Progress Indicators and Targets

Riparian Working Group

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PUGET SOUND PARTNERSHIP

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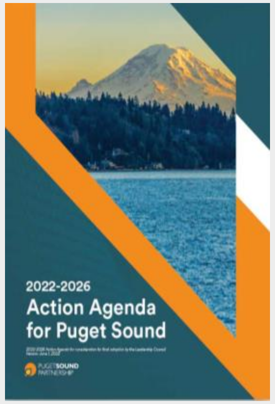
Framework for Evaluating Progress and Results

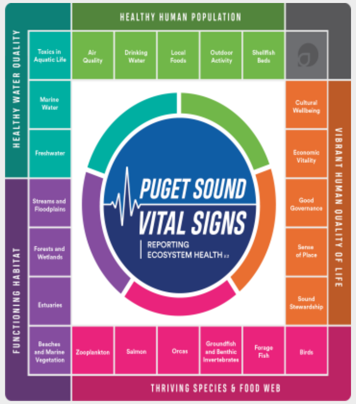
PUGET SOUND INDICATORS

Measures that monitor recovery progress at the Puget Sound scale



ACTION AGENDA PROGRESS INDICATORS

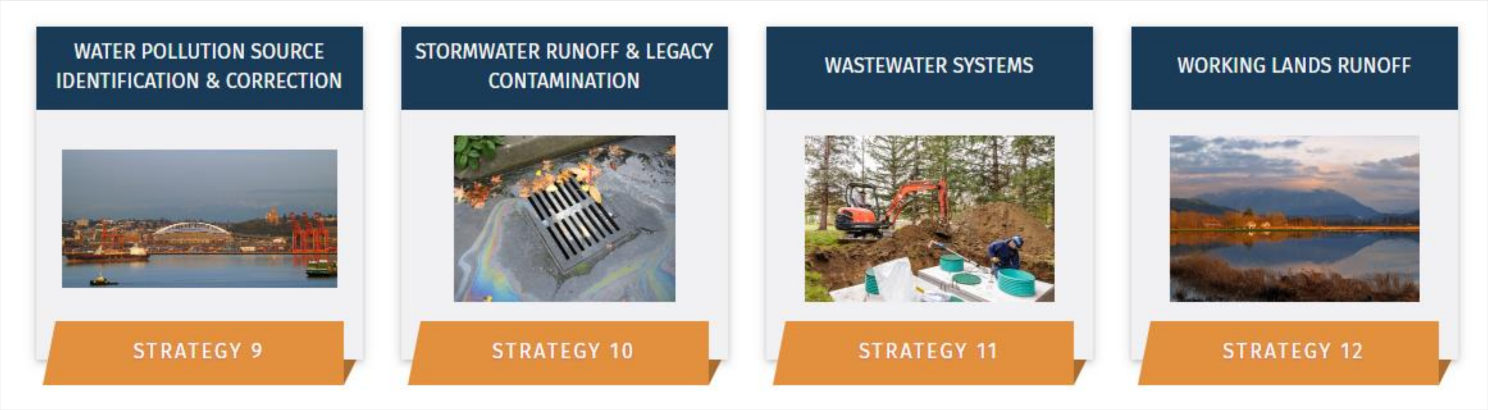
Evaluate human activities that influence ecosystem conditions



VITAL SIGN INDICATORS

Evaluate the status and trends of ecosystem conditions

Action Agenda Strategies



Number of pollution sources identified by PIC programs

Percent impervious surface sound-wide

Number of OSS failures identified and repaired

Total acres of farmland treated with water quality BMPs

ACTION AGENDA PROGRESS INDICATORS

*"Are we making adequate progress **managing the human activities** that impact Shellfish Beds?"*

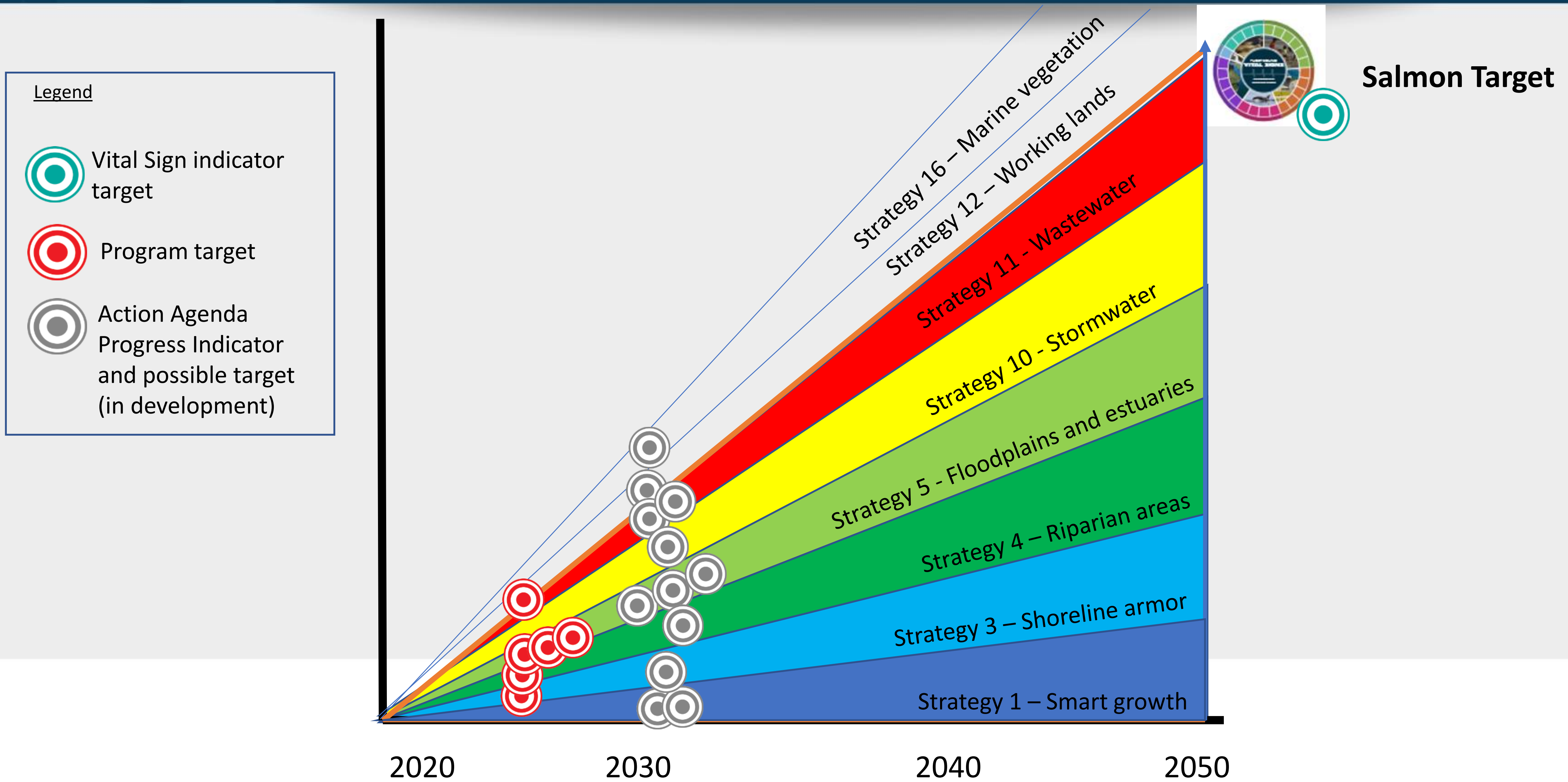
Shellfish beds target:

annual net improvement of > 500 classified commercial shellfish acres in Puget Sound

VITAL SIGN INDICATOR

*"Is **Shellfish bed health** improving?"*

How does it all work together?



How are they used?

Analysis – are we seeing desired management outcomes?

Accountability – where are we falling short?

Adaptive management – what we are learning?

Communications – what can the policy makers, the public, funders do?

Indicators and their targets

INDICATORS

Metric we track to observe progress

Acres of floodplain habitat improved through restoration activities

TARGETS

Quantitative value that describes how much change we want to see in the metric

[EXAMPLE] Fund all shovel-ready floodplain restoration projects, resulting in 6000 acres of habitat restored by 2030

Indicators and Targets for Land Use and Habitat

Land Use and Habitat Strategies

- STRATEGY 1 Smart Growth
- STRATEGY 2 Working Lands
- STRATEGY 4 Riparian Areas
- STRATEGY 5 Floodplains & Estuaries

These strategies call for:

- Mitigating sprawl by promoting infill and density
- Preserving farms and forests through easements, succession planning
- Accelerating investments in habitat restoration and acquisition
- Strengthening incentives for voluntary restoration on private lands
- Strengthening land use regulations

What success looks like:

- Prevent conversion of habitat, farms, and forests to development
- Minimize impervious surface
- Protect remaining habitat through acquisition and voluntary stewardship
- Accelerate restoration while protecting and preserving working lands
- Agriculture is viable

HABITAT RESTORATION AND ACQUISITION INDICATORS

What progress is being made to accelerate funding and implementation of habitat restoration and acquisition?

Acres of floodplain, estuary, riparian habitat improved through restoration

Acres of floodplain, estuary, riparian habitat protected through acquisition

Proposed Target-Setting Method:

- Set proactive targets for habitat restoration and acquisition acres by working with Lead Entities to review project pipelines and estimate acreages for shovel-ready projects

Indicator Methods:

- Track regional progress in funding and implementing shovel ready restoration and acquisition projects, using self-reported project data (PRISM)
- Filter by Lead Entity area, habitat type, restoration type, etc.

Floodplains Improvements

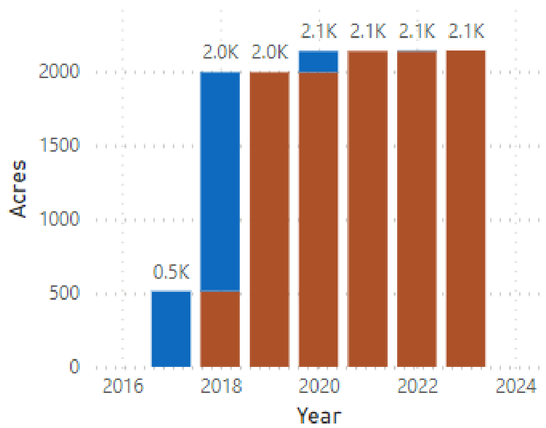
Between 20XX and 20YY, fund $XX of restoration projects that will yield YY acres of floodplains restoration

2142

Cumulative (acres)

Filter by Improvement Type

Floodplains Restoration (aggregate)

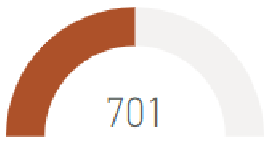


Estuarine Improvements

Between 20XX and 20YY, fund $XX of restoration projects that will yield YY acres of estuarine restoration

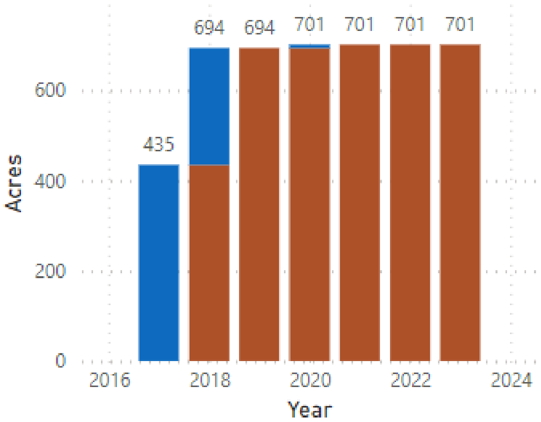
701

Cumulative (acres)



Filter by Improvement Type

Estuarine Restoration (aggregate)

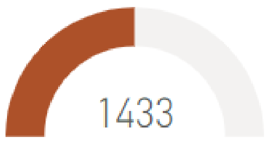


Riparian Improvements

Between 20XX and 20YY, fund $XX of restoration projects that will yield YY acres of riparian restoration

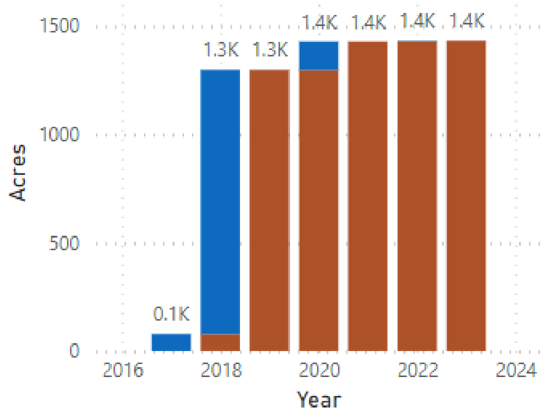
1433

Cumulative (acres)



Filter by Improvement Type

Riparian Restoration (aggregate)



FARMLAND CONVERSION & PRESERVATION INDICATORS

★ *Acres of farms protected by easements*

★ *Acres of farmland converted to development and other uses*

What is farmland being converted to? How is rate of conversion changing over time?

Farm

Change analysis

Farm converted to another use

Active

Non-Active

Small

Medium

Large

Type 1

Type 2

Type 3

Residential Dev

Commercial dev

Infrastructure

Habitat Restoration

Sea level rise

Presence of farms and change over time

How much farmland is being preserved through easements and where? How is this changing over time?

Farms Protected by Easements

Funding Source

Farm Type

Farm Location

Methods under development:

- Exploring and evaluating potential data sources and methods: WSDA, UW, HRCD, USDA
- Defining farmland attributes: types, sizes, etc
- Indicator visualization and reporting

Land Use and Habitat Strategies: Target-Setting

STRATEGY 1	Smart Growth
STRATEGY 2	Working Lands
STRATEGY 4	Riparian Areas
STRATEGY 5	Floodplains & Estuaries

Draft a suite land use targets that represent multiple land use objectives reflected in the Action Agenda

EXAMPLE:

- *No more than X% impervious surface across all Puget Sound watersheds*
- *Slow rate of habitat conversion to X%*
- *Slow rate of farmland conversion to X%*
- *Slow rate of forestland to X%*
- *Protect and restore X acres of floodplain, estuary, and riparian habitat*

Progress Indicators

Urban growth & density

- *Urban density (TBD)*
- *Sprawl (TBD)*

Restoration and Protection

- *Acres of farms protected by easements*
- *Acres of floodplain, estuary, riparian habitat improved through restoration*
- *Acres of floodplain, estuary, riparian habitat protected through acquisition*
- *Voluntary BMP adoption (TBD)*
- *Forestland preservation (TBD)*

Conversion

- *Acres of habitat converted to development*
- *Acres of farmland converted to development and other uses*
- *Change in impervious surface (TBD)*
- *Forestland conversion (TBD)*

Vital Sign Indicators

Overall Condition

- *Natural Resource Industries Employment & Output*
- *Extent of functional floodplains*
- *Extent of functional estuarine areas*
- *Extent of functional riparian areas*
- *Extent of forest cover*

Evaluating Effectiveness

Cumulative effects evaluation framework

Cumulative effects in the context of ecosystem restoration "…are the collective additive, synergistic, and antagonistic effects of all restoration activities that occur within a setting defined by common or connected characteristics of hydrology, geomorphology, ecology, ecological function, and biodiversity" (NASEM 2022, p.61).

Building a cumulative effects evaluation

BUILDING EVIDENCE	using meta-analyses, modeling, lit reviews, etc.
MAKING INFERENCES	to determine cause-effect relationships
HOW EFFECTS ACCUMULATE	the ways cumulative effects are expressed

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The Whidbey basin study will evaluate:

1. Benefits from restoration, conservation, and protection actions for salmonid populations

2. Trajectories of juvenile salmon population characteristics and linkages to habitat improvements

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Whidbey Cumulative Effects Evaluation Team

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Thank You

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