Sparrow Finance: A Decentralized Autonomous Organization

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https://sparrowfinance.xyz

1. Abstract

Sparrow Finance is a decentralized autonomous organization (DAO) designed to enable trustless, on-chain governance of a liquid staking protocol. By placing all governance and economic parameters under the control of token holders, Sparrow removes the need for centralized management and ensures protocol direction aligns with community consensus.

The Sparrow Protocol issues liquid staking receipts named spAssets that represent staked positions across multiple blockchains. Rewards generated by underlying validators flow directly into the protocol's liquidity pools, increasing the value of spAssets over time.

All key decisions, including fee adjustments, treasury management, and upgrade proposals, are determined through transparent, token-weighted voting executed by smart contracts. The SPRO governance token powers this system, linking protocol ownership to participation.

Cypher Networks LLC serves as the initial development agency under mandate of the Sparrow Foundation DAO, a legally structured entity that acts solely on behalf of SPRO holders. Together they form a self-funding, verifiably decentralized financial protocol governed entirely on-chain.

2. Introduction

A decentralized autonomous organization (DAO) governed entirely by token holders through on-chain smart contracts enables governance without reliance on centralized control. Decisions are executed through transparent, verifiable voting mechanisms that reflect the collective will of participants rather than the authority of a few. This model ensures trust, fairness, and alignment between the protocol and its community.

Sparrow Finance is a liquid staking protocol that issues receipt tokens ("spAssets") representing users' staked positions in underlying network validators. These contracts automatically compound staking rewards into the liquidity pools, creating a dynamic, yield-bearing asset that remains liquid while earning validator rewards.

The protocol is governed by the Sparrow Foundation DAO and maintained by its development partner, Cypher Networks LLC. The DAO acts on behalf of all SPRO token holders, who

collectively determine protocol parameters, treasury allocation, and economic policy. The Foundation provides the legal structure necessary for operational legitimacy while maintaining full on-chain transparency.

Governance is executed through elected officers, chosen annually by SPRO holders:

Developer – One elected technical representative from the development team.

Treasurer – Oversees treasury accounting and publishes verifiable financial statements.

Member (MAA) – Ensures adherence to DAO rules and compliance standards.

Member (Scribe) – Records meetings and maintains governance archives.

Community Member – Represents the broader DAO constituency.

Officer nominations are open to all members of the community and are decided by majority vote, requiring a minimum quorum of 2.5 % for standard proposals.

Any DAO member may submit a proposal. Proposals are organized into defined categories—each with its own quorum and majority thresholds—to ensure predictable, transparent, and balanced governance while safeguarding the protocol against centralization.

3. Architecture Overview

3.1 Protocol Layers

The Sparrow Finance Protocol is organized into three primary layers: the Staking Layer, the Governance Layer, and the Treasury Layer.

Each layer is autonomous yet interconnected through verifiable smart contract interactions, ensuring full transparency, immutability, and community control.

3.2 Staking Layer - The spAsset System

At the base of the protocol lies the Staking Layer, composed of separate liquid staking contracts deployed on each supported network (e.g., Avalanche, Beam, Starknet, Wrapped Bitcoin etc.).

Each contract accepts native staking assets (AVAX, BEAM, STRK, WBTC, SOL, etc.) and issues corresponding receipt tokens, known as spAssets (spAVAX, spBEAM, spSTRK, spWBTC, spSOL).

Holders of spAssets maintain full liquidity and can swap, provide liquidity, or collateralize these tokens while accruing validator rewards.

Validator rewards earned by the protocol are added to the underlying pool balance, increasing the redemption value of each spAsset over time rather than requiring manual reward claims.

This design combines validator-level yield with token-level composability — providing users with liquid exposure to proof-of-stake yield.

Validator nodes supporting these pools are operated by Cypher Networks LLC on supported protocols, ensuring reliable uptime and consistent reward distribution under the oversight of the Sparrow Foundation DAO.

3.3 Governance Layer - SPRO Governance Token

The Governance Layer is powered by the SPRO token, which represents both voting power and protocol ownership.

All governance actions from parameter updates to treasury spending are executed through on-chain smart contracts controlled by the DAO.

Proposals are submitted, voted on, and executed via the DAO's governor and timelock contracts.

Voting power is determined by SPRO balance at the proposal's snapshot block, ensuring voting fairness and resistance to manipulation.

The Sparrow Foundation DAO serves as the legal and operational wrapper for this layer, enforcing transparency and providing a compliant interface between decentralized governance and traditional legal frameworks.

3.4 DAO Treasury Layer & Buyback System

The Treasury Layer aggregates protocol fees and manages the execution of the DAO's economic policies.

A total fee up to a maximum of 10% may be applied to staking rewards distributed across all Sparrow liquid staking contracts. These fees are divided into two categories: DAO Treasury Fees and Development Fees.

DAO Treasury Fees flow directly into the DAO treasury as native assets.

Development Fees are distributed to the development company to cover infrastructure and ongoing development costs.

The current fee structure is as follows:

5% — DAO Treasury (managed on-chain by elected DAO signers)

3% — Cypher Networks LLC (development agency)

The DAO may allocate up to 30% of its inflows to the Buyback and Burn Engine, which purchases SPRO on the open market using a time-weighted average price (TWAP) strategy and sends the purchased tokens to a verifiable burn address. The default allocation is 20%.

Buybacks may only be executed once the DAO treasury maintains a minimum 12-month operational runway.

This mechanism applies mild deflationary pressure to the total SPRO supply while preserving treasury solvency — aligning token value appreciation with protocol adoption.

3.5 Cross-Chain Design (Avalanche ↔ Starknet ↔ Others)

The Staking Layer operates across multiple networks, enabling Sparrow Finance to support liquid staking on diverse proof-of-stake protocols. Rewards are distributed natively on each chain: to the respective staking contracts, the DAO Treasury, and the Development Company.

The Buyback and Burn Mechanism converts collected fees from native assets into a stablecoin. This stablecoin is then bridged to the network where SPRO resides to execute scheduled SPRO buybacks through a time-weighted average price (TWAP) strategy. Purchased SPRO tokens are sent to a verifiable burn address, permanently reducing supply.

The DAO Governance Smart Contract is maintained on the native chain that hosts the SPRO token to ensure consistent governance state and execution.

The DAO Treasury and Staking Contracts are both multichain in structure, allowing fee collection, treasury inflows, and staking rewards to be managed seamlessly across supported networks.

4. Economic Model

4.1 Fee Design

DAO Treasury – Collects 5 % of all staking rewards from each Sparrow liquid-staking contract.

Developer Fee – Cypher Networks LLC receives 3 % of staking rewards as compensation for infrastructure and ongoing development.

Fee Cap – Combined fees are permanently capped at 10 % of total staking rewards. Any adjustment to this cap requires a super-majority vote and a 72-hour timelock.

DAO Expenses – Treasury funds may be used for audits, liquidity provisioning, grants, and governance operations.

Buy-and-Burn Mechanism –
The DAO may allocate up to 30 % of its inflows (baseline = 20 %) to purchase SPRO on the open market and send the tokens to a verifiable burn address.

This function is optional and can be activated, paused, or adjusted only by DAO vote. Buybacks are executed using stablecoins bridged to the SPRO home chain through a weekly TWAP (Time-Weighted Average Price) strategy to minimize volatility.

4.2 Fee Governance Parameters

Parameter	Symbol	Baseline	Rule / Cap
Protocol Fee	f	8 %	Max 10 %
DAO Share	f_t	5 %	Adjustable by super-majority

Dev Share	f_2	3 %	Adjustable by super-majority
Buyback Fraction	B	20 % of DAO share	≤ 30 %
Effective Burn Rate	$\beta = f_1 \times B$	≈ 1 % of total rewards	
Governance Threshold	—	≥ ⅔ + 72 h timelock	

4.3 Economic Formulas

DAO revenue=f1×R

Developer revenue=f2×R

SPRO buyback spend=β×R=B×f1×R

Example:
If annual rewards (R) = $100 million → DAO = $5 million, Developer = $3 million.

At B = 20 %, ≈ $1 million per year funds the buy-and-burn mechanism, leaving ≈ $4 million for treasury operations.

This structure, burning roughly 1 % of total rewards, maximizes long-term token value support while maintaining protocol solvency.

The Sparrow Foundation DAO governs all protocol parameters, treasury operations, and system upgrades through on-chain, token-weighted voting.

Governance power is held by SPRO token holders, who may create, debate, and vote on proposals directly through the DAO interface.

All proposals are executed via immutable smart contracts—either the Governor Contract or the Timelock Controller—ensuring that no individual or organization can act outside the consensus of the DAO.

5. Governance

At launch, Sparrow Finance is administered through Cypher Networks LLC. Until community governance is active, the DAO treasury is secured by a single multisig operated by Cypher Networks LLC. The governance contracts and multisig signers will expand as community members join.

5.1 Structure & Voting

Each SPRO token equals one vote. Voting power is determined by wallet balance at the snapshot block when the proposal is created.

Proposals are open for a fixed voting period of 3 days and require quorum participation to pass.

The governance process follows four sequential stages:

1. Draft Phase – A proposal is posted to the DAO forum for 48 hours of open discussion using the provided template.

2. Signal Phase – A non-binding Snapshot vote gauges initial sentiment.

3. On-Chain Vote – The finalized proposal is submitted to the governance contract. Votes are tallied according to token weight.

4. Execution Phase – If the proposal meets quorum and majority requirements, it enters a Timelock (typically 72 hours) before automatic execution.

5.2 Proposal Classes (A–E)

To ensure clarity and predictability, proposals are categorized by scope and impact:

Class	Category	Examples
A	Operations & Budget	Infrastructure, audits, salaries, tooling
B	Grants & Ecosystem	Integrations, marketing, hackathons

C	Liquidity & Treasury	LP seeding, rebalancing, buyback-ratio changes
D	Governance / Constitutional	Fee parameters, quorum changes, signer rotation
E	Emergency Actions	Critical patches, pause/unpause functions

Each class carries its own quorum and majority thresholds (see §5.3).

5.3 Quorum & Thresholds

Proposal Type	Quorum Requirement	Approval Threshold	Timelock
A / B / C (Standard)	≥ 2.5 % voting power	> 50 % yes votes	72 h
Treasury-Heavy (>$100 k)	≥ 10 % voting power	≥ 60 % yes votes	72 h
Constitutional / Fee Changes / Dev Removal (D)	≥ 20% voting power	≥ 66.7 % yes votes	72 h minimum
Emergency (E)	N/A (see §5.4)	3-of-5 signers	7-day ratification

5.4 Emergency Powers

An Emergency Multisig (3-of-5) may enact temporary actions limited to seven days, including contract pauses, critical patches, or incident responses.

All emergency actions must be disclosed publicly and ratified by the DAO within seven days.

If not ratified, the action automatically reverts and control returns to the standard governance flow.

5.5 Governance Parameters

The following parameters are encoded in the DAO smart contract and adjustable only via governance:

Proposal Threshold: 500,000 SPRO (0.05% of total supply)

- Minimum tokens required to create a proposal

- Prevents spam while maintaining accessibility

- Adjustable range: 100,000 - 10,000,000 SPRO

Voting Delay: 2 days (172,800 seconds)

- Time between proposal creation and voting start

- Prevents flash loan attacks

- Allows community review period

Voting Period: 3 days (259,200 seconds)

- Duration of active voting

- Balances speed with participation

Timelock Delay: 72 hours (259,200 seconds)

- Mandatory delay before execution

- Provides emergency exit window

- Cannot be bypassed

Quorum Bounds:

- Standard: 1% - 50%

- Treasury-Heavy: standardQuorum - 50%

- Constitutional: treasuryHeavyQuorum - 50%

Approval Threshold Bounds:

- Standard: 25% - 75%

- Treasury-Heavy: standardThreshold - 90%

- Constitutional: treasuryHeavyThreshold - 95%

Treasury-Heavy USD Threshold:

- Current: $100,000

- Adjustable range: $10,000 - $10,000,000

5.6 Treasury Controls

The DAO Treasury is governed by on-chain policy rules designed to protect solvency and reduce risk:

Runway Rule – Maintain a minimum 12-month operating runway; if below, buybacks pause and grant spending is capped.

Spending Caps –

- Single proposal: ≤ 15 % of total treasury (constitutional vote required to exceed).
- Monthly outflow: ≤ 25 % (excluding LP migrations).

Buyback Band – 0–30 % of DAO inflows, default 20 %, capped ≤ 0.25 % of circulating SPRO burned per month.

Signer Separation – Treasury multisig signers may not hold a majority overlap with Cypher Networks operational signers, ensuring independent control.

Transparency – All transactions, addresses, and balances are publicly auditable via the DAO's Treasury dashboard.

6. Contract Specification

The Sparrow Finance Protocol is built as a modular suite of smart contracts deployed across multiple networks. Each module is verified on-chain, upgradeable through DAO governance, and designed for transparency, auditability, and safe composability within DeFi infrastructure.

6.1 Core Contracts

Contract	Function
spAsset Contracts	Manage deposits, withdrawals, and reward accounting for each supported staking network.
DAO Governor	Executes token-weighted governance proposals from SPRO holders.
Timelock Controller	Enforces execution delays on approved proposals to prevent governance manipulation.
Treasury Module	Holds DAO assets, routes protocol fees, and manages spending approvals.
Buyback Engine	Converts DAO inflows into SPRO buybacks and burns according to DAO policy.

Oracle Adapter	Supplies verified price and TWAP data for buyback execution and treasury valuation.

All contracts use UUPS upgradeable proxies, allowing secure, governance-controlled upgrades without redeployment.

6.2 spAsset Architecture

Each supported network hosts its own spAsset contract (e.g., spAVAX, spBEAM, spSTRK, spBTC, spSOL) following a unified logic pattern:

Staking Operations – Users deposit native assets and receive spAssets representing staked positions.

Reward Accrual – Validator rewards automatically increase the contract's pool balance, raising the redemption value of each spAsset over time.

Fee Routing – 5 % of rewards flow to the DAO Treasury; 3 % flow to Cypher Networks LLC.

Unlock Period – Withdrawals require an unlock delay corresponding to validator unbonding.

Emergency Controls – Governance can pause or resume operations if vulnerabilities are detected.

Each spAsset is isolated per chain, ensuring that failures on one network cannot affect others.

6.3 Governance and Execution Framework

Protocol governance operates entirely on-chain through two primary modules:

DAO Governor – Handles proposal creation, voting, and approval.

Timelock Controller – Queues and executes approved actions after a mandatory 72 hour delay.

This structure guarantees transparent decision-making and prevents any single actor from bypassing community consensus.

6.4 Treasury and Buyback System

The Treasury Module receives all DAO-designated fees from the staking layer. It manages liquidity, grants, and buyback allocations under DAO-defined spending limits. The Buyback Engine automatically converts a portion of treasury inflows into a stablecoin, bridges it to the

SPRO home chain, and purchases SPRO via a weekly TWAP schedule. Purchased tokens are sent to a verifiable burn address, producing controlled deflation while maintaining treasury solvency.

6.5 Security and Upgradeability

Access Control – All administrative functions are governed by DAO vote or designated multisig signers with no authority over user funds.

Circuit Breaker – Critical contracts include pause/unpause mechanisms for rapid response to exploits.

Upgrade Process – Only DAO-authorized proposals can trigger contract upgrades; all upgrade actions are logged on-chain.

Audit Policy – Every major contract undergoes internal review, automated static analysis, and external third-party audit before deployment.

Bug Bounty – A standing bounty program rewards responsible vulnerability disclosures.

7. Tokenomics SPRO Distribution

Sparrow (SPRO) total supply is 1 Billion.

Category	Allocation	Vesting / Notes
DAO Treasury & Governance Reserve	30 %	Unlocked over time via governance
Community & Rewards	20 %	Distributed over time to LPs, and ecosystem users
Team / Development (Cypher Networks & Core Contributors)	25 %	4-year vesting, 1-year cliff

Public Distribution	20 %	Public Distribution
Validator / Angel Round Allocation	5 %	Early supporters; optional lockup
Total	100%	

The Team and Development allocation will be on a 4 year vesting schedule with a 1 year cliff. The team will not receive any tokens until the 1 year mark and will receive 25% unlocks per year.

The Dao treasury reserve is locked over a 5 year period with 20% of the 30% Treasury unlocked of the allocation unlocked at launch (6%).