DECISION BRIEF

Tax-Efficient Asset Location—Placement Across Tax Categories

Scope	This *brief* describes the algorithm Rain Dog uses to place a household's chosen assets across taxable, tax-deferred (traditional IRA/401(k)/403(b)), and tax-free (Roth) accounts so as to maximize after-tax value at the end of the planning horizon.
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1. Summary

Rain Dog attempts to place clients' assets in the account type—taxable, tax-deferred, or tax-free—where they produce the most after-tax value at the end of the client's planning horizon, rather than holding the same allocations in every account. Assets differ in how heavily they are taxed along the way (tax drag) and at withdrawal. Where assets are held changes their after-tax terminal value, often materially, with no change to the overall underlying holdings other than where each holding is located.

Decision. For each asset, Rain Dog computes its after-tax value at the end of the planning horizon in each of the three account types, using the client's own highest marginal tax rates, both while working and after retirement. Assets are then placed in sequence: the highest-benefit assets fill the Roth first (subject to a diversification target for how many assets the Roth concentrates in and how much capacity exists in Roth accounts), the taxable account fills next (again subject to capacity), and the tax-deferred account takes the remainder. Rain Dog benchmarks tax savings against a uniform placement that holds the same allocation in every account, which is the placement pattern most commonly found in the outside statements Rain Dog has reviewed. The after-tax gain over that benchmark is computed and reported for each plan.

2. Scope & Application

This brief covers the placement algorithm and its rationale. It does not cover which assets a household holds, their target weights, the estimation of the tax rates used as inputs, or the spending sleeve.

Placement is set when the plan is built and revisited at each annual review with then-current account balances, tax rates, asset allocations, pinned assets, and held-away assets.

3. Selection Criteria & Methodology

3.1 Selection Criteria

The algorithm is set against the following criteria:

- **Beat uniform placement, and show by how much—**The goal is to place assets so the household captures materially more after-tax value than it would from holding the same allocation in every account, and to report that delta explicitly. This is compared to the uniform-placement benchmark.
- **The client's own marginal rates—**Rain Dog computes tax differentials based on the highest marginal current and future tax rates. Drag, capital-gains, and ordinary-income treatments are all evaluated at those rates rather than at generic or average rates.
- **Diversify the Roth rather than concentrate it—**The single highest-growth asset usually produces the largest Roth benefit on paper, but concentrating the Roth in one or two assets is a bet that those specific assets will out-grow the rest over a client's specific horizon. Rain Dog's approach is to diversify across several asset classes that deliver similar expected results in terms of tax efficiency. The measured cost of diversification in expected after-tax value is often small and sometimes negligible. Rain Dog's top-level asset allocation strategy of diversification across different asset classes with similar levels of returns makes this strategy feasible.

3.2 Methodology

Investment horizon. The investment horizon is calculated as the number of years to the mid-point of the household's retirement years. Mid-point is based on the investment plan's longevity assumption minus the first planned year of retirement withdrawals, or minus the current year if retirement withdrawals have already begun. The purpose of the tax

modeling is to determine the average tax cost of using $1 from each possible asset location. Use of the retirement mid-point is intended to approximate the average withdrawal case over the client's full lifetime.

After-tax terminal value. For each asset and each account type, the asset's balance is projected forward at its assumed CAGR over the horizon, then the account's tax treatment is applied.

Account type	After-tax treatment over the horizon
Taxable	Each year's growth is reduced by the client-adjusted tax drag (at pre-retirement and post-retirement tax rates, proportional to the years in each category). At the end of the horizon, the gain portion (not the basis) is taxed at the client's future long-term capital-gains rate.
Tax-deferred	Growth compounds untaxed; at the end of the horizon the entire balance is taxed at the client's future ordinary-income rate.
Tax-free (Roth)	Growth compounds untaxed and the end-of-horizon withdrawal is not taxed.

Tax drag. YCharts publishes fund-level tax drag at the top marginal rate (37%) by SEC convention. Rain Dog rescales that figure to the client's own highest current ordinary-income rate and applies the result to the taxable account's growth each year, reducing the compounding rate. The conversion scales linearly with the marginal rate. For example:

Step	Value	Note
YCharts published tax drag	2.3%	Published at the top marginal rate (37%) per SEC convention.
Client's ordinary marginal rate	24%	The client's highest current marginal rate.
Client-adjusted drag	1.5%	2.3% × (24% ÷ 37%) ≈ 1.5%.
Applied to a 10% CAGR asset	8.5%	10% − 1.5% is the annual compounding rate used in the taxable account.

For investment horizons that span both pre-retirement and post-retirement years, the pre-retirement and post-retirement tax rates are applied proportionately.

Tax rates. All tax rates are the client's estimated highest marginal rates, current and future. These rates combine federal, state, and local tax rates.

Placement sequence. Assets are placed in three passes:

- Roth first. Assets are ranked by their comparative benefit of being placed in Roth vs. taxable or Roth vs. tax-deferred, and the assets with the highest comparative benefit fill the Roth up to the diversification limit. The choice of Roth vs. taxable or Roth vs. tax-deferred is configurable per client and set to maximize tax benefit for the client.
- Taxable next. Of the remaining assets, those are placed in the taxable account that have the largest after-tax advantage in taxable versus tax-deferred.
- Tax-deferred takes the remainder.

Roth diversification limit. The number of Roth assets is tunable, from one up to the full asset set. Rain Dog runs the placement across that range and reads the after-tax cost of diversifying directly from the results for that client. The shape of that cost-versus-count curve varies from household to household—it depends on the ratio of assets across the taxable, tax-deferred, and tax-free accounts, on any pinning constraints, on the overall mix of higher- and lower-growth assets, and on other factors. Rain Dog generally aims to have at least 3 different assets in the Roth account for sake of diversification. Shifting assets into Roth can cause ripple effects in allocations between taxable and tax-deferred, and sometimes best Roth placement results in net losses because of shifts between taxable and tax-deferred. Rain Dog's general guide is to maximize the number of different assets in Roth while still keeping estimated tax savings within 0.25% of the 3-asset tax savings.

Constrained positions. Pinned positions enter the computation at their fixed location and do not move between the uniform benchmark and the optimized plan, so the reported delta reflects only the assets Rain Dog actually places. Held-away positions are excluded from the placement computation entirely.

4. Background & Research

4.1 Why this approach

Asset location is one of the few portfolio decisions that is close to a "free lunch" in terms of the returns vs. risk tradeoff. Given the tax treatments, the client's marginal rates, and a set of growth and drag assumptions, the after-tax value of each asset in each account can be calculated. Two households with identical holdings and identical allocations can end the horizon with materially different after-tax growth purely because of where each asset was held. That higher after-tax

growth can be achieved at no additional market risk and with no change to the overall allocation—just a change in how assets are located.

Rain Dog believes the uniform-placement benchmark is the most accurate benchmark. Across nearly every statement Rain Dog has reviewed from other firms, placement has been uniform or near-uniform across tax locations—with no indication of location-aware construction. Rain Dog has also seen statements that do the opposite of the tax-aware order (for example, holding all equities in tax-deferred and a significant bond allocation in Roth), which is worse, but the uniform case has been by far the most common.

The diversification priority. In allocating to Roth, an allocation that concentrates on the single one or two most tax-advantaged assets will appear to be best. However, that concentration adds risk arising from higher dependence on performance of one or two asset classes, and that risk is not adequately offset by an increase in expected return. Rain Dog's approach of diversifying into 3 or more assets in Roth, quantifying the expected cost of the diversification, and limiting that to 0.25% reduction in expected after-tax gains compared to the 3-asset allocation, allows for a quantitatively assessed tradeoff in each case.

4.2 Alternatives considered

- **Uniform placement—**Rejected because it forgoes the recoverable after-tax gain. It is retained as the practice to benchmark against because it is the prevailing practice.
- **One or two highest-growth assets in Roth—**Rejected because, while it maximizes expected Roth benefit on paper, it overly concentrates the bet on which one or two assets will out-grow the others over the horizon. The diversification limit gives up a small, measured amount of that expected benefit to increase the potential sources of return.
- **Generic or average tax rates—**Rejected. Placement benefit is sensitive to the spread between the client's ordinary and capital-gains rates; using the client's own highest marginal rates keeps the computation specific to the household and maximizes suitability of the recommendation for the household.

5. References

5.1 Related Documents

- Rain Dog Financial, portfolio construction and allocation-cap Decision Brief.
- Rain Dog Financial, dedicated spending sleeve Decision Brief.
- Rain Dog Financial, Investment Forecast Model white paper.

5.2 Data Sources

- YCharts—fund-level tax drag, published at the top marginal rate.
- Client-specific inputs—current and future highest marginal ordinary-income and long-term capital-gains rates, and the planning horizon.

6. Notes & Disclosures

Rain Dog Financial® is a trade name of Rain Dog LLC.

This brief is prepared first for Rain Dog's internal documentation purposes and second for compliance and record-keeping purposes. It is also shared with current and prospective clients for the sake of offering transparency into Rain Dog's methods and approach. It is informational and does not constitute individualized investment or tax advice. Investing involves risk, including possible loss of principal. The figures produced by this method depend on the tax-rate, tax-drag, and growth assumptions used as inputs; they are conservative estimates and structured judgment, not predictions, and past tax and market experience is not a guarantee of future results. Tax rules and rates change; placement is reviewed at least annually. Rain Dog does not provide tax-return preparation or legal advice; clients should consult their tax advisor on their specific situation.

Revision history

Version	Date	Change	By
1.0	2026-08-15	Initial draft.	SCM