



INTERNATIONAL DARK-SKY ASSOCIATION  
MISSOURI CHAPTER

# 2020 Annual Report and 2021 Strategic Plan

Website: [DarkSkyMissouri.org](https://DarkSkyMissouri.org)  
Social @DarkSkyMissouri

Respectively submitted

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## BOARD MEMBERS

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## 2020 IN REVIEW

### A. Executive Summary

Our chapter started 2020 with ambitious plans to tackle light pollution in Missouri and a growing base of volunteers to move our plans forward. COVID-19 disrupted our plans, but IDA Missouri was able to adjust and adapt to achieve a productive year given the circumstances.

Outreach programs were our first challenge. Effective with April 2020, in-person events were cancelled due to COVID-19. Through collaboration with amateur astronomy clubs in St. Louis and Kansas City, bird-focused organizations throughout Missouri and Kansas, the Gateway Arch in St. Louis and other organizations, outreach shifted to virtual events using ZOOM and Facebook. Thirty-four events were hosted during 2020 with an estimated reach of more than 6,500 people, a comparable reach to 2019. The significant reach was due in large part to the sizeable audiences of our collaboration partners.

Our Sky Quality Meter (“SQM”) program, which measures sky brightness in locations around Missouri, faced challenges too. Plans to use students at Truman State University to analyze data were disrupted. However, measurement sites continued to transmit measurement data. Additionally, the number of SQM measurement sites expanded to seventeen. Seven locations were added to include the Gateway Arch in St. Louis (our first national park), three Missouri State Parks (our first state park locations), Stacy Park in Olivette, MO., (a municipal park) and two astronomical observatory locations in Kansas City supported by amateur astronomers.

Plans for our first designation in Missouri under the International Dark Sky Places program moved forward through support of enthusiastic volunteers. An application for “Urban Night Sky Places” designation for Stacy Park in Olivette, Missouri, was officially submitted in January 2021. Additional sites are also being evaluated.

A major focus of 2020 was to raise awareness of light pollution’s impact on migrating birds. In spring 2020, IDA Missouri participated in a “Lights Out St. Louis” program involving several organizations including the St. Louis Audubon Society. The success of the program encouraged IDA Missouri to spearhead an expansion of the program to multiple states under a new collaboration called “Lights Out Heartland”. More than a half dozen organizations in Missouri and Kansas joined the collaboration with more organizations expected to participate. A dedicated website ([LightsOutHeartland.org](https://LightsOutHeartland.org)) and social media accounts support the collaboration. The group meets at least six times each year with joint events planned for Spring/Fall 2021.

IDA Missouri is often asked where the Milky Way can be viewed in Missouri. With the help of professionals donating their time, IDA Missouri published an attractive brochure on how to view the Milky Way in Missouri. We plan to work with organizations to get the brochure widely distributed. The new brochure can be downloaded at [DarkSkyMissouri.org/MilkyWay](https://DarkSkyMissouri.org/MilkyWay).



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The City of Kansas City, Missouri, is seeking public comment as it updates in “City Climate Protection Plan” in 2021. In response, the Sierra Club Thomas Hart Benton Chapter plans to submit comments and requested IDA Missouri’s assistance on best practice lighting standards and ordinances, which we provided.

In 2020, IDA Missouri established a YouTube channel for the public to view recordings of previously delivered virtual programs. Topics include the impact of artificial light on plants and insects, viewing the night sky, measuring sky brightness and how to photograph the Milky Way. The YouTube channel can be accessed from our YouTube social media icon located at [DarkSkyMissouri.org](https://DarkSkyMissouri.org)

Of course, we had setbacks in 2020 due to COVID-19 too:

- Our first IDA Missouri annual conference scheduled for fall was canceled. Missouri State University in Springfield planned to host the event. Student participation was a key part of the conference plan. It was not feasible to shift the event to a virtual format. The event is tentatively rescheduled for October 2021 at Missouri State University.
- Plans to launch a Dark Sky Citizen program through public libraries was put on hold. Several public libraries in Missouri and Illinois and the Girl Scouts of Eastern Missouri purchased the citizen science materials before COVID-19. Given the uncertainty related to COVID-19, launch dates are still uncertain.
- Plans to promote a “Dark Sky Friendly Home Certification” program were sidetracked. A program was created by IDA, our parent company, to allow homeowners to self-certify their home to be “Dark Sky Friendly”. IDA Missouri planned to promote the program during public outreach during the year, but this was difficult in a virtual environment.
- Membership increased by only nine members during the year. We ended the year at 48 members.

While IDA Missouri faced many challenges in 2020, we are pleased to report progress on many fronts. Many thanks to our board, chapter members, IDA staff and the support of the public for making 2020 a relatively productive year.

### B. Programs

IDA Missouri oversees a variety of programs designed to measure light pollution, raise public awareness, and promote positive change. Notable programs in 2020 are highlighted below. In many cases, exhibits are referenced to provide more detail.



*Figure 1 – The loss of in-person programs was a challenge in 2020. More than 6,000 people were reached by shifting to virtual programs through partners such as the Gateway Arch National Park in St. Louis.*

**Outreach Programs** – Outreach shifted to virtual events effective April 2020. Thirty-four outreach programs were delivered in 2020 with an estimated reach of 6,500 people. By comparison, we reached 6,600 people in 2019, but with only nine events. 2019 featured several all-day, well-attended, in-person events which we were not available in 2020 due to COVID-19.

Refer to [Exhibit B - Outreach Programs](#) for more information on event details.

**Sky Quality Measurement Program** – Since our chapter’s launch in 2018, IDA Missouri has partnered with Truman State University in Kirksville, Missouri, to place Sky Quality Meters (“SQMs”) in parks, recreational areas, educational institutions, and municipalities. The meters are pointed to a fixed point in the sky and log data on a continuous basis allowing for scientific analysis of the current levels of sky brightness. Funding for purchase of the SQM’s is provided by the NASA-Missouri Space Grant Consortium.



*Figure 2 - Installation of a Sky Quality Meter at the Gateway Arch in 2020 was our first installation at a national park.*

In 2020, we expanded our program to seventeen measurement sites. Seven locations were added to include the Gateway Arch in St. Louis (our first national park), three Missouri State Parks (our first state park locations), Stacy Park in Olivette, MO., (a municipal park) and two astronomical observatory locations in Kansas City supported by amateur astronomers.

Vayu Gokhale from Truman State University in Kirksville manages the overall sky quality measurement program. Students from Truman State University contribute to the program in



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many ways, including writing procedures for SQM operation, and developing graphs to plot data collected. Figure 3 shows one example of a graph that was developed by a student to plot sky brightness in Perryville, Missouri.

Beyond the scientific importance of the measurement data, the SQM program is an important tool to engage the community. Each measurement site must request the loan of the SQM from IDA Missouri and establish a plan to collect and report the data each month.

In many cases, approvals must be obtained through official channels such as park or city officials.

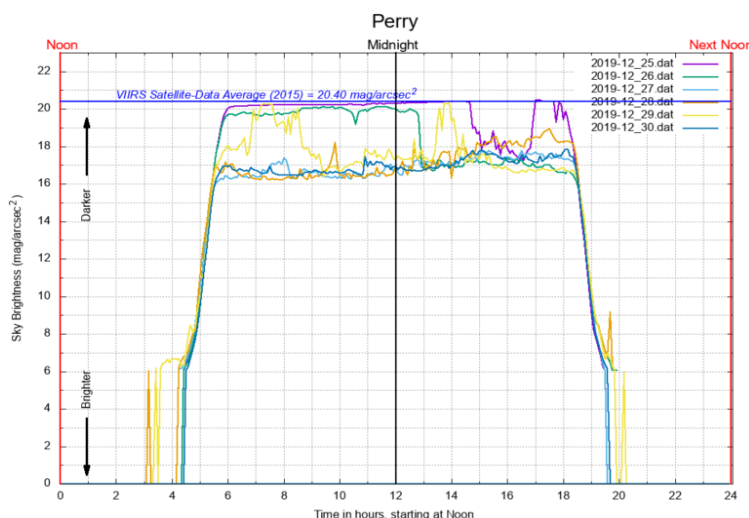


Figure 3 – A plot of sky brightness measurements for Perryville, MO over a 24-hour period. Students are developing graphs to evaluate sky brightness changes over time and in relation to weather and celestial events.

Community engagement at measurement sites is beginning to yield positive results:

- The City of Ozark, Missouri has drafted plans to modify their city ordinances to be “dark-sky friendly”.
- St. Charles County Parks, St. Charles, Missouri is planning public outreach programs in 2021 to talk about light pollution in their parks.
- The City of Olivette, Missouri is finalizing an application for one of its parks, Stacy Park, to be certified under IDA’s “Urban Night Sky Places” program. Additionally, the city is evaluating its remaining parks for possible certification under the program.

In addition to the seventeen sky quality meters purchased through the Truman State University program, owners of private sites with sky quality meters periodically share data for scientific analysis. In one example, data collected from a private observatory in Buford Mountain was evaluated by the University of Missouri in St. Louis. Professor Carl Bassi, University of Missouri in St. Louis, and Professor Vayujeet Gokhale, Truman State University in Kirksville, advised this study. The study focused on the use of signal analysis to automatically determine cloudy versus clear conditions in the SQM data, and to evaluate the use of all-sky images. The conclusions were:

- Autocorrelation analysis of SQM data at the Buford Mountain site can sensitively detect the presence of cloud cover in as little as 5 minutes. More data is needed to determine the strength of the correlations, as there were limited clear nights over the period of this study.
- All-sky imaging with a fisheye lens and digital camera is a valuable way to visualize sky glow resulting from artificial lighting. Color contour maps improve visualization. Taking



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advantage of the color channels in the image can further improve discrimination of artificial versus natural lighting by removing the green channel.

Refer to [Exhibit B – Sky Quality Meters by Zone](#) for a map and listing of meter placements and to [DarkSkyMissouri.org/sqm](https://DarkSkyMissouri.org/sqm) for more about our SQM program.



*Figure 4 – A Sky Quality Meter is attached to a sign at Stacy Park in Olivette, MO (upper right of sign). Measuring sky brightness is one of the requirements of becoming an IDA “Urban Night Sky Place”.*

**Dark Sky Places Program** – Stacy Park in Olivette, MO, is applying for “Urban Night Sky Places” designation under IDA’s “Dark Sky Places” program. The program is designed to actively promote an authentic nighttime experience in urban environments.

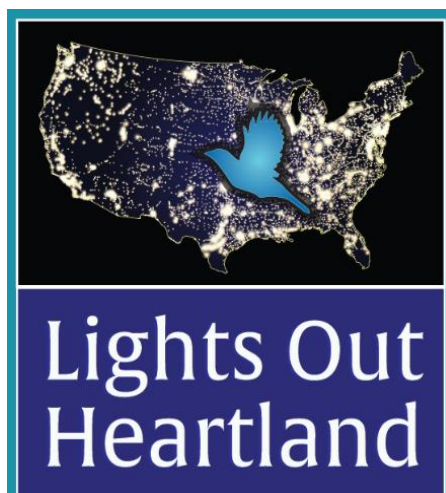
Stacy Park is a 35-acre municipal park in the northern suburbs of St. Louis. The formal application must include an inventory of lighting in the park, sky quality measurements, letters of support from IDA and the community, and a lighting plan. Stacy Park has very few outdoor lights which simplifies the application.

City leaders and the community are supporting the application and taking necessary actions to achieve compliance. The application was officially submitted in January 2021.

IDA Missouri is investigating other locations for designation under the IDA Dark Sky Places program.

**Lights Out Heartland** – IDA Missouri partnered with bird-friendly organizations in Missouri and connecting states to launch a new collaboration called “Lights Out Heartland”. The goal of the collaboration is to raise awareness of the negative impact of light pollution on birds during spring and fall migration and to stimulate action to reduce light pollution. Charter members of the collaboration are outlined in Table 1 on the following page.

The timing of the Lights Out Heartland launch corresponded with the announcement of a partnership agreement between the National Audubon Society and our parent organization, IDA. The timing was helpful as we were able to engage with personnel at the national level of the National Audubon Society. For example, IDA



*Figure 5 - Light pollution contributes to bird fatalities during spring and fall bird migrations. IDA Missouri spearheaded the launch of a multi-state collaboration to reduce lights during bird migration periods.*



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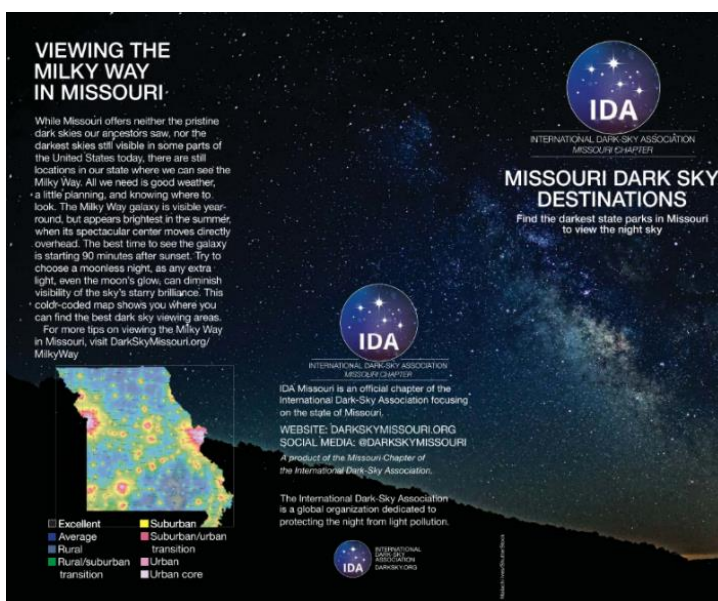
Missouri was invited to participate in a program directed to all National Audubon Society Chapters which was well attended and helped to raise the visibility of our chapter.

**Table 2 - Lights Out Heartland Partners**

International Dark-Sky Association – Missouri Chapter ( <a href="https://darksourcemissouri.org">darksourcemissouri.org</a> )
Audubon Center at Riverlands ( <a href="https://riverlands.audubon.org">riverlands.audubon.org</a> )
Burroughs Audubon Society of Kansas City ( <a href="https://burroughs.org">burroughs.org</a> )
Columbia Audubon Society ( <a href="https://columbia-audubon.org">columbia-audubon.org</a> )
Johnson County Community College ( <a href="https://jccc.edu">jccc.edu</a> )
Missouri River Bird Observatory ( <a href="https://mrbo.org">mrbo.org</a> )
St. Louis Art Chamber of Commerce ( <a href="https://stlouisartchamberofcommerce.org">stlouisartchamberofcommerce.org</a> )
St. Louis Audubon Society ( <a href="https://stlouisaudubon.org">stlouisaudubon.org</a> )

A website supporting Lights Out Heartland has been launched at [LightsOutHeartland.org](https://LightsOutHeartland.org).

**Missouri Dark Sky Destinations** – IDA Missouri is often asked where to view the Milky Way in Missouri. With the help of a professional graphic designer, writing expert and amateur astronomers who volunteered their time, IDA Missouri published an attractive brochure that is available at no cost. We plan to work with organizations to get the brochure widely distributed. Sky brightness data was used to select Missouri State Parks featured in the brochure. The brochure can be downloaded at [DarkSkyMissouri.org/MilkyWay](https://DarkSkyMissouri.org/MilkyWay)



**Citizen Science Program** – IDA Missouri partnered with [SciStarter.org](https://SciStarter.org) to develop a citizen science program to collect data on how light pollution impacts viewing the night sky and life on earth. Several public libraries and the Girl Scouts of Eastern Missouri purchased the citizen science kit materials for the program. However, enrollment by other organizations and launch were disrupted due to COVID-19. A rescheduled launch date has not yet been established. Program details can be found at [SciStarter.org/DarkSky](https://SciStarter.org/DarkSky).

*Figure 5- This brochure created by a professional graphic designer, writing expert, and amateur astronomers guides the public on how to view the Milky Way in Missouri. The tri-fold brochure includes a color-coded map of Missouri areas to visually find areas with less light pollution.*

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**Dark Sky Friendly Home Certification** – IDA Missouri planned to promote a “Dark Sky Friendly Home Certification” program announced by IDA, our parent organization, but our chapter delayed promotion of the program as we faced other challenges related to COVID-19. The home certification program is based on five lighting principles developed through a collaboration of IDA and the [Illuminating Engineering Society](#). In four easy steps, homeowners can self-certify their home as “Dark Sky Friendly”.



**Student Program** – IDA Missouri seeks to engage students and younger audiences to become advocates of reducing light pollution.

*Figure 6 - IDA's Dark Sky Friendly Home Certification program encourages homeowners to make dark sky friendly choices for lighting around their home which can reduce energy costs and help preserve the night sky.*

An IDA Missouri Board Member and professor at Truman State University in Kirksville, Missouri, is engaging students to learn about light pollution and advocate change. In addition to their advocacy in Kirksville, the students are analyzing, and charting sky quality brightness data collected from our state-wide SQM program.

In December 2020, students from a community college near Kansas City approached IDA Missouri about volunteering time in 2021 to address light pollution in their community. The students had already completed several months of research and appear committed to action in 2021. IDA Missouri has agreed to support this group with volunteer time and expertise.

**Virtual Reality Program** – A virtual reality filmmaker volunteered to develop a virtual reality film using the “[Bortle Scale](#)” to explain the impact of light pollution on our view of the night sky. The Bortle Scale is a way of measuring the quality (brightness) of the night sky for a particular location.

In the virtual reality film, the viewer can virtually pan the night sky in all directions while listening to the presenter. The film will place the viewer on the grounds of the Gateway Arch National Park in St. Louis making the viewing experience even more memorable. When completed, the public can view the film at no cost through YouTube. The filmmaker is making similar programs for large planetariums. Producing the virtual reality film was placed on hold until 2021 due to COVID-19.



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**Annual Conference** – IDA Missouri’s first annual conference was planned for September 2020 at Missouri State University in Springfield, Missouri, but the conference was cancelled due to COVID-19. The conference is tentatively rescheduled for October 2021.

### C. Membership

Our chapter gained nine members during the year to end 2020 with 48 members. The lack of in-person events created challenges for the chapter to add more members during the year.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2020</b>												
Count	42	41	42	44	45	42	43	38	40	43	45	48
<b>2019</b>												
Count	23	24	25	28	29	35	36	38	38	39	42	39
<b>2018</b>												
Count									10	20	19	22

### D. People and Operations

The relatively large geographic size of Missouri creates challenges to represent the state as whole. In response, IDA Missouri divided our state into six operating zones which mirror the “regions” used by Missouri State Parks. The six operating zones allow more thoughtful recruiting of board members and volunteers by region, and provides a foundation to geographically deploy resources such as Sky Quality Meters.

The table on the following page summarizes our people and assets by zone on December 31, 2020.

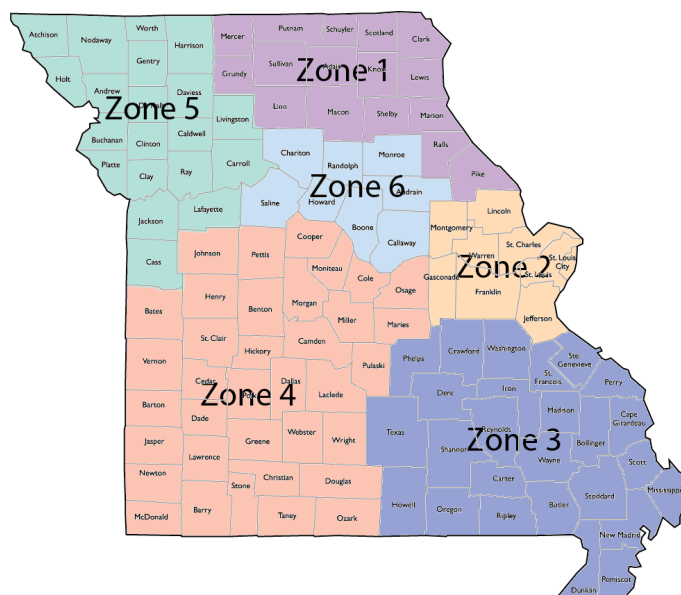


Figure 7 - Dividing Missouri into operating zones allows IDA Missouri to allocate people and resources to ensure all portions of the state are represented.



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**TABLE D-1: PEOPLE AND ASSETS BY ZONE**

Zone	Board Members	Advisors	Sky Quality Meter
Zone 1 (Northeast Region)	<ul style="list-style-type: none"> <li>• Vayu Gokhale, Ph.D.</li> </ul>	<ul style="list-style-type: none"> <li>• Vayu Gokhale, Ph.D., Truman State University</li> </ul>	<ul style="list-style-type: none"> <li>• Magruder Hall, Kirksville, MO</li> <li>• Truman State Observatory, Kirksville, MO</li> <li>• Missouri State Parks – Thousand Hills, Kirksville, MO</li> <li>• Stacy Park, Olivette, MO</li> <li>• Gateway Arch, St. Louis, MO</li> </ul>
Zone 2 (St. Louis Region)	<ul style="list-style-type: none"> <li>• Dan Duffy</li> <li>• Don Ficken</li> <li>• Cook Feldman</li> <li>• Bill Neubert</li> <li>• Brett Seymoure, Ph.D.</li> <li>• Chuck Simms</li> </ul>	<ul style="list-style-type: none"> <li>• Dan Duffy, City of Ellisville</li> <li>• Trish Erzfeld, Perry County Heritage Tourism</li> <li>• Brett Seymoure, Ph.D., Washington University</li> <li>• Will Snyder, Saint Louis Science Center</li> <li>• Dan Zarlenga, Missouri Department of Conservation</li> </ul>	<ul style="list-style-type: none"> <li>• Brommelsiek Park, Defiance, MO</li> <li>• Jefferson College, Hillsboro, MO</li> </ul>
Zone 3 (Southeast Region)	<ul style="list-style-type: none"> <li>• Matthew Kantola</li> <li>• Trish Erzfeld</li> </ul>	<ul style="list-style-type: none"> <li>• Chad Follis, Ph.D. Mineral Area College</li> </ul>	<ul style="list-style-type: none"> <li>• City of Perryville, MO</li> <li>• Mineral Area College, Park Hills, MO</li> <li>• S&amp;T Astronomical Society, MO</li> <li>• SEMO, Cape Girardeau, MO</li> <li>• Grand Gulf State Park, Thayer, MO</li> <li>• Echo Bluff State Park, Eminence, MO</li> </ul>
Zone 4 (Lakes Region)	<ul style="list-style-type: none"> <li>• Terrel Gallaway, Ph.D.</li> </ul>	<ul style="list-style-type: none"> <li>• Terrel Gallaway, Ph.D., Missouri State University</li> <li>• David Mitchell, Ph.D., Missouri State University</li> </ul>	<ul style="list-style-type: none"> <li>• City of Ozark, MO</li> </ul>
Zone 5 (Kansas City Region)	<ul style="list-style-type: none"> <li>• Jackie Beucher</li> <li>• Rick Yord</li> </ul>	<ul style="list-style-type: none"> <li>• Bentley Ousley, ASKC</li> </ul>	<ul style="list-style-type: none"> <li>• ASKC, Kansas City, MO</li> <li>• ASKC, Lawson, MO</li> </ul>
Zone 6 (Central Region)	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Laws Observatory, Columbia, MO</li> </ul>

### Board of Directors

IDA Missouri is governed by a Board of Directors. We ended 2020 with twelve board members, a reduction of one member from 2019. Three board members were added during the year including one from Missouri State Parks and two from municipalities (one serving on a city council; another serving as tourism director). Two amateur astronomers left the board due to time commitments.



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Our board is active, meeting at least six times each year, with board attendance averaging 77% during 2020. Guests are welcome at board meetings. The broad expertise of the board, to include expertise on behavioral ecology, economics, tourism, city operations, state parks and astronomy, stimulates robust discussion. All operating zones in Missouri are represented except for zone 6. Finding a board member for this zone is a priority.

### Chapter Advisor Program

A “Chapter Advisor” program provides our chapter with access to “experts” from Missouri and to showcase our state-based talent. The role of Chapter Advisor is less demanding than joining our Board or volunteering for a committee. Fewer demands make it easier to recruit top talent with much needed expertise. In addition to providing a useful source of technical expertise, the program helps the chapter recruit new members and chapter leaders.

On December 31, 2020, IDA Missouri had the following Chapter Advisors:

1. Dan Duffy, City of Ellisville, City Council, Ellisville, MO
2. Trish Erzfeld, Perry County Heritage Tourism, Perryville, MO
3. Chad Follis, Ph.D., Mineral Area College, Professor Horticulture, Park Hills, MO
4. Terrel Gallaway, Ph.D., Missouri State University, Professor of Economics, Springfield, MO
5. Vayu Gokhale, Ph.D., Professor of Physics, Truman State University, Kirksville
6. David Mitchell, Ph.D., Professor of Economics, Missouri State University, Springfield, MO
7. Bentley Ousley, Astronomical Society of Kansas City, Virtual Reality Filmmaker
8. Brett Seymoure, Ph.D., Behavioral Biologist, Washington University, St. Louis, MO
9. Will Snyder, James S. McDonnell Planetarium Manager, Saint Louis Science Center, St. Louis, MO
10. Dan Zarlenga, Missouri Department of Conservation, Metro Media Specialist – St. Louis Regional Office, St. Louis, MO

### Chapter Committees

The Chapter maintains a variety of Standing and Ad-Hoc Committees to address chapter governance, operations, and program support. Specifics can be found in [Exhibit E – Chapter Standing Committees](#) and [Exhibit F – Chapter Ad-Hoc Committees](#).

### Collaborations/Partnerships

Collaborating and building partnerships with other organizations can be an effective tool in accomplishing our goals of reducing light pollution in Missouri. By combining expertise and leveraging marketing efforts in a cohesive and coordinated plan, great things can be achieved with less effort.



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Highlights of our collaboration partners are as follows:

- **Lights Out Heartland** – The “Lights Out Heartland” collaboration referenced under [Program Highlights](#) includes a growing list of partners.

Lights Out Heartland - Partners
International Dark-Sky Association – Missouri Chapter ( <a href="https://darkskymissouri.org">darkskymissouri.org</a> )
Audubon Center at Riverlands ( <a href="https://riverlands.audubon.org">riverlands.audubon.org</a> )
Burroughs Audubon Society of Kansas City ( <a href="https://burroughs.org">burroughs.org</a> )
Columbia Audubon Society ( <a href="https://columbia-audubon.org">columbia-audubon.org</a> )
Johnson County Community College ( <a href="https://jccc.edu">jccc.edu</a> )
Missouri River Bird Observatory ( <a href="https://mrbo.org">mrbo.org</a> )
St. Louis Art Chamber of Commerce ( <a href="https://stlouisartchamberofcommerce.org">stlouisartchamberofcommerce.org</a> )
St. Louis Audubon Society ( <a href="https://stlouisaudubon.org">stlouisaudubon.org</a> )

Several joint meetings were held in 2020 to establish a foundation for working together and recruiting new partners. At least six partner meetings are scheduled in 2021. Programming will be focused on May and September 2021 which are important periods of bird migration.

More details on Lights Out Heartland can be found at the website: [LightsOutHeartland.org](https://LightsOutHeartland.org)

- **Amateur Astronomy Clubs** – IDA Missouri is supported by amateur astronomy clubs in Missouri to include the [Kansas City Astronomical Society](#), the [St. Louis Astronomical Society](#), and the [Astronomical Society of Eastern Missouri](#) (St. Charles, MO). Amateur astronomy clubs help raise awareness of IDA Missouri’s mission and help with volunteers and funding. Amateur astronomy clubs also assist with measurement sites in the SQM program.
- **Gateway Arch in St. Louis** – IDA Missouri collaborated with the [Gateway Arch in St. Louis](#) to “live stream” several well-attended events in 2020 which was helpful to raise the visibility of IDA within and outside Missouri. In October 2020, a Sky Quality Meter was installed at the Gateway Arch providing another measurement location for our SQM program.
- **SciStarter** – IDA Missouri partners with an online citizen science hub called [SciStarter](#) to offer citizen science programs focused on light pollution. IDA Missouri worked with the SciStarter team to develop a program directed at public libraries. Launched in early 2020, enrollments included seven public libraries from the St. Louis metro area including four in Missouri and three public in Illinois, and the Girls Scouts of Eastern Missouri. Additional



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enrollments and program launch was halted due to COVID-19. We expect the program to resume once libraries reopen and staff resources are available.

### E. Marketing and Communications

#### Email

Our chapter uses Mailchimp software for email communications to members and interested parties. Our email contact list grew to 149 contacts by year-end. Our goal is to produce and distribute a quarterly newsletter, but we have not had volunteer capacity to implement this idea.

#### Social Media

Our chapter has social media accounts on Facebook, Twitter, and Instagram under @DarkSkyMissouri. Chapter events are posted on Facebook “Events”.

Through partnerships with the Gateway Arch in St. Louis, amateur astronomy clubs, “Lights Out Heartland”, public libraries and other organizations, we grew our Facebook account to 578 followers by year end, four times larger than the 132 followers of late 2019. Other social media accounts had modest growth.

During 2020, we created a “[YouTube](#)” channel for posting of videos and training related to our outreach and educational programs. The YouTube channel can be accessed from the home page of our chapter’s website. We hope to grow this channel with more subscribers and content.

Media	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2020</b>												
Date	1/12		3/15		3/14		7/9		9/14		11/13	1/2/21
Facebook	142		148		176		452		539		570	578
Twitter	22		25		30		33		34		37	38
Instagram	9		11		20		24		31		36	43
YouTube	-		-		-		4		6		12	16
Grous.IO	-		-		-		12		12		12	12
<b>2019</b>												
Date			3/26			6/23			9/19		11/24	
Facebook			24			81			125		132	
Twitter			-			14			20		22	
Instagram			-			9			9		7	
YouTube			-			-			-		-	
Groups.IO												

#### Website

Our chapter supports a website located at [DarkSkyMissouri.org](https://DarkSkyMissouri.org). The website is rich in content and regularly updated. Events are displayed in an event calendar.

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Social: @DarkSkyMissouri

### Media/Press

2020 was a challenging year for IDA Missouri to get media/press attention. To our knowledge, we only had two mentions in the media/press compared to thirteen events in 2019.

Date	Media	Reporter	Comments
<b>2020</b>			
04/12/2020	St. Louis Post Dispatch	Jim Winnerman	Interview with Don Ficken on IDA Missouri
12/10/2020	St. Louis Post Dispatch	N/A	Lighting at Stacy Park in Olivette, MO, under study
TOTAL MEDIA EVENTS = 2 events			
<b>2019</b>			
1/22/2019	Press Release	N/A	Announced launch of IDA Missouri
6/30/2019	St. Louis Public Radio	Eli Chen	Interview with Vayu Gokhale and Don Ficken on SQM Program
7/11/2019	News/Talk KRMA 1150 AM Radio	Reuben Purdue	Interview with Don Ficken on IDA Missouri
7/29/2019	Press Release	N/A	Announced SQM Program
8/12/2019	Springfield News Leader	Wes Johnson	Interview with Don Ficken on IDA Missouri
9/5/2019	KCUR 89.3 KC Public Radio	Gina Kaufmann	Interview with Don Ficken on IDA Missouri
9/13/2019	KWMU 90.7 STL Public Radio	Eli Chen	Interview with Don Ficken on IDA Missouri
9/18/2019	University of Mississippi Journalism	Aly Rezek	Interview with Don Ficken on IDA Missouri
10/28/2019	KOLR10 TV Springfield	Christopher Six	Interview with Don Ficken on City of Ozark SQM
11/2/2019	Perryville News	Justin Hop	Interview with Trish Erzfeld and Don Ficken on City of Perryville
11/5/2019	KFVS12 TV News, Springfield	Nathan Ellgren	Interview with Dr. Michael Cobb, SEMO on SQM
11/6/2019	Southeast Missourian Newspaper	Joshua Hartwig	Interview with Dr. Michael Cobb, SEMO on SQM
11/13/2019	KSGM 980 AM	Don Pritchard	Interview with Don Ficken on IDA Missouri
TOTAL MEDIA EVENTS = 13 events			

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### F. Legal Entity and Financial Statements

#### Legal Entity

The International Dark-Sky Association – Missouri Chapter, LLC, (“IDA Missouri”) is a subsidiary of the International Dark-Sky Association, Inc. (“IDA”), an Arizona nonprofit corporation whose mission is to protect the night skies for present and future generations. IDA is tax exempt under Section 501c(3) of the Internal Revenue Code. IDA Missouri was officially incorporated in Missouri on October 15, 2018.

#### Financial Statements

The Chapter ended 2020 with \$985.21 in cash. \$415.00 was received in donations and \$326.52 incurred in expenses resulting in \$88.48 in net income. Details are as follows:

FINANCIAL STATEMENTS			
Description	2019 Actual	2020 Actual	Notes
<b>BALANCE SHEET</b>			
ASSETS – Cash in bank.	\$896.73	\$985.21	
LIABILITIES & EQUITY			
Liabilities	\$0.00	\$0.00	
Equity	\$896.73	\$985.21	
LIABILITIES & EQUITY	\$896.73	\$985.21	
<b>INCOME STATEMENT</b>			
REVENUE (Note 1)			
Donations – Organizations	\$0.00	\$340.00	Donations for speaking engagements
Donations – Individual	\$940.00	\$75.00	Donations from individuals (Note 2)
TOTAL REVENUE	\$940.00	\$415.00	
EXPENSES			
Advertising	\$0.00	\$70.92	Purchase of business cards
Outreach and Education	0.00	\$177.71	Citizen science demo kit
Displays	\$0.00	\$26.86	Science fair poster display
Professional services	\$0.00	\$50.00	“Thank you” flowers for volunteer (Note 2)
PayPal Fees	\$14.27	\$1.03	Donation processing fees
Bank Service Charges	\$29.00	\$0.00	Printing of business checks
TOTAL EXPENSES	\$43.27	\$326.52	
NET INCOME	\$896.73	\$88.48	
<p>Note 1: We do not record membership revenue at the chapter level.</p> <p>Note 2: Purchase of “thank you” flowers sent to a volunteer was donated by an IDA Missouri Board member. Revenue for the donation was recorded under “Donations – Individual” with no impact on chapter cash.</p>			

## 2021 STRATEGIC PLAN

We expect the first half of 2021 to be challenging due to COVID-19 and have built our plan accordingly. Below are our plans for 2021.

### A. Programs

We plan to focus our efforts in 2021 on existing programs rather than launch new initiatives. Program priorities for 2021 are as follows:

**Outreach** – 2021 will be a challenging year for outreach. Programs in the first half will likely be virtual only. Our goal is, at a minimum, to match our achievements of 2020. To achieve our goal, we plan to leverage our relationships with the Gateway Arch, Lights Out Heartland, amateur astronomy clubs, educational institutions (college and pre-college) and libraries to continue offering virtual programs and in-person program, where appropriate. We will respond to general program requests from the public, and actively seek new opportunities for reach.

**Sky Quality Meter Program** – Our sky quality measurement program has been a cornerstone of our chapter since our chapter's launch in 2018. In 2021, our focus will shift from expanding the number of measurement sites to the following:

- Publishing reports on data collected.
- Adding all-sky cameras to correlate weather and cloud impact on sky measurements.
- Relocating the SQM to a different part of the town/park to better sample the sky brightness in-and-around the city or park. Perryville has already done this, and the City of Ozark will move to a different location in town in February 2021.
- Working with installation sites to develop and implement programs to reduce light pollution.

In addition to the fixed meters used at measurement sites, the sky quality meter program maintains a small inventory of handheld meters to measure sky brightness. Supplementing this inventory, several libraries in Missouri purchased handheld meters for use by library patrons in citizen science. We plan to encourage the use of handheld sky quality meters during public outreach programs, and to collect and post scientific data to [Globe at Night](https://GlobeatNight.org), a global database of sky brightness measurements made available to scientists.

**Lights Out Heartland** – We plan to continue expanding the Lights Out Heartland collaboration to include more organizations in Missouri and surrounding states. Leveraging this collaboration is a productive way to expand the visibility of our chapter in Missouri and nationally.

**Dark Sky Places Program** – We will encourage parks and municipalities in Missouri to apply for designation under the IDA "Dark Sky Places" program. Initially we will focus on getting our



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existing application at Stacy Park formally approved by IDA. We will learn from this application and meet with IDA staff to develop a plan for accelerating the program in Missouri.

**Missouri Municipal League Conference** – Once each year, the Missouri Municipal League holds a state-wide conference for leaders of Missouri municipalities. In 2021, the MML conference will be held in St. Louis. IDA Missouri plans to host a booth at this conference to talk with city leaders about light pollution and the “Dark Sky Places Program”. Amateur astronomy clubs in Missouri have agreed to donate \$1,300 for IDA Missouri to purchase a booth for two people to attend the conference and help with funding of exhibit signage and handouts. Funding details can be found in the footnotes of our [Financial Plan](#).

**Annual Conference** – We plan to hold our first chapter “Annual Conference” in October 2021. We plan to hold educational talks at no cost, with an “in-person” or “virtual” attendance option. The conference is purposely timed after the Municipal League Conference in September 2021 with the goal of getting municipal leaders to participate in the conference, at least virtually.

Our intent is to hold the conference at Missouri State University in Springfield, MO, but this is subject to change. If held at Missouri State University, plans are to engage students with science fair and art displays.

**Student Program** – We plan to continue recruiting and engaging students in supporting IDA. We have active programs at Truman State University and hope to stimulate interest at Missouri State University during our “Annual Conference”. We will provide support to student groups that approach us such as the student group in Kansas City that plans to dedicate 2021 to supporting IDA.

**Virtual Reality Program** – Our chapter is excited about partnering with a filmmaker who has volunteered to produce a virtual reality film at no cost. The film will be less than 10 minutes in length and will use the “Bortle Scale” to explain how light pollution impacts our views of the night sky at the Gateway Arch in St. Louis. Our filmmaker has the necessary equipment and plans to leverage already existing material to minimize the work needed.

**Citizen Science Program** – Our citizen science program was derailed in 2020 due to COVID-19. Once in-person activities resume, we plan to work with libraries and other organizations to reenergize our Dark Sky Citizen Science Program. This will primarily be done through outreach.

**Dark Sky Friendly Home Certification** – We plan to promote the IDA Dark Sky Friendly Home Certification program in public outreach. We plan to work with our collaboration partners to raise awareness of the certification program.

### B. Membership

We plan to continue growing our member base which ended the year at 48 members. At a minimum, we would like to double this member base by the end of 2021. Growth in membership will be achieved through recruitment by leaders, volunteers, members, and visibility in public outreach.

### C. People and Operations

We will continue to strengthen our board and volunteer base, striving to find “champions” for every “zone” in Missouri and build more diversity in our chapter to include age, gender, color, and subject expertise.

#### Board of Directors

Our target range for the number of board members for IDA Missouri is twelve to eighteen. With twelve board members already in place, we will take a strategic approach to add more board members. Actively recruiting a board member for Zone 6, located in central Missouri, will be a priority. We will also seek opportunities to create a more diverse board (age, gender, race) and expand our expertise in ecosystems, human health, and lighting.

#### Chapter Advisor Program

We will continue to expand our list of “Chapter Advisors” with the goal of recruiting more talent for our chapter and developing champions across our operating zones.

#### Chapter Committees

We plan to continue expanding our base of chapter volunteers in 2021 to provide a more robust foundation for launching and completing projects.

#### Collaborations/Partnerships

Collaborations and partnerships allow IDA Missouri to leverage our resources for greater results. IDA Missouri will actively support existing partnerships and seek new partnership when opportunities are found. Existing partnerships include universities, “Lights Out Heartland”, amateur astronomy clubs, the Gateway Arch, the St. Louis Science Center, SciStarter.org (an online citizen science hub), the Sierra Club in Kansas City, and public libraries.

### D. Marketing and Communications

We plan to communicate with our constituents through social media, email, and our website. We must engage them and develop an ongoing relationship with them.

#### Email, Social Media, Outreach Materials, Website

We will continue to improve our communications in 2021 with members and the public, using our various communication methods including email, social media, and our website.





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Social: @DarkSkyMissouri

### Media/Press

We had modest media/press activity in 2020. We hope this will change in 2021 as we grow and nurture our existing programs such as the Sky Quality Meter Program, the Dark Sky Places Program, and the Lights Out Heartland Program. We hope to get media coverage of our annual conference too.



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### E. Financial Plan

Our financial plan for 2021 shows an increase in donations and expenses as we fund the purchase of a booth at the Missouri Municipal League, host our first “Annual Conference” and return to “in-person” outreach in the later part of the year which will require handouts, etc.

FINANCIAL STATEMENTS				
Description	2019 Actual	2020 Actual	2021 Budget	Notes on 2021 Budget
<b>BALANCE SHEET</b>				
ASSETS				
Cash in bank	\$896.73	\$985.21	\$975.21	
TOTAL ASSETS	\$896.73	\$985.21	\$975.21	
LIABILITIES & EQUITY				
Liabilities	\$0.00	\$0.00	\$0.00	
Equity	\$896.73	\$985.21	\$975.21	
LIABILITIES & EQUITY	\$896.73	\$985.21	\$975.21	
<b>INCOME STATEMENT</b>				
REVENUE (Note 1)				
Donations – Organizations				
o Restricted	\$0.00	\$0.00	\$1,300.00	Note 2 Donation for speaking engagements
o Unrestricted	\$0.00	\$340.00	\$200.00	
Donations – Individual	\$940.00	\$75.00	\$200.00	Donations from members and nonmembers
TOTAL REVENUE	\$940.00	\$415.00	\$1,700.00	
EXPENSES				
Exhibits, signage, handouts	\$0.00	\$275.49	\$300.00	Note 3
Exhibition registration fees	\$0.00	\$0.00	\$1,100.00	Note 4
Annual Conference	\$0.00	\$0.00	\$300.00	Note 5
Professional services	\$0.00	\$50.00	\$0.00	
PayPal Fees	\$14.27	\$1.03	\$10.00	Donation processing fees
Bank Service Charges	\$29.00	\$0.00	\$0.00	
TOTAL EXPENSES	\$43.27	\$326.52	\$1,710.00	
NET INCOME	\$896.73	\$88.48	(\$10.00)	
Notes:				
1. We do not record membership revenue at the chapter level.				
2. Restricted donations to fund participation by IDA Missouri in the Missouri Municipal League conference scheduled for September 2021 in St. Louis. Funding from Kansas City Astronomical Society – \$500.00, the St. Louis Astronomical Society - \$400.00 and the Astronomical Society of Eastern Missouri - \$400.00.				
3. Exhibit displays and handouts for the Annual Conference and the Missouri Municipal League Conference				
4. Booth registration fees for Missouri Municipal League Conference.				
5. A reserve for expenses to support our Annual Conference – details TBD.				



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## EXHIBITS



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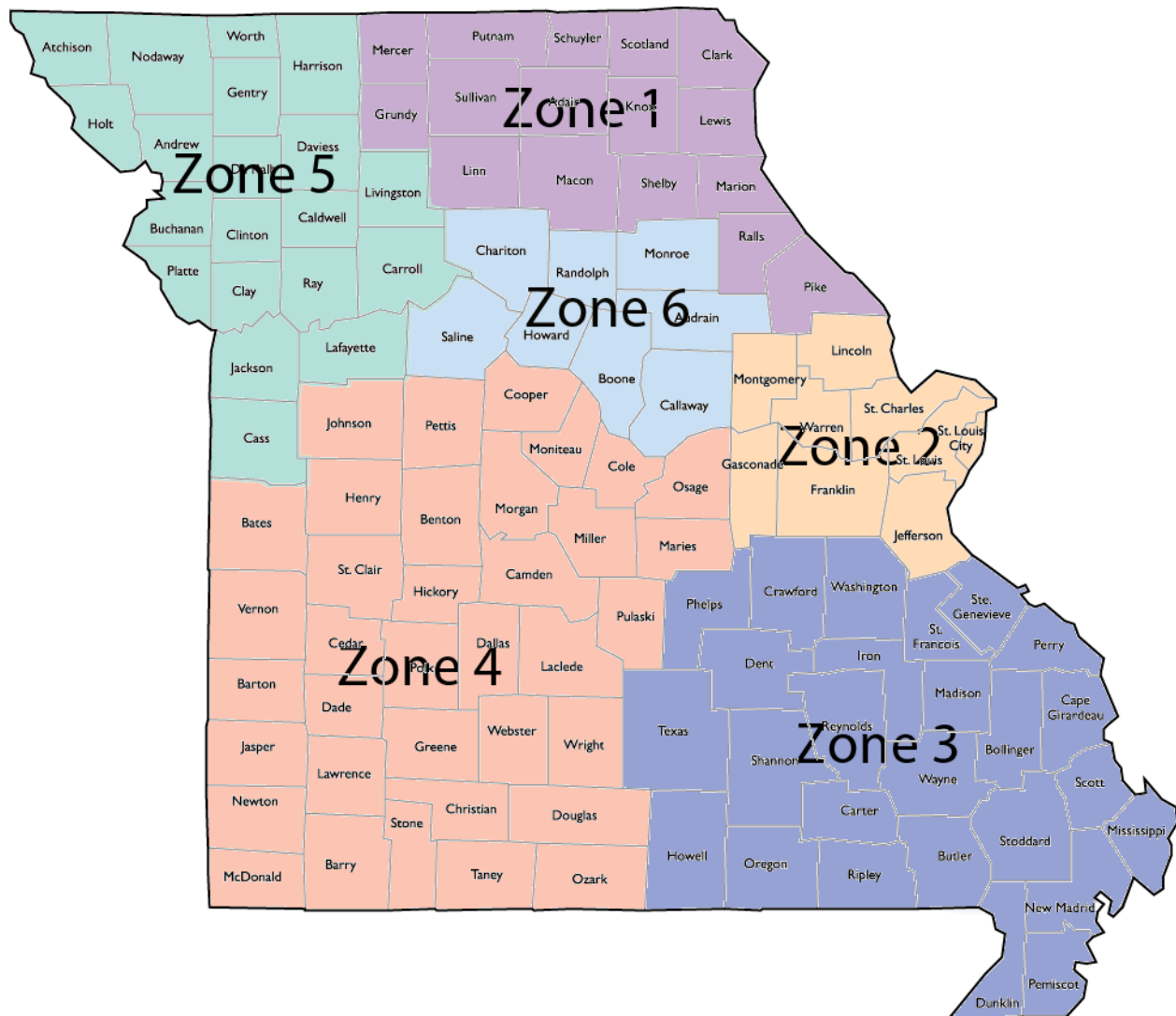
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### Exhibit A – People and Assets by Zone





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PEOPLE AND ASSETS BY ZONE			
Zone	Board Members	Advisors	Sky Quality Meter
Zone 1 (Northeast Region)	<ul style="list-style-type: none"> <li>Vayu Gokhale, Ph.D.</li> </ul>	<ul style="list-style-type: none"> <li>Vayu Gokhale, Ph.D., Truman State University</li> </ul>	<ul style="list-style-type: none"> <li>Magruder Hall, Kirksville, MO</li> <li>Truman State Observatory, Kirksville, MO</li> <li>Missouri State Parks – Thousand Hills, Kirksville, MO</li> <li>Stacy Park, Olivette, MO</li> <li>Gateway Arch, St. Louis, MO</li> </ul>
Zone 2 (St. Louis Region)	<ul style="list-style-type: none"> <li>Dan Duffy</li> <li>Don Ficken</li> <li>Cook Feldman</li> <li>Bill Neubert</li> <li>Brett Seymoure, Ph.D.</li> <li>Chuck Simms</li> </ul>	<ul style="list-style-type: none"> <li>Dan Duffy, City of Ellisville</li> <li>Trish Erzfeld, Perry County Heritage Tourism</li> <li>Brett Seymoure, Ph.D., Washington University</li> <li>Will Snyder, Saint Louis Science Center</li> <li>Dan Zarlenga, Missouri Department of Conservation</li> </ul>	<ul style="list-style-type: none"> <li>Brommelsiek Park, Defiance, MO</li> <li>Jefferson College, Hillsboro, MO</li> </ul>
Zone 3 (Southeast Region)	<ul style="list-style-type: none"> <li>Matthew Kantola</li> <li>Trish Erzfeld</li> </ul>	<ul style="list-style-type: none"> <li>Chad Follis, Ph.D. Mineral Area College</li> </ul>	<ul style="list-style-type: none"> <li>City of Perryville, MO</li> <li>Mineral Area College, Park Hills, MO</li> <li>S&amp;T Astronomical Society, MO</li> <li>SEMO, Cape Girardeau, MO</li> <li>Grand Gulf State Park, Thayer, MO</li> <li>Echo Bluff State Park, Eminence, MO</li> </ul>
Zone 4 (Lakes Region)	<ul style="list-style-type: none"> <li>Terrel Gallaway, Ph.D.</li> </ul>	<ul style="list-style-type: none"> <li>Terrel Gallaway, Ph.D., Missouri State University</li> <li>David Mitchell, Ph.D., Missouri State University</li> </ul>	<ul style="list-style-type: none"> <li>City of Ozark, MO</li> </ul>
Zone 5 (Kansas City Region)	<ul style="list-style-type: none"> <li>Jackie Beucher</li> <li>Rick Yord</li> </ul>	<ul style="list-style-type: none"> <li>Bentley Ousley, ASKC</li> </ul>	<ul style="list-style-type: none"> <li>ASKC, Kansas City, MO</li> <li>ASKC, Lawson, MO</li> </ul>
Zone 6 (Central Region)	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>Laws Observatory, Columbia, MO</li> </ul>



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### Exhibit C – Outreach Programs

Date	Audience/Location	Length	Participants	Type
<b>2020</b>				
1/13/2020	Webster Groves Garden Club/STL	60m	48	IP
1/13/2020	Urban Chestnut Grove – Astronomy on Tap/STL	15m	60	IP
1/18/2020	SciFest/Saint Louis Science Center/STL	All day	1000	IP
1/21/2020	Great Rivers Missouri Master Naturalist/STL *	60m	60	IP
1/23/2020	Dark Sky Citizen Science – Libraries	30m	40	W
1/25/2020	St. Louis County Library – Daniel Boone Branch/STL **	60m	39	IP
1/26/2020	Sky Orientation – Babler Park, St. Louis	180m	5	IP
1/27/2020	St. Louis County Library – Grant's View Branch/STL **	60m	52	IP
2/13/2020	Vanishing Night (Astronomical Society of Kansas City)	60m	50	IP
2/16/2020	Sky Orientation – Babler Park, St. Louis	180m	5	IP
3/5/2020	Dark Sky Citizen Science Program - IDA	30m	30	W
3/6/2020	Parkway School District – STEMfest	360m	300	IP
3/16/2020	St. Louis County Library – Prairie Commons Branch/STL **	60m	50	IP
3/28/2020	Astronomical Society of Kansas City	60m	58	W
4/7/2020	Missouri's Vanishing Night (Panel Discussion)	60m	60	W
4/21/2020	Lights Out Program Video for International Dark-Sky Week (Joint program with National Audubon Society, St. Louis Audubon Society and Audubon Center at Riverlands)	30m	1000	W
4/22/2020	Exploring the Universe with Apps	60m	37	W
4/24/2020	Bird Friendly Fridays (Joint program with St. Louis Audubon Society and Audubon Center at Riverlands)	30m	30	W
5/16/2020	Vanishing Night (Webster Groves Library)	60m	4	W
5/30/2020	Gateway Arch – Lights Out Program Talk	30m	1085	W
6/16/2020	How to Photograph the Milky Way (Missouri Nature & Environmental Photographers)	60m	77	W
6/19/2020	Not So Starry, Starry Night (St. Louis Astronomical Society)	60m	59	W
6/21/2020	Sky Orientation – Babler Park, St. Louis	180m	5	IP
6/27/2020	Gateway to the Stars (Gateway Arch)	15m	1324	W
7/1/2020	Impact of ALAN on plants and insects (St. Louis Garden Club)	60m	59	W
7/25/2020	Gateway to the Stars (Gateway Arch)	60m	100	W
8/4/2020	SciStarter/Riverside Regional Library	60m	34	W
8/8/2020	St. Louis Mensa (rescheduled from May 2020)	60m	5	W
8/22/2020	Gateway to the Stars (Gateway Arch)	60m	109	W



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9/26/2020	Gateway to the Stars - Lights Out Heartland (Gateway Arch)	60m	343	W
10/14/2020	Washington University LifeLong Learning	60m	25	W
10/24/2020	Gateway to the Stars (Gateway Arch)	60m	244	W
10/27/2010	National Audubon Society	60m	120	W
11/15/2020	Sky Orientation – Babler Park, St. Louis	180m	5	IP
<b>TOTAL EVENTS (Excludes cancelled events)</b>		34 events	6522	

Type: IP = In-Person; W=Webinar

Date	Audience/Location	Length	Participants	Type
<b>2019</b>				
4/15/2019	Astronomical Society of Kansas City/UMKC	30 m	50	IP
5/2/2019	Earth Day/Ft. Leavenworth	All day	1500	IP
6/19/2019	Mid-States Regional Astronomy Conference/Kansas City	60 m	100	IP
7/20/2019	SciFest/ Saint Louis Science Center	All day	500	IP
9/6-8/2019	2019 Spirit of St. Louis Air Show/Spirit of St. Louis Airport	All day	1000	IP
9/21/2019	2019 Live Outside Festival/St. Vincent's Park	All day	1000	IP
9/23/2019	Meramec Hills Master Naturalists, Ozark Rivers Audubon Society and STARS/ Rolla, MO	60 m	60	IP
10/5/2019	Girl Scout Day Camp – Camp Cedarledge	All day	1400	IP
10/12/2019	SciFest/Saint Louis Science Center	All day	1000	IP
<b>TOTAL EVENTS</b>		9 events	6610	

Type: IP = In-Person; W=Webinar

# International Dark-Sky Association Missouri Chapter

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### Exhibit D – Board of Directors

TABLE D-2: BOARD OF DIRECTORS CURRENT TERM, PAST TERM(S), AND ZONE				
Name	Zone	Vote	Term Start	Term End
<b>CLASS 1 – Director terms expiring in 2022</b>				
Don Ficken, Chair	2	9/24/2019	12/1/2019	11/30/2022
		11/26/2018	11/26/2018	11/30/2019
Chuck Simms, Secretary	2	9/24/2019	12/1/2019	11/30/2022
		11/26/2018	11/26/2018	11/30/2019
Rick Yord	5	9/24/2019	12/1/2019	11/30/2022
		11/26/2018	11/26/2018	11/30/2019
Terrel Gallaway, Ph.D.	4	11/25/2019	11/25/2019	11/30/2022
<b>CLASS 2 – Director terms expiring in 2023</b>				
Jackie Beucher, Vice Chair	5	11/19/2020	12/1/2020	11/30/2023
		11/26/2018	11/26/2018	11/30/2020
Bill Neubert	2	11/19/2020	11/26/2018	11/30/2023
		11/26/2018	11/26/2018	11/30/2020
Trish Erzfeld	3	11/19/2020	3/13/2020	11/30/2023
		3/13/2020	3/13/2020	11/30/2020
<b>CLASS 3 – Director terms expiring in 2021</b>				
Cook Feldman, Treasurer	2	11/26/2018	11/26/2018	11/30/2021
Vayujeet Gokhale, Ph.D.	1	6/28/2019	6/28/2019	11/30/2021
Brett Seymoure, Ph.D.	2	12/4/2019	12/4/2019	11/30/2021
Matthew Kantola	3	1/16/2020	1/16/2020	11/30/2021
Dan Duffy	2	3/9/2020	3/9/2020	11/30/2021

#### NOTES:

##### Note 1: Chapter Officers:

- Don Ficken, Chair (held position since 11/26/2018)
- Jackie Beucher, Vice Chair (held position since 11/26/2018)
- Cook Feldman, Treasurer (held position since 11/26/2018)
- Chuck Simms, Secretary (held position since 11/26/2018)

Note 2: Per our operating agreement with [International Dark Sky](http://InternationalDarkSky.org), IDA Missouri Board members serve for a term of three years and cannot serve for more than two (2) consecutive full year terms of office without a break in service of at least one (1) year. Board terms are divided into three classes which are staggered to expire in different years to help ensure continuity of the Board.



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Website: [DarkSkyMissouri.org](https://DarkSkyMissouri.org)

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### Exhibit E – Chapter Standing Committees

Standing committees handle issues that are considered timeless in nature.

- **Executive Committee** - Resolve issues needing immediate attention between board meeting, followed by reports to the full board for voting and decision-making.
- **Finance Committee** - Review and provide guidance for the organization's financial matters.
- **Board Development Committee** - Develop board recruitment and retention plan.
- **Chapter Advisor Program** – Recruit and retain subject matter experts who can provide advice related to IDA related matters.
- **Collaborations/Partnerships** - Develop working relationships with organizations to leverage chapter resources.
- **Fundraising Committee** - Raise funds to support chapter operations.
- **Membership Committee** - Monitor chapter membership; welcome new members; encourage members to get involved; periodically communicate with members via email.
- **Newsletter Committee** - Provide periodic newsletter to subscribers.
- **Outreach Committee** - Provide public talks and exhibitions to promote IDA.
- **Public Relations Committee** - Issues press releases; manages all printed publications, such as brochures, flyers, leaflets, and whitepapers; oversee website.
- **Social Media Committee** - Maintain social media presence.



INTERNATIONAL DARK-SKY ASSOCIATION  
MISSOURI CHAPTER

# International Dark-Sky Association Missouri Chapter

## 2020 Annual Report and 2021 Strategic Plan

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Social: @DarkSkyMissouri

### Exhibit F – Chapter Ad-Hoc Committees

Ad-hoc committees have been formed to handle issues that are typically short-term and specialized in nature.

- **2021 Annual Conference** – Plan and support an annual conference for IDA Missouri.
- **Citizen Science Program** - Promote Citizen science focused on light pollution.
- **Lights Out Heartland** - Partnering with organizations across several states to raise awareness of how light pollution causes problems with bird migration.
- **Missouri Dark Sky Destinations** – Promote Missouri darkest skies through brochures and handouts. Partner with parks, tourism, and other organizations for distribution of the brochures and handouts to the public.
- **Missouri Dark Sky Photos** - Collect photos of Missouri night skies from different locations in Missouri to showcase what the public/tourists could see when touring Missouri.
- **Missouri Dark Sky Place Program** – Work with cities, parks, and other entities to achieve an official IDA Dark Sky status such as Urban Night Sky Designation. Includes working with cities to encourage adoption of ordinances to reduce light pollution.
- **Student Program** – Raise awareness of IDA with students and younger audiences and encourage their participation in IDA.
- **SQM/Sky Brightness Program** - Deploy SQMs throughout Missouri in both rural and urban areas. Assess light pollution trends and recommend corrective action.
- **Tourism Program** - Raise awareness of how dark skies can enhance tourism in Missouri; develop and implement tourism related programs.
- **Virtual Reality Program** - Create a 10-minute film on the Bortle Scale and light pollution featuring the Gateway Arch in St. Louis in the background.



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### Exhibit G – Media/Press

Date	Media	Reporter	Comments
<b>2020</b>			
04/12/2020	St. Louis Post Dispatch	Jim Winnerman	Interview with Don Ficken on IDA Missouri
12/10/2020	St. Louis Post Dispatch	N/A	Lighting at Stacy Park in Olivette, MO under study
TOTAL MEDIA EVENTS = 2 events			
<b>2019</b>			
1/22/2019	Press Release	N/A	Announced launch of IDA Missouri
6/30/2019	St. Louis Public Radio	Eli Chen	Interview with Vayu Gokhale and Don Ficken on SQM Program
7/11/2019	News/Talk KRMA 1150 AM Radio	Reuben Purdue	Interview with Don Ficken on IDA Missouri
7/29/2019	Press Release	N/A	Announced SQM Program
8/12/2019	Springfield News Leader	Wes Johnson	Interview with Don Ficken on IDA Missouri
9/5/2019	KCUR 89.3 KC Public Radio	Gina Kaufmann	Interview with Don Ficken on IDA Missouri
9/13/2019	KWMU 90.7 STL Public Radio	Eli Chen	Interview with Don Ficken on IDA Missouri
9/18/2019	University of Mississippi Journalism	Aly Rezek	Interview with Don Ficken on IDA Missouri
10/28/2019	KOLR10 TV Springfield	Christopher Six	Interview with Don Ficken on City of Ozark SQM
11/2/2019	Perryville News	Justin Hop	Interview with Trish Erzfeld and Don Ficken on City of Perryville
11/5/2019	KFVS12 TV News, Springfield	Nathan Ellgren	Interview with Dr. Michael Cobb, SEMO on SQM
11/6/2019	Southeast Missourian Newspaper	Joshua Hartwig	Interview with Dr. Michael Cobb, SEMO on SQM
11/13/2019	KSGM 980 AM	Don Pritchard	Interview with Don Ficken on IDA Missouri
TOTAL MEDIA EVENTS = 13 events			