

## SEF Entropics Cat Bond Fund – Class I

### Performance<sup>1</sup>

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2017				0.05%	-0.06%	0.20%	0.43%	0.56%	-5.53%	1.35%	-0.44%	0.04%	-3.52%
2018	0.90%	-1.28%	-0.47%										-0.86%

### Manager's Notes

The Fund's institutional class hedged to Swedish Krona returned -0.47% in March. The negative return has been caused by new loss estimates that have been issued for the extreme wildfires in California in 2017. The new estimates have exceeded market expectations. In addition the winter storm Riley, that hit the US Mid Atlantic Coast in early March, has contributed to increased erosion of the retention on one position in the portfolio, Residential Re. Some uncertainty about the final loss on these cat bonds will persist in the coming months. The annual reset of the retention amounts regarding the affected bonds will occur during May or June.

The first quarter of 2018 has presented a record level of new issuances amounting to \$4.24 billion compared to last year's record of \$2.8 billion. March was the strongest issuance month in the first quarter with a record issuance volume of about \$2.5 billion. The issuance this month was from seven deals, one of which was a private deal and one covered mortgage insurance and is not within the fund's investment mandate. Of the investable deals the fund took positions in four of five deals. The first is a \$200 million cat bond sponsored by Tokio Marine & Nichido Fire and covers earthquakes in Japan. The second a \$320 million cat bond sponsored by Mitsui Sumitomo, covering typhoons, floods and earthquake related fire events across Japan. The third position is a \$500 million cat bond sponsored by Allstate covering named storms, earthquakes, severe weather, fires and so-called other perils over U.S. excluding Florida and New Jersey. The fourth position is a \$200 million bond sponsored by Safepoint covering U.S. named storms and U.S. severe thunderstorms in the states of Florida and Louisiana.

The secondary market trading encompassed some 65 positions, covering most perils on the market, according to FINRA's Trade, Reporting and Compliance Engine (TRACE).

The Fund's YTM amounts to 11.31%, which is explained by reduced market prices of four positions due to expected losses that still pay full coupons. YTM excluding these four bonds amounts to 6.65%.

### Portfolio Summary<sup>2</sup>

Yield to Maturity	11.31%
NAV	95.65
YTD	-0.86%
Last 3 months	-0.86%
Last 12 months	-4.35%
Since Inception 2/16/15	-4.35%
Volatility	—
Active Share	60.1%
AUM (SEK M)	210
Cash Allocation	8.8%
Number of Cat Bond positions	65
Solvency Capital Requirement (SCR)	13.05%

### Maturity Profile

1) 0Mo - 6Mo Maturity	17.1%
2) 6Mo - 1.0Yr Maturity	9%
3) 1.0Yr - 2.0Yr Maturity	19.5%
4) 2.0Yr - 3.0Yr Maturity	34.6%
5) > 3.0Yr Maturity	19.9%

### Annualized Risk Characteristics

Portfolio Expected Loss	2.09%
VaR (90%)	4.99%
VaR (95%)	11.49%
VaR (99%)	35.23%
TVaR (99%)	41.03%
Probability of 0% PL	57.32%

### Historical Event Loss Analysis—

Most severe impact on the portfolio <sup>4</sup>	
1906 San Francisco CA	26.9%
1926 Great Miami	21%
1700 Cascadia Subduction	13.5%
Zone Offshore of BC	
1732 Montreal Region	12%
QC-Scenario 1	
1812 New Madrid Seismic	8.7%
Zone-Scenario 4-3 Segments	
Rupture	

### Asset Class Financial Indicators<sup>5</sup>

	Annualized Volatility	Sharpe Ratio
Swiss Re Cat Bond Total	6.74%	1.04
Return Index		
Barclays BA US High Yield	8.44%	0.98
TR index value unhedged		
S&P 500	18.23%	0.61

### Portfolio Risk Profile<sup>3</sup>

Wind Exposure	Earthquake Exposure
Australia	1.54%
Canada	0.00%
Europe	2.50%
Japan	1.91%
US Midwest	0.22%
US Northeast	15.01%
Florida	26.90%
Other US Southeast	11.81%
US Southwest	8.95%
US West	2.13%
Mexico	4.47%
<b>Total</b>	<b>75.44%</b>
Other perils	1.43%
<b>Total</b>	<b>23.13%</b>

### Wind Distribution Overview



### Earthquake Distribution Overview



### Responsible investment key indicators<sup>6</sup>

Purpose	% of positions	Problematic Entities	% of positions
Disaster relief	2.1	Sponsor	0.0
General property	67.0	SPV domicile	0.0
Insurer of last resort	20.2	Collateral currency	0.0
Public services	4.3	Collateral instrument	0.0
Mutual Insurance	4.3		
Problematic purposes	0.0		

### SEF Entropics Cat Bond Fund

SEF Entropics Cat Bond Fund is an actively managed fund that invests in global reinsurance risks covering natural catastrophes (Cat Bonds). The Fund aims for a good risk adjusted return with very low correlation to other asset classes and good diversification among the underlying insurance risks.

The web site [en.entropics.se](http://en.entropics.se) provides additional information on the SEF Entropics Cat Bond Fund, including the Key Investor Information Document (KIID) and the Fund's prospectus.

Historical return is not a guarantee for future returns. The money you invest in the Fund can increase as well as decrease and you cannot be certain to have the full investment returned.

Share Class	I
Currency Class	SEK
Base Currency	SEK
Inception	4/10/17
Performance Target	4-6%
Fund Domicile	Luxembourg
Fund Structure	SICAV
Fund Regulation	UCITS
Liquidity	Fortnightly
Minimum Initial Investment	SEK 20 000 000
Minimum Subsequent Investment	SEK 5 000 000
Current Entry Charge	0%
Performance fee	10%
Hurdle Rate	SSVX90, High Watermark
Management Fee	0.70%
ISIN Number	LU1138351504

### Entropics Asset Management

Entropics Asset Management AB is the first Scandinavian asset manager specialised in Cat Bond investments.

The team has broad experience from asset management, underwriting, meteorology, underwriting, cat claims settlements and financial mathematics.

Entropics is licensed by and under the supervision of *Finansinspektionen*, the Swedish Financial Supervisory Authority.

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### Information on Risk Metrics

The risk measure for Cat Bonds and thus for Cat Bond portfolios is closely linked to reinsurance terminology. The following terms describe, briefly, the central portfolio risk metrics used by Entropics.

**PRINCIPAL ( $\Pi_0$ ):** The Principal of a Cat Bond is the amount deposited as collateral for the bond's reinsurance commitment. A portfolio's total principal ( $\Pi_0$ ) is the total amount exposed to damage events and, thus, generating returns.

**LOSS (L) AND LOSS RATIO ( $x=L/\Pi_0$ ):** The total loss (L) is a monetary value, and to the Loss Ratio  $x=L/\Pi_0$  is a relative measure of the loss size, with a range of 0–100%.

**PROBABILITY OF ATTACHMENT ( $P_{att}$ ):**  $P_{att}$  describes the probability that a portfolio will sustain any damage at all. This probability generally increases with the number of (uncorrelated) bonds in the portfolio.

**PROBABILITY OF 0% LOSS ( $P_0$ ):**  $P_0$  is simply the probability of no loss at all and its relation to  $P_{att}$  is thus  $P_0=1-P_{att}$ .

**PROBABILITY OF EXHAUSTION ( $P_{exh}$ ):** Indicates the probability that the portfolio sustains a damage equal to the entire principal  $\Pi_0$ .  $P_{exh}$  is only notable for portfolios with few bonds. For portfolios with many (uncorrelated) bonds, it is all but infinitesimal.

**EXPECTED LOSS (EL):** The mean loss of a Cat Bond or a portfolio of Cat Bonds. Actual losses will often be 0% (as described by  $P_{att}$ ), but losses, when occur-

ring, will often be considerably larger than EL. The loss thus in general shows considerable variation around the mean loss EL.

**STANDARD DEVIATION ( $\sigma$ ):** To express the volatility of loss around the mean EL, the standard deviation of the loss,  $\sigma$ , is used.

**VARIATION COEFFICIENT ( $\mu=\sigma/EL$ ):** The variation coefficient describes the volatility in relation to the mean loss, EL. The coefficient increases with the volatility of the portfolio.

**EXCEEDANCE PROBABILITY (EP):** Though the EL generally is low and the probability of no loss is high, actual losses have a wide spread.  $EP(x)$  is the probability that a loss is equal to or bigger than the loss ratio  $x$ . EP is usually on a yearly basis and is presented as a function of the loss ratio  $x$ .

**LOSS DISTRIBUTION ( $Q(x)$ ):**  $Q(x)$  is the probability distribution of the loss and is calculated as  $Q(x)=-EP'(x)$ .

**VALUE AT RISK (VaR):**  $VaR(Y)$  is the loss that with the probability  $Y$  is not exceeded on a yearly basis.

**TAIL VALUE AT RISK (TVAR):**  $TVAR(Y)$  is the mean of all losses exceeding  $VaR(Y)$ .

Mathematically, this means that  $TVAR(Y)=\frac{\int_{VaR(Y)}^{\infty} x \cdot Q(x) dx}{\int_{VaR(Y)}^{\infty} Q(x) dx}$

### Footnotes

1. Performance is reported by Swedbank AB and reflects the Fund's Net Asset Value after fees
2. Yield to Maturity is calculated before applicable fees. In accordance with the Solvency 2 directive, a cat bond investment is considered as an insurance risk on the asset side. The Solvency Capital Requirement, SCR (as a monetary amount) for this specific risk is calculated as a percentage of the Assets Under Management (AUM).
3. Risk distribution and profile are calculated by portfolio modelling in AIR CATRADER, being the industry standard tool used by asset managers and re-insurers worldwide to model and analyse catastrophe bonds and other insurance

linked securities. "Other perils" includes perils other than wind and earthquake, e.g. wildfires and flooding. The portfolio can also include unmodelled risks, such as volcano eruptions and meteorite impacts, with extremely low and uncalculable frequency.

4. The historical event loss analysis describes the loss as a percentage of the portfolio if these events were to occur today.

5. Financial key figures are based on ten years weekly data from Bloomberg.

6. A description of the RI indicators can be found at Entropics' blog:

<http://en.entropics.se/blog/how-to-interpret-entropics-indicators-for-responsible-investments/>