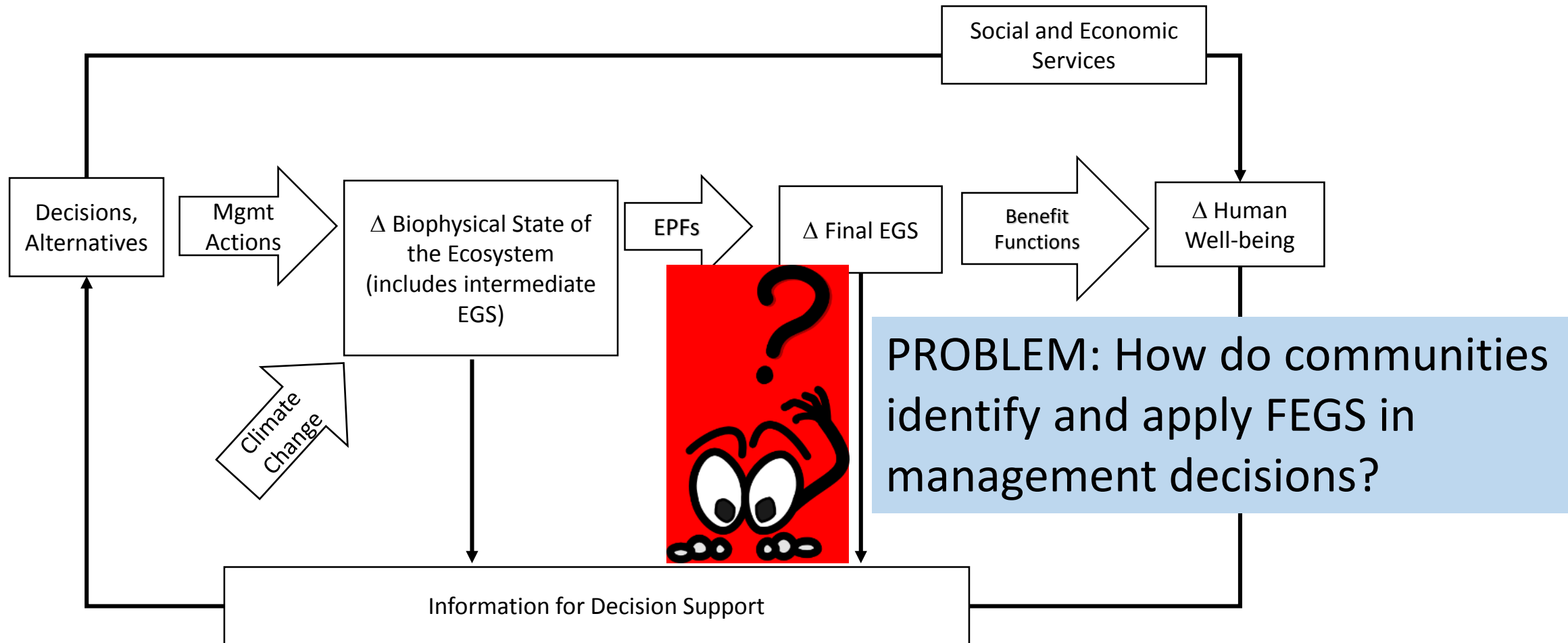


## SHC 2.61 Draft Causal Conceptual Framework



# Outcomes

- FEGS survey and reporting tool
- Final Report → “Staging FEGS for community case studies: **A methodology for selecting and applying metrics of FEGS at community case study locations**” (FY17 Product)

# FEGS survey and reporting tool

- 1 What are ***the ways people benefit*** from local ecosystems?
- 2 What are the ***ecosystem attributes*** that comprise FEGS relevant to each beneficiary?
- 3 What is the ***level of ecosystem delivery*** for each beneficiary?
- 4 What is the ***level of satisfaction*** for each beneficiary?

Community  
Typologies

Bayesian belief  
networks

Characterizes communities

Health and  
Well-Being  
Index

Identifies relative  
importance of various  
domains and community  
"signature"

Envision

DPSIR

FEGS-CS

Provides support and  
information for  
community processes

The FEGS survey and reporting tool

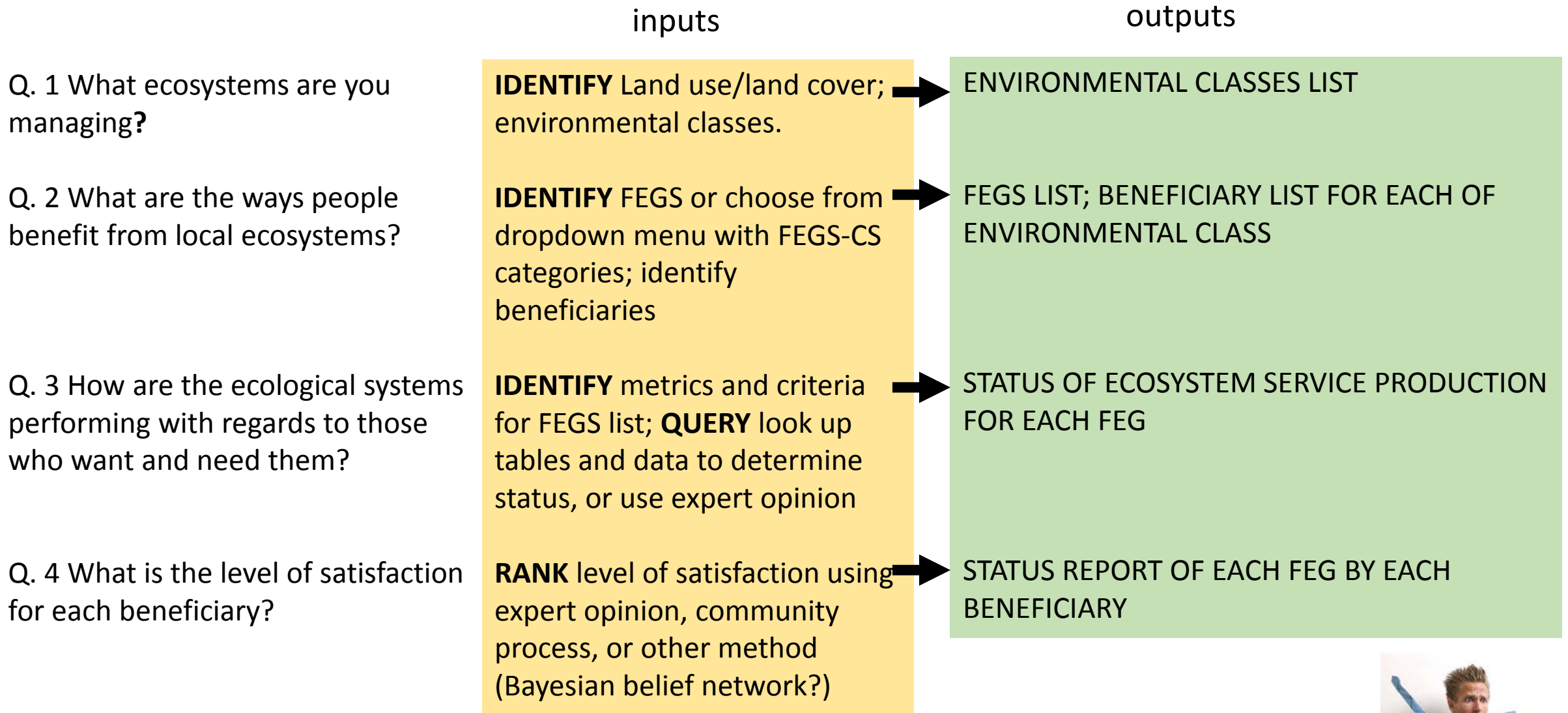
compares across community  
types and confirms **common  
elements**

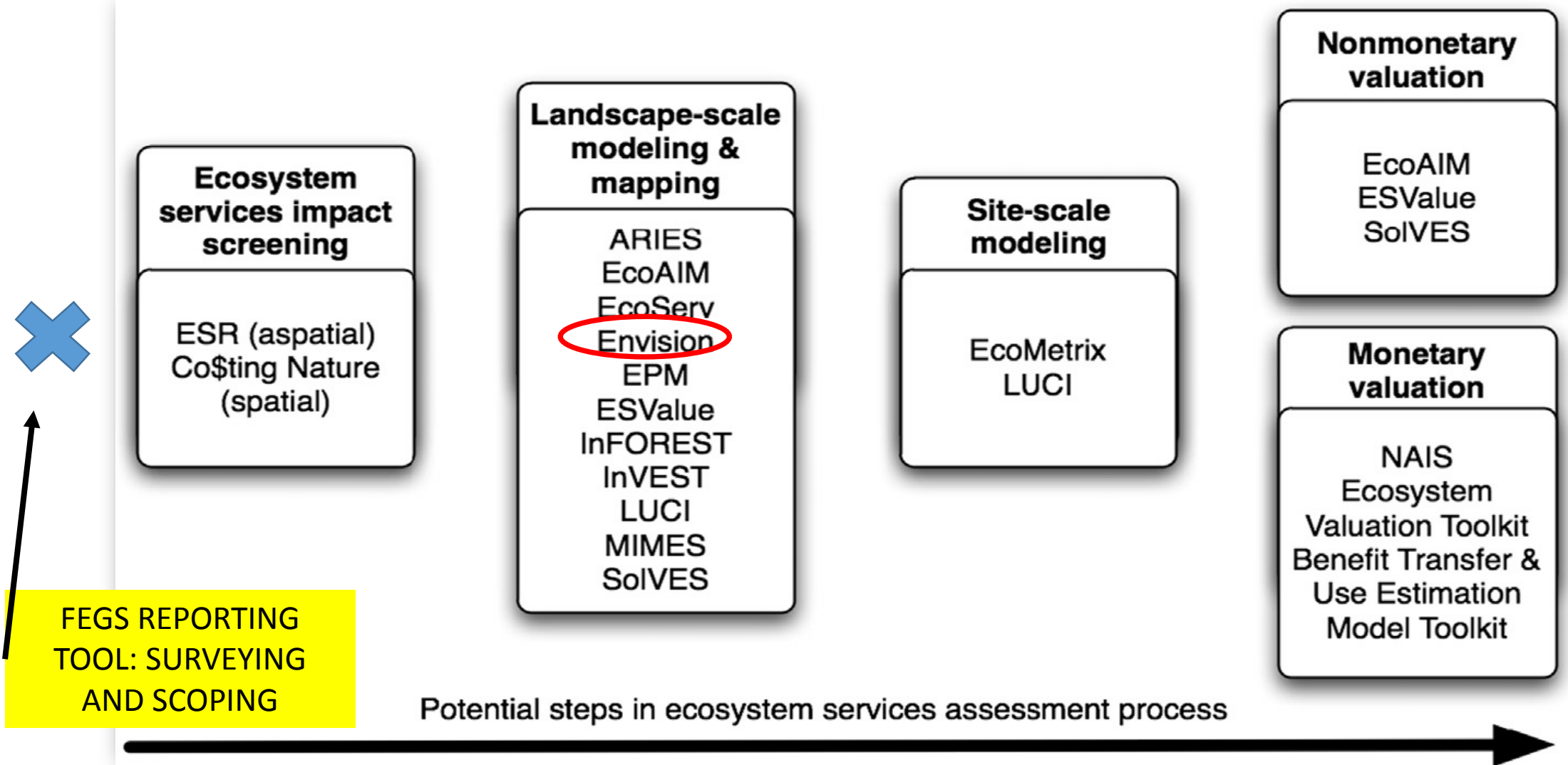
Drills into "environmental  
domain" of HWBI

Reveals FEGS and beneficiaries

## SHC 2.6 EXISTING TOOLS AND PROCESSES

# SURVEY TOOL REVEALS FECS AND BENEFICIARIES





# CURRENT AVAILABLE TOOLS

BAGSTAD ET AL., 2013

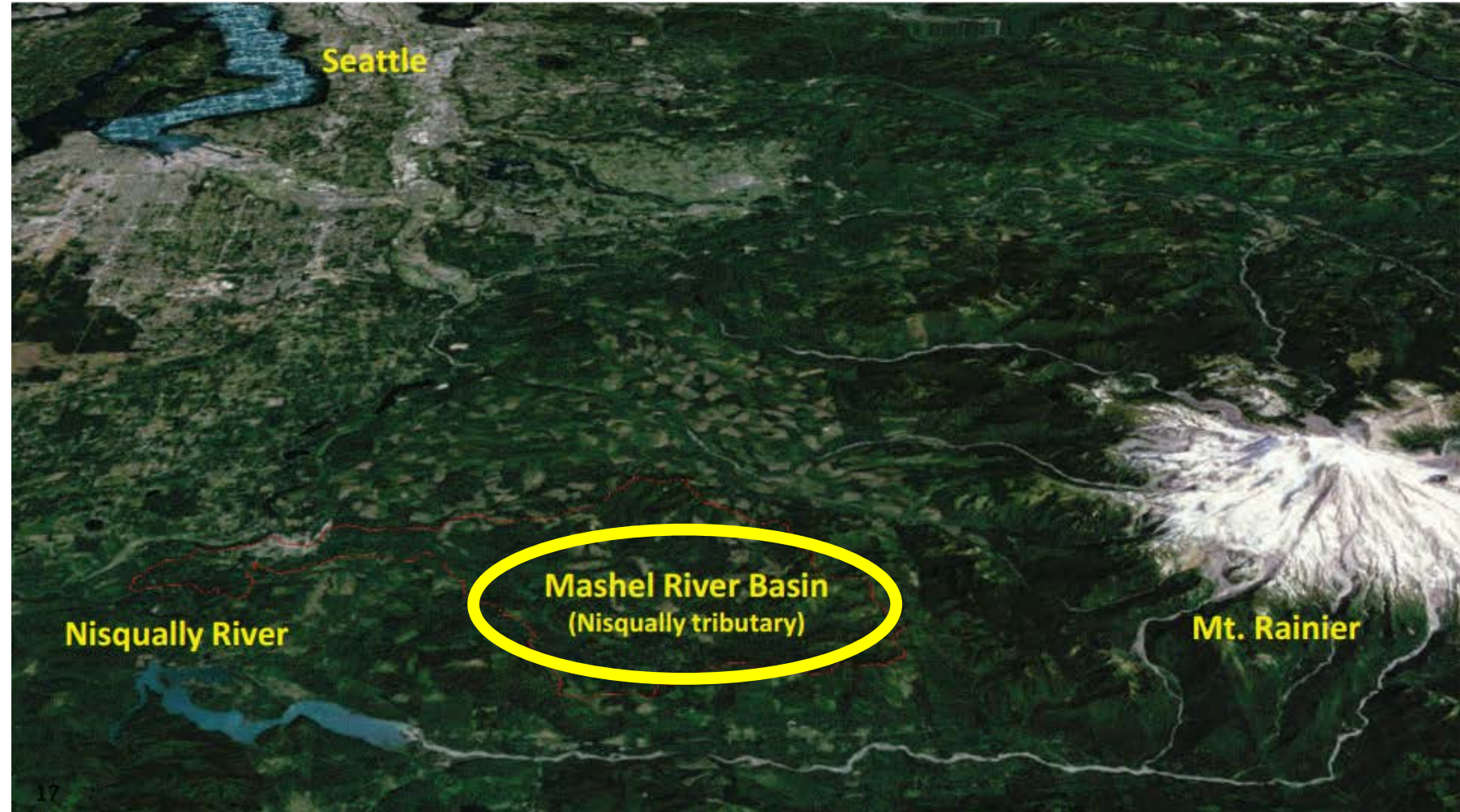
## EXAMPLE: DEVELOPING THE FECS SURVEY AND REPORTING TOOL



## Nisqually Watershed Project (in progress)

Can long-rotation forestry improve summer low flow conditions that limit salmon migration & spawning in the Nisqually watershed?

*Partners: Washington DNR, Nisqually Tribe*



Decision context →  
local landscape  
(McKane et al., 2015)



# 1 What are the ways people benefit from local ecosystems?



## 2 What are the ecosystem attributes that comprise FEGS relevant to each beneficiary?

- Timber Industry → open land, good soil, water quantity
- Anglers → species presence and abundance, water quality, aesthetics, access (**complementary good**)
- Hydroelectric → water quantity, timing/flow
- Recreationists → open land, aesthetics, access (**c.g.**)
- land developers → open land, aesthetics
- local residents → aesthetics
- Tribe member → cultural/spiritual uses, **option**
- Interested public → **existence of species, option for future generations or use**, water quality (Seattle—non-local)
- Municipal water → water quantity, water quality

(Currently based on content analysis documents)

### 3 What is the level of ecosystem service delivery for each beneficiary?

#### Washington Drought 2015

A lack of snowpack from an unusually warm winter has resulted in drought conditions throughout much of Washington.

A healthy snowpack slowly provides water to rivers and streams, helping to sustain fish through the drier months. With little or no snowpack, flows in many rivers have dropped significantly and water temperatures have increased, which is detrimental to fish.

#### Report Drought Observations

Report drought related damage and impacts to fish, wildlife and riparian habitat.

Based on ecological research, EPFs, etc.

#### Mount Rainier Photo: Nisqually River Basin on Mount Rainier



Mount Rainier National Park, WA

Ranked #1 of 28 Attractions in Mount Rainier National Park | 952 reviews

"Amazing experience" 10/28/2015 | "Fascinating scenery" 10/27/2015

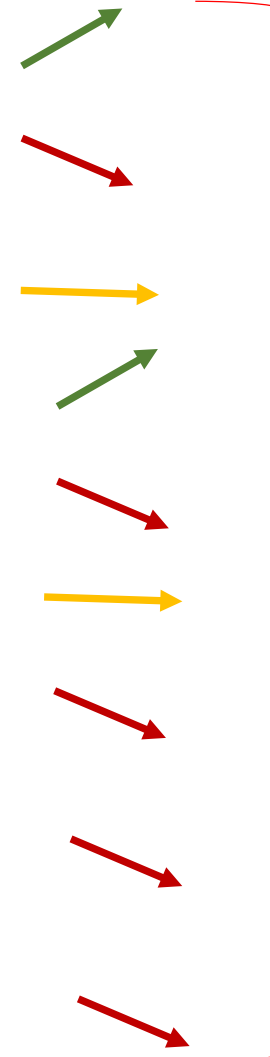
While Hancock has a good reputation for following state logging rules, Kane County has been criticized for logging on the exceptionally steep terrain and unsuitable areas. This has led to a threatened run of steelhead and chinook to the point of extinction.





## 4 What is the level satisfaction for each beneficiary?

- Timber Industry → open land, good soil, water quantity
- Anglers → species presence and abundance, water quality, aesthetics, access (complementary good)
- Hydroelectric → water quantity, timing/flow
- Recreationists → open land, aesthetics, access (c.g.)
- land developers → open land, aesthetics
- local residents → aesthetics
- Tribe member → existence of species for cultural/spiritual values, option
- Interested public → existence of species, option for future generations or use, water quality
- Municipal water → water quantity, water quality



### Coarse, bundled

The rating system uses a mix of expert opinion and data, where available.

Ratings could also occur as part of a community process.

## FY17 REPORT: STAGING COMMUNITY FEGS

### MULTIPLE CASE STUDY APPROACH (Yin, 2014)

- Create community profiles
- Collect (and produce) data using FEGS survey and reporting tool
- Compare across cases the “common elements” (*Bruin’s spreadsheet*)
- Analyze use and non-use beneficiaries across cases

## FY17 Report: How are communities identifying and using FEGS in management decisions?

- Analyze adoption and use of FEGS-thinking
- Identify limitations to FEGS-thinking and tool use



- **November--2015: Phone call with each case study lead (1/2 hour)**
  - \* collect data about decision context and community (semi-structured interview),
  - \* identify community “gatekeepers”
- **January-June 2016: contact (1-2 hours per month) with each case study lead**
  - \* collect data about FEGS use, progress, and adoption (semi-structured interview)
- **June-December 2016 → Potential contact with community gatekeeper and local focus groups**

**Current proposed case study sites →**

URBAN 1: Seattle, WA (Puget Sound)

URBAN 2: Toledo, OH (Lake Erie and Maumee River)

RURAL 1: Greater Toledo, OH area

RURAL 2: TBD

TRIBE 1: Nisqually Watershed (Puget Sound)

TRIBE 2: Confederated Tribes of Grande Ronde Community (Oregon)

OTHER → YOUR SITE!