

## Fowey River Improvement Auction

### Designing an auction to pay farmers for cleaner water

#### Summary

In the first scheme of this kind in the UK, an auction was successfully used to distribute funds from a water company to farmers, investing in capital items to improve water quality. The work was supported by the Natural Environment Research Council Business Internship scheme, managed by the Environmental Sustainability Knowledge Transfer Network. The scheme offered South West Water the opportunity to work directly with researchers from the University of East Anglia to devise an innovative mechanism for paying for the delivery of ecosystem services.

#### Reducing river pollution from sediments, nutrients and pesticides

- Water quality in rivers is of significant interest to water companies, who spend large amounts of money treating water to conform to legal standards.
- There is growing realisation in the water industry that stopping pollution at source by paying farmers to reduce inputs of pesticides, fertilisers and particulates would dramatically reduce water treatment costs.
- These on-farm management actions are also likely to benefit wildlife and enhance recreational use of the river by anglers and boaters.



Farm improvement for water quality: fencing rivers

#### The River Fowey, Cornwall

- The River Fowey is the source of the majority of Cornwall's drinking water but suffers from sediment, nutrient and pesticide pollution, primarily from farming activities.
- In order to provide their customers with safe drinking water, South West Water incurs substantial costs treating water abstracted from the river.
- Reducing pollution at source makes cost savings of around 65:1 compared to removing pollution at the water treatment works.



Farm improvement for water quality: concreting yards

In Summer 2012, South West Water made £360,000 available to be paid directly to farmers for capital investment in farm infrastructure to improve river water quality.

#### Advisor-led vs auction approach

- South West Water's Upstream Thinking initiative uses an advisor-led approach in other areas.
- Advisors from the Westcountry Rivers Trust visit farms to suggest work and pay grants at a fixed rate.
- Disadvantages of this approach include: it's labour intensive, it's not practical to visit all farms and the potential of using up funds on small number of farms.
- The main advantage is that advisors can suggest investments most likely to improve water quality.

- The University of East Anglia devised an auction approach, working with Westcountry Rivers Trust to:
- Increase coverage by encouraging all eligible farmers to participate.
  - Achieve maximum water quality benefits at the same time as achieving efficiency for South West Water's investment.



## Fowey River Improvement Auction

### Designing a payments for ecosystem services auction

#### Capital items

Farmers could bid for any number of these items:

- Update slurry storage
- New manure storage
- Roof slurry/manure/silage
- Separate clean/ dirty water
- Cover feeding/collecting area
- Overwintered cattle facility
- Pesticide wash-down area
- Concrete tracks/ yards
- Watercourse fencing
- Troughs and pipework
- Livestock crossing/ drinking
- Re-site or stone gateways

#### Farm management practices

Farmers could increase the competitiveness of their bid by adding:

- Nutrient management
- Pesticide management
- Watercourse management

The auction stimulates competition between farmers, by only funding bids that offer the best value for money.

#### Auction scheme

- 150 farmers, upstream of the treatment works in the Fowey catchment, were contacted in Summer 2012 with a list of capital investments eligible for funding (see box), plus additional farm management practices which could be added to increase bid competitiveness.

#### Bid mechanism and evaluation

- Farmers were asked to enter sealed bids indicating which capital items were needed on their farm and the grant requested from South West Water to do the work, up to a maximum of £50,000 per farm.
- The auction was open for 6 weeks and had 3 rounds. After rounds 1 & 2 farmers were given feedback on how to make their bid more competitive.
- For each bid, an environmental improvement score was calculated based on how much the proposed work would improve water quality; related to crop type, livestock density, the type and number of capital items and management practices and farm location.
- Value for money was determined by dividing a bid's environmental improvement score by the grant requested.

#### Outcomes

- 42 bids were received, requesting a total of £776,000.
- 18 bids met the value for money threshold, with grant rates paid in the scheme from 38% to the full 100%.

#### Conclusions

- A significant advantage of the auction approach was that it is much faster than the advisor-led approach and the whole scheme was devised and implemented in 6 months.
- The multiple auction rounds did serve to reduce the amount that farmers asked for from the scheme, increasing the efficiency for South West Water.
- The auction approach puts the emphasis on farmers to suggest the works needed.
- A future modification could be to ask all farmers to submit a list of potential work, these would then be verified by an advisor and farmers could be invited to bid for the priority works.
- South West Water intends to follow the recommendations given for further projects due from 2015 to 2020.

