

Go Fish, No Fish · A FISHING GAME

FISHERY MANAGER'S GUIDE

DEAR FISHERY MANAGERS,

Welcome to *Go Fish, No Fish*, an interactive game that allows players to experience the joys and sorrows of fishing. Players will learn first-hand the failures of traditional fisheries management and the benefits of catch share management. As the fishery manager, you will lead players through the game and facilitate a discussion afterwards.

The success and sustainability of this fishery is in your hands. This is a dynamic game that requires active management throughout. Here are some helpful suggestions to read and review before you manage your first fishery!

- Read all directions prior to playing.
- Play a practice season first.
- Consider having a Deputy Manager to collect data and set up each season.
- Read the rules and regulations out loud to fishermen at the beginning of the game and before each season.
- Have a stopwatch available to time the fishing seasons.
- Use the provided “Hints” to guide a discussion with the fishermen at the end of each season or after the game.
- Be creative! Specialize the game by adding regulations and seasons. See “Season Options” for ideas.
- Visit www.edf.org/gofishnofish for additional game materials including:
 - A pre-programmed Excel file that automatically calculates how to replenish game pieces for each season and charts trends for use in a discussion.
 - A form to request additional game pieces for groups larger than 15.

GOOD LUCK AND HAVE FUN!

GO FISH, NO FISH: FISHERY BACKGROUND

Scenario (read out loud to fishermen)

Fishermen have recently discovered a new stock of “fan-tailed goldfish.” The goldfish are plentiful and customers are clamoring due to the delicious taste and the beautiful colors. Fishermen want to earn as much money as possible and are investing their time and money to ensure a profitable business.

The fishery manager is responsible for ensuring a healthy, sustainable stock of goldfish and other species. The fishery manager has the authority to develop and enforce management measures and participating fishermen must comply with the rules. The fishery manager will announce rules to fishermen at the beginning of each season.

TIME

15–60 minutes depending on number of seasons played and the length of discussion

PLAYERS

- 1–2 fishery managers
- 2–15 fishermen

GAME SET UP

1. Scatter piles of shells across the playing surface (table or floor) to create habitat.
2. Disperse 20 goldfish, 20 juvenile fish and 20 pieces of bycatch per player across the playing surface (table or floor). Feel free to group and/or scatter fish.
3. Distribute \$10 to each player.
4. Assign gears to players, ensuring a relatively even amount of each type and collect payment.
 - Trawls cost \$10
 - Hook and Lines cost \$5

GAME PIECES



Goldfish · 300 pieces



Juvenile Fish · 300 pieces



Bycatch · 300 pieces



Hook and Line · 10 sets of chopsticks



Trawl · 10 shovels



Habitat · 1 bag of shells



Money · 150 \$1 bills · 60 \$5 bills



Quota Shares · 300 pieces

GENERAL RULES

1. Gear must be used properly and new gear can be purchased at the beginning of each season
 - **Trawl**—must have contact with the table at all times. They catch fish by dragging across the table and collecting whatever is in its path.
 - **Hook and Line**—can only catch 2 goldfish at a time.
2. Each landed fish is worth \$1.
3. Start fishing when the manager says “GO FISH” and stop when the manager says “STOP.” Fishery manager will track season length with a stopwatch.
4. Fines for rule violations:
 - \$2 fine for improper gear use.
 - \$4 fine for continued fishing after season closes.
6. Fishermen must report statistics—including amount of goldfish catch, juvenile catch, bycatch and value of catch—at the end of each season.
7. The fishery manager records the statistics and sets up the next season based on the “spawning rules” (use programmed Excel spreadsheets for ease).

SPAWNING RULES

Go Fish, No Fish is a dynamic game that requires the fishery manager to replenish the fish stocks each season. The pre-programmed Excel spreadsheet (available to download at www.edf.org/gofishnofish) automatically calculates how many game pieces to add based on the preceding season.

The file also populates graphs showing trends in goldfish catch, juvenile catch, bycatch, season length and value. These can facilitate discussion at the end of the game.

Use the following rules if calculating without the programmed Excel spreadsheet (round to the nearest whole number):

- For each goldfish remaining add one juvenile.
 - ~ e.g. 10 goldfish are left, add 10 juveniles.
- For each juvenile remaining add ½ of a goldfish.
 - ~ e.g. 20 juveniles are left, add 10 goldfish.
- For each piece of bycatch remaining add ½ of a bycatch.
 - ~ e.g. 30 pieces of bycatch, add 15 bycatch.

SEASON 1 | NO REGULATIONS

Rules

1. There are no catch limits.
2. The fishing season will last 15 seconds.

Playing Season 1

- Fishery manager opens the fishing season by saying “GO FISH.”
- Fishermen catch and land fish.
- After 15 seconds manager yells “STOP.” Fishermen may land fish currently in their gears.
- Fishermen add up goldfish catch, juvenile catch and bycatch. Fishery manager records fishery statistics in the programmed Excel spreadsheet.

SEASON 2 | CATCH LIMIT

Rules

1. Due to impacts on the goldfish population, there will now be a catch limit.
 - Goldfish catch limit— ½ of goldfish biomass.
2. The fishery manager will close the season when he/she estimates that fishermen have reached the limit.

Playing Season 2

- Fishery manager opens the fishing season by saying “GO FISH.”
- Fishermen catch and land fish.
- The fishery manager will close the season by yelling “STOP” when the goldfish limit has been reached. Fishermen may land fish currently in their gears. (Hint— allow them to land a little more than the limits)
- Fishery manager will time the season.
- Fishermen add up goldfish catch, juvenile catch and bycatch. Fishery manager records fishery statistics in the programmed Excel spreadsheet.

SEASON 3 | CATCH LIMIT AND EARLY SEASON CLOSURE

Rules

1. The catch limit remains in place.
 - Goldfish catch limit— ½ of goldfish biomass.
2. Due to increasing pressure, the season will be limited to 5 seconds.

Playing Season 3

- Fishery manager opens the fishing season by saying “GO FISH.”
- Fishermen catch and land fish.
- After 5 seconds manager yells “STOP.” Fishermen may land fish currently in their gears.
- Fishermen add up goldfish catch, juvenile catch and bycatch. Fishery manager records fishery statistics in the programmed Excel spreadsheet.

SEASON 4 | CATCH SHARE PROGRAM

Rules

1. The catch limit remains in place.
 - Goldfish catch limit— ½ of goldfish biomass.
2. All fishermen now receive “quota shares” for goldfish, which guarantee players access to fish.
3. Allocate quota shares:
 - Total number of quota shares is based on the goldfish catch limit and one fish equals one quota share.
 - ~ e.g. If the catch limit is 16 fish, there are 16 total quota shares.
 - Divide quota shares equally among fishermen.
 - ~ e.g. If there are 4 fishermen, each fisherman will receive 4 quota shares.
 - Each quota share entitles fishermen to land 1 fish.
 - Fishermen can buy and sell quota shares for negotiated prices.
4. Fishermen will be penalized if they land more than their allotted quota shares. For every fish landed in excess of their quota shares, fishermen must “borrow” 2 quota shares from the next season.
5. There is no time limit. The season ends when fishermen have completed all transfers and landed their allotted quota shares. The fishery manager will time the season length.

Playing Season 4

- Fishery manager opens the fishing season by saying “GO FISH.”
- Fishermen catch and land fish.
- When fishermen have finished landing their quota shares and/or completed all transfers, the fishing season is over.
- Fishermen add up goldfish catch, juvenile catch and bycatch. Fishery manager records fishery statistics in the programmed Excel spreadsheet.

REGULATIONS GRAPH FOR FISHERY MANAGERS

	SEASON 1	SEASON 2	SEASON 3	SEASON 4
Goldfish	20 pieces per player	Replenish	Replenish	Replenish
Bycatch	20 pieces per player	Replenish	Replenish	Replenish
Juvenile Fish	20 pieces per player	Replenish	Replenish	Replenish
Goldfish Catch Limit	No	YES	YES	YES
Season Length Limit	YES	No	YES	No
Gear Fines	YES	YES	YES	YES
Transferable Quotas	No	No	No	YES

FISHERY MANAGER HINTS

Season 1

- This season demonstrates the race for fish in absence of controls.
- Expect to see habitat destruction, aggression between fishermen, high catch of goldfish, bycatch and juvenile fish.
- Play twice to show effects of multiple seasons with no regulations.

Season 2

- This season demonstrates the race for fish when players have a catch limit.
- Fishing season will likely be shorter than season 1.
- Landings will likely exceed the catch limits.
- Fishery managers may notice a shift in gear type from trawls to hook and line.

Season 3

- This season demonstrates the race for fish when there is a catch limit and a season limit.
- Landings will likely exceed the catch limit.
- Fishery managers may notice a shift in gear type from trawls to hook and line.

Season 4

- The pace of the game will slow significantly. Fishermen may plan harvests and landings efficiently and carefully.
- Fishermen will comply with catch limits and avoid juveniles, bycatch and habitat destruction.
- Some fishermen might chose to not fish but instead lease and/or sell shares to others.

GO FISH, NO FISH DISCUSSION

After playing *Go Fish, No Fish* discuss fishermen's experience. Use the programmed Excel spreadsheets and charts to highlight game trends.

Suggested discussion questions:

- What did you observe?
- What happened to goldfish catch, bycatch, habitat and season length under the different scenarios?
- What happened to your finances after each season?
- What were the impacts on goldfish catch and bycatch under different scenarios?
- Did you notice any cheating behaviors during the seasons?
- What were some changes that you saw when the fishery implemented catch shares?
- How does this relate to real life?
- In your opinion which season demonstrated the best stewardship and conservation actions on behalf of the fishermen?