and where a meeting is to be held and record the minutes of all such meetings. The Secretary shall have charge of such books, documents, and papers as the Board of Directors shall determine and shall have custody of the corporate seal, if any. He/she shall attend and keep the minutes of all meetings of the Board of Directors and the members of the Association. He/she shall keep a record containing the names of all persons who are members of the Association, with their mailing address, and such record shall be open for inspection as prescribed by law. He/she may sign with the President in the name and on behalf of the Association any contracts or agreements authorized by the Board of Directors, and when so authorized or ordered by the Board of Directors may affix the seal of the Association, if any. He/she shall in general perform all duties incident to the office of Secretary, subject to the control of the Board of Directors and shall perform such other duties as may be assigned to him/her by the Board of Directors.

Chapter 9: Treasurer. The Treasurer shall keep all financial records of the Association in a clear and businesslike manner, collect dues, make such expenditures as the Association or Board of Directors may direct and authorize, and keep a concise and clear record of the Association's funds, which record shall be open to inspection by active members of the Association. The Treasurer shall have the custody of all funds, property, and securities of the Association, subject to such regulations as may be imposed by the Board of Directors. When necessary or proper, he/she may endorse on behalf of the Association for collection checks, notes, and other obligations, and shall deposit the same to the credit of the Association at such bank or banks or depository as the Board of Directors may designate. He/she shall sign all receipts and vouchers, and together with such other officer or officers, if any, as shall be designated by the Board of Directors, he/she shall sign all check of the Association and all bills of exchange and promissory notes issued by the Association. He/she shall make such payments as may be necessary or proper to be made on behalf of the Association. He/she shall enter regularly on the books of the Association kept by him/her for the purpose, full and accurate account of all moneys and obligations received and paid or incurred by him/her for or on account of the Association, and he/she shall exhibit such books at all reasonable times to any director or active member on application at the offices of the Association. He shall in general perform all the duties incident to the office of Treasurer, subject to the control of the Board of Directors.

Chapter 10: Agents. The Board of Directors may appoint such agents and representatives of the Association with such powers and to perform such acts or duties on behalf of the Association as the Board of Directors may see fit, so far as may be consistent with these Bylaws, to the extent

authorized or permitted by law.

Chapter 11: Contracts. The Board of Directors, except as in the Bylaws otherwise provided, may authorize any officer or agent to enter into any contract or execute and deliver any instrument in the name of an on behalf of the Association, and such authority may be general or confined to a specific instance, and unless so authorized by the Board of Directors no officer, agent, or employee shall have any power or authority to bind the Association by any contract or engagement or to pledge its credit or render it financially liable for any purpose or to any amount.

ARTICLE IX: LOCAL CHAPTERS

Chapter 1: Use of the International Dark-Sky Association name, the abbreviation IDA, any International Dark-Sky Association logo, or any representation of affiliation with the International Dark-Sky Association is expressly prohibited except upon the terms and conditions set forth in this Article. Individual active members of the International Dark-Sky Association may state that they are individual members of the International Dark-Sky Association, however.

Chapter 2: Local Chapters of the International Dark-Sky Association may be formed by one or more active members of the International Dark-Sky Association. Upon approval of a local Chapter by a majority vote of the Board of Directors of the International Dark-Sky Association, such local Chapter may use the International Dark-Sky Association or IDA name and logos, and they may represent its formal affiliation with the International Dark-Sky Association. Local Chapters may assess local members dues, hold local IDA Chapter meetings, have local officers and committees, and establish a local IDA Chapter office.

Chapter 3: Local Chapters leaders must be active members of the International Dark-Sky Association, and, as noted in Chapter 2, local Chapters may assess local dues in addition to the ordinary dues of the International Dark-Sky Association.

Chapter 4: Local Chapters and their members must abide by the International Dark-Sky Association Bylaws, with special notice to this Article (concerning Local Chapters); Article II, Chapters 1, 2, and 3 (concerning Objectives); and Article XII (concerning Exempt Activities) of these IDA Bylaws.

Chapter 5: Each local Chapter must file a Chapter Annual Report with the Secretary of the International Dark-Sky Association in a format and at such a time as the Board of Directors may from time to time prescribe. Local Chapters must file yearly Financial Reports with IDA by January 31 of the year following the year's activities.

Chapter 6: Failure of a local Chapter to comply with the provisions of this Article; Article II, Chapters 1, 2, 3; or Article XII shall be cause for revocation of the rights granted by Chapter 2 of this Article upon a majority vote of the Board of Directors of the International Dark-Sky Association.

ARTICLE X: DISSOLUTION

Chapter 1: The Association shall use its funds only to accomplish the objectives and purposes specified in these Bylaws. On dissolution of the Association, any funds remaining shall be distributed to one or more regularly organized and qualified nonprofit, educational or scientific organization, such organizations to be selected by the Board of Directors.

ARTICLE XI: AMENDMENTS

Chapter 1: The Board of Directors shall have the power to make, alter, or amend the Bylaws of the Association by affirmative vote of a majority of the Board.

ARTICLE XII: EXEMPT ACTIVITIES

Chapter 1: Notwithstanding any other provision of these Bylaws, no member, director, officer, employee, or representative of this Association shall take any action to carry on any activity by or on behalf of the Association not permitted to be taken or carried on by an tax exempt, non-profit organization.

CERTIFICATE OF SECRETARY: I, the undersigned, do hereby certify:

1. That I am the present duly elected and acting Secretary of the International Dark-Sky Association, a non-profit corporation in the State of Arizona, and
2. That the foregoing Bylaws, comprised of 9 pages, constitute the original Bylaws of said Association as duly adopted at the first meeting of the Board of Directors thereof duly held in March 1988.

The original Bylaws, established at the First Meeting of the Board of Directors, early in 1988, were amended by unanimous vote at the First Annual Meeting of the Association, held in Tucson on 4 February 1989. Changes were to correct typos, and to amend the schedule of when membership dues were to be renewed.

A second amendment was made in July 1990, by vote of the Board of Directors, to incorporate an article about IDA Chapters. This new article became Article X and so former Articles X, XI, and XII were renumbered in the revised Bylaws.

A third amendment was made on 23 April 1999, to expand the Board and for a few minor changes.

A fourth amendment was made on 27 April 2000, changing the terms for Board Members, and a few minor changes.

A fifth amendment was made on 7 March 2001, changing the number of Board Members from 15 to 17, and adding a sentence to the end of Article X, Chapter 5.

A sixth amendment was made on 14 December 2005, with changes to election of board members and adding a description of procedures for submitting formal proposals. There were also a number of minor editorial changes.

A seventh amendment was made on 8 September 2006, with a number of changes relative to board elections and to add clarity to other Chapters of the bylaws.