

Economical outcome from crayfish – examples from Norway

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The noble crayfish *Astacus astacus*, as the common name indicates, has a reputation as the most tasty and exclusive crayfish species and fetches a high market price. First hand value in Norway in 2003 is 300-350 NOK per kg (approx. 40 EURO). The high price makes noble crayfish catching interesting from an economical point of view. In addition, strong traditions are linked with crayfish catching and subsequent "crayfish parties", especially in Scandinavia.

The noble crayfish is included in national and international Red Lists as a vulnerable or threatened species. Intuitively, the first thought is that such a species should be protected from exploitation. However, in many cases the possibility for exploitation may be important for the conservation of the species. For the noble crayfish this is especially true. The greatest threat against noble crayfish is the spread of plague-carrying signal crayfish. If local people are allowed and encouraged to catch and make a benefit from noble crayfish, this is the best protection against illegal stocking of alien crayfish.

Here we present five examples from Norway showing different ways of getting an economical outcome from the noble crayfish.

✓ Catching crayfish in Lake Einavann: A considerably additional income for the landowners

Crayfish was stocked in L. Einavann (13,5 km², shoreline: 40 km) in the late 1950's and since then a very good population has developed. The catching of crayfish for sale started slowly in the late 1980's. The catch increases every year as more and more landowners realize the value of this resource. In Norway the right to catch fish and crayfish belongs to the landowners along the waterbody.

Catching season is from 1800 h August 6 to September 15 and minimum size is 95 mm total-length (national regulations). The yield in the best areas exceeds 20 kg per ha. Along a 2,7 km shoreline the harvest has varied

between 280 and 370 kg in 1998-2002, corresponding to a first hand value of 85-110.000 NOK (10.500-13.750 EURO). Thus, for landowners possessing a certain length of the shoreline, crayfish catching means a considerably additional income. There is no indication of overfishing, on the contrary, the level of a maximum sustainable yield is probably much higher.



Crayfish catching in L. Einavann

✓ Crayfish catching licenses for sale in Lake Harasjøen

The crayfish catching in L. Harasjøen (1,88 km²) is managed by the local fishermen's association on behalf of local community to which the fishing rights belong. Catching licenses are sold for 150 NOK (20 EURO) to fishermen from the local community and 400 NOK (50 EURO) to others. Catching effort is restricted to ten traps per license but is valid during the whole catching season (August 6 – September 15). Some 100-150 licenses are sold annually giving an

income of 30-40.000 NOK (approx. 4500 EURO) to the association. These money are used for monitoring, control and cultivation of fish and crayfish.

Mean catch of the fishermen is 3-5 kg, but catches of 15-20 kg (representing a value of 4500-6000 NOK (approx. 560-750 EURO) to a cost of 150-400 NOK) are also frequently reported.

✓ Crayfish as a basis in recreation and experience activity products

Catching crayfish is an exciting activity, crayfish is a highly prized delicacy and the so-called "crayfish party" with singing and drinking is by many considered as the ultimate party. Thus, crayfish has a commercial potential in recreation and experience activities.

In L. Lyseren (7,4 km²) a landowner offers crayfish catching and eating in idyllic surroundings, for company and private events and

celebrations. Normally the group arrives at 5 p.m. and the party ends at 3 a.m. A host takes care of the guests all along. The landowner keeps the equipment needed for crayfish catching. The crayfish meal includes 20 crayfish per person and necessary accessories, except drinks.

The price for this event is 1000 NOK (125 EURO) per person.

✓ Renting out the right to catch crayfish

Many persons interested in crayfish catching are not in the possession of fishing rights. Thus, there is a market for landowners to rent out their right to catch crayfish. For landowners who are not very devoted to the actual catching, economical considerations would normally underpin the decision to rent out or not: how much crayfish can I catch myself, how much time does it take, and how much money can I get for renting out?

In Norwegian lakes there are examples of a renting price of 10.000 NOK (1250 EURO) for a 1 km shoreline, no other services or equipment included. In some cases, trapping equipment and lodging have been included in the rent.

The ultimate goal for a crayfish



✓ Conclusions

We are convinced that the knowledge and attitude of local people is a key factor in the protection of native crayfish species. With an easy access to alien crayfish, it is impossible to prevent spreading of such species if local people along the waterbodies want otherwise. Thus, having the possibility to utilize the crayfish for recreational and eco-

nomical purposes, is of major importance for the protection will. Information directed to fishermen and landowners should stress these values and provide good arguments against introduction of signal crayfish.



Hi there, I am *Astacus astacus*

✓ Lake Steinsfjorden: Free crayfish catching for everybody!

Unlike most water bodies in Norway, L. Steinsfjorden (13,9 km²) is public water, i.e. everybody is allowed to catch crayfish during the catching season. This implies that crayfish trapping in L. Steinsfjorden is very intensive (in total: 50-75.000 trapnights) and includes some 250-300 fishermen. In order to avoid overfishing, the catching season is restricted to only 10 days (August 6 – 16).

Also under these conditions, a short catching period and strong competition for the crayfish, the economical outcome is considerably for many fishermen. Catches of 30-75 kg, corresponding to a value of 10-25.000 NOK (1200-3000 EURO) for a ten days effort is not unusual.



Intensive trapping in L. Steinsfjorden



Waiting for the dark crayfish night...



Did you get one...



A good shoreline for crayfish catching